DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	1	263
				(2) HWY. 16 EAST-HWY. 65B SOUTH (CLINTON) (S)				

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 16 EAST-HWY. 65B SOUTH (CLINTON) (S)

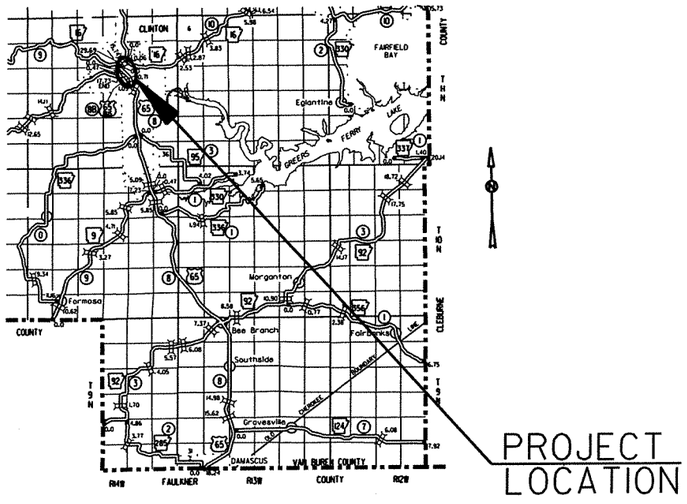
VAN BUREN COUNTY

ROUTE 65 SECTIONS 7 & 8

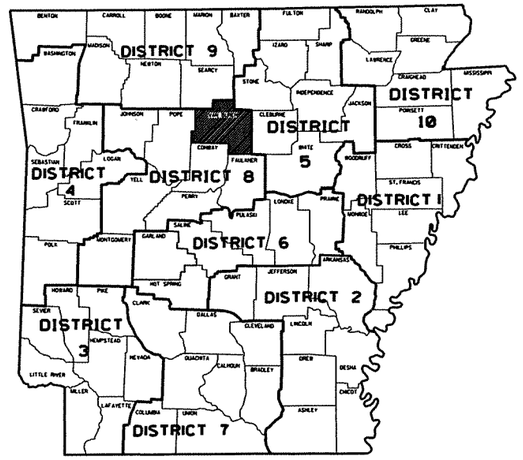
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JOB 080390

NOT TO SCALE



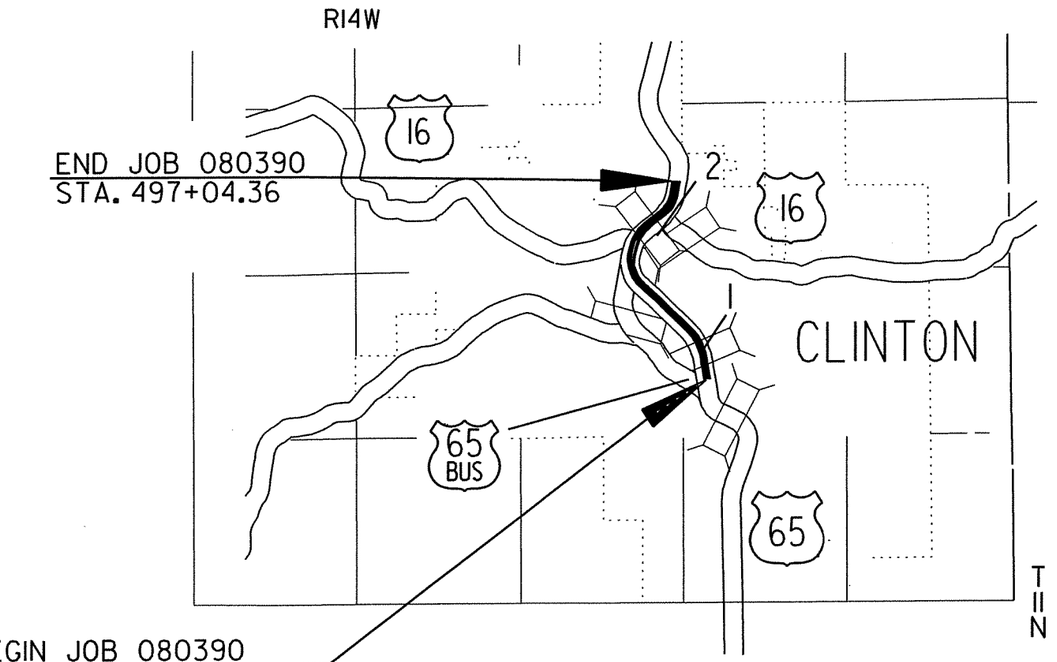
VICINITY MAP



ARKANSAS HWY. DIST. 8

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2033
2013 ADT	17,500
2033 ADT	23,500
2033 DHV	2,585
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	11%
DESIGN SPEED	45 MPH



BRIDGE DATA

(1) STA. 429+09.87 - BRIDGE END
BRIDGE NO. 07290
132'-0" CONT. COMPOSITE W-BEAM
UNIT (41'-50'-41')
58'-0" CLEAR ROADWAY
134'-3⅛" BRIDGE LENGTH
STA. 430+44.13 - BRIDGE END

(2) STA. 481+07.85 - BRIDGE END
BRIDGE NO. 07029I
374'-0" CONT. COMPOSITE W-BEAM
UNIT (84'-103'-103'-84')
58'-0" CLEAR ROADWAY
376'-3⅝" BRIDGE LENGTH
STA. 484+84.15 - BRIDGE END

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N35° 35' 27"	N35° 35' 57"	N35° 36' 27"
LON.	W92° 27' 16"	W92° 27' 41"	W92° 27' 25"

PROJECT LENGTH CALCULATED ALONG C.L. CONSTRUCTION
GROSS LENGTH OF PROJECT 7554.36 FEET OR 1.431 MILES
NET LENGTH OF ROADWAY 7043.80 FEET OR 1.334 MILES
NET LENGTH OF BRIDGES 510.56 FEET OR 0.097 MILES
NET LENGTH OF PROJECT 7554.36 FEET OR 1.431 MILES

P.E. JOB 080390
NON - PART.

APPROVED

STATE OF ARKANSAS * REGISTERED PROFESSIONAL ENGINEER * No. 3917 * FRANK VOZEL

9/25/13

DEPUTY DIRECTOR AND CHIEF ENGINEER

080390

r080390.dgn 10/31/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	2	263

(2) INDEX OF SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

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

8/29/2013

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(2) GOVERNING SPECIFICATIONS & GENERAL NOTES

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 - TRAINING PROGRAM - JOB 080390
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 080390__	AIRPORT CLEARANCE REQUIREMENTS
JOB 080390__	ARCHITECTURAL FINISH
JOB 080390__	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 080390__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080390__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080390__	CABINET DRAWER ASSEMBLY
JOB 080390__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 080390__	DETENTION BASIN
JOB 080390__	DRILLED SHAFT FOUNDATIONS
JOB 080390__	EDGE CARD VIDEO PROCESSOR
JOB 080390__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 080390__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 080390__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080390__	HIGH PERFORMANCE PAVEMENT MARKING
JOB 080390__	INTERNET BIDDING
JOB 080390__	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 080390__	LED TRAFFIC SIGNAL HEAD
JOB 080390__	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 080390__	NESTING SITES OF MIGRATORY BIRDS
JOB 080390__	NONDESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB 080390__	PARTNERING REQUIREMENTS
JOB 080390__	PLASTIC PIPE
JOB 080390__	PROSECUTION AND PROGRESS
JOB 080390__	RELOCATION OF TRAFFIC SIGNAL HEAD
JOB 080390__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 080390__	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 080390__	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 080390__	SHORING
JOB 080390__	SILICONE JOINT SEALANT
JOB 080390__	SITE USE (A + C METHOD)
JOB 080390__	SOIL STABILIZATION
JOB 080390__	STORM WATER POLLUTION PREVENTION PLAN
JOB 080390__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080390__	TEMPORARY IMPACT ATTENUATION BARRIER
JOB 080390__	TEXTURED COATING FINISH
JOB 080390__	TRANSITIONAL APPROACH RAILING
JOB 080390__	UTILITY ADJUSTMENTS
JOB 080390__	VALUE ENGINEERING
JOB 080390__	VIDEO DETECTOR (COLOR)
JOB 080390__	VIDEO DETECTOR ROTATION
JOB 080390__	WARM MIX ASPHALT
JOB 080390__	WATER POLLUTION CONTROL

GENERAL NOTES

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

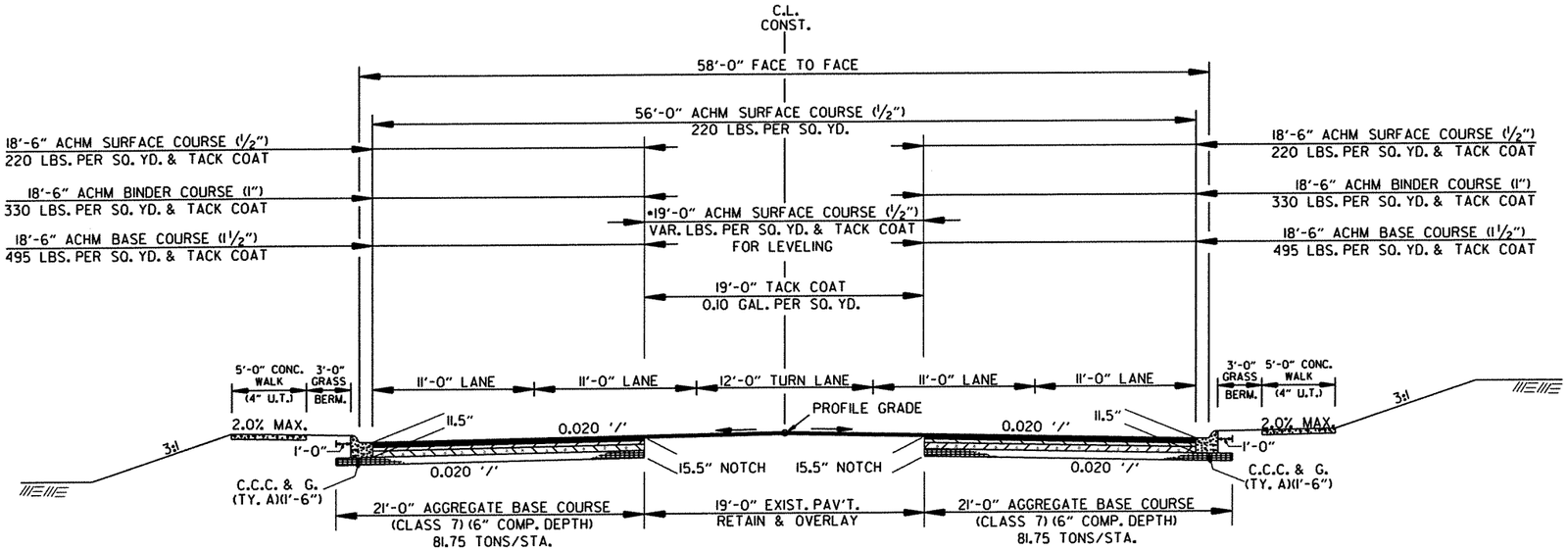
8/29/2013

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(2) TYPICAL SECTIONS OF IMPROVEMENT

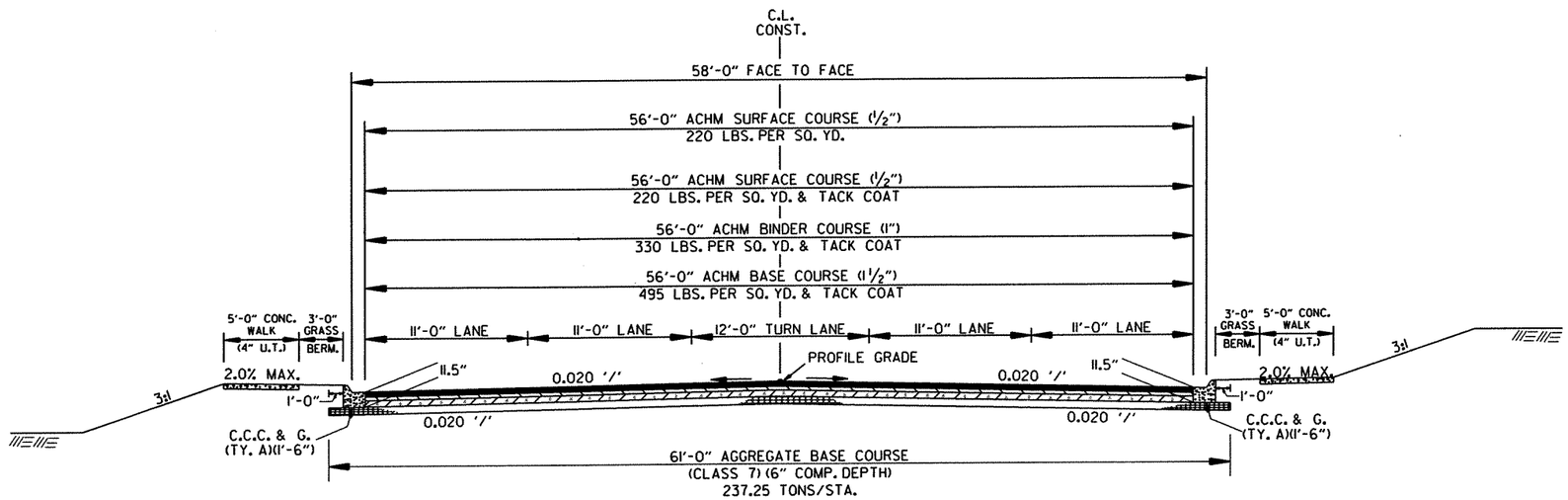
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



TANGENT SECTION
HWY. 65 NOTCH & WIDEN

STA. 421+50.00 - STA. 421+75.48
STA. 445+50.62 - STA. 455+67.85
STA. 496+62.53 - STA. 497+04.36

•IF AND WHERE DIRECTED BY THE ENGINEER



TANGENT SECTION
HWY. 65 FULL DEPTH

STA. 479+89.22 - STA. 481+07.85 B.E.
STA. 484+84.15 B.E. - STA. 484+93.39

NOTES:

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

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

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

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

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.

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.

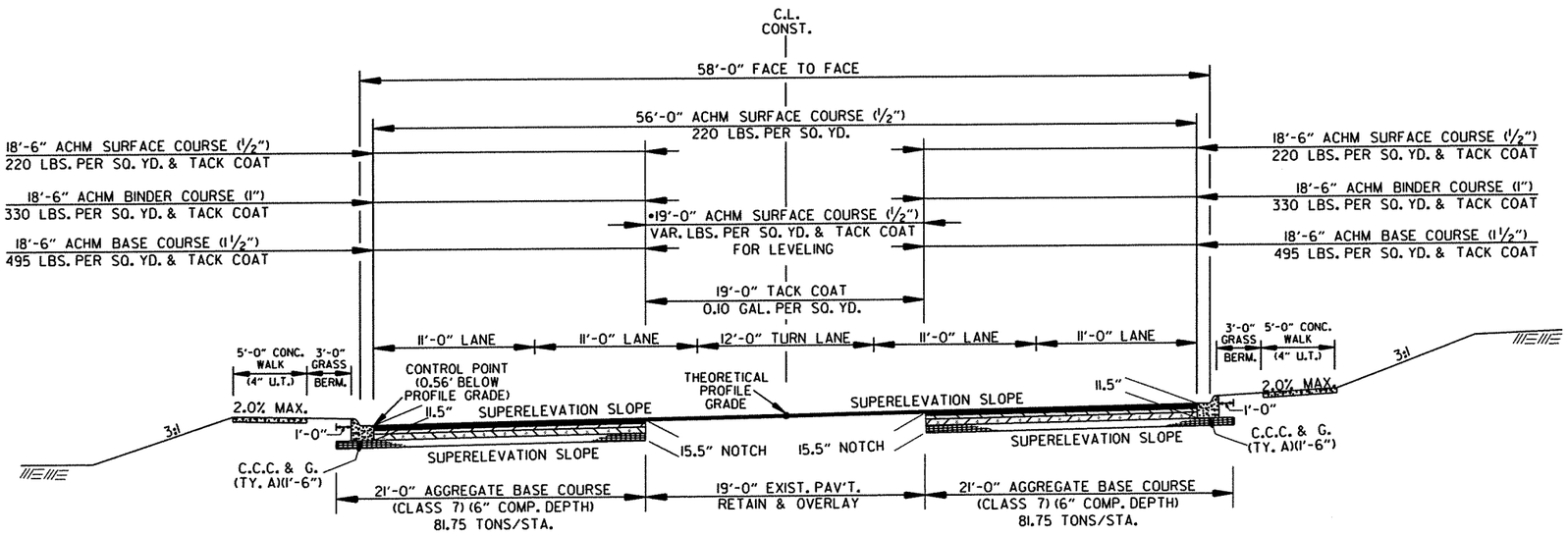
10/15/2012

R080390.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	5	263

(2) TYPICAL SECTIONS OF IMPROVEMENT

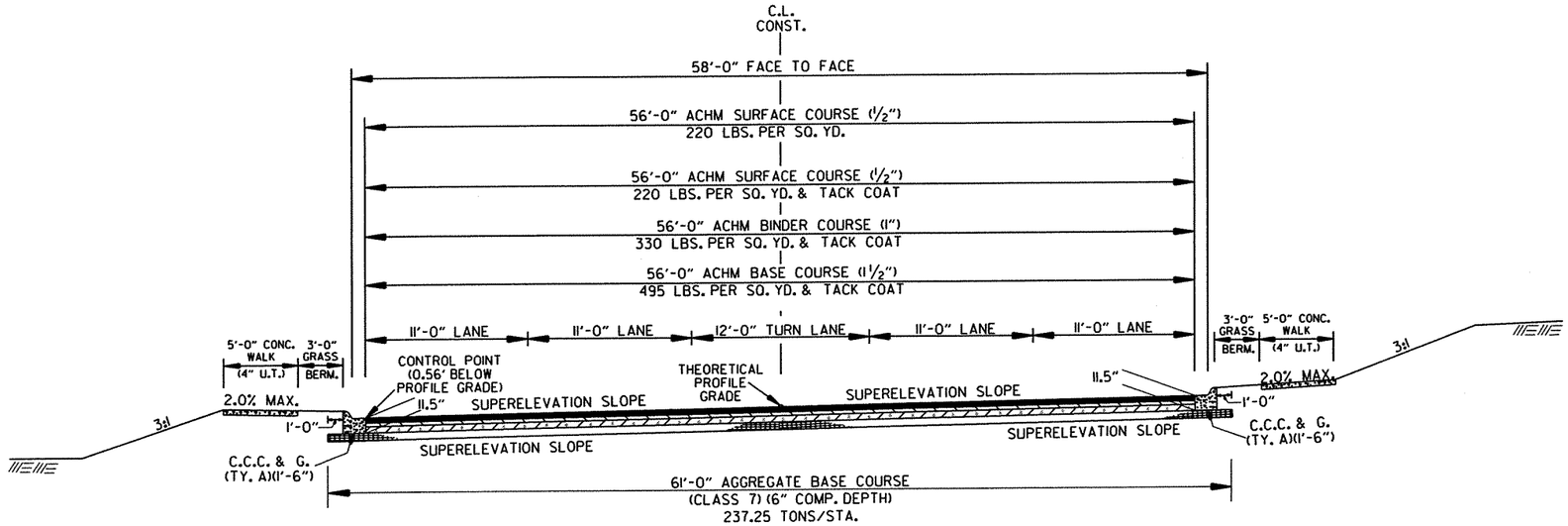


SUPERELEVATION SECTION
HWY. 65 NOTCH & WIDEN

STA. 421+75.48 - STA. 427+50.00
STA. 437+94.00 - STA. 445+50.62
STA. 455+67.85 - STA. 475+00.00 **
STA. 489+94.00 - STA. 496+62.53

•IF AND WHERE DIRECTED BY THE ENGINEER

•• REVERSE TYPICAL FOR RT. TURN SUPERELEVATION



SUPERELEVATION SECTION
HWY. 65 NOTCH & WIDEN

STA. 427+50.00 - STA. 429+09.87 B.E.
STA. 430+44.13 B.E. - STA. 437+94.00
STA. 475+00.00 - STA. 479+89.22 **
STA. 484+93.39 - STA. 489+94.00

•IF AND WHERE DIRECTED BY THE ENGINEER

•• REVERSE TYPICAL FOR RT. TURN 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.

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

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

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

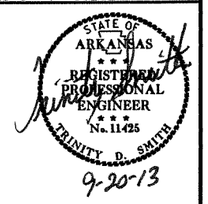
10/15/2012

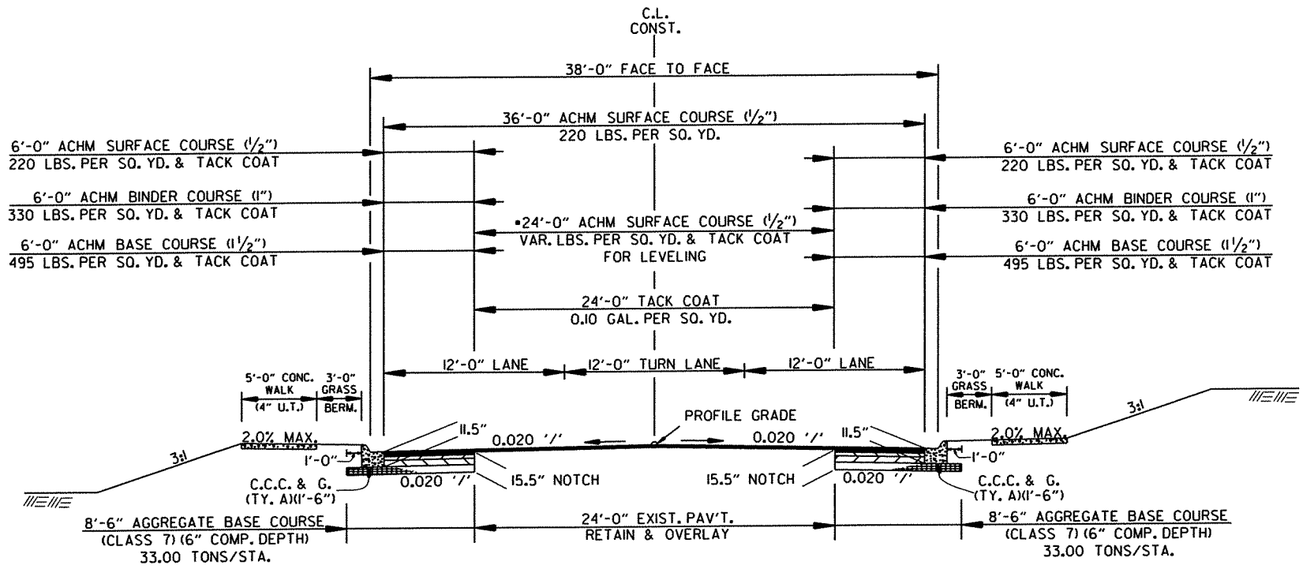
R080390.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	6	263

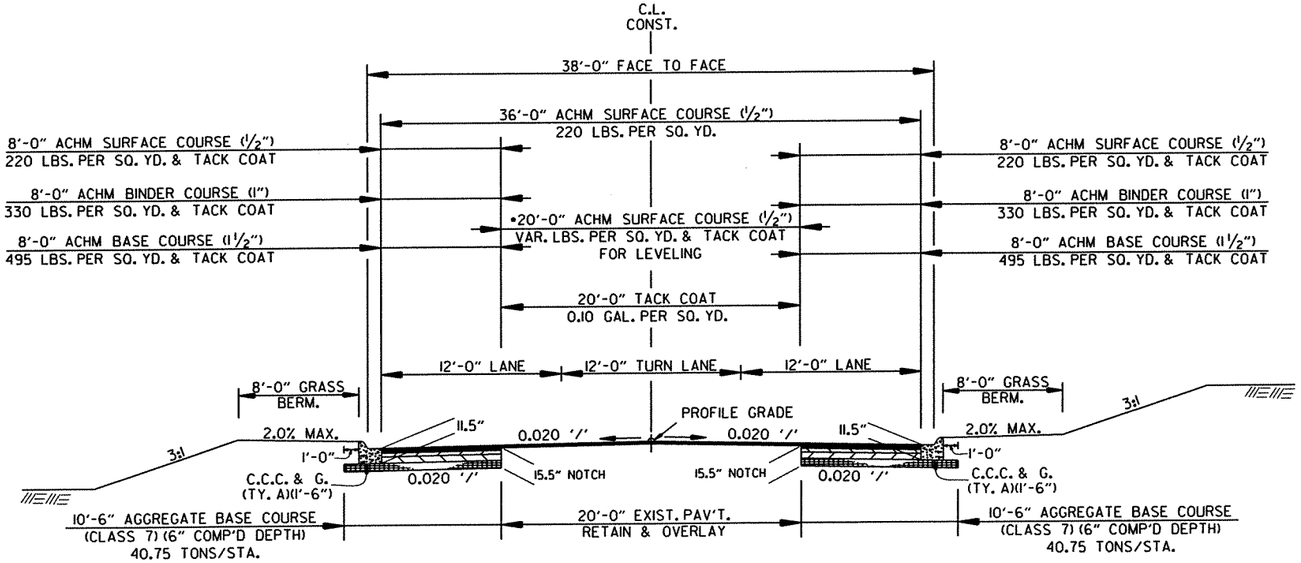
(2) TYPICAL SECTIONS OF IMPROVEMENT





TANGENT SECTION
HWY. 65B NOTCH & WIDEN

•IF AND WHERE DIRECTED BY THE ENGINEER



TANGENT SECTION
HWY. 16W NOTCH & WIDEN

•IF AND WHERE DIRECTED BY THE ENGINEER

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.

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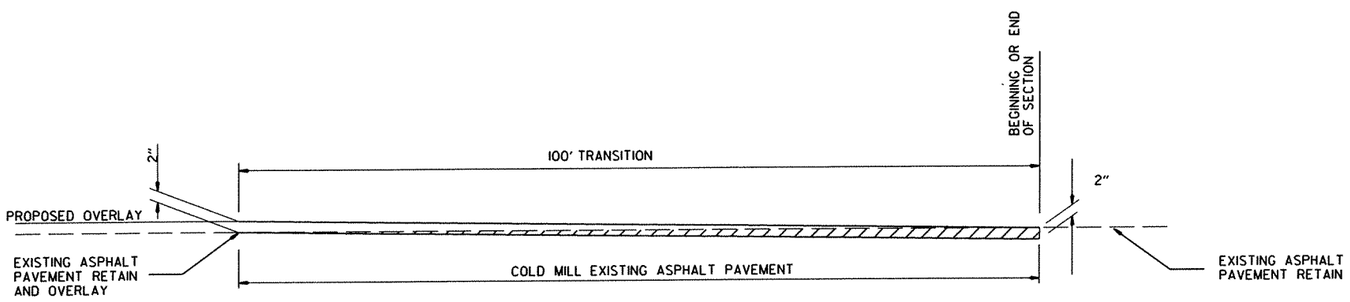
10/15/2012

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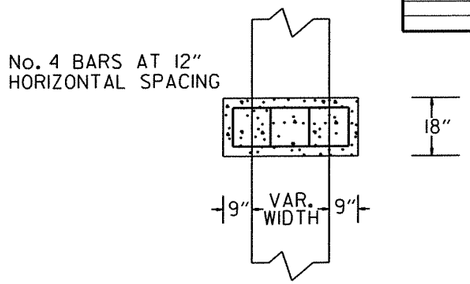
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	7	263

(2) SPECIAL DETAILS

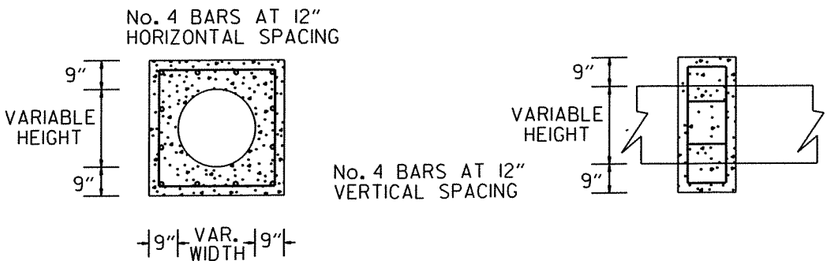


DETAIL FOR TRANSITIONS



TOP VIEW

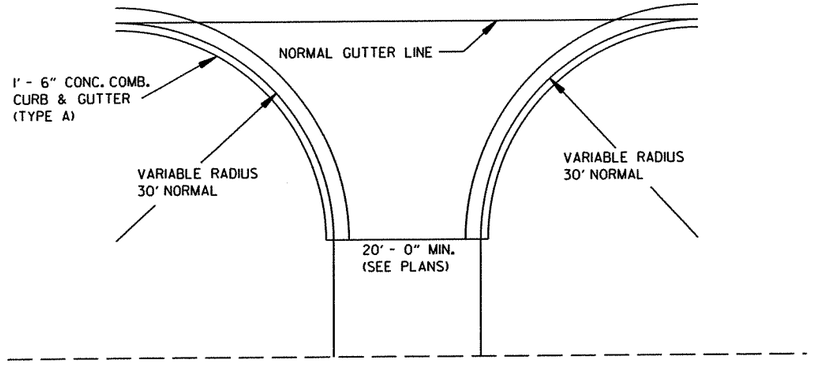
MIN 3" COVER



FRONT VIEW

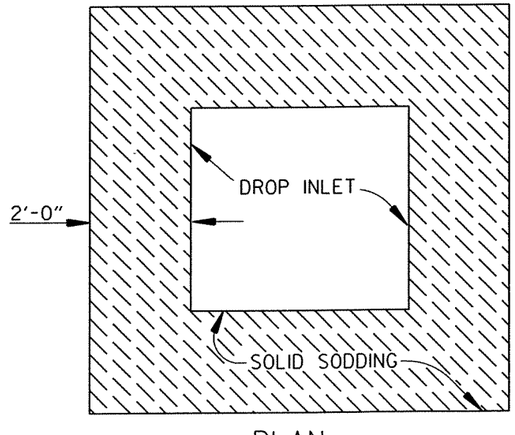
SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL



DETAIL OF TURNOUTS ASPHALT STREETS
CURB & GUTTER SECTION

NOTE:
PAVEMENT STRUCTURE TO BE SAME AS MAIN LANES



PLAN

DETAIL OF SOLID SODDING AROUND DROP INLET

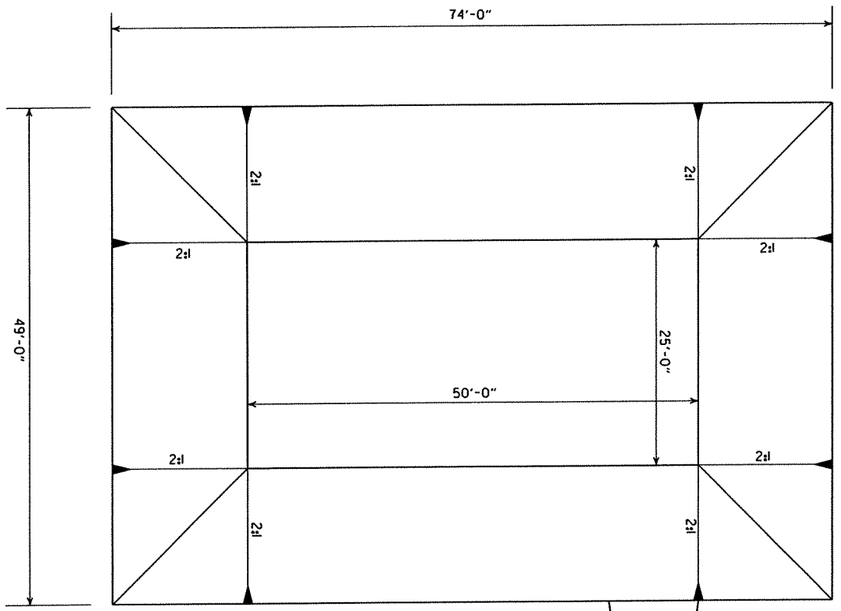
12/6/2012

R080390.DGN

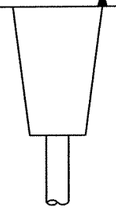
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				6	ARK.			
				JOB NO.		080390	8	263

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

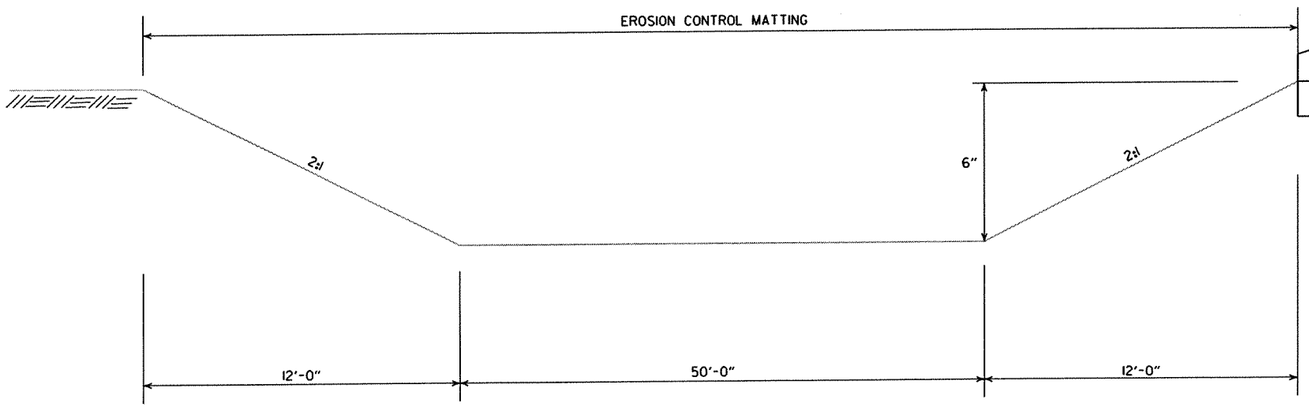


PLAN VIEW

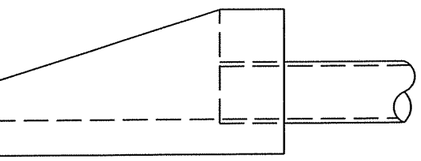


FLARED END SECTION

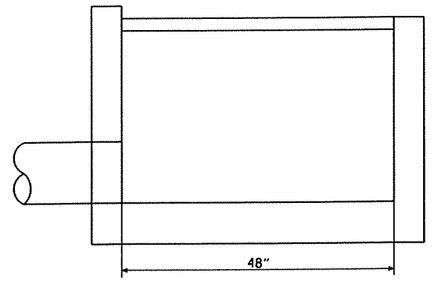
NOTE: LOCATION OF FLARED END SECTION WILL VARY.



DETENTION BASIN
SIDE VIEW
STA. 484+89 - 485+75 LT.



FLARED END SECTION



DROP INLET
(TYPE MO)

NOTES: REFER TO STANDARD DRAWINGS FPC-9M, FES-1, AND FES-2 FOR DETAILS OF DROP INLET AND FLARED END SECTION.

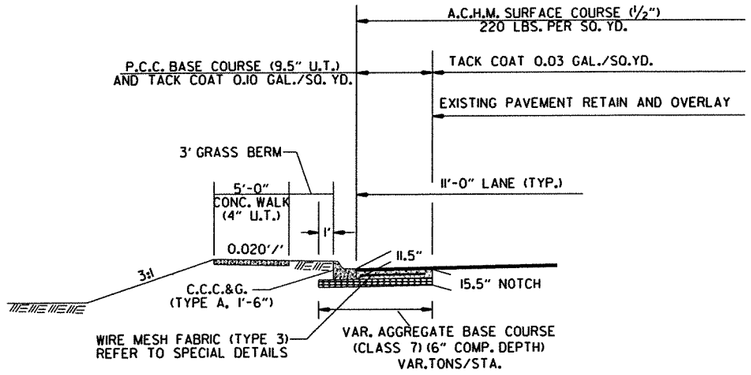
SPECIAL DETAILS
STA. 484+89 - 485+75 (LT.)

12/6/2012

R080390.DGN

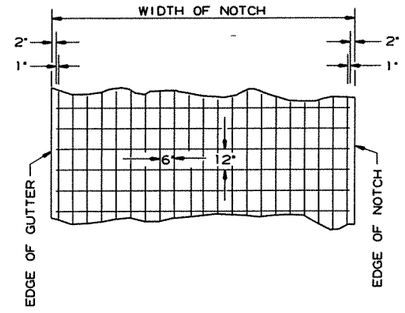
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	9	263

(2) SPECIAL DETAILS



P. C. C. BASE WIDENING DETAIL

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



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

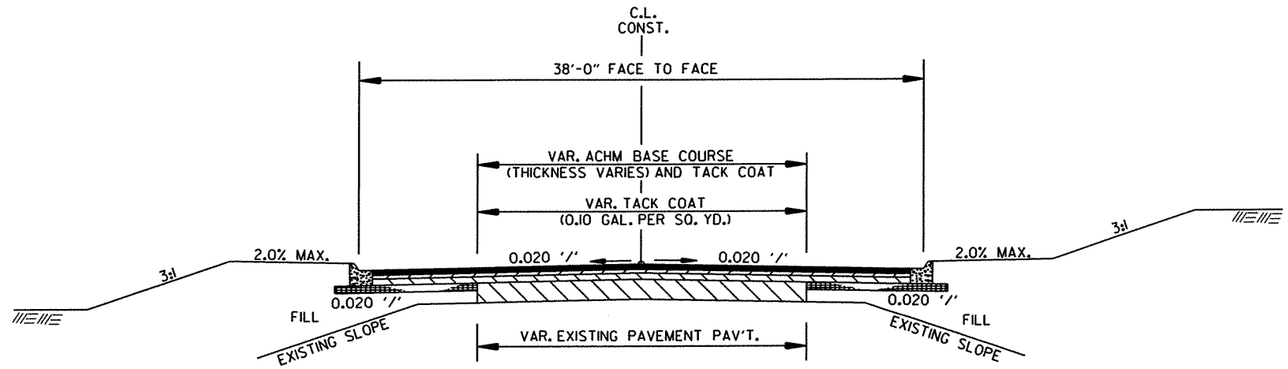
6" X 12" MESH FABRIC (TYPE 3) (W5.5 x W2.9) = 4.26 LBS./SQ. YD.

NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (9.5" U.T.).

WIDENING FOR MAINTENANCE OF TRAFFIC

(STAGE 2)
STA. 476+90 - STA. 480+97
STA. 484+71 - STA. 490+00



HIGHWAY 16E METHOD OF RAISING GRADE

* 7" AGGREGATE BASE COURSE (CLASS 7) TO BE REPLACED WITH A. C. H. M. BASE COURSE (1-1/2")

NOTES:

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

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

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003.

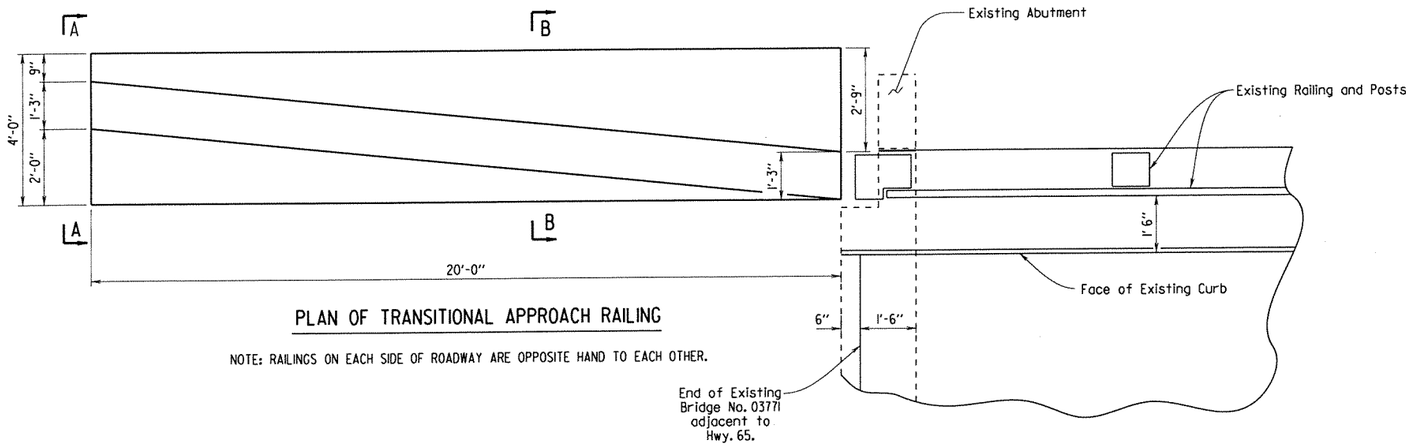
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

12/6/2012

R080390.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	10	263

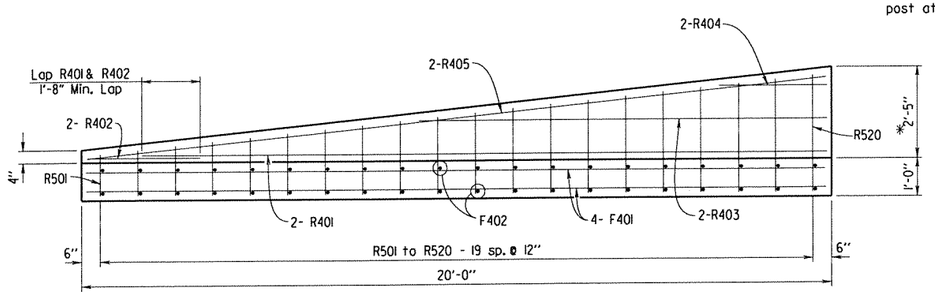
(1) SPECIAL DETAIL



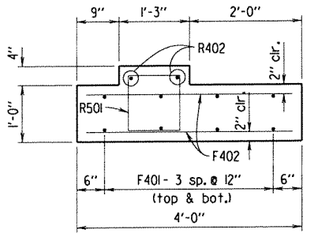
PLAN OF TRANSITIONAL APPROACH RAILING

NOTE: RAILINGS ON EACH SIDE OF ROADWAY ARE OPPOSITE HAND TO EACH OTHER.

*Match height of existing post at end of bridge.

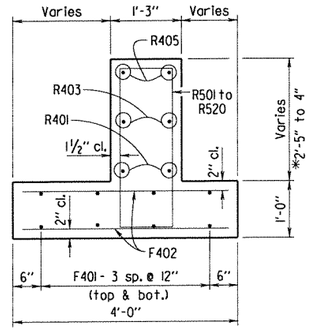


ELEVATION OF TRANSITIONAL APPROACH RAILING



VIEW A - A

3/4" = 1'-0"



SECTION B - B

3/4" = 1'-0"

General Notes

Transitional Approach Railing shall be placed at locations shown on the Roadway Plans.

All Concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

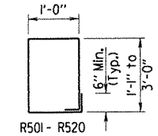
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Class I Protective Surface Treatment shall be applied to the roadway surface, front face and top of the Transitional Approach Railing.

Transitional Approach Railing shall be paid for at the contract unit price bid per each for "Transitional Approach Railing." See SP Job No. 080390 "Transitional Approach Railing."

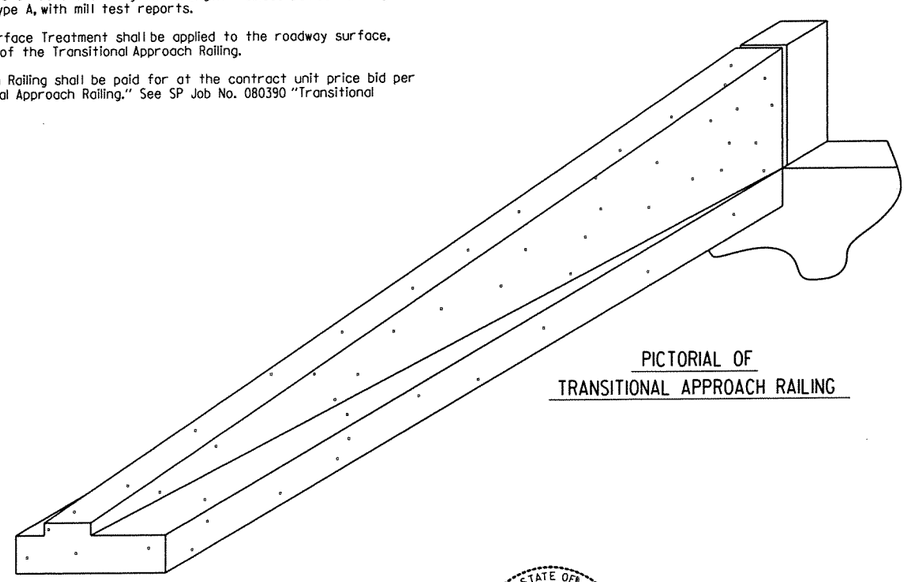
BAR LIST - ONE TRANSITIONAL RAIL

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagram Dimensions are out to out of bars.
F401	8	19'-8"	Str.	
F402	40	3'-8"	Str.	
R401	2	18'-5"	Str.	
R402	2	3'-0"	Str.	
R403	2	10'-8"	Str.	
R404	2	2'-10"	Str.	
R405	2	19'-9"	Str.	
R501 to R520	1 ea.	4'-8" to 8'-6"	2½"	



FOR INFORMATION ONLY
SCHEDULE OF QUANTITIES PER RAIL UNIT

CLASS "S" CONCRETE	REINFORCING STEEL (GRADE 60)	CLASS I PROTECTIVE SURFACE TREATMENT
4.20 Cu. Yds.	420 Lbs.	0.2 Gal.



PICTORIAL OF TRANSITIONAL APPROACH RAILING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL FUSSELMAN
9/20/13

SPECIAL DETAILS

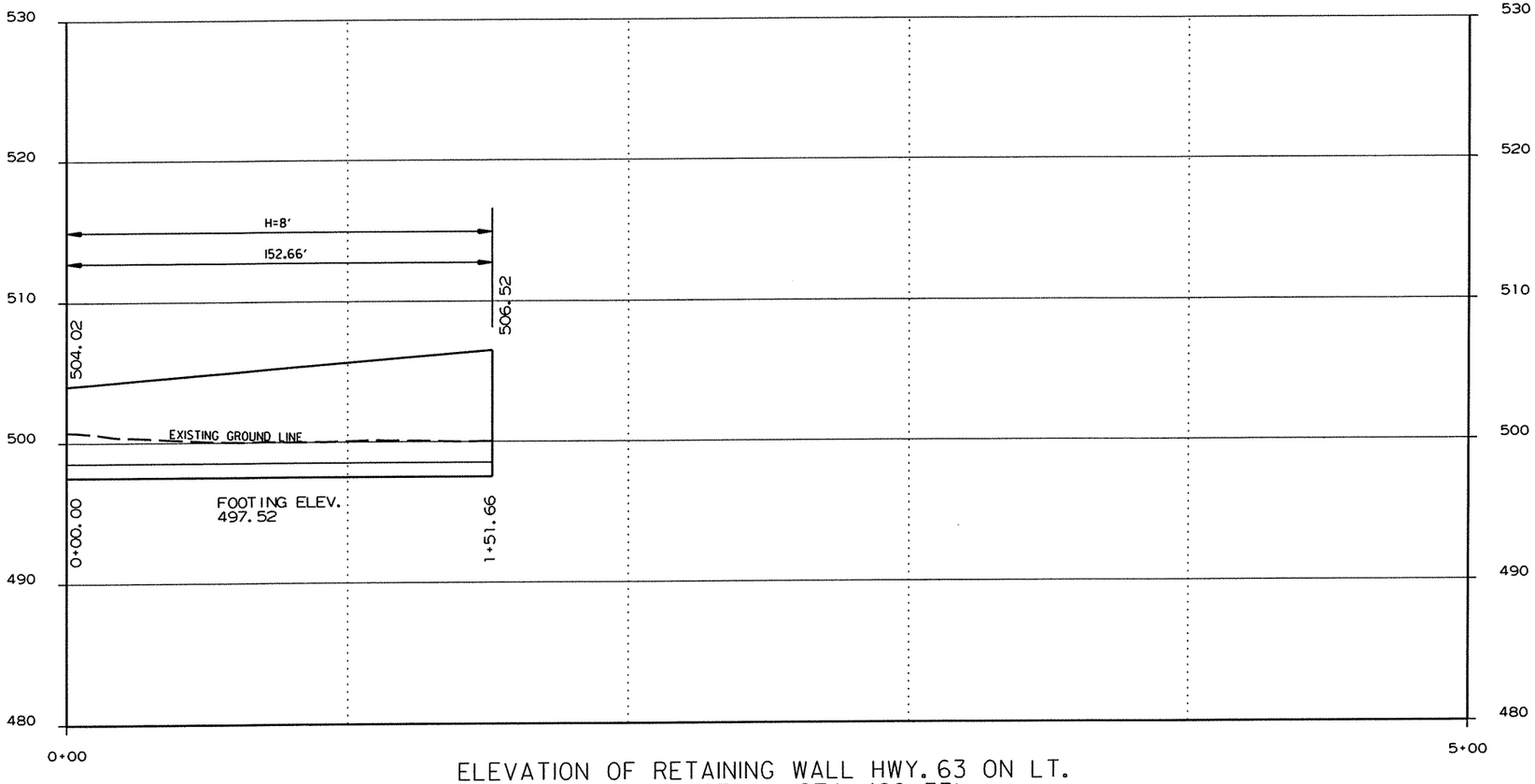
BRIDGE NO. 03771

PRINT DATE: 9/20/2013

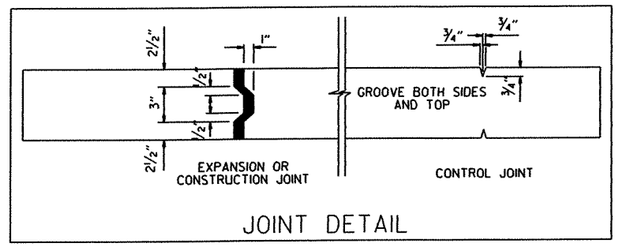
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				6	ARK.			
				JOB NO.		080390	11	263

(2) SPECIAL DETAILS

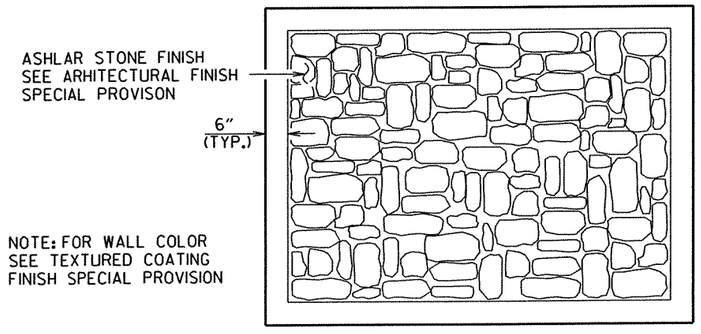
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



ELEVATION OF RETAINING WALL HWY. 63 ON LT.
(STA. 427+77 to STA. 429+33)



JOINT DETAIL



ASHLAR STONE FINISH DETAIL

CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	ARCHITECTURAL FINISH	TEXTURED COATING FINISH
CU. YD.	POUND	CU. YD.	SQ. FT.	SQ. YD.
FOR INFORMATION ONLY				
74.62	9459	188	1025	90

NOTE: REFER TO STANDARD DRAWING NO. SI-2 FOR ADDITIONAL RETAINING WALL DETAILS.

12/6/2012

R080390.DGN

SPECIAL DETAILS

STAGE I QUANTITIES:
TEMPORARY EROSION CONTROL QUANTITIES:

SAND BAG DITCH CHECKS = 132 BAG
ROCK DITCH CHECKS = 24 CU. YD.
DROP INLET SILT FENCE = 670 LIN. FT.
SILT FENCE = 4525 LIN. FT.
SEDIMENT BASIN = 11013 CU. YD.

TEMPORARY EROSION CONTROL GENERAL NOTES:

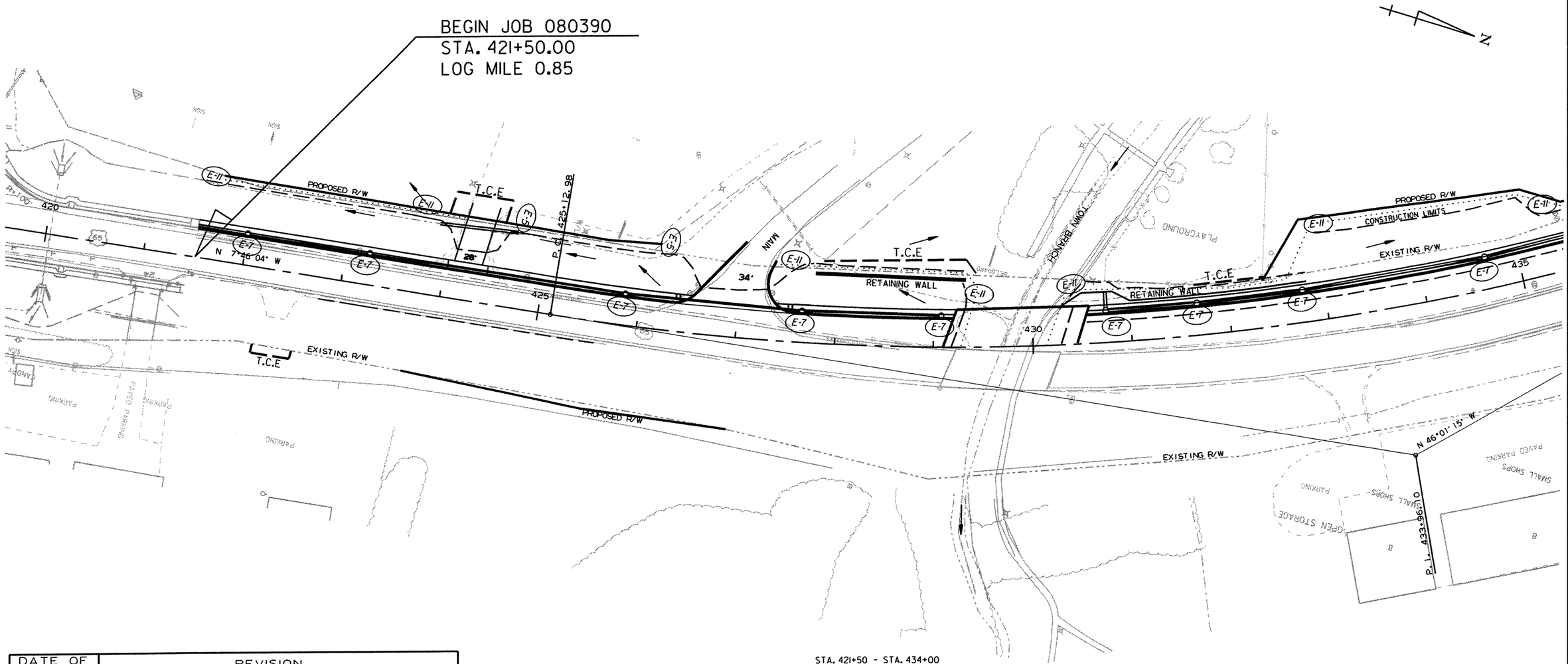
1) THE QUANTITIES AND LOCATIONS OF THE TEMPORARY EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

2) REFER TO SECT. 110 OF STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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				6	ARK.			
				JOB NO.		080390	12	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



DATE OF REVISION	REVISION

E-5 SAND BAG DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 ···· E-11 SILT FENCE

STA. 421+50 - STA. 434+00
INSTALL E-11 = 960 LIN. FT.

STA. 422+00 INSTALL E-7 = 25 LIN. FT.
STA. 423+24 INSTALL E-7 = 25 LIN. FT.
STA. 425+85 INSTALL E-7 = 25 LIN. FT.
STA. 427+65 INSTALL E-7 = 25 LIN. FT.
STA. 429+17 INSTALL E-7 = 25 LIN. FT.
STA. 430+75 INSTALL E-7 = 30 LIN. FT.
STA. 431+68 INSTALL E-7 = 30 LIN. FT.
STA. 432+77 INSTALL E-7 = 30 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS
STAGE I

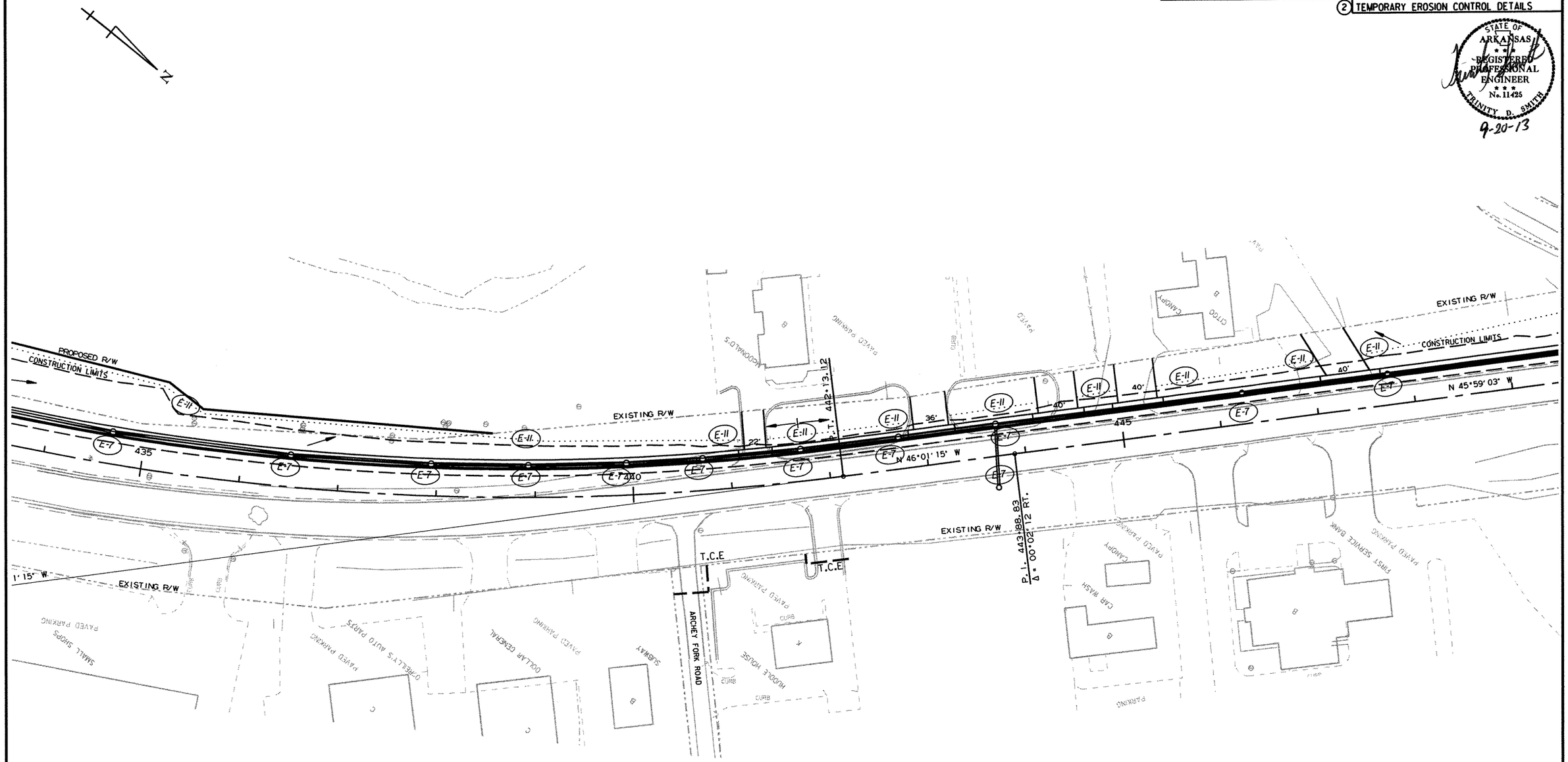
10/10/2012
R080390.DGN

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.		080390	13	263

(2) TEMPORARY EROSION CONTROL DETAILS

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9-20-13



DATE OF REVISION	REVISION

E-7 DROP INLET SILT FENCE

E-11 SILT FENCE

E-14 SEDIMENT BASIN

STA. 434+00 - STA. 449+00
INSTALL E-II = 1295 LIN. FT.

STA. 434+66 INSTALL E-7 = 30 LIN. FT.
STA. 436+50 INSTALL E-7 = 30 LIN. FT.
STA. 437+94 INSTALL E-7 = 30 LIN. FT.
STA. 438+93 INSTALL E-7 = 30 LIN. FT.
STA. 439+94 INSTALL E-7 = 30 LIN. FT.
STA. 440+72 INSTALL E-7 = 25 LIN. FT.
STA. 441+73 INSTALL E-7 = 25 LIN. FT.
STA. 442+73 INSTALL E-7 = 25 LIN. FT.
STA. 443+73 INSTALL E-7 = 25 LIN. FT.
STA. 446+25 INSTALL E-7 = 25 LIN. FT.
STA. 447+75 INSTALL E-7 = 25 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS
STAGE I

10/11/2012

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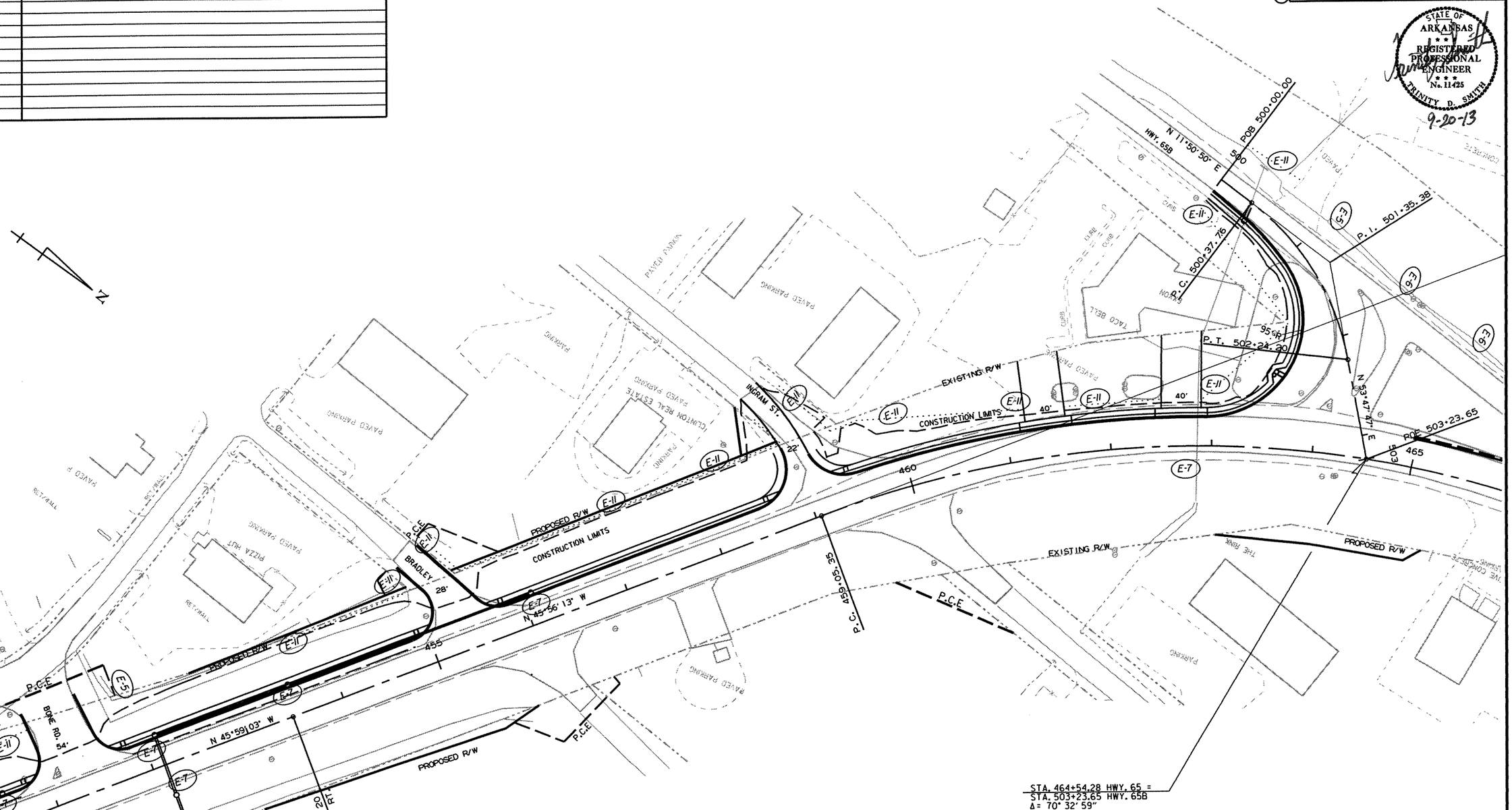
DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	14	263

(2) TEMPORARY EROSION CONTROL DETAILS

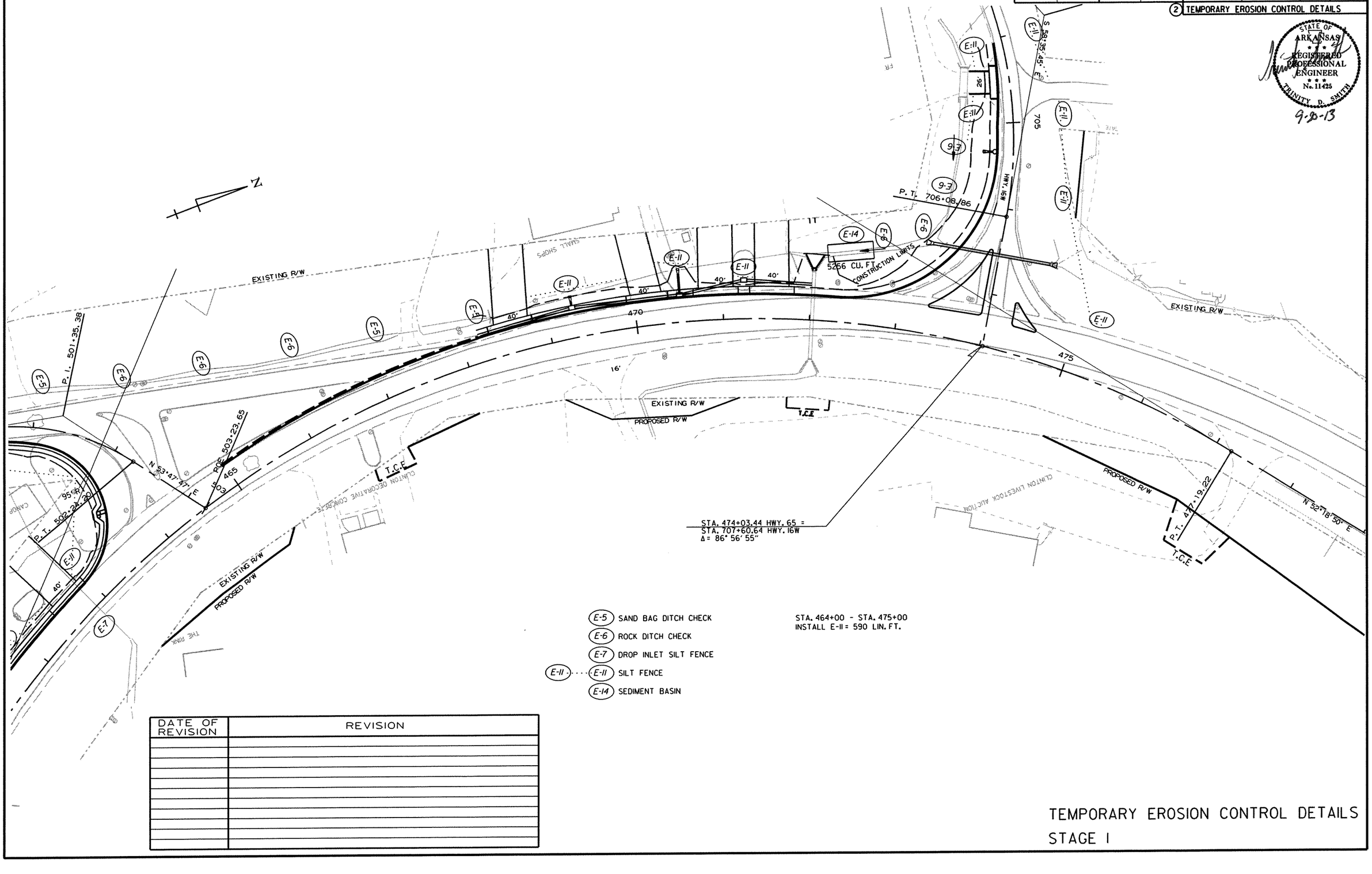
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13


N
HWY. 65B
N 11°50'50" E
POB 500+00.00
500
E-11
E-7
P.I. 501+35.38
P.C. 500+37.76
95°R
P.T. 502+24.30
N 53°47'47" E
POB 503+23.65
EOB
465
EXISTING R/W
CONSTRUCTION LIMITS
40'
460
INGRAM ST.
22'
PROPOSED R/W
P.C.
BRADLEY
28'
N 45°56'13" W
455
P.C.E
P.C. 469+05.35
EXISTING R/W
PROPOSED R/W
BOISE RD.
54'
N 45°59'03" W
450
P.C.E
PROPOSED R/W
L. 463+47.20
00°02'50" RT.
PAVED PARKING
PAVED PARKING
PAVED PARKING
COLLINSON REAL ESTATE
PARKING
PAVED PARKING
TACO BELL
PARKING
PAVED PARKING
PIZZA HUT
PAVED PARKING
RETAINAL
RETAINAL
PARKING
PARKING
PARKING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	15	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
9-9-13



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

STA. 464+00 - STA. 475+00
INSTALL E-11 = 590 LIN. FT.

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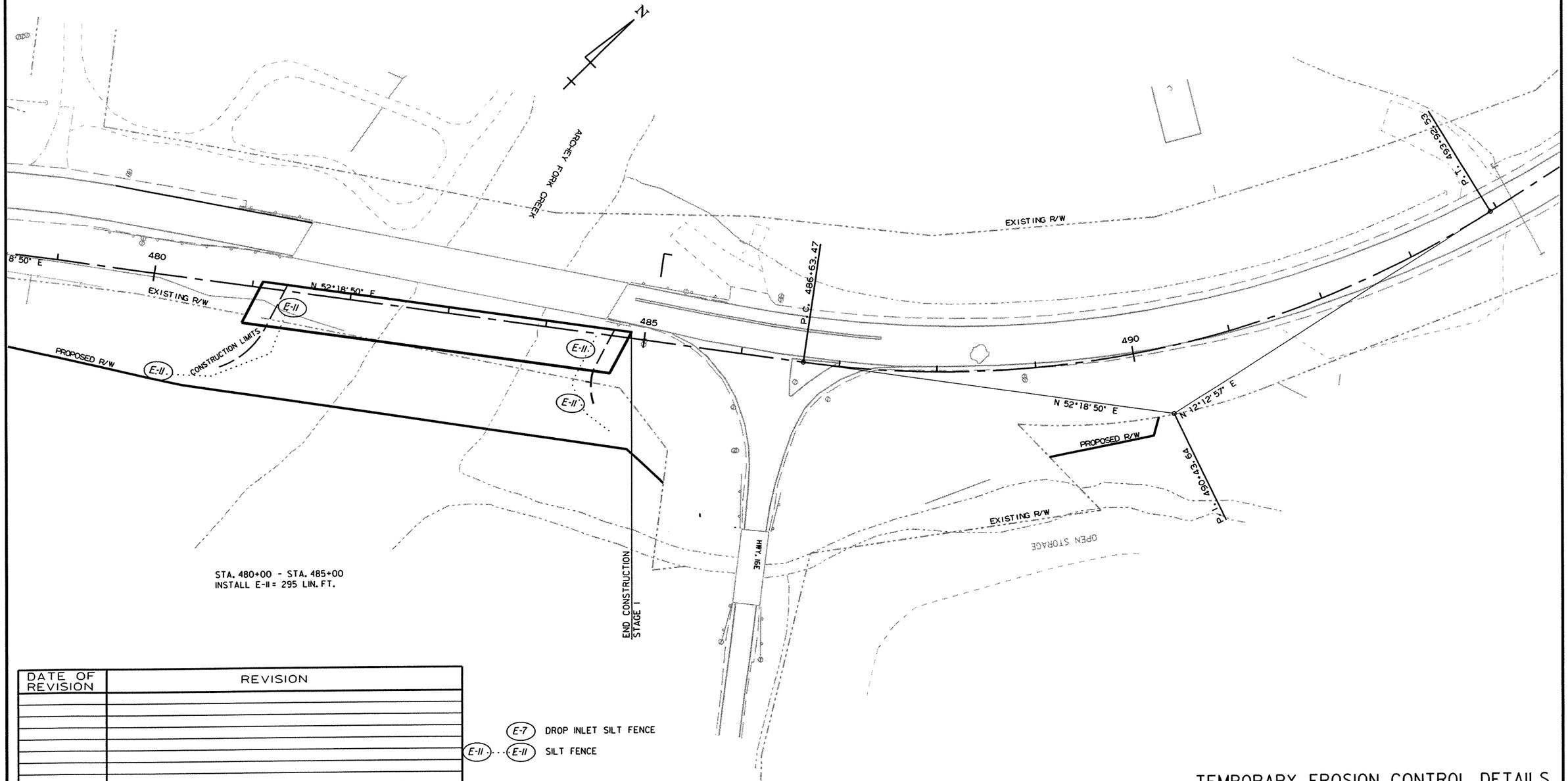
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TEMPORARY EROSION CONTROL DETAILS
STAGE I

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.		080390	16	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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9-20-13



DATE OF REVISION	REVISION

E-7 DROP INLET SILT FENCE

E-II E-II SILT FENCE

TEMPORARY EROSION CONTROL 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.		080390	17	263

(2) TEMPORARY EROSION CONTROL DETAILS

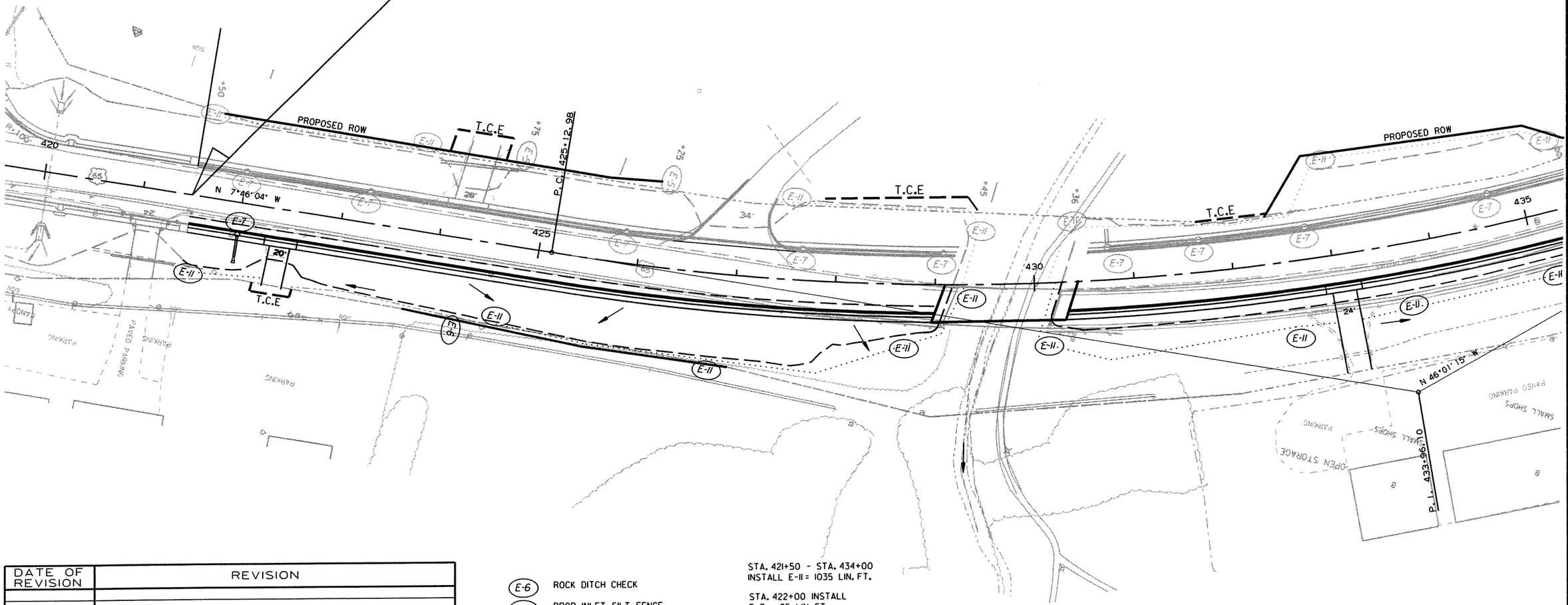
STAGE 2 QUANTITIES:
TEMPORARY EROSION CONTROL QUANTITIES:

ROCK DITCH CHECKS = 3 CU. YD.
DROP INLET SILT FENCE = 500 LIN. FT.
SILT FENCE = 6170 LIN. FT.

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BEGIN JOB 080390
STA. 421+50.00
LOG MILE 0.85

NOTE: RETAIN EROSION CONTROL ITEMS FROM STAGE 1 IF AND WHERE DIRECTED BY THE ENGINEER.



DATE OF REVISION	REVISION

E-6 ROCK DITCH CHECK
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE

STA. 421+50 - STA. 434+00
INSTALL E-11 = 1035 LIN. FT.

STA. 422+00 INSTALL
E-7 = 25 LIN. FT.

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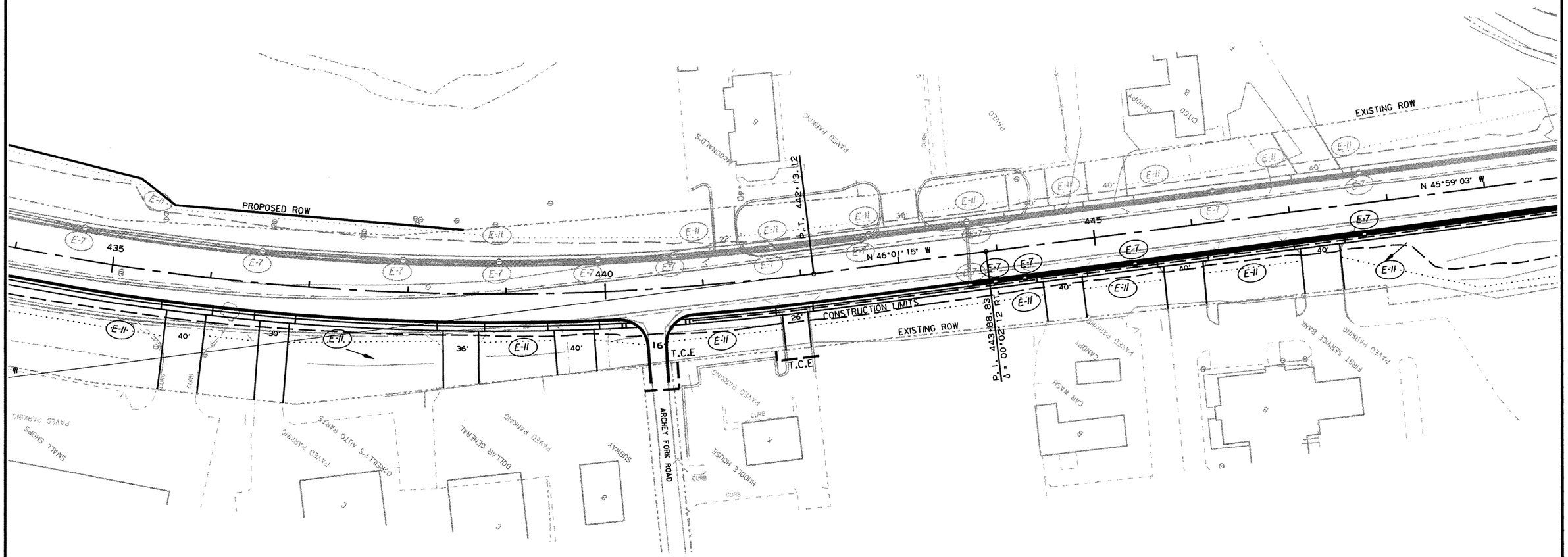
R080390.DGN

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.		080390	18	263

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
9-20-13



DATE OF REVISION	REVISION

E-7 DROP INLET SILT FENCE

E-11 ···· E-11 SILT FENCE

STA. 434+00 - STA. 449+00
INSTALL E-11 = 1215 LIN. FT.

STA. 434+69 INSTALL
E-7 = 25 LIN. FT.

STA. 443+95 INSTALL
E-7 = 25 LIN. FT.

STA. 444+25 INSTALL
E-7 = 25 LIN. FT.

STA. 445+38 INSTALL
E-7 = 25 LIN. FT.

STA. 447+73 INSTALL
E-7 = 25 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

10/11/2012

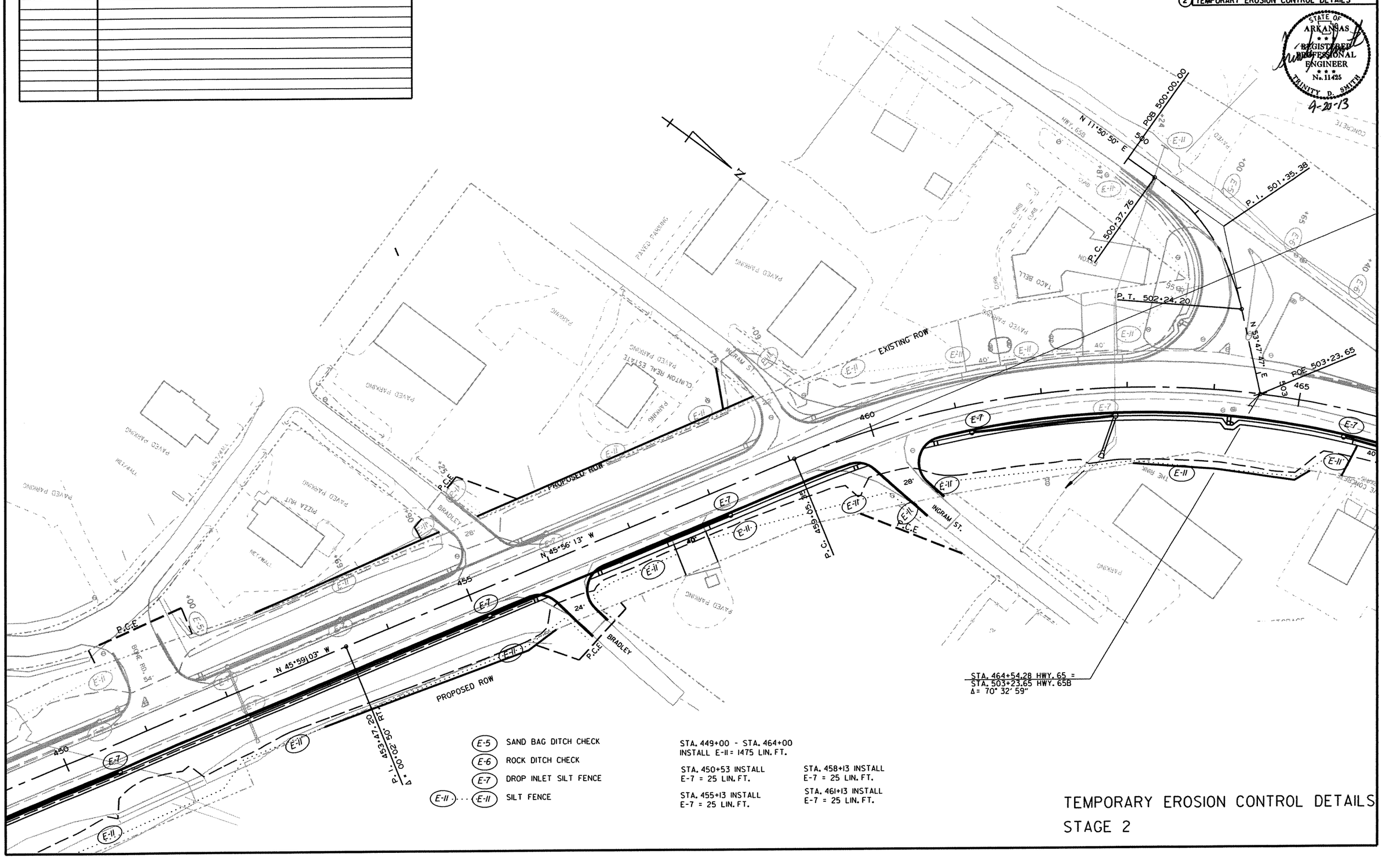
R080390.DGN

DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	19	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
4-20-13



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

STA. 449+00 - STA. 464+00
INSTALL E-11 = 1475 LIN. FT.

STA. 450+53 INSTALL
E-7 = 25 LIN. FT.

STA. 455+13 INSTALL
E-7 = 25 LIN. FT.

STA. 458+13 INSTALL
E-7 = 25 LIN. FT.

STA. 461+13 INSTALL
E-7 = 25 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

10/11/2012

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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.		080390	20	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-25-12

N 45°56'13" W

N 52°18'50" E

S 58°35'45" E

46.46'

P.I. 704+06.43

P.T. 706+08.86

705

P.I. 501+35.38

N 53°47'47" E

POE 503+23.65

465

P.T. 502+24.20

470

475

E-14A

3600 CU. FT.

5266 CU. FT.

T.C.E

STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY. 16W
Δ = 86° 56' 55"

P.T. 477+19.22

N 52°18'50" E

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

STA. 464+00 - STA. 479+00
INSTALL E-11 = 599 LIN. FT.

STA. 465+60 INSTALL
E-7 = 25 LIN. FT.

STA. 466+47 INSTALL
E-7 = 25 LIN. FT.

STA. 467+18 INSTALL
E-7 = 25 LIN. FT.

STA. 469+03 INSTALL
E-7 = 25 LIN. FT.

STA. 470+55 INSTALL
E-7 = 25 LIN. FT.

STA. 472+03 INSTALL
E-7 = 25 LIN. FT.

STA. 473+29 INSTALL
E-7 = 25 LIN. FT.

STA. 474+68 INSTALL
E-7 = 25 LIN. FT.

STA. 475+93 INSTALL
E-7 = 25 LIN. FT.

STA. 478+03 INSTALL
E-7 = 25 LIN. FT.

DATE OF REVISION	REVISION

10/11/2012

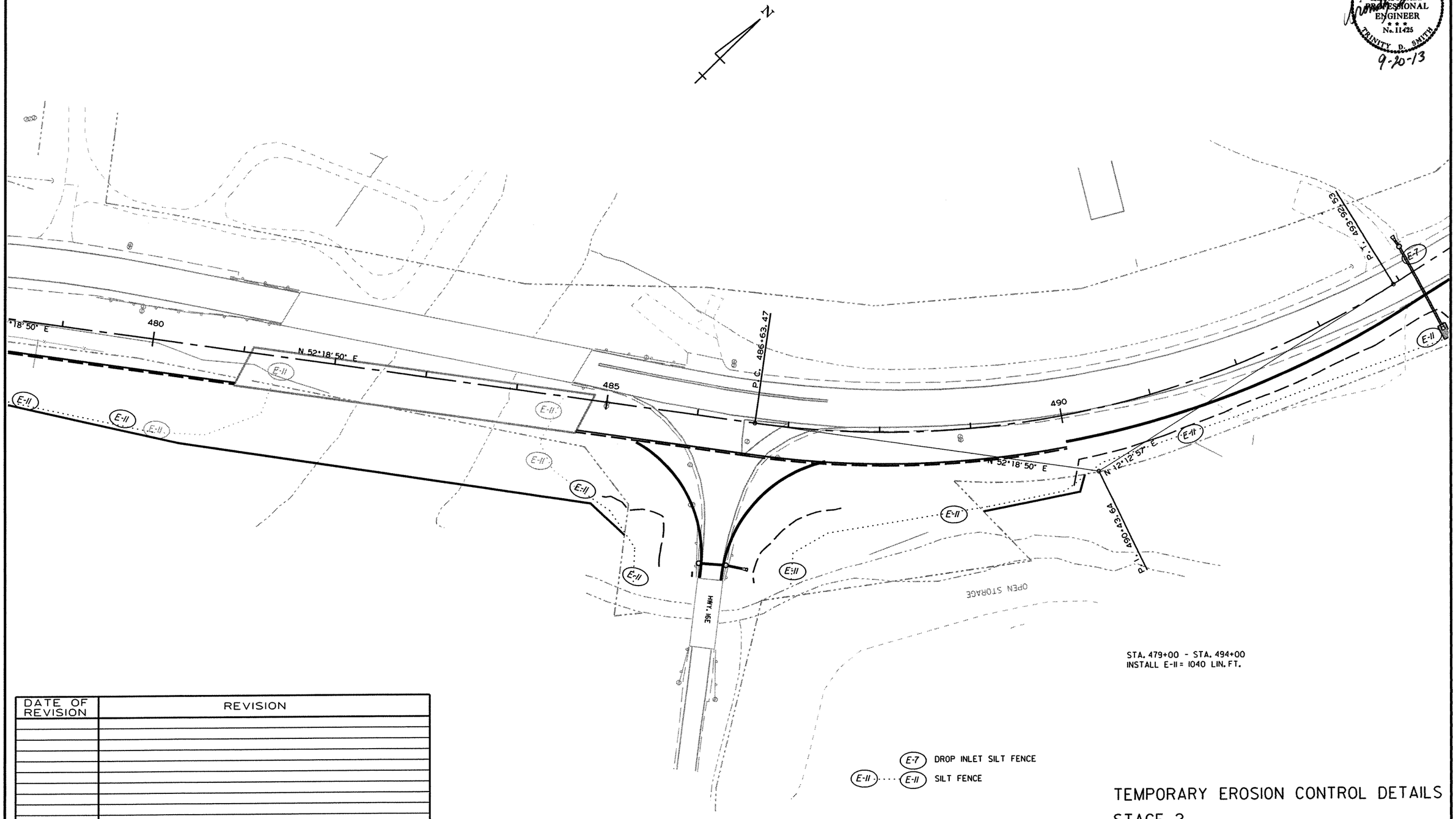
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TEMPORARY EROSION CONTROL DETAILS
STAGE 2

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.		080390	21	263

(2) TEMPORARY EROSION CONTROL DETAILS

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STA. 479+00 - STA. 494+00
INSTALL E-11 = 1040 LIN. FT.

E-7 DROP INLET SILT FENCE

E-11 SILT FENCE

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TEMPORARY EROSION CONTROL DETAILS
STAGE 2

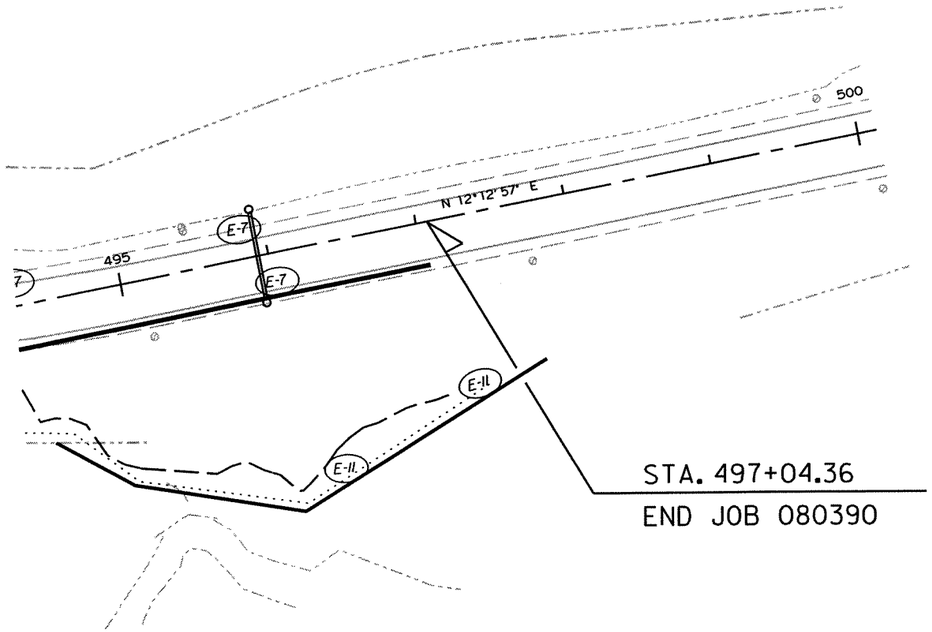
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	22	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

N



STA. 497+04.36
END JOB 080390

STA. 494+00 - STA. 497+10
INSTALL E-11 = 350 LIN. FT.

STA. 494+19 INSTALL
E-7 = 25 LIN. FT.

STA. 495+93 INSTALL
E-7 = 25 LIN. FT.

STA. 495+93 INSTALL
E-7 = 25 LIN. FT.

E-7 DROP INLET SILT FENCE

E-11 E-11 SILT FENCE

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.		080390	23	263

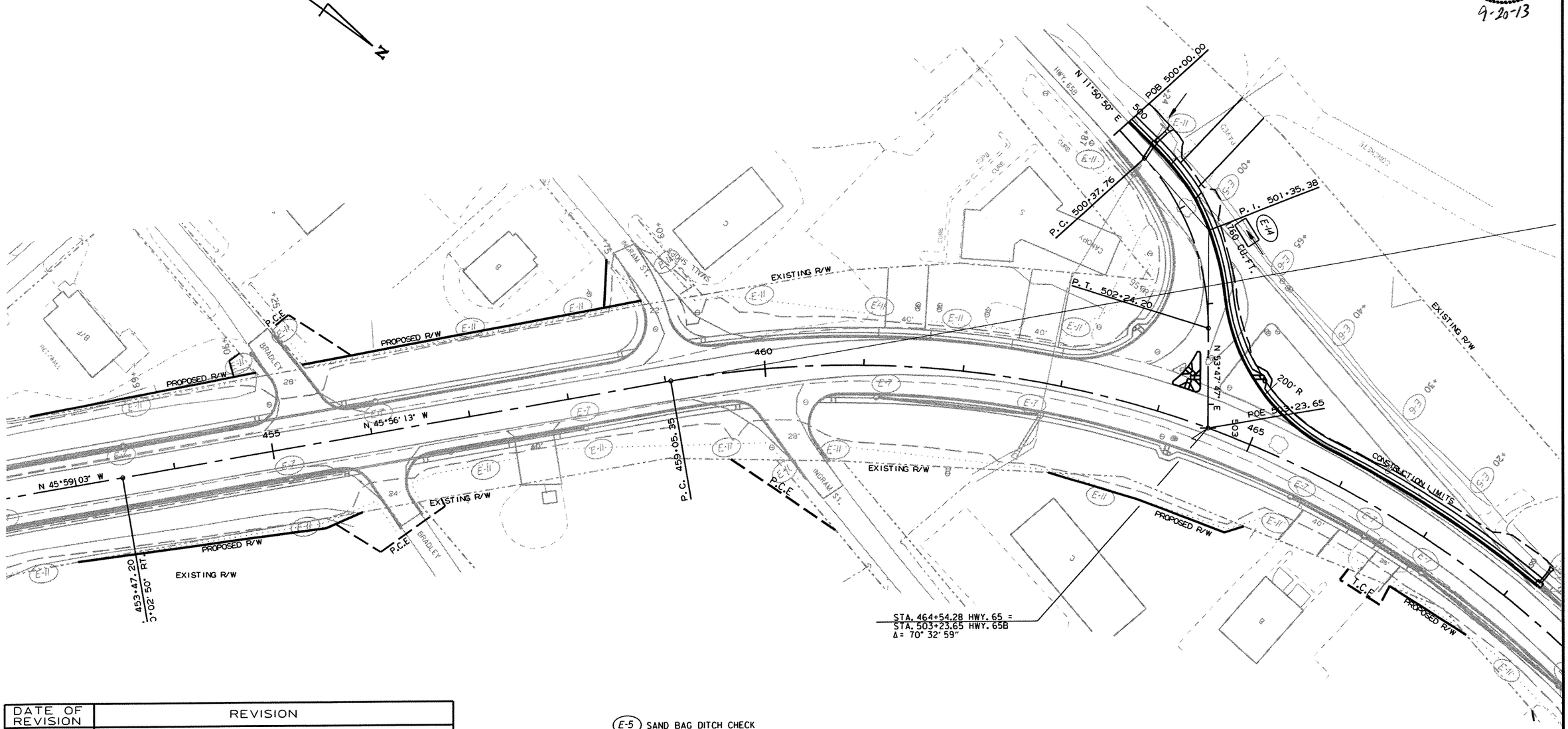
(2) TEMPORARY EROSION CONTROL DETAILS

STAGE 3 QUANTITIES:
TEMPORARY EROSION CONTROL QUANTITIES:

SAND BAG DITCH CHECKS = 44 BAG
ROCK DITCH CHECKS = 54 CU. YD.
DROP INLET SILT FENCE = 300 LIN. FT.
SILT FENCE = 1005 LIN. FT.

NOTE: RETAIN EROSION CONTROL ITEMS FROM PREVIOUS STAGES IF AND WHERE DIRECTED BY THE ENGINEER.

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REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



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 3

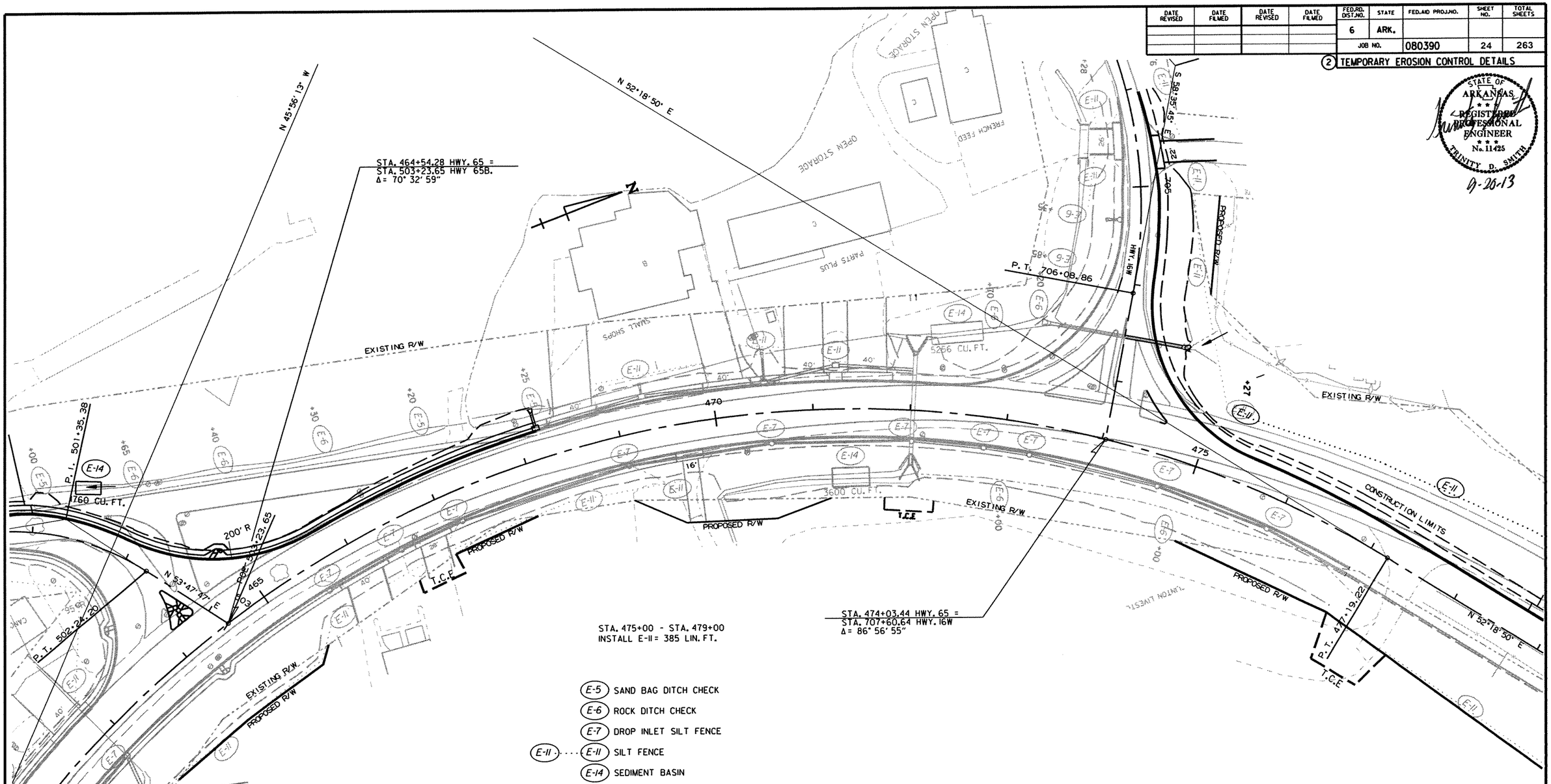
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	24	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-26-13



- (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

10/11/2012

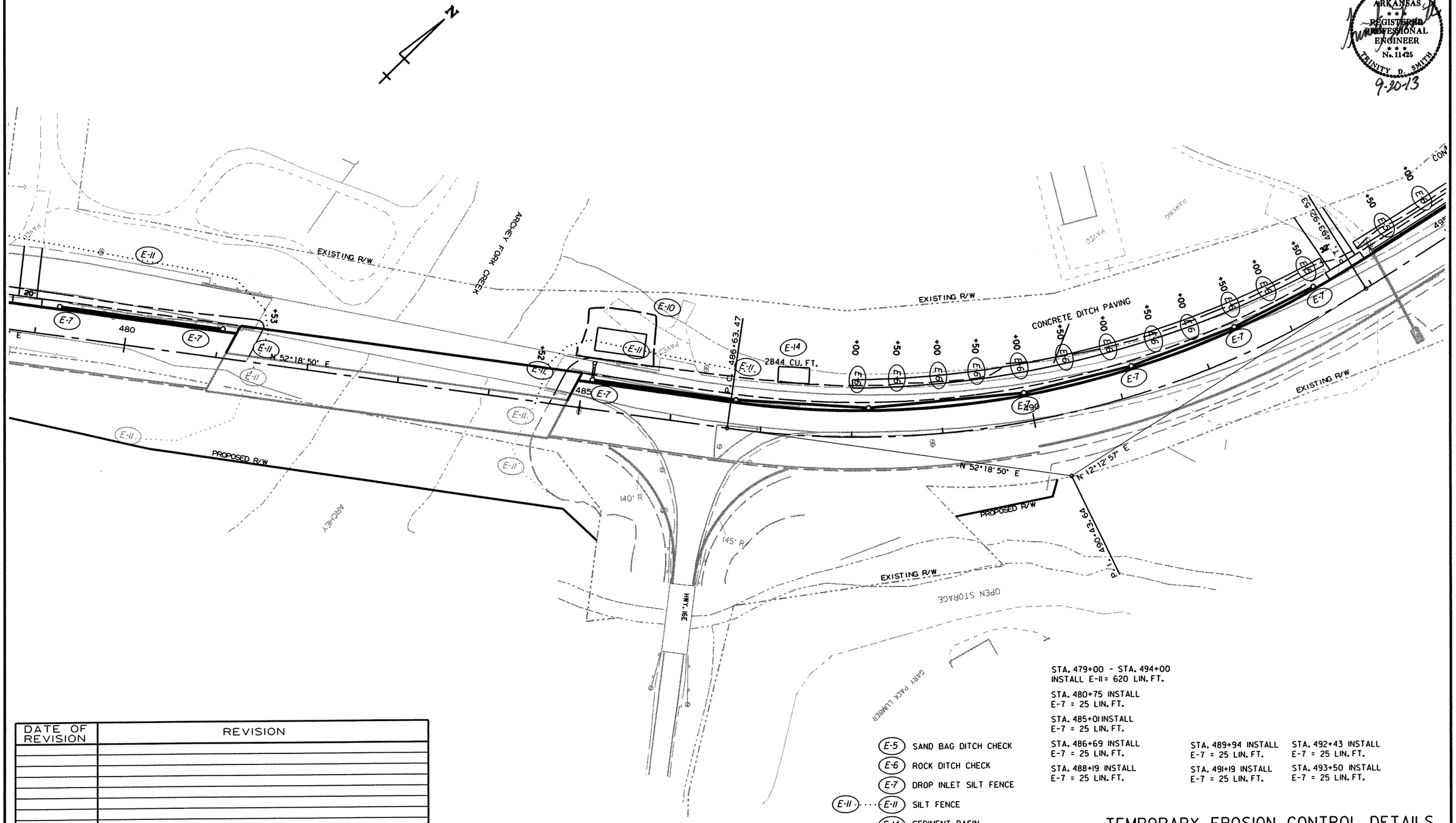
R080390.DGN

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.		080390	25	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
9-20-13



DATE OF REVISION	REVISION

STA. 479+00 - STA. 494+00
INSTALL E-11 = 620 LIN. FT.

STA. 480+75 INSTALL
E-7 = 25 LIN. FT.

STA. 485+01 INSTALL
E-7 = 25 LIN. FT.

STA. 486+69 INSTALL
E-7 = 25 LIN. FT.

STA. 488+19 INSTALL
E-7 = 25 LIN. FT.

STA. 489+94 INSTALL
E-7 = 25 LIN. FT.

STA. 491+19 INSTALL
E-7 = 25 LIN. FT.

STA. 492+43 INSTALL
E-7 = 25 LIN. FT.

STA. 493+50 INSTALL
E-7 = 25 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

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

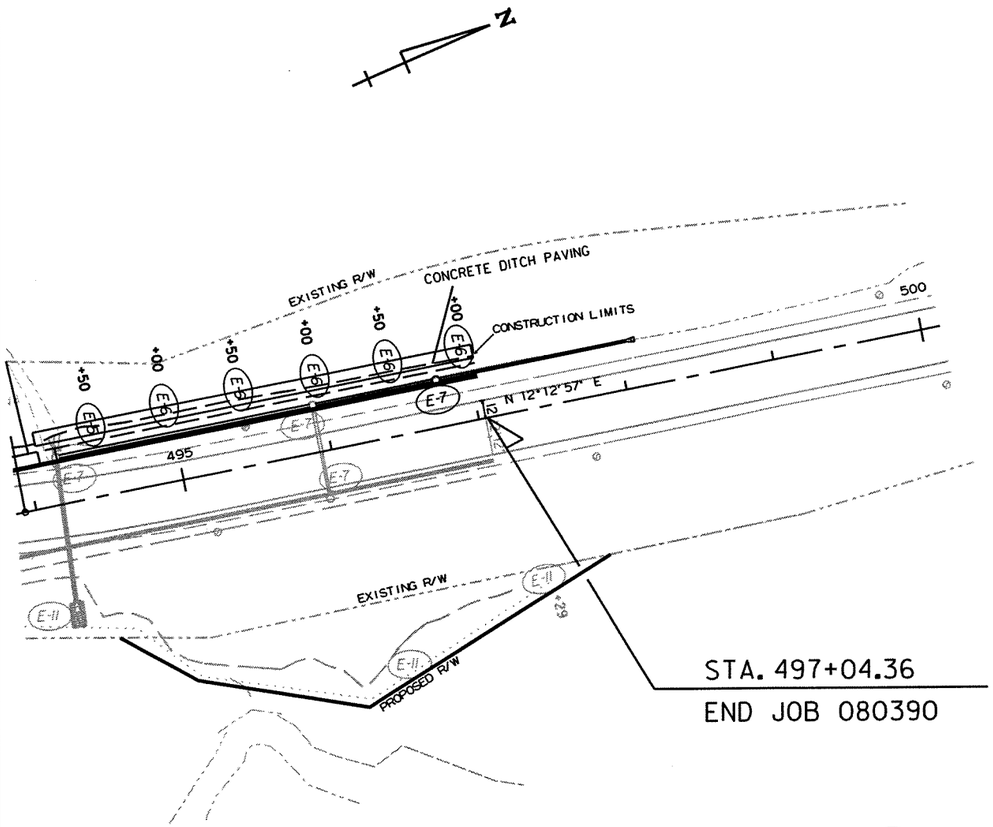
10/11/2012

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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.		080390	26	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



STA. 497+04.36
END JOB 080390

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

STA. 496+77 INSTALL
E-7 = 25 LIN. FT.

DATE OF REVISION	REVISION

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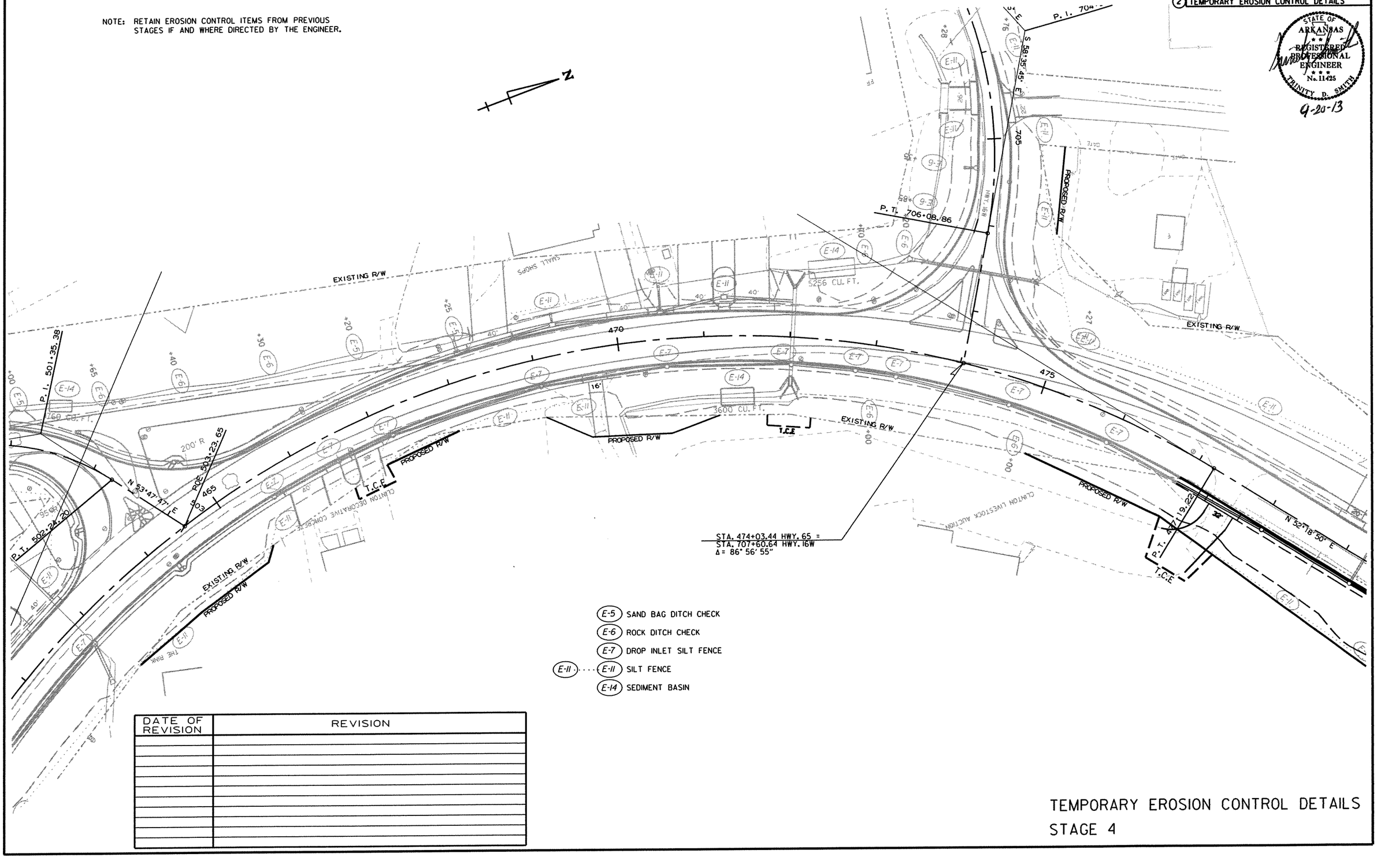
TEMPORARY EROSION CONTROL DETAILS
STAGE 3

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.		080390	27	263

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE: RETAIN EROSION CONTROL ITEMS FROM PREVIOUS STAGES IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



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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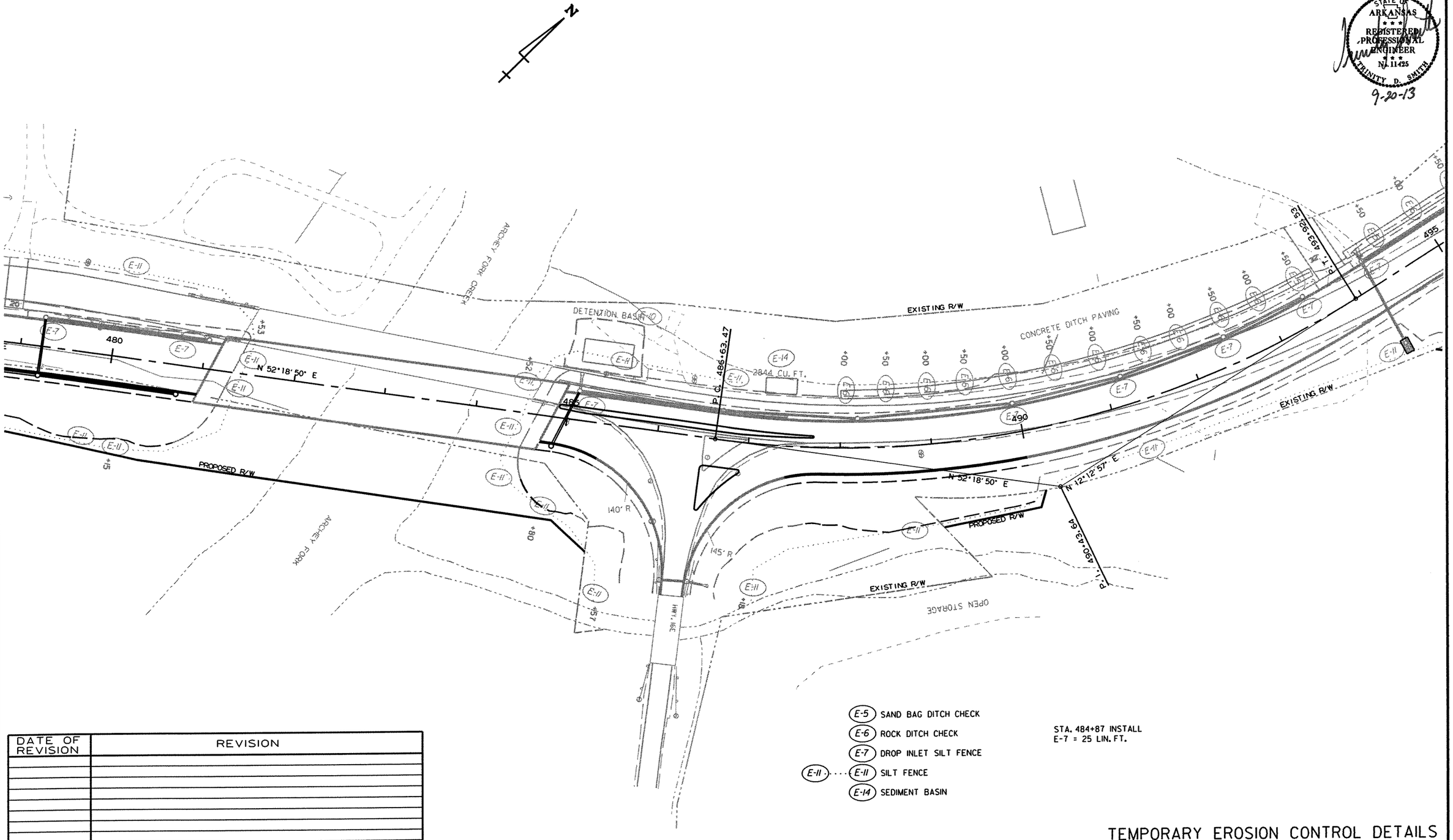
TEMPORARY EROSION CONTROL DETAILS
STAGE 4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	28	263

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



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

STA. 484+87 INSTALL
E-7 = 25 LIN. FT.

DATE OF REVISION	REVISION

10/11/2012

R080390.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	29	263

(2) MAINTENANCE OF TRAFFIC DETAILS

FOR ALL STAGES
INSTALL THE ADVANCE WARNING SIGNS AS THE BEGINNING AND END OF THE PROJECT ALONG WITH SIGNS INDICATED FOR SIDE STREETS AND HWYS.

STAGE 1:
RESTRIPE THE EXISTING LANES AS SHOWN TO MAINTAIN TRAFFIC ON THE RIGHT.
NOTCH AND WIDEN THE LEFT SIDE OF HWY. 65 DELINEATING THE WORK ZONE USING TRAFFIC DRUMS AT 35' O.C. ON THE SIDE BEING WIDENED AS FOLLOWS:

STA. 421+50 TO STA. 425+00
STRIPE HIGHWAY TO CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.

STA. 425+00 TO STA. 468+20
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 TO INTERSECTION OF HWY. 65B (STA. 463+00) AND CONSTRUCT STORM DRAIN.
CONSTRUCT ADDITIONAL WIDENING (STA. 464+97 - STA. 468+20)
INSTALL TEMP. BARRIER WALL (STA. 428+50 STA. 431+75) AND CONSTRUCT LT. SIDE OF NEW BRIDGE OVER TOWN BRANCH CREEK AS INDICATED ON BRIDGE PLANS.
CONSTRUCT RETAINING WALLS ON LT. AS INDICATED ON PLAN SHEETS.
NOTCH AND WIDEN RIGHT RADIUS OF HWY. 65B INTERSECTION.

STA. 468+20 TO STA. 475+11
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.
EXTEND R.C. BOX CULVERT ON LT. (STA. 472+03).
NOTCH AND WIDEN RT. SIDE OF HWY. 16 W. RT. (STA. 474+03 LT.)

STA. 475+88 TO STA. 479+22
STRIPE TAPER TO MAINTAIN TRAFFIC IN THREE LANES: TWO SOUTHBOUND AND ONE NORTHBOUND.
CONSTRUCT RT. SIDE OF BRIDGE OVER ARCHEY FORK CREEK WITHOUT SIDEWALK.

STAGE 2:
STA. 421+50 TO STA. 425+60
CLOSE CENTER LANE AND MAINTAIN TRAFFIC ON LT.
NOTCH AND WIDEN RT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 425+60 TO STA. 476+10
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65, & CONSTRUCT STORM DRAIN.
CONSTRUCT RIGHT SIDE OF BRIDGE OVER TOWN BRANCH.
EXTEND R.C. BOX CULVERT AT STA. 472+03.

STA. 476+10 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON EXISTING, TWO SOUTHBOUND AND ONE NORTHBOUND.
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65.
CONSTRUCT TEMPORARY WIDENING ON RT. SIDE OF HWY. 65 AS SHOWN.
CONSTRUCT STORM DRAIN. CONSTRUCT PARTIAL RADII FOR HWY. 65 AND HWY. 16E INTERSECTION.

STAGE 3:
STA. 421+50 TO STA. 496+04.36
MAINTAIN TRAFFIC ON NEW PAVEMENT.

STA. 456+56 TO STA. 459+01
CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. TWO LANES SHOWN.

STA. 463+11 TO STA. 468+20
NOTCH AND WIDEN HWY. 65B LT. & CONSTRUCT STORM DRAIN.
CONSTRUCT LT. RADIUS FOR HWY. 65 AND HWY. 65B INTERSECTION.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 475+11 TO STA. 476+23
NOTCH AND WIDEN HWY. 16W LT.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

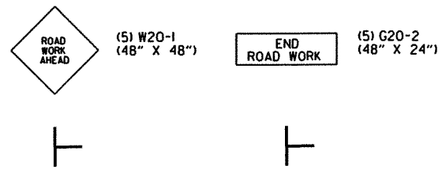
STA. 476+23 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON NEW PAVEMENT, TWO SOUTHBOUND AND ONE NORTHBOUND.
CONSTRUCT LEFT PORTION OF BRIDGE OVER ARCHEY FORK.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STAGE 4:
STA. 473+70 TO STA. 481+08
TAPER TRAFFIC TO FOUR LANES, TWO SOUTHBOUND, ONE NORTHBOUND, AND ONE CENTER LANE.
CONSTRUCT CURB AND GUTTER AND STORM DRAIN ON RT. SIDE OF HWY. 65.

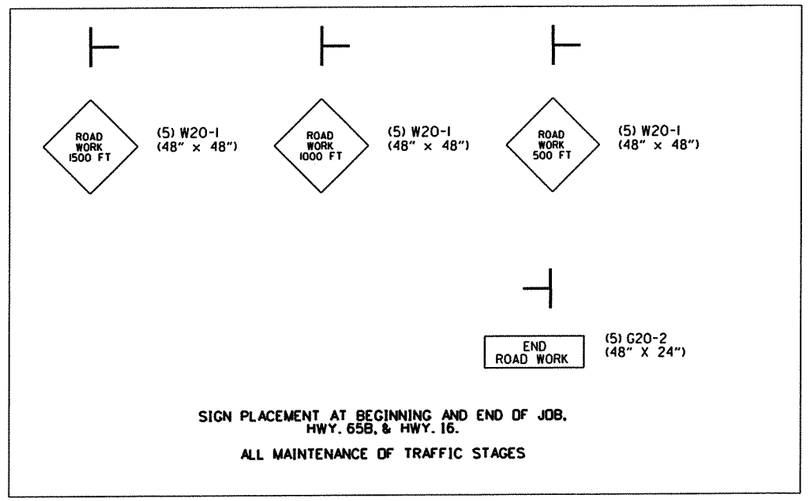
STA. 481+08 TO STA. 484+84
CONSTRUCT BRIDGE SIDEWALK.

STA. 484+84 TO STA. 489+12
COMPLETE RADII AND CONSTRUCT ISLAND FOR HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT ISLAND ACROSS FROM HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT CURB AND GUTTER & STORM DRAIN ON RT. SIDE OF HWY. 65.

APPLY THE FINAL 2" OF ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED.

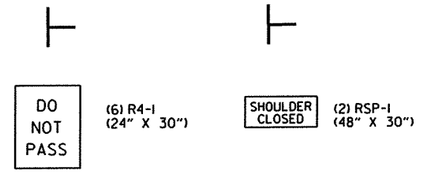


SIGN PLACEMENT ON ALL CITY STREETS & COUNTY ROADS
ALL STAGES

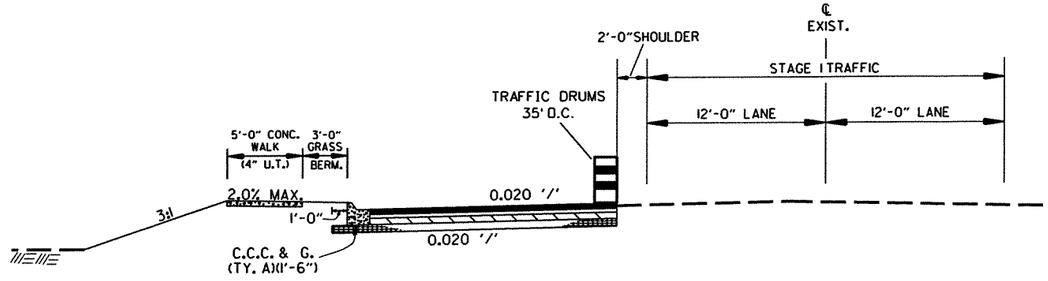


SIGN PLACEMENT AT BEGINNING AND END OF JOB.
HWY. 65B, & HWY. 16.

ALL MAINTENANCE OF TRAFFIC STAGES



TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
ALL STAGES



MAINTENANCE OF TRAFFIC DETAILS
STAGE I

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

11/8/2011

R080390.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.		080390	30	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

BEGIN JOB 080390
STA. 421+50.00
LOG MILE 0.85

N

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

+50
TAPER
245'
+95

EXISTING R/W
PROPOSED R/W
T.C.E
420
N 7°46'04" W
26'
P.C. 425+12.98
425
34'
MAIN

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

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

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

T.C.E
RETAINING WALL
TOWN BRANCH

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

SAFETY END UNIT

(1) RII-2 (48" X 30")
8' BARR. TYP. III LT.
ROAD CLOSED

PROPOSED R/W
CONSTRUCTION LIMITS
EXISTING R/W
435
T.C.E
RETAINING WALL
430

4" DBL SOLID YELLOW
4" SOLID WHITE
PRECAST BARRIER
SAFETY END UNIT
(3) OM-3L (12"X 36")
(4) OM-3R (12"X 36")

EXISTING R/W
PROPOSED R/W
PROPOSED R/W
T.C.E

N 46°01'15" W
P.T. 433+96.10
SMALL SHOPS
PAVED PARKING
PARKING
SMALL SHOPS
PAVED PARKING
B
B

(1) RII-2 (48" X 30")
8' BARR. TYP. III LT.
ROAD CLOSED

(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

FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 326 LIN. FT.

TRAFFIC DRUMS = 35 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

VERTICAL PANELS = 7 EACH
35' O.C. ROADWAY

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 421+50 TO STA. 435+00 = 4540 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

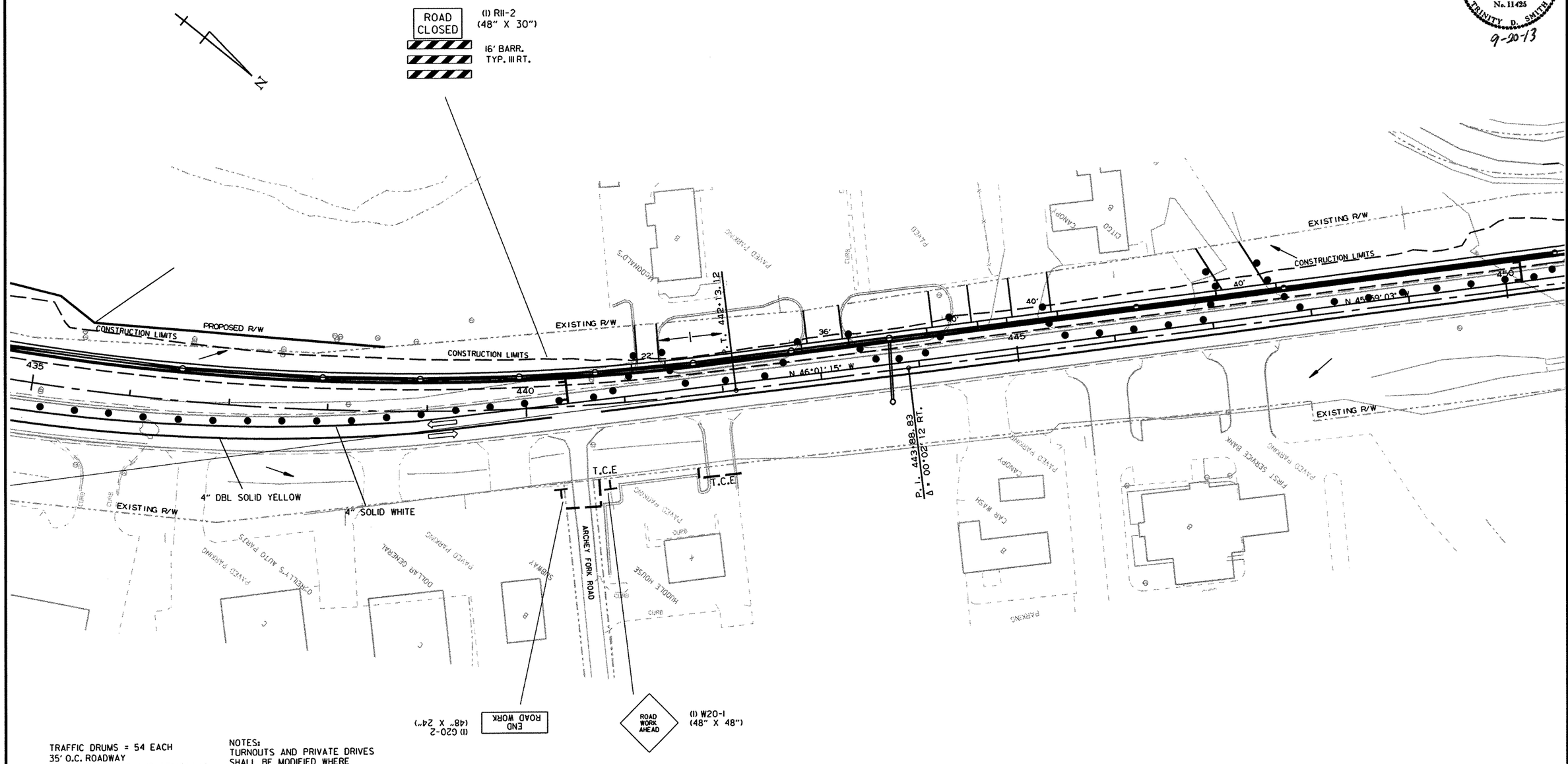
11/8/2011

R080390.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.		080390	31	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



TRAFFIC DRUMS = 54 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 435+00 TO STA. 450+00 = 4500 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

11/8/2011

R080390.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.		080390	32	263

(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 80 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 450+00 TO STA. 465+00 = 4500 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

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

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

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

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

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

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

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

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

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

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

PROPOSED R/W
EXISTING R/W
CONSTRUCTION LIMITS
P.C.E
BRADLEY
INGRAM ST.
HWY. 65B
ROAD
P.I. 453+47.20
Δ = 00°02'50" RT
P.C. 459+05.35
P.C. 500+37.76
P.I.
P.T. 502+24.30
195' R
N 11°50'50" E
N 45°56' 13" W
N 45°59'03" W
N 53°47'
POB 503+23.65
4" DBL SOLID YELLOW
4" SOLID WHITE
STA. 464+54.28 HWY. 65 =
STA. 503+23.65 HWY. 65B
Δ = 70° 32' 59"

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

11/8/2011
R080390.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.		080390	33	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

(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

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

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

END ROAD WORK

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

N 68°46'46" E

S 58°36'45" E

705

P. T. 706+08.86

170' R

EXISTING R/W

CONSTRUCTION LIMITS

ADDITIONAL WIDENING
STA. 464+97 TO STA. 468+20
28' OFFSET ON LT.

40'

470

475

16'

28'

4" SOLID WHITE

4" DBL SOLID YELLOW

PROPOSED R/W

TAPER
320'

+88

+08

STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY. 16W
Δ = 86° 56' 55"

POC 503+23.65

N 53°47'47" E

465

N 52°18'50" E

P. T. 477+19.22

480

SMALL SHOPS

CLINTON DECORATIVE CONCRETE

CLINTON LIVESTOCK

THE RINK

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 465+00 TO STA. 479+08 = 4224 LIN. FT.

FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 74 LIN. FT. WITH TEMPORARY IMPACT ATTENUATION BARRIER

TRAFFIC DRUMS = 89 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

11/8/2011

R080390.DGN

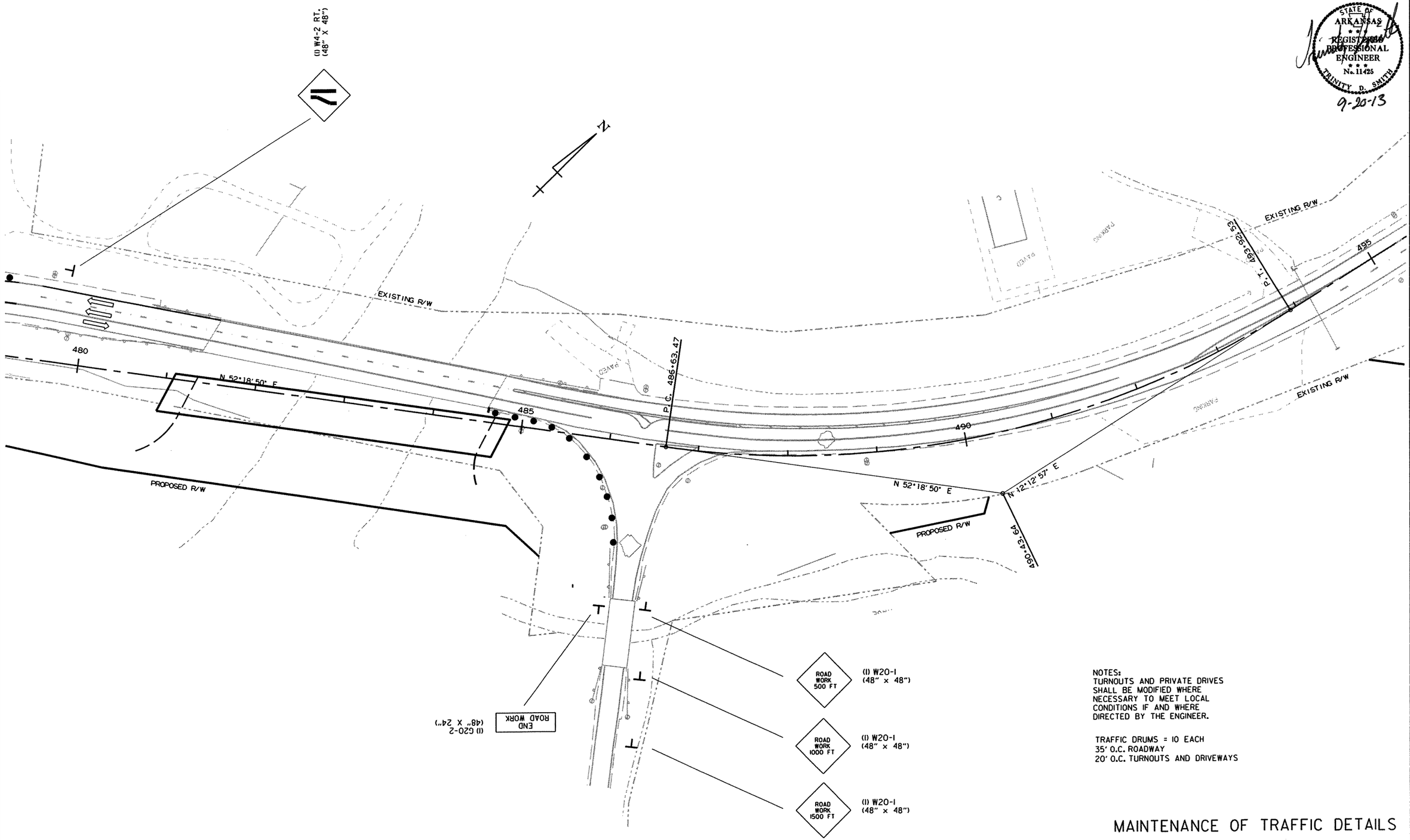
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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.		080390	34	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



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

TRAFFIC DRUMS = 10 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

11/8/2011

R080390.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.		080390	35	263

(2) MAINTENANCE OF TRAFFIC DETAILS

FOR ALL STAGES
INSTALL THE ADVANCE WARNING SIGNS AS THE BEGINNING AND END
OF THE PROJECT ALONG WITH SIGNS INDICATED FOR SIDE STREETS AND HWYS.

STAGE 1:
RESTRIPE THE EXISTING LANES AS SHOWN TO MAINTAIN TRAFFIC ON THE RIGHT.
NOTCH AND WIDEN THE LEFT SIDE OF HWY. 65 DELINEATING THE
WORK ZONE USING TRAFFIC DRUMS AT 35' O.C. ON THE SIDE BEING WIDENED
AS FOLLOWS:

STA. 421+50 TO STA. 425+00
STRIPE HIGHWAY TO CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.

STA. 425+00 TO STA. 468+20
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 TO INTERSECTION OF HWY. 65B (STA. 463+00)
AND CONSTRUCT STORM DRAIN.
CONSTRUCT ADDITIONAL WIDENING (STA. 464+97 - STA. 468+20)
INSTALL TEMP. BARRIER WALL (STA. 428+50 STA. 431+75) AND CONSTRUCT LT. SIDE
OF NEW BRIDGE OVER TOWN BRANCH CREEK AS INDICATED ON BRIDGE PLANS.
CONSTRUCT RETAINING WALLS ON LT. AS INDICATED ON PLAN SHEETS.
NOTCH AND WIDEN RIGHT RADIUS OF HWY. 65B INTERSECTION.

STA. 468+20 TO STA. 475+11
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.
EXTEND R.C. BOX CULVERT ON LT. (STA. 472+03).
NOTCH AND WIDEN RT. SIDE OF HWY. 16 W. RT. (STA. 474+03 LT.)

STA. 475+88 TO STA. 479+22
STRIPE TAPER TO MAINTAIN TRAFFIC IN THREE LANES: TWO SOUTHBOUND AND
ONE NORTHBOUND.
CONSTRUCT RT. SIDE OF BRIDGE OVER ARCHEY FORK CREEK WITHOUT SIDEWALK.

STAGE 2:
STA. 421+50 TO STA. 425+60
CLOSE CENTER LANE AND MAINTAIN TRAFFIC ON LT.
NOTCH AND WIDEN RT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 425+60 TO STA. 476+10
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65, & CONSTRUCT STORM DRAIN.
CONSTRUCT RIGHT SIDE OF BRIDGE OVER TOWN BRANCH.
EXTEND R.C. BOX CULVERT AT STA. 472+03.

STA. 476+10 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON EXISTING, TWO SOUTHBOUND AND ONE NORTHBOUND.
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65.
CONSTRUCT TEMPORARY WIDENING ON RT. SIDE OF HWY. 65 AS SHOWN.
CONSTRUCT STORM DRAIN. CONSTRUCT PARTIAL RADII FOR HWY. 65 AND
HWY. 16E INTERSECTION.

STAGE 3:
STA. 421+50 TO STA. 496+04.36
MAINTAIN TRAFFIC ON NEW PAVEMENT.

STA. 456+56 TO STA. 459+01
CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. TWO LANES SHOWN.

STA. 463+11 TO STA. 468+20
NOTCH AND WIDEN HWY. 65B LT. & CONSTRUCT STORM DRAIN.
CONSTRUCT LT. RADIUS FOR HWY. 65 AND HWY. 65B INTERSECTION.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 475+11 TO STA. 476+23
NOTCH AND WIDEN HWY. 16W LT.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 476+23 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON NEW PAVEMENT, TWO SOUTHBOUND AND ONE NORTHBOUND.
CONSTRUCT LEFT PORTION OF BRIDGE OVER ARCHEY FORK.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STAGE 4:
STA. 473+70 TO STA. 481+08
TAPER TRAFFIC TO FOUR LANES, TWO SOUTHBOUND, ONE NORTHBOUND, AND ONE CENTER LANE.
CONSTRUCT CURB AND GUTTER AND STORM DRAIN ON RT. SIDE OF HWY. 65.

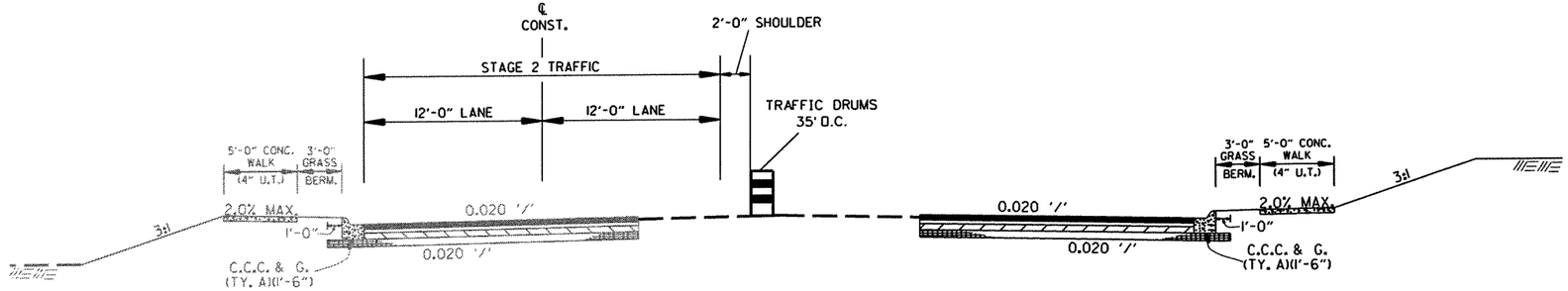
STA. 481+08 TO STA. 484+84
CONSTRUCT BRIDGE SIDEWALK.

STA. 484+84 TO STA. 489+12
COMPLETE RADII AND CONSTRUCT ISLAND FOR HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT ISLAND ACROSS FROM HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT CURB AND GUTTER & STORM DRAIN ON RT. SIDE OF HWY. 65.

APPLY THE FINAL 2" OF ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

⊢ VERTICAL PANELS
● TRAFFIC DRUMS



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	36	263

(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 34 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

VERTICAL PANELS = 5 EACH
35' O.C. ROADWAY

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 9-30-13

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 421+50 TO STA. 435+00 = 4877 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 429+10 TO STA. 430+44 = 403 LIN. FT.

BEGIN JOB 080390
STA. 421+50.00
LOG MILE 0.85

N

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

+50

TAPER
410'

+60

EXISTING R/W

PROPOSED R/W

T.C.E

420

N 7°46'04" W

P.C. 425+12.98

425

20'

T.C.E

EXISTING R/W

PROPOSED R/W

CONSTRUCTION LIMITS

(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

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

END ROAD WORK

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

MAIN

34'

T.C.E

RETAINING WALL

(4) OM-3R (12"X 36")

SAFETY END UNIT

(1) W16-6 (48" X 24") 16' BARR. TYP. III RT.

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

BUMP

(1) W8-1 (30" X 30")

TOWN BRANCH

430

T.C.E

RETAINING WALL

(1) R11-2 (48" X 30") 8' BARR. TYP. III LT. ROAD CLOSED

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

PRECAST BARRIER

SAFETY END UNIT

(1) W8-1 (30" X 30") BUMP

RELOCATING PRECAST CONCRETE BARRIER WALL = 326 LIN. FT.

4" DBL SOLID YELLOW

PROPOSED R/W

4" SOLID WHITE

EXISTING R/W

435

24'

CONSTRUCTION LIMITS

N 46°01' 15" W

P.T. 433+96.10

EXISTING R/W

SMALL SHOPS

PAVED PARKING

(1) R11-2 (48" X 30") 8' BARR. TYP. III LT. ROAD CLOSED

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	37	263

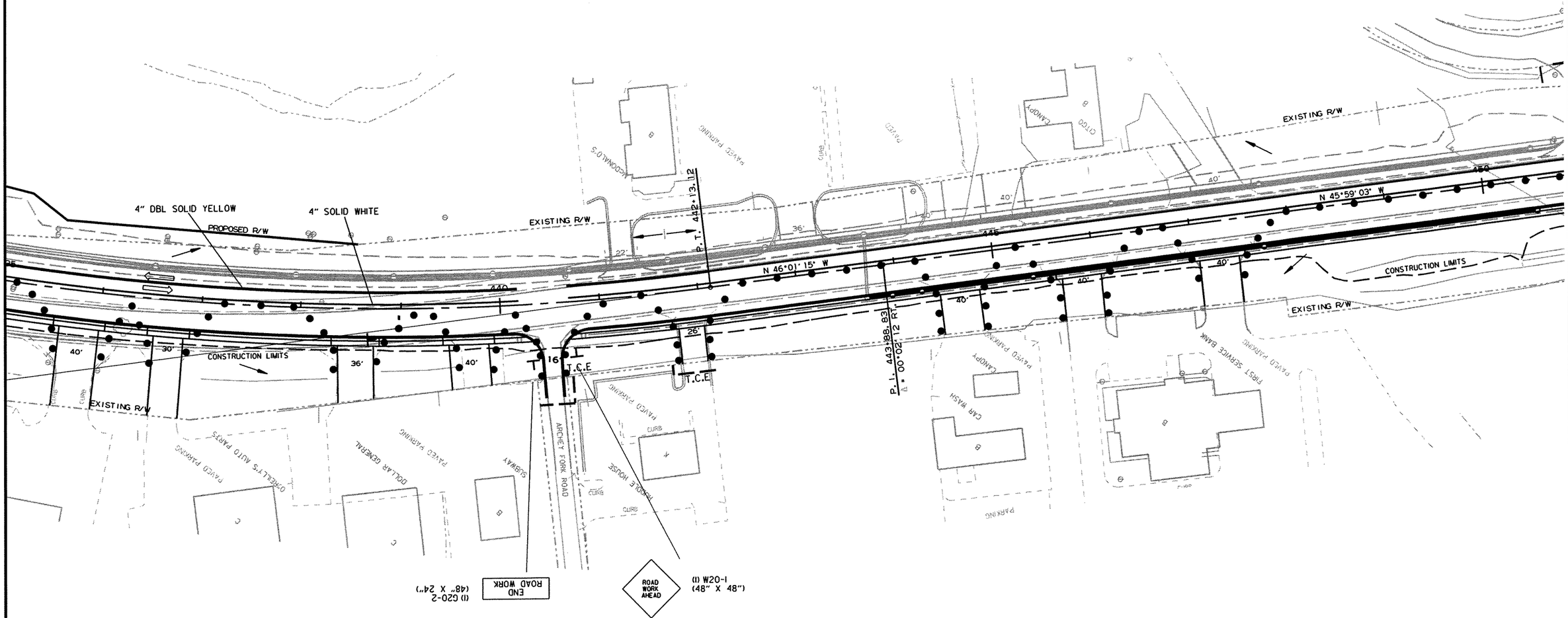
(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 90 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 435+00 TO STA. 450+00 = 4500 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	38	263

(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 65 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 450+00 TO STA. 465+00 = 4500 LIN. FT.

STATE OF ARKANSAS
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ROAD CLOSED
(I) RII-2 (48" X 30")
32" BARR. TYP. III RT.

(I) W20-1 (48" X 48") ROAD WORK AHEAD
(I) W20-1 (48" X 48") ROAD WORK 1500 FT
(I) W20-1 (48" X 48") ROAD WORK 1000 FT
(I) W20-1 (48" X 48") ROAD WORK 500 FT

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

N 11°50'50" E
POB SC
500
P.C. 500+37.76
P.I.
P.T. 502+24.20
N 53°47'47" E
POE 503+23.65
HWY. 65B
TACO BELL
CANOPY
CURB
PAVED PARKING
40'
460
455
450

PROPOSED R/W
EXISTING R/W
4" SOLID WHITE
4" DBL SOLID YELLOW
N 45°56' 13" W
N 46°50'03" W
CONSTRUCTION LIMITS
24'
28'
BRADLEY
BOONE RD. 54'
P.C.E.
453+47.20
02°50' RT
P.C. 459+05.35
INGRAM ST.
SMALL SHOPS
CLINIC
PAVING
THE PARK
CREATIVE COMPUTER LEARNING

(I) RII-2 (48" X 30")
(I) WI-6 (48" X 24")
32' BARR. TYP. III LT.

STA. 464+54.28 HWY. 65 =
STA. 503+23.65 HWY. 65B
Δ = 70° 32' 59"

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	39	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
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9-20-13

N 68°46'46" E

S 58°36'45" E

END ROAD WORK

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

(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

SAFETY END UNIT

P.T. 706+08.86

705

710

715

EXISTING R/W

PAVED PARKING

SMALL SHOPS

40'

470

4" SOLID WHITE

4" DBL SOLID YELLOW

475

TAPER 320'

CONSTRUCTION LIMITS

16'

PROPOSED R/W

T.C.E

28'

N 53°47'47" E

POE 503+23.65

465

STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY 16W.
Δ = 86° 56' 55"

(4) OM-3R (12"X 36")

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

RELOCATE PRECAST CONCRETE BARRIER WALL = 74 LIN. FT.

FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 132 LIN. FT.

TRAFFIC DRUMS = 62 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY 65)
STA. 465+00 TO STA. 479+30 = 4290 LIN. FT.

ROAD CLOSED

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

32' BARR. TYP. III RT.

ROAD CLOSED

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

32' BARR. TYP. III LT.

P.T. 477+19.22

N 52°18'50" E

480

34'

30'

TEMPORARY WIDENING
STA. 476+90 - STA. 480+97
34' OFFSET ON RT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

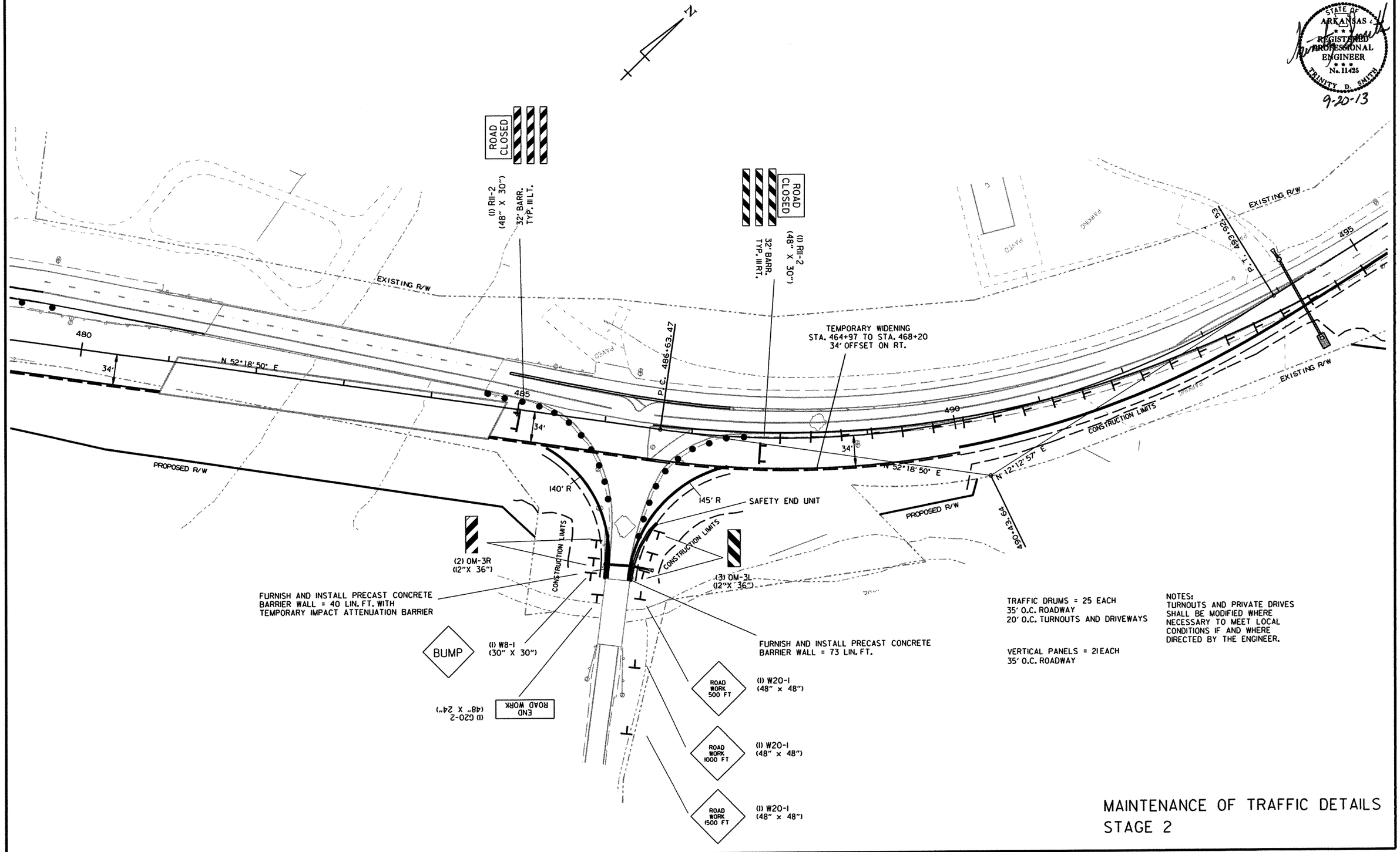
11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	40	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



TRAFFIC DRUMS = 25 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

VERTICAL PANELS = 21 EACH
35' O.C. ROADWAY

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

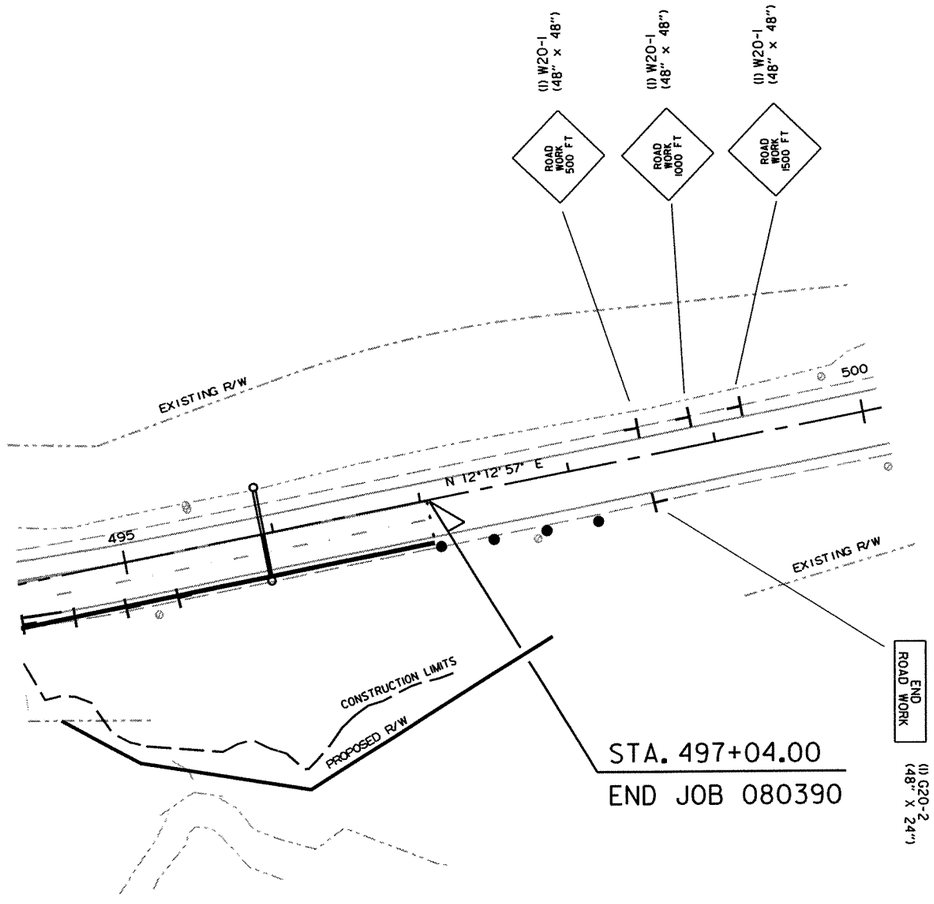
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	41	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



N

TRAFFIC DRUMS = 4 EACH
35' O.C. SIDE ROAD
20' O.C. TURNOUTS AND DRIVEWAYS

VERTICAL PANELS = 1EACH
35' O.C. ROADWAY

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	42	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

FOR ALL STAGES
INSTALL THE ADVANCE WARNING SIGNS AS THE BEGINNING AND END
OF THE PROJECT ALONG WITH SIGNS INDICATED FOR SIDE STREETS AND HWYS.

STAGE 1:
RESTRIPE THE EXISTING LANES AS SHOWN TO MAINTAIN TRAFFIC ON THE RIGHT.
NOTCH AND WIDEN THE LEFT SIDE OF HWY. 65 DELINEATING THE
WORK ZONE USING TRAFFIC DRUMS AT 35' O.C. ON THE SIDE BEING WIDENED
AS FOLLOWS:

STA. 421+50 TO STA. 425+00
STRIPE HIGHWAY TO CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.

STA. 425+00 TO STA. 468+20
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 TO INTERSECTION OF HWY. 65B (STA. 463+00)
AND CONSTRUCT STORM DRAIN.
CONSTRUCT ADDITIONAL WIDENING (STA. 464+97 - STA. 468+20)
INSTALL TEMP. BARRIER WALL (STA. 428+50 STA. 431+75) AND CONSTRUCT LT. SIDE
OF NEW BRIDGE OVER TOWN BRANCH CREEK AS INDICATED ON BRIDGE PLANS.
CONSTRUCT RETAINING WALLS ON LT. AS INDICATED ON PLAN SHEETS.
NOTCH AND WIDEN RIGHT RADIUS OF HWY. 65B INTERSECTION.

STA. 468+20 TO STA. 475+11
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.
EXTEND R.C. BOX CULVERT ON LT. (STA. 472+03).
NOTCH AND WIDEN RT. SIDE OF HWY. 16 W. RT. (STA. 474+03 LT.)

STA. 475+88 TO STA. 479+22
STRIPE TAPER TO MAINTAIN TRAFFIC IN THREE LANES: TWO SOUTHBOUND AND
ONE NORTHBOUND.
CONSTRUCT RT. SIDE OF BRIDGE OVER ARCHEY FORK CREEK WITHOUT SIDEWALK.

STAGE 2:
STA. 421+50 TO STA. 425+60
CLOSE CENTER LANE AND MAINTAIN TRAFFIC ON LT.
NOTCH AND WIDEN RT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 425+60 TO STA. 476+10
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65, & CONSTRUCT STORM DRAIN.
CONSTRUCT RIGHT SIDE OF BRIDGE OVER TOWN BRANCH.
EXTEND R.C. BOX CULVERT AT STA. 472+03.

STA. 476+10 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON EXISTING, TWO SOUTHBOUND AND ONE NORTHBOUND.
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65.
CONSTRUCT TEMPORARY WIDENING ON RT. SIDE OF HWY. 65 AS SHOWN.
CONSTRUCT STORM DRAIN. CONSTRUCT PARTIAL RADII FOR HWY. 65 AND
HWY. 16E INTERSECTION.

STAGE 3:
STA. 421+50 TO STA. 496+04.36
MAINTAIN TRAFFIC ON NEW PAVEMENT.

STA. 456+56 TO STA. 459+01
CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. TWO LANES SHOWN.

STA. 463+11 TO STA. 468+20
NOTCH AND WIDEN HWY. 65B LT. & CONSTRUCT STORM DRAIN.
CONSTRUCT LT. RADIUS FOR HWY. 65 AND HWY. 65B INTERSECTION.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 475+11 TO STA. 476+23
NOTCH AND WIDEN HWY. 16W LT.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 476+23 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON NEW PAVEMENT, TWO SOUTHBOUND AND ONE NORTHBOUND.
CONSTRUCT LEFT PORTION OF BRIDGE OVER ARCHEY FORK.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

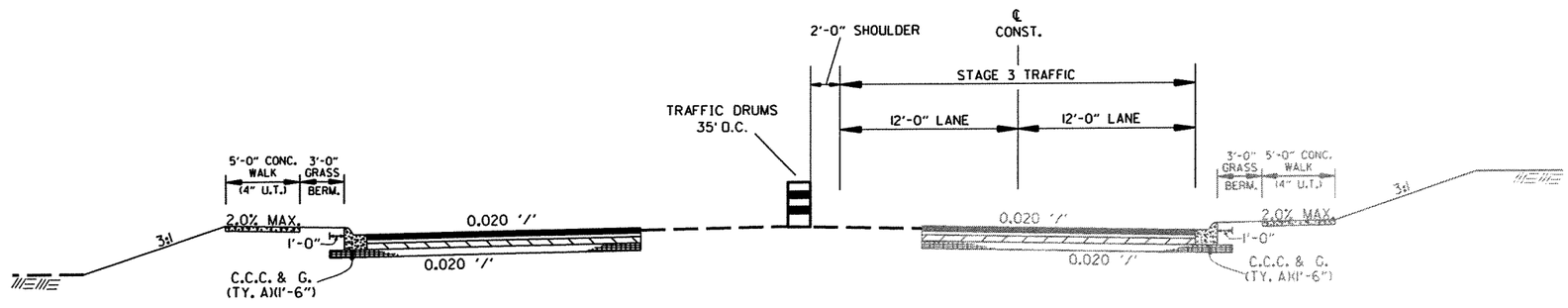
STAGE 4:
STA. 473+70 TO STA. 481+08
TAPER TRAFFIC TO FOUR LANES, TWO SOUTHBOUND, ONE NORTHBOUND, AND ONE CENTER LANE.
CONSTRUCT CURB AND GUTTER AND STORM DRAIN ON RT. SIDE OF HWY. 65.

STA. 481+08 TO STA. 484+84
CONSTRUCT BRIDGE SIDEWALK.

STA. 484+84 TO STA. 489+12
COMPLETE RADII AND CONSTRUCT ISLAND FOR HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT ISLAND ACROSS FROM HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT CURB AND GUTTER & STORM DRAIN ON RT. SIDE OF HWY. 65.

APPLY THE FINAL 2" OF ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED.

⊢ VERTICAL PANELS
● TRAFFIC DRUMS



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

11/8/2011
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	43	263

(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 52 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 456+56 TO STA. 465+00 = 2045 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-2013

(I) RII-2 (48" X 30")
(I) WI-6 (48" X 24")
32' BARR. TYP. III LT.
ROAD CLOSED

(I) RII-2 (48" X 30")
(I) WI-6 (48" X 24")
32' BARR. TYP. III LT.
ROAD CLOSED

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

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

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

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

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

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

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

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

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

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

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

N 11°50'50" E
POB 5C
P.I.
P.T. 500+37.76
P.T. 502+24.20
P.C. 459+05.35
P.C.E
P.C.E
P.C.E
P.C.E
453+47.20
02°50' RT
+56
+01
TAPER 245'
EXISTING R/W
PROPOSED R/W
N 45°56' 13" W
N 45°59'03" W
N 33°47'47" E
200' R
POE 503+23.65
505
465
460
455
450
4" SOLID WHITE
4" DBL SOLID YELLOW
STA. 464+54.28 HWY. 65 =
STA. 503+23.65 HWY. 65B
Δ = 70° 32' 59"

PERMEMANT PAVEMENT MARKINGS (HWY. 65)
STA. 421+50 TO STA. 456+56
SEE PERMENANT PAVEMENT MARKING DETAILS.

(I) RII-2 (48" X 30")
(I) WI-6 (48" X 24")
32' BARR. TYP. III RT.
ROAD CLOSED

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/15/2012

R080390.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.		080390	44	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

(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

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

(1) R11-2 (48" X 30") (1) W1-6 (48" X 24") 32' BARR. TYP. III LT. ROAD CLOSED

(1) R11-2 (48" X 30") (1) W1-6 (48" X 24") 32' BARR. TYP. III LT. ROAD CLOSED

N

EXISTING R/W
SMALL SHOPS
40'
470
475
16'
4" SOLID WHITE
PROPOSED ROW
T.C.E
200' R
P.O.C. STA. 23+65.65
N 53°47'47" E
465
P.O.T.
4" DBL SOLID YELLOW
PROPOSED R/W
N 68°46'46" E
S 58°35'45" E
22'
795
P.T. 706+08.86
491' LMH
+23
TAPER 450'
CONSTRUCTION LIMITS
20'
N 52°18'30" E
480
P.T. 477+19.22
STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY. 16W
Δ = 86° 56' 55"

TRAFFIC DRUMS = 61EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 465+00 TO STA. 480+00 = 4500 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/15/2012

R080390.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.		080390	45	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

N

150' LT. TURN LANE
235' LT. TAPER
+55
+05
+40

(1) W8-1 (30" X 30")
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
16' BARR. TYP. III RT.

BUMP
ROAD CLOSED

(3) OM-3R (12"X 36")
RELOCATE PRECAST CONCRETE BARRIER WALL = 606 LIN. FT.
TAPER 450'
+73
SAFETY END UNIT
480
PRECAST BARRIER
EXISTING R/W
ARCHEY FORK CREEK
N 52°18'50" E
485
P.C. 486+63.47
2'
CONCRETE DITCH PAVING
CONSTRUCTION LIMITS
EXISTING R/W
490
4" SOLID WHITE
4" DBL SOLID YELLOW
P.T. 493+93.53
495
EXISTING R/W
N 12°12'57" E
P.T. 490+43.64
PROPOSED R/W
N 52°18'50" E
PROPOSED R/W
ARCHEY
140' R
145' R
OPEN STORAGE
HWY 16E

(4) OM-3L (12"X 36")
BUMP
(1) W8-1 (30" X 30")
FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 153 LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER WALL = 39 LIN. FT.
FURNISH AND INSTALL PRECAST CONCRETE BARRIER WALL = 34 LIN. FT.
(3) OM-3R (12"X 36")
SAFETY END UNIT
SAFETY END UNIT
PLACE TWO W28-1 SIGNS AT TOWN BRANCH BRIDGE.
END ROAD WORK
(1) G20-2 (48" X 24")

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) W20-1 (48" x 48")

TRAFFIC DRUMS = 62 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 480+00 TO STA. 481+08 = 213 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 484+84 TO STA. 495+00 = 4307 LIN. FT.
ARROW = 1 EACH

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 481+08 TO STA. 484+84 = 2256 LIN. FT.

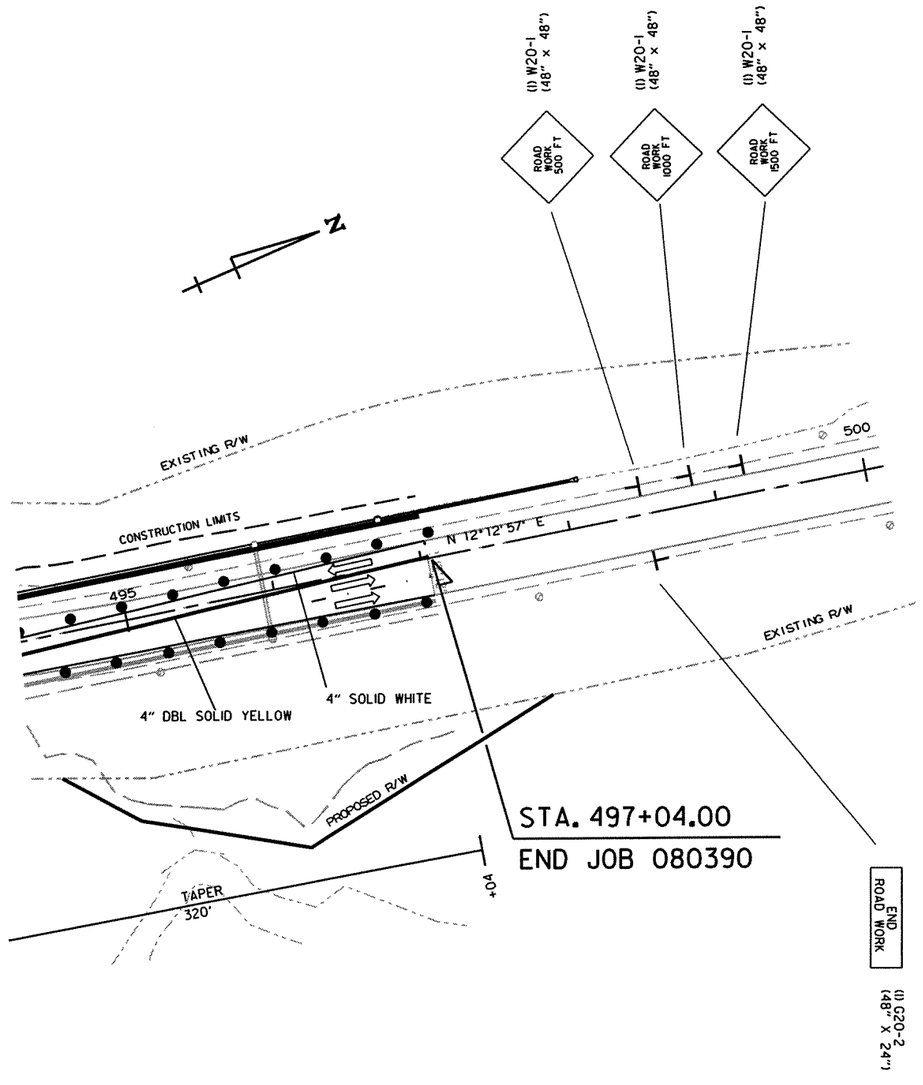
MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/15/2012
R080390.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.		080390	46	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



TRAFFIC DRUMS = 12 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 495+00 TO STA. 497+04 = 1155 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/15/2012

R080390.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.		080390	47	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

FOR ALL STAGES
INSTALL THE ADVANCE WARNING SIGNS AS THE BEGINNING AND END
OF THE PROJECT ALONG WITH SIGNS INDICATED FOR SIDE STREETS AND HWYS.

STAGE 1:
RESTRIPE THE EXISTING LANES AS SHOWN TO MAINTAIN TRAFFIC ON THE RIGHT.
NOTCH AND WIDEN THE LEFT SIDE OF HWY. 65 DELINEATING THE
WORK ZONE USING TRAFFIC DRUMS AT 35' O.C. ON THE SIDE BEING WIDENED
AS FOLLOWS:

STA. 421+50 TO STA. 425+00
STRIPE HIGHWAY TO CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.

STA. 425+00 TO STA. 468+20
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 TO INTERSECTION OF HWY. 65B (STA. 463+00)
AND CONSTRUCT STORM DRAIN.
CONSTRUCT ADDITIONAL WIDENING (STA. 464+97 - STA. 468+20)
INSTALL TEMP. BARRIER WALL (STA. 428+50 STA. 431+75) AND CONSTRUCT LT. SIDE
OF NEW BRIDGE OVER TOWN BRANCH CREEK AS INDICATED ON BRIDGE PLANS.
CONSTRUCT RETAINING WALLS ON LT. AS INDICATED ON PLAN SHEETS.
NOTCH AND WIDEN RIGHT RADIUS OF HWY. 65B INTERSECTION.

STA. 468+20 TO STA. 475+11
MAINTAIN TRAFFIC ON EXISTING RT. 2 LANES.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 AND CONSTRUCT STORM DRAIN.
EXTEND R.C. BOX CULVERT ON LT. (STA. 472+03).
NOTCH AND WIDEN RT. SIDE OF HWY. 16 W. RT. (STA. 474+03 LT.)

STA. 475+88 TO STA. 479+22
STRIPE TAPER TO MAINTAIN TRAFFIC IN THREE LANES: TWO SOUTHBOUND AND
ONE NORTHBOUND.
CONSTRUCT RT. SIDE OF BRIDGE OVER ARCHEY FORK CREEK WITHOUT SIDEWALK.

STAGE 2:
STA. 421+50 TO STA. 425+60
CLOSE CENTER LANE AND MAINTAIN TRAFFIC ON LT.
NOTCH AND WIDEN RT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 425+60 TO STA. 476+10
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65, & CONSTRUCT STORM DRAIN.
CONSTRUCT RIGHT SIDE OF BRIDGE OVER TOWN BRANCH.
EXTEND R.C. BOX CULVERT AT STA. 472+03.

STA. 476+10 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON EXISTING, TWO SOUTHBOUND AND ONE NORTHBOUND.
NOTCH AND WIDEN ON RT. SIDE OF HWY. 65.
CONSTRUCT TEMPORARY WIDENING ON RT. SIDE OF HWY. 65 AS SHOWN.
CONSTRUCT STORM DRAIN. CONSTRUCT PARTIAL RADII FOR HWY. 65 AND
HWY. 16E INTERSECTION.

STAGE 3:
STA. 421+50 TO STA. 496+04.36
MAINTAIN TRAFFIC ON NEW PAVEMENT.

STA. 456+56 TO STA. 459+01
CLOSE CENTER LANE AND SHIFT TRAFFIC TO RT. TWO LANES SHOWN.

STA. 463+11 TO STA. 468+20
NOTCH AND WIDEN HWY. 65B LT. & CONSTRUCT STORM DRAIN.
CONSTRUCT LT. RADIUS FOR HWY. 65 AND HWY. 65B INTERSECTION.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 475+11 TO STA. 476+23
NOTCH AND WIDEN HWY. 16W LT.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

STA. 476+23 TO STA. 497+04.36
TAPER TRAFFIC TO THREE LANES ON NEW PAVEMENT, TWO SOUTHBOUND AND ONE NORTHBOUND.
CONSTRUCT LEFT PORTION OF BRIDGE OVER ARCHEY FORK.
NOTCH AND WIDEN LT. SIDE OF HWY. 65 & CONSTRUCT STORM DRAIN.

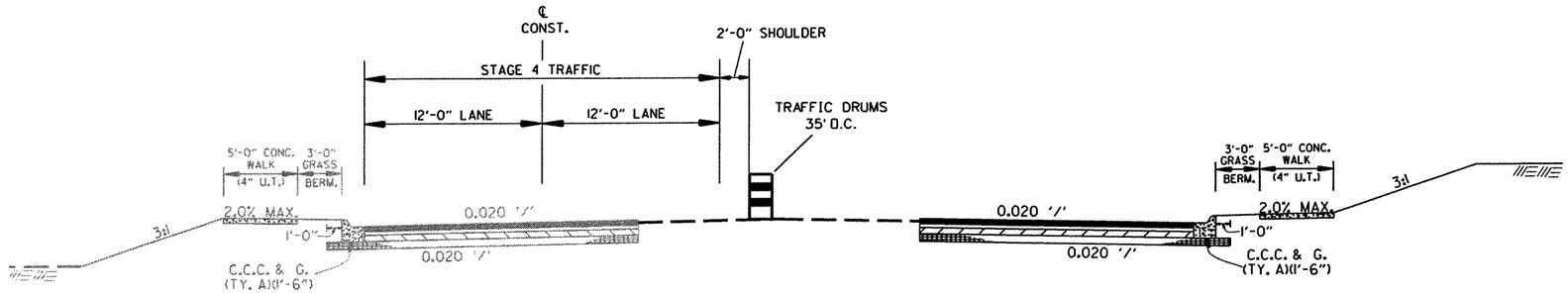
STAGE 4:
STA. 473+70 TO STA. 481+08
TAPER TRAFFIC TO FOUR LANES, TWO SOUTHBOUND, ONE NORTHBOUND, AND ONE CENTER LANE.
CONSTRUCT CURB AND GUTTER AND STORM DRAIN ON RT. SIDE OF HWY. 65.

STA. 481+08 TO STA. 484+84
CONSTRUCT BRIDGE SIDEWALK.

STA. 484+84 TO STA. 489+12
COMPLETE RADII AND CONSTRUCT ISLAND FOR HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT ISLAND ACROSS FROM HWY. 65 AND HWY. 16W INTERSECTION.
CONSTRUCT CURB AND GUTTER & STORM DRAIN ON RT. SIDE OF HWY. 65.

APPLY THE FINAL 2" OF ACHM SURFACE AFTER ALL WIDENING HAS BEEN COMPLETED.

⊢ VERTICAL PANELS
● TRAFFIC DRUMS



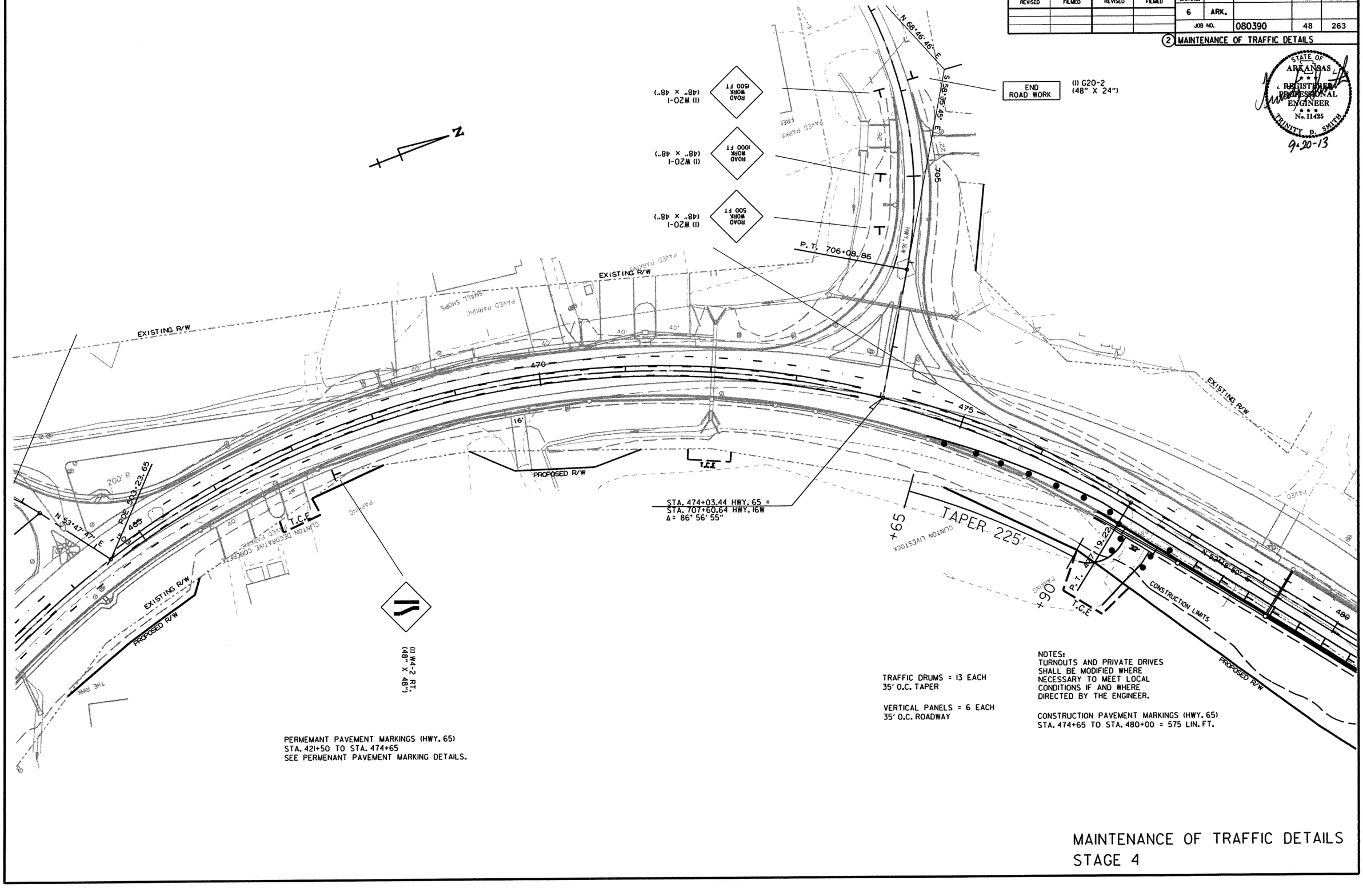
MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

8/29/2013
R080390.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.		080390	48	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



PERMEMANT PAVEMENT MARKINGS (HWY. 65)
STA. 421+50 TO STA. 474+65
SEE PERMENANT PAVEMENT MARKING DETAILS.

TRAFFIC DRUMS = 13 EACH
35' O.C. TAPER

VERTICAL PANELS = 6 EACH
35' O.C. ROADWAY

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 474+65 TO STA. 480+00 = 575 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

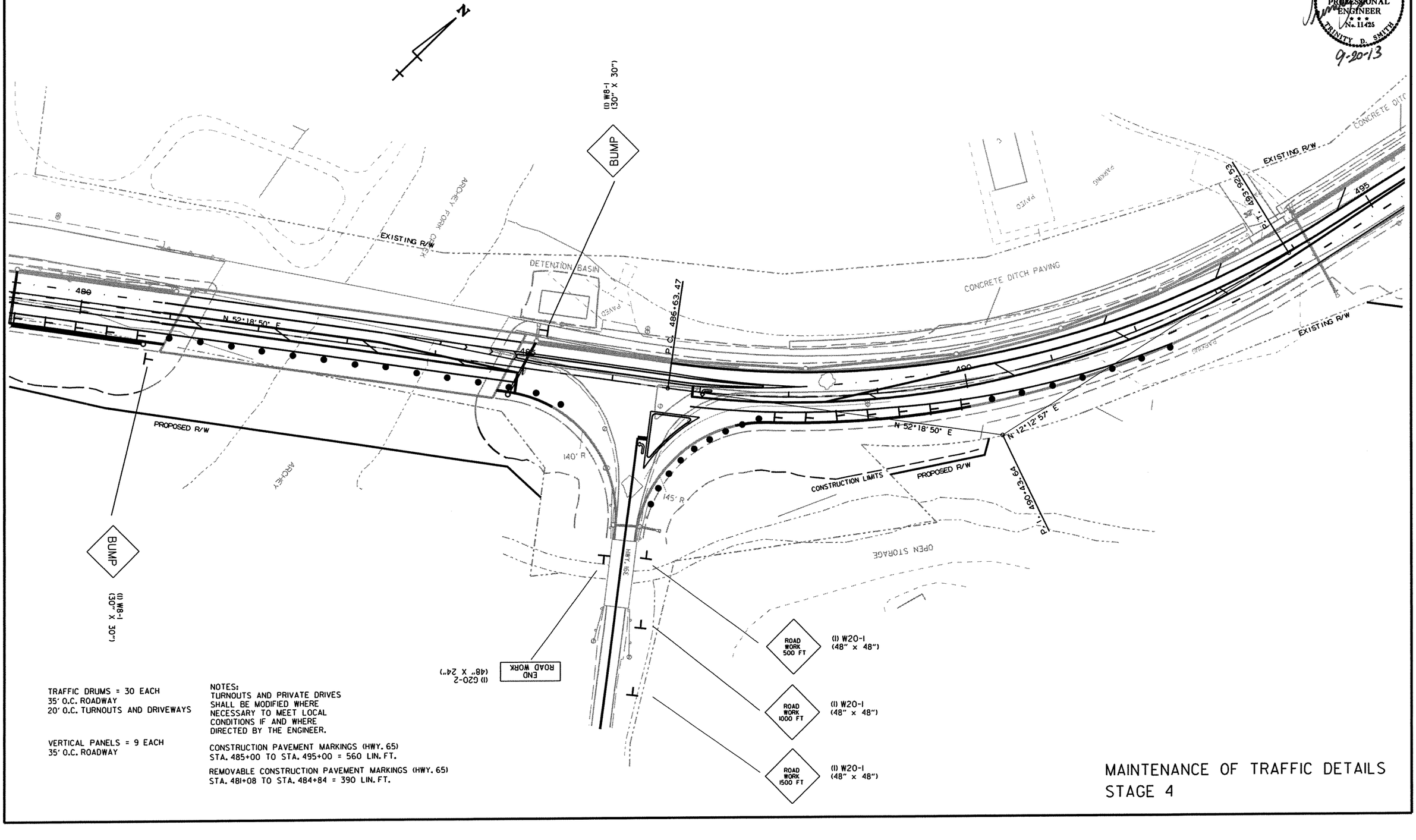
10/15/2012

R080390.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.		080390	49	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



TRAFFIC DRUMS = 30 EACH
35' O.C. ROADWAY
20' O.C. TURNOUTS AND DRIVEWAYS

VERTICAL PANELS = 9 EACH
35' O.C. ROADWAY

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

CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 485+00 TO STA. 495+00 = 560 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 481+08 TO STA. 484+84 = 390 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

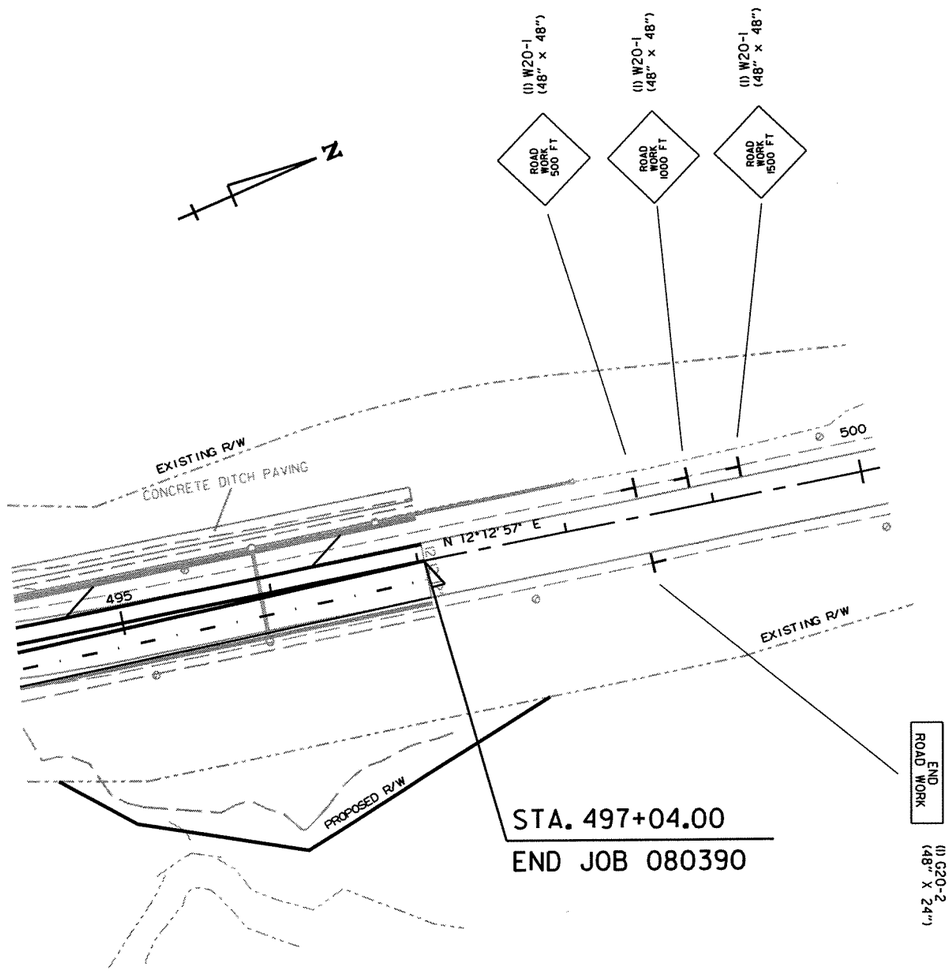
10/15/2012

R080390.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.		080390	50	263

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



CONSTRUCTION PAVEMENT MARKINGS (HWY. 65)
STA. 495+00 TO STA. 497+04 = 1310 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

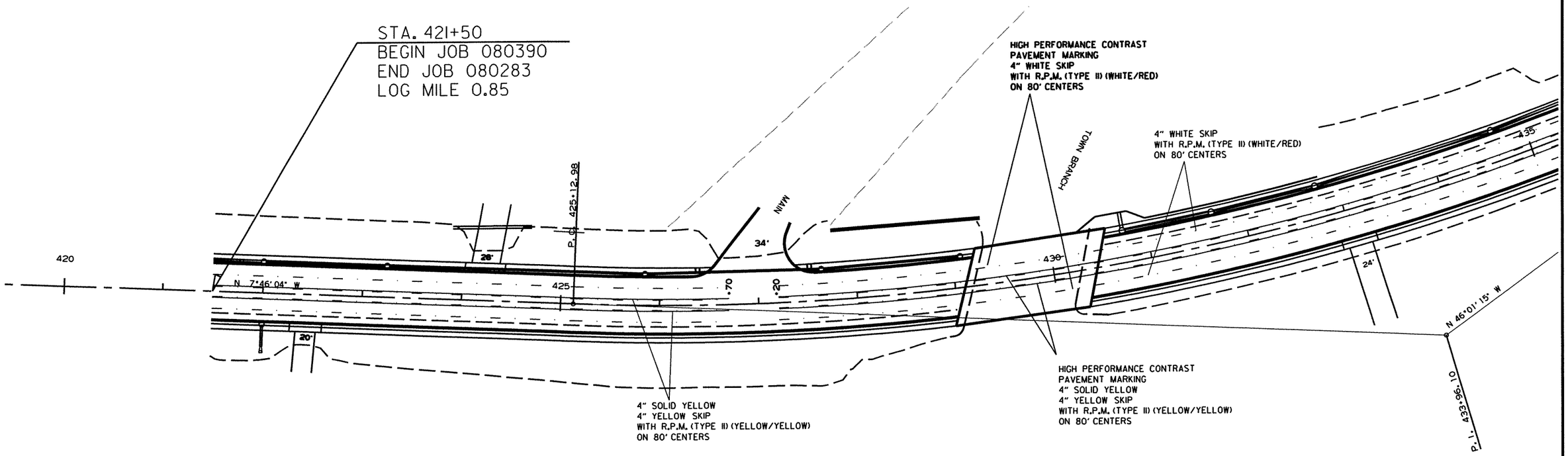
10/15/2012

R080390.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.		080390	51	263

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



PERMANENT PAVEMENT MARKING DETAILS QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 4450 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 19555 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 587 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10") = 602 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10") = 562 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 841 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (24") = 144 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (ARROW) = 9 EACH
THERMOPLASTIC PAVEMENT MARKING (WORD) = 9 EACH
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4") = 192 LIN. FT.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4") = 2288 LIN. FT.
RAISED PAVEMENT MARKERS (TYPE II)(WHITE/RED) = 156 EACH
RAISED PAVEMENT MARKERS (TYPE II)(YELLOW/YELLOW) = 187 EACH

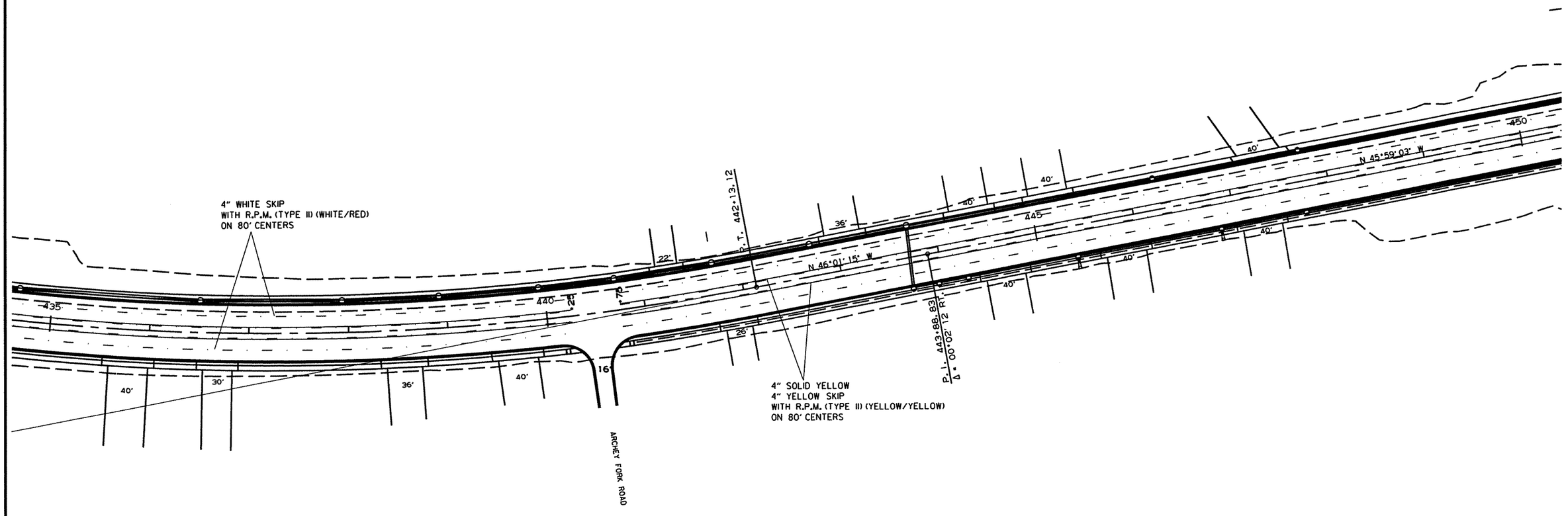
PERMANENT PAVEMENT MARKINGS

9/12/2013
R080390.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.		080390	52	263

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



9/12/2013

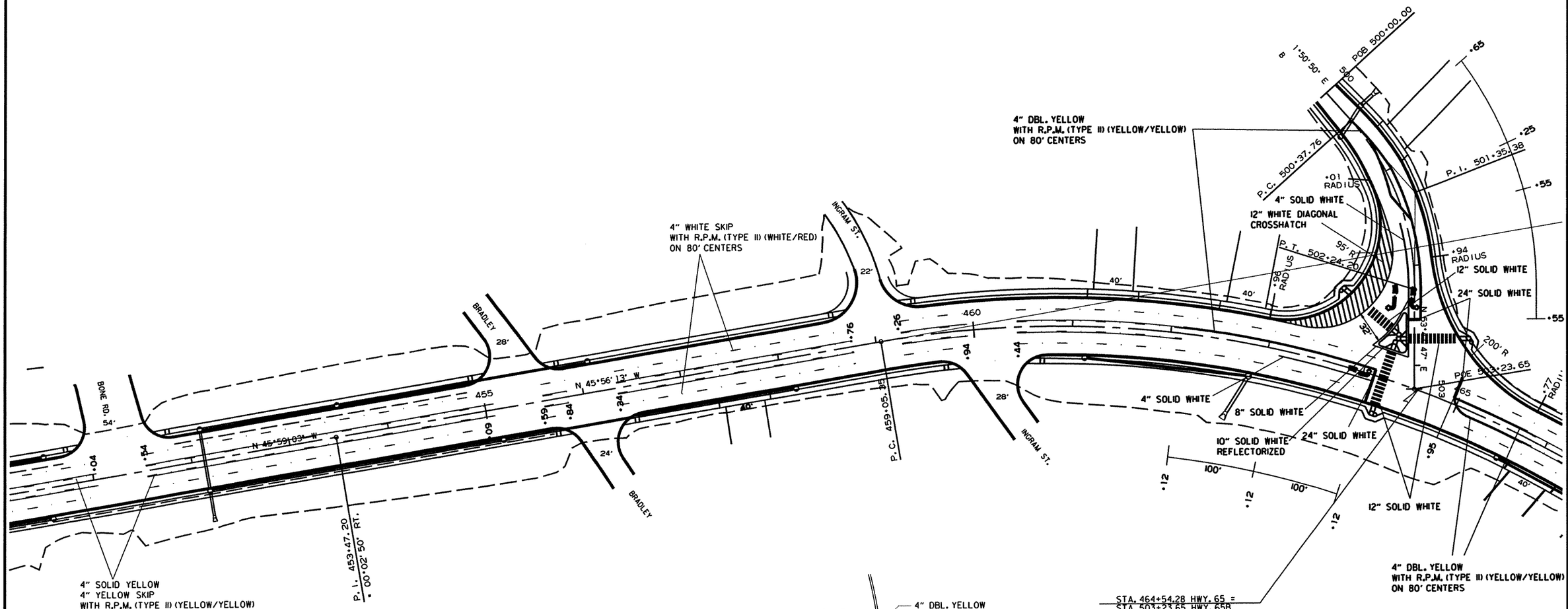
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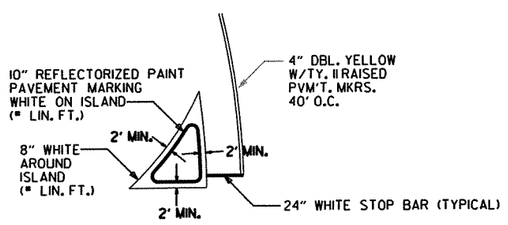
PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	53	263

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13





FINAL STRIPING DETAIL FOR CONCRETE ISLAND

FOR ISLAND DIMENSIONS SEE SHEET 83.

9/12/2013

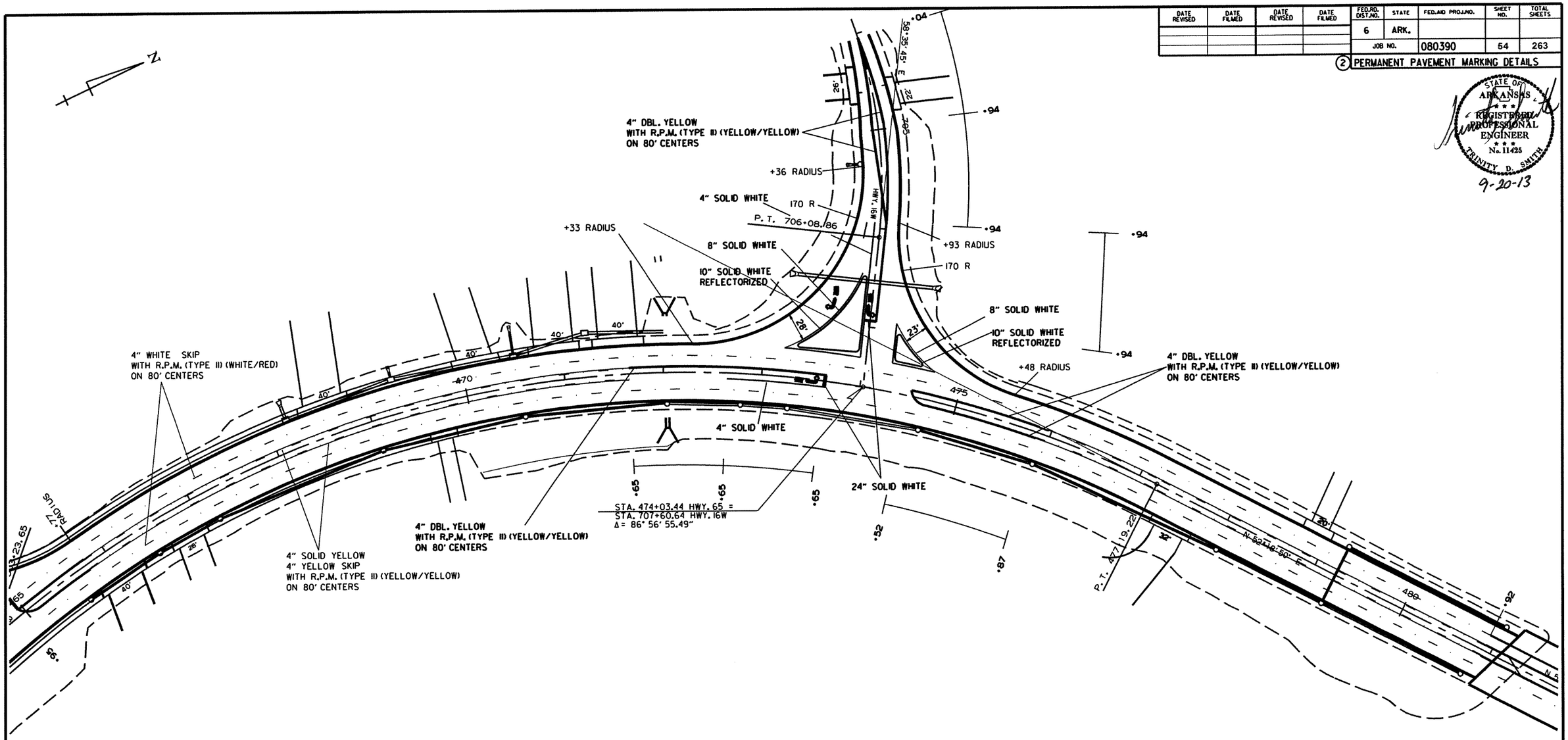
R080390.DGN

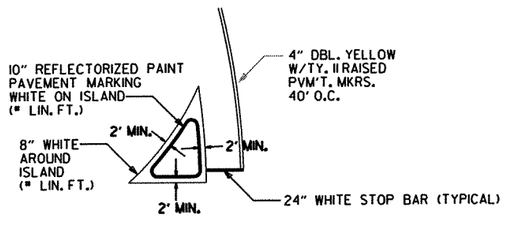
PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	54	263

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13





FINAL STRIPING DETAIL FOR CONCRETE ISLAND

FOR ISLAND DIMENSIONS SEE SHEET 85.

9/12/2013

R080390.DGN

PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	55	263

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

STA. 497+04.36
END JOB 080390

HIGH PERFORMANCE CONTRAST PAVEMENT MARKING 4" SOLID WHITE DIAGONAL CROSSHATCH

HIGH PERFORMANCE CONTRAST PAVEMENT MARKING 4" DBL. YELLOW WITH R.P.M. (TYPE II) (YELLOW/YELLOW) ON 80' CENTERS

HIGH PERFORMANCE CONTRAST PAVEMENT MARKING 8" SOLID WHITE

ARCHEY FORK CREEK

CONCRETE DITCH PAVING

4" SOLID WHITE DIAGONAL CROSSHATCH

4" SOLID YELLOW DIAGONAL CROSS HATCH

4" DBL. YELLOW WITH R.P.M. (TYPE II) (YELLOW/YELLOW) ON 80' CENTERS

N 52°18'50" E

N 12°12'57" E

247' SOLID WHITE

8" SOLID WHITE

10" SOLID YELLOW REFLECTORIZED

4" SOLID WHITE

CONCRETE DITCH PAVING

P.C. 486+63.47

HIGH PERFORMANCE CONTRAST PAVEMENT MARKING 4" SOLID YELLOW DIAGONAL CROSSHATCH

HIGH PERFORMANCE CONTRAST PAVEMENT MARKING 4" WHITE SKIP WITH R.P.M. (TYPE II) (WHITE/RED) ON 80' CENTERS

87' RADIUS

140' R

79' RADIUS

8" SOLID WHITE

145' R

4" DBL. YELLOW WITH R.P.M. (TYPE II) (YELLOW/YELLOW) ON 80' CENTERS

127' RADIUS

59' RADIUS

10" SOLID WHITE REFLECTORIZED

P.I. 490+43.64

4" WHITE SKIP WITH R.P.M. (TYPE II) (WHITE/RED) ON 80' CENTERS

10" REFLECTORIZED PAINT PAVEMENT MARKING WHITE ON ISLAND (# LIN. FT.)

4" DBL. YELLOW W/TY. II RAISED PVM'T. MKRS. 40' O.C.

8" WHITE AROUND ISLAND (# LIN. FT.)

2' MIN.

24" WHITE STOP BAR (TYPICAL)

FINAL STRIPING DETAIL FOR CONCRETE ISLAND

FOR ISLAND DIMENSIONS SEE SHEET 79.

PERMANENT PAVEMENT MARKINGS

9/12/2013

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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.		080390	56	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	STAGE 4	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
												RIGHT	LEFT				
			LIN. FT. - EACH					NO.	SQ. FT.	EACH		LIN. FT.				EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	5	5	5	5	5	5	80.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	5	5	5	5	5	5	80.0								
W20-1	ROAD WORK 500 FT.	48"x48"	5	5	5	5	5	5	80.0								
W20-1	ROAD WORK AHEAD	48"x48"	7	7	7	7	7	7	112.0								
G20-2	END ROAD WORK	48"x24"	12	12	12	12	12	12	96.0								
R11-2	ROAD CLOSED	48"x30"	10	12	7		12	12	120.0								
OM-3L	OBJECT MARKER	12"x36"	4	9	8		9	9	27.0								
OM-3R	OBJECT MARKER	12"x36"	7	10	6		10	10	30.0								
R4-1	DO NOT PASS	24"x30"	6	6	6	6	6	6	30.0								
RSP-1	SHOULDER CLOSED	48"x30"	2	2	2	2	2	2	20.0								
W1-6	LARGE ARROW	48"x24"		4	7		7	7	56.0								
W8-1	BUMP	30"x30"		3	4	4	4	4	25.0								
W4-2R	LANE ENDS	36"x36"	1			1	1	1	9.0								
	VERTICAL PANELS		7	27		15	27			27							
	TRAFFIC DRUMS		293	280	140	43	293				293						
	TYPE III BARRICADE-LT. (8')		2	2			2						16				
	TYPE III BARRICADE-RT. (16')		5	1	1		5					80					
	TYPE III BARRICADE-LT. (16')		3				3						48				
	TYPE III BARRICADE-RT. (32')			4	1		4										
	TYPE III BARRICADE-LT. (32')			3	3		3						96				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		400	245	187		832							832			
	RELOCATING PRECAST CONCRETE BARRIER			400	606		1006								1006		
	TEMPORARY IMPACT ATTENUATION BARRIER		1	1			2									2	2
TOTALS:									765.0	27	293	80	160	832	1006	2	2

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	STAGE 4	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS							REFLECTORIZED PAINT PAVEMENT MARKINGS		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	
								WORDS	ARROWS			TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	12" WHITE	24" WHITE	WORDS	ARROWS	10" WHITE	10" YELLOW	WHITE (4")	YELLOW (4")
	LIN. FT. - EACH					LIN. FT.		EACH		LIN. FT.		EACH		LIN. FT.				LIN. FT.	EACH		LIN. FT.		LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	23567		3480	1656		28703																		
CONSTRUCTION PAVEMENT MARKINGS	17764	18167	12220	1135			49286																	
CONSTRUCTION PAVEMENT MARKINGS (WORDS)			2					2																
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		1	2						3															
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS				3670						3670														
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		403	2256	392							3051													
RAISED PAVEMENT MARKERS TYPE I (WHITE/RED)					156							156												
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)					187								187											
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")					4450									4450										
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")					19555										19555									
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")					587											587								
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12")					841												841							
THERMOPLASTIC PAVEMENT MARKINGS WHITE (24")					144													144						
THERMOPLASTIC PAVEMENT MARKINGS (WORDS)					9														9					
THERMOPLASTIC PAVEMENT MARKINGS (ARROWS)					9															9				
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")					602																602			
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (10")					562																	562		
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")					192																		192	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")					2288																			2288
TOTALS:						28703	49286	2	3	3670	3051	156	187	4450	19555	587	841	144	9	9	602	562	192	2288

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

8/29/2013

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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.		080390	57	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
704+04	705+04	HIGHWAY 16 WEST	1	1
427+00	431+57	HIGHWAY 65	5	5
446+50		HIGHWAY 65	1	1
448+19	451+89	HIGHWAY 65	4	4
459+41		HIGHWAY 65	1	1
462+57		HIGHWAY 65	1	1
466+95		HIGHWAY 65	1	1
469+83	470+98	HIGHWAY 65	2	2
471+73	473+21	HIGHWAY 65	2	2
476+98	498+00	HIGHWAY 65	22	22
TOTALS:			40	40

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
474+68	475+60	HIGHWAY 65 LT	125
487+91	488+50	HIGHWAY 65 RT	70
TOTAL:			195

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
474+00	24" RCP	1
494+18	24" RCP	1
TOTAL:		2

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB	CURB AND GUTTER	CONCRETE PAVEMENT	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	SIGN FOUNDATIONS	GUARDRAIL	SIGNS
			LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	EACH	LIN. FT.	EACH
427+08	432+28	HIGHWAY 65 LT & RT							559	
435+52	436+12	HIGHWAY 65 RT		79						
439+36		HIGHWAY 65 RT						1		1
441+00	441+44	HIGHWAY 65 LT		110						
441+10		HIGHWAY 65 LT								1
441+43		HIGHWAY 65 LT								1
441+45	442+76	HIGHWAY 65 LT	132							
441+71	442+07	HIGHWAY 65 RT		89						
442+67		HIGHWAY 65 LT						1		1
442+72		HIGHWAY 65 LT								1
442+77	443+38	HIGHWAY 65 LT		89						
443+38	444+29	HIGHWAY 65 LT	93							
443+41		HIGHWAY 65 LT								1
444+28		HIGHWAY 65 LT								1
444+29	444+39	HIGHWAY 65 LT		48						
444+72	445+43	HIGHWAY 65 LT					811			
445+52	446+22	HIGHWAY 65 RT		115						
446+06		HIGHWAY 65 LT						1		1
446+83	447+62	HIGHWAY 65 LT					893			
446+91	447+62	HIGHWAY 65 RT		124						
449+05		HIGHWAY 65 LT								1
451+05	451+13	HIGHWAY 65 LT				5				
453+95		HIGHWAY 65 LT								1
453+95		HIGHWAY 65 LT						1		
455+32	455+38	HIGHWAY 65 LT				9				
456+05	456+11	HIGHWAY 65 RT				12				
459+25	459+30	HIGHWAY 65 LT				8				
460+04	460+14	HIGHWAY 65 RT				18				
462+52	466+71	HIGHWAY 65 LT		542						
463+19	464+09	HIGHWAY 65 LT	388							
463+52		HIGHWAY 65 LT						1		1
464+03	464+14	HIGHWAY 65 LT				9				
464+23	464+55	HIGHWAY 65 LT				233				
465+41		HIGHWAY 65 RT						1		1
466+47	466+67	HIGHWAY 65 RT		83						
468+34	468+82	HIGHWAY 65 LT					986			
468+85	469+94	HIGHWAY 65 LT			731					
469+50		HIGHWAY 65 LT								1
469+94	470+40	HIGHWAY 65 LT					978			
470+56		HIGHWAY 65 LT								1
471+12	471+35	HIGHWAY 65 LT	122							
473+36	473+85	HIGHWAY 65 LT				136				
473+94	474+00	HIGHWAY 65 LT				21				
474+08	474+56	HIGHWAY 65 LT				129				
478+76		HIGHWAY 65 LT								1
479+32	205+77	HIGHWAY 65 LT & RT							410	
479+75		HIGHWAY 65 RT								1
484+85	487+41	HIGHWAY 65 LT				63				
486+52	486+99	HIGHWAY 65 RT				98				
TOTALS:			735	1279	731	741	3668	6	969	16

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1-MAIN LANES	1494	31329	
ENTIRE	PROJECT	STAGE 2-MAIN LANES	1165	44440	
ENTIRE	PROJECT	STAGE 3-MAIN LANES	82	4211	
ENTIRE	PROJECT	STAGE 4-MAIN LANES	551	2371	
ENTIRE	PROJECT	APPROACHES		2700	
ENTIRE	PROJECT	BRIDGE EXCAVATION	3600		
		MAIN STREET		195	
		BONE ROAD		260	
		ARCHEY FORK ROAD		80	
		BRADLEY STREET WEST		380	
		BRADLEY STREET EAST		155	
		INGRAM STREET WEST		335	
		INGRAM STREET EAST		275	
		HWY. 65B	233	277	
		HWY. 16 W	155	1681	
		HWY 16 E		715	
* ENTIRE	PROJECT	CHANNEL CHANGE - TO BE USED IF	19		
		AND WHERE DIRECTED BY THE ENGINEER			
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			100
		DIRECTED BY THE ENGINEER			
TOTALS:			7299	89404	100

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

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
422+00	35	35	27.20	92	27	15.60	12' RT	3.5Z	20	7	A-4(1)	BROWN
422+00	35	35	27.20	92	27	15.50	21' RT	5	18	3	A-2-4(0)	BROWN
422+00	35	35	27.30	92	27	15.50	38' RT	3.5Z	23	9	A-4(2)	BROWN
432+00	35	35	36.30	92	27	17.70	12' RT	4Z	20	7	A-4(1)	BROWN
432+00	35	35	36.81	92	27	18.50	16' LT	5	20	5	A-4(0)	BROWN
438+00	35	35	41.40	92	27	21.00	25' RT	5	19	6	A-4(0)	BROWN
438+00	35	35	42.10	92	27	21.50	32' RT	5	19	3	A-4(0)	BROWN
438+00	35	35	42.20	92	27	21.40	48' RT	5	20	5	A-4(0)	BROWN
446+00	35	35	47.10	92	27	27.80	12' LT	3.5Z	18	3	A-4(0)	BROWN
446+00	35	35	47.40	92	27	28.80	19' LT	3.5Z	19	4	A-4(0)	BROWN
446+00	35	35	47.30	92	27	28.90	38' LT	5	ND	NP	A-2-4(0)	GRAY
454+00	35	35	52.40	92	27	34.50	12' RT	3Z	ND	NP	A-2-4(0)	BROWN
454+00	35	35	53.10	92	27	35.40	20' RT	3.5Z	ND	NP	A-2-4(0)	GR/BR
454+00	35	35	53.10	92	27	35.40	35' RT	4Z	ND	NP	A-2-4(0)	BROWN
462+18	35	35	58.40	92	27	42.00	25' LT	3.8Z	ND	NP	A-2-4(0)	BROWN
462+00	35	35	58.50	92	27	42.90	38' LT	3Z	ND	NP	A-2-4(0)	BROWN
462+00	35	35	58.50	92	27	42.90	44' LT	2.7Z	17	2	A-4(0)	BROWN
462+00	35	35	58.60	92	27	43.00	56' LT	2Z	22	8	A-4(1)	BROWN
470+00	35	36	4.50	92	27	43.70	12' RT	5	25	11	A-6(2)	BROWN
470+00	35	36	6.50	92	27	43.70	22' RT	5	ND	NP	A-4(0)	BROWN
470+00	35	36	6.50	92	27	43.50	47' RT	5	ND	NP	A-4(0)	BROWN
479+00	35	36	13.30	92	27	38.80	3.5Z	3.5Z	ND	NP	A-2-4(0)	BROWN
479+00	35	36	13.80	92	27	38.00	20' LT	5	ND	NP	A-2-4(0)	BROWN
479+00	35	36	13.70	92	27	37.80	5' RT	5	16	1	A-2-4(1)	BROWN
488+00	35	36	18.60	92	27	30.10	21' LT	5	24	12	A-6 (4)	BROWN
488+00	35	36	19.30	92	27	29.60	36' LT	5	29	13	A-6(7)	BROWN
494+00	35	36	29.00	92	27	25.80	10' RT	5	22	5	A-4(1)	RD/BR
494+00	35	36	24.10	92	27	25.60	24' RT	5	ND	NP	A-4(0)	RD/BR
494+00	35	36	24.00	92	27	25.50	48' RT	5	29	13	A-6 (8)	RD/BR

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 - NON DETERMINABLE

8/29/2013
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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.		080390	58	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

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	SAND BAG DITCH CHECKS (E-5)	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.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	1.15	2.30	1.15	225.9	1.15	8621				132	21	670	4525	5256	5256	5461
ENTIRE	PROJECT	STAGE 2	2.17	4.34	2.17	365.8	2.17	11462	1.00	1.00	20.4	66	6	575	5714	3600	3600	3838
ENTIRE	PROJECT	STAGE 3	1.12	2.24	1.12	114.2	1.12					44	48	225	1005	4604	4604	4650
ENTIRE	PROJECT	STAGE 4	1.00	2.00	1.00	102.0	1.00											
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.									32.00	32.00	652.8	66	21	100	2000	3000	3000	3078
TOTALS:			5.44	10.88	5.44	807.9	5.44	20083	33.00	33.00	673.2	308	96	1570	13244	16460	16460	17027

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
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.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
488+00	493+69	HWY. 65 LT.	569.00	9	569.00	252.89	3.19
494+01	497+04	HWY. 65 LT.	303.00	9	303.00	134.67	1.70
TOTALS:					872.00	387.56	4.89

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
421+50	424+00	HWY. 65 LT.	250.0	222.2
423+00	426+93	HWY. 65 RT.	393.0	349.3
424+58	426+27	HWY. 65 LT.	169.0	150.2
443+95	448+00	HWY. 65 RT.	405.0	360.0
451+00	452+00	HWY. 65 RT.	100.0	88.9
452+00	455+00	HWY. 65 LT.	300.0	266.7
453+00	455+00	HWY. 65 RT.	200.0	177.8
456+00	458+13	HWY. 65 LT.	213.0	189.3
461+00	465+98	HWY. 65 RT.	498.0	442.7
464+00	467+18	HWY. 65 LT.	318.0	282.7
469+00	470+00	HWY. 65 LT.	100.0	88.9
473+29	474+68	HWY. 65 LT.	139.0	123.6
475+00	477+00	HWY. 65 RT.	200.0	177.8
484+84	485+00	HWY. 65 LT.	16.0	14.2
484+84	486+00	HWY. 65 RT.	116.0	103.1
489+94	497+04	HWY. 65 LT.	710.0	631.1
491+00	493+43	HWY. 65 RT.	243.0	216.0
TOTAL:				3884.5

NOTE: AVERAGE WIDTH = 8'-0"

DETENTION BASIN

STATION	STATION	LOCATION	DETENTION BASIN	EROSION CONTROL MATTING (CLASS 3)
			CU. YD.	SQ. YD.
484+89	485+75	HWY. 65 LT.	264.0	304.0
TOTALS:			264.0	304.0

NOTE: REFER TO SPECIAL DETAIL

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP (GROUTED)	FILTER BLANKET
		CU. YDS.	SQ. YDS.
494+14	OUTLET OF PIPE CULVERT	3	5
*	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10	20
TOTALS:		13	25

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

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

TRANSITIONAL APPROACH RAILING

STATION	LOCATION	TRANSITIONAL APPROACH RAILING
		EACH
486+27	HWY. 65 RT. (NORTH CORNER OF HWY. 16E BRIDGE)	1
486+52	HWY. 65 RT. (NORTH CORNER OF HWY. 16E BRIDGE)	1
TOTAL:		2

NOTE: REFER TO SPECIAL DETAIL

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
429+24	HWY. 65 LT. CORNER OF BRIDGE	1
472+05	HWY. 65 RT. R.C. BOX HEAD WALL	1
4801+94	HWY. 65 RT. CORNER OF BRIDGE	1
TOTAL:		3

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	
ENTIRE PROJECT	3	3
TOTALS:	3	3

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
421+50	422+28	HIGHWAY 65 ON RT	78	43
422+60	428+93	HIGHWAY 65 ON RT	633	352
430+30	432+90	HIGHWAY 65 ON RT	260	144
433+25	435+54	HIGHWAY 65 ON RT	229	127
436+06	436+48	HIGHWAY 65 ON RT	42	23
436+90	438+31	HIGHWAY 65 ON RT	141	78
438+79	439+42	HIGHWAY 65 ON RT	63	35
439+93	440+28	HIGHWAY 65 ON RT	35	19
440+71	441+71	HIGHWAY 65 ON RT	100	56
442+08	444+37	HIGHWAY 65 ON RT	229	127
444+89	445+61	HIGHWAY 65 ON RT	72	40
446+13	447+01	HIGHWAY 65 ON RT	88	49
447+53	455+79	HIGHWAY 65 ON RT	826	459
456+39	459+79	HIGHWAY 65 ON RT	340	189
460+56	465+72	HIGHWAY 65 ON RT	516	287
466+27	466+60	HIGHWAY 65 ON RT	33	18
467+02	469+53	HIGHWAY 65 ON RT	251	139
469+82	477+29	HIGHWAY 65 ON RT	747	415
477+73	480+96	HIGHWAY 65 ON RT	323	179
421+50	424+03	HIGHWAY 65 ON LT	253	141
424+43	426+50	HIGHWAY 65 ON LT	207	115
427+42	429+24	HIGHWAY 65 ON LT	182	101
430+56	441+10	HIGHWAY 65 ON LT	1054	586
441+44	442+83	HIGHWAY 65 ON LT	139	77
443+31	444+11	HIGHWAY 65 ON LT	80	44
444+63	444+93	HIGHWAY 65 ON LT	30	17
445+45	447+06	HIGHWAY 65 ON LT	161	89
447+64	450+87	HIGHWAY 65 ON LT	323	179
451+70	455+00	HIGHWAY 65 ON LT	330	183
455+67	458+90	HIGHWAY 65 ON LT	323	179
459+57	461+14	HIGHWAY 65 ON LT	157	87
461+64	462+45	HIGHWAY 65 ON LT	81	45
500+00	503+00	HIGHWAY 65B ON RT	293	163
500+00	503+00	HIGHWAY 65B ON LT	359	199
465+77	468+34	HIGHWAY 65 ON LT	257	143
465+85	469+91	HIGHWAY 65 ON LT	406	226
470+39	470+67	HIGHWAY 65 ON LT	28	16
471+18	471+30	HIGHWAY 65 ON LT	12	7
471+81	472+41	HIGHWAY 65 ON LT	60	33
704+04	704+29	HIGHWAY 16W ON RT	402	223
704+70	707+26	HIGHWAY 16W ON LT	421	234
704+04	704+51	HIGHWAY 16W ON LT	47	26
704+83	707+47	HIGHWAY 16W ON LT	332	184
475+53	478+71	HIGHWAY 65 ON LT	318	177
479+03	481+22	HIGHWAY 65 ON LT	219	122
TOTAL:				6375

8/29/2013

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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.		080390	59	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
421+50	422+28	HIGHWAY 65 ON RT	78
422+60	428+93	HIGHWAY 65 ON RT	633
430+30	432+90	HIGHWAY 65 ON RT	260
433+25	435+54	HIGHWAY 65 ON RT	229
436+06	436+48	HIGHWAY 65 ON RT	42
436+90	438+31	HIGHWAY 65 ON RT	141
438+79	439+42	HIGHWAY 65 ON RT	63
439+93	440+42	HIGHWAY 65 ON RT	99
440+59	441+71	HIGHWAY 65 ON RT	164
442+08	444+37	HIGHWAY 65 ON RT	229
444+89	445+61	HIGHWAY 65 ON RT	72
446+13	447+01	HIGHWAY 65 ON RT	88
447+53	456+14	HIGHWAY 65 ON RT	902
456+26	457+34	HIGHWAY 65 ON RT	157
457+86	460+38	HIGHWAY 65 ON RT	288
460+42	465+74	HIGHWAY 65 ON RT	532
466+29	466+60	HIGHWAY 65 ON RT	31
467+02	469+53	HIGHWAY 65 ON RT	251
469+82	477+29	HIGHWAY 65 ON RT	747
477+73	480+99	HIGHWAY 65 ON RT	326
484+72	486+21	HIGHWAY 65 ON RT	217
486+57	487+87	HIGHWAY 65 ON RT	220
487+87	497+04	HIGHWAY 65 ON RT	917
421+50	424+03	HIGHWAY 65 ON LT	253
424+42	426+99	HIGHWAY 65 ON LT	282
427+28	429+22	HIGHWAY 65 ON LT	242
430+54	441+10	HIGHWAY 65 ON LT	1056
441+44	442+83	HIGHWAY 65 ON LT	139
443+31	444+11	HIGHWAY 65 ON LT	80
444+63	444+93	HIGHWAY 65 ON LT	30
445+45	447+10	HIGHWAY 65 ON LT	165
447+68	451+00	HIGHWAY 65 ON LT	393
451+51	455+13	HIGHWAY 65 ON LT	482
455+20	459+03	HIGHWAY 65 ON LT	511
459+03	461+14	HIGHWAY 65 ON LT	273
461+64	462+45	HIGHWAY 65 ON LT	81
500+00	503+00	HIGHWAY 65B ON RT	309
500+00	503+00	HIGHWAY 65B ON LT	359
465+77	468+34	HIGHWAY 65 ON LT	257
465+85	469+91	HIGHWAY 65 ON LT	406
470+39	470+67	HIGHWAY 65 ON LT	28
471+18	471+30	HIGHWAY 65 ON LT	12
471+81	472+41	HIGHWAY 65 ON LT	60
704+04	704+29	HIGHWAY 16W ON RT	402
704+70	707+26	HIGHWAY 16W ON RT	421
704+04	704+51	HIGHWAY 16W ON LT	47
704+83	707+47	HIGHWAY 16W ON LT	332
475+53	478+71	HIGHWAY 65 ON LT	318
479+03	481+22	HIGHWAY 65 ON LT	219
484+94	493+63	HIGHWAY 65 ON LT	869
494+08	497+04	HIGHWAY 65 ON LT	296
TOTAL:			15008

CONCRETE CURB

STATION	STATION	LOCATION	TYPE D
			LIN. FT.
460+87	463+62	HIGHWAY 65 ON LT	304
500+00	501+63	HIGHWAY 65B ON RT	136
466+13	466+61	HIGHWAY 65 ON RT	45
468+92	469+89	HIGHWAY 65 ON LT	108
470+33	472+78	HIGHWAY 65 ON LT	195
704+04	706+15	HIGHWAY 16W ON RT	155
474+76	475+20	HIGHWAY 65 ON LT	56
TOTAL:			999

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ.YD.
464+21	HIGHWAY 65 ON LT	C	66
473+76	HIGHWAY 65 ON LT	C	232
474+70	HIGHWAY 65 ON LT	C	48
486+69	HIGHWAY 65 ON RT	C	121
486+37	HWY. 65/HWY. 16 E INTERSECTION	C	161
TOTAL:			628

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3	TYPE 4
		SQ.YD.	
426+39	HIGHWAY 65 ON LT	5.4	
427+53	HIGHWAY 65 ON LT	5.4	
440+18	HIGHWAY 65 ON RT	5.4	
440+82	HIGHWAY 65 ON RT	5.4	
450+76	HIGHWAY 65 ON LT	5.4	
451+81	HIGHWAY 65 ON LT	5.4	
454+90	HIGHWAY 65 ON LT	5.4	
455+78	HIGHWAY 65 ON LT	5.4	
455+69	HIGHWAY 65 ON RT	5.4	
456+50	HIGHWAY 65 ON RT	5.4	
458+80	HIGHWAY 65 ON LT	5.4	
459+66	HIGHWAY 65 ON LT	5.4	
459+69	HIGHWAY 65 ON RT	5.4	
460+69	HIGHWAY 65 ON RT	5.4	
463+63	HIGHWAY 65 ON LT	2.9	
464+18	HIGHWAY 65 ON LT		2.7
464+21	HIGHWAY 65 ON LT		2.7
464+28	HIGHWAY 65 ON LT		2.7
464+21	HIGHWAY 65 ON RT	2.7	
464+82	HIGHWAY 65 ON LT	3.1	
TOTALS:		84.3	8.1

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS
			LIN. FT.
422+43	444+83	HIGHWAY 65	2240
456+35	479+89	HIGHWAY 65	2354
484+93	496+63	HIGHWAY 65	1170
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED			
BY THE ENGINEER.			1000
TOTAL:			6764

* 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.

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	600
ENGINEER	
TOTAL:	600

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.
420+50	421+50	MAIN LANES	19	211.11
497+04	498+04	MAIN LANES	19	211.11
500+00	501+00	HWY. 65B	25	277.78
704+04	704+24	HWY. 16W	20	44.44
TOTAL:				744.44

NOTE: AVERAGE MILLING DEPTH 1".

ACHM PATCHING OF EXISTING ROADWAY

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

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	36	72
DIRECTED BY THE ENGINEER		
TOTALS:	36	72

BASIS OF ESTIMATE:
ASPHALT..... 25 TONS / MILE OF JOB
TACK COAT..... 2 GAL. / TON OF ASPHALT

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
443+69	HWY. 65	8.50	18.6	7.6
452+13	HWY. 65	8.50	18.31	7.4
462+86	HWY. 65	10.25	18.9	9.3
494+19	HWY. 65	8.50	21.38	8.7
495+93	HWY. 65	8.50	21.09	8.6
473+94	HWY. 16 W.	8.50	58	23.6
500+38	HWY. 65B	9.67	32	14.8
TOTAL:				80.0

AVG. DEPTH = 15.5"

RETAINING & BARRIER WALLS

STATION	STATION	LOCATION	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	ARCHITECTURAL FINISH	TEXTURED COATING FINISH	CONCRETE BARRIER WALL (PARAPET TYPE A)	METAL BRIDGE RAILING (TYPE H)
			CU.YDS.	POUNDS	CU.YDS.	SQ.FT.	SQ.YD.	LIN. FT.	LIN. FT.
427+77	429+33	HWY. 63 ON LT. - RETAINING WALL	74.62	9459	188	1025	90		
430+29	433+10	HWY. 63 ON LT. - RETAINING WALL	640.00	80720	1000	5360	510		
430+55	433+10	HWY. 63 ON LT. - BARRIER WALL						252	238
TOTALS:			714.62	90179	1188	6385	600	252	238

8/29/2013

R080390.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	60	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	24"	30"	36"	(CLASS IV) 18"	24"	SIDE DRAIN 12"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	30"	36"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	36"	DROP INLETS TYPE E	MO	EXT. 4'	8'	JUNCT. BOX (TYPE E)	YARD DRAIN	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.							EACH								EACH						LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
422+00	DROP INLET ON LT									48								1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
422+00	DROP INLET ON RT	20											1					1	1											5	0.06	FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
423+24	DROP INLET ON LT								120									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
425+85	DROP INLET ON LT								256									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
427+65	DROP INLET ON LT								174									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
429+08	DROP INLET ON LT								137									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
430+75	DROP INLET ON LT				16													1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
431+68	DROP INLET ON LT											87						1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
432+77	DROP INLET ON LT										103							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
434+66	DROP INLET ON LT										182							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
436+50	DROP INLET ON LT										177							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
437+94	DROP INLET ON LT										137							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
438+93	DROP INLET ON LT										93							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
439+94	DROP INLET ON LT										95							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
440+72	DROP INLET ON LT										72							1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
441+73	DROP INLET ON LT										95							1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
442+73	DROP INLET ON LT										95							1														FPC-9M, FPC-9E, PCC-1
443+69	DROP INLET ON RT						59											1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
443+73	DROP INLET ON LT										95							1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
443+95	DROP INLET ON RT									22								1														FPC-9M, FPC-9E, PCC-1, PCM-1
444+25	DROP INLET ON RT									26								1												5	0.06	FPC-9M, FPC-9E, PCC-1, PCM-1 FES-1, FES-2
445+38	DROP INLET ON RT	4								109			1					1														FPC-9M, FPC-9E, PCC-1, PCM-1
446+25	DROP INLET ON LT								248									1												5	0.06	FPC-9M, FPC-9E, PCC-1, PCM-1, FES-1, FES-2
446+85	DROP INLET ON RT	3								143			1					1														FPC-9M, FPC-9E, PCC-1, PCM-1
447+73	DROP INLET ON RT								84									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
447+75	DROP INLET ON RT								146									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
450+53	DROP INLET ON LT								274									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
450+53	DROP INLET ON RT								276									1	1													FPC-9M, FPC-9E, PCC-1
452+13	DROP INLET ON LT						59											1	1													FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
452+13	DROP INLET ON RT		25											1				1		1										8	0.10	FPC-9M, FPC-9E, PCC-1, PCM-1
453+53	DROP INLET ON LT								136									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
455+13	DROP INLET ON RT								296									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
456+09	DROP INLET ON LT								252									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
458+13	DROP INLET ON RT								296									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
461+13	DROP INLET ON RT								162									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
462+85	DROP INLET ON RT				47											1		1		1										17	0.21	FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
465+60	DROP INLET ON RT								80									1														FPC-9M, FPC-9E, PCC-1, PCM-1
466+47	DROP INLET ON RT								65									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
467+18	DROP INLET ON RT								174									1														FPC-9M, FPC-9E, PCC-1, PCM-1
468+20	JUNCTION BOX ON LT			11							107				1							1								13	0.16	FPC-9, PCC-1, PCM-1, FES-1, FES-2
469+03	DROP INLET ON RT								144									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
469+30	JUNCTION BOX ON LT	6									120		1									1								5	0.06	FPC-9, PCC-1, PCM-1, FES-1, FES-2
470+52	JUNCTION BOX ON LT	22									70		1									1								5	0.06	FPC-9, PCC-1, PCM-1, FES-1, FES-2
470+55	DROP INLET ON RT								140									1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
471+24	DROP INLET ON LT										77						1															FPC-9M, FPC-9E, PCC-1, PCM-1
472+03	R.C. BOX CULVERT EXTEND 4' LT. & 10' RT.																						4	6	18	22.80	1308	19	19	0.24	RCB1, RCB2, RCB3, R-100X-X1, W-X003-1
472+03	DROP INLET ON RT																	1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
472+80	DROP INLET ON RT									71								1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
473+29	DROP INLET ON RT									44								1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
474+68	DROP INLET ON RT									131								1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
475+93	DROP INLET ON RT								117									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
478+03	DROP INLET ON RT								202									1	1													FPC-9M, FPC-9E, PCC-1
479+23	DROP INLET ON LT	59																1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
479+23	DROP INLET ON RT								116									1	1													FPC-9M, FPC-9E, PCC-1, PCM-2
480+82	DROP INLET ON RT								155									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
481+03	DROP INLET ON LT								176									1		1												FPC-9M, FPC-9E, PCC-1
484+87	DROP INLET ON RT					63												1	1											8	0.10	FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
485+10	DROP INLET ON LT		12											1				1	1													FPC-9M, FPC-9E, PCC-1
486+24	DROP INLET ON RT (HWY. 16E)	26																1	1											8	0.10	FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
486+54	DROP INLET ON RT (HWY. 16E)	16												1				1	1													FPC-9M, FPC-9E, PCC-1, PCM-1
486+69	DROP INLET ON LT								155									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
488+19	DROP INLET ON LT								141									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
489+94	DROP INLET ON LT								166									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
491+19	DROP INLET ON LT								117									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
492+43	DROP INLET ON LT								116									1		1												FPC-9M, FPC-9E, PCC-1, PCM-1
493+43	DROP INLET ON LT								93									1		1												FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
494+19	DROP INLET ON LT		92											2				1	1											16	0.20	FPC-9M, FPC-9E, PCC-1, PCM-1
495+93	DROP INLET ON LT									170								1	1													FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
495+93	DROP INLET ON RT		59															1	1											5	0.06	FPC-9M, FPC-9E, PCC-1, PCM-1, FES-1, FES-2
496+77	DROP INLET ON LT	126							80				1					1														FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
500+33	DROP INLET ON LT. (HWY. 65B)				47											1		1														FPC-9M, FPC-9E, PCC-1, PCM-1
500+43	DROP INLET ON RT. (HWY. 65B)																	1	1											5	0.06	FPC-9M, FPC-9E, PCC-1, FES-1, FES-2
705+34	DROP INLET ON RT (HWY. 16W)	6											1					1	1											34	0.43	PCC-1, FES-1, FES-2
706+54	HWY. 16W CROSS DRAIN						137									2																FPC-9M, FPC-9E, PCC-1, PCM-1
																																FPC-9M, FPC-9E, PCC-1, PCM-1
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER								500														5										PCC-1, PCM-1
TOTALS:		288	188	11	110	63	255	500	5094	764	1518	87	7	5	1	4	1	68	41	17	3	5				22.80	1308	19	158	1.96		

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.

8/29/2013

R080390.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	61	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	PORTLAND CEMENT CONCRETE BASE	
				AVG. WID.	9.5" U.T.
			FEET	FEET	SQ. YD.
463+00	465+78	HWY. 65B	VAR.	VAR.	353.0
473+47	473+63	HWY. 16W RT	53.0	VAR.	13.9
473+61	473+80	HWY. 16W LT	54.0	VAR.	9.6
474+25	474+52	HWY. 16W LT RADIUS	42.0	VAR.	9.9
484+92	485+20	HWY. 16E RADIUS	28.0	VAR.	4.8
486+24	486+28	HWY. 16E RADIUS	37.0	VAR.	5.1
486+50	486+54	HWY. 16E RADIUS	30.0	VAR.	5.0
487+46	487+79	HWY. 16E RADIUS	33.0	VAR.	4.9
438+65	439+12	HWY. 65 RT.	47.0	VAR.	10.5
491+23	491+96	HWY. 65 LT.	73.0	VAR.	16.9
TOTAL:					433.6

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS 30"	STANDARD DRAWINGS
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.	
422+45	RT	HIGHWAY 65	20	422+21	422+69	28.40	93.3	10.3	38.1		DR-1
424+24	LT	HIGHWAY 65	28	423+96	424+52	35.60	180.4	19.8	73.7	79	PCC-1, PCM-1, PCP-1, PCP -2, DR-1
433+08	RT	HIGHWAY 65	24	432+82	433+34	32.00	215.6	23.7	88.0		DR-1
435+79	RT	HIGHWAY 65	40	435+45	436+13	46.20	240.0	26.4	98.0		DR-1
436+68	RT	HIGHWAY 65	30	436+39	436+97	37.30	69.0	7.6	28.2		DR-1
438+55	RT	HIGHWAY 65	36	438+23	438+87	42.70	112.0	12.3	45.7		DR-1
439+67	RT	HIGHWAY 65	40	439+33	440+01	46.20	191.6	21.1	78.2		DR-1
441+27	LT	HIGHWAY 65	22	441+02	441+52	30.20	93.5	10.3	38.2		DR-1
441+90	RT	HIGHWAY 65	26	441+63	442+17	33.80	102.6	11.3	41.9		DR-1
443+08	LT	HIGHWAY 65	36	442+76	443+40	42.70	136.0	15.0	55.5		DR-1
444+37	LT	HIGHWAY 65	40	444+03	444+71	46.20	168.3	18.5	68.7		DR-1
444+61	RT	HIGHWAY 65	40	444+27	444+95	46.20	179.6	19.8	73.3		DR-1
445+20	LT	HIGHWAY 65	40	444+86	445+54	223.00					DR-1
445+85	RT	HIGHWAY 65	40	445+51	446+19	46.20	193.9	21.3	79.2		DR-1
447+11	LT	HIGHWAY 65	40	446+77	447+45	46.20	197.6	21.7	80.7		DR-1
447+27	RT	HIGHWAY 65	40	446+93	447+61	252.90					DR-1
457+59	RT	HIGHWAY 65	40	457+25	457+93	46.20	168.4	18.5	68.8		DR-1
461+39	LT	HIGHWAY 65	40	461+05	461+73	46.20	275.6	30.3	112.5		DR-1
462+69	LT	HIGHWAY 65	40	462+35	463+03	46.20	322.0	35.4	131.5		DR-1
465+98	RT	HIGHWAY 65	40	465+64	466+32	46.20	164.4	18.1	67.1		DR-1
466+81	RT	HIGHWAY 65	28	466+53	467+09	35.60	113.2	12.5	46.2		DR-1
468+59	LT	HIGHWAY 65	40	468+25	468+93	274.00					DR-1
469+51	RT	HIGHWAY 65	18	469+28	469+74	26.70	129.1	14.2	52.7		DR-1
470+14	LT	HIGHWAY 65	40	469+80	470+48	361.80					DR-1
470+93	LT	HIGHWAY 65	40	470+59	471+27	46.20	313.5	34.5	128.0		DR-1
471+51	LT	HIGHWAY 65	40	471+17	471+85	46.20	287.7	31.6	117.5		DR-1
477+51	RT	HIGHWAY 65	32	477+21	477+81	39.10	289.4	31.8	118.2		DR-1
478+88	LT	HIGHWAY 65	20	478+64	479+12	28.40	121.1	13.3	49.4		DR-1
493+85	LT	HIGHWAY 65	32	493+55	494+15	39.10	234.8	25.8	95.9		DR-1
500+80	LT	HIGHWAY 65B	30	500+51	501+09	37.30	160.7	17.7	65.6		DR-1
704+50	RT	HIGHWAY 16 W	26	704+23	704+77	33.80	69.3	7.6	28.3		DR-1
704+69	LT	HIGHWAY 16 W	22	704+44	704+94	30.20	78.2	8.6	31.9		DR-1
* ENTIRE PROJECT TEMPORARY DRIVES									1500.0		DR-1
TOTALS:						2219.00		539.0	3501.0	79	

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

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.

* 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.

8/29/2013

R080390.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	62	263

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

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")			
			FEET	TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 76-22 TON
MAIN LANES																					
421+50	425+50	HWY. 65 - MAIN LANES - N&W	400.0	VAR.	648.0	VAR.	5751.1	0.03	172.5	VAR.	1626.7	495.0	402.6	VAR.	1626.7	330.0	268.4	VAR.	4124.4	220.0	453.7
425+50	427+50	HWY. 65 - MAIN LANES - N&W	200.0	VAR.	322.5	VAR.	2866.7	0.03	86.0	VAR.	811.1	495.0	200.7	VAR.	811.1	330.0	133.8	VAR.	2055.6	220.0	226.1
427+50	429+09.87	HWY. 65 - MAIN LANES - FULL DEPTH	159.9	237.25	379.4	168.0	2984.8	0.03	89.5	56.0	994.9	495.0	246.2	56.0	994.9	330.0	164.2	112.0	1989.9	220.0	218.9
430+44.13	437+94	HWY. 65 - MAIN LANES - FULL DEPTH	749.9	237.25	1779.1	168.0	13998.1	0.03	419.9	56.0	4666.0	495.0	1154.8	56.0	4666.0	330.0	769.9	112.0	9332.1	220.0	1026.5
437+94	438+66	HWY. 65 - MAIN LANES - N&W	72.0	VAR.	125.1	VAR.	1108.0	0.03	33.2	VAR.	317.6	495.0	78.6	VAR.	317.6	330.0	52.4	VAR.	790.4	220.0	86.9
438+66	441+00	HWY. 65 - MAIN LANES - N&W	234.0	VAR.	508.4	VAR.	4477.2	0.03	134.3	VAR.	1323.4	495.0	327.5	VAR.	1323.4	330.0	218.4	VAR.	3153.8	220.0	346.9
441+00	460+00	HWY. 65 - MAIN LANES - N&W	1900.0	VAR.	3078.0	VAR.	27233.3	0.03	817.0	VAR.	7747.8	495.0	1917.6	VAR.	7747.8	330.0	1278.4	VAR.	19506.7	220.0	2145.7
460+00	461+68	HWY. 65 - MAIN LANES - N&W	168.0	VAR.	270.5	VAR.	2394.9	0.03	71.8	VAR.	679.5	495.0	168.2	VAR.	679.5	330.0	112.1	VAR.	1715.5	220.0	188.7
461+68	464+97	HWY. 65 - MAIN LANES - N&W	329.0	VAR.	532.2	VAR.	4712.0	0.03	141.4	VAR.	1337.9	495.0	331.1	VAR.	1337.9	330.0	220.8	VAR.	3370.4	220.0	370.7
464+97	470+00	HWY. 65 - MAIN LANES - N&W	503.0	VAR.	813.6	VAR.	7226.4	0.03	216.8	VAR.	2045.5	495.0	506.3	VAR.	2045.5	330.0	337.5	VAR.	5180.9	220.0	569.9
470+00	473+82	HWY. 65 - MAIN LANES - N&W	382.0	VAR.	612.2	VAR.	5437.1	0.03	163.1	VAR.	1536.5	495.0	380.3	VAR.	1536.5	330.0	253.5	VAR.	3900.6	220.0	429.1
473+82	475+00	HWY. 65 - MAIN LANES - N&W	118.0	VAR.	210.0	VAR.	1863.1	0.03	55.9	VAR.	534.9	495.0	132.4	VAR.	534.9	330.0	88.3	VAR.	1328.2	220.0	146.1
475+00	481+09.85	HWY. 65 - MAIN LANES - FULL DEPTH	609.8	237.25	1446.8	168.0	11382.9	0.03	341.5	56.0	3794.3	495.0	939.1	56.0	3794.3	330.0	626.1	112.0	7588.6	220.0	834.7
484+84.15	491+23	HWY. 65 - MAIN LANES - FULL DEPTH	638.8	237.25	1515.6	168.0	11924.3	0.03	357.7	56.0	3974.8	495.0	985.6	56.0	3974.8	330.0	655.8	112.0	7949.5	220.0	874.4
491+23	497+04	HWY. 65 - MAIN LANES - N&W	581.0	VAR.	887.5	VAR.	8043.6	0.03	241.3	VAR.	2214.3	495.0	548.0	VAR.	2214.3	330.0	365.4	VAR.	5829.4	220.0	641.2
472+35	475+53	HWY. 16 W AND INTERSECTION	VAR.	VAR.	260.0	VAR.	3258.1	0.03	97.7	VAR.	484.0	495.0	119.8	VAR.	484.0	330.0	79.9	VAR.	2808.0	220.0	308.9
484+96	487+81	HWY. 16 E AND INTERSECTION	VAR.	VAR.	331.0	VAR.	3937.0	0.03	118.1	VAR.	890.0	495.0	220.3	VAR.	890.0	330.0	146.9	VAR.	2177.0	220.0	239.5
426+97		MAIN ST.	VAR.	VAR.	204.0	VAR.	1227.0	0.03	36.8	VAR.	409.0	495.0	101.2	VAR.	409.0	330.0	67.5	VAR.	409.0	220.0	45.0
440+50		ARCHEY FORK RD.	VAR.	VAR.	118.0	VAR.	495.0	0.03	14.9	VAR.	165.0	495.0	40.8	VAR.	165.0	330.0	27.2	VAR.	165.0	220.0	18.2
451+25		BONE RD.	VAR.	VAR.	67.2	VAR.	1509.0	0.03	45.3	VAR.	503.0	495.0	124.5	VAR.	503.0	330.0	83.0	VAR.	503.0	220.0	55.3
455+30		BRADLEY ON LT.	VAR.	VAR.	147.0	VAR.	1056.0	0.03	31.7	VAR.	352.0	495.0	87.1	VAR.	352.0	330.0	58.1	VAR.	352.0	220.0	38.7
456+08		BRADLEY ON RT.	VAR.	VAR.	109.0	VAR.	774.0	0.03	23.2	VAR.	258.0	495.0	63.9	VAR.	258.0	330.0	42.6	VAR.	258.0	220.0	28.4
459+21		INGRAM ST. ON LT.	VAR.	VAR.	158.6	VAR.	1236.0	0.03	37.1	VAR.	412.0	495.0	102.0	VAR.	412.0	330.0	68.0	VAR.	412.0	220.0	45.3
460+16		INGRAM ST. ON RT.	VAR.	VAR.	148.0	VAR.	1089.0	0.03	32.7	VAR.	363.0	495.0	89.8	VAR.	363.0	330.0	59.9	VAR.	363.0	220.0	39.9
438+65	439+12	HWY. 65 - MAIN LANES RT.	47.0	VAR.	4.6													VAR.	10.5	220.0	1.2
491+23	491+96	HWY. 65 - MAIN LANES LT.	73.0	VAR.	7.1													VAR.	16.9	220.0	1.9
463+43	464+11	HWY. 65B	68.0	VAR.	207.4	VAR.	2981.0	0.03	89.4	VAR.	494.0	495.0	122.3	VAR.	494.0	330.0	81.5	VAR.	2840.0	220.0	312.4
ADDITIONAL FOR GRADE RAISE																					
421+50	427+50	HWY. 65 - MAIN LANES	600.0			VAR.	211.0	0.10	21.1	19.0	133.0	VAR.	61.1								
421+50	427+50	HWY. 65 - MAIN LANES	600.0			VAR.	376.0	0.03	11.3					19.0	243.0	VAR.	38.5	19.0	1056.0	VAR.	35.9
437+94	475+00	HWY. 65 - MAIN LANES	3706.0			VAR.	6265.0	0.10	626.5	19.0	6265.0	VAR.	2076.0								
437+94	475+00	HWY. 65 - MAIN LANES	3706.0			VAR.	14118.0	0.03	423.5					19.0	7823.8	VAR.	1098.6	19.0	7823.8	VAR.	780.5
491+23	497+04	HWY. 65 - MAIN LANES	581.0			VAR.	1226.6	0.10	122.7	19.0	1226.6	VAR.	433.5	VAR.							
491+23	497+04	HWY. 65 - MAIN LANES	581.0			VAR.	2453.0	0.03	73.6					19.0	1226.6	VAR.	195.8	19.0	1226.6	VAR.	136.6
472+35	475+40	HWY. 16 W AND INTERSECTION	305.0			VAR.	289.0	0.10	28.9	20.0	289.0	VAR.	34.6								
472+35	475+40	HWY. 16 W AND INTERSECTION	305.0			VAR.	733.0	0.03	22.0					20.0	444.0	VAR.	62.0	20.0	600.0	VAR.	56.5
484+96	487+81	HWY. 16 E AND INTERSECTION	285.0			VAR.	488.0	0.03	14.6					22.0	293.0	330.0	41.3	22.0	349.0	VAR.	33.6
484+96	487+81	HWY. 16 E AND INTERSECTION	285.0			VAR.	195.0	0.10	19.5	22.0	195.0	VAR.	36.2								
ADDITIONAL FOR LEVELING																					
421+50	427+50	HWY. 65 - MAIN LANES	600.0			19.0	1266.7	0.10	126.7									19.0	1266.7	220.0	1754.0
437+94	475+00	HWY. 65 - MAIN LANES	3706.0			19.0	7823.8	0.10	782.4									19.0	7823.8	220.0	1754.0
491+23	497+04	HWY. 65 - MAIN LANES	581.0			19.0	1226.6	0.10	122.7									19.0	1226.6	220.0	1754.0
ADDITIONAL FOR MAINENANCE OF TRAFFIC																					
464+97	468+20	WIDENING ON LT.	323.0	31.00	100.1	2.2	79.0	0.03	2.4					2.2	79.0	440.0	17.4	2.0	71.8	220.0	7.9
476+90	480+97	WIDENING ON RT.	407.0	68.00	276.8	8.7	393.4	0.03	11.8					8.7	393.4	440.0	86.5	8.5	384.4	220.0	42.3
484+71	490+00	WIDENING ON RT.	529.0	68.00	359.7	8.7	511.4	0.03	15.3					8.7	511.4	440.0	112.5	8.5	499.6	220.0	55.0
TOTALS:					**15627.4**		**166621.1**		**6293.8**		**46043.8**		**12032.1**		**48949.4**		**7912.2**		**110458.7**		**16104.5**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96% MIN. AGGR.....4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

8/29/2013

R080390.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	63	263
				① 07290 & 07291	-	QUANTITIES	- 54233	

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 080390

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	802	802	803	SS & 804	SS & 804	805	806	807
		ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL① PILING (HP 14x73)	METAL BRIDGE RAILING (TYPE H)	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)
		UNIT	LUMP SUM	CU. YD	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LB.
07290 / X071 / TOWN BRANCH	BENT 1			21	50.20		0.4	4746		252		1580
	BENT 2				64.25			11430				
	BENT 3				64.45			11450				
	BENT 4			13	50.40		0.4	4734		252	10	1580
	132' CONT. COMP. W-BEAM UNIT					312.80	23.1		69540		255	170010
	EXIST. BR. NO. 05556 (SITE NO. 1)		1									
	TOTALS FOR BRIDGE NO. 07290		1	34	229.30	312.80	23.9	32360	69540	504	265	173170
07291 / X071 / ARCHEY FORK	BENT 1			27	65.23		0.4	6866		310		1580
	BENT 2				71.86			14440				
	BENT 3				72.94			14584				
	BENT 4				74.02			14784				
	BENT 5			21	65.25		0.4	6866		310		1580
	374' CONT. COMP. W-BEAM UNIT					870.40	65.4		195980		736	994100
	EXIST. BR. NO. 03694 (SITE NO. 2)		1									
	TOTALS FOR BRIDGE NO. 07291		1	48	349.30	870.40	66.2	57540	195980	620	736	997260
TOTALS FOR JOB NO. 080390				82	578.60	1183.20	90.1	89900	265520	1124	1001	1170430

① These steel piles are required to have special tips which will not be paid for directly, but will be considered subsidiary to the item 'Steel Piling (HP 14 x 73)'.

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	808	812	816	816	SP JOB 080390	SP JOB 080390	SP JOB 080390	SP JOB 080390	SP JOB 080390	SP JOB 080390
		ITEM	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP	SILICONE JOINT SEALANT	DRILLED SHAFT (54" DIA.)	PERMANENT STEEL SHELL CASING (60" DIA.)	CROSSHOLE SONIC LOGGING (54" DIA.)	CORING DRILLED SHAFT	TRANSITIONAL APPROACH RAILING
		UNIT	CU. IN.	EACH	SQ. YD.	CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	EACH
07290 / X071 / TOWN BRANCH	BENT 1				435	237						2
	BENT 2							116	44	4	29.0	
	BENT 3							88	44	4	22.0	
	BENT 4				220	110						②2
	132' CONT. COMP. W-BEAM UNIT		8189	1			159					
	EXIST. BR. NO. 05556 (SITE NO. 1)											
	TOTALS FOR BRIDGE NO. 07290		8189	1	655	347	159	204	88	8	51.0	4
07291 / X071 / ARCHEY FORK	BENT 1				560	305						2
	BENT 2							93	53	4	23.25	
	BENT 3							100	60	4	25.0	
	BENT 4							79	39	4	19.75	
	BENT 5				658	356						2
	374' CONT. COMP. W-BEAM UNIT		23108	1			176					
	EXIST. BR. NO. 03694 (SITE NO. 2)											
	TOTALS FOR BRIDGE NO. 07291		23108	1	1218	661	176	272	152	12	68.0	4
TOTALS FOR JOB NO. 080390			31297	2	1873	1008	335	476	240	20	119.0	8

② Transitional approach railing shall be placed at the end of the Concrete Barrier Wall.

BRYAN FREELING
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
Carl J. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. PUSELIER

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
HWY. 16 EAST - HWY. 65B SOUTH
(CLINTON) (S)
VAN BUREN COUNTY

ROUTE 65 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 6-14-13 FILENAME: b080390.ql.dgn
CHECKED BY: MCS DATE: 8/19/13 SCALE: NONE
DESIGNED BY: — DATE: —

BRIDGE NO. 07290 & 07291 DRAWING NO. 54233

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	64	263

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

SUMMARY OF QUANTITIES (BOX 1 0F 3)

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		40	STATION
201	GRUBBING		40	STATION
202	REMOVAL AND DISPOSAL OF CURB		735	LIN. FT.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		1279	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		195	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		731	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		741	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		3668	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		6	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		2	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL		969	LIN. FT.
202	REMOVAL AND DISPOSAL OF SIGNS		16	EACH
210	UNCLASSIFIED EXCAVATION		7299	CU. YD.
210	COMPACTED EMBANKMENT		89404	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		19128	TON
309	PORTLAND CEMENT CONCRETE BASE (9 1/2" UNIFORM THICKNESS)		434	SQ. YD.
401	TACK COAT		6366	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		11551	TON
SP, SS, & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")		481	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		7556	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")		356	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		15761	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		29	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		854	TON
412	COLD MILLING ASPHALT PAVEMENT		744	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		36	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY		2219.00	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		765	SQ. FT.
SS & 604	BARRICADES		240	LIN. FT.
SS & 604	TRAFFIC DRUMS		293	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		832	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		1006	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		49286	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)		2	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		3	EACH
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		3051	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		3670	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		28703	LIN. FT.
SS & 604	VERTICAL PANELS		27	EACH
605	CONCRETE DITCH PAVING (TYPE B)		872	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		288	LIN. FT.
* SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	5094	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	5094	LIN. FT.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		63	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		188	LIN. FT.
* SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	764	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	764	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		255	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		11	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1518	LIN. FT.
* 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1518	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		110	LIN. FT.
* SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	87	LIN. FT.
* 606	36" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	87	LIN. FT.
SS & 606	12" SIDE DRAIN		500	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN		79	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		7	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		5	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		4	EACH
606	SELECTED PIPE BEDDING		600	CU. YD.
609	DROP INLETS (TYPE E)		1	EACH
609	DROP INLETS (TYPE MO)		68	EACH
609	JUNCTION BOXES (TYPE E)		3	EACH
609	DROP INLET EXTENSIONS (4')		41	EACH
609	DROP INLET EXTENSIONS (8')		17	EACH
609	YARD DRAINS		5	EACH
611	4" PIPE UNDERDRAINS		6764	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)		80.0	CU. YD.
620	LIME		11	TON
620	SEEDING		5.44	ACRE
620	MULCH COVER		38.44	ACRE
SS & 620	WATER		1488.0	M.GAL.
621	TEMPORARY SEEDING		33.00	ACRE
621	SILT FENCE		13244	LIN. FT.
621	SAND BAG DITCH CHECKS		308	BAG
621	DROP INLET SILT FENCE		1570	LIN. FT.
621	SEDIMENT BASIN		16460	CU. YD.
SP	DETENTION BASIN		264	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		16460	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		17027	CU. YD.
621	ROCK DITCH CHECKS		96	CU. YD.
623	SECOND SEEDING APPLICATION		5.44	ACRE
624	SOLID SODDING		20629	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		4189	SQ. YD.
631	CONCRETE BARRIER WALL (PARAPET TYPE A)		252	LIN. FT.

*DENOTES ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES (BOX 2 OF 3)

ITEM NUMBER	ITEM		QUANTITY	UNIT
632	CONCRETE ISLAND		628	SQ. YD.
633	CONCRETE WALKS		6375	SQ. YD.
634	CONCRETE CURB (TYPE D)		999	LIN. FT.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		15008	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		3	EACH
637	MAILBOX SUPPORTS (SINGLE)		3	EACH
641	WHEELCHAIR RAMPS (TYPE 3)		84	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 4)		8	SQ. YD.
SP & 701	ACTUATED CONTROLLER TS 2-TYPE 2 (8 PHASES)		1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (1 SECTION,1 WAY)		4	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)		23	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD		5	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED		4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)		3328	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)		318	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)		650	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)		829	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)		230	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)		20	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES		936	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")		20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")		70	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")		20	LIN. FT.
710	NON-METALLIC CONDUIT (2")		20	LIN. FT.
710	NON-METALLIC CONDUIT (3")		663	LIN. FT.
SS & 711	CONCRETE PULL BOX (TYPE 2)		1	EACH
SS & 711	CONCRETE PULL BOX (TYPE 1 HD)		2	EACH
SS & 711	CONCRETE PULL BOX (TYPE 2 HD)		6	EACH
713	SPAN WIRE ASSEMBLY		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (14')		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30'-42')		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 (38')		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')		1	EACH
SP	LUMINAIRE ASSEMBLY		5	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION		2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)		1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT		1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 40')		4	EACH
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")		602	LIN. FT:
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")		562	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		4450	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")		587	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		841	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")		144	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		19555	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		9	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		9	EACH
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	192	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	192	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	2288	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	2288	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		343	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER		2	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2	EACH
SP	VIDEO DETECTOR ROTATION		2	EACH
733	VIDEO CABLE		2389	LIN. FT.
SP & 733	VIDEO DETECTOR (CLR)		12	EACH
733	VIDEO MONITOR (CLR)		2	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)		8	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)		3	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		1207	CU. YD.
802	CLASS S CONCRETE-ROADWAY		737.42	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		91487	POUND
806	METAL BRIDGE RAILING (TYPE H)		238	LIN. FT.
SP	TRANSITIONAL APPROACH RAILING		2	EACH
816	FILTER BLANKET		25	SQ. YD.
816	DUMPED RIPRAP (GROUTED)		13	CU. YD.
SP	ARCHITECTURAL FINISH		6385	SQ. FT.
SP	TEXTURED COATING FINISH		600	SQ. YD.

*DENOTES ALTERNATE BID ITEMS

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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.		080390	65	263

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

SUMMARY OF QUANTITIES (BOX 3 OF 3)

ITEM NUMBER	ITEM	QUANTITY	UNIT
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	82	CU. YD.
802	CLASS S CONCRETE-BRIDGE	578.60	CU. YD.
802	CLASS S(AE) CONCRETE-BRIDGE	1183.20	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	90.1	GAL.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	89900	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	265520	POUND
805	STEEL PILING (HP 14X73)	1124	LIN. FT.
SP	CORING DRILLED SHAFT	119.0	LIN. FT.
SP	DRILLED SHAFT (54" DIAMETER)	476	LIN. FT.
SP	PERMANENT STEEL CASING (60" DIAMETER)	240	LIN. FT.
SP	CROSSHOLE SONIC LOGGING (54" DIAMETER)	20	EACH
806	METAL BRIDGE RAILING (TYPE H)	1001	LIN. FT.
SP	TRANSITIONAL APPROACH RAILING	8	EACH
807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)	1170430	POUND
808	ELASTOMERIC BEARINGS	31297	CU. IN.
SP	SILICONE JOINT SEALANT	335	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	2	EACH
816	FILTER BLANKET	1873	SQ. YD.
816	DUMPED RIPRAP	1008	CU. YD.

REVISIONS BOX

DATE	REVISION	SHEET NUMBER

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SUMMARY OF QUANTITIES & REVISIONS

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				JOB NO.		080390	66	263

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

SURVEY CONTROL COORDINATES

Project Name: s080390
Date: 1/18/2011
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	458728.0536	1177237.1979	511.693	CTL	5/8" Rebar with 2" Aluminum Cap OLD JOB 080283
2	457447.9030	1177403.1527	511.512	CTL	5/8" Rebar with 2" Aluminum Cap OLD JOB 080283
20	457215.0000	1177468.5199	512.859	CTL	5/8" Rebar with 2" Aluminum Cap
21	458076.2250	1177377.9429	510.005	CTL	5/8" Rebar with 2" Aluminum Cap
22	458923.6721	1177237.9728	514.054	CTL	5/8" Rebar with 2" Aluminum Cap
23	459779.4998	1176721.2390	512.320	CTL	5/8" Rebar with 2" Aluminum Cap
24	460311.8616	1176163.3784	511.753	CTL	5/8" Rebar with 2" Aluminum Cap
25	460870.0062	1175589.0074	517.682	CTL	5/8" Rebar with 2" Aluminum Cap
26	461418.4050	1175042.8730	525.975	CTL	5/8" Rebar with 2" Aluminum Cap
27	461986.4092	1175092.4152	521.022	CTL	5/8" Rebar with 2" Aluminum Cap
28	462541.2980	1175194.3937	523.971	CTL	5/8" Rebar with 2" Aluminum Cap
29	462991.7010	1175706.9913	526.643	CTL	5/8" Rebar with 2" Aluminum Cap
30	463211.6569	1176212.8955	528.096	CTL	5/8" Rebar with 2" Aluminum Cap
31	463846.0487	1176595.7866	569.811	CTL	5/8" Rebar with 2" Aluminum Cap
32	464718.7456	1176764.7513	631.790	CTL	5/8" Rebar with 2" Aluminum Cap
33	465379.6006	1176592.6187	676.120	CTL	5/8" Rebar with 2" Aluminum Cap
34	466074.4435	1176165.1100	717.791	CTL	5/8" Rebar with 2" Aluminum Cap
35	462864.8038	1176415.5371	522.767	CTL	5/8" Rebar with 2" Aluminum Cap
36	462554.1828	1176896.9556	519.986	CTL	5/8" Rebar with 2" Aluminum Cap
37	461899.4513	1177659.0577	514.007	CTL	5/8" Rebar with 2" Aluminum Cap
38	461790.7140	1178266.4236	516.003	CTL	5/8" Rebar with 2" Aluminum Cap
101	459292.4054	1177014.2302	509.014	GPS	AHTD GPS 710008
102	460397.9583	1175977.7282	510.731	GPS	AHTD GPS 710008A
990	458693.9414	1176427.8196	507.980	BM	NGS MARK N 48 1934
1500	460144.7511	1177056.8151	502.821	CTL	5/8" Rebar with 2" Aluminum Cap
1501	460358.1839	1177535.0128	501.311	CTL	5/8" Rebar with 2" Aluminum Cap
1502	461720.1565	1174722.5635	580.355	CTL	5/8" Rebar with 2" Aluminum Cap
1503	461361.6673	1175387.1591	508.913	CTL	5/8" Rebar with 2" Aluminum Cap
1504	461563.1759	1177742.2303	509.558	CTL	5/8" Rebar with 2" Aluminum Cap
1505	461186.3029	1178129.1537	508.085	CTL	5/8" Rebar with 2" Aluminum Cap

*Note - Rebar and Cap - Standard -⅝" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999044368 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 s080390gi.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: 710008-710008A
CONVERGENCE ANGLE: 0-16-04 LEFT AT LT: 35-35-54.7 LG: 092-27-37.3
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 65 - CONST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	418+94.82	457796.9681	1177389.5200
8001	PC	425+12.98	458409.4606	1177305.9693
8003	PT	442+13.12	459897.7084	1176551.1226
8004	PI	443+88.83	460019.7181	1176424.6856
8005	PI	453+47.20	460685.6501	1175735.4709
8006	PC	459+05.35	461073.8150	1175334.3975
8008	PT	477+19.22	462670.9904	1175423.3712
8009	PC	486+63.47	463248.2437	1176170.6260
8011	PT	493+92.53	463852.2242	1176551.9281
8012	PC	501+10.99	464554.4233	1176703.9506
8016	PT	509+52.79	465363.3271	1176563.0436
8017	POE	511+77.10	465553.5966	1176444.2483

HWY. 65B - CONST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8013	POB	500+00.00	461289.8334	1174867.4586
8014	PC	500+37.76	461326.7914	1174875.2113
8019	PT	502+24.20	461479.9933	1174974.0258
8020	POE	503+23.65	461538.7315	1175054.2710

HWY. 16 W - CONST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8021	POB	700+00.00	462498.7790	1174495.8369
8022	PC	701+70.32	462560.4276	1174654.6084
8024	PT	706+08.86	462522.8600	1175076.2234
8025	POE	707+60.64	462443.7722	1175205.7690

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		080390	67	263

(2) SURVEY CONTROL DETAILS

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No. 11425
TRINITY D. SMITH
9-20-13

STA. 421+50.00
BEGIN JOB 080390
LOG MILE 0.85

POB 418+94.82

N 7°46'04" W
618.16'

PI = 433+96.10
Δ = 38°15'11" LT.
D = 2°15'00"
T = 883.12'
L = 1700.14'
PC = 425+12.98
PT = 442+13.12
e = 0.024'/'
Ls = 450'

P.C. 425+12.98

8001

C.L. CONST.

PK N:1 PD: REBAR/CAP

PK N:2 PD: REBAR/CAP

PK N:3 PD: REBAR/CAP OLD JOB 080283

PK N:4 PD: AHTD ALUM CAP SE COR BR

PK N:5 PD: REBAR/CAP

PK N:101 PD: AHTD GPS 710008

SURVEY BASELINE

N 46°01' 15" W
175.71'

P.I. 433+96.10

P.T. 442+13.12

8003

N 46°01' 15" W
175.71'

8004

P.I. 443+88.83
Δ = 00°02'12" RT.

N 46°20' 23" W

PK N:23 PD: REBAR/CAP

PK N:24 PD: REBAR/CAP

PK N:102 PD: AHTD GPS 710084

N 45°59' 03" W
958.37'

SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		080390	68	263

(2) SURVEY CONTROL DETAILS

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N

PI = 501+35.38
Δ = 41° 56' 58" RT.
D = 22°30'00"
T = 97.62'
L = 186.44'
PC = 500+37.76
PT = 502+24.20
NO SUPER

N 11°50'50" E 37.76'
POB 500+00.00
500
8013
8014
P.C. 500+37.76
HWY. 65B
P.I. 501+35.38
P.T. 502+24.20
8016
N 53°47'47" E 99.45'
POE 503+23.65
465
8019
8020
N 4°59'05" E
8018
PK:26 PK:REBAR/CAP
C.L. CONST.
460
8006
P.C. 459+05.35
SURVEY BASELINE
N 45°56'13" W 558.15'
455
8005
PK:25 PK:REBAR/CAP
PK:914 PK:CHSLD SQ SW COR CONC SLAB
958.37'
C.L. CONST.
N 45°59'03" W 958.37'
450
SURVEY BASELINE
P.I. 453+47.20 Δ = 00°02'50" RT.

PI = 471+27.57
Δ = 98°15'04" RT.
D = 5°25'00"
T = 1222.22'
L = 1813.86'
PC = 459+05.35
PT = 477+19.22
e = 0.036'/'
Ls = 450'

PK: 1533 PK: REBAR ALUM CAP

STA. 464+54.28 HWY. 65 =
STA. 503+23.65 HWY. 65B
Δ = 70° 32' 59"

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SURVEY CONTROL DETAILS

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(2) SURVEY CONTROL DETAILS

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N 68°46'46" E
170.32'
8022
P.C. 701+70.32
CONSTRUCT HWY. 16 W
P.I. 704+06.43
PI = 704+06.43
Δ = 52° 37' 28" RT.
D = 12°00'00"
T = 236.11'
L = 438.54'
PC = 701+70.32
PT = 706+08.86
e = 0.094'/'
Ls = 300'
705
P.T. 706+08.86
8024
S 58°35'45" E
151.78'
STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY. 16W
Δ = 86° 56' 55"
P.I. 471+27.57
N 45°56'13" W
558.15'
N 52°18'50" E
944.25'
PK NAIL: 1502
PD: RBR ALUM CAP
470
8026
POE 707+60.64
475
PK NAIL: 28
PD: REBAR
SURVEY BASELINE
SURVEY BASELINE
PK NAIL: 27
PD: REBAR/CAP
PI = 471+27.57
Δ = 98°15'04" RT.
D = 5°25'00"
T = 1222.22'
L = 1813.86'
PC = 459+05.35
PT = 477+19.22
e = 0.036'/'
Ls = 450'
8008
C.L. CONST.
944.25'
P.T. 477+19.22
PK NAIL: 1503
PD: SPIKE
POE 503+23.65
465
503
C.L. CONST.
SURVEY BASELINE
8019
N 53°47'47" E
99.45'
8020
+22+24.20
PK NAIL: 26
PD: REBAR/CAP

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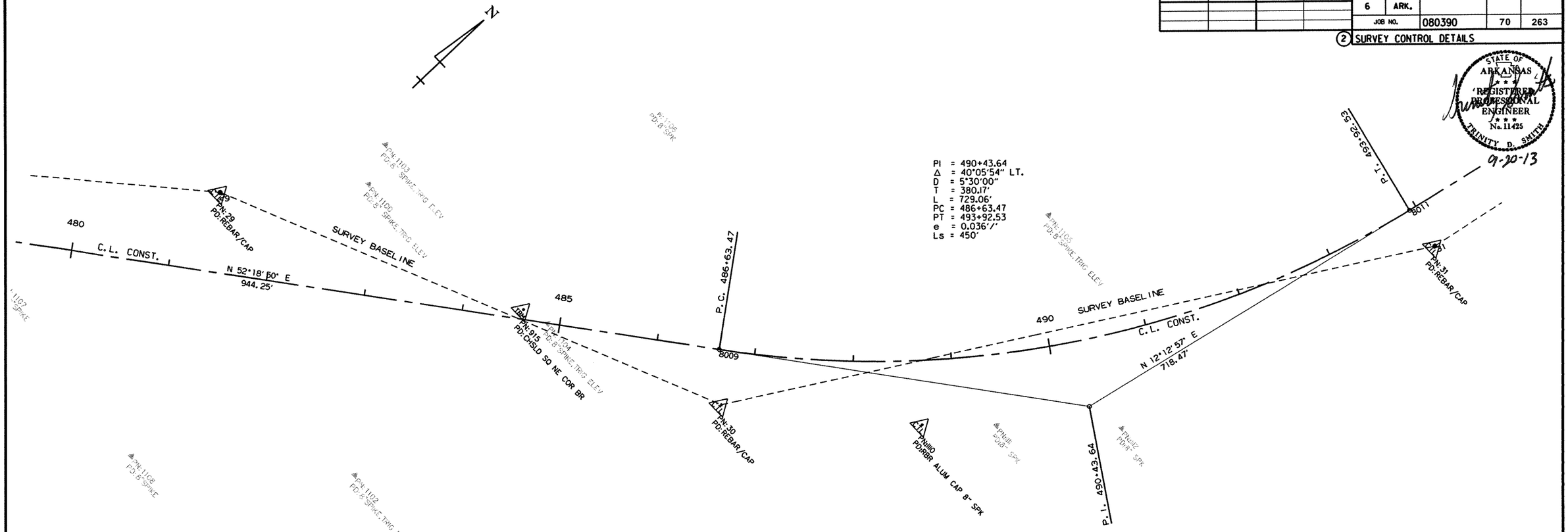
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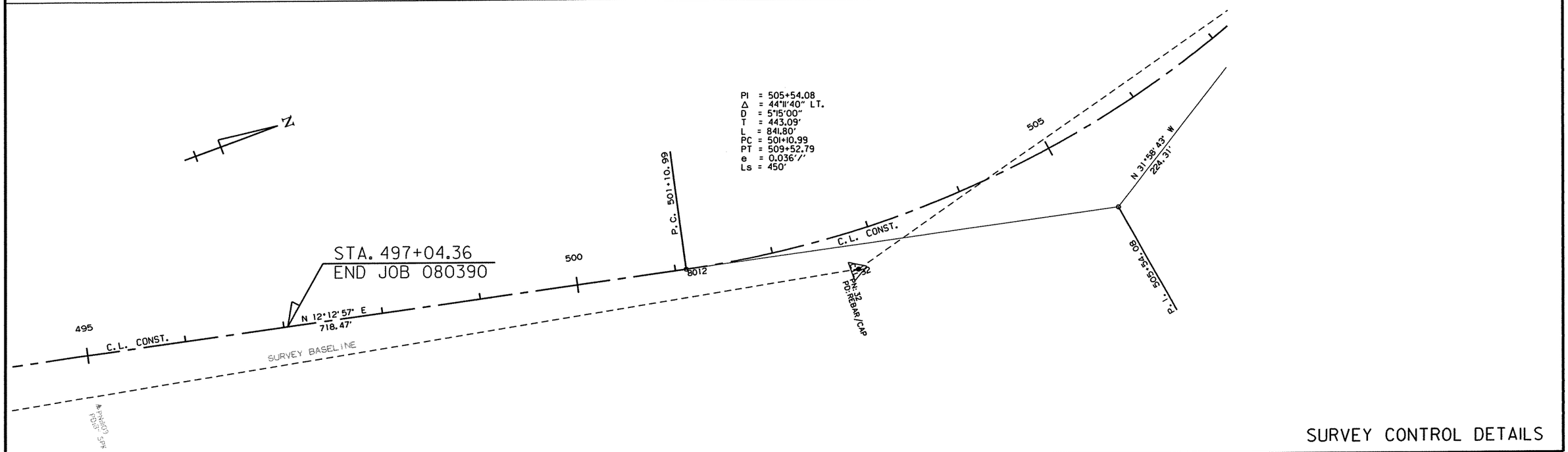
SURVEY CONTROL DETAILS

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				JOB NO.		080390	70	263

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
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(2) PLAN SHEET

STA. 422+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 48' PIPE OUTLET
CONNECT TO EXISTING D.I. @ STA. 421+45 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 7"

STA. 423+24 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 120' PIPE OUTLET
CONNECT TO D.I. @ STA. 422+00 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 8"

STA. 425+85 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 256' PIPE OUTLET
CONNECT TO D.I. @ 423+24 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 2"

STA. 427+65 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 174' PIPE OUTLET
CONNECT TO D.I. @ 425+85 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 6"

STA. 429+08 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 137' PIPE OUTLET
CONNECT TO D.I. @ 427+65 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 7"

STA. 430+75 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 36" x 16' R.C. STUB OUTLET
TY MO = 5' I.D.
H = 14' 11"

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STA. 424+24 - INSTALL
30" x 79' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS

STA. 426+93 CONSTRUCT
APPROACH ON RT. = 195 CU. YDS.

STA. 426+39 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 427+53 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 427+77 - STA. 429+33 &
STA. 430+29 - STA. 432+82
CONSTRUCT RETAINING WALLS.
REFER TO SPECIAL DETAILS.

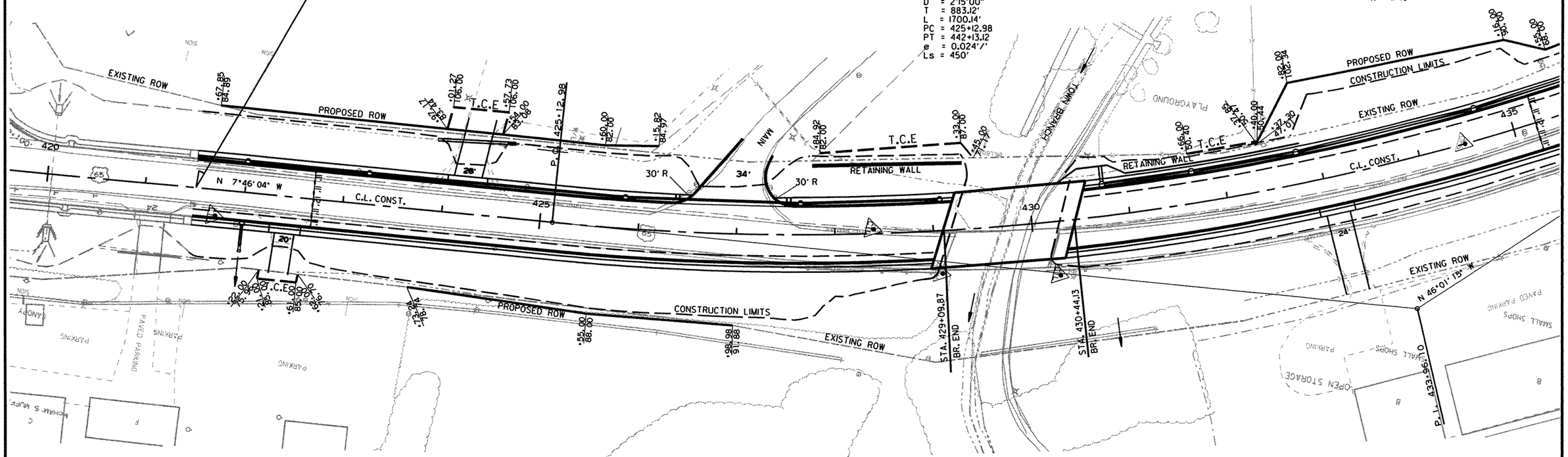
STA. 431+68 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 36" x 87' PIPE OUTLET
CONNECT TO D.I. @ 430+75 LT.
TY MO = 5' I.D.
H = 14' 1"

STA. 432+77 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 103' PIPE OUTLET
CONNECT TO D.I. @ 431+68 LT.
TY MO = 5' I.D.
H = 13' 2"

STA. 434+66 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 182' PIPE OUTLET
CONNECT TO D.I. @ STA. 432+77 LT.
TY MO = 5' I.D.
H = 11' 10"

STA. 421+50.00
BEGIN JOB 080390
END JOB 080283
LOG MILE 0.85

PI = 433+96.10
Δ = 38°15'11" LT.
D = 2°15'00"
T = 883.12'
L = 1700.14'
PC = 425+12.98
PT = 442+13.12
e = 0.024'/'
Ls = 450'



STA. 422+00 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 20' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 422+45 CONSTRUCT
APPROACH ON RT. = 70 CU. YDS.

STA. 429+09.87 - BRIDGE END
BRIDGE NO. 07290
132'-0" CONT. COMPOSITE W-BEAM UNITS (41'-50'-41')
58'-0" CLEAR ROADWAY
134'-3 1/8" BRIDGE LENGTH
STA. 430+44.13 - BRIDGE END

STA. 429+15 - STA. 430+20 IN PLACE
106' x 42' BRIDGE CONSISTING OF THREE
R.C. SLAB SPANS WITH ASPHALT OVERLAY ON
CONCRETE COLUMN BENTS.
REMOVE AS EXISTING BRIDGE
STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM.

STA. 433+08 CONSTRUCT
APPROACH ON RT. = 80 CU. YDS.

LIMITS OF SPECIAL
FLOOD HAZARD AREA
STA. 421+50 TO STA. 485+25.

HWY. 65

1/8/2013

R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

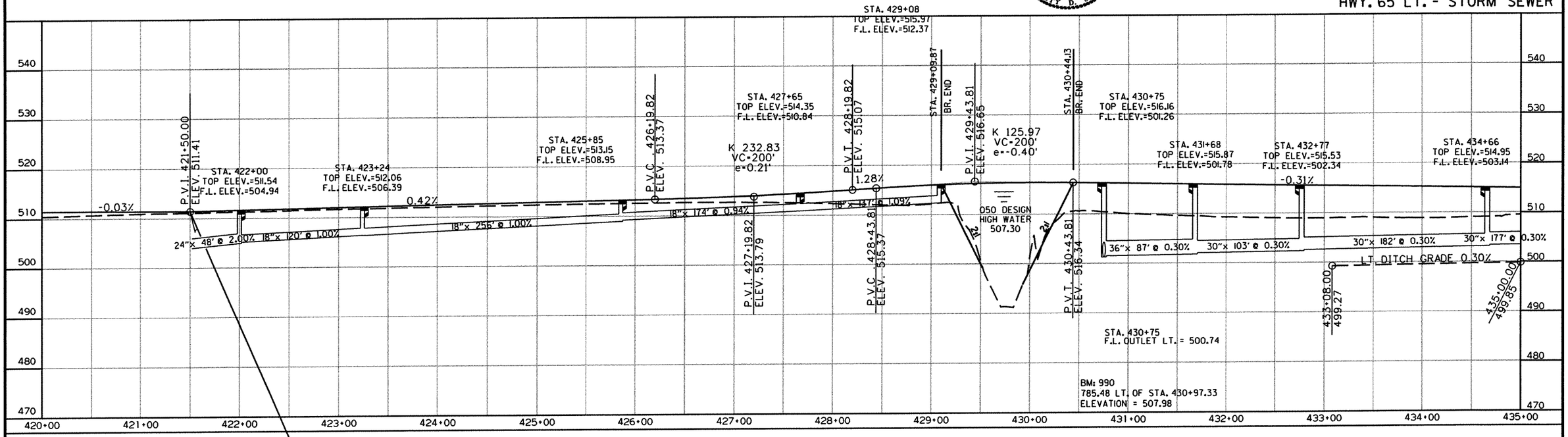
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11495
9-20-13
TRINITY D. SMITH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080390		72	263

(2) PROFILE SHEET

HWY. 65 LT. - STORM SEWER

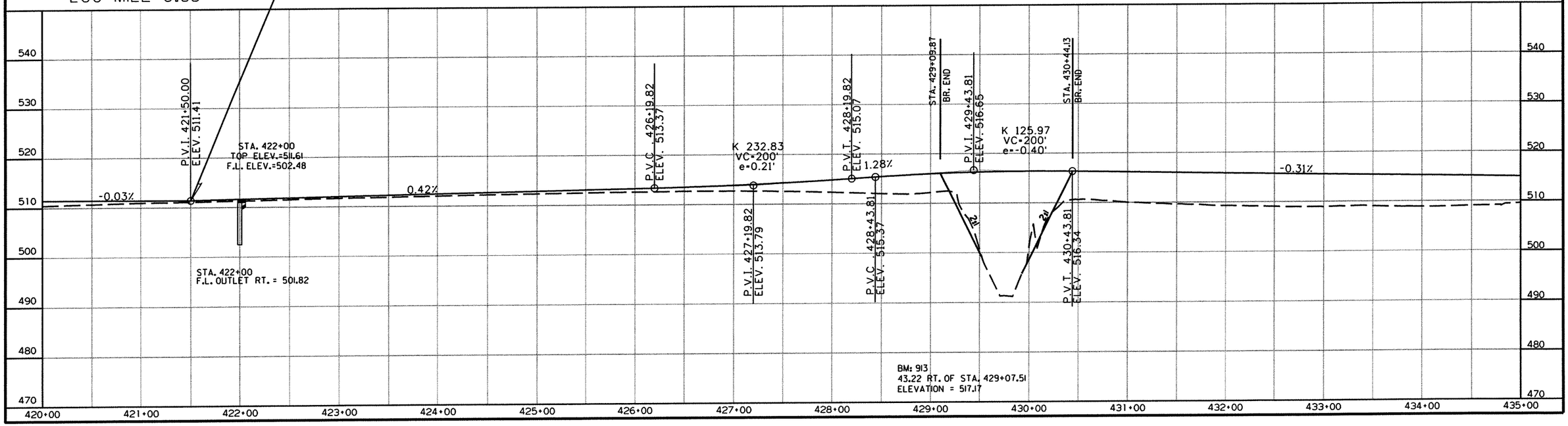


STA. 421+50.00
BEGIN JOB 080390
END JOB 080283
LOG MILE 0.85

STA. 421+75.48 BEGIN SUPERELEVATION
STA. 426+25.48 MAX SUPERELEVATION 0.024 '/'
STA. 441+00.62 MAX SUPERELEVATION 0.024 '/'
STA. 445+50.62 END SUPERELEVATION

TOWN BRANCH:
THIS STREAM IS CLASSIFIED AS PERENNIAL.
THE TOP OF CHANNEL ELEVATION IS 494 FT. MSL.
REFER TO SECTION 110.06(c) TEMPORARY FILL OF THE 2003 STANDARD SPECIFICATIONS.

HWY. 65 RT. - STORM SEWER



R080390.DGN 1/8/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	73	263

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
1-20-13

STA. 436+50 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 177' PIPE OUTLET
CONNECT TO D.I. @ STA. 434+66 LT.
TY MO = 5' I.D.
H = 10' 5"

STA. 437+94 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 137' PIPE OUTLET
CONNECT TO D.I. @ STA. 436+50 LT.
TY C = 4' x 5'
TY MO = 5' I.D.
H = 9' 4"

STA. 438+93 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 93' PIPE OUTLET
CONNECT TO D.I. @ STA. 437+94 LT.
TY C = 4' x 5'
TY MO = 5' I.D.
H = 8' 6"

STA. 439+94 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 95' PIPE OUTLET
CONNECT TO D.I. @ STA. 438+93 LT.
TY C = 4' x 5'
TY MO = 5' I.D.
H = 7' 8"

STA. 440+72 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 30" x 72' PIPE OUTLET
CONNECT TO D.I. @ STA. 439+94 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 11"

STA. 441+73 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 30" x 95' PIPE OUTLET
CONNECT TO D.I. @ STA. 440+72 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 2"

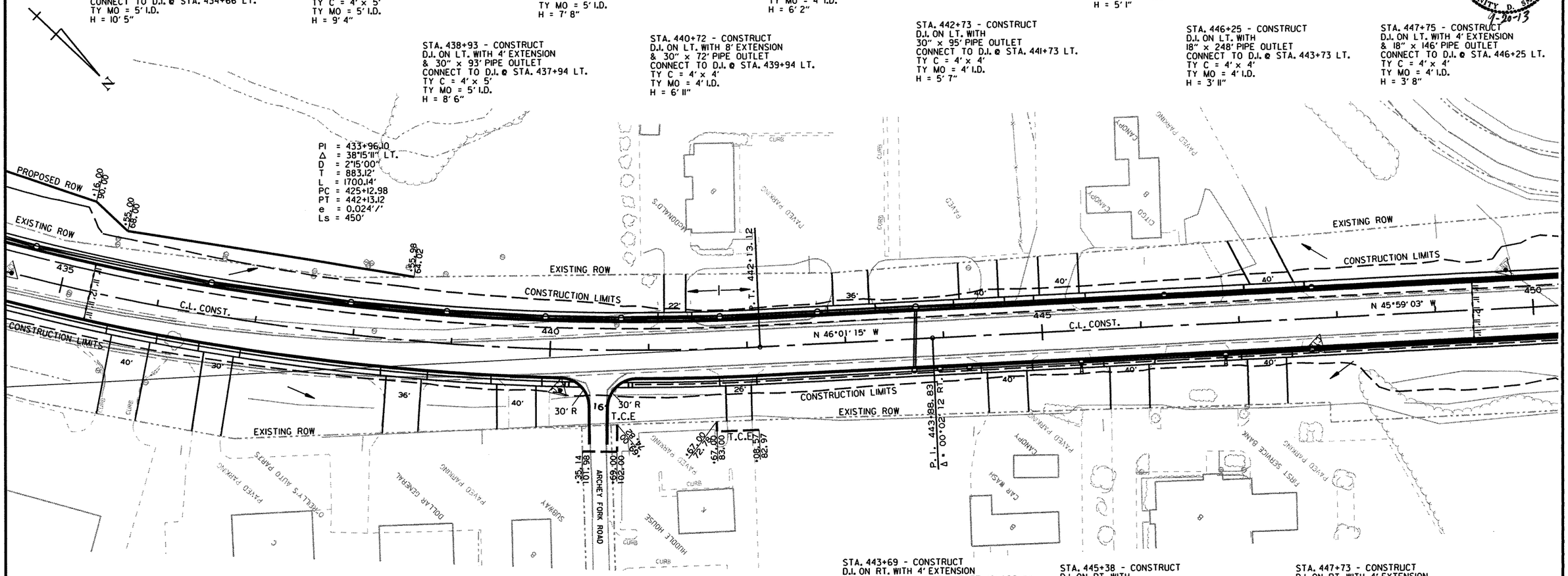
STA. 442+73 - CONSTRUCT
D.I. ON LT. WITH
30" x 95' PIPE OUTLET
CONNECT TO D.I. @ STA. 441+73 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 7"

STA. 443+73 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 30" x 95' PIPE OUTLET
CONNECT TO D.I. @ STA. 442+73 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 446+25 - CONSTRUCT
D.I. ON LT. WITH
18" x 248' PIPE OUTLET
CONNECT TO D.I. @ STA. 443+73 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 11"

STA. 447+75 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 146' PIPE OUTLET
CONNECT TO D.I. @ STA. 446+25 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

PI = 433+96.10
Δ = 38°15'11" LT.
D = 2°15'00"
T = 883.12'
L = 1700.14'
PC = 425+12.98
PT = 442+13.12
e = 0.024'/'
Ls = 450'



STA. 443+69 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" x 59' R.C. PIPE OUTLET (CLASS IV)
CONNECT TO D.I. @ STA. 443+73 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 3"

STA. 443+95 - CONSTRUCT
D.I. ON RT. WITH
24" x 22' PIPE OUTLET
CONNECT TO D.I. @ STA. 443+69 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 11"

STA. 444+25 - CONSTRUCT
D.I. ON RT. WITH
24" x 26' PIPE OUTLET
CONNECT TO D.I. @ STA. 443+95 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 445+38 - CONSTRUCT
D.I. ON RT. WITH
18" x 4' R.C. STUB INLET
WITH FES.
& 24" x 109' PIPE OUTLET
CONNECT TO D.I. @ STA. 444+25 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'11"

STA. 446+85 - CONSTRUCT
D.I. ON RT. WITH
18" x 3' R.C. STUB INLET
WITH FES.
& 24" x 143' PIPE OUTLET
CONNECT TO D.I. @ STA. 445+38 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'8"

STA. 447+73 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 84' PIPE OUTLET
CONNECT TO D.I. @ STA. 446+85 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 7"

STA. 440+18 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

STA. 440+82 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

LIMITS OF SPECIAL
FLOOD HAZARD AREA
STA. 421+50 TO STA. 485+25.

STA. 435+79 CONSTRUCT
APPROACH ON RT. = 65 CU. YDS.

STA. 436+68 CONSTRUCT
APPROACH ON RT. = 50 CU. YDS.

STA. 438+55 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 439+67 CONSTRUCT
APPROACH ON RT. = 40 CU. YDS.

STA. 440+50 CONSTRUCT
APPROACH ON RT. = 80 CU. YDS.

STA. 441+90 CONSTRUCT
APPROACH ON RT. = 40 CU. YDS.

STA. 444+61 CONSTRUCT
APPROACH ON RT. = 45 CU. YDS.

STA. 445+85 CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.

STA. 447+27 CONSTRUCT
APPROACH ON RT. = 75 CU. YDS.

1/8/2013

R080390.DGN

HWY. 65

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

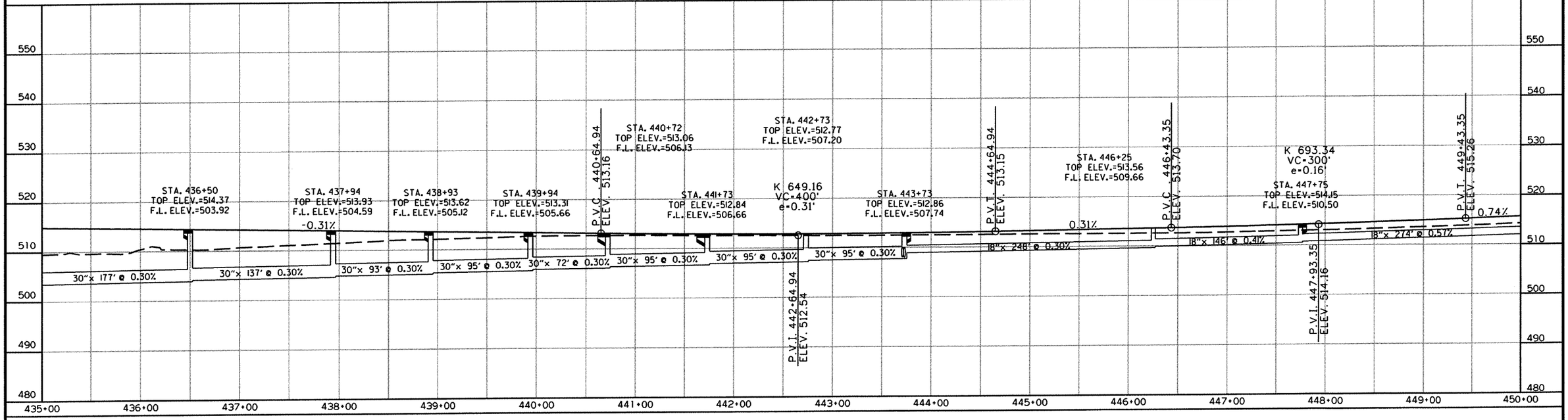
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
9-27-13
TRINITY D. SMITH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	74	263

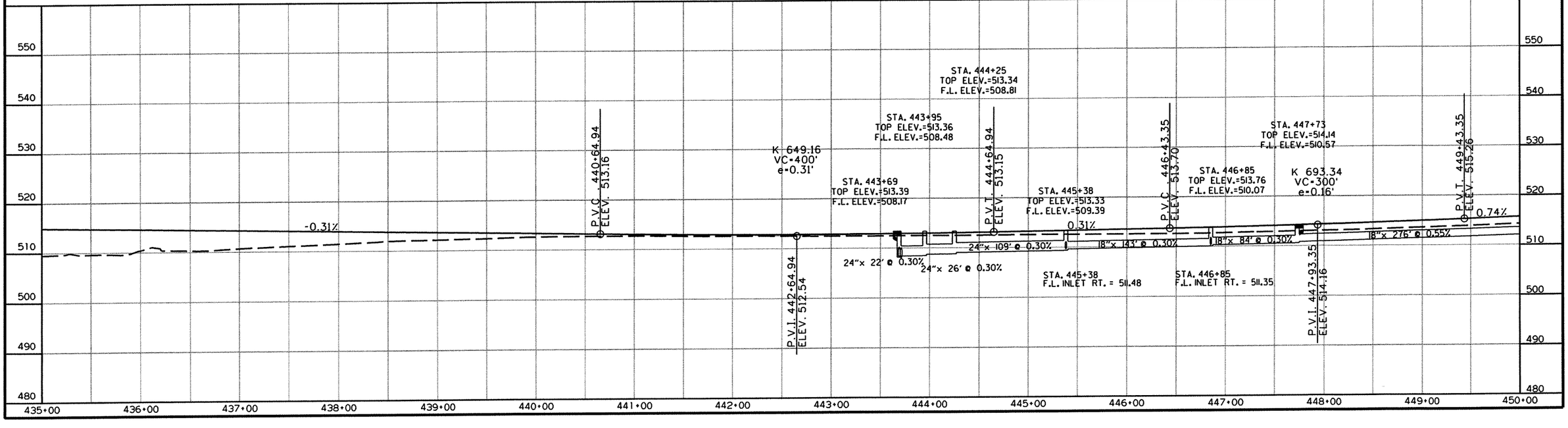
(2) PROFILE SHEET

HWY. 65 LT. - STORM SEWER



STA. 421+75.48 BEGIN SUPERELEVATION
STA. 426+25.48 MAX SUPERELEVATION 0.024 '/'
STA. 441+00.62 MAX SUPERELEVATION 0.024 '/'
STA. 445+50.62 END SUPERELEVATION

HWY. 65 RT. - STORM SEWER



R080390.DGN 1/8/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	75	263

(2) PLAN SHEET

STA. 451+28 CONSTRUCT
APPROACH ON LT. = 260 CU. YDS.

STA. 455+32 CONSTRUCT
APPROACH ON LT. = 380 CU. YDS.

STA. 459+22 CONSTRUCT
APPROACH ON LT. = 335 CU. YDS.

STA. 461+39 CONSTRUCT
APPROACH ON LT. = 140 CU. YDS.

STA. 462+69 CONSTRUCT
APPROACH ON LT. = 130 CU. YDS.

STA. 450+53 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 274' PIPE OUTLET
CONNECT TO D.I. @ STA. 447+75 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 452+13 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 59' R.C. PIPE OUTLET (CLASS IV)
CONNECT TO D.I. @ STA. 452+13 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 6"

STA. 453+53 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 136' PIPE OUTLET
CONNECT TO D.I. @ STA. 452+13 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 11"

STA. 456+09 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 252' PIPE OUTLET
CONNECT TO D.I. @ STA. 453+53 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 10"

STA. 463+63 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 2.9 SQ. YDS.

STA. 464+18 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT. = 2.7 SQ. YDS.

STA. 464+21 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT. = 2.7 SQ. YDS.

STA. 464+28 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT. = 2.7 SQ. YDS.

STA. 464+82 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 3.1 SQ. YDS.

REFER TO SHEET 83
FOR INTERSECTION DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

STA. 450+76 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

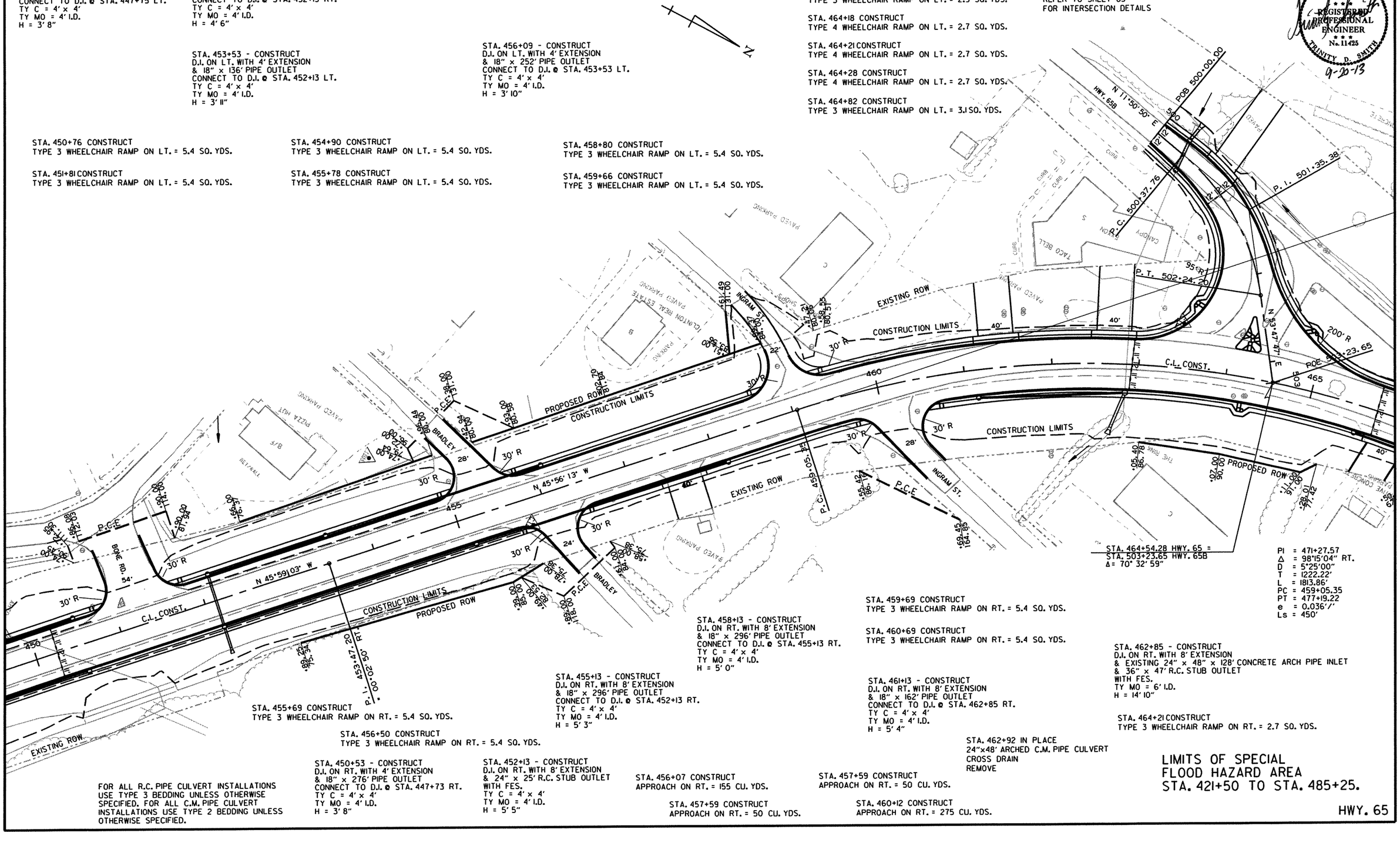
STA. 451+81 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 454+90 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 455+78 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 458+80 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.

STA. 459+66 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 5.4 SQ. YDS.



STA. 464+54.28 HWY. 65 =
STA. 503+23.65 HWY. 65B
Δ = 70° 32' 59"

PI = 471+27.57
Δ = 98°15'04" RT.
D = 5°25'00"
T = 1222.22'
L = 1813.86'
PC = 459+05.35
PT = 477+19.22
e = 0.036'/'
Ls = 450'

STA. 455+69 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

STA. 456+50 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

STA. 458+13 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 455+13 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 459+69 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

STA. 460+69 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.4 SQ. YDS.

STA. 462+85 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& EXISTING 24" x 48" x 128' CONCRETE ARCH PIPE INLET
& 36" x 47' R.C. STUB OUTLET
WITH FES.
TY MO = 6' I.D.
H = 14' 10"

STA. 455+13 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 296' PIPE OUTLET
CONNECT TO D.I. @ STA. 452+13 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 3"

STA. 461+13 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 162' PIPE OUTLET
CONNECT TO D.I. @ STA. 462+85 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 4"

STA. 464+21 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 2.7 SQ. YDS.

STA. 462+92 IN PLACE
24"x48' ARCHED C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 450+53 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 276' PIPE OUTLET
CONNECT TO D.I. @ STA. 447+73 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 452+13 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 24" x 25' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 5"

STA. 456+07 CONSTRUCT
APPROACH ON RT. = 155 CU. YDS.

STA. 457+59 CONSTRUCT
APPROACH ON RT. = 50 CU. YDS.

STA. 457+59 CONSTRUCT
APPROACH ON RT. = 50 CU. YDS.

STA. 460+12 CONSTRUCT
APPROACH ON RT. = 275 CU. YDS.

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

LIMITS OF SPECIAL
FLOOD HAZARD AREA
STA. 421+50 TO STA. 485+25.

HWY. 65

1/8/2013

R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

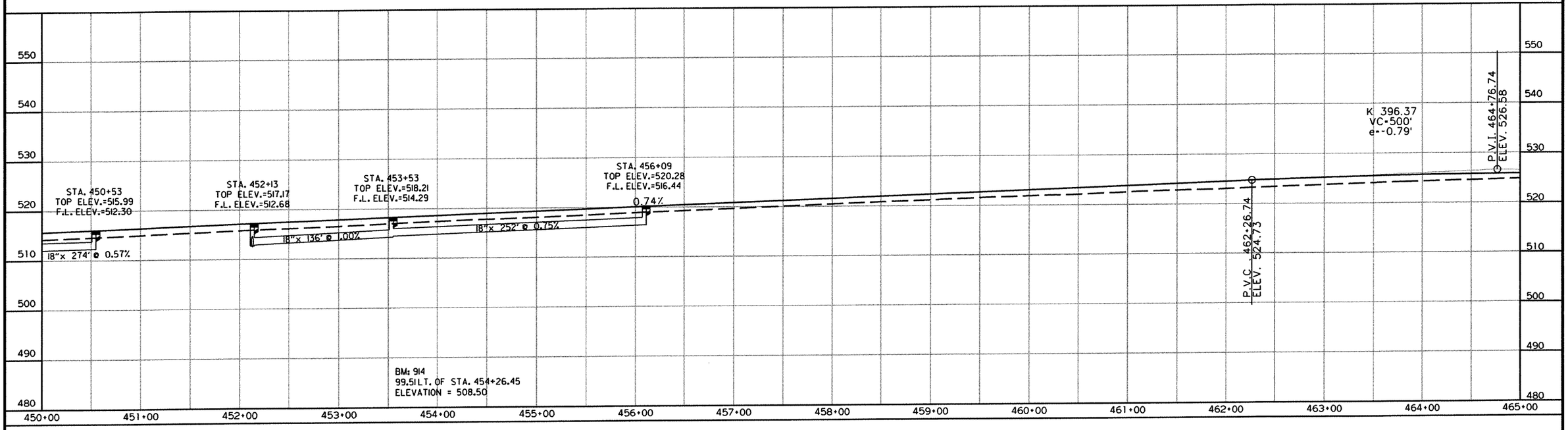
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
5-20-13
TRINITY D. SMITH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	76	263

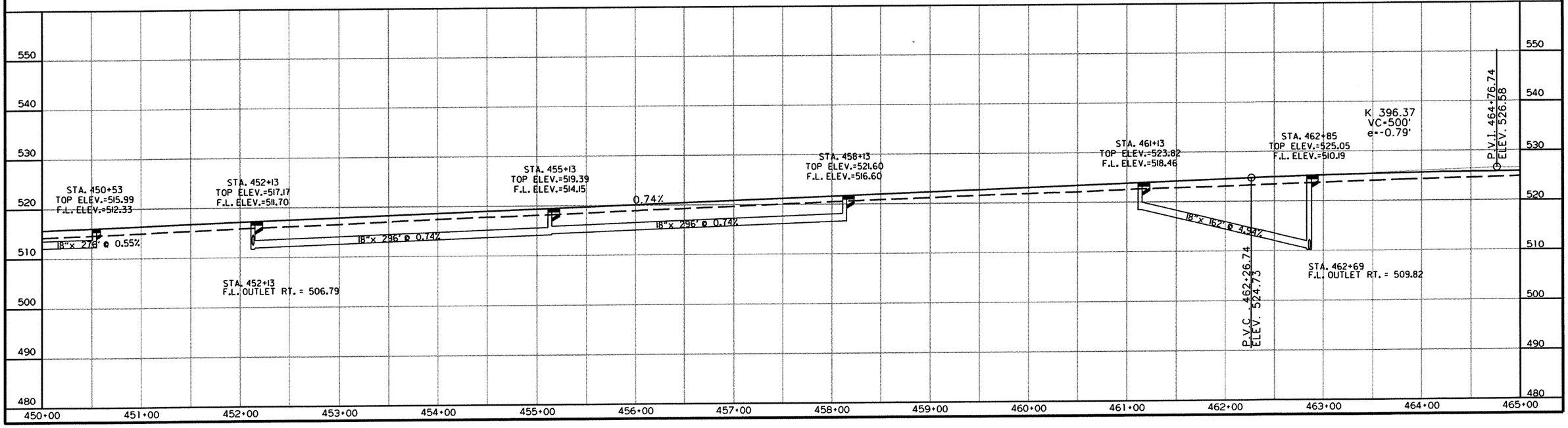
(2) PROFILE SHEET

HWY. 65 LT. - STORM SEWER



STA. 455+67.85 BEGIN SUPERELEVATION
STA. 460+17.85 MAX SUPERELEVATION 0.036 '/'
STA. 475+39.22 MAX SUPERELEVATION 0.036 '/'
STA. 479+89.22 END SUPERELEVATION

HWY. 65 RT. - STORM SEWER



R080390.DGN 1/8/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	77	263

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

STA. 474+00 IN PLACE
24"x131' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 468+59 CONSTRUCT
APPROACH ON RT. = 110 CU. YDS.

STA. 470+14 CONSTRUCT
APPROACH ON LT. = 195 CU. YDS.

STA. 470+93 CONSTRUCT
APPROACH ON LT. = 125 CU. YDS.

STA. 471+51 CONSTRUCT
APPROACH ON LT. = 80 CU. YDS.

STA. 469+30 - CONSTRUCT
JUNCTION BOX ON LT. WITH
18" x 6' R.C. STUB INLET WITH FES.
& 30" x 120' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 470+52 LT.
TY E = 4' x 4'
H = 7' 10"

STA. 472+03 IN PLACE
4' x 6' x 102' R.C. BOX CULVERT
RETAIN AND EXTEND 4' LT. AND 10' RT.
TO A COMPLETED LENGTH OF 116'
WITH 31 WINGS LT. AND RT.
Q50 = 132 CFS, D.A. = 82.59 ACRES

STA. 470+52 - CONSTRUCT
JUNCTION BOX ON LT. WITH
18" x 22' R.C. STUB INLET WITH FES.
& 30" x 70' PIPE OUTLET
CONNECT TO D.I. @ STA. 471+24 LT.
TY E = 4' x 4'
H = 9' 2"

STA. 468+20 - CONSTRUCT
JUNCTION BOX ON LT. WITH
30" x 11' R.C. STUB INLET WITH FES.
& 30" x 107' PIPE OUTLET
CONNECT TO JUNCTION BOX @ STA. 469+30 LT.
TY E = 4' x 4'
H = 6' 4"

STA. 471+24 - CONSTRUCT
D.I. ON LT. WITH
30" x 77' PIPE OUTLET
CONNECT TO R.C. BOX CULVERT
TY E = 4' x 4'
H = 8' 7"

REFER TO SHEET 85
FOR INTERSECTION DETAILS

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

STA. 479+23 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 59' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 479+23 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 478+88 CONSTRUCT
APPROACH ON LT. = 65 CU. YDS.

STA. 465+60 - CONSTRUCT
D.I. ON RT. WITH
18" x 80' PIPE OUTLET
CONNECT TO D.I. @ STA. 466+47 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 466+47 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 65' PIPE OUTLET
CONNECT TO D.I. @ STA. 467+18 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 8"

STA. 467+18 - CONSTRUCT
D.I. ON RT. WITH
18" x 174' PIPE OUTLET
CONNECT TO D.I. @ STA. 469+03 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 4"

STA. 469+03 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 144' PIPE OUTLET
CONNECT TO D.I. @ STA. 470+55 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 7"

STA. 470+55 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 140' PIPE OUTLET
STUB OUT TO R.C. BOX CULVERT
TY C = 4' x 4'
TY MO = 4' I.D.
H = 7' 8"

STA. 472+03 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
ON TOP OF EXIST. BOX CULVERT
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 5"

STA. 472+80 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" x 71' PIPE OUTLET
STUB OUT TO R.C. BOX CULVERT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 7' 8"

STA. 473+29 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 472+80 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 7' 1"

STA. 474+68 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" x 131' PIPE OUTLET
CONNECT TO D.I. @ STA. 473+29 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 8"

STA. 475+93 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 117' PIPE OUTLET
CONNECT TO D.I. @ STA. 474+68 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 3"

STA. 478+03 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 202' PIPE OUTLET
CONNECT TO D.I. @ STA. 475+93 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 10"

STA. 479+23 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 116' PIPE OUTLET
CONNECT TO D.I. @ STA. 478+03 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 6"

STA. 465+98 CONSTRUCT
APPROACH ON RT. = 100 CU. YDS.

STA. 466+81 CONSTRUCT
APPROACH ON RT. = 65 CU. YDS.

STA. 469+51 CONSTRUCT
APPROACH ON RT. = 115 CU. YDS.

STA. 477+51 CONSTRUCT
APPROACH ON RT. = 415 CU. YDS.

PI = 471+27.57
Δ = 98°15'04" RT.
D = 5°25'00"
T = 1222.22'
L = 1813.86'
PC = 459+05.35
PT = 477+19.22
e = 0.036'/'
Ls = 450'

STA. 474+03.44 HWY. 65 =
STA. 707+60.64 HWY. 16W
Δ = 86° 56' 55"

LIMITS OF SPECIAL FLOOD HAZARD AREA
STA. 421+50 TO STA. 485+25.

HWY. 65

1/8/2013

R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

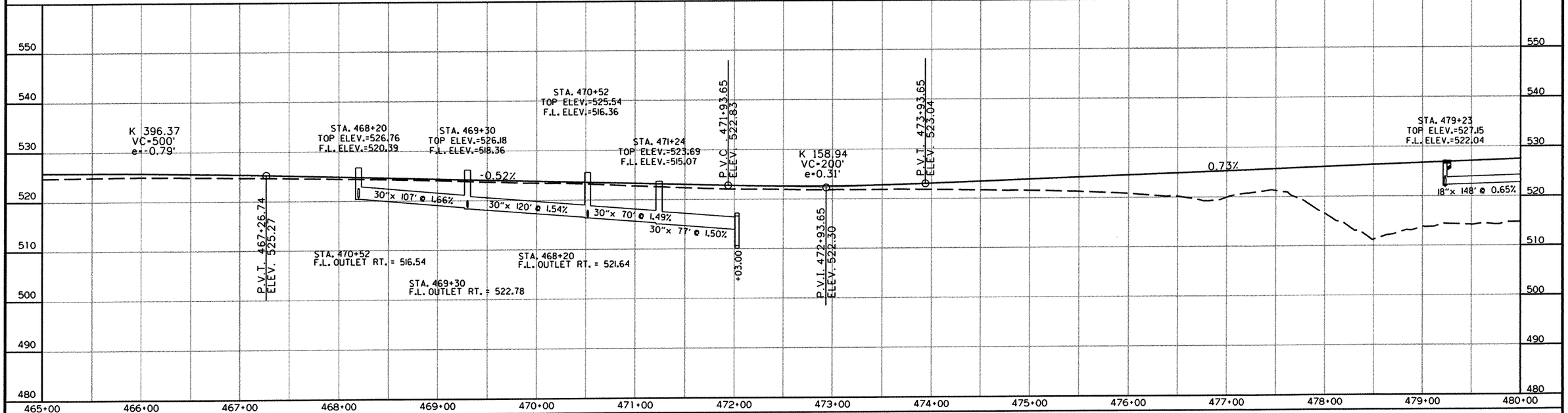
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-10-13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	78	263

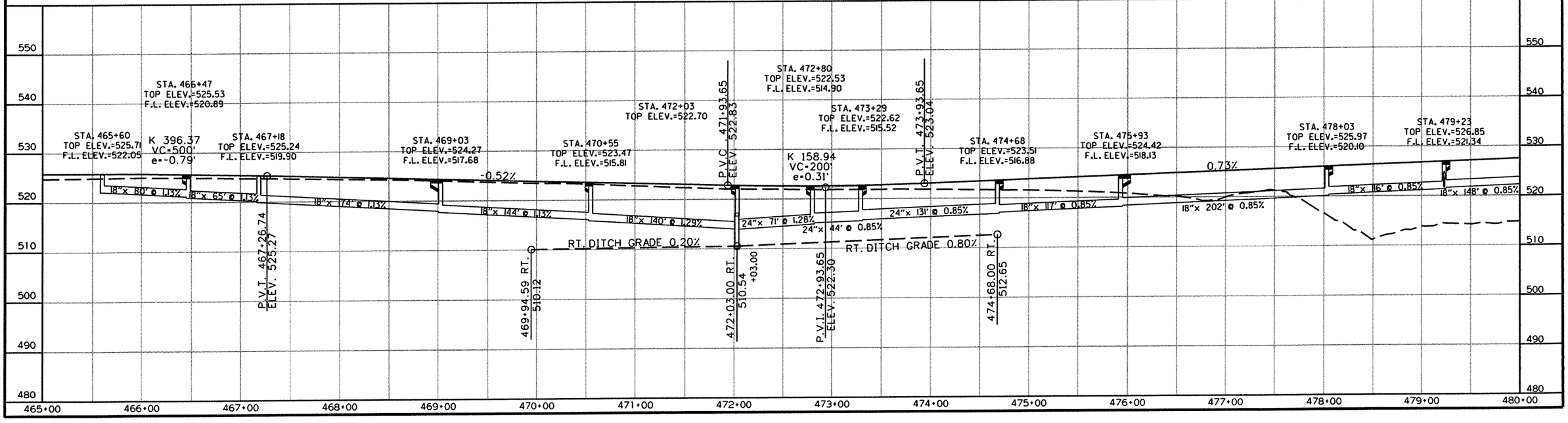
(2) PROFILE SHEET

HWY. 65 LT. - STORM SEWER



STA. 455+67.85 BEGIN SUPERELEVATION
STA. 460+17.85 MAX SUPERELEVATION 0.036 '/'
STA. 475+39.22 MAX SUPERELEVATION 0.036 '/'
STA. 479+89.22 END SUPERELEVATION

HWY. 65 RT. - STORM SEWER



R080390.DGN 1/8/2013

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				6	ARK.			
				JOB NO.		080390	79	263

(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-10-13

STA. 481+03 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 176' PIPE OUTLET
CONNECT TO D.I. @ STA. 479+23 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 9"

STA. 481+44 - STA. 484+68 IN PLACE
323' x 40' BRIDGE CONSISTING OF THREE
R.C. SLAB SPANS WITH ASPHALT OVERLAY ON
CONCRETE COLUMN BENTS.
REMOVE AS EXISTING BRIDGE
STRUCTURE (SITE NO. 2) = 1.00 LUMP SUM.

STA. 485+10 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 12' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 2"

STA. 485+10 LT. - CONSTRUCT
PERMANENT SEDIMENT BASIN.
REFER TO SPECIAL DETAILS.

STA. 486+69 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 155' PIPE OUTLET
CONNECT TO D.I. @ STA. 485+10 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 11"

STA. 488+19 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 141' PIPE OUTLET
CONNECT TO D.I. @ STA. 486+69 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 5"

STA. 489+94 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 166' PIPE OUTLET
CONNECT TO D.I. @ STA. 488+19 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 4"

STA. 491+19 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 117' PIPE OUTLET
CONNECT TO D.I. @ STA. 489+94 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 5"

STA. 492+43 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 116' PIPE OUTLET
CONNECT TO D.I. @ STA. 491+19 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 7"

STA. 493+43 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 18" x 93' PIPE OUTLET
CONNECT TO D.I. @ STA. 492+43 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 8"

STA. 493+85 CONSTRUCT
APPROACH ON LT. = 80 CU. YDS.

STA. 494+19 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 5' R.C. STUB INLET
WITH FES.
& 24" x 87' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 8"

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
488+00	493+69	LT.	9'	569
494+01	497+04	LT.	9'	303

PI = 490+43.64
Δ = 40°05'54" LT.
D = 5°30'00"
T = 380.17'
L = 729.06'
PC = 486+63.47
PT = 493+92.53
e = 0.036'/'
Ls = 450'

STA. 494+14 INSTALL ON RT.
GROUTED RIPRAP = 3 CU. YDS.

STA. 494+24 IN PLACE
24"x102' R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 480+82 - CONSTRUCT
D.I. ON RT. WITH 8' EXTENSION
& 18" x 155' PIPE OUTLET
CONNECT TO D.I. @ STA. 479+23 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 1"

STA. 484+87 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 63' PIPE OUTLET (CLASS IV)
CONNECT TO D.I. @ STA. 485+10 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4' 7"

STA. 481+07.85 - BRIDGE END
BRIDGE NO. 07029I
374'-0" CONT. COMPOSITE W-BEAM UNITS (84'-103'-103'-84')
58'-0" CLEAR ROADWAY
376'-3⅝" BRIDGE LENGTH
STA. 484+84.15 - BRIDGE END

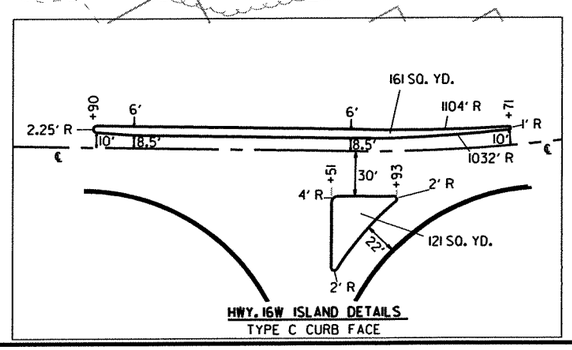
CONSTRUCT TRANSITIONAL APPROACH RAILING
AT EACH NORTH CORNER OF THE HWY. 16E
BRIDGE. SEE SPECIAL DETAIL ON SHEET 10.

STA. 486+24 (HWY. 16E) - CONSTRUCT
D.I. 159' ON RT. OF HWY. 65
WITH 4' EXTENSION
& 18" x 26' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 486+54 RT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 486+54 (HWY. 16E) - CONSTRUCT
D.I. 157' ON RT. OF HWY. 65
WITH 4' EXTENSION
& 18" x 16' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6' 1"

STA. 477+51 CONSTRUCT
APPROACH ON RT. = 715 CU. YDS.

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



HWY. 16W ISLAND DETAILS
TYPE C CURB FACE

LIMITS OF SPECIAL
FLOOD HAZARD AREA
STA. 421+50 TO STA. 485+25.

HWY. 65

1/8/2013
R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

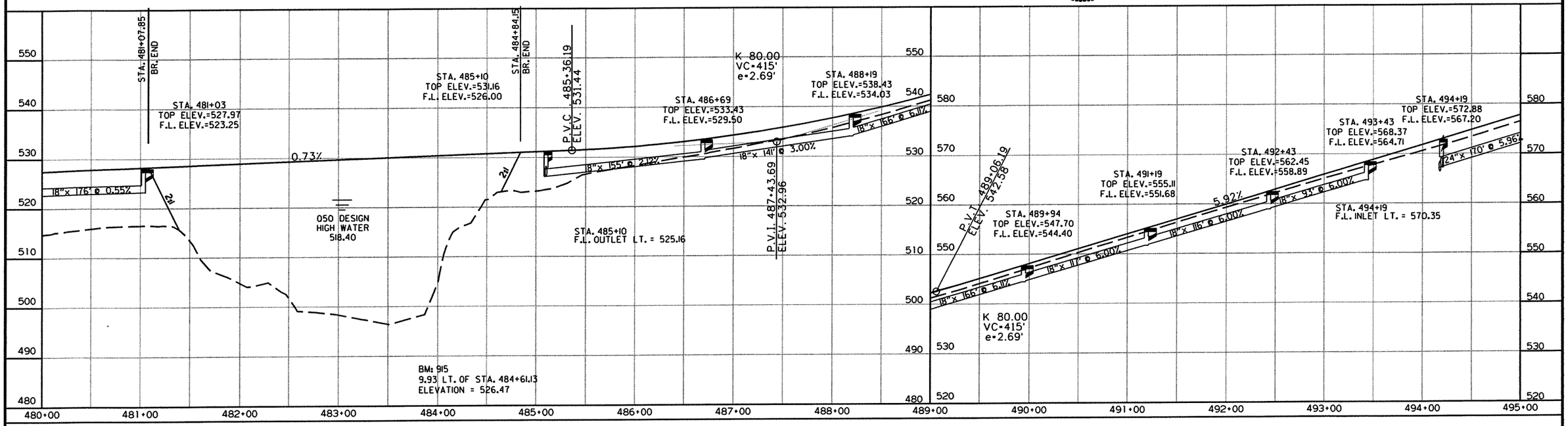
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
9-20-12
TRINITY D. SMITH

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				6	ARK.			
				JOB NO.		080390	80	263

(2) PROFILE SHEET

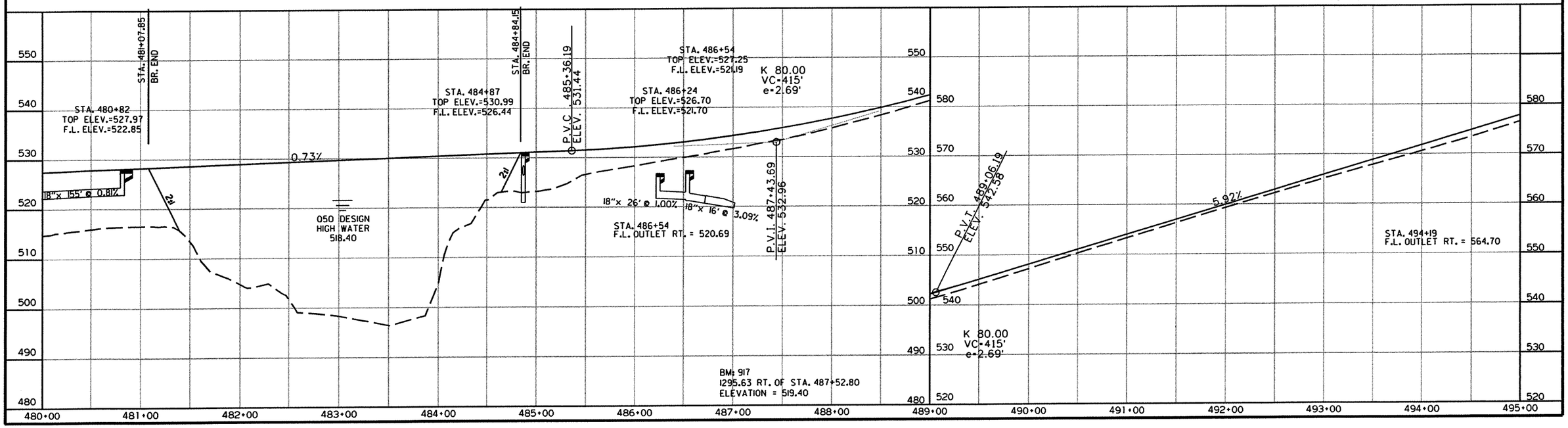
HWY. 65 LT. - STORM SEWER



ARCHEY FORK LITTLE RED RIVER:
THIS STREAM IS CLASSIFIED AS 5 CFS.
THE TOP OF CHANNEL ELEVATION IS 504 FT. MSL.
REFER TO SECTION 110.06(c) TEMPORARY FILL OF THE 2003 STANDARD SPECIFICATIONS.

STA. 484+93.39 BEGIN SUPERELEVATION
STA. 489+43.39 MAX SUPERELEVATION 0.036 '/'
STA. 492+12.53 MAX SUPERELEVATION 0.036 '/'
STA. 496+62.53 END SUPERELEVATION

HWY. 65 RT. - STORM SEWER



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				6	ARK.			
				JOB NO.		080390	81	263
				(2) PLAN SHEET				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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TRINITY D. SMITH
9-20-13

STA. 495+93 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" x 170' PIPE OUTLET
CONNECT TO D.I. @ STA. 494+19 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 7"

STA. 496+77 - CONSTRUCT
D.I. ON LT. WITH
18" x 80' PIPE OUTLET
CONNECT TO D.I. @ 495+93 LT.
& 18" x 126 R.C. STUB INLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 7' 1"

STA. 497+04.36
END JOB 080390

EXISTING ROW
CONCRETE DITCH PAVING
CONSTRUCTION LIMITS
495
C.L. CONST.
12.12'
12.12'
N 12°12'57" E
500
P.C. 501+10.99
505
P.I. 505+54.08
100' TRANSITION
+04
+04
EXISTING ROW
PROPOSED ROW
38.00
94.00
84.00
132.00
92.00
172.00
68.00
168.00

STA. 495+93 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" x 59' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 495+93 LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 5' 6"

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

1/8/2013

R080390.DGN

HWY. 65

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

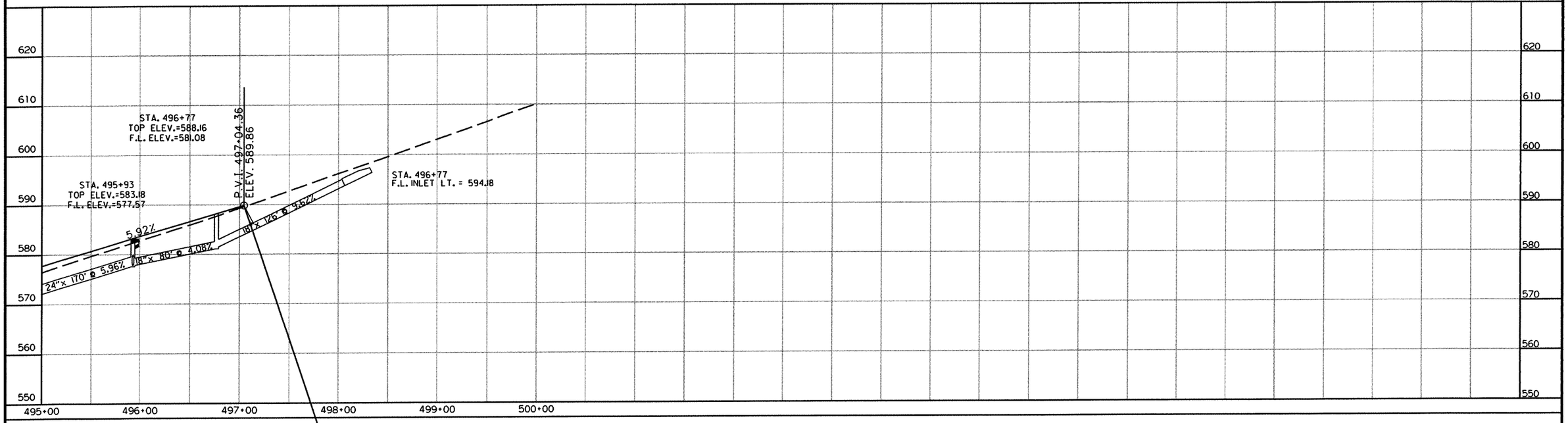
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
9-20-13
TRINITY D. SMITH

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				6	ARK.			
				JOB NO.		080390	82	263

(2) PROFILE SHEET

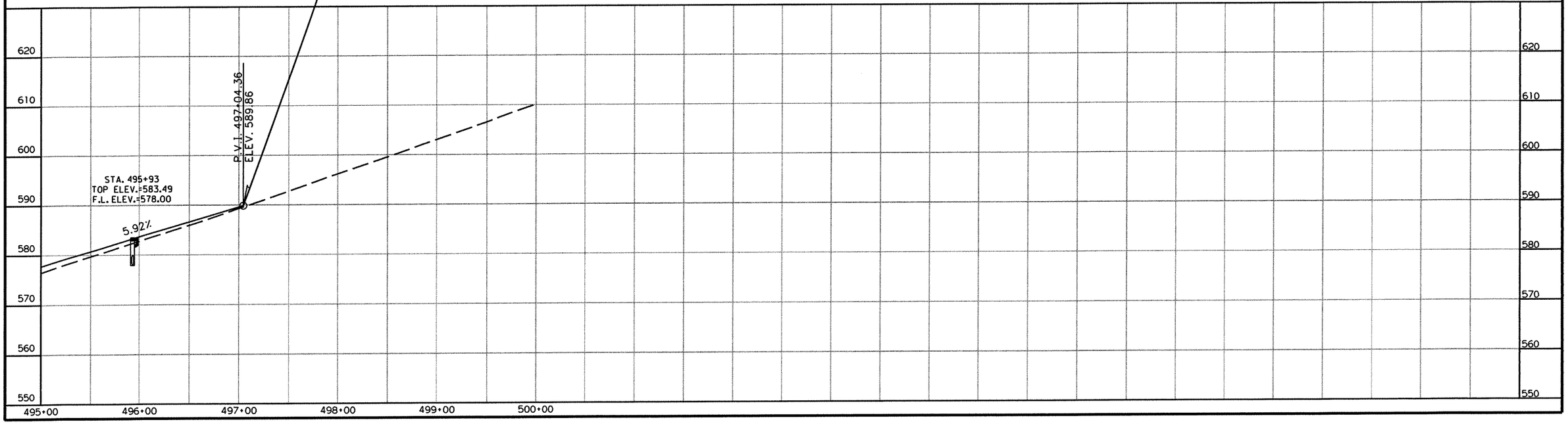
HWY. 65 LT. - STORM SEWER



STA. 484+93.39 BEGIN SUPERELEVATION
STA. 489+43.39 MAX SUPERELEVATION 0.036 '/'
STA. 492+12.53 MAX SUPERELEVATION 0.036 '/'
STA. 496+62.53 END SUPERELEVATION

STA. 497+04
END JOB 080390

HWY. 65 RT. - STORM SEWER



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				6	ARK.			
				JOB NO.		080390	83	263

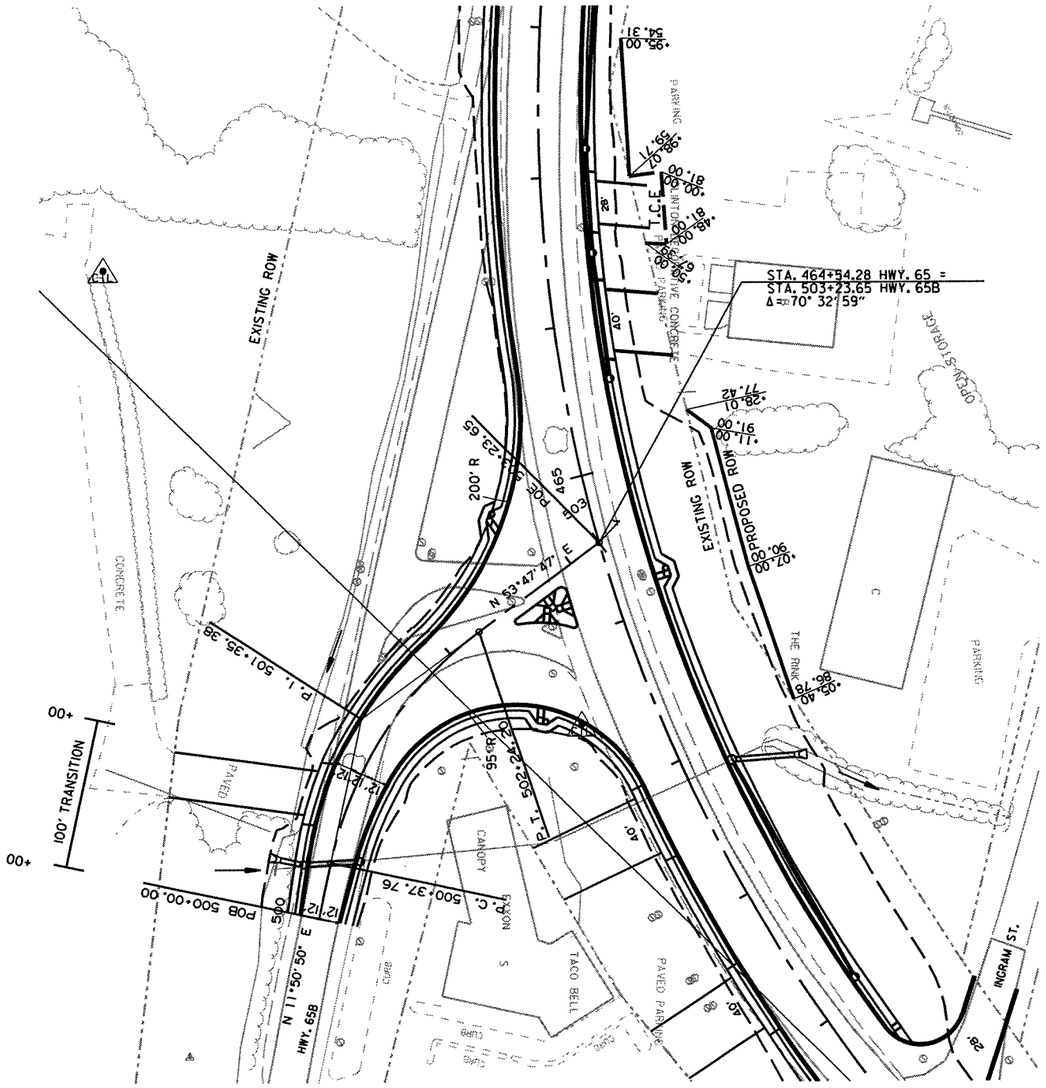
(2) PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

N

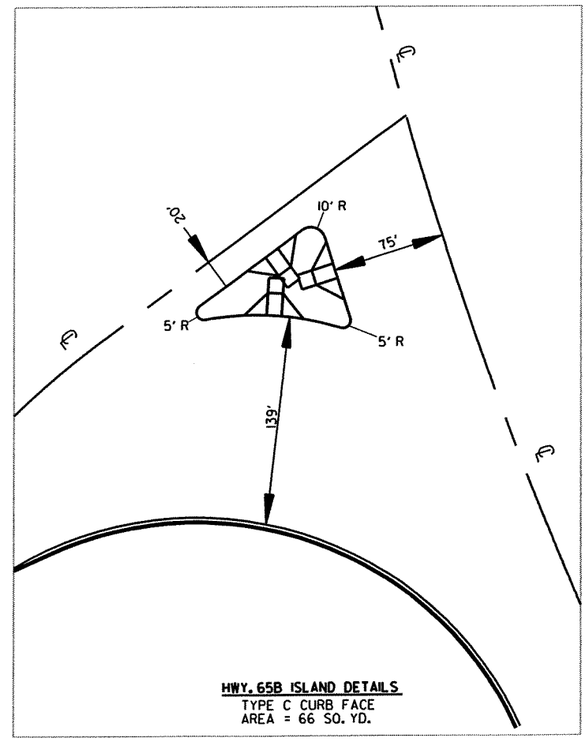
STA. 500+33 (HWY. 65B) - CONSTRUCT
D.I. ON LT. WITH
36" x 33' R.C. PIPE OUTLET
CONNECT TO D.I. @ STA. 500+43 RT.
& 36" x 14' R.C. STUB INLET
WITH FES.
TY MO = 6' I.D.
H = 10' 7"

STA. 500+80 CONSTRUCT
APPROACH ON LT. = 60 CU. YDS.



PI = 501+35.38
Δ = 41° 56' 58" RT.
D = 22°30'00"
T = 97.62'
L = 186.44'
PC = 500+37.76
PT = 502+24.20
NO SUPER

STA. 500+43 (HWY. 65B) - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION.
CONNECT TO EXISTING PIPE.
TY MO = 6' I.D.
H = 11' 5"



HWY. 65B ISLAND DETAILS
TYPE C CURB FACE
AREA = 66 SQ. YD.

1/8/2013
R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

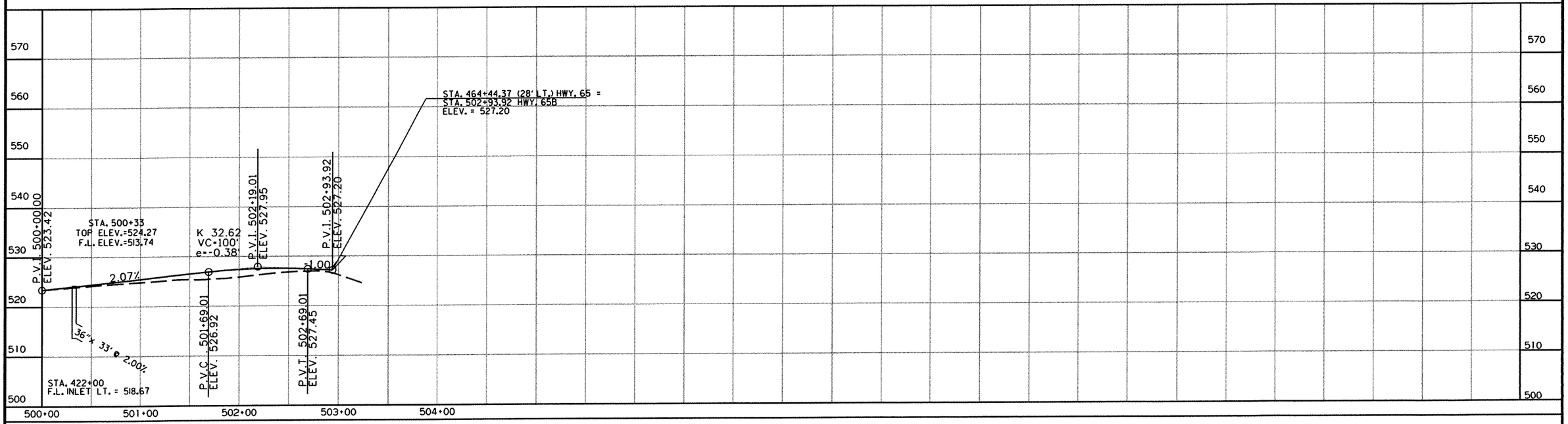
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-20-12

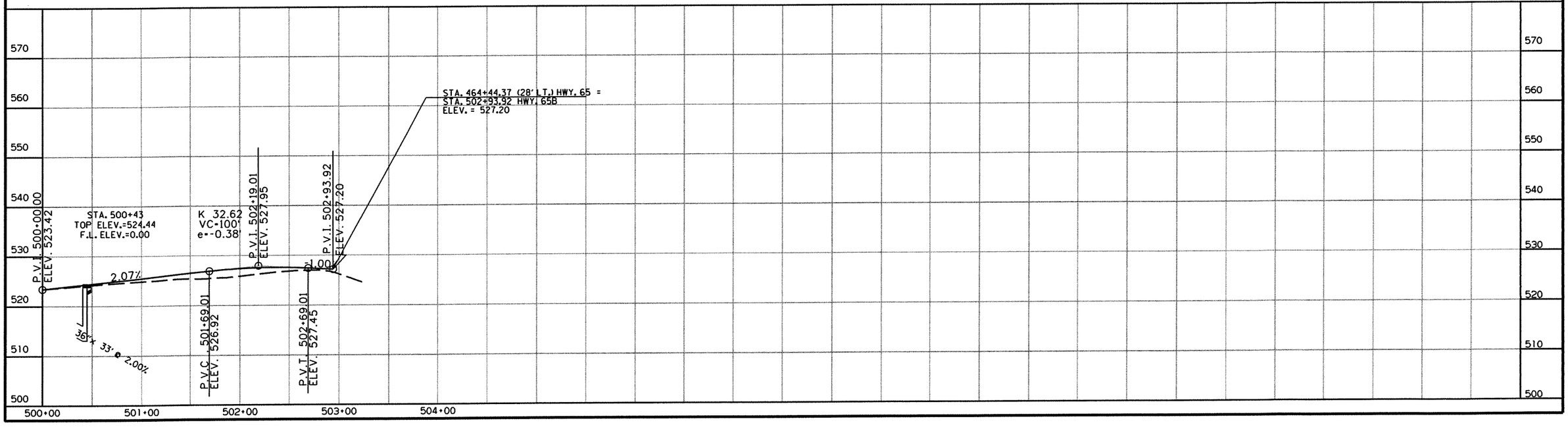
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	84	263

(2) PROFILE SHEET

HWY. 65B LT. - STORM SEWER



HWY. 65B RT. - STORM SEWER



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				6	ARK.			
				JOB NO.		080390	85	263

(2) PLAN SHEET

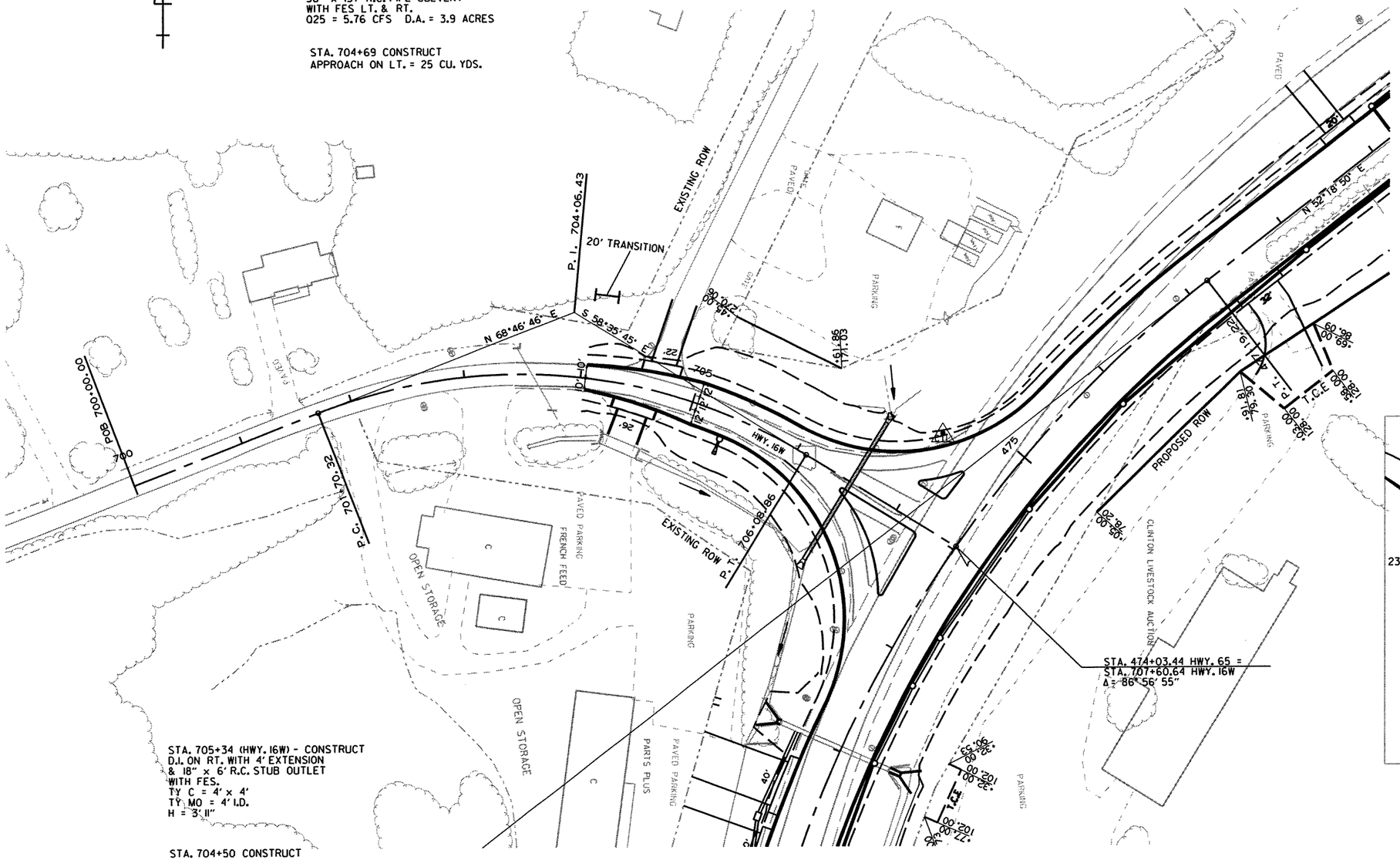
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

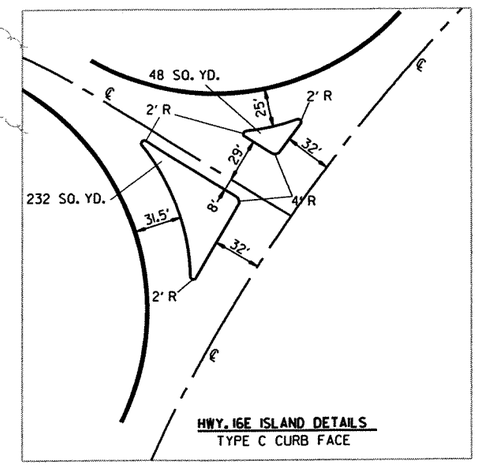
N

STA. 706+54 IN PLACE
24" x 131' R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 706+54 - CONSTRUCT
36" x 137' R.C. PIPE CULVERT
WITH FES LT. & RT.
025 = 5.76 CFS D.A. = 3.9 ACRES

STA. 704+69 CONSTRUCT
APPROACH ON LT. = 25 CU. YDS.





STA. 705+34 (HWY. 16W) - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" x 6' R.C. STUB OUTLET
WITH FES.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3' 11"

STA. 704+50 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

STA. 704+50 IN PLACE
10' x 4' x 35' R.C. BOX CULVERT
RETAIN

PI = 704+06.43
Δ = 52° 37' 28" RT.
D = 12°00'00"
T = 236.11'
L = 438.54'
PC = 701+70.32
PT = 706+08.86
e = 0.094'/'
Ls = 300'

1/8/2013

R080390.DGN

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED.

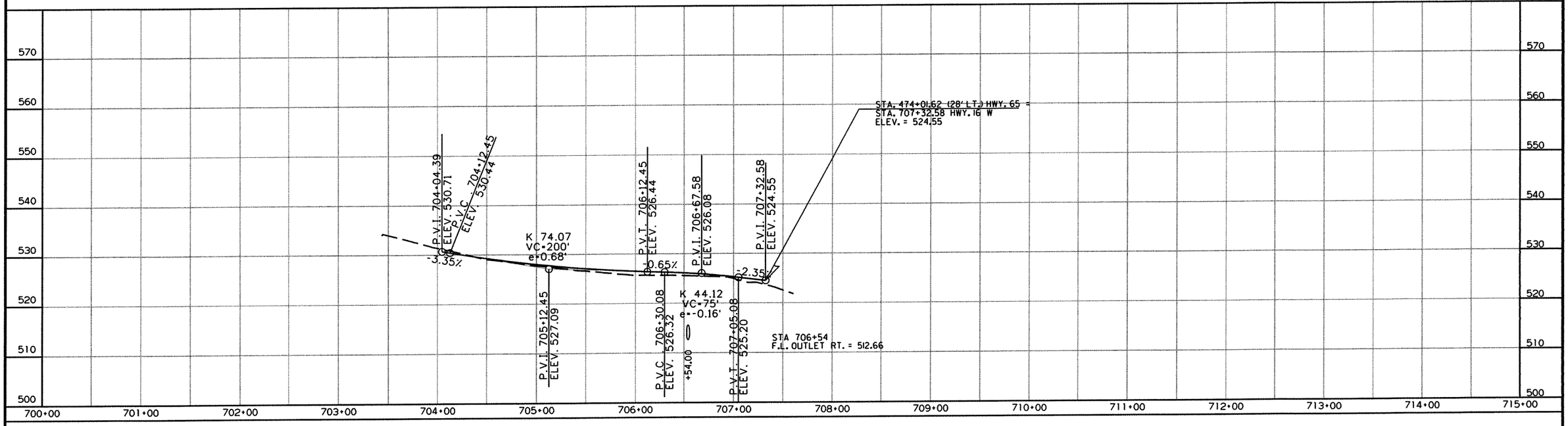
FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
9-20-13
TRINITY D. SMITH

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.		080390	86	263

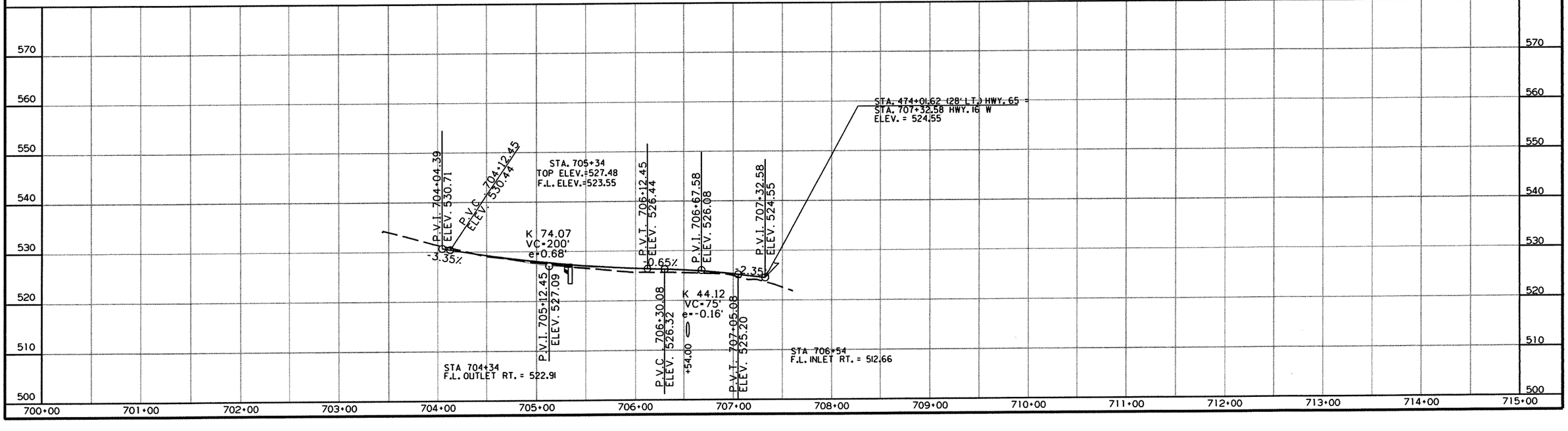
(2) PROFILE SHEET

HWY. 16W LT. - STORM SEWER



STA. 704+04.39 MATCH EXISTING SUPERELEVATION (0.094'/')
STA. 707+32.58 MATCH HWY. 65 GRADE (0.73%)

HWY. 16W RT. - STORM SEWER



R080390.DGN 1/8/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	87	263

(2) SUMMARY OF TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	HWY.65 AT HWY. 65B	HWY.65 AT HWY. 16 E.	QUANTITY	UNIT
SP&701	ACTUATED CONTROLLER TS 2-TYPE 2 (8 PHASES)	1		1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (1 SECTION, 1 WAY)		4	4	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	13	23	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	4		4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1254	2074	3328	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	262	56	318	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	371	279	650	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20		20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")		70	70	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20		20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	20		20	LIN. FT.
710	NON-METALLIC CONDUIT (3")	458	205	663	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	2		2	EACH
SS&711	CONCRETE PULL BOX (TYPE 2)		1	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	4	2	6	EACH
713	SPAN WIRE ASSEMBLY		1	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (14')		1	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30'-42')	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 (38')		1	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')		1	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	2		2	EACH
716	TREATED WOOD POLE (CLASS 2, 40')		4	4	EACH
733	VIDEO CABLE	1112	1277	2389	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	• 6	6	12	EACH
733	VIDEO MONITOR (CLR)	1	1	2	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	• 4	4	8	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	2	3	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	461	475	936	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	509	320	829	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	90	140	230	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20		20	LIN. FT.
SP	LUMINAIRE ASSEMBLY	2	3	5	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD		5	5	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT		1.00	1.00	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1		1	EACH
SP	VIDEO DETECTOR ROTATION		2	2	EACH

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

DATE: 09-12-13 FILE NAME: t080390-job.dgn

LOCATION: HWY. 16 EAST-HWY. 65B SOUTH
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) SIGNALIZATION PLAN SHEET

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2002) NATIONAL ELECTRICAL CODE, NFPA 101(2000) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET SHALL HAVE 16 LOAD BAYS AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
17. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
18. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
19. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
21. 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.
22. 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.
23. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

DATE: 09-12-13 FILE NAME: t080390-job.dgn

LOCATION: HWY. 16 EAST-HWY. 65B SOUTH
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

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				JOB NO.		080390	89	263

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	ACTUATED CONTROLLER TS 2-TYPE 2 (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1254	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	262	LIN. FT.
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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")	458	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	2	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30'-42')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	2	EACH
733	VIDEO CABLE	1112	LIN. FT.
• SP&733	VIDEO DETECTOR (CLR)	6	EACH
733	VIDEO MONITOR (CLR)	1	EACH
• SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	461	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	509	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	90	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	LUMINAIRE ASSEMBLY	2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

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

DATE: 09-12-13 FILE NAME: t080390-01.dgn

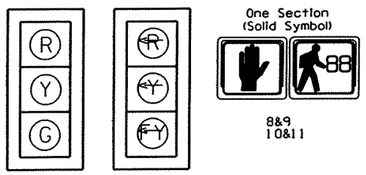
LOCATION: HWY. 65/HWY. 65B
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

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				JOB NO.		080390	90	263

(2) SIGNALIZATION PLAN SHEET

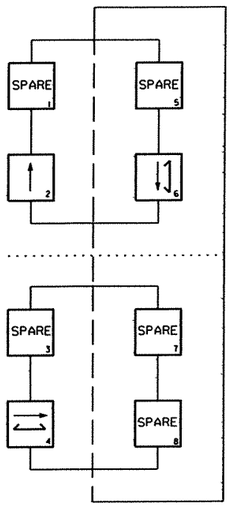
SIGNAL FACES

12" LENSES



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

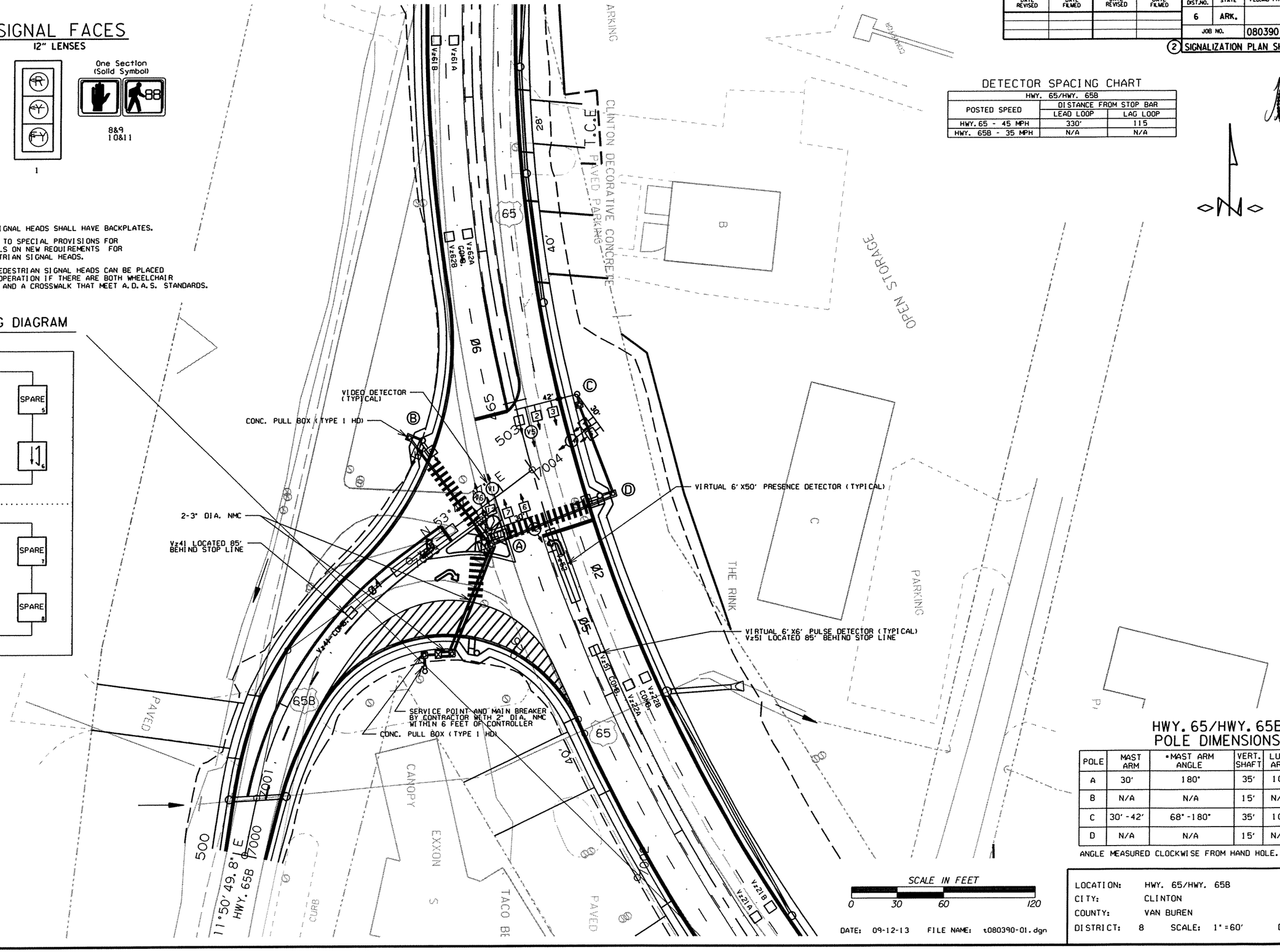
PHASING DIAGRAM



DETECTOR SPACING CHART

POSTED SPEED	HWY. 65/HWY. 65B DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 65 - 45 MPH	330'	115
HWY. 65B - 35 MPH	N/A	N/A

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HWY. 65/HWY. 65B POLE DIMENSIONS

POLE	MAST ARM	*MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	*LUM. ANGLE
A	30'	180°	35'	10'	90°
B	N/A	N/A	15'	N/A	N/A
C	30'-42'	68°-180°	35'	10'	180°
D	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SCALE IN FEET
0 30 60 120

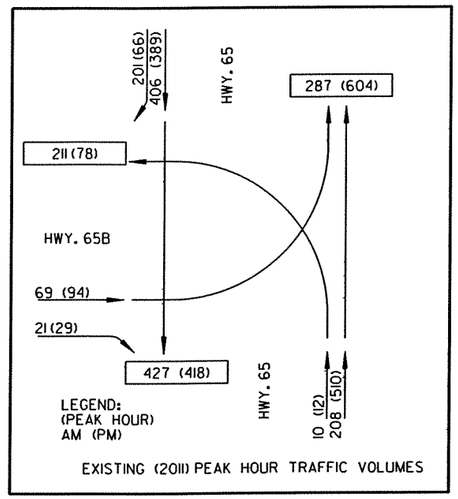
DATE: 09-12-13 FILE NAME: t080390-01.dgn

LOCATION: HWY. 65/HWY. 65B
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=60' DRAWN BY: GWE

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) SIGNALIZATION PLAN SHEET

TRAFFIC FLOW DIAGRAM



EXISTING (2011) PEAK HOUR TRAFFIC VOLUMES

STATE OF ARKANSAS
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HWY. 65/HWY. 65B POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 464+25.43	38' LT.	1175026.45, 461499.54
B	HWY. 65 - STA. 464+90.50	64' LT.	1174982.51, 461557.88
C	HWY. 65 - STA. 464+94.67	41' RT.	1175083.04, 461587.53
D	HWY. 65 - STA. 464+24.68	37' RT.	1175098.41, 461521.82

DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH EAST AND WEST APPROACH
45 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
3 FEET BEHIND CURB

VIDEO DETECTOR (TYPICAL)
CONC. PULL BOX (TYPE 1 HD)
2-3" DIA. NMC
Vz41 LOCATED 85' BEHIND STOP LINE
VIRTUAL 6'X50' PRESENCE DETECTOR (TYPICAL)
VIRTUAL 6'X6' PULSE DETECTOR (TYPICAL)
Vz51 LOCATED 85' BEHIND STOP LINE
SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITH 2" DIA. NMC WITHIN 6 FEET OF CONTROLLER
CONC. PULL BOX (TYPE 1 HD)

SCALE IN FEET
0 20 40 80

LOCATION:	HWY. 65/HWY. 65B
CITY:	CLINTON
COUNTY:	VAN BUREN
DISTRICT:	8
SCALE:	1"=40'
DRAWN BY:	GWE

DATE: 09-12-13 FILE NAME: t080390-01.dgn

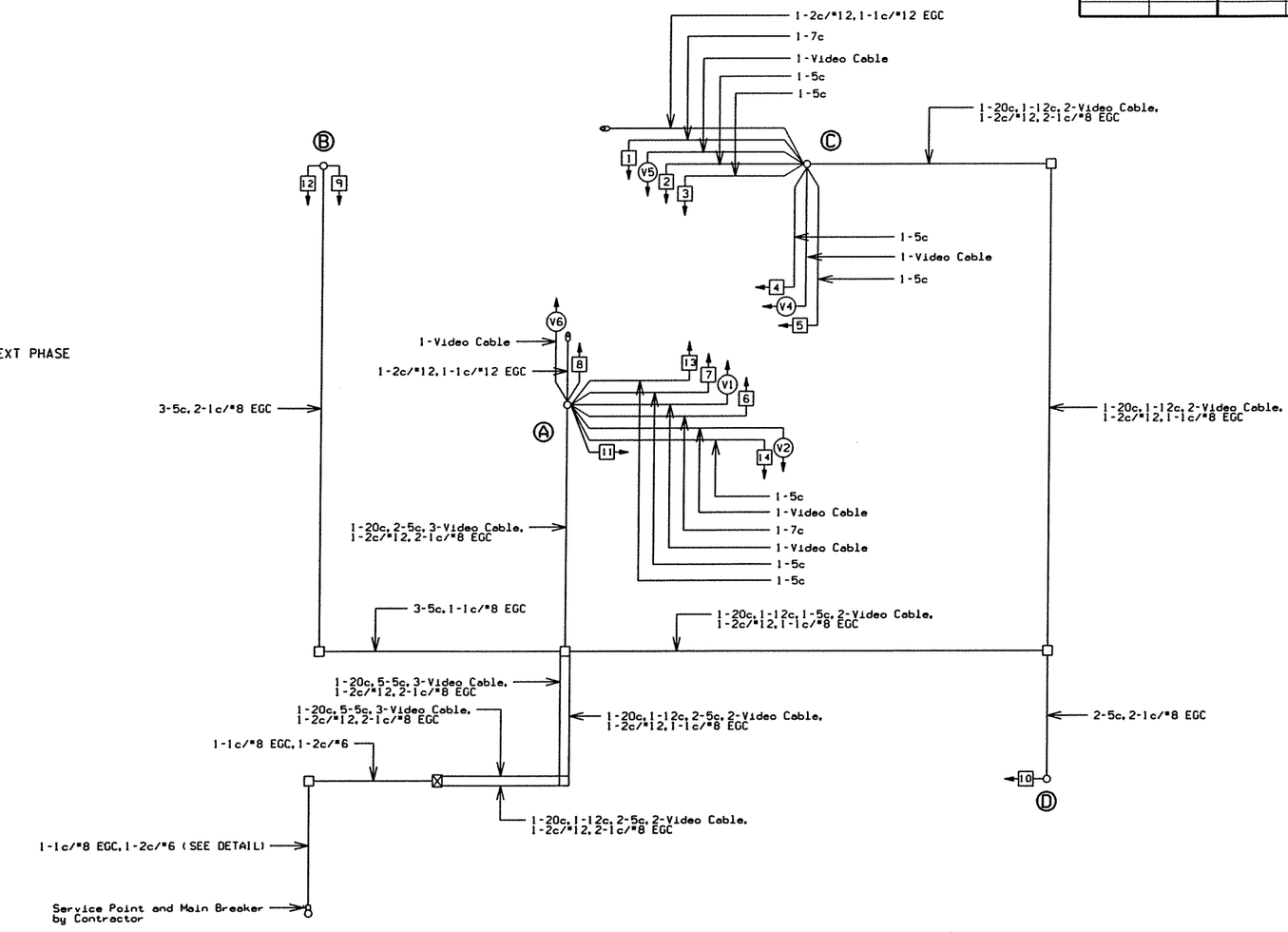
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(2) SIGNALIZATION PLAN SHEET

INTERVAL CHART

SIGNAL FACES	HWY. 65/HWY. 65B 2+6	CLR.	4	CLR.		FLASH SEQ.
1	~~FY~~	***	~~R~~	~~R~~		~~R~~
2,3&14	G	**	R	R		R
4,5&12	R	R	G	**		R
6,7&13	G	**	R	R		R
8&9	W	FDW	DW	DW		BLK
10&11	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



STATE OF ARKANSAS
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DETECTOR SYSTEM DESCRIPTION: JOB 080390

CLINTON-HWY. 65/HWY. 65B 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. *			
Vz21A&B	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2	74'
Vz22A&B	NB NEAR	COMB.			6	V10	2	2		CAMERA V5	23'
Vz41	EB ADVANCE	COMB.			11	V12	4	4		CAMERA V4	23'
Vz42	EB NEAR	LOCAL			12	V4	4			CAMERA V4	23'
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	23'
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	23'
Vz61A&B	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6	74'
Vz62A&B	SB NEAR	COMB.			4	V14	6	6		CAMERA V1	23'
					SPARE						

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

NOTE: "AMP CHN" REFERS TO THE DETECTOR RACK OUTPUT POSITION. THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE. EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2.

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

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CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

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(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

STAGE 3 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (1 SECTION, 1 WAY)	2	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1732	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	70	LIN. FT.
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 2, 40')	4	EACH
733	VIDEO CABLE	785	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	3	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	2	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.50	LUMP SUM

STAGE 3
RETAIN THE EXISTING SERVICE POINT AND MAIN BREAKER AND ALL NMC FROM SERVICE POINT INTO CONTROLLER CABINET THROUGHOUT ALL STAGES OF CONSTRUCTION AND PERMANENT TRAFFIC SIGNAL INSTALLATION.
RETAIN ALL CONCRETE PULL BOXES ADJACENT TO CONTROLLER CABINET AND NMC INTO CONTROLLER CABINET.
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION THROUGHOUT STAGE 1 AND 2.
STAGE 3 CANNOT COMMENCE UNTIL THE ENTIRE STAGE 3 TEMPORARY TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.
ONCE THE STAGE 3 TRAFFIC SIGNAL IS IN OPERATION THE EXISTING TRAFFIC SIGNAL INSTALLATION MAY BE REMOVED.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 4 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&733	VIDEO DETECTOR ROTATION	2	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	5	EACH

STAGE 4
RELOCATE TRAFFIC SIGNAL HEADS AND ROTATE VIDEO DETECTORS INSTALLED FOR THE STAGE 3 TEMPORARY TRAFFIC SIGNAL AS SHOWN ON THE STAGE 4 TRAFFIC SIGNAL PLAN.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 4 TRAFFIC SIGNAL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (1 SECTION, 1 WAY)	2	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	7	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	342	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	56	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	279	LIN. FT.
710	NON-METALLIC CONDUIT (3")	205	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 2)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (14')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1	EACH
733	VIDEO CABLE	492	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	3	EACH
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	2	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	475	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	320	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	140	LIN. FT.
SP	LUMINAIRE ASSEMBLY	3	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.50	LUMP SUM

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 3-4 TEMPORARY TRAFFIC SIGNAL COMPONENTS EXCEPT FOR THOSE ITEMS SPECIFIED EARLIER IN THE DESCRIPTION FOR STAGE 3.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS).

DATE: 09-12-13 FILE NAME: t080390-02.dgn

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	94	263

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM

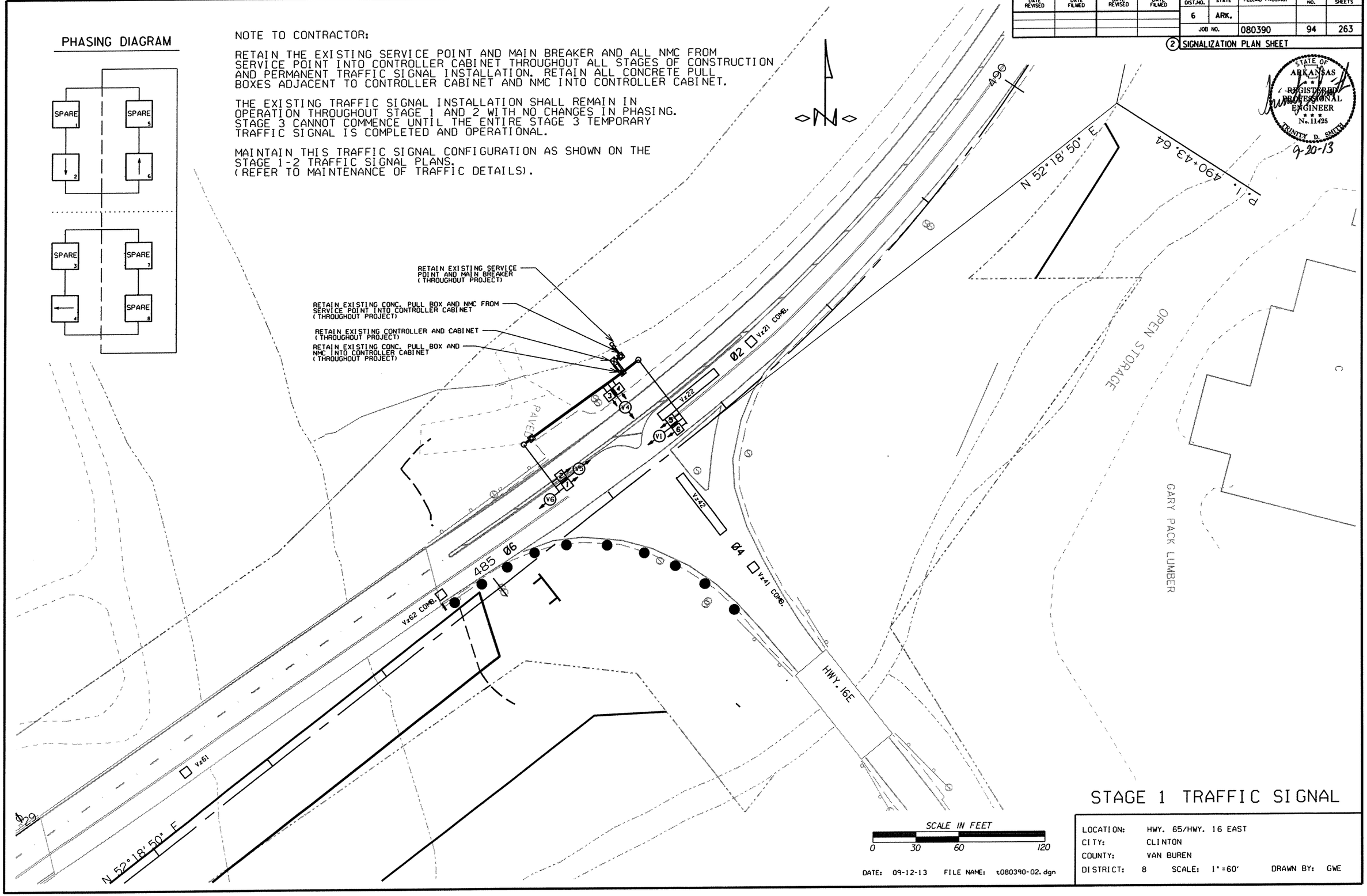
NOTE TO CONTRACTOR:

RETAIN THE EXISTING SERVICE POINT AND MAIN BREAKER AND ALL NMC FROM SERVICE POINT INTO CONTROLLER CABINET THROUGHOUT ALL STAGES OF CONSTRUCTION AND PERMANENT TRAFFIC SIGNAL INSTALLATION. RETAIN ALL CONCRETE PULL BOXES ADJACENT TO CONTROLLER CABINET AND NMC INTO CONTROLLER CABINET.

THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION THROUGHOUT STAGE 1 AND 2 WITH NO CHANGES IN PHASING. STAGE 3 CANNOT COMMENCE UNTIL THE ENTIRE STAGE 3 TEMPORARY TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.

MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1-2 TRAFFIC SIGNAL PLANS. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



SCALE IN FEET
0 30 60 120

DATE: 09-12-13 FILE NAME: t080390-02.dgn

STAGE 1 TRAFFIC SIGNAL

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=60' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	95	263

(2) SIGNALIZATION PLAN SHEET

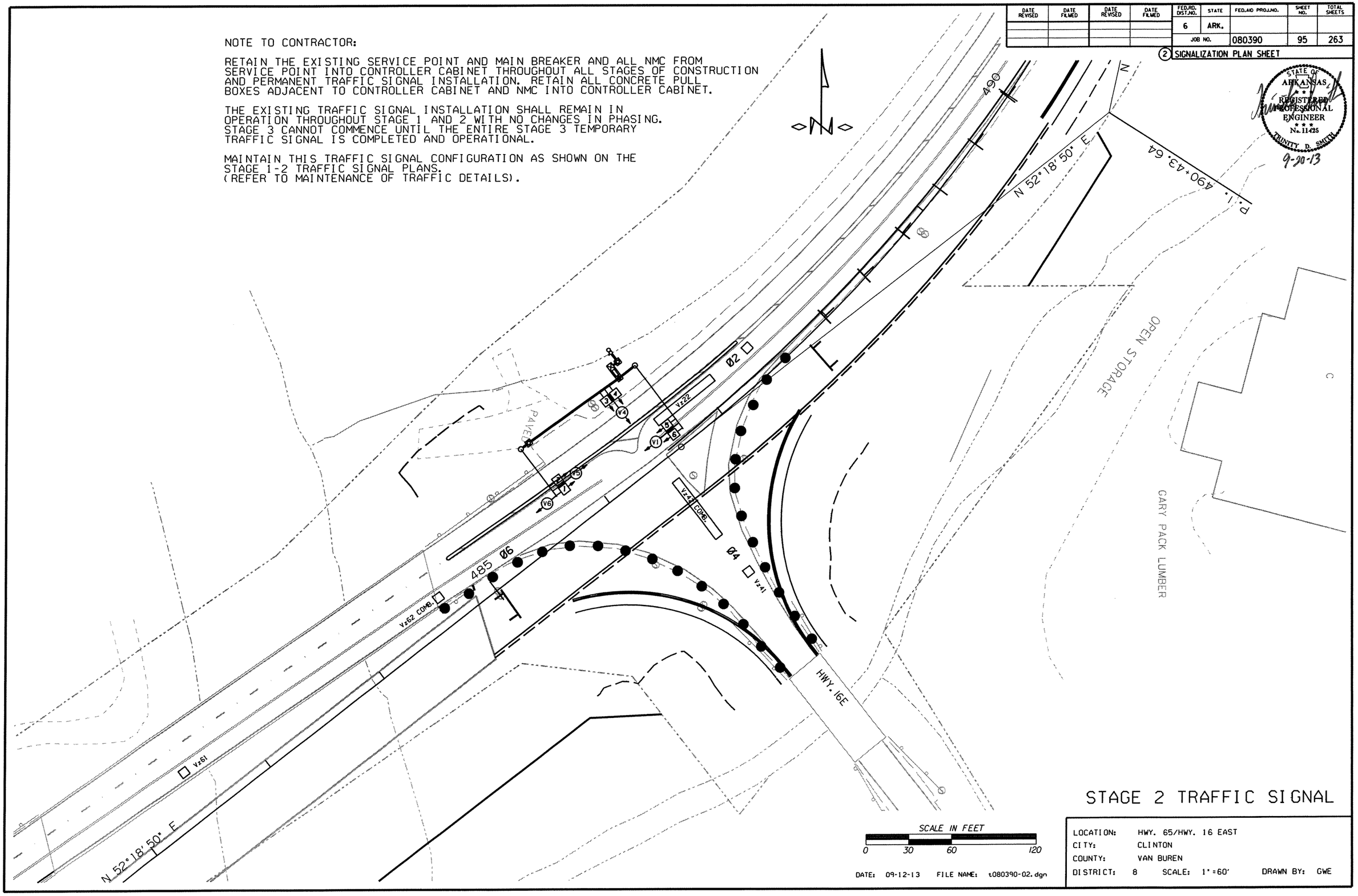
NOTE TO CONTRACTOR:

RETAIN THE EXISTING SERVICE POINT AND MAIN BREAKER AND ALL NMC FROM SERVICE POINT INTO CONTROLLER CABINET THROUGHOUT ALL STAGES OF CONSTRUCTION AND PERMANENT TRAFFIC SIGNAL INSTALLATION. RETAIN ALL CONCRETE PULL BOXES ADJACENT TO CONTROLLER CABINET AND NMC INTO CONTROLLER CABINET.

THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION THROUGHOUT STAGE 1 AND 2 WITH NO CHANGES IN PHASING. STAGE 3 CANNOT COMMENCE UNTIL THE ENTIRE STAGE 3 TEMPORARY TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.

MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 1-2 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

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TRINITY D. SMITH
9-10-13



STAGE 2 TRAFFIC SIGNAL

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=60' DRAWN BY: GWE

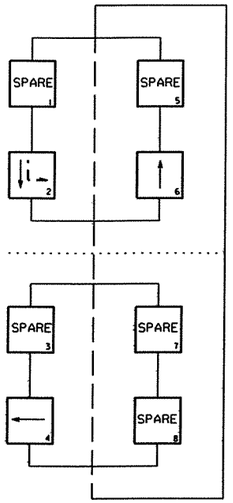
DATE: 09-12-13 FILE NAME: t080390-02.dgn

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.		080390	96	263

(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



NOTE TO CONTRACTOR:

UTILIZING THE TEMPORARY TRAFFIC SIGNAL CONSTRUCTED DURING STAGES 1-2 REMOVE THE EXISTING TRAFFIC SIGNAL INSTALLATION EXCEPT FOR THOSE ITEMS SPECIFIED ON THE STAGE 1 PLANS.

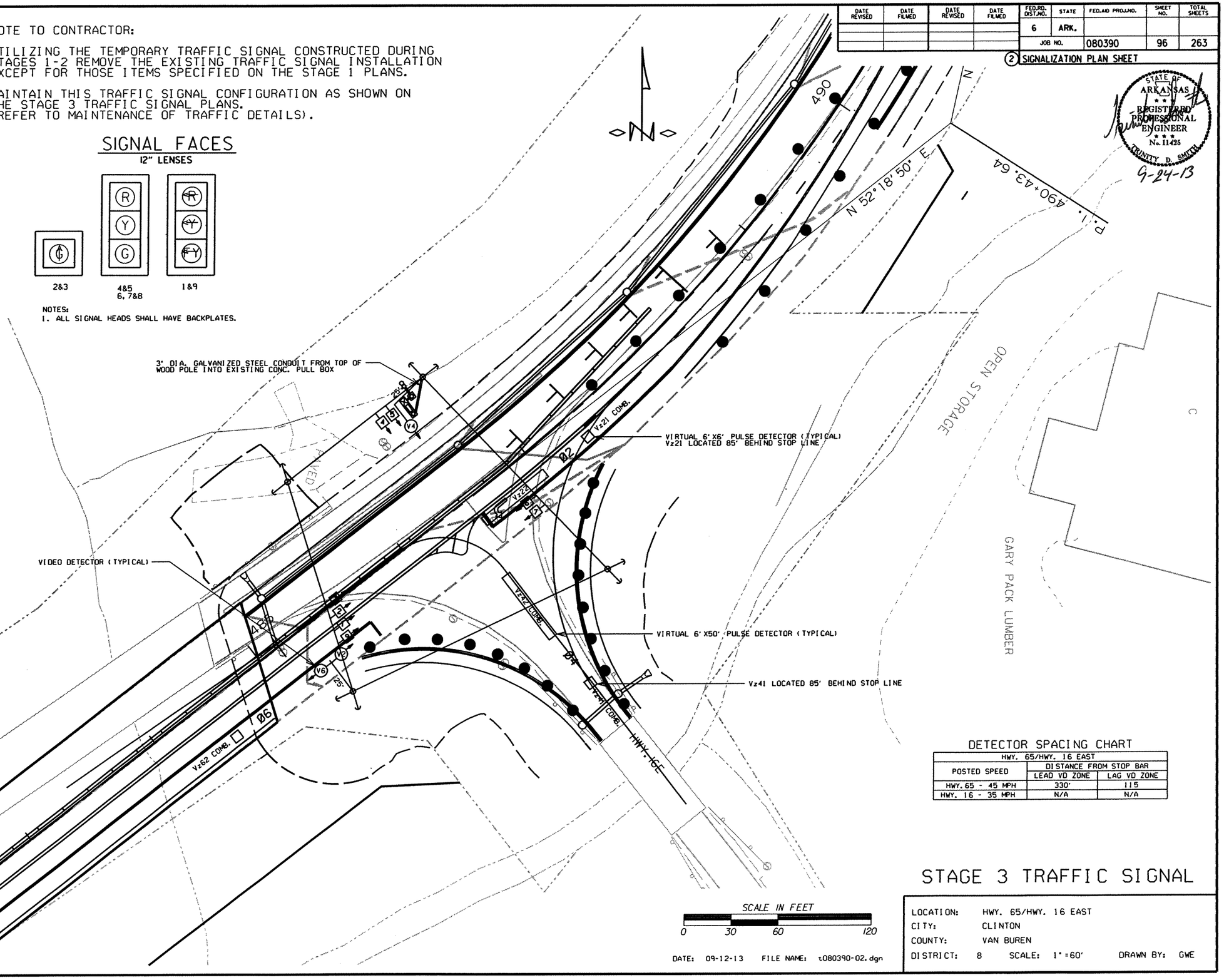
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

SIGNAL FACES

12" LENSES

2&3 4&5 6, 7&8 1&9

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.



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DETECTOR SPACING CHART

HWY. 65/HWY. 16 EAST		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD VD ZONE	LAG VD ZONE
HWY. 65 - 45 MPH	330'	115
HWY. 16 - 35 MPH	N/A	N/A

SCALE IN FEET
0 30 60 120

DATE: 09-12-13 FILE NAME: t080390-02.dgn

STAGE 3 TRAFFIC SIGNAL

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=60' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	97	263

(2) SIGNALIZATON PLAN SHEET

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.

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9-20-13

3" DIA. GALVANIZED STEEL CONDUIT FROM TOP OF WOOD POLE INTO EXISTING CONC. PULL BOX

VIRTUAL 6' X6' PULSE DETECTOR (TYPICAL) Vz21 LOCATED 85' BEHIND STOP LINE

VIDEO DETECTOR (TYPICAL)

VIRTUAL 6' X50' PULSE DETECTOR (TYPICAL)

Vz41 LOCATED 85' BEHIND STOP LINE

Vz21 COMB.
Vz22
Vz42 COMB.
Vz41 COMB.
Vz62 COMB.
Ø2
Ø4
Ø6
HWY.

STAGE 3 TRAFFIC SIGNAL

SCALE IN FEET
0 20 40 80

LOCATION:	HWY. 65/HWY. 16 EAST			
CITY:	CLINTON			
COUNTY:	VAN BUREN			
DISTRICT:	8	SCALE:	1"=40'	DRAWN BY: GWE

DATE: 09-17-13 FILE NAME: t:080390-02.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.		080390	98	263

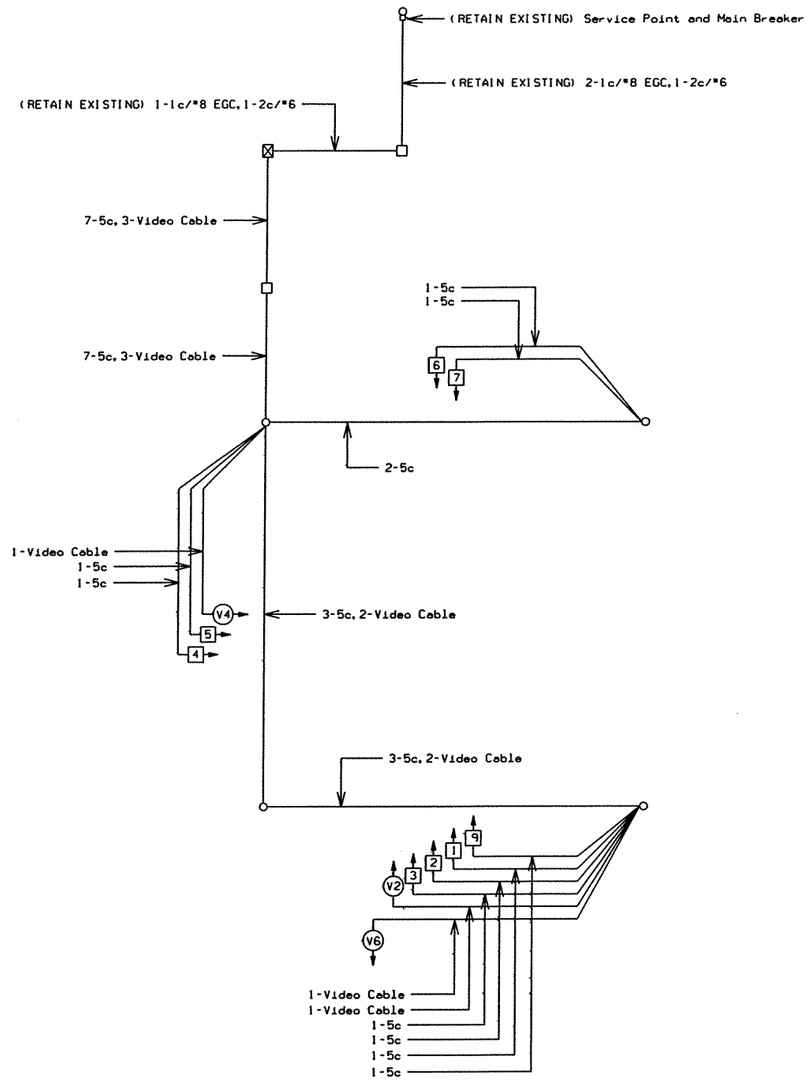
(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

INTERVAL CHART

SIGNAL FACES	HWY. 65/HWY. 16E					FLASH SEQ.
	2+6	CLR.	4	CLR.		
1&9	~~FY~~	***	~~R~~	~~R~~		~~R~~
2&3	₵	**	₵	₵		NA
4&5	R	R	G	**		R
6&7	G	**	R	R		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 3 WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DETECTOR SYSTEM DESCRIPTION: JOB 080390											
CLINTON-HWY. 65/HWY. 16 EAST DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz51	SB LEFT TURN FAR	COMB.			7	V13	2	2		CAMERA V2	23'
Vz52	SB LEFT TURN	LOCAL			8	V5	2			CAMERA V2	23'
Vz41	WB ADVANCE	COMB.			11	V12	4	4		CAMERA V4	23'
Vz42	WB NEAR	LOCAL			12	V4	4			CAMERA V4	23'
Vz61A&B	NB ADVANCE	LOCAL			3	V6	6			CAMERA V6	23'
Vz62A&B	NB NEAR	COMB.			4	V14	6	6		CAMERA V6	23'
					SPARE						

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

NOTE: "AMP CHN" REFERS TO THE DETECTOR RACK OUTPUT POSITION. THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE. EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2.

DATE: 09-12-13 FILE NAME: t080390-02.dgn

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	99	263

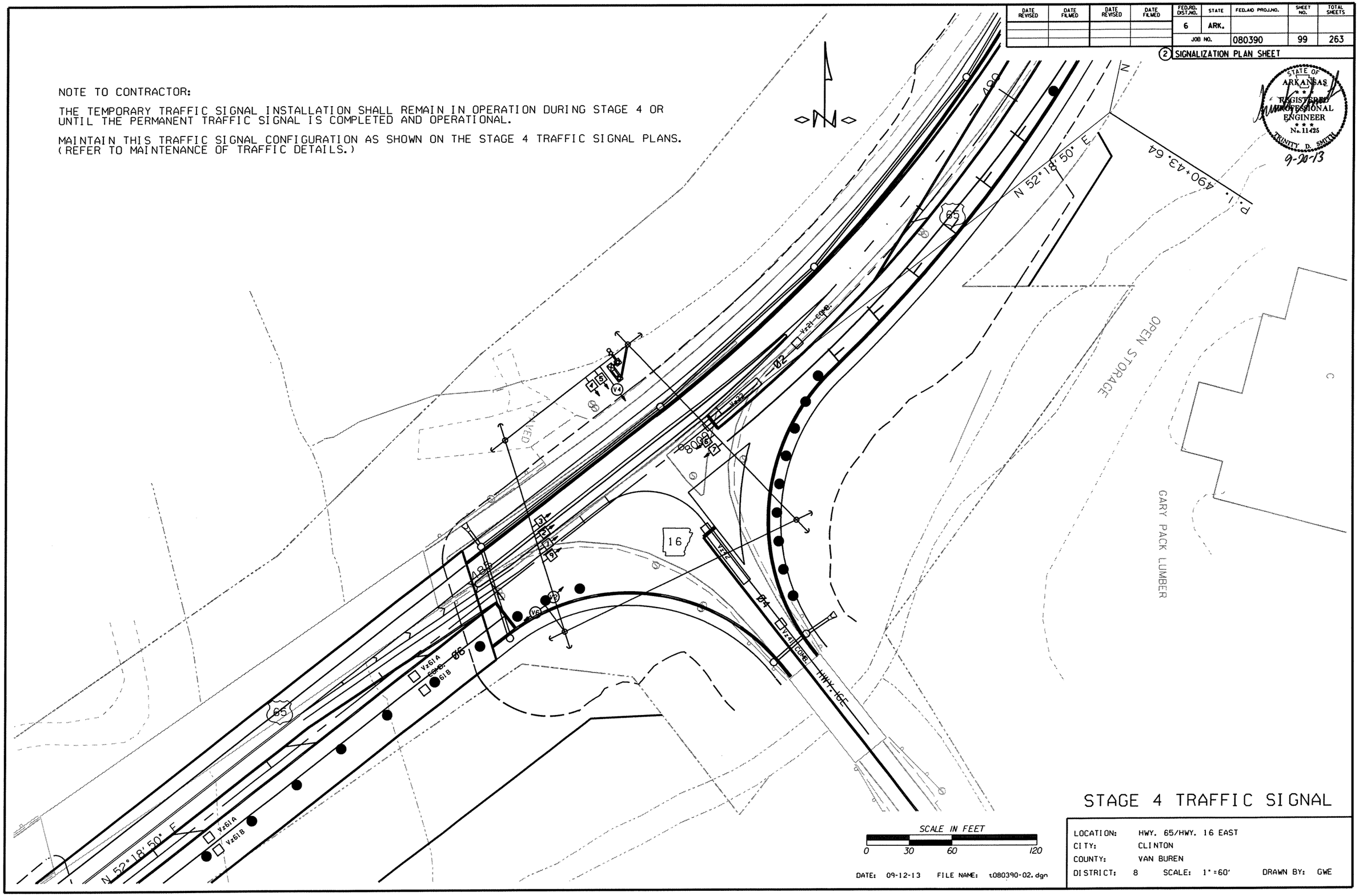
(2) SIGNALIZATION PLAN SHEET

NOTE TO CONTRACTOR:

THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION DURING STAGE 4 OR UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.

MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 4 TRAFFIC SIGNAL PLANS. (REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

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REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	100	263

(2) SIGNALIZATION PLAN SHEET

SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

NOTE TO CONTRACTOR:

THE TEMPORARY TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL.

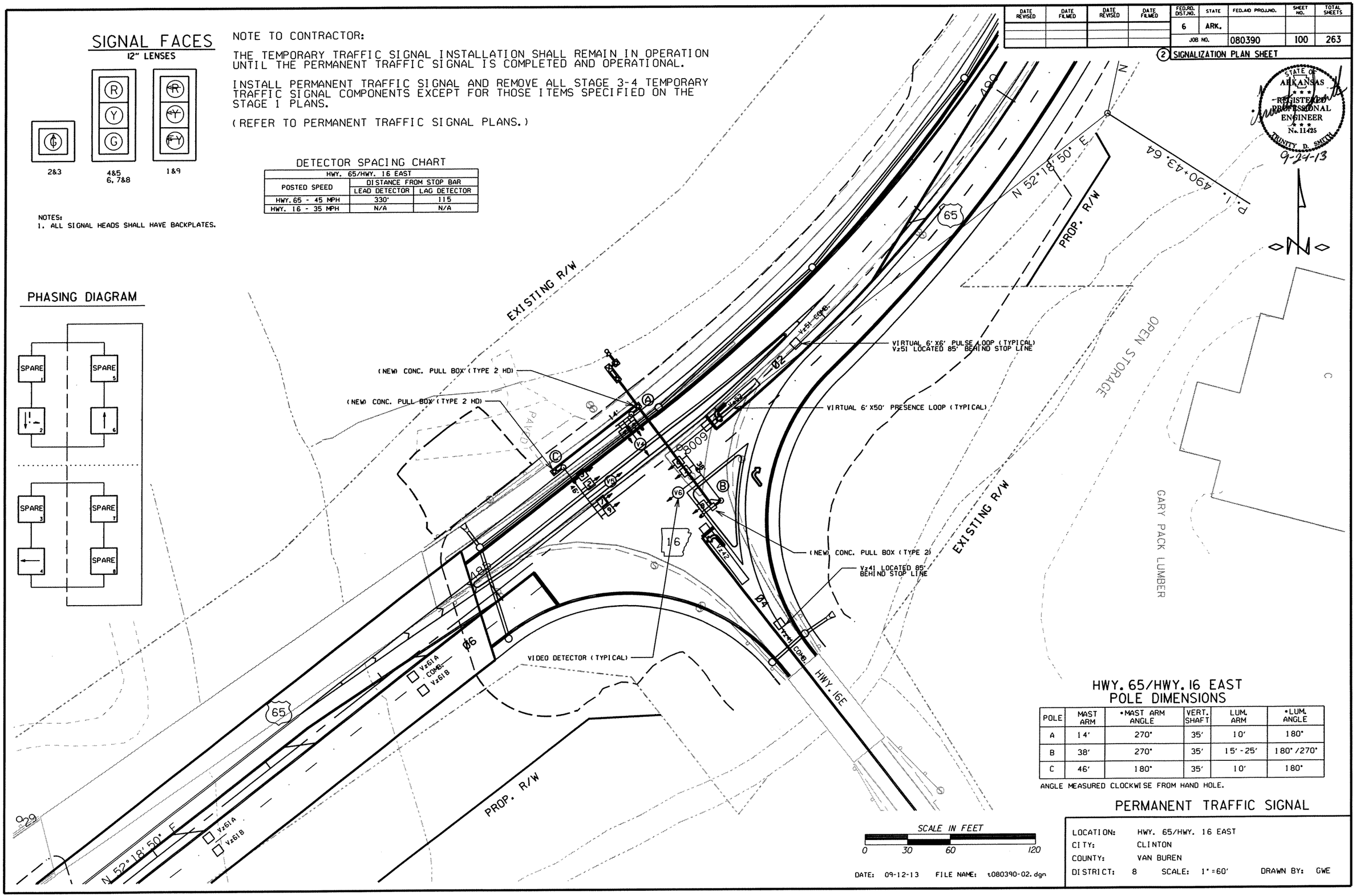
INSTALL PERMANENT TRAFFIC SIGNAL AND REMOVE ALL STAGE 3-4 TEMPORARY TRAFFIC SIGNAL COMPONENTS EXCEPT FOR THOSE ITEMS SPECIFIED ON THE STAGE 1 PLANS.

(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

DETECTOR SPACING CHART

HWY. 65/HWY. 16 EAST		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD DETECTOR	LAG DETECTOR
HWY. 65 - 45 MPH	330'	115
HWY. 16 - 35 MPH	N/A	N/A

PHASING DIAGRAM



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TRINITY D. SMITH
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No. 11425
9-24-13

SCALE IN FEET
0 30 60 120

HWY. 65/HWY. 16 EAST POLE DIMENSIONS

POLE	MAST ARM	*MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	*LUM. ANGLE
A	14'	270°	35'	10'	180°
B	38'	270°	35'	15'-25'	180°/270°
C	46'	180°	35'	10'	180°

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=60' DRAWN BY: GWE

DATE: 09-12-13 FILE NAME: t080390-02.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.		080390	101	263

(2) SIGNALIZATON PLAN SHEET

TRAFFIC FLOW DIAGRAM

EXISTING (2011) PEAK HOUR TRAFFIC VOLUMES

DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH EAST AND WEST APPROACH
45 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
HWY. 65 - 16'

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REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

(NEW) CONC. PULL BOX (TYPE 2 HD)

(NEW) CONC. PULL BOX (TYPE 2 HD)

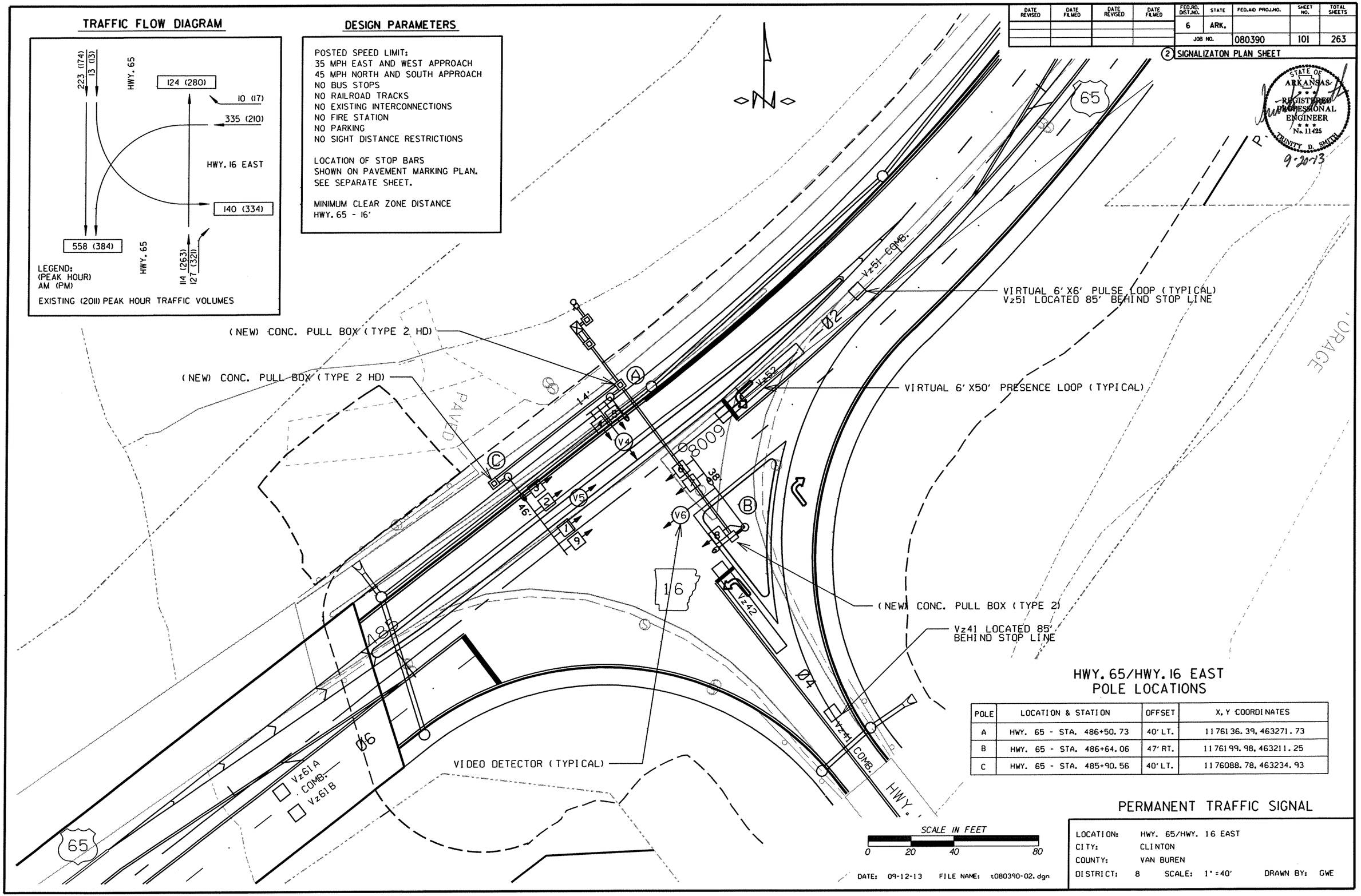
VIRTUAL 6'X6' PULSE LOOP (TYPICAL)
Vz51 LOCATED 85' BEHIND STOP LINE

VIRTUAL 6'X50' PRESENCE LOOP (TYPICAL)

(NEW) CONC. PULL BOX (TYPE 2)

Vz41 LOCATED 85' BEHIND STOP LINE

VIDEO DETECTOR (TYPICAL)



HWY. 65/HWY. 16 EAST POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 65 - STA. 486+50.73	40' LT.	1176136.39, 463271.73
B	HWY. 65 - STA. 486+64.06	47' RT.	1176199.98, 463211.25
C	HWY. 65 - STA. 485+90.56	40' LT.	1176088.78, 463234.93

SCALE IN FEET
0 20 40 80

DATE: 09-12-13 FILE NAME: t080390-02.dgn

PERMANENT TRAFFIC SIGNAL

LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: 1"=40' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	102	263

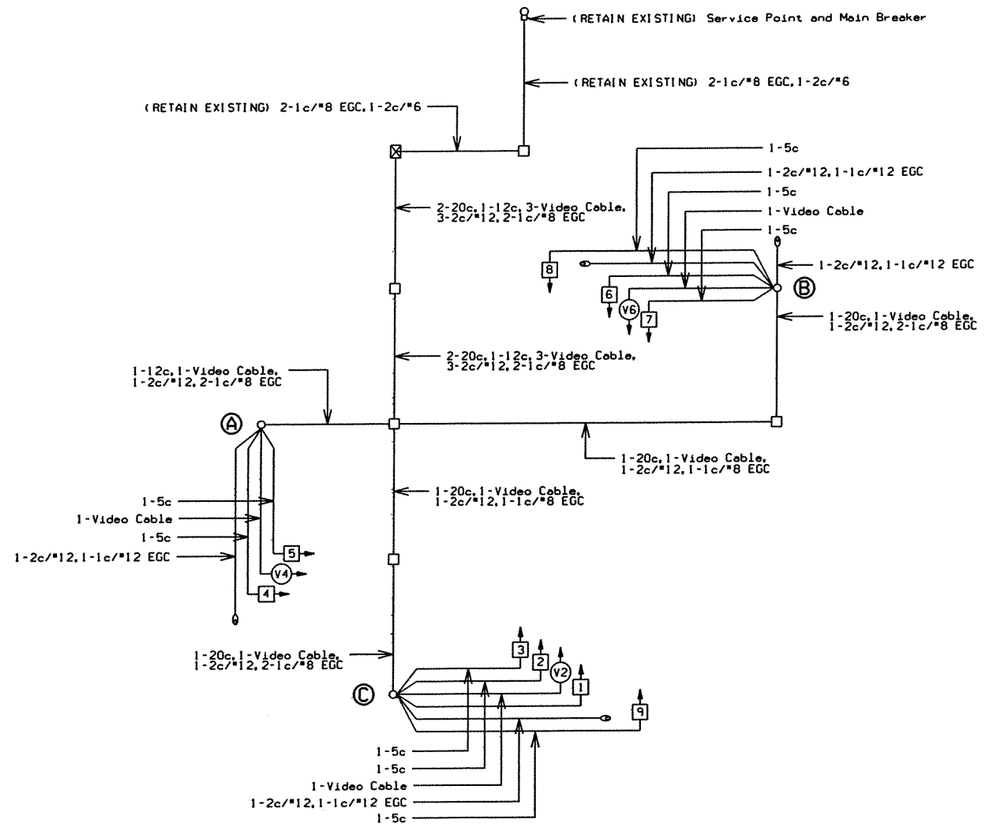
(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-20-13

INTERVAL CHART

SIGNAL FACES	HWY. 65/HWY. 16E 2+6	CLR.	4	CLR.		FLASH SEQ.
1&9	~~FY~~	***	~~R~~	~~R~~		~~R~~
2&3	₵	**	₵	₵		NA
4&5	R	R	G	**		R
6,7&8	G	**	R	R		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



DETECTOR SYSTEM DESCRIPTION: JOB 080390											
CLINTON-HWY. 65/HWY. 16 EAST 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. *			
Vz51	SB LEFT TURN FAR	COMB.			7	V13	2	2		CAMERA V5	23'
Vz52	SB LEFT TURN	LOCAL			8	V5	2			CAMERA V5	23'
Vz41	WB ADVANCE	COMB.			11	V12	4	4		CAMERA V4	23'
Vz42	WB NEAR	LOCAL			12	V4	4			CAMERA V4	23'
Vz61A&B	NB ADVANCE	LOCAL			3	V6	6			CAMERA V6	58'
Vz62A&B	NB NEAR	COMB.			4	V14	6	6		CAMERA V6	58'
					SPARE						

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

NOTE: "AMP CHN#" REFERS TO THE DETECTOR RACK OUTPUT POSITION. THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE. EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2.

PERMANENT WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DATE: 09-12-13 FILE NAME: t080390-02.dgn

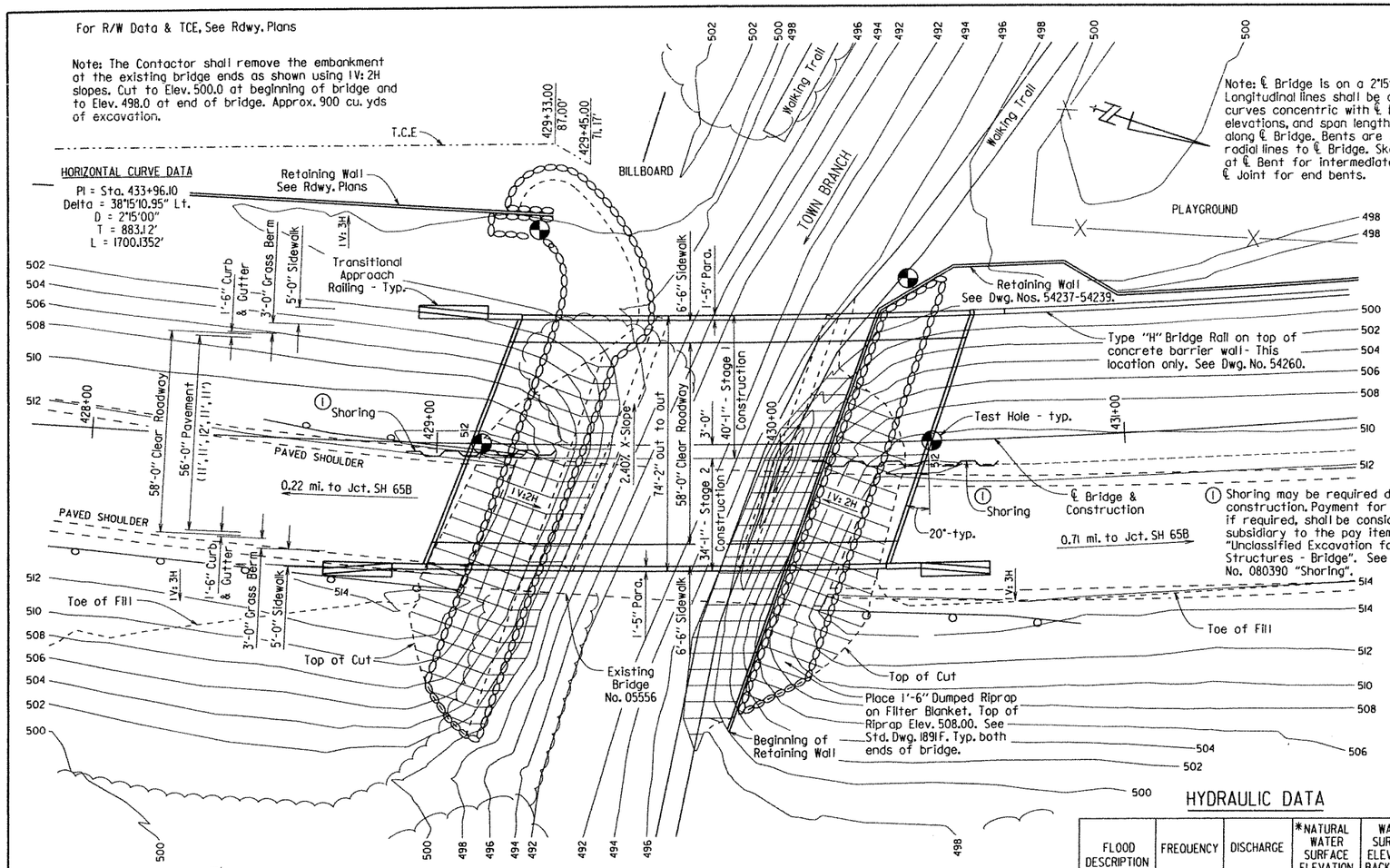
LOCATION: HWY. 65/HWY. 16 EAST
CITY: CLINTON
COUNTY: VAN BUREN
DISTRICT: 8 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	103	263
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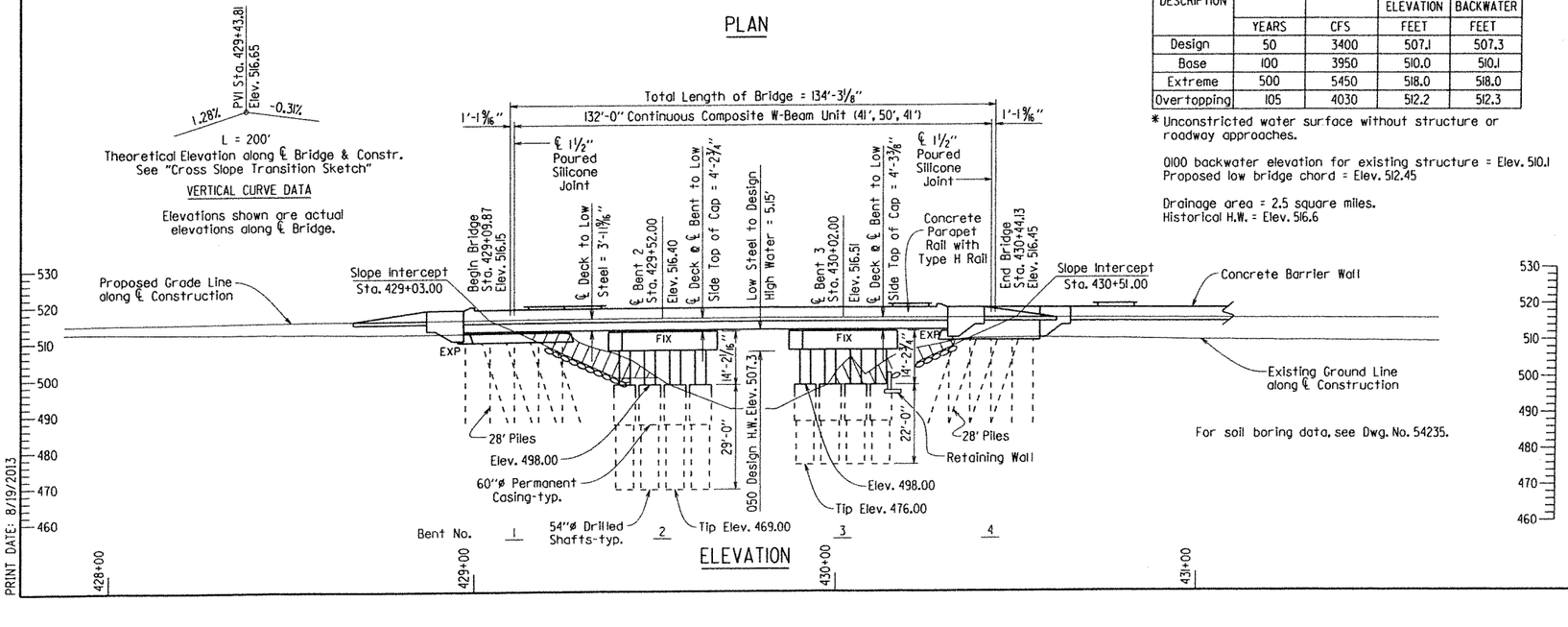
For R/W Data & TCE, See Rdwy. Plans

Note: The Contactor shall remove the embankment at the existing bridge ends as shown using 1V: 2H slopes. Cut to Elev. 500.0 at beginning of bridge and to Elev. 498.0 at end of bridge. Approx. 900 cu. yds of excavation.

Note: ℄ Bridge is on a 2°15'00" curve left. Longitudinal lines shall be constructed on curves concentric with ℄ Bridge. Stations, elevations, and span lengths are shown along ℄ Bridge. Bents are skewed 20° from radial lines to ℄ Bridge. Skew is measured at ℄ Bent for intermediate bents and at ℄ Joint for end bents.



PLAN



ELEVATION

For soil boring data, see Dwg. No. 54235.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	3400	507.1	507.3
Base	100	3950	510.0	510.1
Extreme	500	5450	518.0	518.0
Overtopping	105	4030	512.2	512.3

* Unconstricted water surface without structure or roadway approaches.

0100 backwater elevation for existing structure = Elev. 510.1
Proposed low bridge chord = Elev. 512.45

Drainage area = 2.5 square miles.
Historical H.W. = Elev. 516.6

GENERAL NOTES

BENCH MARK: AHTD Aluminum cap in SE corner of bridge, 43.22 ft. right of ℄ Constr. Sta. 429+07.51, Elev. 517.17.

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (Sixth Edition, 2012).

LIVE LOADING: HL-93 SEISMIC ZONE: 1

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (Grade 60, AASHTO M31 or M322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL PILING: Piling in Bents 1 & 4 shall be HP14x73 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and into the material designated as Sandstone on the boring legend. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Actual lengths to be determined in the field. Piles in end bents shall be driven after embankment to bottom of cap is in place. On all piles the Contractor shall use approved steel H-Pile driving points.

DRILLED SHAFTS: Foundations for intermediate bents shall consist of Drilled Shafts. All drilled shafts shall be founded into Sandstone and to the minimum rock penetrations and tip elevations shown in the plans. No adjustments in Plan Tip Elevation shall be made without prior approval from the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job No. 080390 "Drilled Shaft Foundations". Any casing used as a means for construction of the drilled shafts, such as to prevent caving, to exclude groundwater, or to provide shoring shall not extend below top of rock. The Contractor must obtain approval from the Engineer for any deviation from this requirement.

CROSSHOLE SONIC LOGGING: Nondestructive testing shall be performed on each drilled shaft in accordance with SP Job No. 080390 "Nondestructive Testing of Drilled Shafts".

BRIDGE DECK: The concrete bridge deck, except sidewalks, shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6, Broomed Finish.

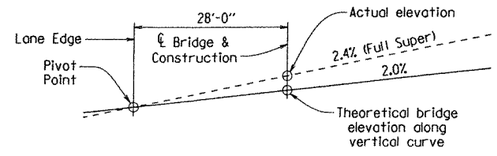
DETAIL DRAWINGS:

	DRAWING NOS.
Stage Construction	54236
End Bents	54240-54245
Intermediate Bents	54246-54248
132' Continuous Composite W-Beam Unit	54249-54255
Elastomeric Bearings	54256
Concrete Barrier Wall	54257-54258
Transitional Approach Railing	54259
Type H Metal Bridge Railing	54260
Steel Piling	14995A

EXISTING BRIDGE: Existing Bridge No. 05556 (Log Mi. 0.71) is 106' long and 42' wide and is comprised of three 35' R.C. slab spans with asphalt overlay on concrete column bents. Centerline of existing bridge is located approximately 20' downstream of the proposed centerline of construction.

REMOVAL AND SALVAGE: After Stage 1 Construction is open to traffic, existing Bridge No. 05556 (Site 1) shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor. The existing bents, including the intermediate bent foundations, shall be removed, as directed by the Engineer, to facilitate the construction of the new bridge.

MAINTENANCE OF TRAFFIC: See Roadway Plans.



CROSS SLOPE TRANSITION SKETCH

Looking Ahead

SHEET 1 OF 2
LAYOUT OF BRIDGE OVER TOWN BRANCH
HWY. 16 EAST - HWY. 65B SOUTH (CLINTON) (S)
VAN BUREN COUNTY

ROUTE 65 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

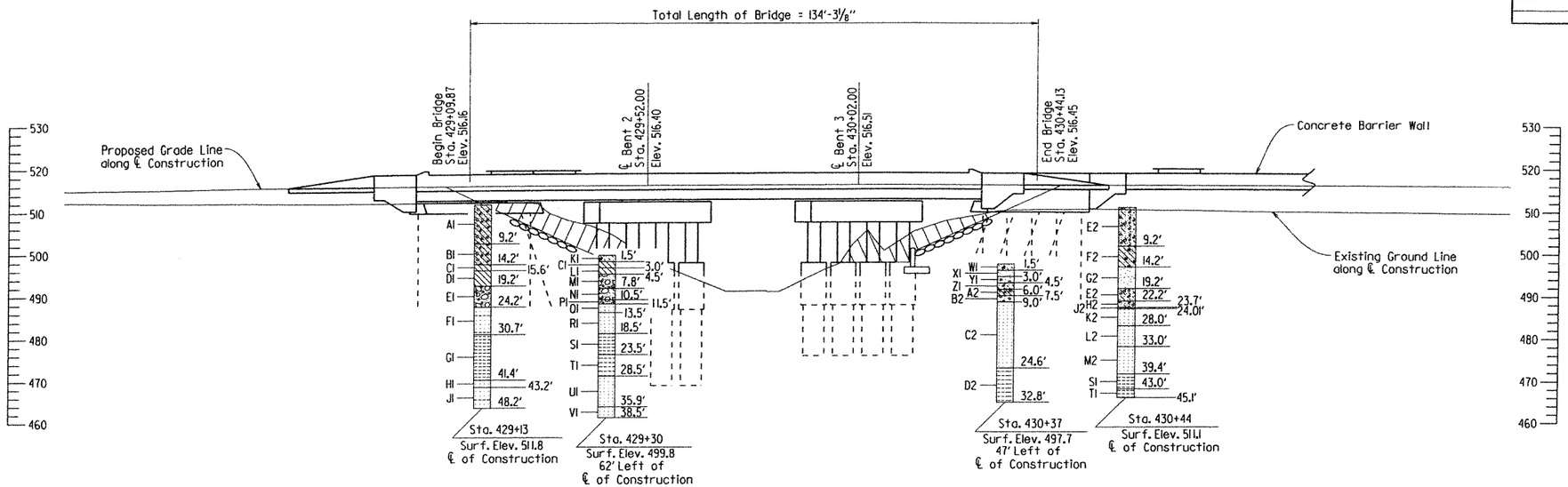
STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. FUSELIER
BRIDGE ENGINEER

DRAWN BY: KDH DATE: 11-18-11
CHECKED BY: MCB DATE: 9/10/12
DESIGNED BY: CSF DATE: 9/11
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SCALE: 1" = 20'

BRIDGE NO. 07290 DRAWING NO. 54234

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	101	263
				①	07290	- LAYOUT -	54235	



ELEVATION

BORING LEGEND

A1-Moist, Stiff, Brown Sandy Clay with Gravel (Sandstone Fragments)
B1-Moist, Stiff, Brown and Gray Sandy Clay with Gravel (Sandstone Fragments)
C1-Moist, Stiff, Brown Clay
D1-Wet, Stiff, Brown Clay
E1-Wet, Medium Dense, Brown Sand with Gravel (Sandstone Fragments) and Cobbles
F1-SANDSTONE WITH FREQUENT DARK GRAY SHALE SEAMS AND PARTINGS - Gray, Thin Bedded, Slightly Weathered, Cemented, with Slight Dip
G1-SHALE WITH WEATHERED SHALE LAYERS AND GRAY SANDSTONE PARTINGS - Dark Gray, Laminated, Medium Hard, with Slight Dip
H1-SANDSTONE WITH DARK GRAY SHALE PARTINGS - Gray, Thick Bedded, Slightly Weathered, Calcareous, Cemented with Slight Dip
J1-SANDSTONE WITH DARK GRAY SHALE LAYERS AND SOME CALCAREOUS SANDSTONE SEAMS - Gray, Thick Bedded, Slightly Weathered, Cemented, with Slightly Weathered, Cemented, with Slight Dip
K1-Dry, Medium Dense, Brown Sand with Clay and Organic Matter (Grassroots)
L1-Moist, Stiff, Brown Clay with some Gravel (Sandstone Fragments)
M1-Moist, Medium Dense, Brown Sand with Gravel (Sandstone Fragments) and Cobbles
N1-Wet, Medium Dense, Brown Sand with Gravel (Sandstone Fragments) and Cobbles
P1-Moist, Very Dense, Brown Sand with Gravel (Sandstone Fragments) and Cobbles
Q1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thin Bedded, Slightly Weathered, Cemented, with Slight Dip and Fractured Layers
R1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thin Bedded, Slightly Weathered, Cemented, with Slight Dip and occasional Vertically Fractured Layers
S1-SHALE WITH WEATHERED SHALE LAYERS - Dark Gray, Laminated, Medium Hard, with Slight Dip
T1-SHALE WITH WEATHERED SHALE LAYERS AND GRAY SANDSTONE SEAMS - Dark Gray, Laminated, Medium Hard, with Slight Dip
U1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thin Bedded, Slightly Weathered, Cemented, with Slight Dip
V1-SANDSTONE WITH FREQUENT CALCAREOUS SANDSTONE LAYERS - Gray, Thick Bedded, Slightly Weathered, Cemented, with Slight Dip
W1-Moist, Medium Dense, Brown Clayey Sand with Organic Matter (Grassroots)
X1-Moist, Medium Dense, Brown Sand with Trace of Clay and Gravel (Sandstone Fragments)
Y1-Moist, Very Loose, Brown Sand with Gravel (Sandstone Fragments)
Z1-Moist, Loose, Brown Sand with Clay and Gravel (Sandstone Fragments)
A2-Wet, Medium Dense, Brown and Gray Clay with Sand and Gravel (Sandstone Fragments)
B2-Wet, Very Dense, Brown Sand with Gravel (Sandstone Fragments)
C2-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Medium Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
D2-SHALE WITH WEATHERED SHALE LAYERS AND GRAY SANDSTONE SEAMS - Dark Gray, Laminated, Medium Hard, with Slight Dip
E2-Moist, Medium Dense, Brown Sand with Clay and Gravel (Sandstone Fragments)
F2-Moist, Stiff, Brown and Gray Sandy Clay with Organic Matter
G2-Moist, Medium Dense, Gray Sand
H2-Wet, Medium Dense, Brown Sand with Clay and Gravel (Sandstone Fragments)
J2-SANDSTONE - Gray, Cemented
K2-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
L2-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip and some Fractured Layers
M2-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Medium Bedded, Slightly Weathered, Well-Cemented, with Slight Dip and some Fractured Layers

"N" VALUES

Sta. 429+13 - ℄ of Construction
4.7- 5.7,N=11
9.7- 10.7,N=10
14.7- 15.7,N=13
19.7- 20.7,N=26
24.2- 24.3,N=60 (1")

Sta. 429+30 - 62' Left of ℄ of Construction
0.5- 1.5,N=16
2.0- 3.0,N=13
3.5- 4.5,N=9
5.0- 6.0,N=15
6.5- 7.5,N=23
8.0- 9.0,N=12
9.5- 10.5,N=25
11.0- 11.1,N=60 (1")
11.5- 11.5,N=60 (.01")

Sta. 430+37 - 47' Left of ℄ of Construction
0.5- 1.5,N=11
2.0- 3.0,N=19
3.5- 4.5,N=3
5.0- 6.0,N=8
6.5- 7.5,N=25
8.0- 8.8,N=73 (9")
9.0- 9.0,N=60 (.01")

Sta. 430+44 - ℄ of Construction
4.7- 5.7,N=18
9.7- 10.7,N=13
14.7- 15.7,N=14
19.7- 20.7,N=33
24.2- 24.2,N=60 (.01")

428+00 429+00 430+00 431+00

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
8/19/13
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BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE OVER
TOWN BRANCH
HWY. 16 EAST - HWY. 65B SOUTH
(CLINTON) (S)
VAN BUREN COUNTY

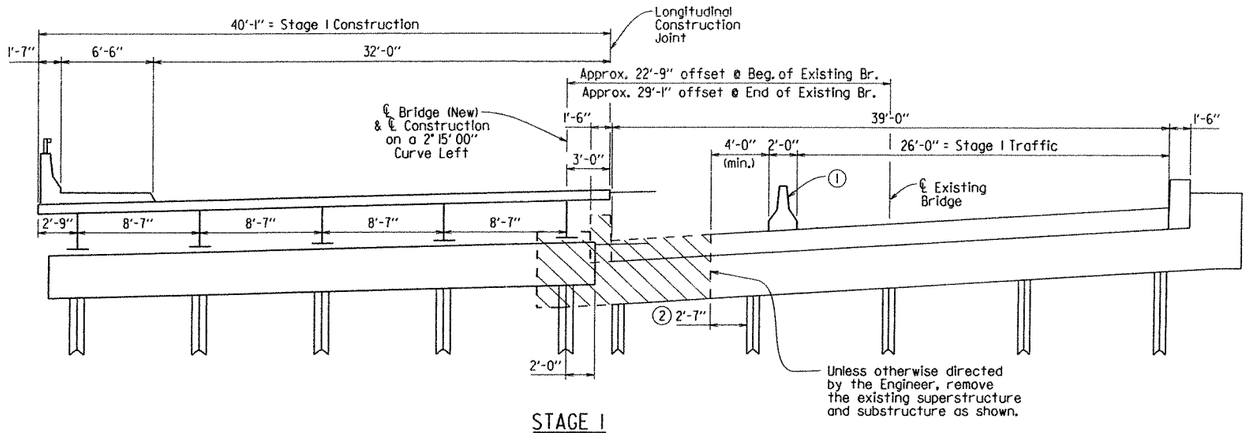
ROUTE 65 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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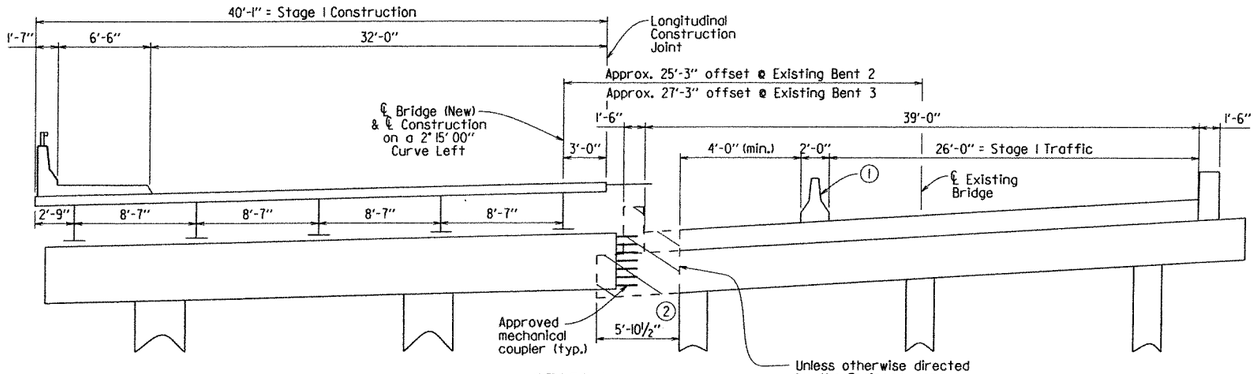
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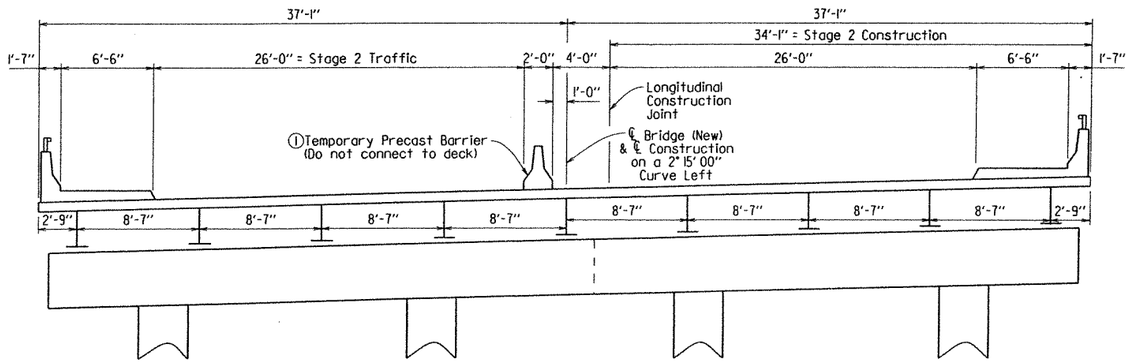
(1) 07290 - STAGE CONSTRUCTION - 54236



STAGE 1
Looking Ahead
(shown at beginning of exisiting bridge)



STAGE 1
Looking Ahead
(shown at existing intermediate Bent 2)



STAGE 2
Looking Ahead

Remove remaining portion of the exisitng structure after Stage 1 Construction has been opened to traffic.

See Roadway Plans for additional details of Stage Construction and Maintenance of Traffic.

(1) For Details of Temporary Precast Barrier, see Std. Dwg. No. TC-4.

(2) Location of cut line shall provide the minimum 4'-0" clear to the temporary precast barrier.

STATE OF ARKANSAS
Carl J. Fuselier
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8/19/13
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BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
TOWN BRANCH
HWY. 16 EAST - HWY. 65B SOUTH
(CLINTON) (S)
VAN BUREN COUNTY

ROUTE 65 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

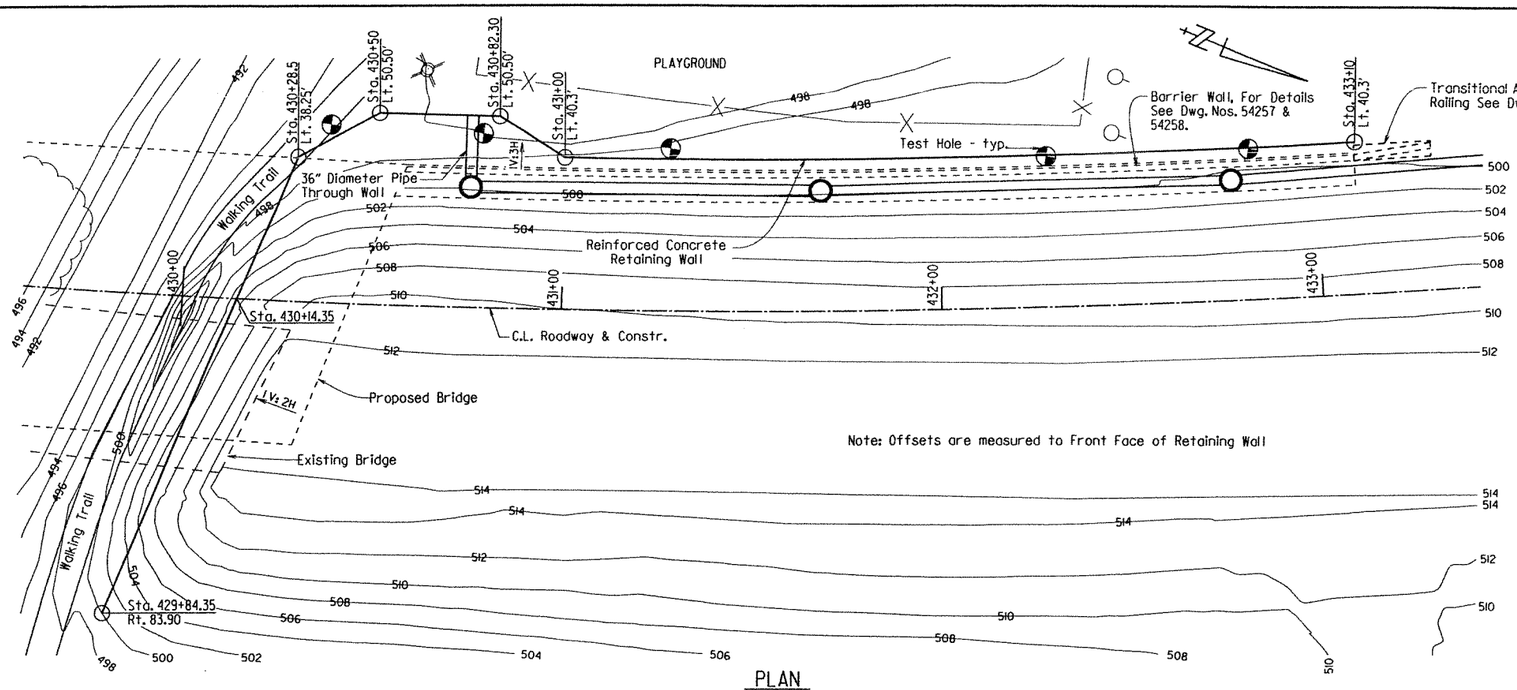
LITTLE ROCK, ARK.

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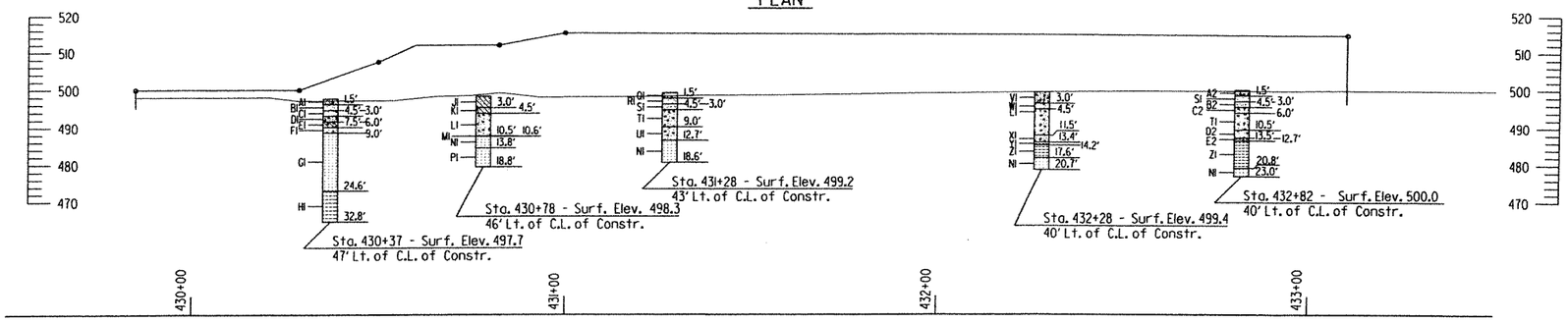
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				6	ARK.			
				JOB NO.		080390	106	263
				①		- RET. WALL		- 54237



PLAN



ELEVATION

HORIZONTAL CURVE DATA AT C.L. CONSTRUCTION

PI = Sta. 433+96.10
Delta = 38°15'10.95" Lt.
D = 2°15'00"
T = 883.12'
L = 1700.1352'

"N" VALUES

Sta. 430+37 - 47' Left of C.L. of Constr.
0.5- 1.5, N=11
2.0- 3.0, N=19
3.5- 4.5, N=3
5.0- 6.0, N=8
6.5- 7.5, N=25
8.0- 8.8, N=73 (3")
9.0- 9.0, N=60 (.01")

Sta. 430+78 - 46' Left of C.L. of Constr.
0.5- 1.5, N=11
3.5- 4.5, N=21
5.0- 6.0, N=41
6.5- 7.5, N=45
8.0- 9.0, N=48
9.5- 10.5, N=28
10.5- 10.6, N=60 (1")

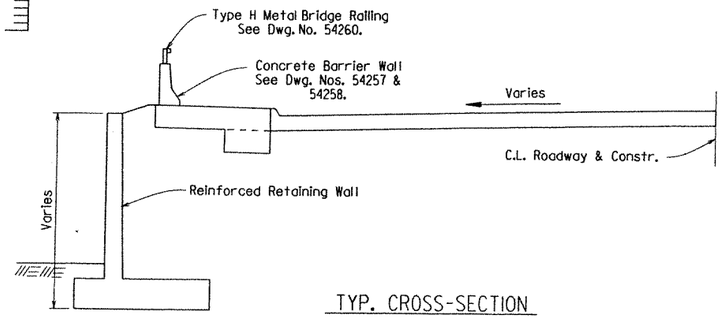
Sta. 431+28 - 43' Left of C.L. of Constr.
0.5- 1.5, N=11
2.0- 3.0, N=6
3.5- 4.5, N=7
5.0- 6.0, N=20
6.5- 7.5, N=21
8.0- 9.0, N=21
9.5- 10.5, N=33
11.0- 12.0, N=41
12.5- 12.7, N=60 (2")

Sta. 432+28 - 40' Left of C.L. of Constr.
0.5- 1.5, N=19
2.0- 3.0, N=9
3.5- 4.5, N=17
5.0- 6.0, N=42
6.5- 7.5, N=35
8.0- 9.0, N=34
9.5- 10.5, N=44
11.0- 12.0, N=61
12.5- 13.5, N=41
14.0- 14.2, N=60(2")

Sta. 432+82 - 40' Left of C.L. of Constr.
0.5- 1.5, N=10
2.0- 3.0, N=6
3.5- 4.5, N=4
5.0- 6.0, N=19
6.5- 7.5, N=32
8.0- 9.0, N=26
9.5- 10.5, N=23
11.0- 12.0, N=45
12.5- 13.5, N=53

BORING LEGEND

A1-Moist, Medium Dense, Brown Clayey Sand with Organic Matter (Grassroots)
B1-Moist, Medium Dense, Brown Sand with Trace of Clay and Gravel (Sandstone Fragments)
C1-Moist, Very Loose, Brown Sand with Gravel (Sandstone Fragments)
D1-Moist, Loose, Brown Sand with Clay and Gravel (Sandstone Fragments)
E1-Wet, Medium Dense, Brown and Gray Clay with Sand and Gravel (Sandstone Fragments)
F1-Wet, Very Dense, Brown Sand with Gravel (Sandstone Fragments)
G1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Medium Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
H1-SHALE WITH WEATHERED SHALE LAYERS AND GRAY SANDSTONE SEAMS - Dark Gray, Laminated, Medium Hard, with Slight Dip
J1-Moist, Stiff, Brown Sandy Clay with Organic Matter (Grassroots)
K1-Moist, Very Stiff, Brown Sandy Clay with Gravel (Sandstone Fragments)
L1-Moist, Dense, Brown Sand with Gravel (Sandstone Fragments)
M1-Moist, Very Dense, Gray Gravel (Sandstone Fragments) with Trace of Clay
N1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
P1-SANDSTONE WITH FREQUENT DARK GRAY SHALE PARTINGS - Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip and some Vertically Fractured Layers
O1-Moist, Medium Dense, Brown Sand with Clay and Organic Matter (Grassroots)
R1-Moist, Loose, Brown Sand with some Clay
S1-Moist, Loose, Brown Sand with Trace of Gravel (Sandstone Fragments)
T1-Moist, Medium Dense, Brown Sand with Gravel (Sandstone Fragments)
U1-Wet, Dense, Brown Sand with Gravel (Sandstone Fragments)
V1-Moist, Medium Dense, Brown Sand with Clay and Gravel (Sandstone Fragments)
W1-Moist, Medium Dense, Brown Sand with Gravel (Sandstone Fragments) and Trace of Clay
X1-Moist, Very Dense, Brown Sand with Gravel (Sandstone Fragments)
Y1-SHALE - Dark Gray, Weathered, Medium Hard
Z1-SHALE WITH WEATHERED SHALE LAYERS - Dark Gray, Laminated, Medium Hard, with Slight Dip
A2-Moist, Loose, Brown Sand with Clay, Gravel (Sandstone Fragments) and Organic Matter (Grassroots)
B2-Moist, Loose, Brown Sand
C2-Moist, Medium Dense, Brown and Gray Sand with Gravel (Sandstone Fragments)
D2-Moist, Dense, Brown Sand with Gravel (Sandstone Fragments) and some Weathered Shale
E2-SHALE - Dark Gray, Weathered, Soft



TYP. CROSS-SECTION
Looking Ahead Station

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF REINFORCED CONCRETE RETAINING WALL
STA. 429+84.35 TO STA. 433+10

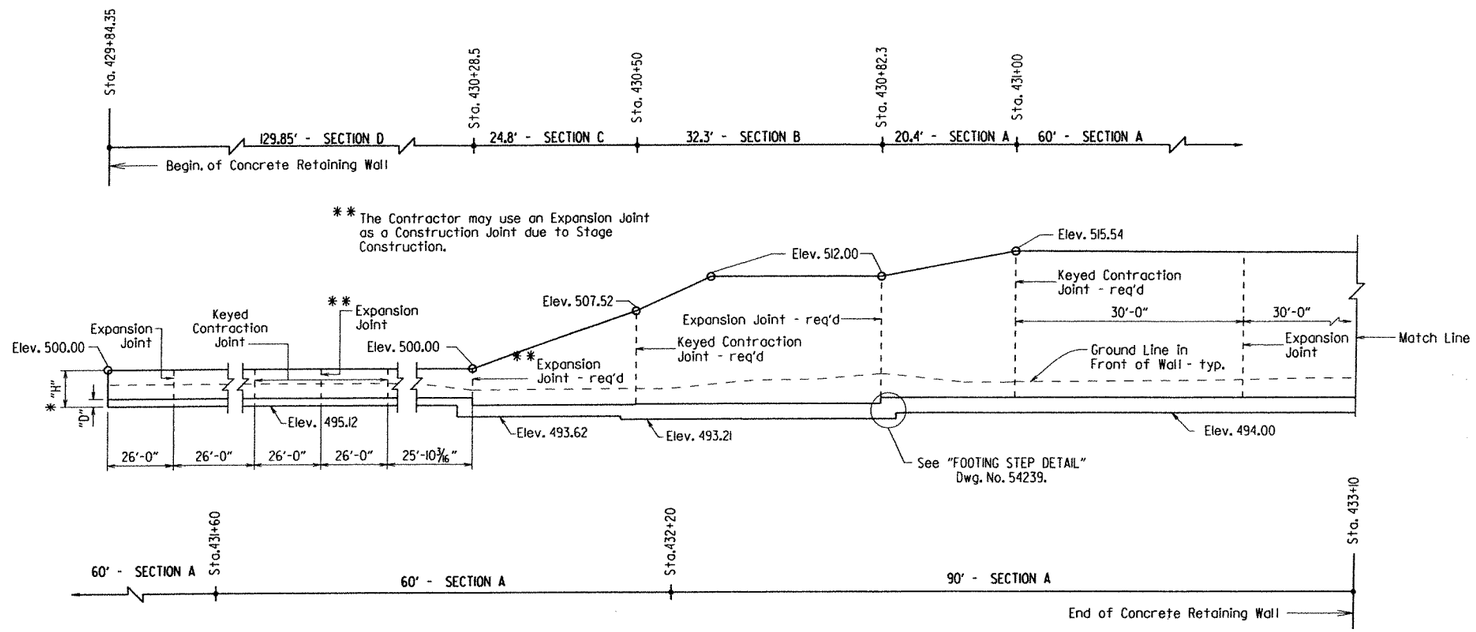
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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BRIDGE NO. DRAWING NO. 54237

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	107	263
				①	-	RET. WALL	- 54238	



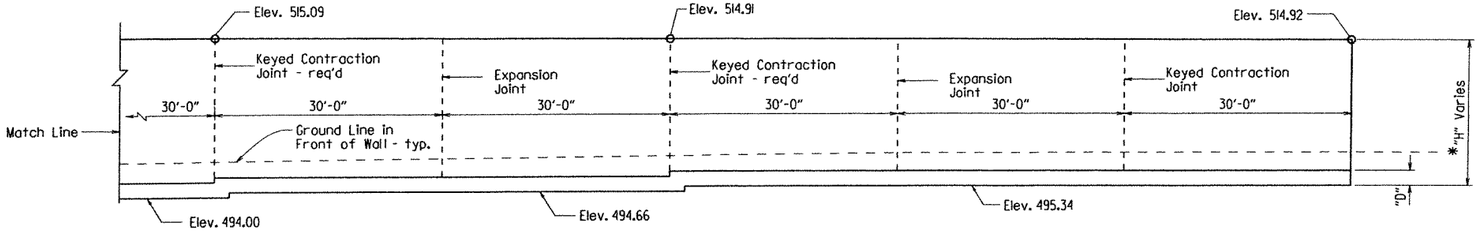


TABLE OF RETAINING WALL VARIABLES

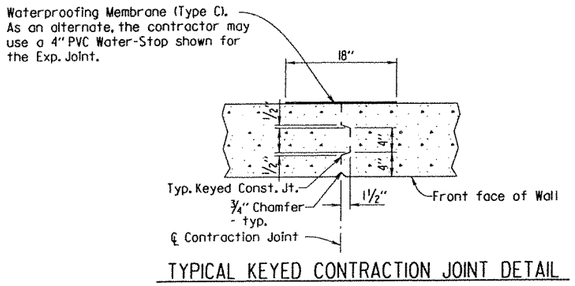
Section	*"H"	"B"	"T"	"D"	"X"	"L"	"Bar A" Size @ Sp.	"Bar B" Size @ Sp.	"Bar C" Size @ Sp.	"Bar D" Size @ Sp.	Batter "F"
"A"	21'-9"	14'-0"	2'-0"	2'-0"	4'-0"	4'-6"	#7 @ 6"	#7 @ 6"	#9 @ 6"	#6 @ 6"	3/4
"B"	18'-6"	11'-0"	2'-0"	2'-0"	4'-0"	3'-6"	#7 @ 8"	#7 @ 8"	#7 @ 8"	#6 @ 6"	1/2
"C"	14'-0"	11'-6"	2'-0"	1'-6"	--	--	#7 @ 8"	#7 @ 8"	#8 @ 7"	--	--
"D"	5'-0"	4'-6"	9"	1'-0"	--	--	#4 @ 12"	#4 @ 12"	#4 @ 12"	--	--

* Design height of the Section.

Actual heights may vary in the field but shall not exceed the design height.
The Engineer shall be notified if changes in footing elevations result in a total wall height in a section exceeding the design height.

For Details and General Notes, See Dwg. No. 54239.

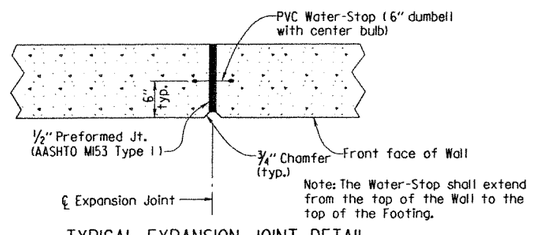
Note: Stations are along C.L. Roadway & Constr.



TYPICAL KEYED CONTRACTION JOINT DETAIL

N.T.S.

Note: 30'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.

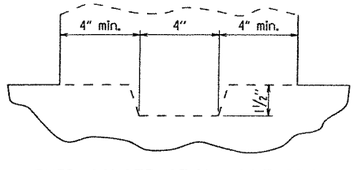


Note: The Water-Stop shall extend from the top of the Wall to the top of the Footing.

TYPICAL EXPANSION JOINT DETAIL

N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



KEYED CONSTRUCTION JOINT DETAIL

N.T.S

APPROXIMATE QUANTITIES FOR RETAINING WALL

(FOR INFORMATION ONLY)

Reinforcing Steel - Roadway (Gr. 60)	Class S Concrete - Roadway	Unclassified Excavation for Structures - Roadway	Architectural Finish	Textured Coating Finish
80,720 lbs.	640.0 Cu. Yds.	1000 Cu. Yds.	5360 Sq. Ft.	510 Sq. Yds.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF REINFORCED CONCRETE RETAINING WALL
STA. 429+84.35 TO STA. 433+10

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

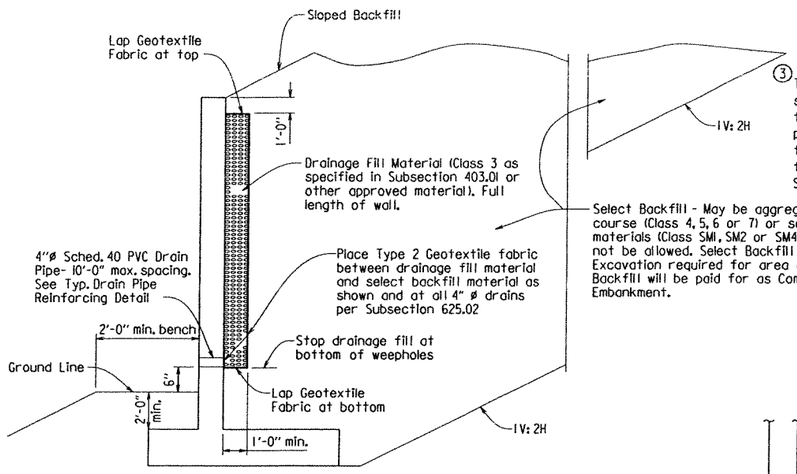
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 01/24/2013 FILENAME: b080390xl_wall.dgn
CHECKED BY: CJF DATE: 8/19/13 SCALE: NONE
DESIGNED BY: MCB DATE: 01/13

BRIDGE NO. DRAWING NO. 54238

PRINT DATE: 8/19/2013

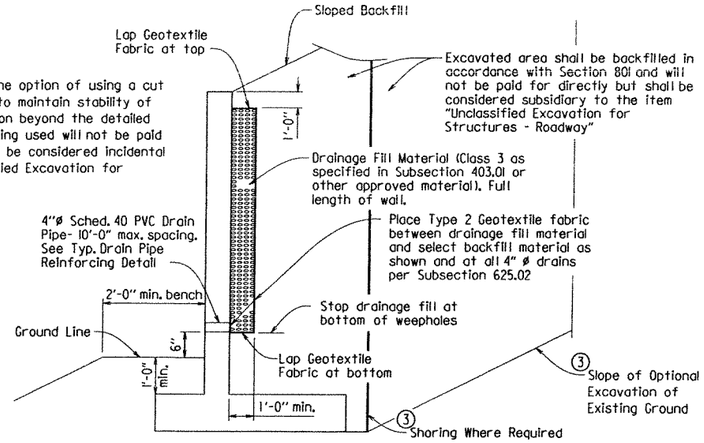
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	108	263
				①	-	RET. WALL	- 54239	



TYPICAL DRAINAGE & BACKFILL DETAILS FOR SECTION A - C

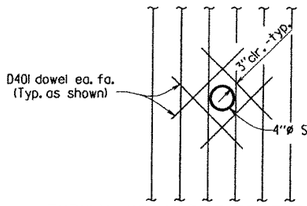
N.T.S

③ The Contractor has the option of using a cut slope and/or shoring to maintain stability of the cut. Any excavation beyond the detailed pay limits or any shoring used will not be paid for directly, but shall be considered incidental to the item "Unclassified Excavation for Structures - Bridge".



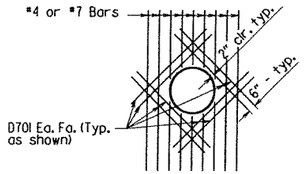
TYPICAL DRAINAGE & BACKFILL DETAILS SECTION D

N.T.S



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



The R.C. Pipe shall be cut flush with the front face of the retaining wall. An approved grout, listed on the QPL, shall be used to fill any voids between the retaining wall and R.C. pipe. Payment for material and labor will not be paid for directly but shall be considered subsidiary to Class S Concrete.

REINFORCING DETAIL FOR 36" R.C. PIPE OUTLET STA. 430+75

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

SEISMIC ZONE: 1

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi.

REINFORCING STEEL: All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

FOOTINGS: Top of footings for retaining walls shall be set 2'-0" below finished ground surface or lower. Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

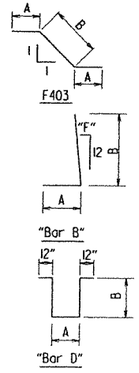
Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

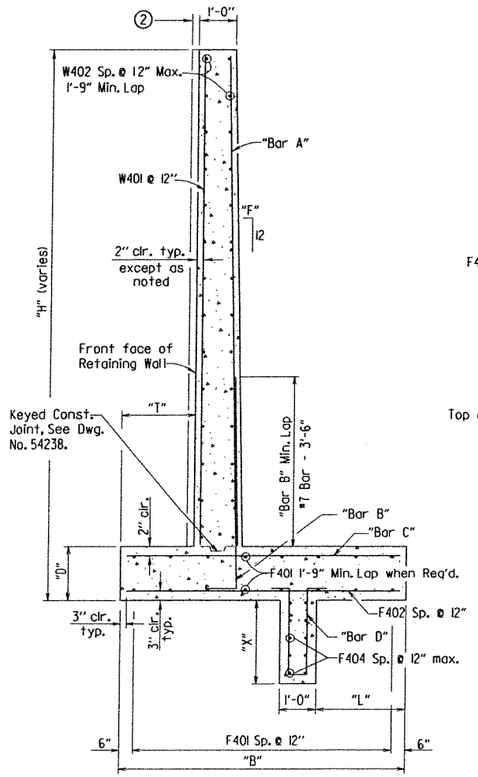
TEXTURE COATING FINISH: All exposed surfaces of the concrete retaining wall shall be given a Class 3 texture coating finish, as specified in SP Job 080390 "Texture Coating Finish", and in accordance with subsection 802.19(3).

BORING LOGS: Boring logs, including laboratory results, may be obtained from the Programs and Contracts Division upon request.

BAR LIST

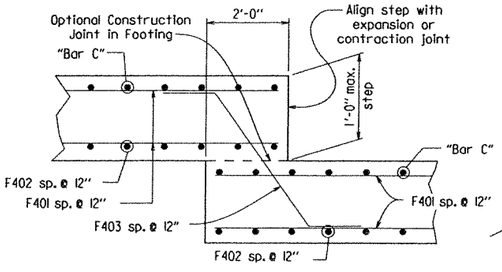
MARK	LENGTH	A	B	P.D.	BENDING DIAGRAMS
W401	("H"-"D"-3")			Str.	Dimensions are out to out of bars.
W402	AS REQUIRED			Str.	
F401	AS REQUIRED			Str.	
F402	("B"- 6")			Str.	
F403	5'-9"	1'-6"	2'-9"	3"	
F404	AS REQUIRED			Str.	
D401	2'-6"			Str.	
D701	7'-0"			Str.	
"Bar A"	("H"-"D"-3")			Str.	
"Bar B"	("D" + 4'-2")	14"	"D" + 3'-2"	5¼"	
"Bar C"	("B"- 6")			Str.	
"Bar D"	("X" + 2'-3" + "X")	8"	"X" + 1"	4½"	





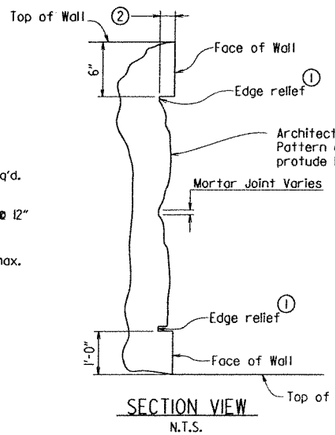
TYPICAL SECTION

N.T.S



FOOTING STEP DETAIL

N.T.S.

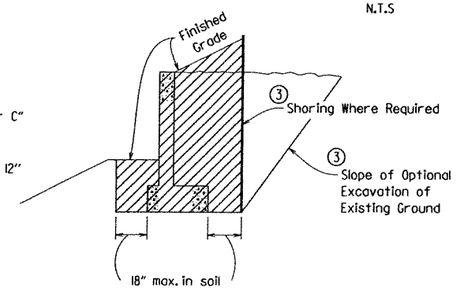


SECTION VIEW

N.T.S.

① Provide edge relief around perimeter of Texture. Edge relief dimensions shall match manufacturers edge distance.

② Additional concrete required for architectural finish. See SP Job No. 080390 "Architectural Finish"

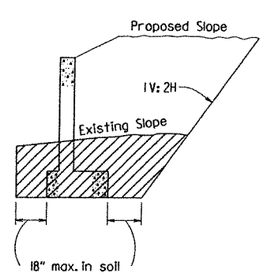


DETAILS OF EXCAVATION

N.T.S

Section D

NOTE: Hatched area denotes maximum limits of pay excavation in embankment.



DETAILS OF EXCAVATION

N.T.S

Section A - C

NOTE: Hatched area denotes maximum limits of pay excavation in embankment.

Wall texture shall be applied to the exposed surfaces of wall in accordance with Special Provision "Architectural Finish" and as shown in the plans. Care shall be taken with form liner handling and installation to insure aesthetic quality of the wall texturing is maintained. Where form liner panels require modification to conform to the location, dimensions and lines shown in the plans, the Contractor shall provide edge relief matching that of the unaltered form liner. Payment for wall texturing shall be in accordance with Special Provision "Architectural Finish".

No adjustments will be made in concrete volume due to the use of "Architectural Finish". Class "S" Concrete shall be measured in accordance with subsection 802.24(a). Care shall be taken in placing concrete to avoid segregation and to eliminate flow lines.

Class 3 Textured Coating Finish shall be applied to wall surfaces as specified in Special Provision "Textured Coating Finish" and in accordance with subsection 802.19(b)(3).

STATE OF ARKANSAS
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8/15/13

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF REINFORCED CONCRETE RETAINING WALL
STA. 429+84.35 TO STA. 433+10

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

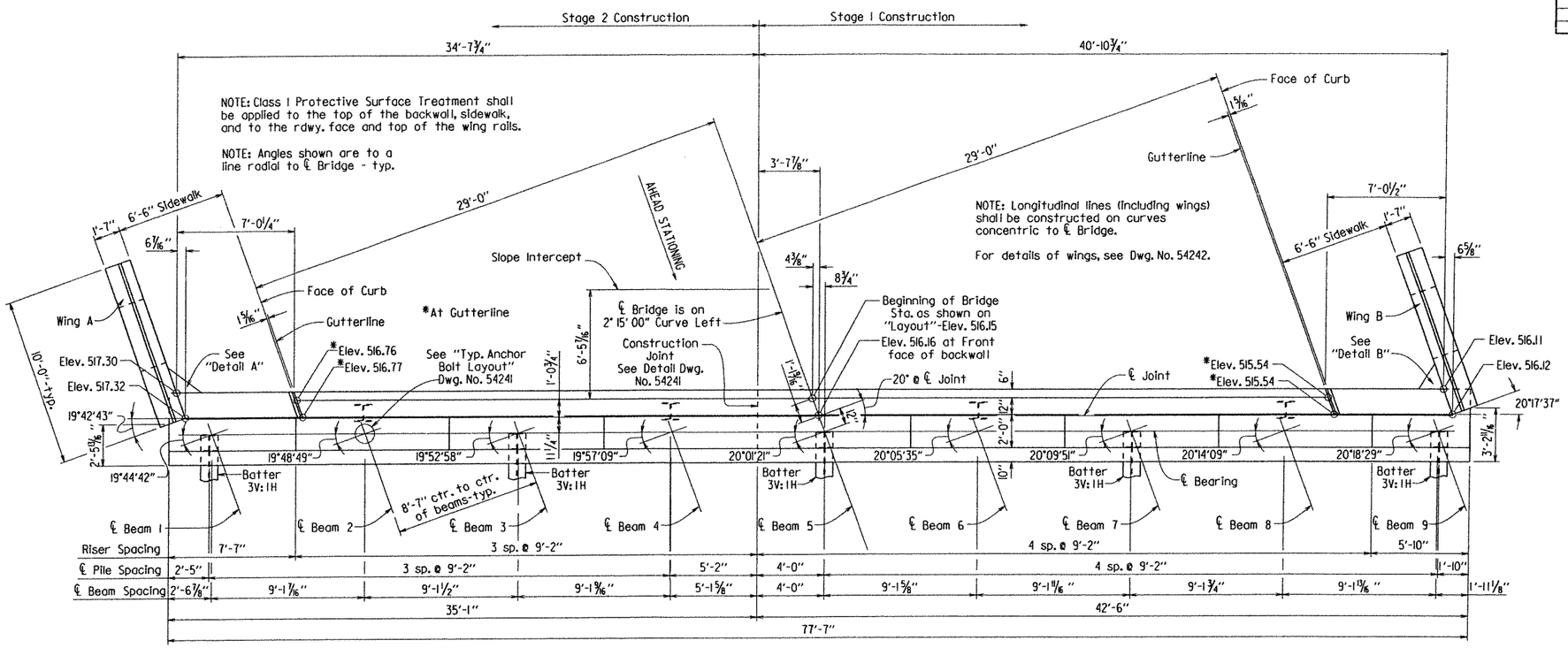
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 01/24/2013 FILENAME: b080390x1_wall.dgn
CHECKED BY: CJP DATE: 8/7/13 SCALE: NONE
DESIGNED BY: MCB DATE: 01/13

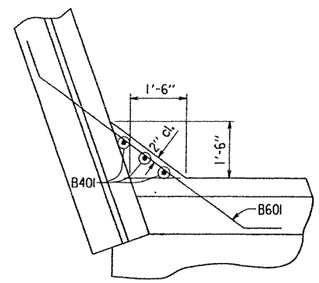
BRIDGE NO. DRAWING NO. 54239

PRINT DATE: 8/19/2013

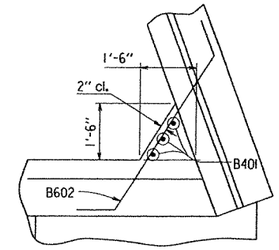
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				6	ARK.			
				JOB NO.		080390	109	263
				(1)	07290 - BENT 1 - 54240			



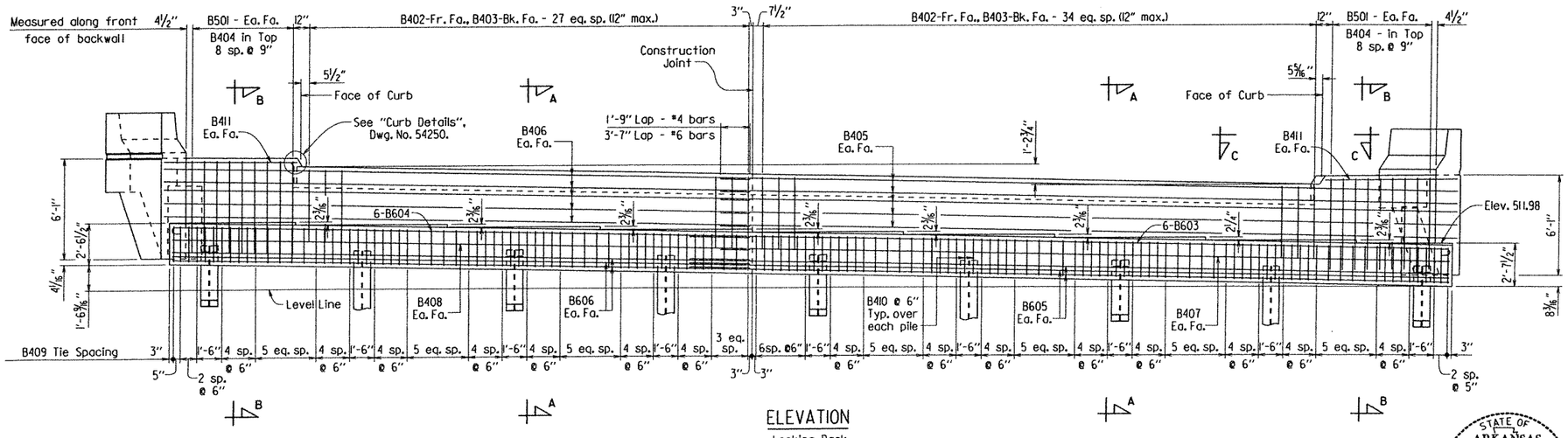
PLAN
Scale: ¼" = 1'-0"



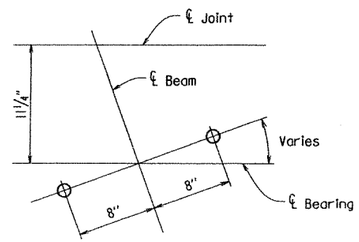
DETAIL A
Scale: ½" = 1'-0"



DETAIL B
Scale: ½" = 1'-0"



ELEVATION
Looking Back
Scale: ¼" = 1'-0"



TYP. ANCHOR BOLT LAYOUT
No Scale

For details of elastomeric bearings, See Dwg. No. 54256.

STATE OF ARKANSAS
Carl L. Fuselier
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No. 7510
8/14/13
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SHEET 1 OF 3
DETAILS OF BENT 1
TOWN BRANCH

ROUTE SEC.

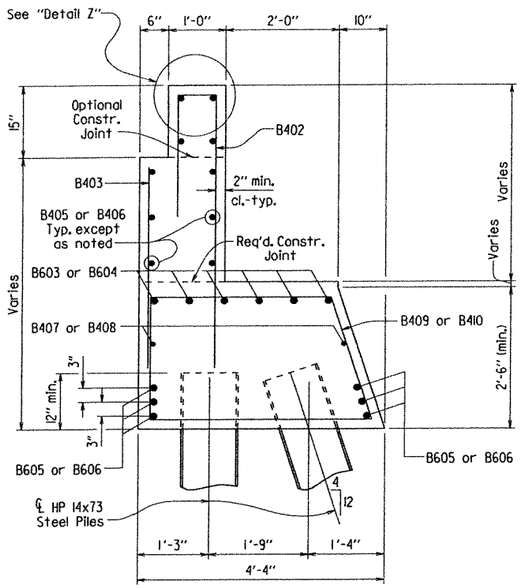
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 11-13-12
CHECKED BY: CSR DATE: 8/7/13
DESIGNED BY: MCB DATE: 10/12
FILENAME: b080390x1_b1.dgn
SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54240

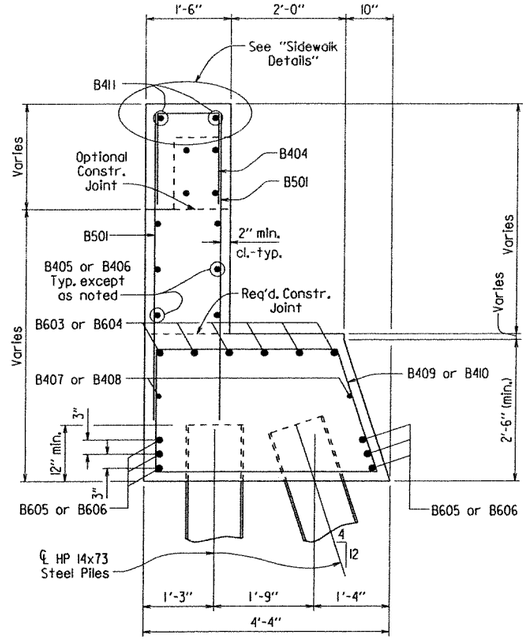
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		080390	110	263
				①		07290 - BENT 1 - 54241		



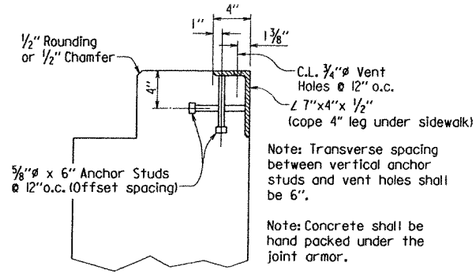
SECTION A-A

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



SECTION B-B

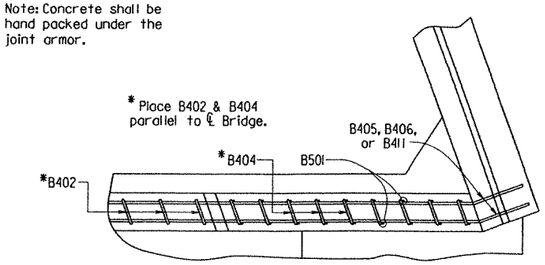
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Note: For additional joint details, see Dwg. No. 54255.

DETAIL Z

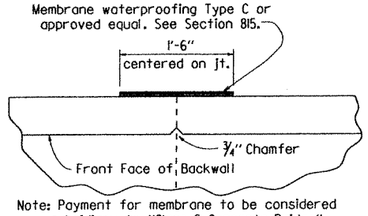
No Scale



Details shown at Wing B. Wing A is similar.

VIEW C-C

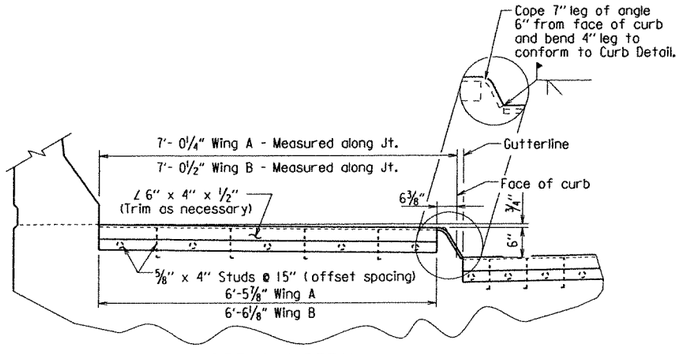
Scale: 1/2" = 1'-0"



Note: Payment for membrane to be considered subsidiary to "Class S Concrete-Bridge".

CONSTRUCTION JOINT DETAIL

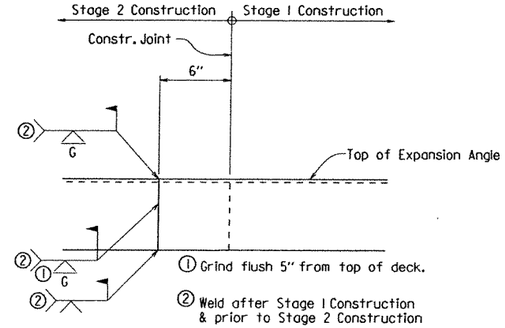
No Scale



SIDEWALK DETAIL

No Scale

Concrete shall be hand packed under the joint armor in the sidewalk. See Dwg. No. 54255 for additional details.



DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

Looking back
No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. PUSELLIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 1
TOWN BRANCH

ROUTE 5424 SEC. 542

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

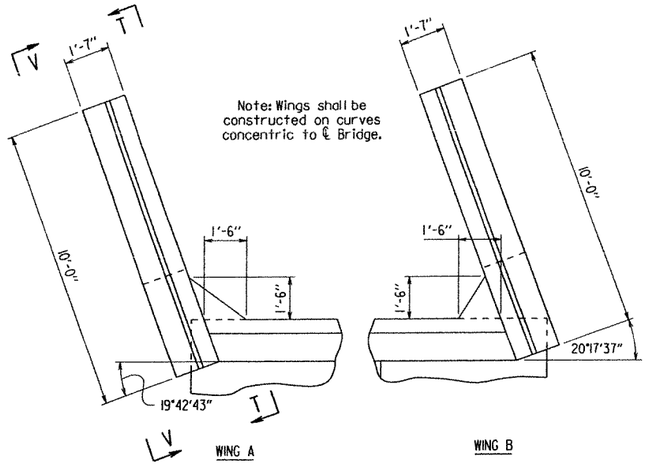
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CHECKED BY: CJP DATE: 8/7/13
DESIGNED BY: MCB DATE: 10/12

FILENAME: b080390xl_bl.dgn
SCALE: AS NOTED

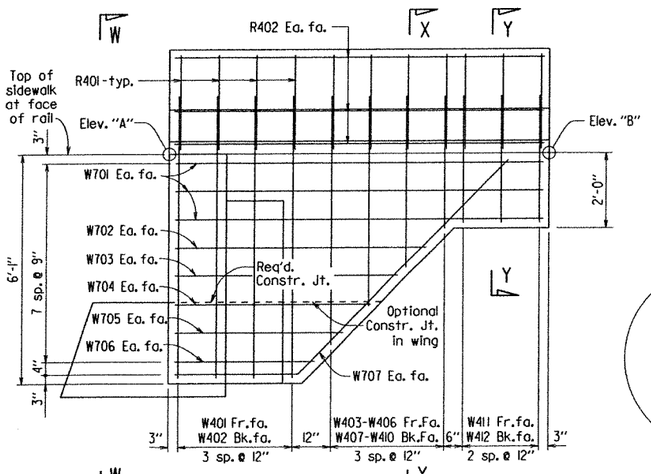
BRIDGE NO. 07290 DRAWING NO. 54241

PRINT DATE: 8/19/2013

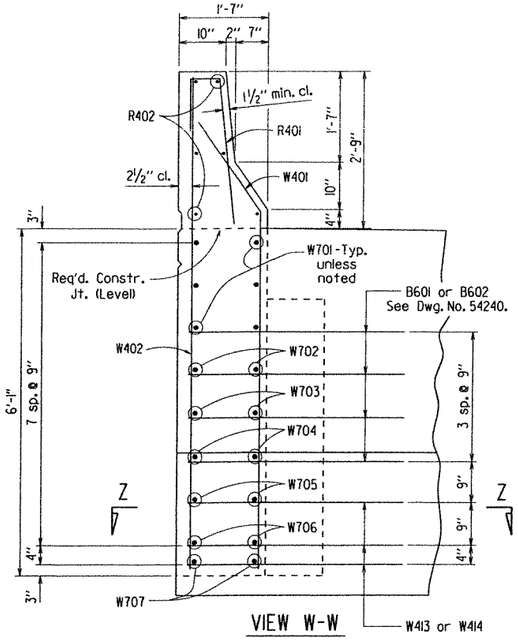
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	11	263
				(1)		07290 - BENT 1 - 54242		



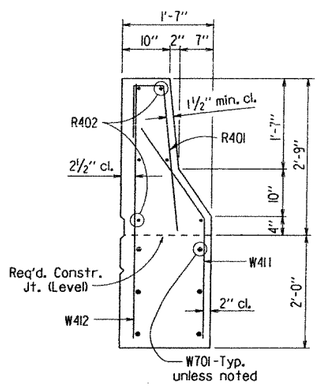
PLAN OF WING
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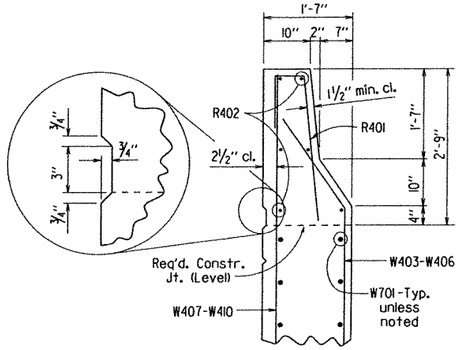
VIEW T-T
Scale: 1/2" = 1'-0"



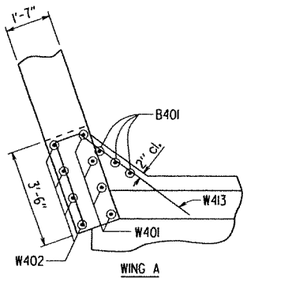
VIEW W-W
Scale: 3/4" = 1'-0"



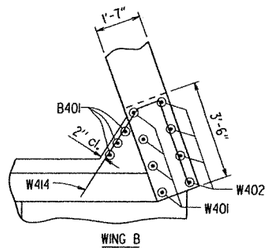
SECTION Y-Y
Scale: 3/4" = 1'-0"



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

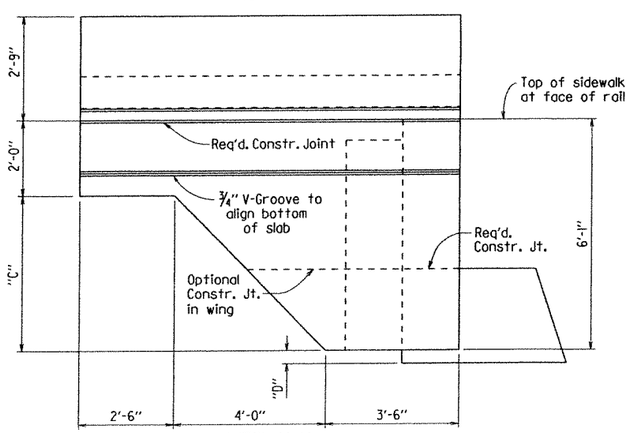


WING A



WING B

SECTION Z-Z
No Scale



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

TABLE OF VARIABLES

	Wing A	Wing B
Elev. "A"	517.32	516.12
Elev. "B"	517.23	516.05
"C"	3'-11 15/16"	4'-0 1/8"
"D"	4 1/16"	8 3/16"

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270-Gr. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

No portion of the backwall shall be poured until the beams are in place. Refer to "Expansion Device Installation at End Bents" note, Dwg. No. 54255.

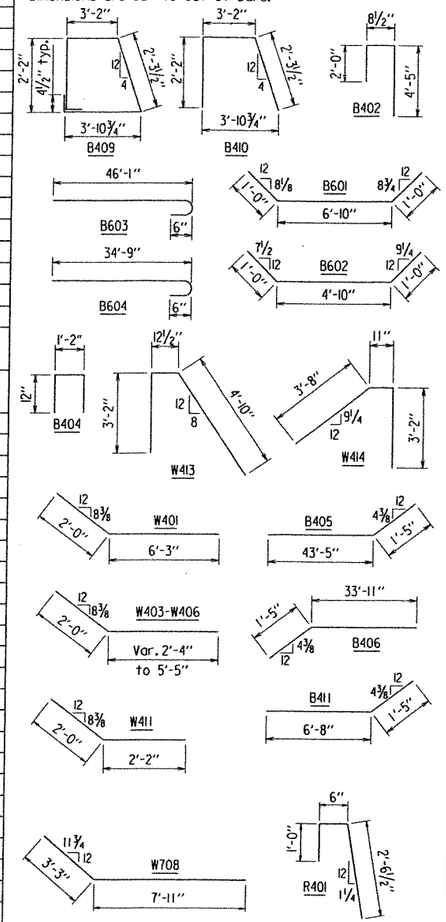
For additional information, See layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	4'-6"	Str.
B402	63	7'-0"	2"
B403	63	3'-2"	Str.
B404	18	3'-0"	2"
B405	10	44'-9"	3"
B406	10	35'-3"	3"
B407	2	44'-3"	Str.
B408	2	34'-9"	Str.
B409	121	11'-11"	2"
B410	18	7'-6"	2"
B411	4	8'-0"	3"
R401	22	3'-11"	2"
R402	12	9'-8"	Str.
W401	8	8'-2"	2"
W402	8	8'-6"	Str.
W403-W406	2 each	Var. 4'-3" to 7'-4"	2"
W407-W410	2 each	Var. 4'-7" to 7'-8"	Str.
W411	6	4'-1"	2"
W412	6	4'-5"	Str.
W413	3	8'-11"	2"
W414	3	7'-7"	2"
B501	18	5'-4"	Str.
B601	4	8'-6"	4½"
B602	4	6'-6"	4½"
B603	6	46'-9"	4½"
B604	6	35'-5"	4½"
B605	6	46'-1"	Str.
B606	6	34'-9"	Str.
W701	12	9'-8"	Str.
W702	4	6'-7"	Str.
W703	4	5'-10"	Str.
W704	4	5'-1"	Str.
W705	4	4'-4"	Str.
W706	4	3'-8"	Str.
W707	4	10'-11"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/19/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 1
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

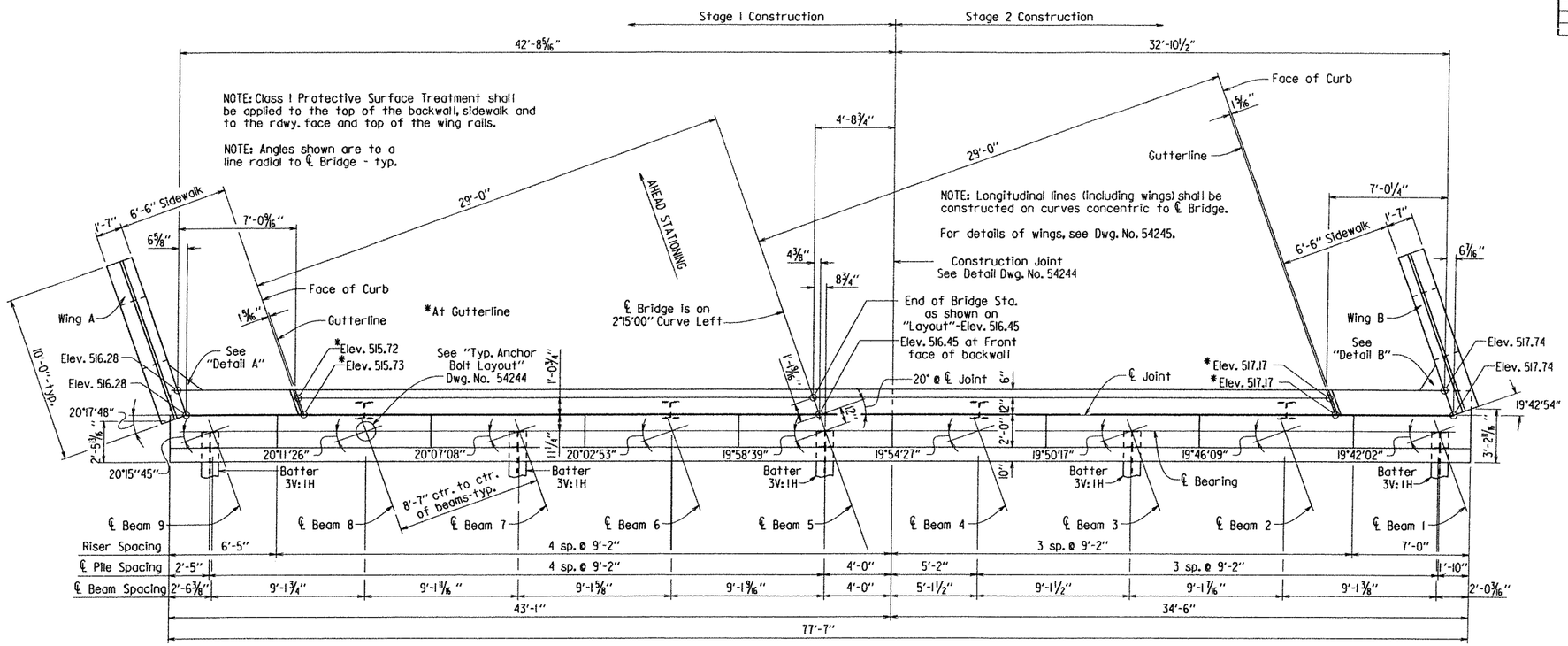
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CHECKED BY: CJF DATE: 8/7/13
DESIGNED BY: MCG DATE: 8/13

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SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54242

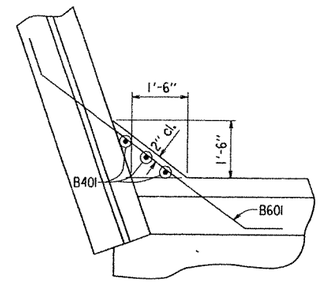
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	112	263
				①	07290 -	BENT 4 -	54243	



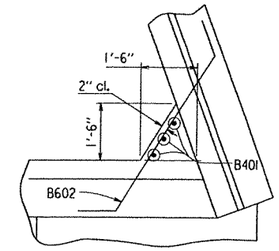
PLAN

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



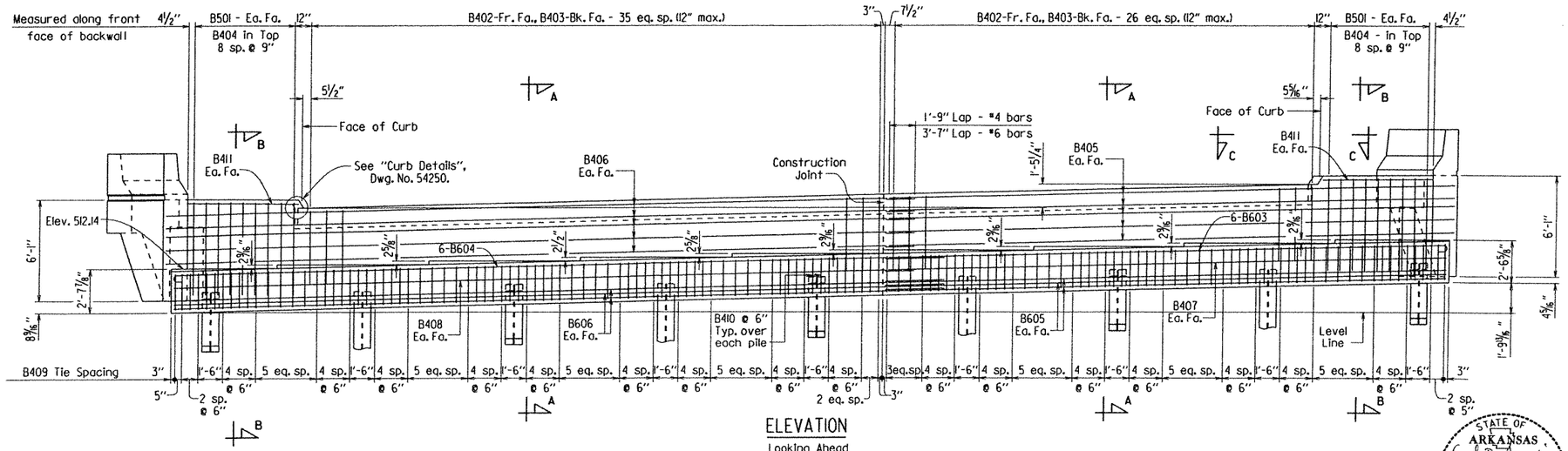
DETAIL A

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



DETAIL B

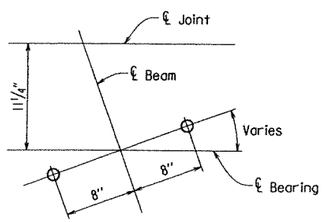
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ELEVATION

Looking Ahead

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



TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, See Dwg. No. 54256.

STATE OF ARKANSAS
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SHEET 1 OF 3
DETAILS OF BENT 4
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

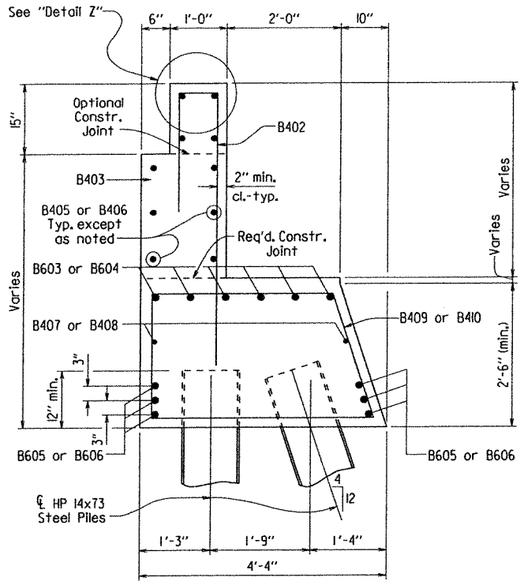
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SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54243

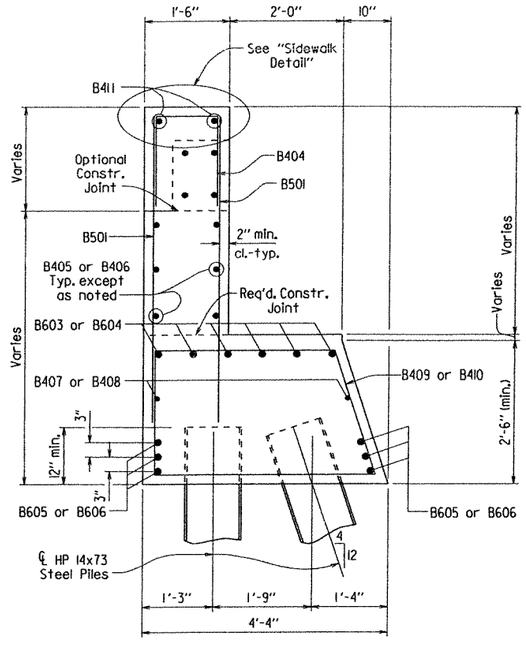
PRINT DATE: 8/19/2013

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				6	ARK.			
				JOB NO.		080390	113	263
				①	07290 - BENT 4 - 54244			



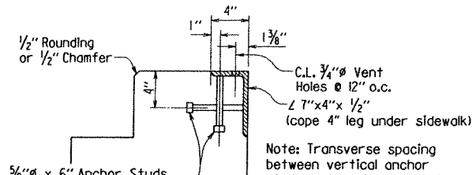
SECTION A-A

Scale: ¾" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"



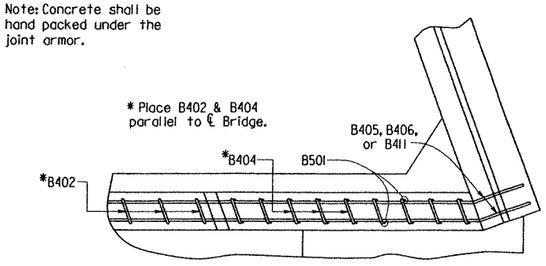
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54255.

DETAIL Z

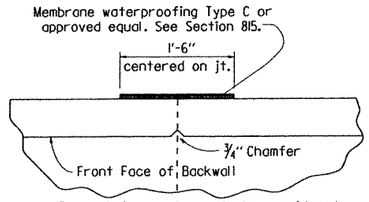
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Details shown at Wing B. Wing A is similar.

VIEW C-C

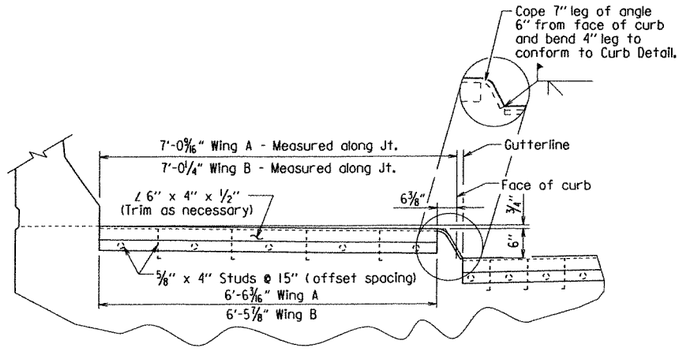
Scale: ½" = 1'-0"



Note: Payment for membrane to be considered subsidiary to "Class S Concrete-Bridge".

CONSTRUCTION JOINT DETAIL

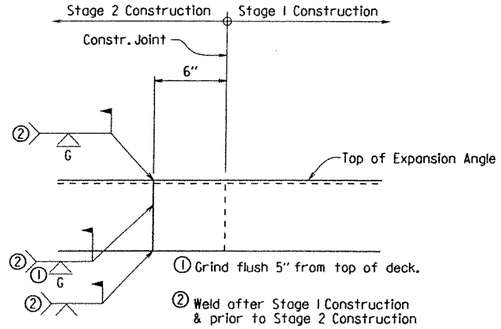
No Scale



SIDEWALK DETAIL

No Scale

Concrete shall be hand packed under the joint armor in the sidewalk. See Dwg. No. 54255 for additional details.



DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

Looking back
No Scale

STATE OF ARKANSAS
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8/19/13
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SHEET 2 OF 3
DETAILS OF BENT 4
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

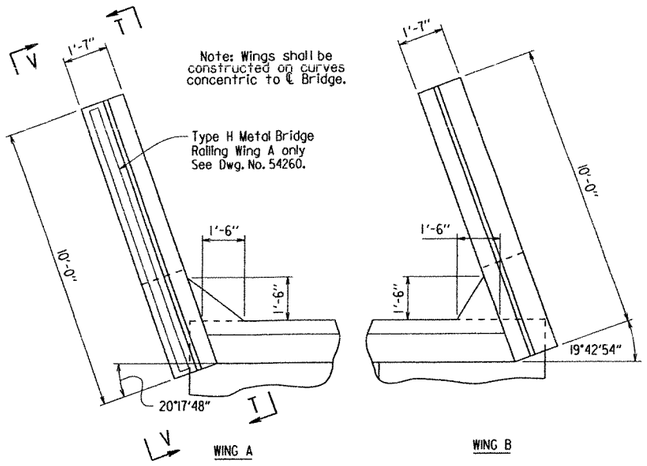
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CHECKED BY: CJP DATE: 8/7/13
DESIGNED BY: MCB DATE: 10/12

FILENAME: b080390xl_b4.dgn
SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54244

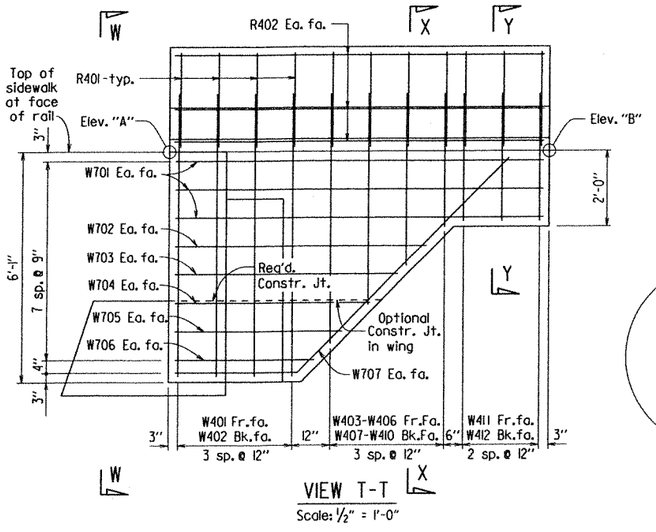
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	114	263
				①		07290 - BENT 4 - 54245		



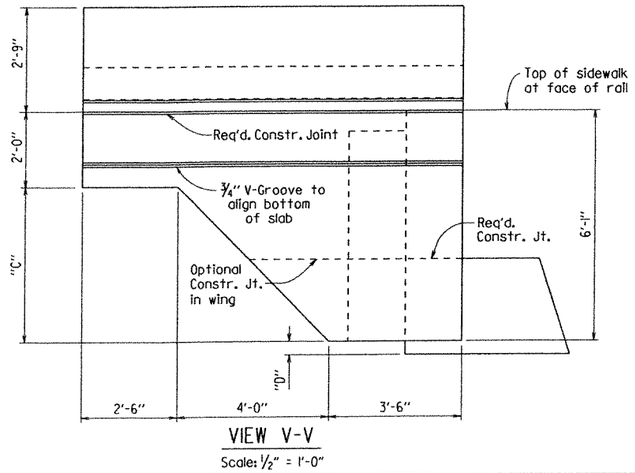
PLAN OF WING

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



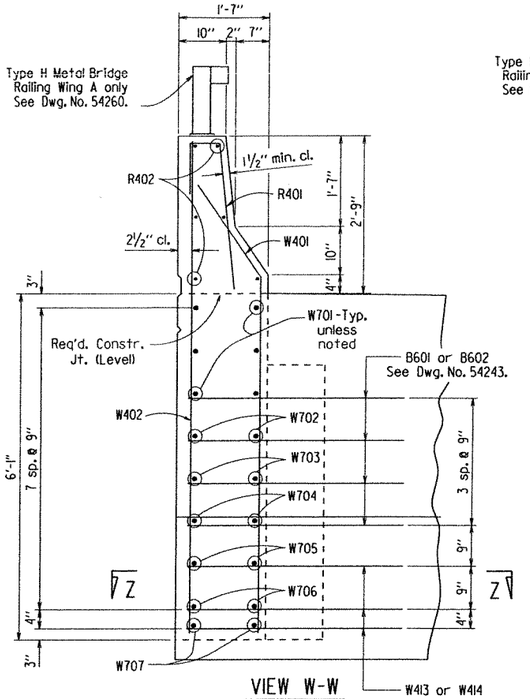
VIEW T-T

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



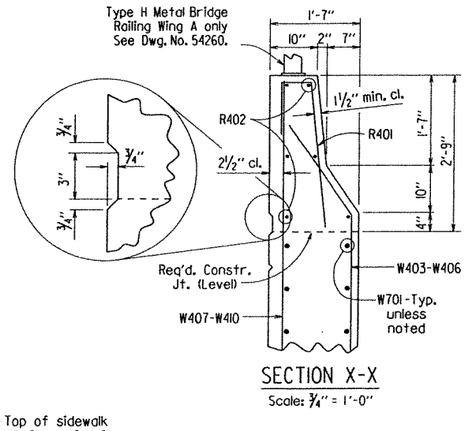
VIEW V-V

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



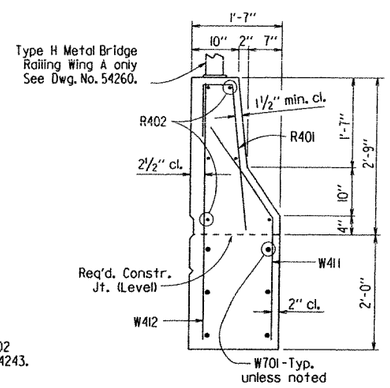
VIEW W-W

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



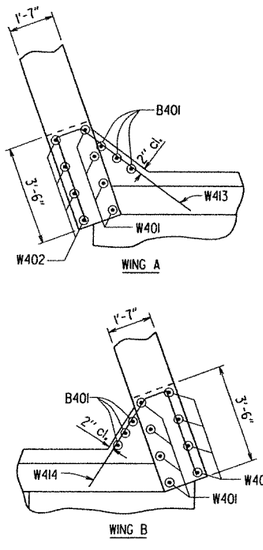
SECTION X-X

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



SECTION Y-Y

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



SECTION Z-Z

No Scale

TABLE OF VARIABLES

	Wing A	Wing B
Elev. "A"	516.28	517.74
Elev. "B"	516.25	517.72
"C"	4'-0 5/8"	4'-0 3/4"
"D"	8 3/16"	4 5/16"

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270-Gr. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

No portion of the backwall shall be poured until the beams are in place. Refer to "Expansion Device Installation at End Bents" note, Dwg. No. 54255.

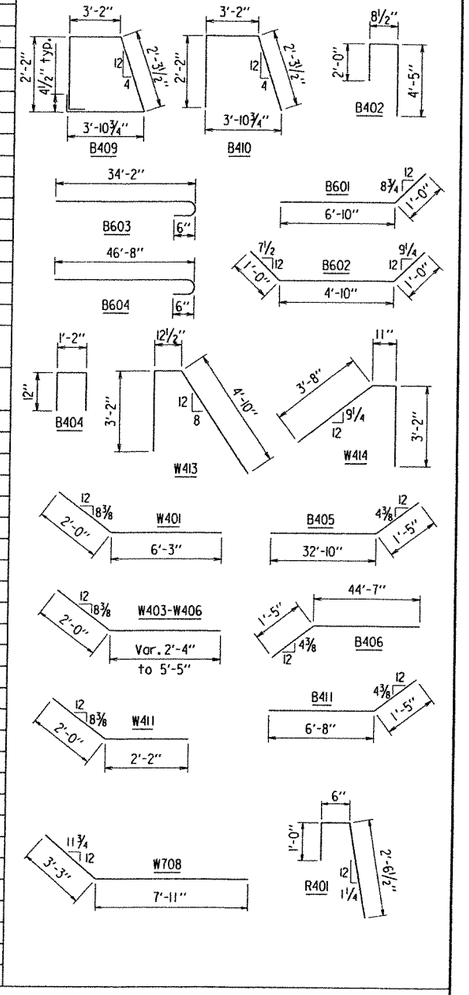
For additional information, See layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	4'-6"	Str.
B402	63	7'-0"	2"
B403	63	3'-2"	Str.
B404	18	3'-0"	2"
B405	10	34'-2"	3"
B406	10	46'-0"	3"
B407	2	34'-0"	Str.
B408	2	44'-10"	Str.
B409	120	11'-11"	2"
B410	18	7'-6"	2"
B411	4	8'-0"	2"
R401	22	3'-11"	2"
R402	12	9'-8"	Str.
W401	8	8'-2"	2"
W402	8	8'-6"	Str.
W403-W406	2 each	Var. 4'-3" to 7'-4"	2"
W407-W410	2 each	Var. 4'-7" to 7'-8"	Str.
W411	6	4'-1"	2"
W412	6	4'-5"	Str.
W413	3	8'-11"	2"
W414	3	7'-7"	2"
B501	18	5'-4"	Str.
B601	4	7'-8"	4½"
B602	4	6'-6"	4½"
B603	6	34'-10"	4½"
B604	6	47'-4"	4½"
B605	6	34'-2"	Str.
B606	6	46'-8"	Str.
W701	12	9'-8"	Str.
W702	4	6'-7"	Str.
W703	4	5'-10"	Str.
W704	4	5'-1"	Str.
W705	4	4'-4"	Str.
W706	4	3'-8"	Str.
W707	4	10'-11"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
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SHEET 3 OF 3
DETAILS OF BENT 4
TOWN BRANCH

ROUTE SEC.

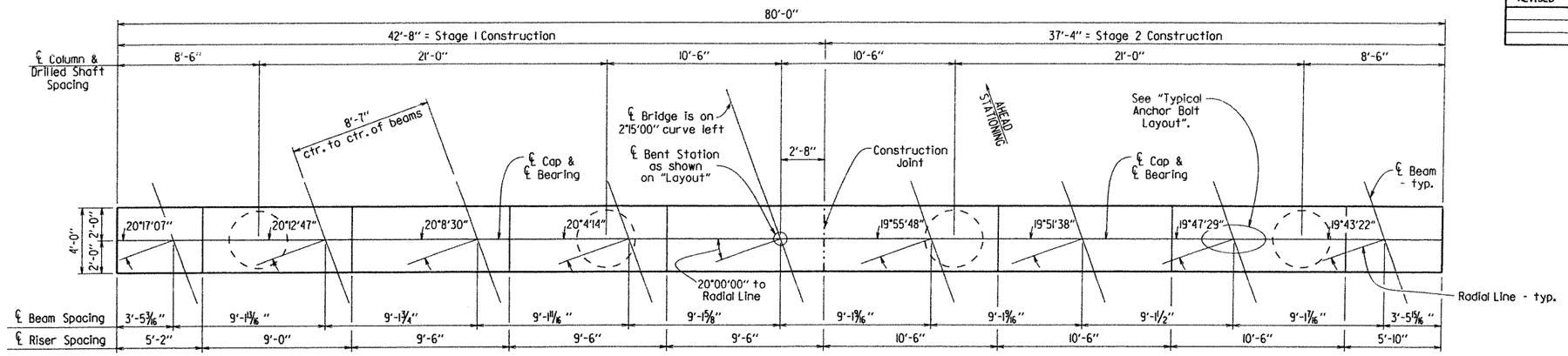
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LITTLE ROCK, ARK.

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CHECKED BY: CSF DATE: 8/7/13 SCALE: AS NOTED
DESIGNED BY: MCS DATE: 11/12

BRIDGE NO. 07290 DRAWING NO. 54245

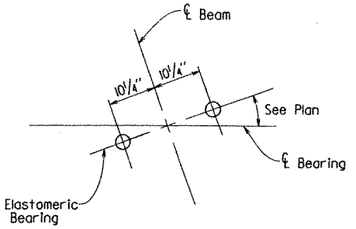
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	115	263
				①	07290	- INT. BENTS - 54246		



PLAN- BENT 2

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

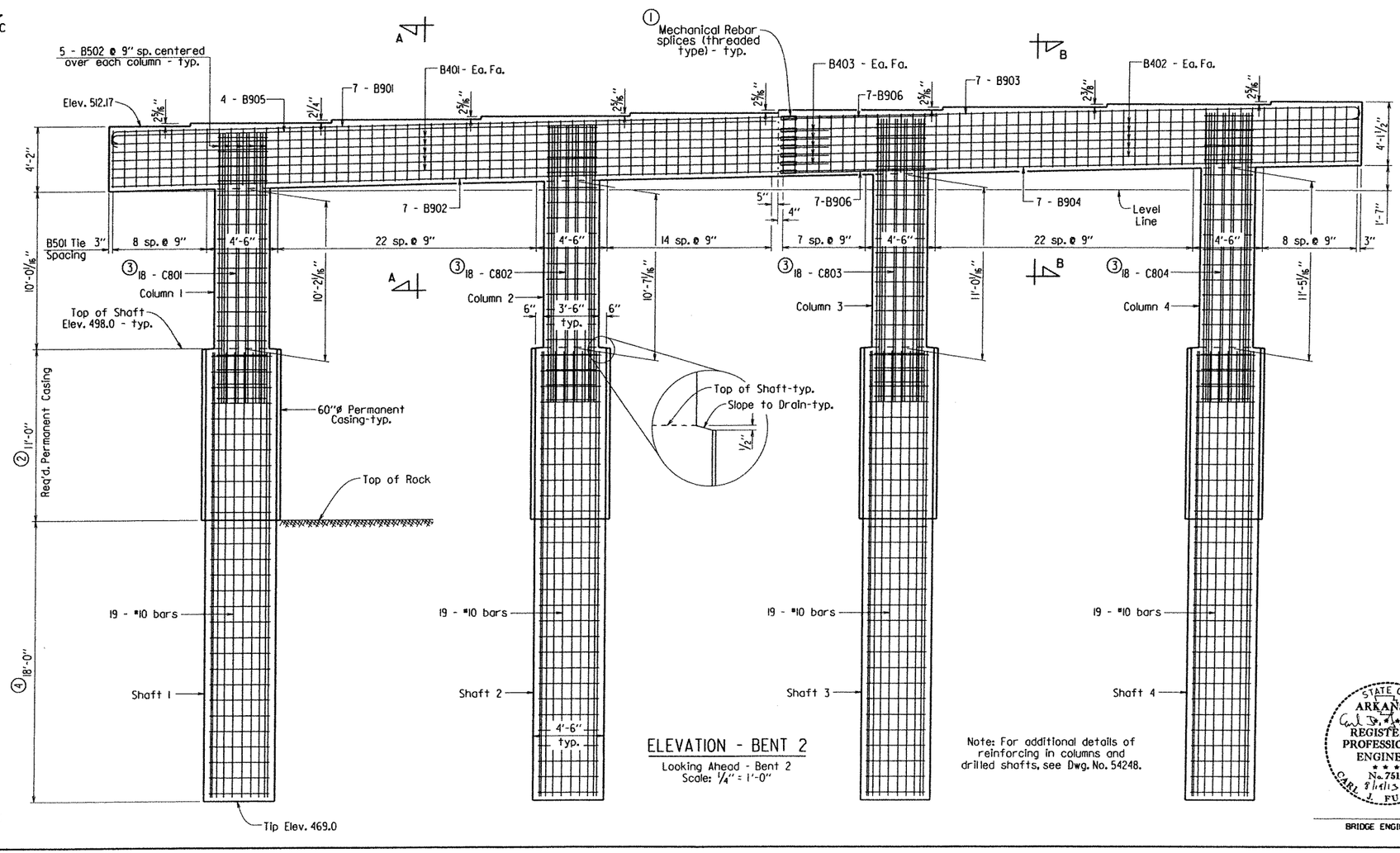


TYPICAL ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54256.

For Section A-A & B-B See Dwg. No. 54247.



ELEVATION - BENT 2

Looking Ahead - Bent 2
Scale: 1/4" = 1'-0"

Note: For additional details of reinforcing in columns and drilled shafts, see Dwg. No. 54248.

GENERAL NOTES

Concrete in the cap and column shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. Concrete in the drilled shaft shall be Class S as modified by SP Job No. 080390 "Drilled Shaft Foundations". All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts.

For additional information see layout.

Drilled shafts shall conform to SP Job No. 080390 "Drilled Shaft Foundations".

① Mechanical rebar splices (threaded type) are required. They shall develop at least 125% of the specified yield strength of the bar.

The mechanical rebar splices shall be an approved type on the AHTD Qualified Products List (QPL) and maintain the minimum clearance shown.

The cost for the mechanical rebar splices shall not be measured for seperate payment but shall be considered subsidiary to the item "Reinforcing Steel - Bridge (Grade 60)".

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080390 "Drilled Shaft Foundations". Permanent casing shall not extend below top of competent rock without approval from the Engineer.

③ The column reinforcing cage, consisting of bars C501 and C801-C804, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

④ Minimum penetration into competent rock below permanent casing.

STATE OF ARKANSAS
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8/16/13
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BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF INTERMEDIATE BENTS
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

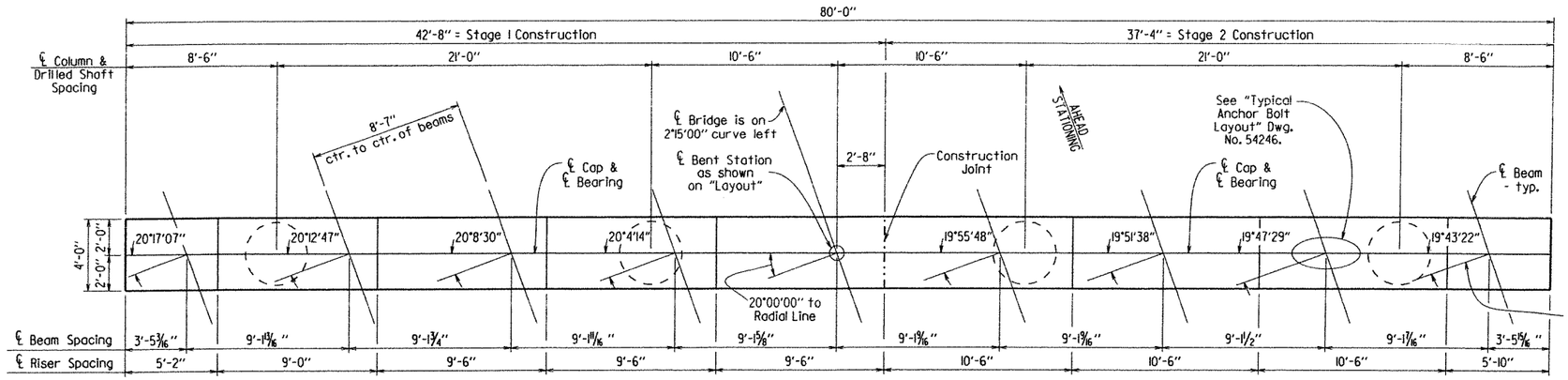
LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 5/29/2013 FILENAME: b080390x1_b2.dgn
CHECKED BY: DBS DATE: 8/7/2013 SCALE: AS NOTED
DESIGNED BY: MCA DATE: 5/13

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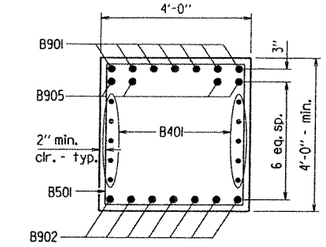
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	116	263
				①	07290	- INT. BENTS - 54247		



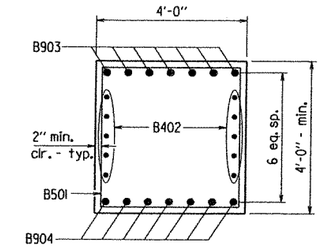
PLAN - BENT 3

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



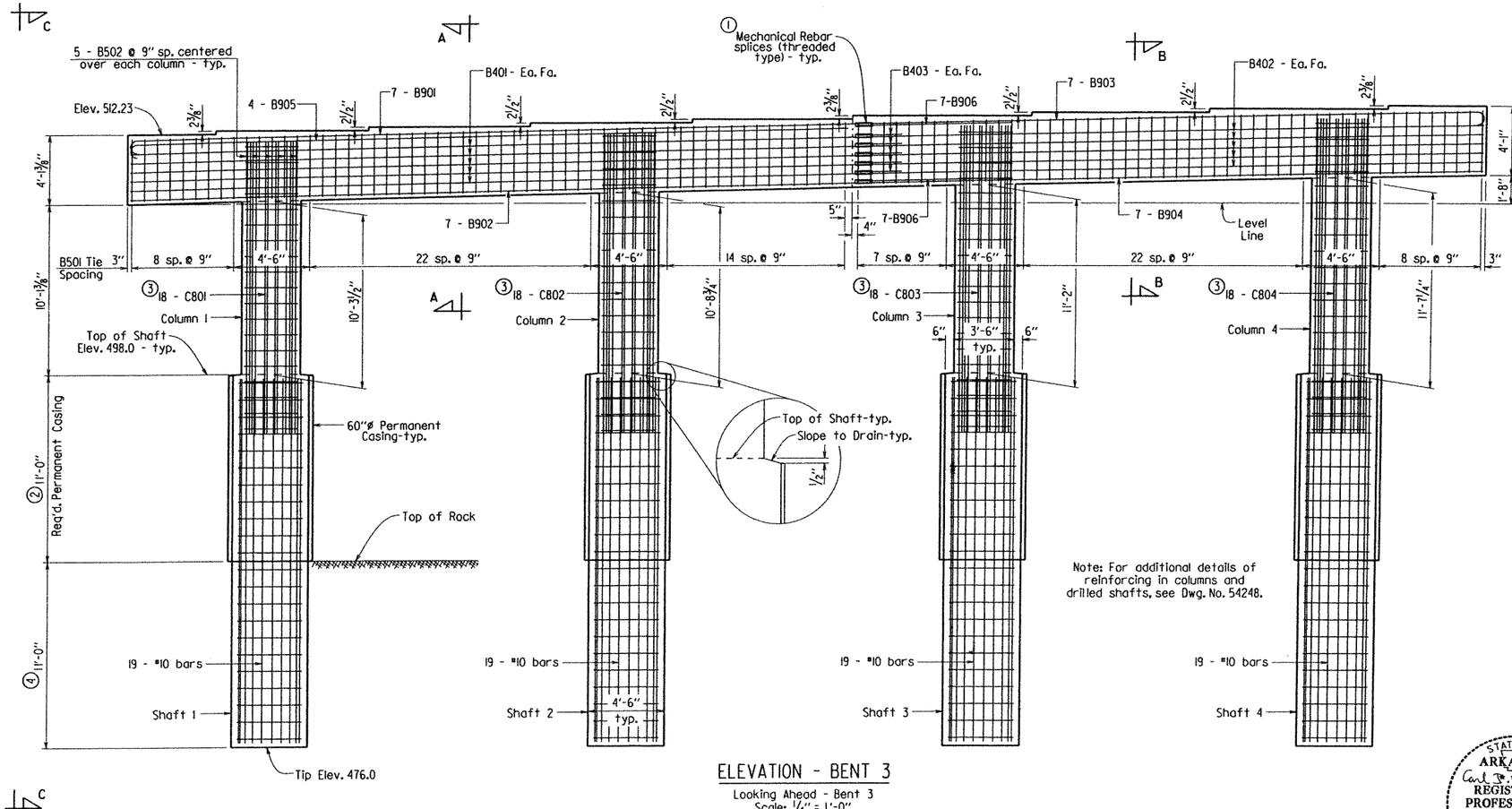
SECTION A-A

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



SECTION B-B

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



ELEVATION - BENT 3

Looking Ahead - Bent 3

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

Note: For additional details of reinforcing in columns and drilled shafts, see Dwg. No. 54248.

① Mechanical rebar splices (threaded type) are required. They shall develop at least 125% of the specified yield strength of the bar.

The mechanical rebar splices shall be an approved type on the AHTD Qualified Products List (QPL) and maintain the minimum clearance shown.

The cost for the mechanical rebar splices shall not be measured for seperate payment but shall be considered subsidiary to the item "Reinforcing Steel- Bridge (Grade 60)".

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080390 "Drilled Shaft Foundations". Permanent casing shall not extend below top of competent rock without approval from the Engineer.

③ The column reinforcing cage, consisting of bars C501 and C801-C804, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

④ Minimum penetration into competent rock below permanent casing.

STATE OF ARKANSAS
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BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF INTERMEDIATE BENTS
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 5/29/2013 FILENAME: b080390x1_b2.dgn

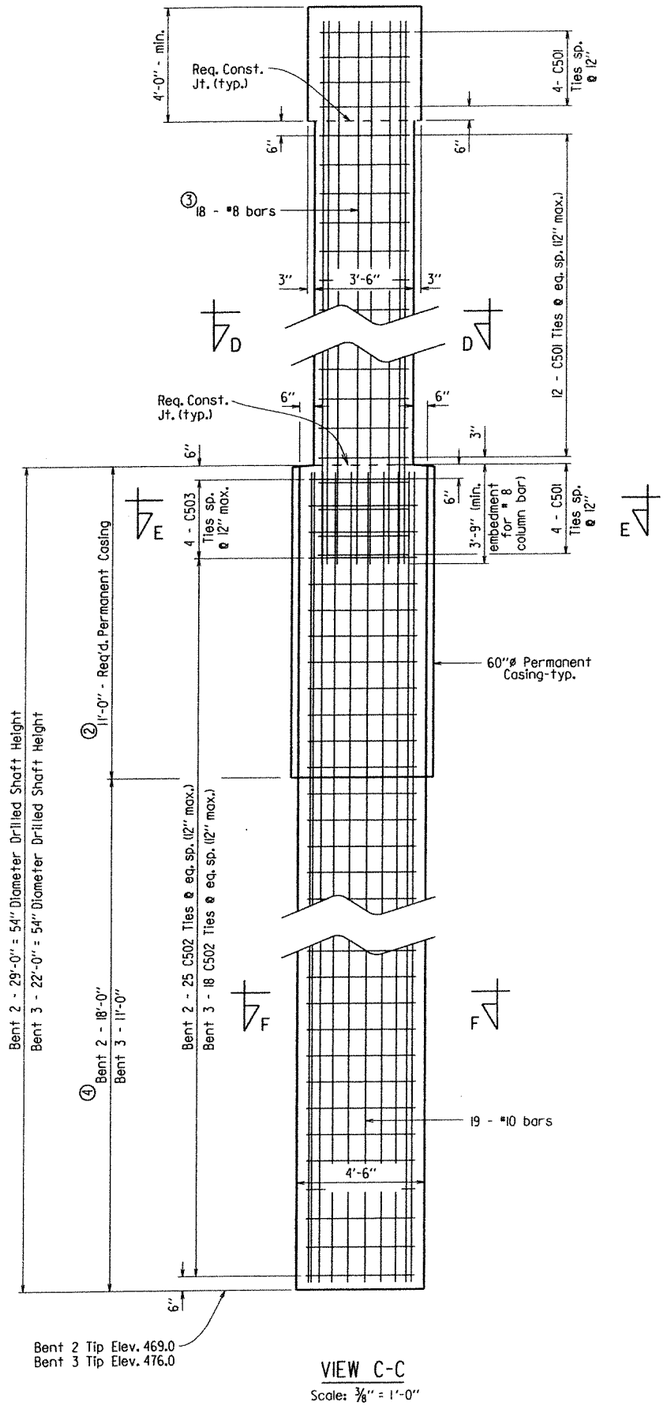
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DESIGNED BY: MCB DATE: 10/12

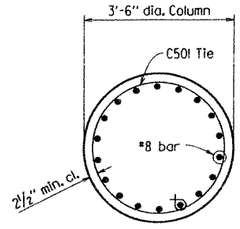
BRIDGE NO. 07290 DRAWING NO. 54247

PRINT DATE: 8/19/2013

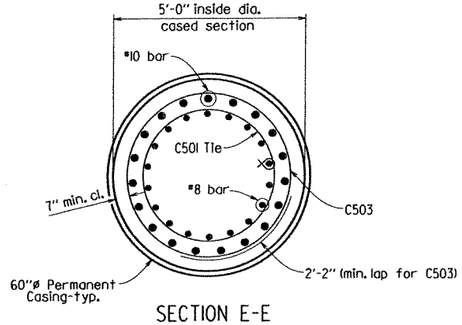
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				6	ARK.			
				JOB NO.		080390	117	263
				(1) 07290		- INT. BENTS - 54248		



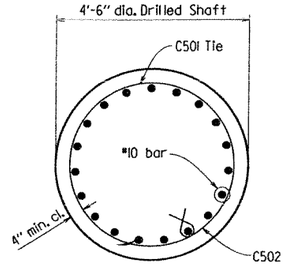
VIEW C-C
Scale: 3/8" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

TABLE OF VARIABLES

BENT	2	3
"A"	100	72

① Bars shall have threaded ends for mechanical rebar splices. Lengths of Rebar shown is for estimating quantities only. Actual length to be determined in the field.

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080390 "Drilled Shaft Foundations". Permanent casing shall not extend below top of competent rock without approval from the Engineer.

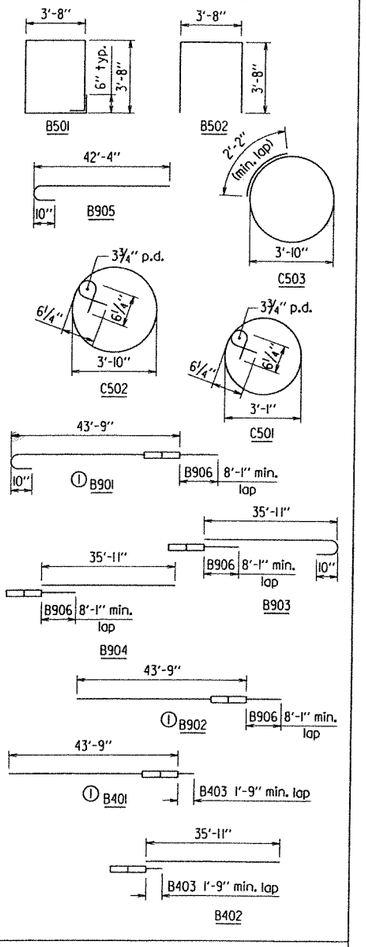
③ The column reinforcing cage, consisting of bars C501 and C801-C804, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

④ Minimum penetration into competent rock below permanent casing.

BAR LIST - PER BENT

	MARK	NO. REQ'D.	LENGTH Bent 2	LENGTH Bent 3	P.D.
①	B401	10	43'-9"	43'-9"	Str.
	B402	10	35'-11"	35'-11"	Str.
①	B403	10	1'-9"	1'-9"	Str.
	B501	87	15'-2"	15'-2"	2½"
	B502	20	10'-8"	10'-8"	2½"
①	B901	7	45'-0"	45'-0"	9"
①	B902	7	43'-9"	43'-9"	Str.
	B903	7	37'-2"	37'-2"	Str.
	B904	7	35'-11"	35'-11"	Str.
	B905	4	43'-7"	43'-7"	9"
①	B906	14	8'-1"	8'-1"	Str.
	C501	80	11'-1"	11'-1"	3¾"
⑤	C502	"A"	13'-5"	13'-5"	3¾"
⑤	C503	16	14'-1"	14'-1"	3¾"
	C801	18	17'-9"	17'-10"	Str.
	C802	18	18'-2"	18'-3"	Str.
	C803	18	18'-7"	18'-8"	Str.
	C804	18	19'-0"	19'-2"	Str.
⑤	#10 bars	76	28'-6"	21'-6"	Str.

BENDING DIAGRAMS
Dimensions are out to out of bars.



⑤ Non-pay item - Subsidiary to SP Job No. 080390 "Drilled Shaft Foundations".

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/16/13
BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF INTERMEDIATE BENTS
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 5/31/2013 FILENAME: b080390x1_b2.dgn
CHECKED BY: DBS DATE: 8/15/2013 SCALE: AS NOTED
DESIGNED BY: MCB DATE: 10/12

BRIDGE NO. 07290 DRAWING NO. 54248

PRINT DATE: 8/19/2013

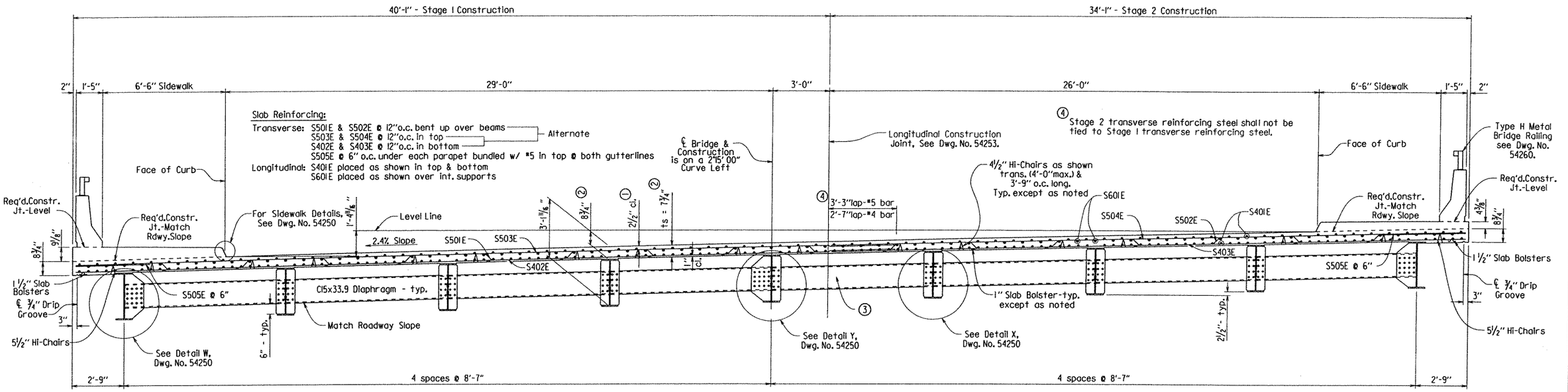
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				6	ARK.			
				JOB NO.		080390	118	263
				①	07290 -	132 FT. UNIT - 54249		

① Tolerance : Minus = 1/4", Plus equal to amount of Slab Thickening used to meet Slab Thickness Tolerance. See "Adjustment for Slab Thickness Tolerance", Dwg. No. 54250.

② See "Adjustment for Slab Thickness Tolerance", Dwg. No. 54250.

Note: At Contractor's Option, in lieu of providing bars S501E or S502E, one #5 bar top and bottom may be substituted for each bar. Payment for reinforcing will be based on the weight of bars S501E and S502E. Bars in top and bottom shall be Epoxy Coated.

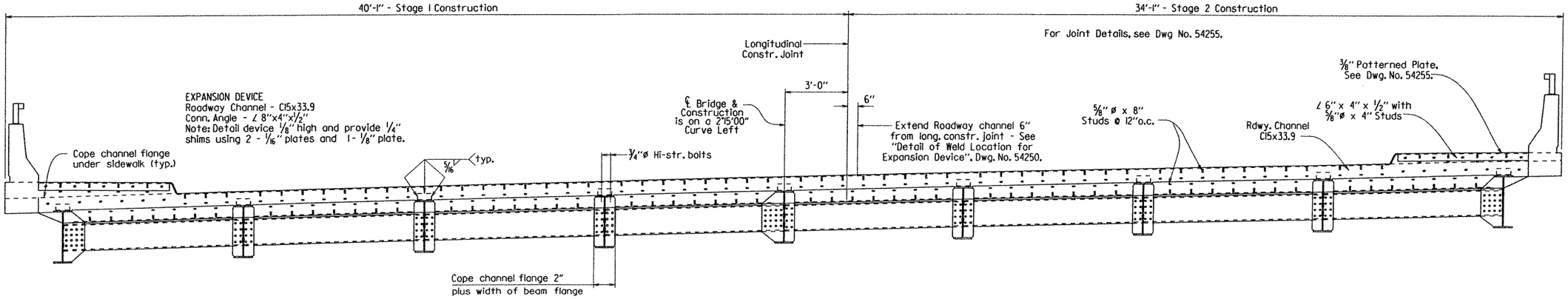
Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface, Top of Sidewalk, and the Face and Top of Concrete Parapet Rail.



Beam No. 9 8 7 6 5 4 3 2 1

TYP. ROADWAY SECTION

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



TYP. SECTION THRU JOINT

Looking Ahead - Bent 1
Bent 4 Similar
Scale: ⅜" = 1'-0"

③ In this bay, connection plate widths and diaphragm lengths shall be fabricated, as necessary, to facilitate installation of diaphragms between adjacent beams with significant differential deflections. Hole diameters of 15/16" shall be provided for these connections with a washer supplied under both the nut and head of bolt.

Before the Stage 2 deck pour, loosely install as many bolts as possible on both ends of the diaphragm in this bay to the satisfaction of the Engineer. An external means of supporting the Stage 1 overhang shall be provided and shall remain in place until after completion of the Stage 2 deck pour. See "Deck Support at Longitudinal Construction Joint" detail, Dwg. No. 54250. Install remaining bolts and fully tighten all bolts as soon as practical after completion of the Stage 2 deck pour.

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/11/13
CARL L. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

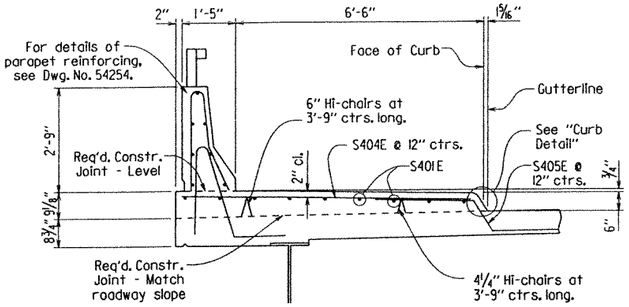
DRAWN BY: MCB DATE: 5/10/13
CHECKED BY: CSR DATE: 8/7/13
DESIGNED BY: MCB DATE: 9/13

FILENAME: b080390x1_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54249

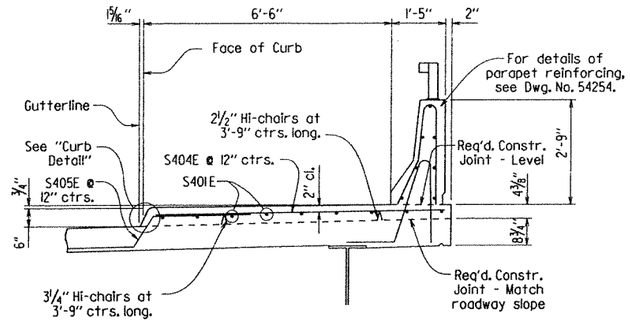
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	119	263
				①	07290 -	132 FT. UNIT - 54250		



STAGE 1 SIDEWALK DETAIL

No Scale



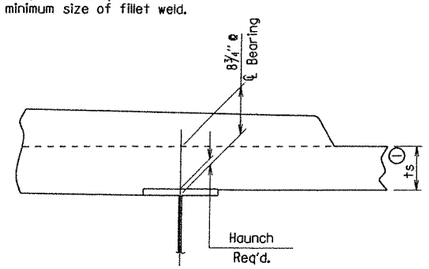
STAGE 2 SIDEWALK DETAIL

No Scale

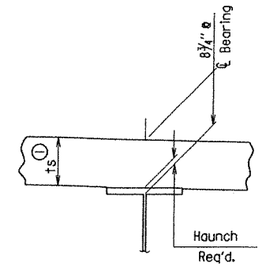
TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



EXTERIOR BEAM



INTERIOR BEAM

① Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

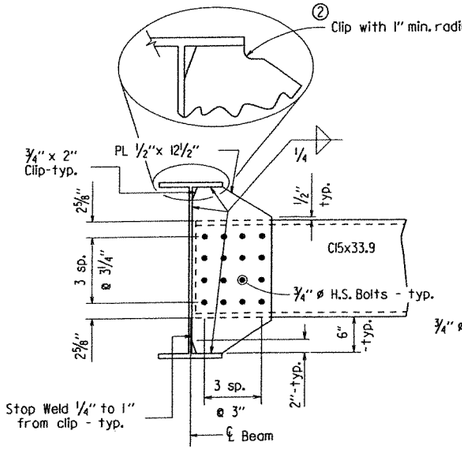
Note : ts = slab thickness as shown in "Typ. Roadway Section".

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

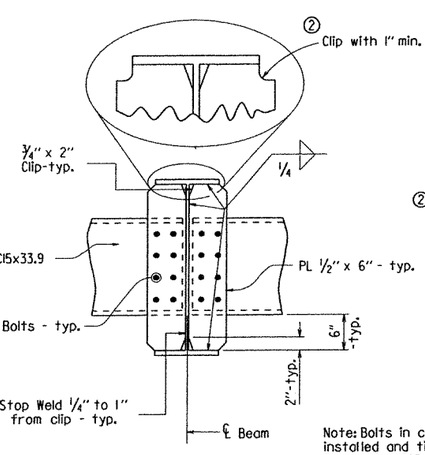
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale



DETAIL W

No Scale

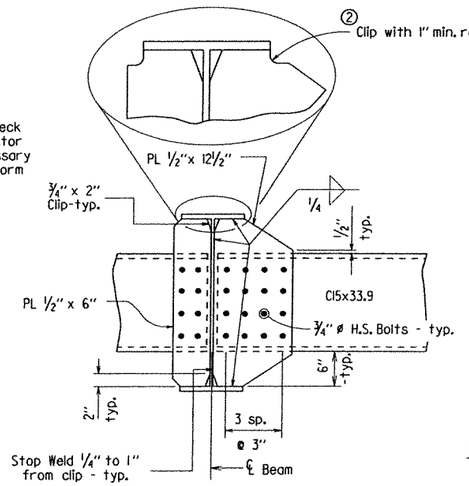


DETAIL X

No Scale

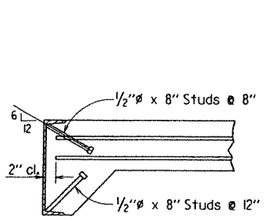
② If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

Note: Bolts in connections shall be properly installed and tightened in accordance with Subsection 807.71.



DETAIL Y

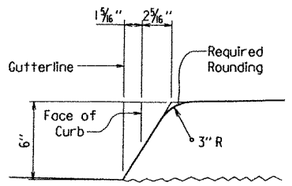
No Scale



Note: As an alternate to 5/8"ø studs, 1/2"ø x 8" studs spaced as shown may be used. Use weight of 5/8"ø stud as basis of measurement of structural steel in anchors.

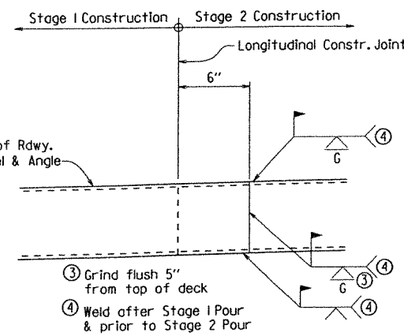
DETAILS OF ALTERNATE ANCHORS

No Scale

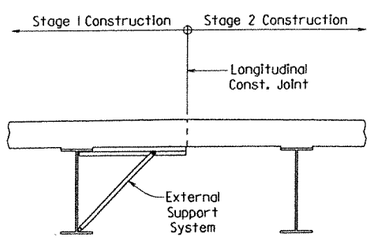


CURB DETAIL

No Scale



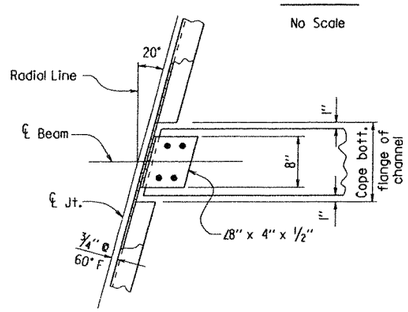
DETAIL OF WELD LOCATION FOR EXPANSION DEVICE



Stage 1 external supports in this bay shall remain in place until after completion of the Stage 2 deck pour. See Subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



CHANNEL CONNECTION DETAIL

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/14/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 06/03/13
CHECKED BY: CJR DATE: 8/14/13
DESIGNED BY: MCB DATE: 9/13

FILENAME: b080390x1_sl.dgn
SCALE: NO SCALE

BRIDGE NO. 07290 DRAWING NO. 54250

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	120	263
				07290 - 132 FT. UNIT - 54251				

AHEAD STATIONING

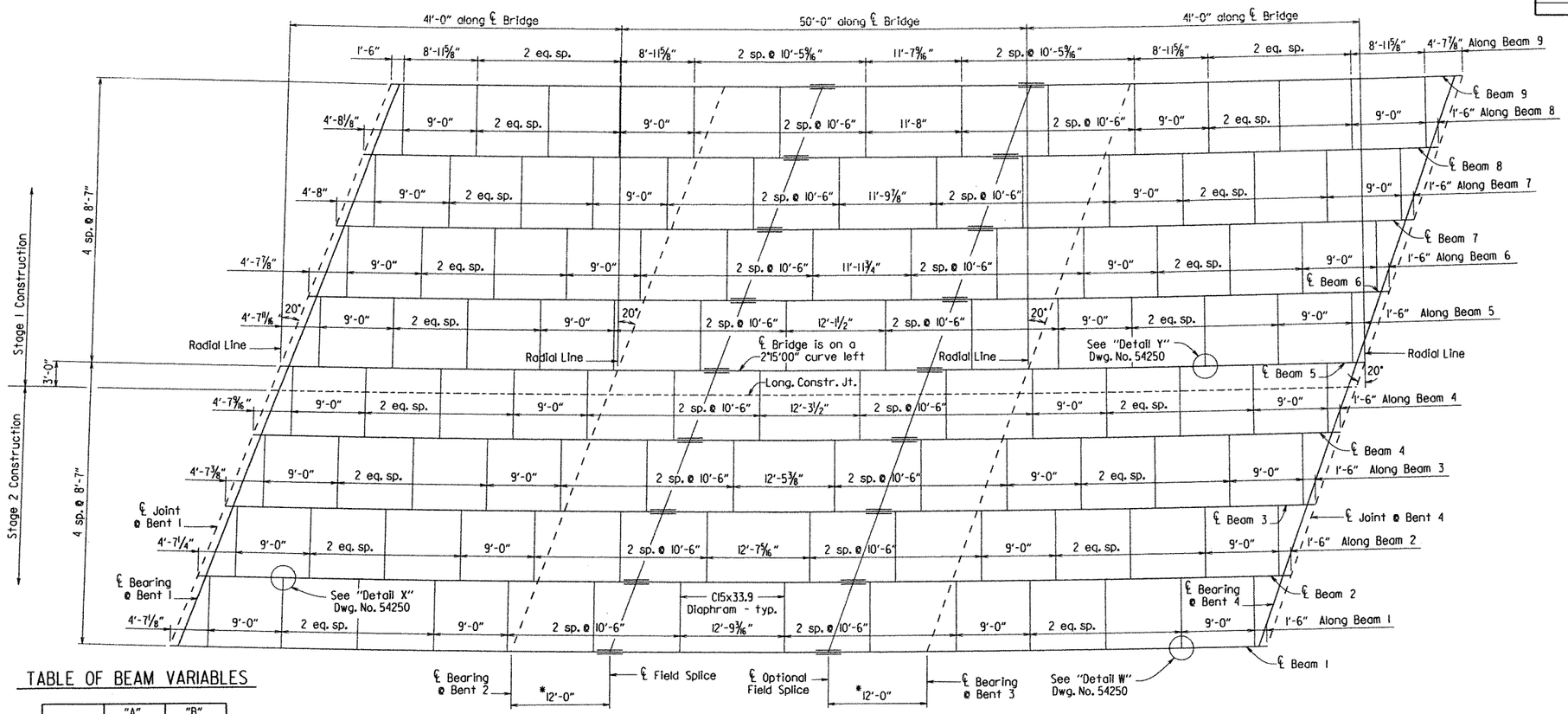


TABLE OF BEAM VARIABLES

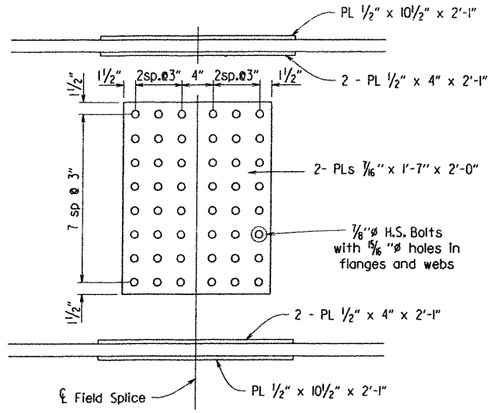
	"A"	"B"
Beam 1	41'-6⅝"	50'-8⅛"
Beam 2	41'-5"	50'-6⅛"
Beam 3	41'-3⅜"	50'-4"
Beam 4	41'-1⅝"	50'-2"
Beam 5	41'-0"	50'-0"
Beam 6	40'-10⅜"	49'-10"
Beam 7	40'-8⅝"	49'-8"
Beam 8	40'-7"	49'-5⅞"
Beam 9	40'-5⅜"	49'-3⅞"

*Typical along each beam

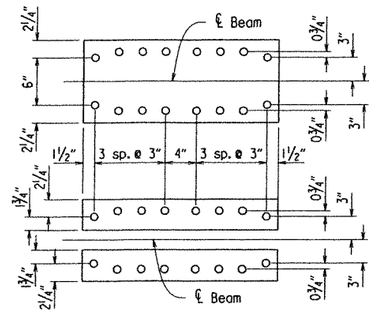
FRAMING PLAN

Scale: ⅛" = 1'-0"

Note: Beams are curved and concentric to ℄ Bridge. Diaphragms are on radial lines.



WEB SPLICE

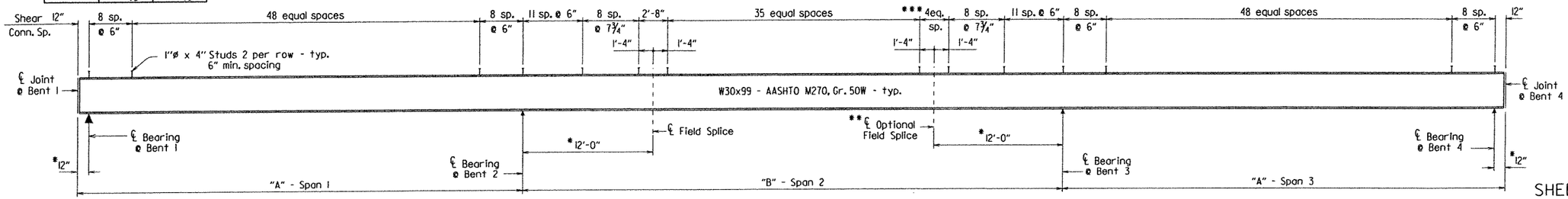


FLANGE SPLICE

Note: All field splice plates shall be AASHTO M270, Gr. 50W

FIELD SPLICE DETAILS

No Scale



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

**At the contractor's option, a field splice may be provided at this location. No additional payment will be made for the optional field splice.

***If the optional field splice is used, eliminate the shear connectors at this location.

BEAM ELEVATION

No Scale

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL L. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 7

DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 6/3/13
CHECKED BY: CSR DATE: 8/19/13
DESIGNED BY: MCB DATE: 7/13

FILENAME: b080390xl_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07290 DRAWING NO. 54251

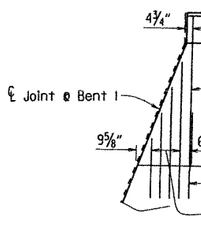
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	121	263
				(1)	07290 -	132 FT. UNIT	- 54252	

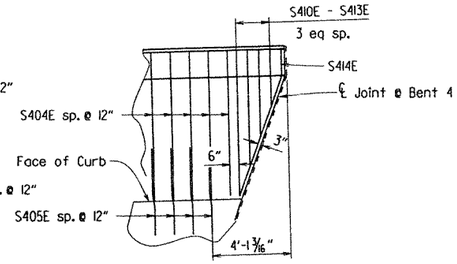
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Parapet + Sidewalk
Span 1	0	0	0	0
	0.1	0.011	0.076	0.081
	0.2	0.020	0.140	0.150
	0.3	0.027	0.185	0.198
	0.4	0.029	0.203	0.217
	0.5	0.028	0.195	0.209
	0.6	0.024	0.163	0.175
	0.7	0.017	0.116	0.124
	0.8	0.010	0.063	0.067
	0.9	0.003	0.018	0.019
Span 2	0	0	0	0
	0.1	0.004	0.034	0.036
	0.2	0.014	0.110	0.118
	0.3	0.023	0.183	0.196
	0.4	0.031	0.241	0.258
	0.5	0.033	0.261	0.280
	0.6	0.031	0.241	0.258
	0.7	0.024	0.188	0.201
	0.8	0.014	0.111	0.119
	0.9	0.005	0.040	0.043
Span 3	0	0	0	0
	0.1	0.003	0.017	0.018
	0.2	0.009	0.060	0.064
	0.3	0.017	0.116	0.124
	0.4	0.024	0.164	0.176
	0.5	0.029	0.196	0.210
	0.6	0.030	0.204	0.218
	0.7	0.027	0.186	0.199
	0.8	0.020	0.142	0.152
	0.9	0.011	0.077	0.082
	0	0	0	0

Note:
Camber for Dead Load Deflection plus Vertical curve ±1/4" tolerance. Deflections shown are along the ℄ of beam from the plane perpendicular to the web extending from ℄ Bearing to ℄ Bearing Vertical curve corrections not included. Negative Sign (-) indicates point above chord.

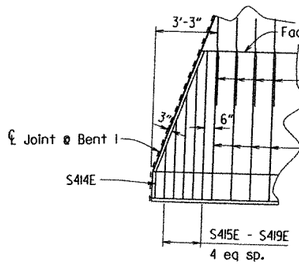


Detail B

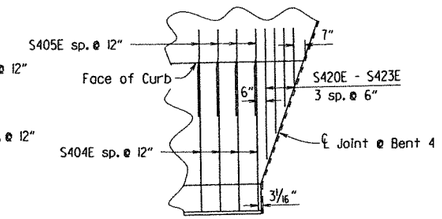


Detail C

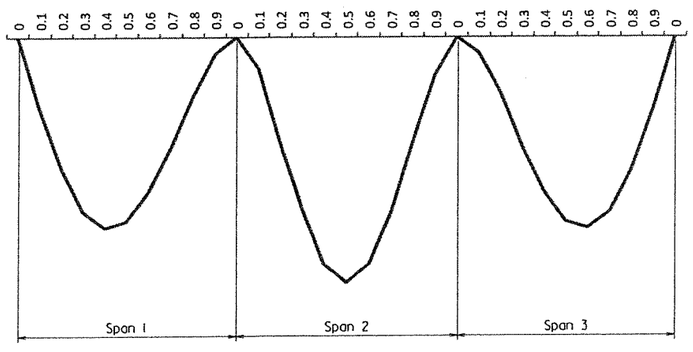
All transverse sidewalk reinforcing shall be placed on radial lines. Spacing is measured along face of curb.



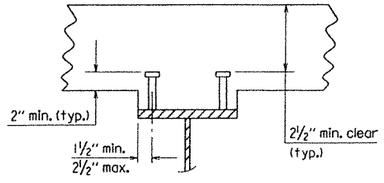
Detail D



Detail E



DEAD LOAD DEFLECTIONS DIAGRAM (TYP.)



Stud Shear Connectors shown shall be 1"ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer.

SHEAR CONNECTOR DETAIL

GENERAL NOTES - SUPERSTRUCTURE

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATION: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

MATERIAL AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Grade 60, AASHTO M31 or M322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi

CONCRETE:
Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All concrete shall be Class S(AE) with a minimum 28-day compressive strength f'c = 4,000 psi. The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 1499I for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The use of a longitudinal screed is prohibited. The concrete deck, except sidewalks, shall be given a tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the sidewalk for each stage of construction. A minimum of 72 hours shall elapse between completion of a sidewalk pour and the beginning of a parapet pour. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer. The use of a longitudinal screed is prohibited.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL:
All Structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e) unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36 or Gr. 50 unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with subsection 807.04, submitted and approval secured before fabrication is begun.

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

Beams, field splice plates, diaphragms, and connection plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)".

All beams shall be blocked in their true position in the shop with the webs horizontal in groups as specified in subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of 1/4" +/- is allowed for camber.

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

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

Field connections shall be bolted with high-strength bolts and shall be ¾" ø bolts unless otherwise noted. Open Holes shall be 9/16" ø unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges.

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

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

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/14/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

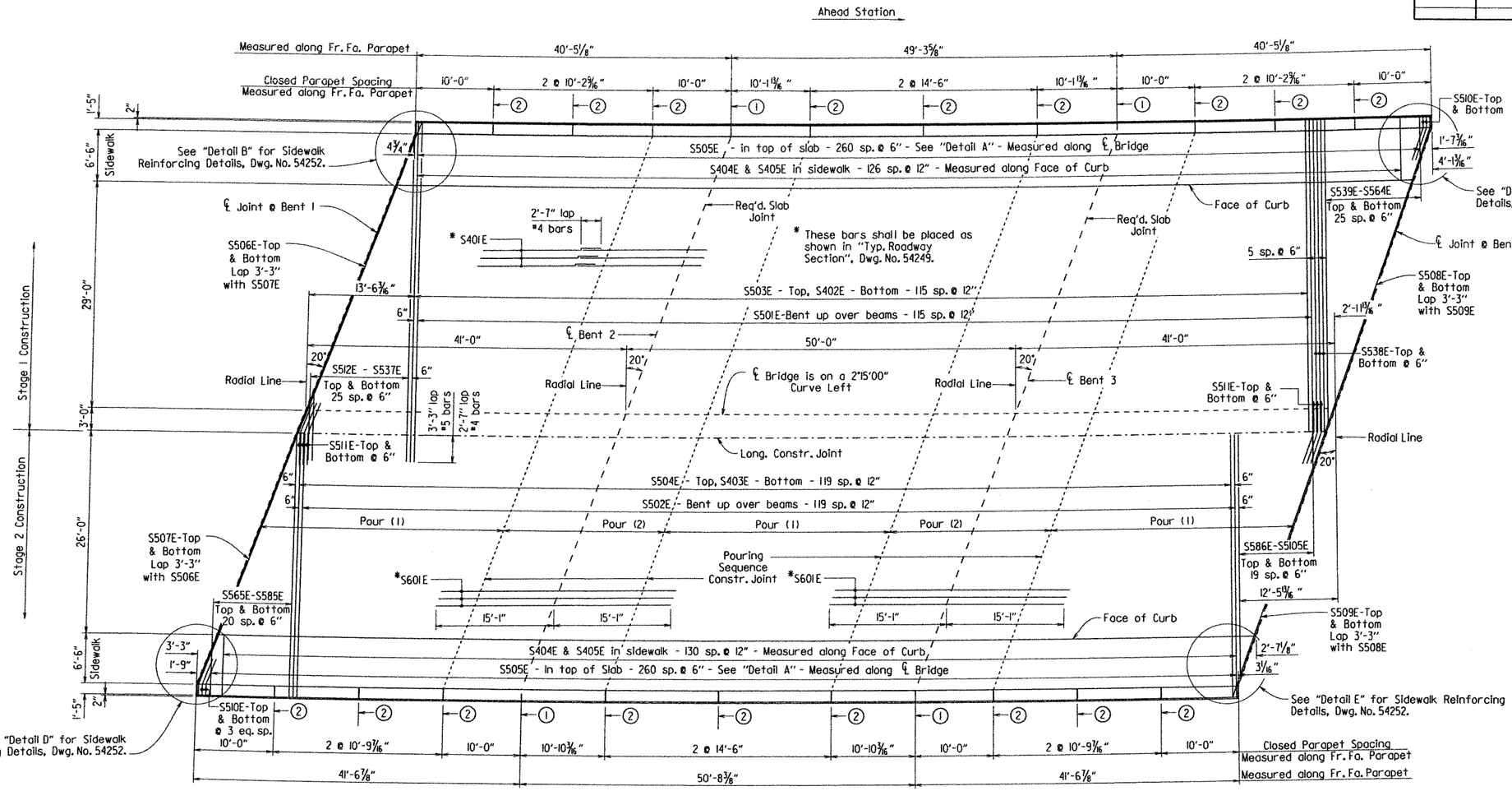
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CHECKED BY: CJR DATE: 8/7/13
DESIGNED BY: MCB DATE: 9/13

FILENAME: b080390xl_sl.dgn
SCALE: NO SCALE

BRIDGE NO. 07290 DRAWING NO. 54252

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	122	263
				① 07290 - 132 FT. UNIT - 54253				



① ℄ Full-Depth Parapet Joint (¼" to 1" max.). Stop 4" from top of slab. See Dwg. No. 54254.

② ℄ Partial-Depth Parapet Joint (¼" to 1" max.). Stop 1'-2" from top of slab. See Dwg. No. 54254.

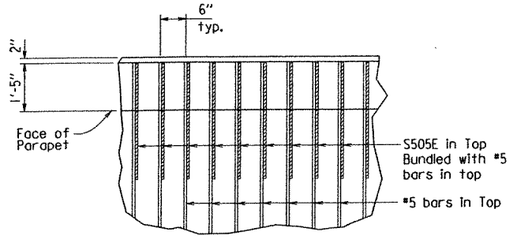
Note:

All transverse reinforcing shall be placed on radial lines. Spacing is measured along the ℄ Bridge, unless noted otherwise.

All longitudinal lines and reinforcing steel shall be placed on curves concentric with the ℄ Bridge.

Required slab joints and pouring sequence construction joints shall align with open joints at the front face of the parapets.

Use Type 3, 4, or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the sidewalk and parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. No joint sealer shall be placed under the sidewalk area. The joint sealer shall extend across the deck slab and across the top of the sidewalk.



DETAIL A

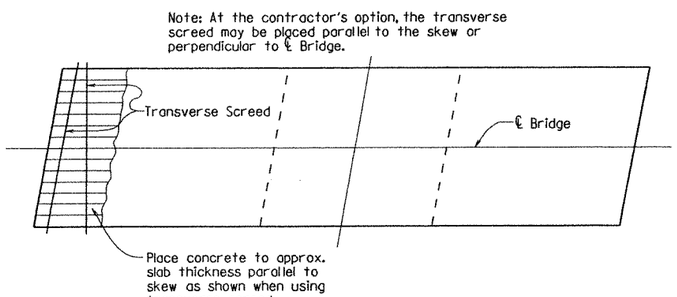
No Scale

Note: For each stage of construction, pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the end of a deck pour and the start of a sidewalk pour. 72 hours shall elapse between the end of a sidewalk pour and the start of a parapet railing pour. Any sidewalk or railing pours made before the entire slab unit has been placed for each stage must be approved by the Engineer. The concrete in a bridge superstructure unit must be consolidated for the entire pour before concrete has taken its initial set. This may require the use of a retarding agent.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

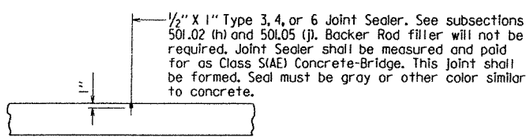
REINFORCING PLAN AND POURING SEQUENCE

Scale: ⅛" = 1'-0"



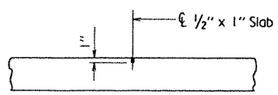
CONCRETE PLACEMENT PROCEDURE

No Scale



LONGITUDINAL CONSTRUCTION JOINT

No Scale



SLAB JOINT DETAIL

No Scale

STATE OF ARKANSAS
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No. 7510
8/19/13

BRIDGE ENGINEER

SHEET 5 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

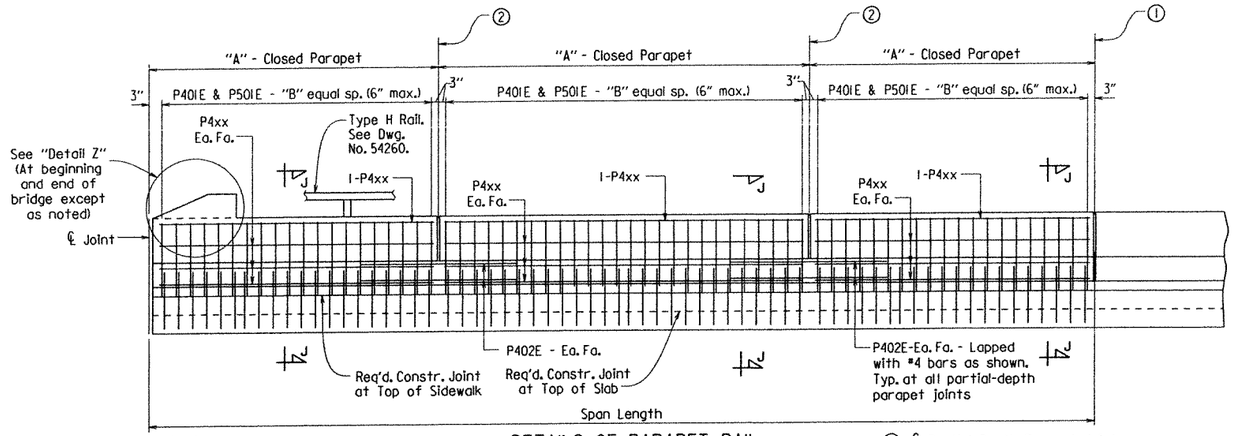
LITTLE ROCK, ARK.

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CHECKED BY: CJF DATE: 8/12/13 SCALE: ⅛" = 1'-0"
DESIGNED BY: MCB DATE: 6/13

BRIDGE NO. 07290 DRAWING NO. 54253

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	123	163
				①	07290 -	132 FT. UNIT	- 54254	



① ℄ Full-Depth Parapet Joint (1/4" to 1" max.) as shown in "Reinforcing Plan and Pouring Sequence", Dwg. No. 54253. Stop 4" from top of sidewalk.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.) as shown in "Reinforcing Plan and Pouring Sequence", Dwg. No. 54253. Stop 1'-2" from top of sidewalk.

DETAILS OF PARAPET RAIL

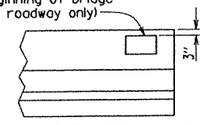
Scale: 3/8" = 1'-0"

TABLE OF PARAPET RAIL VARIABLES

"A" Closed Parapet	"B"	P4xx Bar
10'-0"	19	P403E
10'-1 15/16"	20	P404E
10'-2 13/16"	20	P405E
10'-9 13/16"	21	P406E
10'-10 13/16"	21	P407E
14'-6"	28	P408E

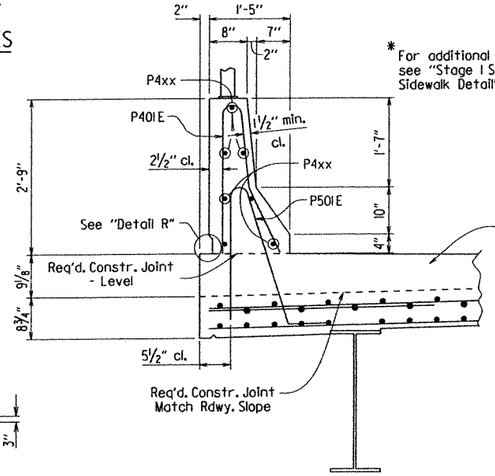
For location of Closed Parapet panels, see "Reinforcing Plan and Pouring Sequence" Dwg. No. 54253.

Place Type D Bridge Name Plate on front face of span rail approx. 2'-0" from beginning of bridge (Right side of roadway only)



NAME PLATE DETAIL

No Scale

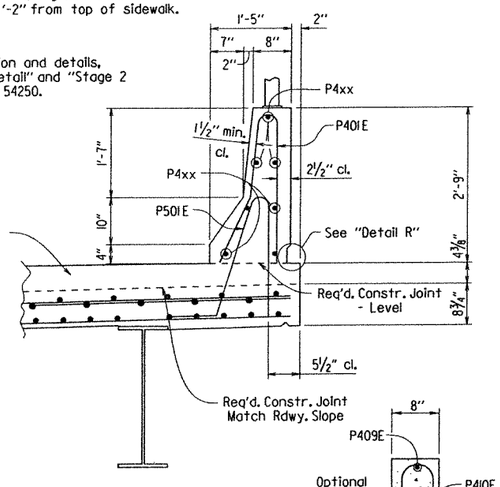


SECTION J-J

Stage 1 Shown

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

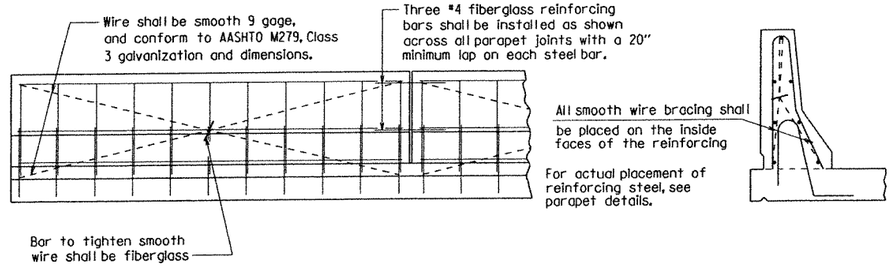
* For additional information and details, see "Stage 1 Sidewalk Detail" and "Stage 2 Sidewalk Detail", Dwg. No. 54250.



SECTION J-J

Stage 2 Shown

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

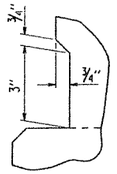


All panels shall be braced as required to prevent racking. All parapet joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved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

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

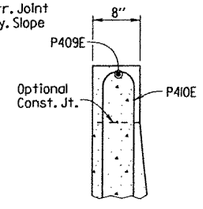
DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale



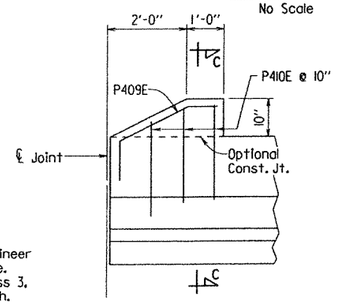
DETAIL R

No Scale



SECTION C-C

No Scale



DETAIL Z

Not required adjacent to Wing A of End Bent 4 (Northwest Corner)

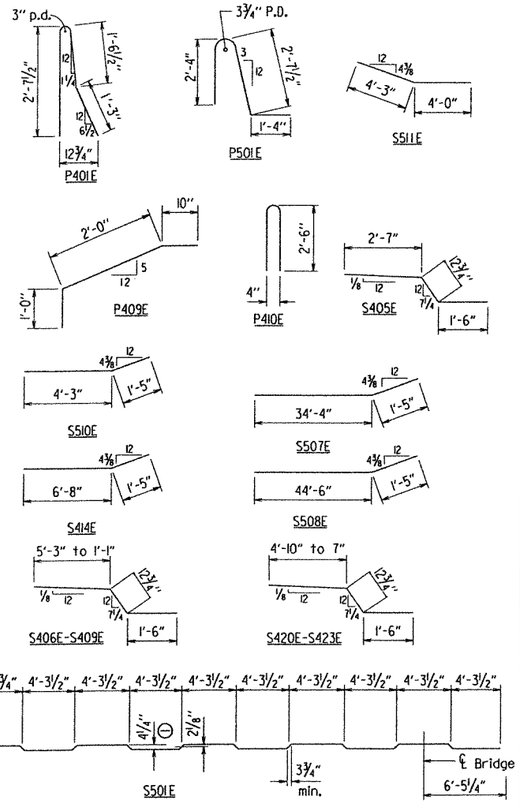
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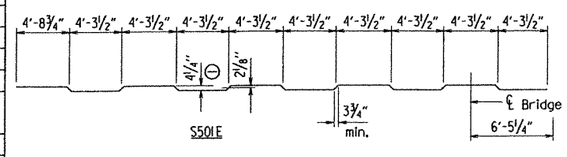
BAR LIST

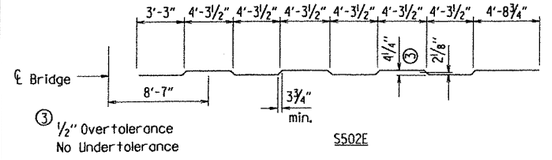
MARK	NO. REQ'D.	LENGTH	P.D.
S401E	896	35'-4"	Str.
S402E	116	43'-4"	Str.
S403E	120	33'-9"	Str.
S404E	258	7'-8"	Str.
S405E	258	5'-2"	3"
S406E-S409E	1 EACH	3'-7" - 7'-9"	3"
S410E-S413E	1 EACH	3'-0" - 7'-8"	Str.
S414E	2	8'-1"	3"
S415E-S419E	1 EACH	3'-0" - 7'-8"	Str.
S420E-S423E	1 EACH	3'-1" - 7'-4"	3"
P401E	534	5'-6"	3"
P402E	72	5'-6"	Str.
P403E	56	9'-8"	Str.
P404E	14	9'-9"	Str.
P405E	28	9'-10"	Str.
P406E	28	10'-5"	Str.
P407E	14	10'-6"	Str.
P408E	28	14'-2"	Str.
P409E	4	3'-10"	2"
P410E	12	5'-2"	3"
S501E	116	42'-5"	3"
S502E	120	33'-0"	3"
S503E	116	43'-4"	Str.
S504E	120	33'-9"	Str.
S505E	522	4'-6"	Str.
S506E	2	46'-0"	Str.
S507E	2	35'-9"	3 3/4"
S508E	2	45'-11"	3 3/4"
S509E	2	35'-10"	Str.
S510E	8	5'-8"	3 3/4"
S511E	12	8'-3"	3 3/4"
S512E-S537E	2 EACH	7'-2" - 41'-0"	Str.
S538E	6	39'-9"	Str.
S539E-S564E	2 EACH	5'-0" - 38'-11"	Str.
S565E-S585E	2 EACH	5'-7" - 33'-5"	Str.
S586E-S5105E	2 EACH	4'-8" - 31'-2"	Str.
P501E	534	6'-5"	2½"
S601E	154	30'-2"	Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.







Note: Bars marked with an "E" suffix shall be epoxy coated.

STATE OF ARKANSAS
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BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 06/10/13 FILENAME: b080390xl_sl.dgn

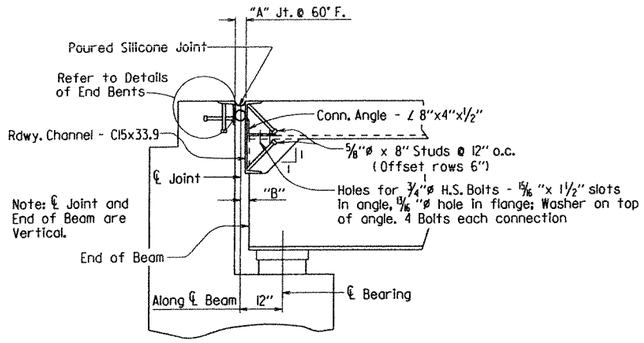
CHECKED BY: CSF DATE: 8/7/13 SCALE: AS NOTED

DESIGNED BY: MCS DATE: 9/12

BRIDGE NO. 07290 DRAWING NO. 54254

PRINT DATE: 19-AUG-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	124	263
				①	07290 -	132 FT. UNIT	- 54255	



JOINT AT END BENTS

Perpendicular to ℄ Joint
No Scale

SILICONE JOINT DATA

Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature ① Of:			"B" Perpendicular to Joint at 60°F	Bumper Bar Size	"D"
	40°F	60°F	80°F			
1 & 4	1 5/8"	1½"	1 3/8"	±2"	1" x ¾"	5"

① The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary.

Notes: The temperature limitations recommended by the sealant manufacturer shall be observed.

The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

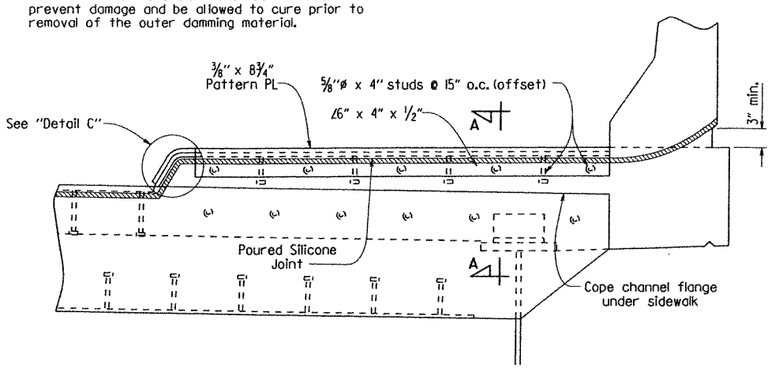
② BACKER ROD NOTE:

Use an appropriately sized backer rod at the depth shown in the manufacturer's literature based on the joint width at the time of sealing.

Except as noted, do not install more backer rod than that which can be sealed in the same day.

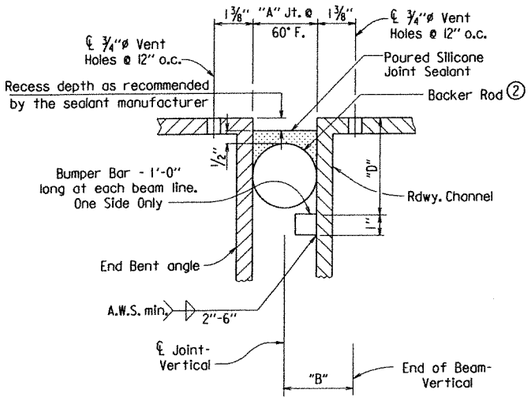
The contractor shall verify separation of the backer rod from the joint material after the joint material has set.

Note: Install seal in slab joint and parapet joint with damming procedure as recommended by the manufacturer. The sealant shall be recessed to prevent damage and be allowed to cure prior to removal of the outer damming material.



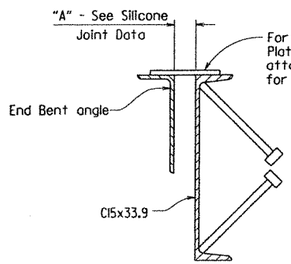
TYPICAL SECTION THRU SIDEWALK

Stage 2 Shown
Stage 1 Similar
No Scale



DETAIL OF POURED SILICONE JOINT SEAL

No Scale



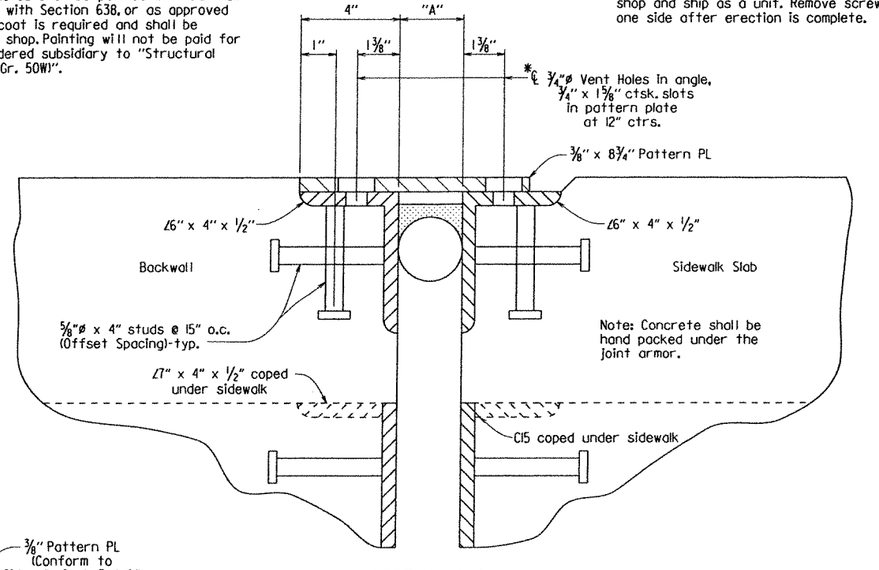
Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown @ 60°F, and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

No Scale

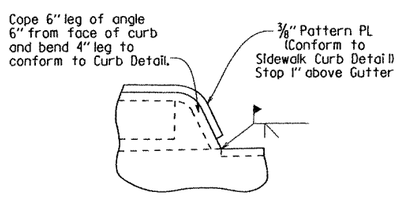
The surfaces of the ⅜" plates shall be painted with aluminum epoxy paint in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (M270, Gr. 50W)".

* ¾" x 1 5/8" Ctsk. Slots in ⅜" Pattern Plates. Tap 4" leg of angle for ⅞" ø flat head cap screws @ 12" o.c. Install screws in the shop and ship as a unit. Remove screws on one side after erection is complete.



SECTION A-A

No Scale



DETAIL C

No Scale

EXPANSION DEVICE INSTALLATION AT END BENTS

The Contractor may elect to install the expansion device for the end bents using one of the following two alternatives:

1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.

2) The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

STATE OF ARKANSAS
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No. 7510
8/16/13
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BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF 132'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
TOWN BRANCH

ROUTE SEC.

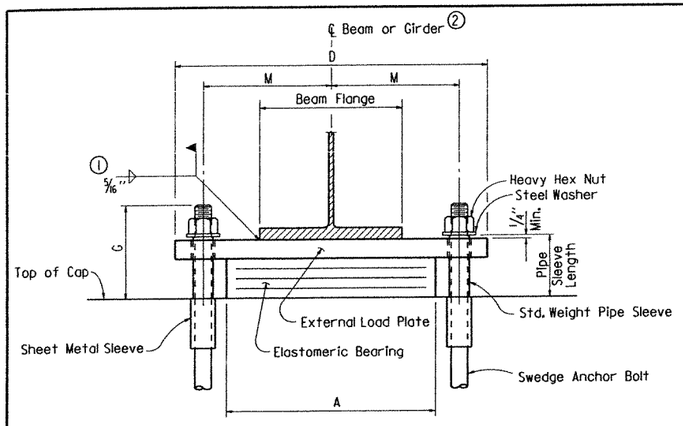
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 06/10/13 FILENAME: b080390xl_sl.dgn
CHECKED BY: CJP DATE: 8/7/13 SCALE: AS NOTED
DESIGNED BY: MCB DATE: 7/13

BRIDGE NO. 07290 DRAWING NO. 54255

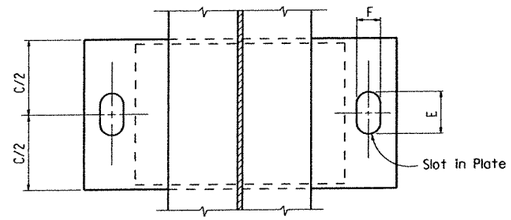
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				6	ARK.			
				JOB NO.		080390	125	263
				(1)	07290 -	ELASTO. BRGS.	- 54256	

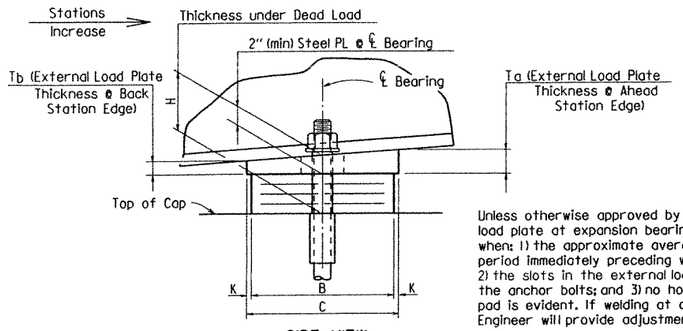


FRONT VIEW

(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.
(2) ℄ Elastomeric pad shall be aligned with ℄ Beam.

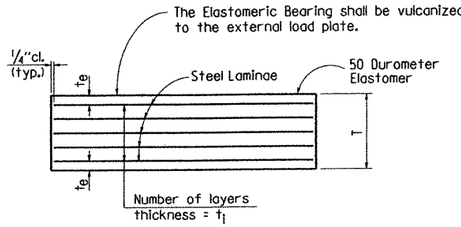


PLAN VIEW



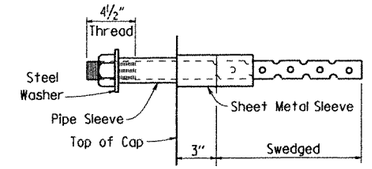
SIDE VIEW

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



t_e = thickness of elastomer cover on top and bottom of pad
t_i = thickness of elastomer between steel laminae
N = number of elastomer layers of thickness t_i

ELASTOMERIC BEARING



ANCHOR BOLT DETAIL

NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the Item "Structural Steel in Beam Spans, (M 270, Gr. 50W)"

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with subsection 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

Bearings shall be seated in accordance with subsection 808.08. This work and materials are considered as subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

TABLE OF FABRICATOR VARIABLES

*Maximum Design Load = Service I Limit State

BRIDGE NO.	LOCATION BENT NO(S).	LOCATION BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD A	B	N	t_i	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT ANCHOR BOLT (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
07290	1	1 - 3	Exp.	3	81	6½"	3 11/16"	12"	8"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	9"	21"	2¼"	2"	½"	8"	2.04"	1.96"	1¼" x 22"	55	1¼" x 4⅛"	3" X 12"	2½"
	1	4 - 9	Exp.	6	81	6½"	3 11/16"	12"	8"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	9"	21"	2¼"	2"	½"	8"	2.03"	1.97"	1¼" x 22"	55	1¼" x 4⅛"	3" X 12"	2½"
	2	1 - 3	Fix	3	168	7"	3 11/16"	15½"	10"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	11"	26½"	2⅝"	2⅝"	½"	10¼"	2.03"	1.97"	1¾" x 28"	55	2" x 4⅛"	4" X 12"	3⅜"
	2	4 - 9	Fix	6	168	7"	3 11/16"	15½"	10"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	11"	26½"	2⅝"	2⅝"	½"	10¼"	2.02"	1.98"	1¾" x 28"	55	2" x 4⅛"	4" X 12"	3⅜"
	3	1 & 2	Fix	2	168	7"	3 11/16"	15½"	10"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	11"	26½"	2⅝"	2⅝"	½"	10¼"	2.01"	1.99"	1¾" x 28"	55	2" x 4⅛"	4" X 12"	3⅜"
	3	3 - 9	Fix	7	168	7"	3 11/16"	15½"	10"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	11"	26½"	2⅝"	2⅝"	½"	10¼"	2.00"	2.00"	1¾" x 28"	55	2" x 4⅛"	4" X 12"	3⅜"
	4	1 - 9	Exp.	9	81	6½"	3 11/16"	12"	8"	2	½"	¼"	3 @ 12 Gauge	1 11/16"	9"	21"	2¼"	2"	½"	8"	1.99"	2.01"	1¼" x 22"	55	1¼" x 4⅛"	3" X 12"	2½"

Tabular Data by : CJR Date: 6/6/13
Checked by : MCB Date: 6/12/13
Designed by : MCB Date: 9/13

STATE OF ARKANSAS
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No. 7510
8/19/13
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS TOWN BRANCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

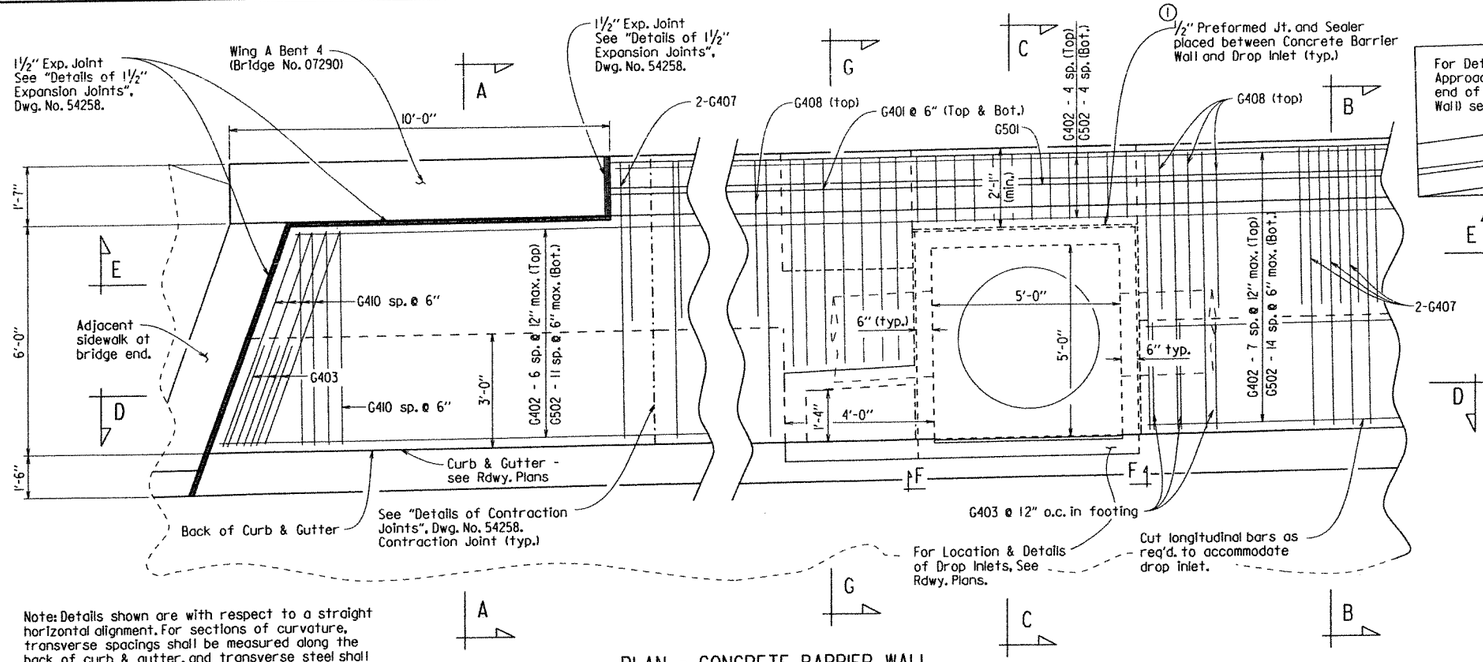
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DESIGNED BY: Std. DATE:

BRIDGE NO. 07290 DRAWING NO. 54256

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	126	203

① CONC. BARRIER WALL - 54257



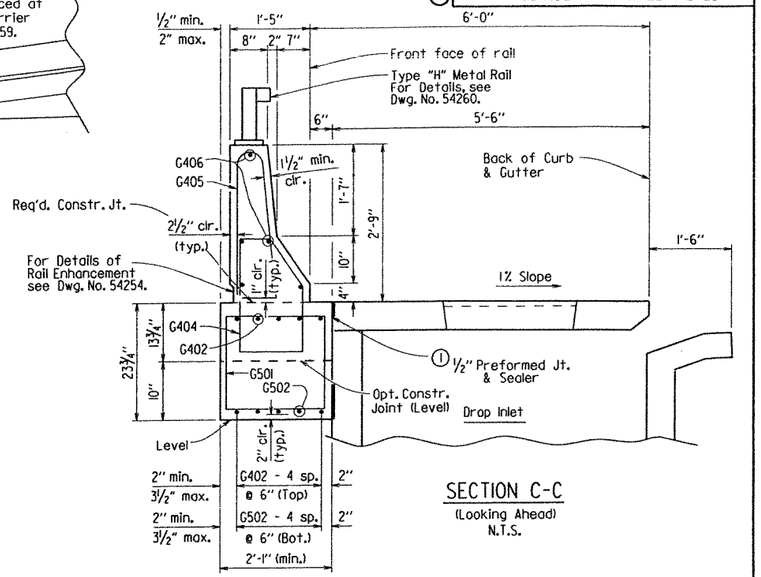
Note: Details shown are with respect to a straight horizontal alignment. For sections of curvature, transverse spacings shall be measured along the back of curb & gutter, and transverse steel shall be placed along radial lines.

PLAN - CONCRETE BARRIER WALL

N.T.S.

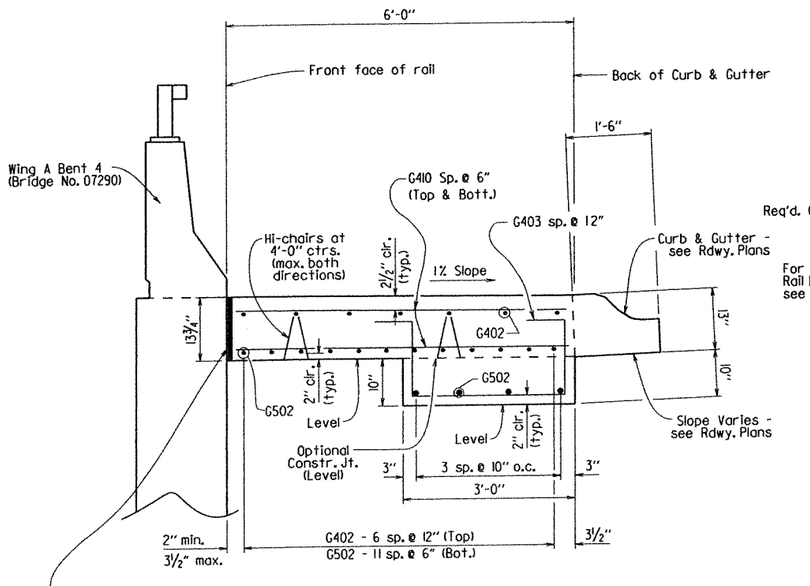
Note: Parapet rails may be slipformed See Dwg. No. 54254.

For Details of Transitional Approach Railing (placed at end of Concrete Barrier Wall) see Dwg. No. 54259.



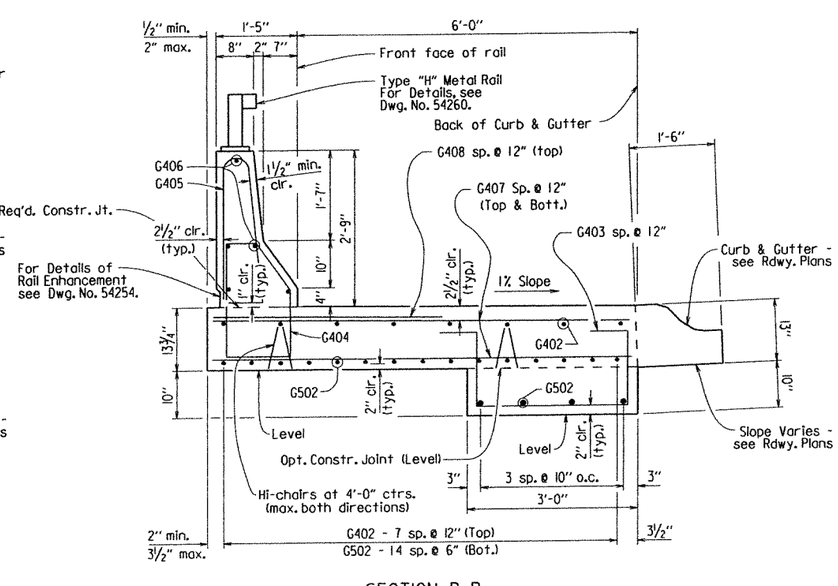
SECTION C-C

(Looking Ahead)
N.T.S.



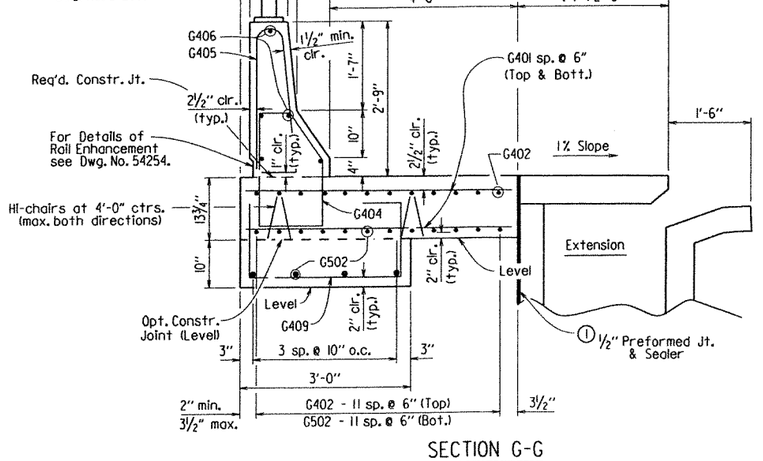
SECTION A-A

(Looking Ahead)
N.T.S.



SECTION B-B

(Looking Ahead)
N.T.S.



SECTION G-G

(Looking Ahead)
N.T.S.

① Use ½" Preformed Joint AASHTO M153 Type I and ½" x 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j).

STATE OF ARKANSAS
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SHEET 1 OF 2
DETAILS OF CONCRETE BARRIER WALL

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

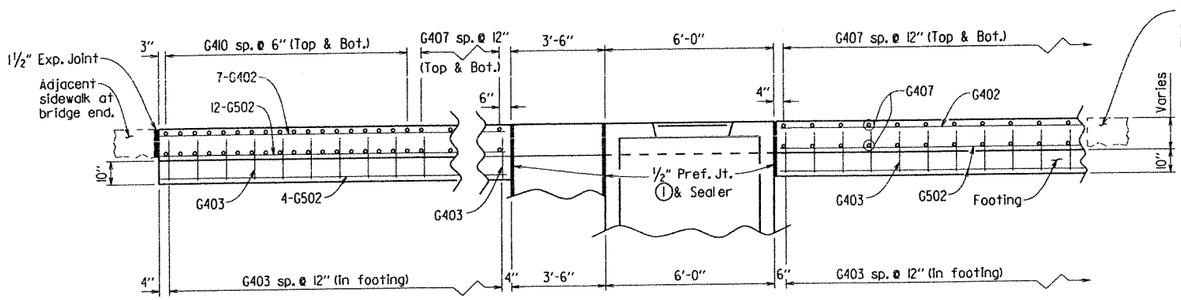
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DRAWING NO. 54257

PRINT DATE: 8/19/2013

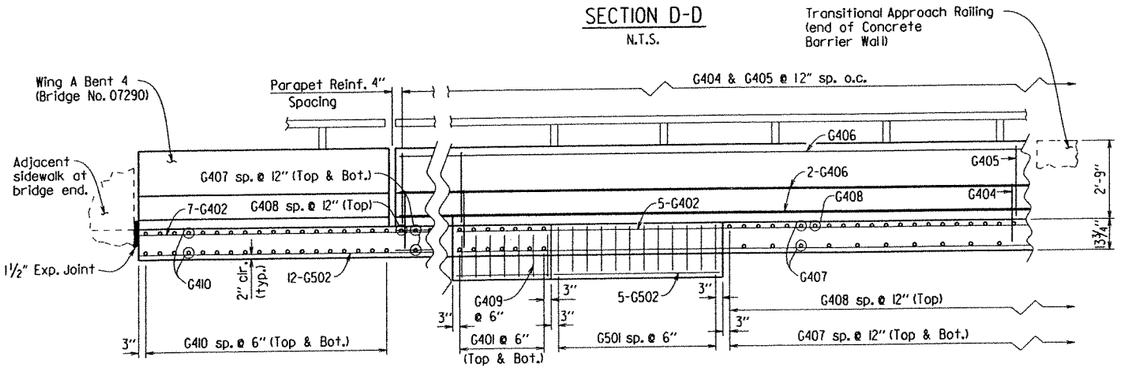
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				6	ARK.			
				JOB NO.		080390	121	263

① CONC. BARRIER WALL - 54258



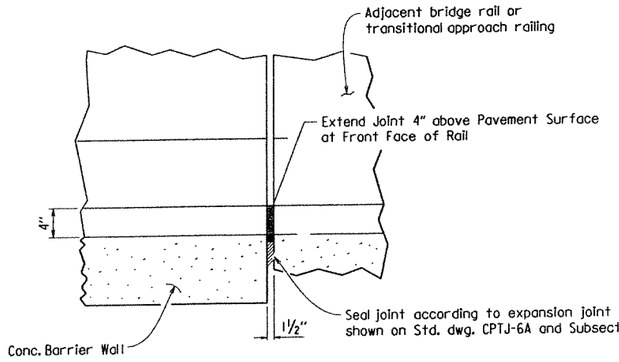
SECTION D-D

N.T.S.



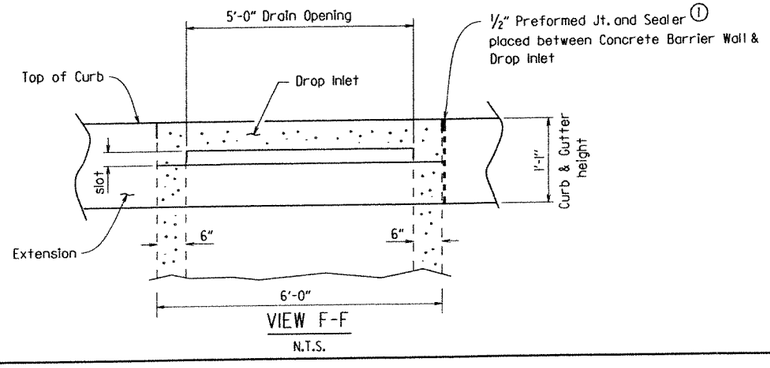
SECTION E-E

N.T.S.



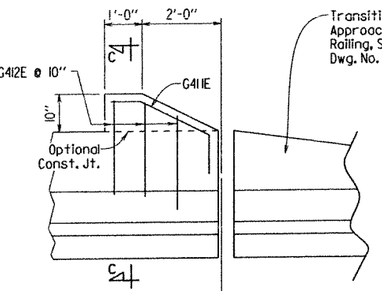
DETAILS OF 1½" EXPANSION JOINTS

N.T.S.



VIEW F-F

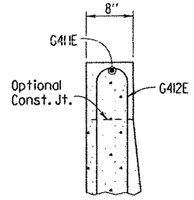
N.T.S.



DETAIL Z

No Scale

Required at end of Concrete Barrier Wall



SECTION C-C

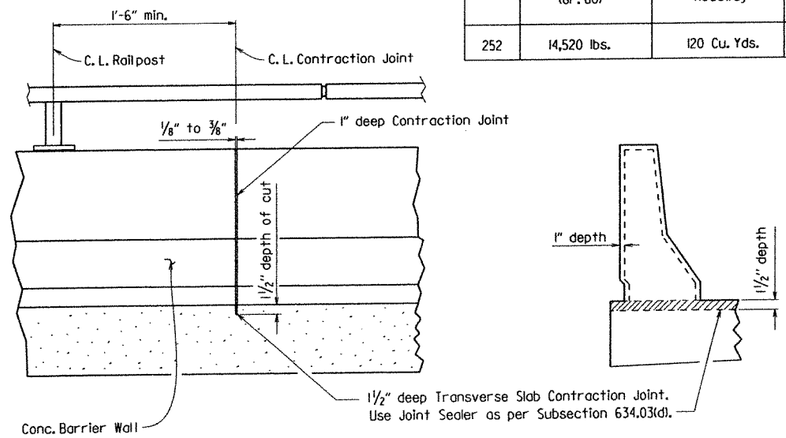
No Scale

① Use ½" Preformed Joint AASHTO M153 Type I and ½" x 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j).

TABLE OF QUANTITIES (CONCRETE BARRIER WALL TYPE A)

Approximate Quantities For Concrete Barrier Wall Measured along C. L. Bridge Sta. 430+55.5 to 433+10.0 (FOR INFORMATION ONLY)

Lin. Ft.	Reinforcing Steel - Roadway (Gr. 60)	Class S(AE) Concrete - Roadway	Metal Bridge Railing (Type H)
252	14,520 lbs.	120 Cu. Yds.	238 Lin. Ft.



DETAILS OF CONTRACTION JOINTS

N.T.S.

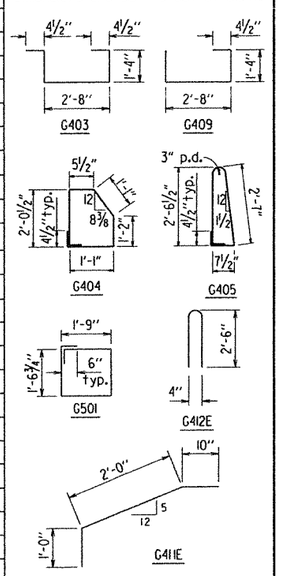
Note: Contraction Joints shall be constructed at 15'-0" Max. Sp. and coincide with Contraction Joints in Curb & Gutter.

Widths of Contraction Joints in the Concrete Barrier Walls shall match the widths of Contraction Joints used in the Curb & Gutter.

1" depth joints in rail section are not required to be sealed.

FOR INFORMATION ONLY
BAR LIST FOR CONC. BARRIER WALL

Mark	Length	Pin Dia.	Bending Diagram
G401	5'-3"	Str.	(Dimensions are out to out of bars.)
G402	*As Required	Str.	
G403	5'-9"	2"	
G404	6'-2"	2"	
G405	6'-4"	2"	
G406	*As Required	Str.	
G407	7'-2"	Str.	
G408	3'-11"	Str.	
G409	5'-6"	2"	
G410	5'-8"	Str.	
G411E	3'-10"	2"	
G412E	5'-2"	3"	
G501	7'-2"	2½"	
G502	*As Required	Str.	



* Note: Min. Lap Lengths For Longitudinal Bars are as follows:

G404 - 1'-9"
G408 - 1'-9"
G502 - 2'-2"

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4,000 psi)

Reinforcement Steel shall be Grade 60 (yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Preformed Joints and Sealer shall not be paid for directly. Expansion Joints and Sealer shall not be paid for directly. Payment for these items shall be considered incidental to the pay items "Concrete Barrier Wall Type A".

Concrete Barrier Wall will be paid for as "Concrete Barrier Wall Type A".

Type "H" Metal Rail shall be paid for as "Metal Bridge Railing (Type H)". See Dwg. No. 54260 for details of Type "H" Metal Rail.

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SHEET 2 OF 2
DETAILS OF CONCRETE BARRIER WALL

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

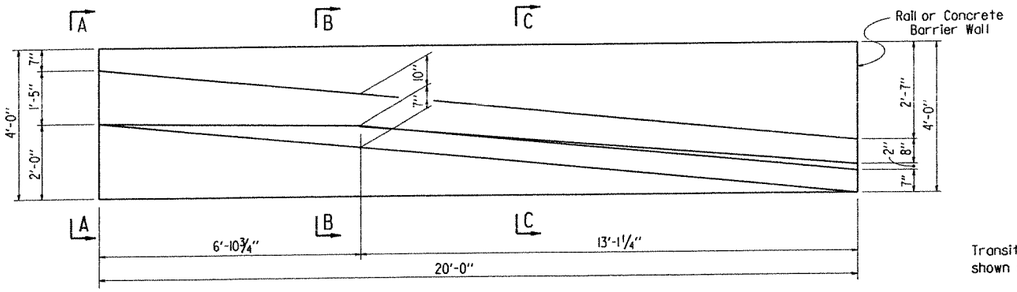
LITTLE ROCK, ARK.

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DESIGNED BY: S T D. DATE: —

DRAWING NO. 54258

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	28	263
				① 07290 & 07291	-	RAIL	- 54259	



PLAN OF TRANSITIONAL APPROACH RAILING

Note: Railings on each side of Roadway are opposite hand to each other.

General Notes

Transitional Approach Railing shall be placed at ends of turnback wings at locations shown on the layout and at end of Concrete Barrier Wall.

All Concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

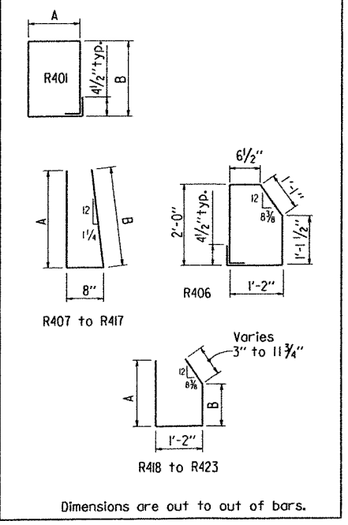
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Transitional Approach Railing shall be paid for at the contract unit price bid per each for "Transitional Approach Railing." See SP Job No. 080390 "Transitional Approach Railing."

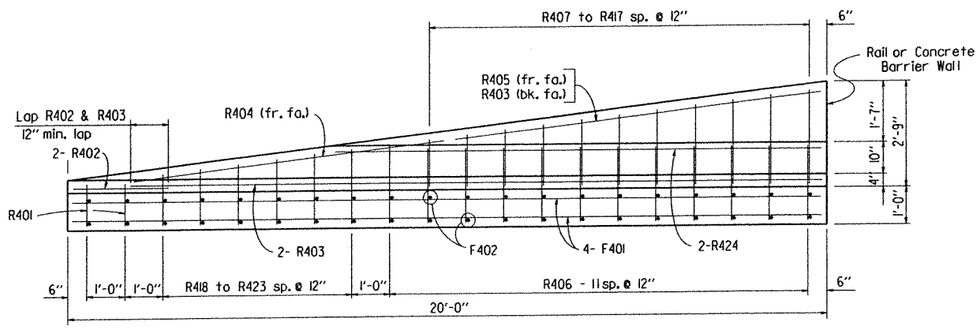
BAR LIST - ONE TRANSITIONAL RAIL

Mark	No. Req'd.	Length	A	B	Pin Dia.
F401	8	19'-8"			str.
F402	40	3'-8"			str.
R401	2	4'-10"	1'-2"	1'-1"	2"
R402	2	3'-0"			str.
R403	3	17'-9"			str.
R404	1	5'-0"			str.
R405	1	12'-9"			str.
R406	12	6'-3"			2"
R407-R417	1ea.	3'-0"-5'-5"	1'-3"-2'-5½"	1'-3"-2'-5½"	2"
R418-R423	1ea.	3'-9"-5'-1"	1'-4"-1'-11¼"	1'-1½"	2"
R424	2	10'-9"			str.

Bending Diagram



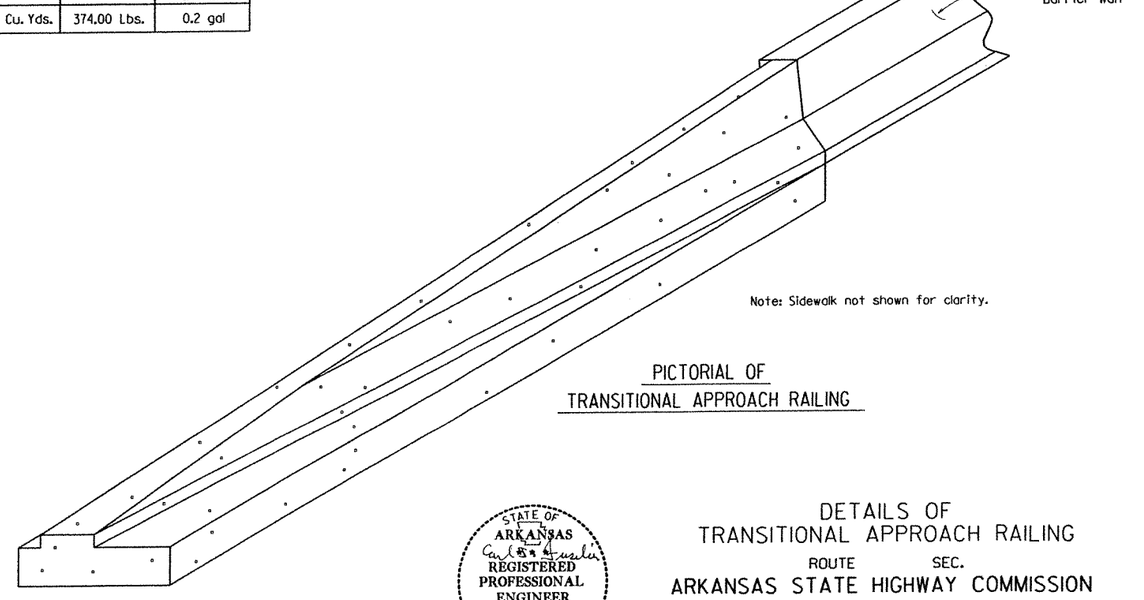
Dimensions are out to out of bars.



ELEVATION OF TRANSITIONAL APPROACH RAILING

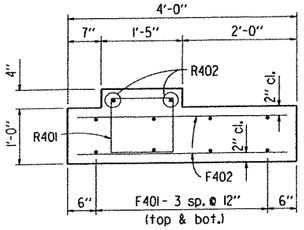
FOR INFORMATION ONLY
SCHEDULE OF QUANTITIES PER RAIL UNIT

CLASS "S" CONCRETE	REINFORCING STEEL (GRADE 60)	CLASS 1 PROTECTIVE SURFACE TREATMENT
4.20 Cu. Yds.	374.00 Lbs.	0.2 gal

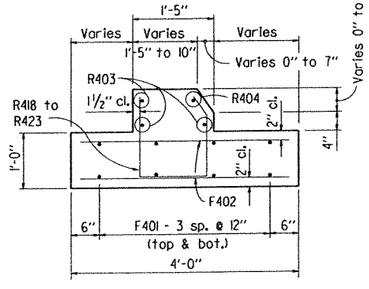


Note: Sidewalk not shown for clarity.

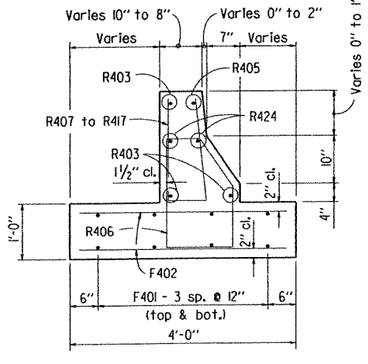
PICTORIAL OF TRANSITIONAL APPROACH RAILING



VIEW A - A
¾" = 1'-0"



SECTION B - B
¾" = 1'-0"



SECTION C - C
¾" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
7/11/13
CARL J. FUSELIER

BRIDGE ENGINEER

DETAILS OF TRANSITIONAL APPROACH RAILING

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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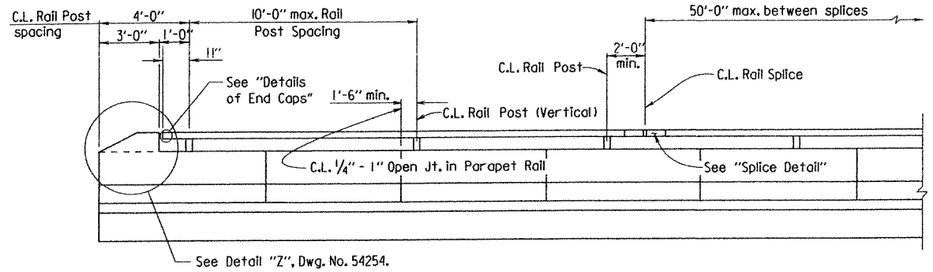
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DESIGNED BY: Std. DATE:

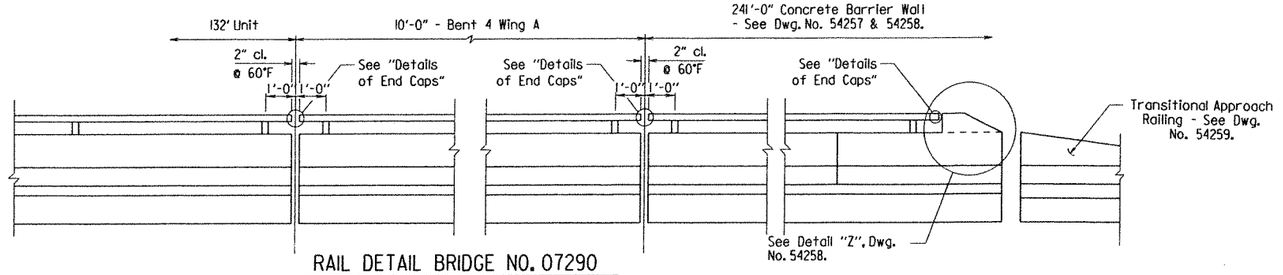
BRIDGE NO. 07290 & 07291 DRAWING NO. 54259

PRINT DATE: 8/19/2013

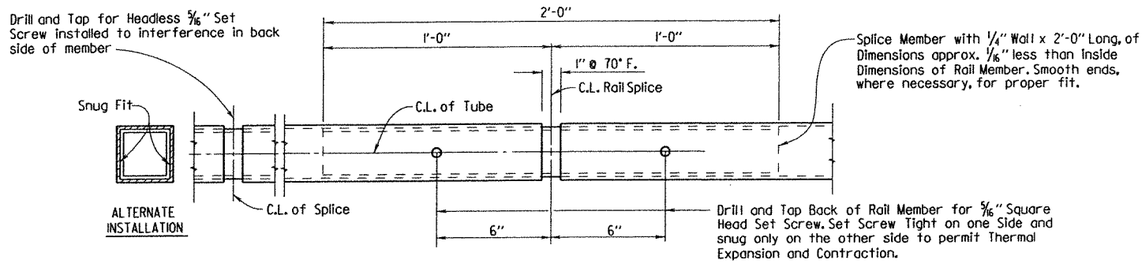
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				6	ARK.			
				JOB NO.		080390	129	263
				(1) 07290 & 07291		- METAL BRIDGE RAIL - 54260		



RAIL POST SPACING DETAIL



RAIL DETAIL BRIDGE NO. 07290



SPLICE DETAIL

NOTES FOR BRIDGE RAILING:

Rail layout shall conform to vertical and horizontal alignment of bridge.

Maximum post spacing = 10'-0"

Minimum distance from centerline post to centerline open or contraction joints in parapet = 1'-6".

Rail splices shall be at 50' maximum spacing. Centerline splices shall be located at a maximum of 2 feet from centerline of post. Rail sections shall be fabricated to attach to at least three posts.

Base plates shall not be placed upon areas that are improperly finished, deformed or irregular.

Bridge railing, including posts, fasteners, template plates, and neoprene pad shall be paid for at the contract unit price bid per linear foot for "Metal Bridge Railing (Type H)".

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

MATERIALS:

Tubing, Posts, and Accessories: AASHTO M270, Gr. 36 or ASTM A500-Grade B.

Railing End Caps: AASHTO M270, Grade 36, galvanized.

Steel Rail Members shall be galvanized in accordance with AASHTO M 111 after fabrication.

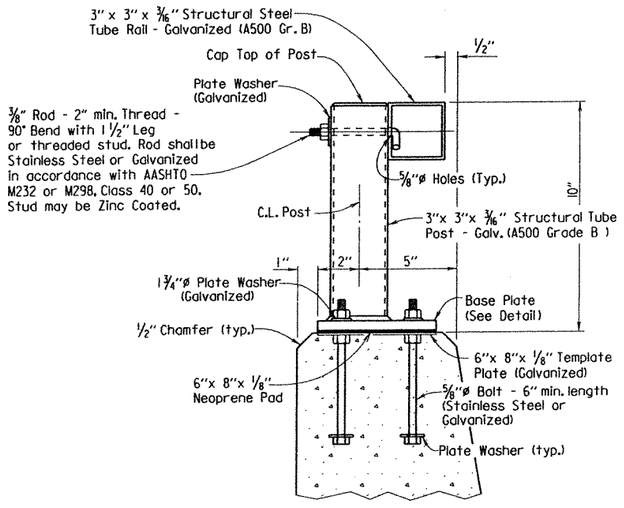
Cast in place anchor bolts shall be of stainless steel or high strength steel. Stainless steel anchor bolts shall conform to ASTM A193 or A320-Grade B8 with a minimum yield strength of 80,000 psi. High strength steel anchor bolts shall conform to AASHTO M164 or A354-Grade BC galvanized in accordance with AASHTO M232 or M298, Class 40 or 50.

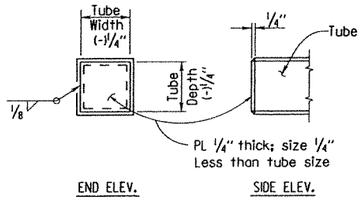
Splice Set Screws: Stainless steel, ASTM Specifications A193 or A320-Grade B8, or AASHTO M270, Grade 36, galvanized.

Nuts: Nuts shall conform to AASHTO M292, Gr. 8 (Stainless steel) or galvanized in accordance with AASHTO M232 or M298, Class 40 or 50.

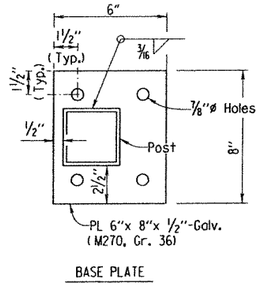
Threads: Threads on bolts, screws, and nuts shall conform to American Standard Coarse Series, Class 2 FIT, ASA Specification B1.1.

Washers shall conform to AASHTO M293, galvanized in accordance with AASHTO M232 or M298, Class 40 or 50, or of stainless steel conforming to ASTM A276 or A167-Type 302.





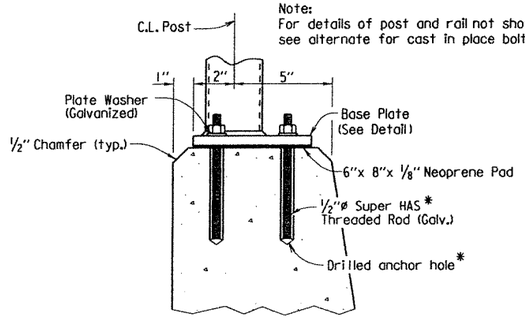
DETAILS OF END CAPS



BASE PLATE

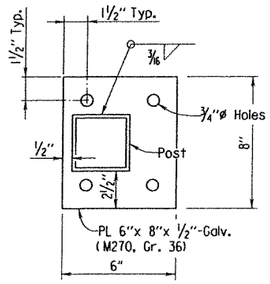
DETAILS OF POST ANCHOR SYSTEM

(CAST IN PLACE BOLTS)



*HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4 1/2" embedment or an approved equal.

The HILTI Epoxy Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(EPOXY ADHESIVE ANCHORS)

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DETAILS OF TYPE H METAL BRIDGE RAILING

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 05/18/13 FILENAME: b080390_hr.dgn

CHECKED BY: CJP DATE: 8/16/13 SCALE: NONE

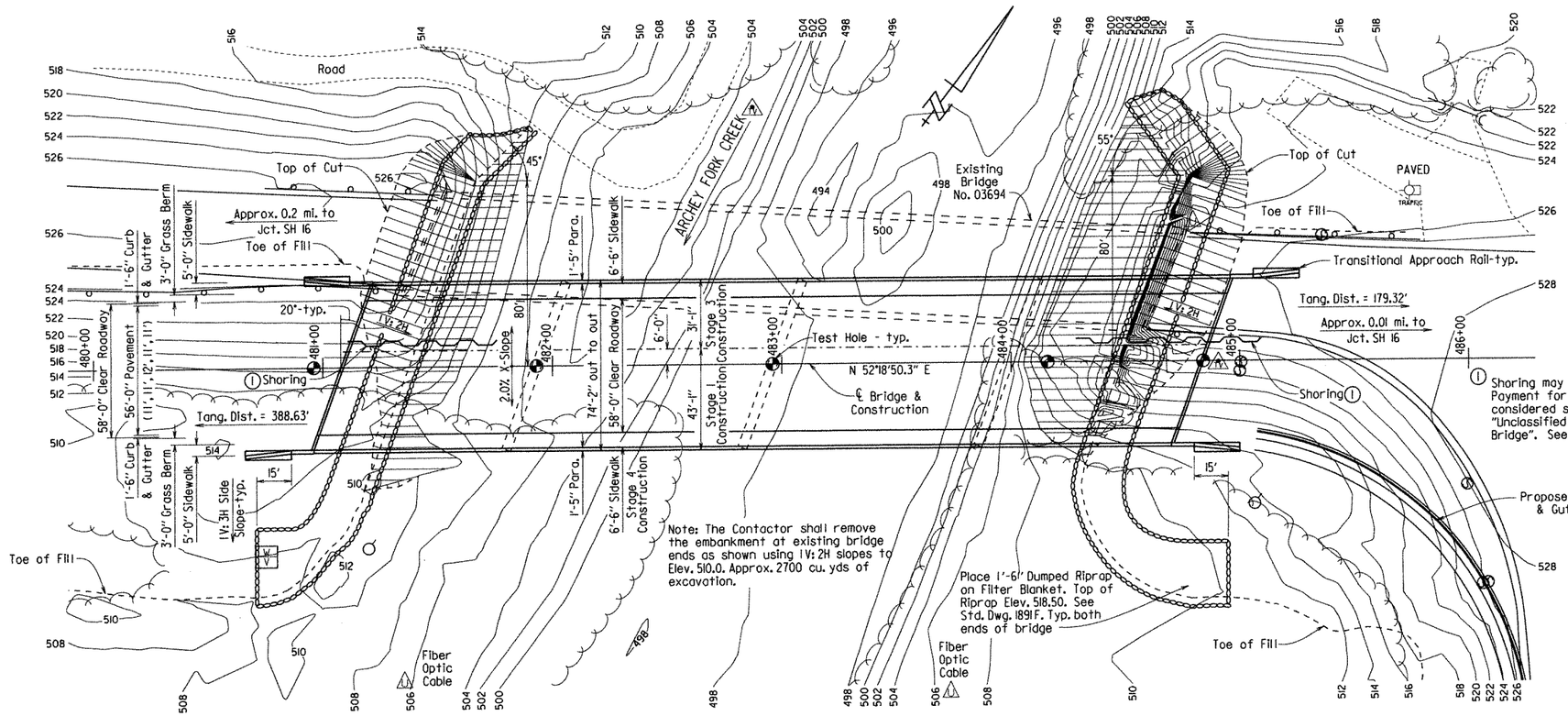
DESIGNED BY: MCB DATE: 5/13

BRIDGE NO. 07290 & 07291 DRAWING NO. 54260

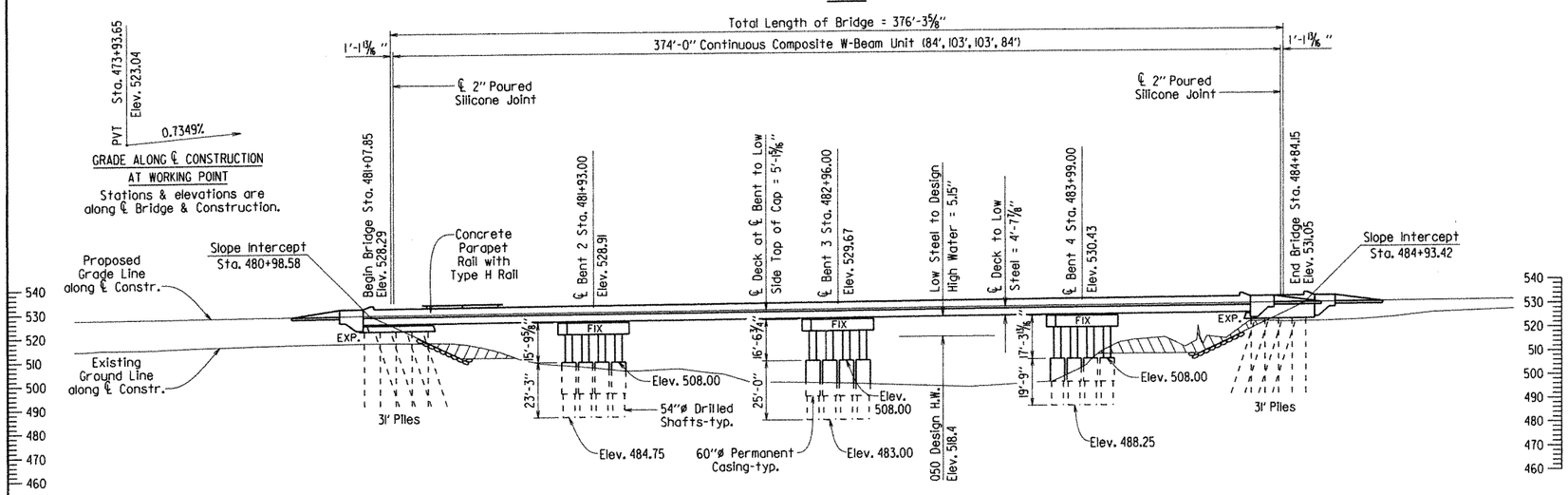
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	130	263
				①	07291 -	LAYOUT		- 54261

For R/W Data, See Rdwy. Plans



PLAN



ELEVATION

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	51300	517.6	518.4
Base	100	61700	518.8	520.0
Extreme	500	94100	522.9	526.8
Overtopping	>500	-	-	-

* Unconstricted water surface without structure or roadway approaches.

0100 backwater elevation for existing structure = Elev. 520.1
Proposed low bridge chord = Elev. 523.55

Drainage area = 118 square miles.
Historical H.W. = Elev. 521.9

For General Notes and soil boring data, see Dwg. No. 54262.

STATE OF ARKANSAS
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No. 7510
8/19/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE OVER ARCHEY FORK CREEK HWY. 16 EAST - HWY. 65B SOUTH (CLINTON) (S) VAN BUREN COUNTY

ROUTE 65 SEC. 7

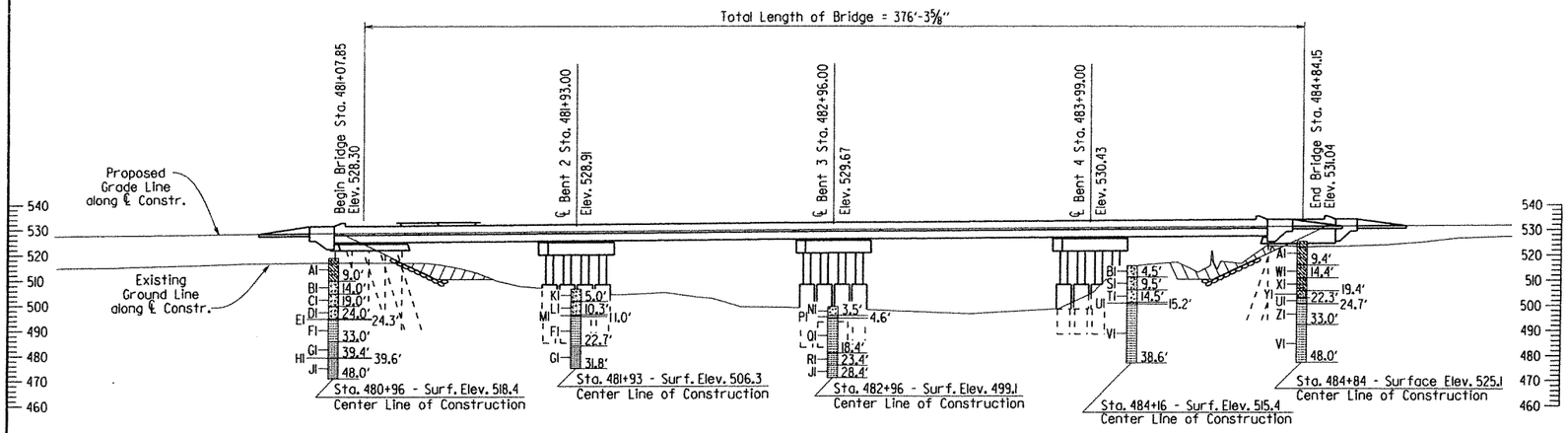
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 10-31-11 FILENAME: b080390x2_11.dgn
CHECKED BY: MCB DATE: 8/19/13 SCALE: 1" = 30'
DESIGNED BY: CSR DATE: 9/11

BRIDGE NO. 07291 DRAWING NO. 54261

PRINT DATE: 9/17/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	13	262
				①	07291 -	LAYOUT		- 54262



ELEVATION

BORING LEGEND

AI-Moist, Stiff, Brown and Gray Clay with Gravel (Sandstone Fragments)
BI-Moist, Medium Dense, Brown Sand with Gravel (Sandstone Fragments)
CI-Wet, Medium Dense, Brown Sand with Gravel (Sandstone Fragments)
DI-Moist, Dense, Brown Sand with Gravel (Sandstone Fragments)
EI-SHALE - Dark Gray, Slightly Weathered, Hard
FI-SHALE WITH FREQUENT SANDSTONE SEAMS - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip
GI-SHALE - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip
HI-SANDSTONE - Gray, Well-Cemented
JI-SHALE - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip
KI-Moist, Dense, Brown and Gray Sand with Gravel (Sandstone Fragments)
LI-Moist, Medium Dense to Dense, Brown Sand with Gravel (Sandstone Fragments) and Trace of Clay
MI-SHALE - Gray, Weathered, Soft
NI-Gravel
PI-SHALE - Gray, Weathered, Medium Hard
QI-SHALE WITH FREQUENT SANDSTONE SEAMS - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip
RI-SHALE - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip and Fractured Layers
SI-Moist, Dense, Light Brown Sand with Gravel (Sandstone Fragments)
TI-Sandstone Fragments with Trace of Clay
UI-SHALE - Dark Gray, Weathered, Medium Hard
VI-SHALE WITH FREQUENT SANDSTONE SEAMS - Dark Gray, Laminated, Slightly Weathered, Medium Hard to Hard, with Slight Dip
WI-Moist, Medium Stiff, Light Brown and Gray Clay with Gravel (Sandstone Fragments)
XI-Moist, Very Stiff, Brown Sandy Clay with Gravel (Sandstone Fragments)
YI-Moist, Medium Dense, Brown Sand with Clay and Gravel (Sandstone Fragments)
ZI-SHALE WITH FREQUENT SANDSTONE SEAMS - Dark Gray, Laminated, Slightly Weathered, Medium Hard, with Slight Dip

"N" VALUES

Sta. 480+96 - ℄ of Construction
4.5- 5.5, N=11
9.5- 10.5, N=11
14.5- 15.5, N=15
19.5- 20.5, N=44
24.0- 24.1, N=60 (1.5")

Sta. 481+93 - ℄ of Construction
5.5- 6.5, N=20
9.5- 10.5, N=72

Sta. 482+96 - ℄ of Construction
4.5- 4.6, N=30 (1")

Sta. 484+16 - ℄ of Construction
5.0- 6.0, N=36
10.0- 11.0, N=41
15.0- 15.2, N=60 (2")

Sta. 484+84 - ℄ of Construction
4.9- 5.9, N=13
9.9- 10.9, N=8
14.9- 15.9, N=27
19.9- 20.9, N=16
24.4- 24.7, N=60 (4")

GENERAL NOTES

BENCH MARK: Chiseled square in NE corner of bridge, 9.93 ft. left of ℄ Constr. Sta. 484+61.13, Elev. 526.47.

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (Sixth Edition, 2012).

LIVE LOADING: HL-93 SEISMIC ZONE: 1

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (Grade 60, AASHTO M31 or M322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

STEEL PILING: Piling in Bents 1 & 5 shall be HP14x73 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and into the material designated as Shale with frequent Sandstone seams on the boring legend. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Actual lengths to be determind in the field. Piles in end bents to be driven after embankment to bottom of cap is in place. On all piles the Contractor shall use approved steel H-Pile driving points.

DRILLED SHAFTS: Foundations for intermediate bents shall consist of Drilled Shafts. All drilled shafts shall be founded a minimum of 10 feet into Shale with frequent Sandstone seams. No adjustments in Plan Tip Elevation shall be made without prior approval from the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job No. 080390 "Drilled Shaft Foundations". Any casing used as a means for construction of the drilled shafts, such as to prevent caving, to exclude groundwater, or to provide shoring shall not extend below top of rock. The Contractor must obtain approval from the Engineer for any deviation from this requirement.

CROSSHOLE SONIC LOGGING: Nondestructive testing shall be performed on each drilled shaft in accordance with SP Job No. 080390 "Nondestructive Testing of Drilled Shafts".

BRIDGE DECK: The concrete bridge deck, except sidewalk, shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6, Broomed Finish.

DETAIL DRAWINGS:	DRAWING NOS.
Stage Construction	54263
End Bents	54264-54269
Intermediate Bents	54270-54271
374' Continuous Composite W-Beam Unit	54272-54280
Elastomeric Bearings	54281
Transitional Approach Railing	54259
Type H Metal Bridge Railing	54260
Steel Piling	14995A

EXISTING BRIDGE: Existing Bridge No. 03694 (Log Mi. 15.74) is 327' long and 45.7' wide and is comprised of five 65' steel beam spans with concrete deck on concrete column bents. Centerline of existing bridge is located approximately 20' upstream of the proposed roadway centerline.

REMOVAL AND SALVAGE: After Stage 1 Construction is open to traffic, existing Bridge No. 03694 (Site 2) shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor. The existing intermediate bent foundations shall be removed, as directed by the Engineer, to facilitate the construction of the new bridge.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

STATE OF ARKANSAS
Carl J. Fuselier
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SHEET 2 OF 2
LAYOUT OF BRIDGE OVER ARCHEY FORK CREEK HWY. 16 EAST - HWY 65B SOUTH (CLINTON) (S) VAN BUREN COUNTY

ROUTE 65 SEC. 7

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: MCB DATE: 7/15/13
DESIGNED BY: CSR DATE: 9/11
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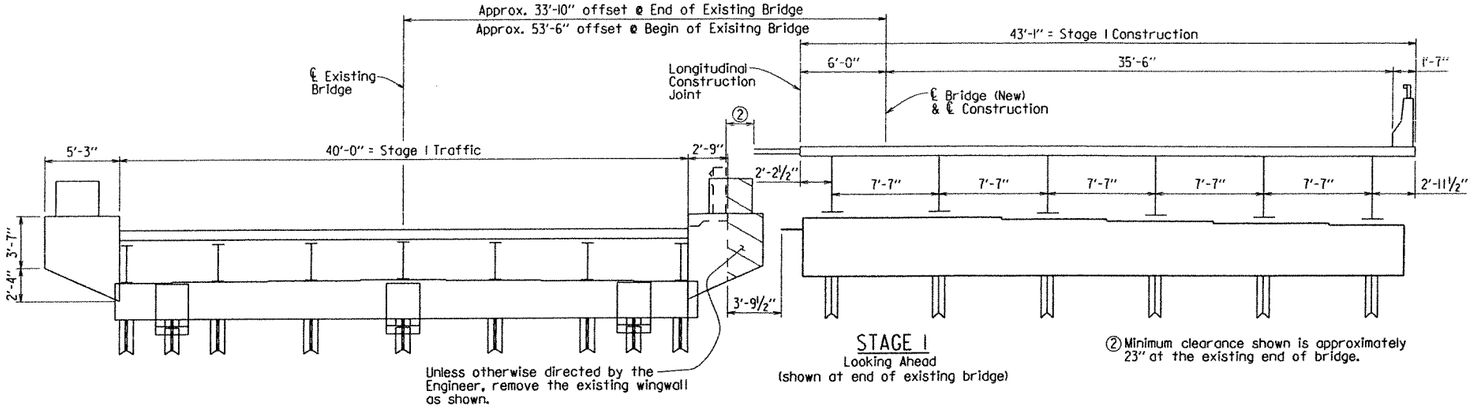
BRIDGE NO. 07291 DRAWING NO. 54262

PRINT DATE: 8/19/2013

480+00 481+00 482+00 483+00 484+00 485+00 486+00

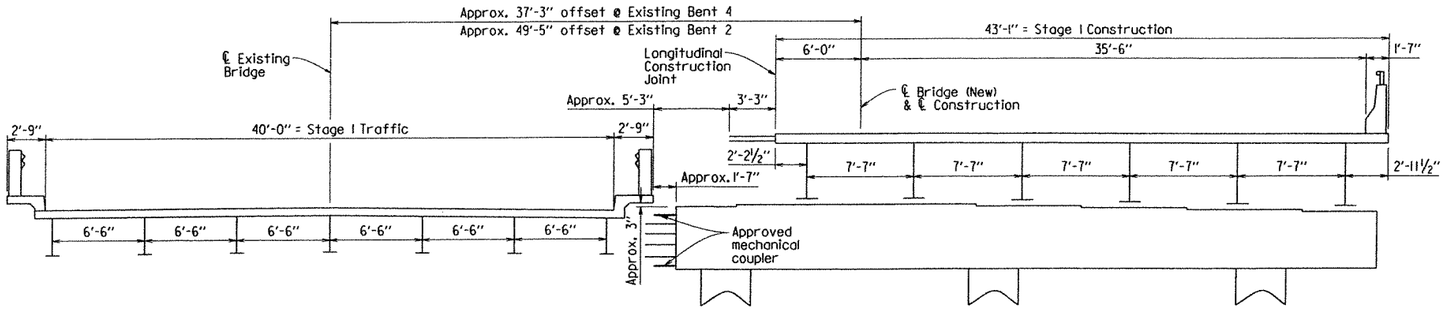
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				6	ARK.			
				JOB NO.		080390	13	263

(1) 07291 - STAGE CONSTRUCTION - 54263

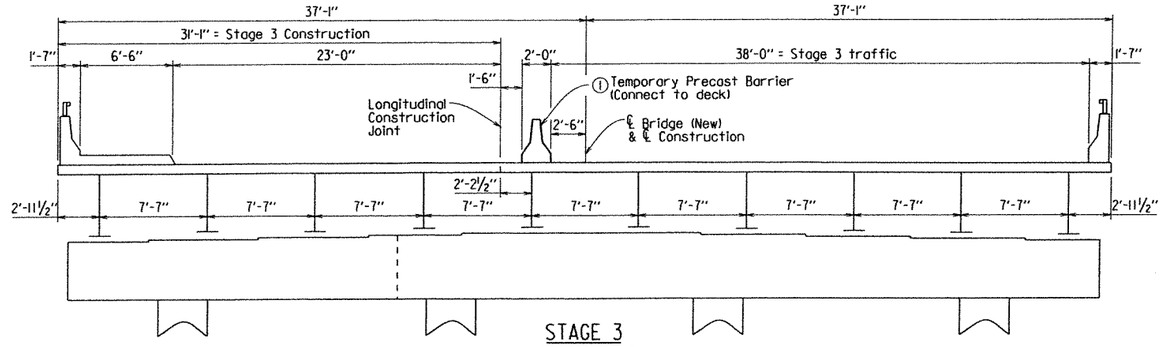


STAGE 1
Looking Ahead
(shown at end of existing bridge)

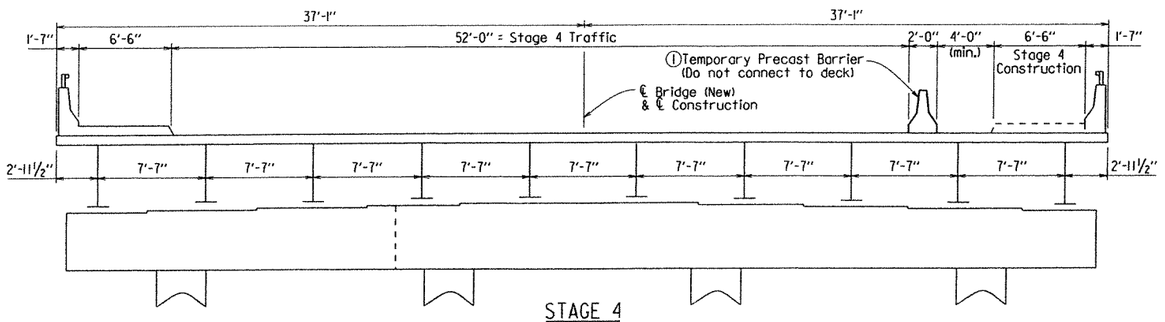
② Minimum clearance shown is approximately 23" at the existing end of bridge.



STAGE 1
Looking Ahead
(shown at Bent 4)



STAGE 3
Looking Ahead



STAGE 4
Looking Ahead

Remove exisitng structure after Stage 1 Construction has been opened to traffic.

See Roadway Plans for additional details of Stage Construction and Maintenance of Traffic.

(1) For Details of Temporary Precast Barrier, see Std. Dwg. No. TC-4.

STATE OF ARKANSAS
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8/16/13
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BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
ARCHEY FORK CREEK
HWY. 16 EAST - HWY. 65B SOUTH
(CLINTON) (S)
VAN BUREN COUNTY

ROUTE 65 SEC. 7

ARKANSAS STATE HIGHWAY COMMISSION

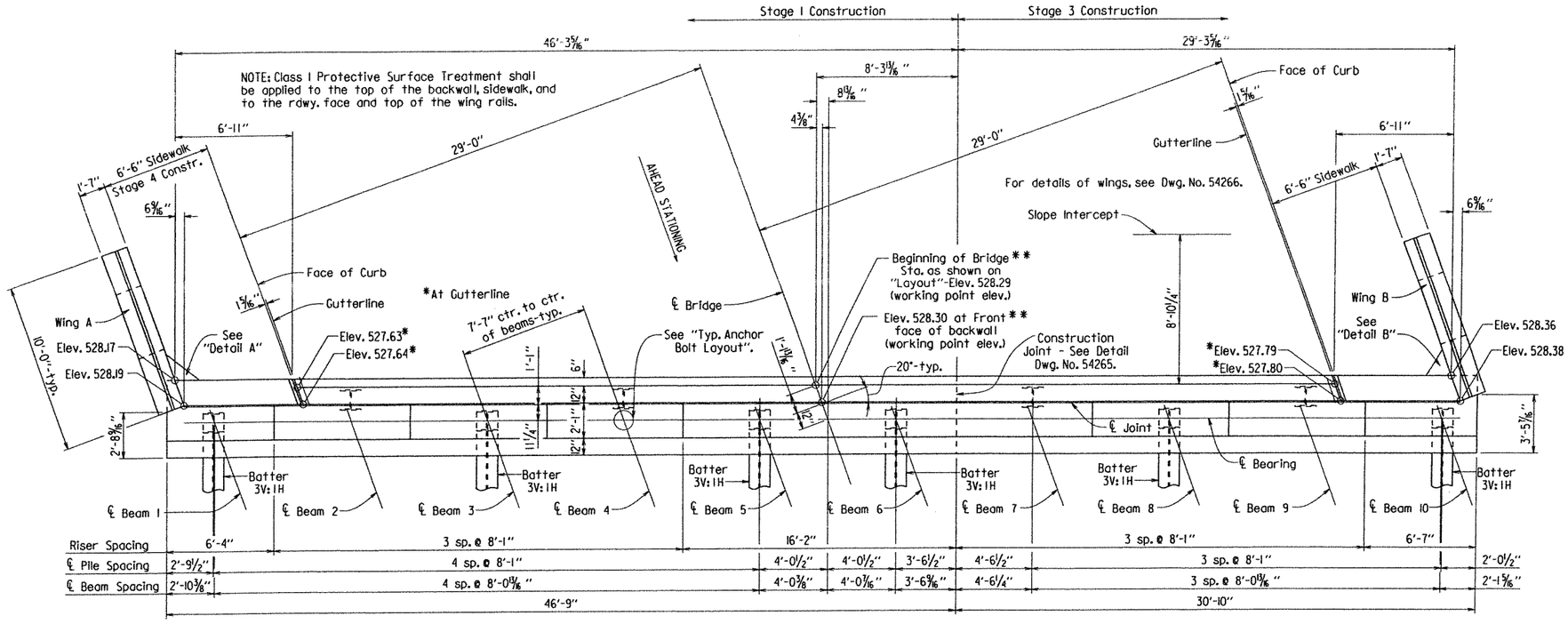
LITTLE ROCK, ARK.

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DESIGNED BY: CJF DATE: 9/11

BRIDGE NO. 07291 DRAWING NO. 54263

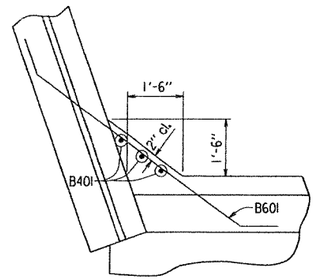
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				6	ARK.			
				JOB NO.		080390	33	263
				07291 -		BENT 1 -	54264	

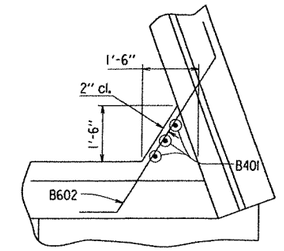


PLAN
Scale: 1/4" = 1'-0"

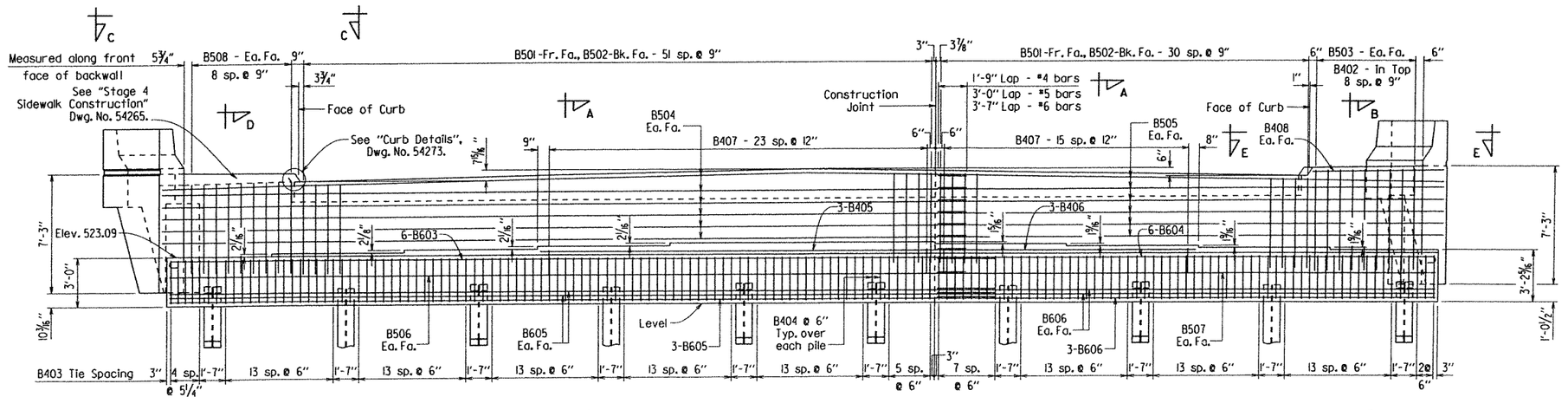
**See "Rounding Detail", Dwg. No. 54272.



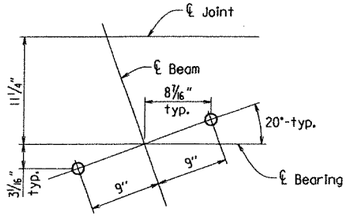
DETAIL A
Scale: 1/2" = 1'-0"



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



ELEVATION
Looking Back
Scale: 1/4" = 1'-0"



TYP. ANCHOR BOLT LAYOUT
No Scale

For details of elastomeric bearings, See Dwg. No. 54281.

STATE OF ARKANSAS
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No. 7510
8/19/13
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BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 1
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

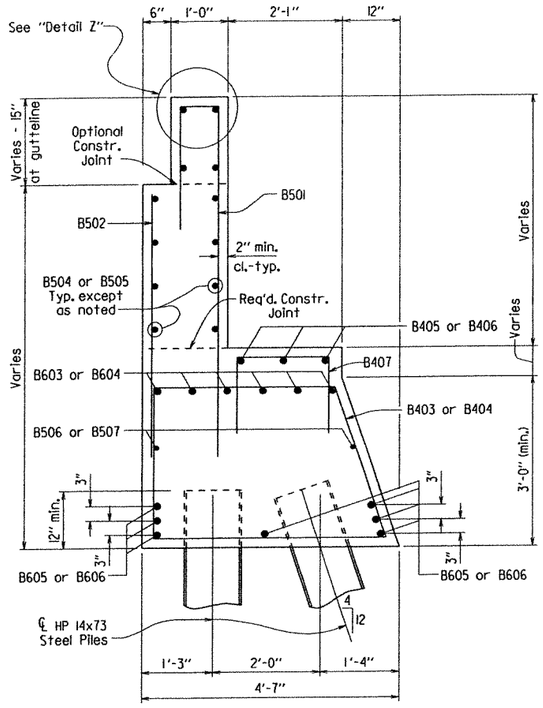
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CHECKED BY: CJP DATE: 8/7/13
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SCALE: AS NOTED

BRIDGE NO. 07291 DRAWING NO. 54264

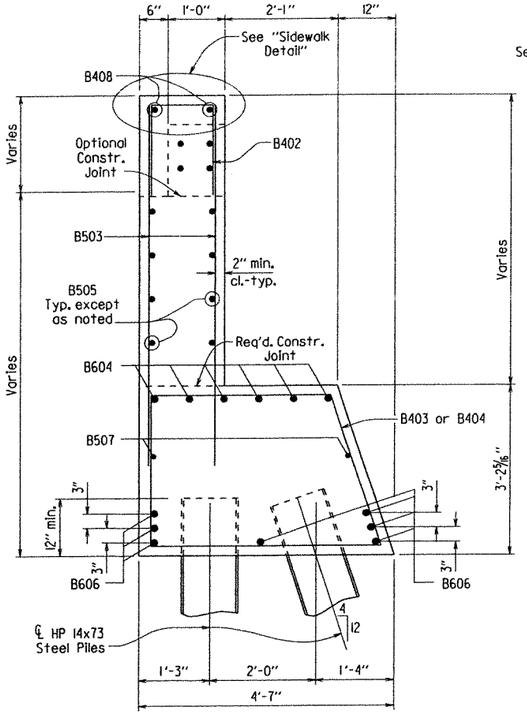
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	134	263
				①		07291 - BENT 1 - 54265		



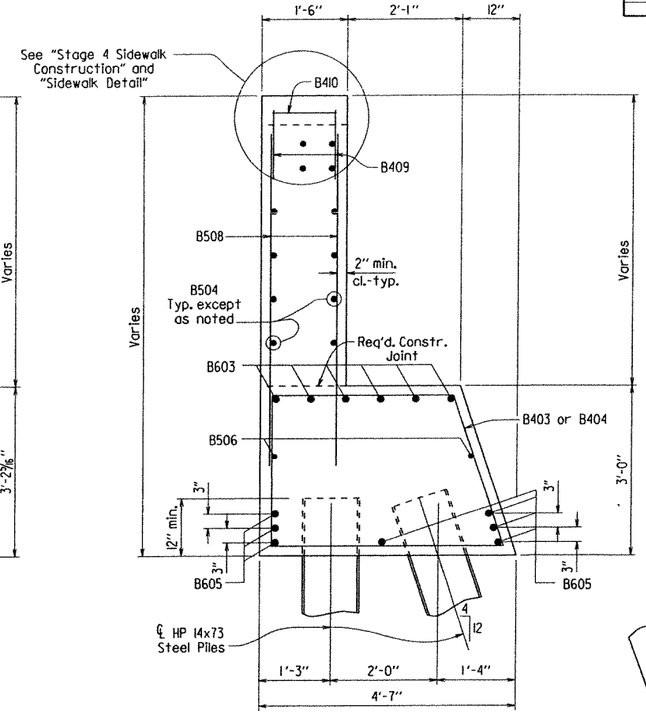
SECTION A-A

Scale: ¾" = 1'-0"



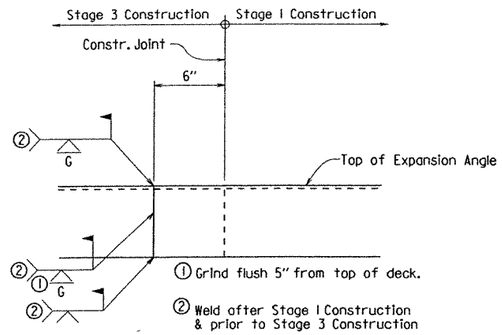
SECTION B-B

Scale: ¾" = 1'-0"



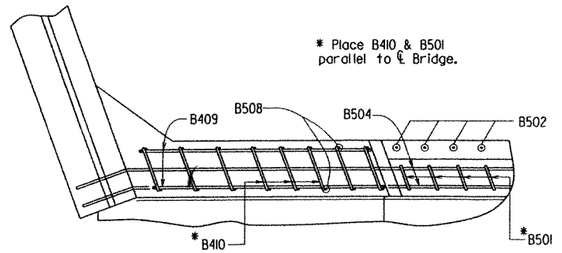
SECTION D-D

Scale: ¾" = 1'-0"



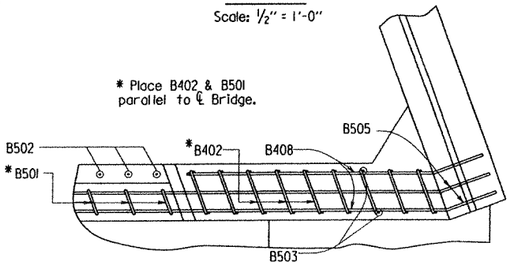
DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

Looking Ahead
No Scale



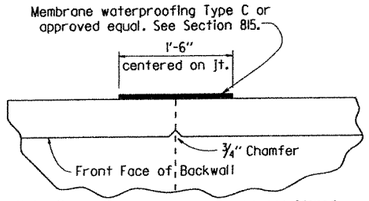
VIEW C-C

Scale: ½" = 1'-0"



VIEW E-E

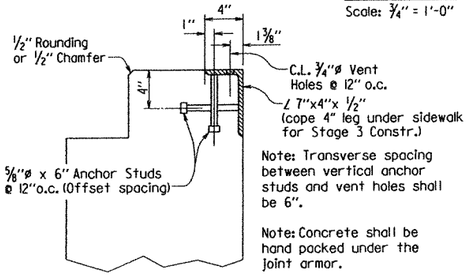
Scale: ½" = 1'-0"



Note: Payment for membrane to be considered subsidiary to "Class S Concrete-Bridge".

CONSTRUCTION JOINT DETAIL

No Scale



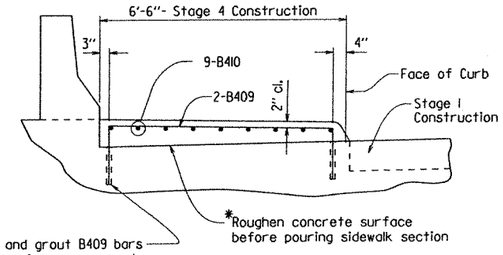
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54279.

DETAIL Z

No Scale

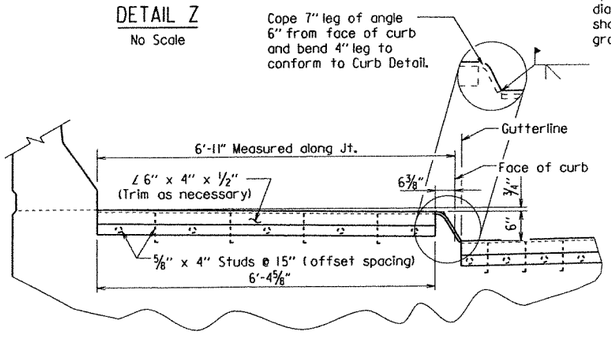


Drill 12" deep holes and grout B409 bars into place as shown using an approved epoxy grout listed on the QPL. Hole diameter, and installation procedure shall be as recommended by the grout manufacturer.

*This work to be completed as part of Stage 4 Construction. Payment for this work will not be paid for directly, but shall be considered subsidiary to the item "Class S Concrete".

STAGE 4 SIDEWALK CONSTRUCTION

No Scale



SIDEWALK DETAIL

No Scale

Concrete shall be hand packed under the joint armor in the sidewalk. See Dwg. No. 54280 for additional details.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 1
ARCHEY FORK CREEK

ROUTE SEC.

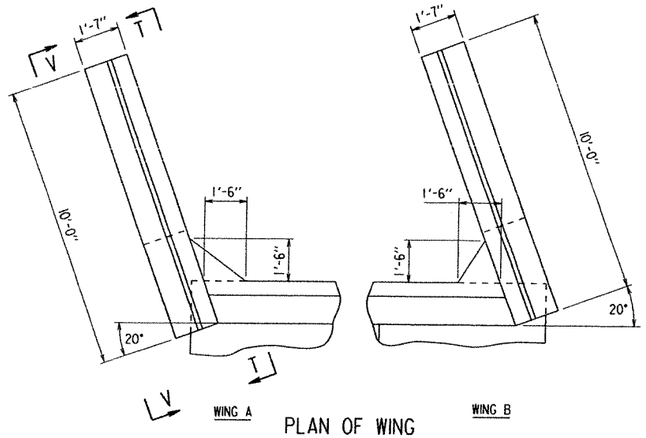
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-25-13
CHECKED BY: CJR DATE: 8/19/13
DESIGNED BY: CJR DATE: 1/11/12
FILENAME: b080390x2_bl.dgn
SCALE: AS NOTED

BRIDGE NO. 07291 DRAWING NO. 54265

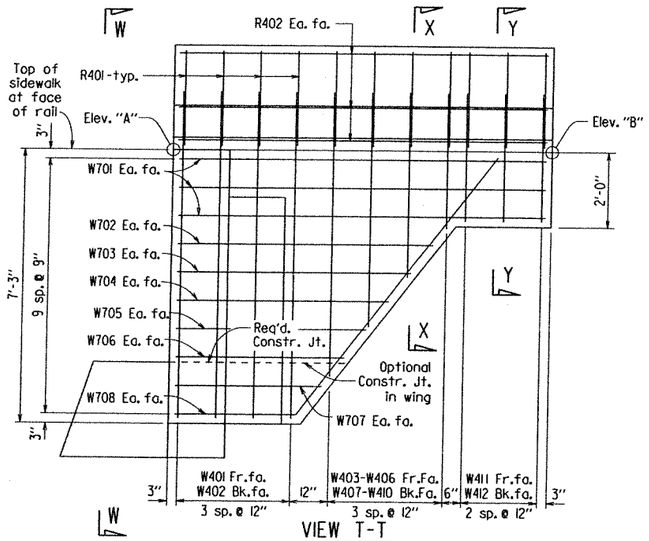
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	135	263
				①		07291 - BENT 1 - 54266		



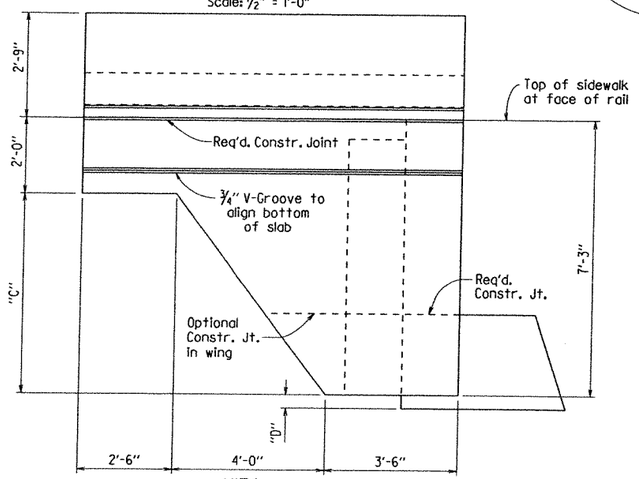
PLAN OF WING

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



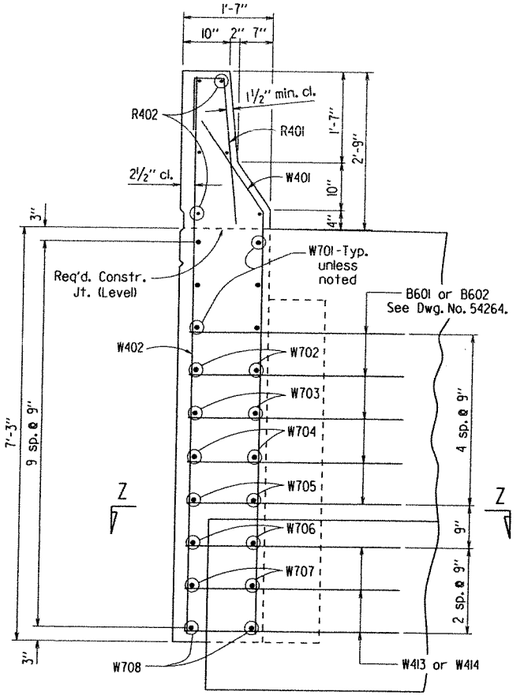
VIEW T-T

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



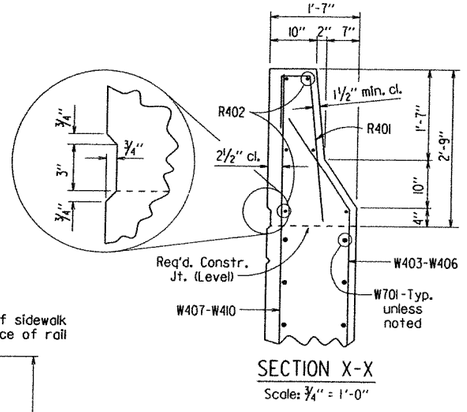
VIEW V-V

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



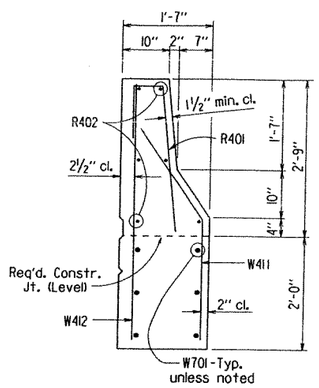
VIEW W-W

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



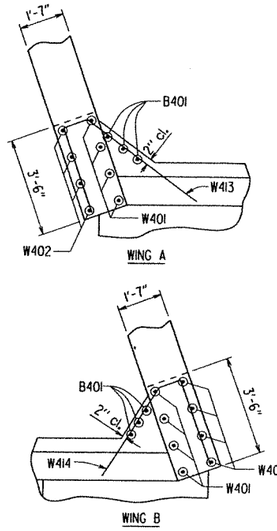
SECTION X-X

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



SECTION Y-Y

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



SECTION Z-Z

No Scale

TABLE OF VARIABLES

	Wing A	Wing B
Elev. "A"	528.19	528.38
Elev. "B"	528.11	528.30
"C"	5'-2 1/16"	5'-2 1/16"
"D"	10 3/16"	1'-0 1/16"

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270-Gr. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

No portion of the backwall shall be poured until the beams are in place. Refer to "Expansion Device Installation at End Bents" note, Dwg. No. 54279.

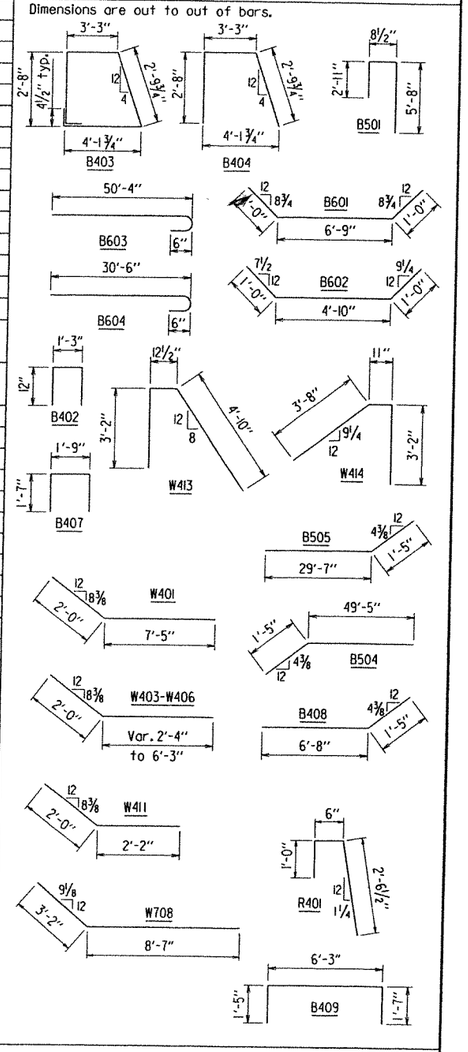
For additional information, See layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	5'-1"	Str.
B402	9	3'-1"	2"
B403	134	13'-3"	2"
B404	20	8'-7"	2"
B405	3	26'-0"	Str.
B406	3	15'-10"	Str.
B407	40	4'-9"	2"
B408	2	8'-0"	3"
B409	2	9'-1"	2"
B410	9	1'-3"	Str.
R401	22	3'-11"	2"
R402	12	9'-8"	Str.
W401	8	9'-4"	2"
W402	8	9'-8"	Str.
W403-W406	2 each	Var. 4'-4" to 8'-3"	2"
W407-W410	2 each	Var. 4'-7" to 8'-6"	Str.
W411	6	4'-1"	2"
W412	6	4'-5"	Str.
W413	3	8'-11"	2"
W414	3	7'-7"	2"
B501	83	9'-1"	2 1/2"
B502	83	4'-9"	Str.
B503	18	6'-3"	Str.
B504	12	50'-10"	3 3/4"
B505	12	30'-11"	3 3/4"
B506	2	49'-9"	Str.
B507	2	30'-6"	Str.
B508	18	6'-0"	Str.
B601	5	8'-7"	4 1/2"
B602	5	6'-8"	4 1/2"
B603	6	51'-0"	4 1/2"
B604	6	31'-2"	4 1/2"
B605	7	50'-4"	Str.
B606	7	30'-6"	Str.
W701	12	9'-8"	Str.
W702	4	6'-9"	Str.
W703	4	6'-2"	Str.
W704	4	5'-7"	Str.
W705	4	5'-0"	Str.
W706	4	4'-5"	Str.
W707	4	3'-10"	Str.
W708	4	11'-4"	5 1/4"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Carl J. Fuselier
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8/19/13
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SHEET 3 OF 3
DETAILS OF BENT 1
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-27-13 FILENAME: b080390x2_bl.dgn

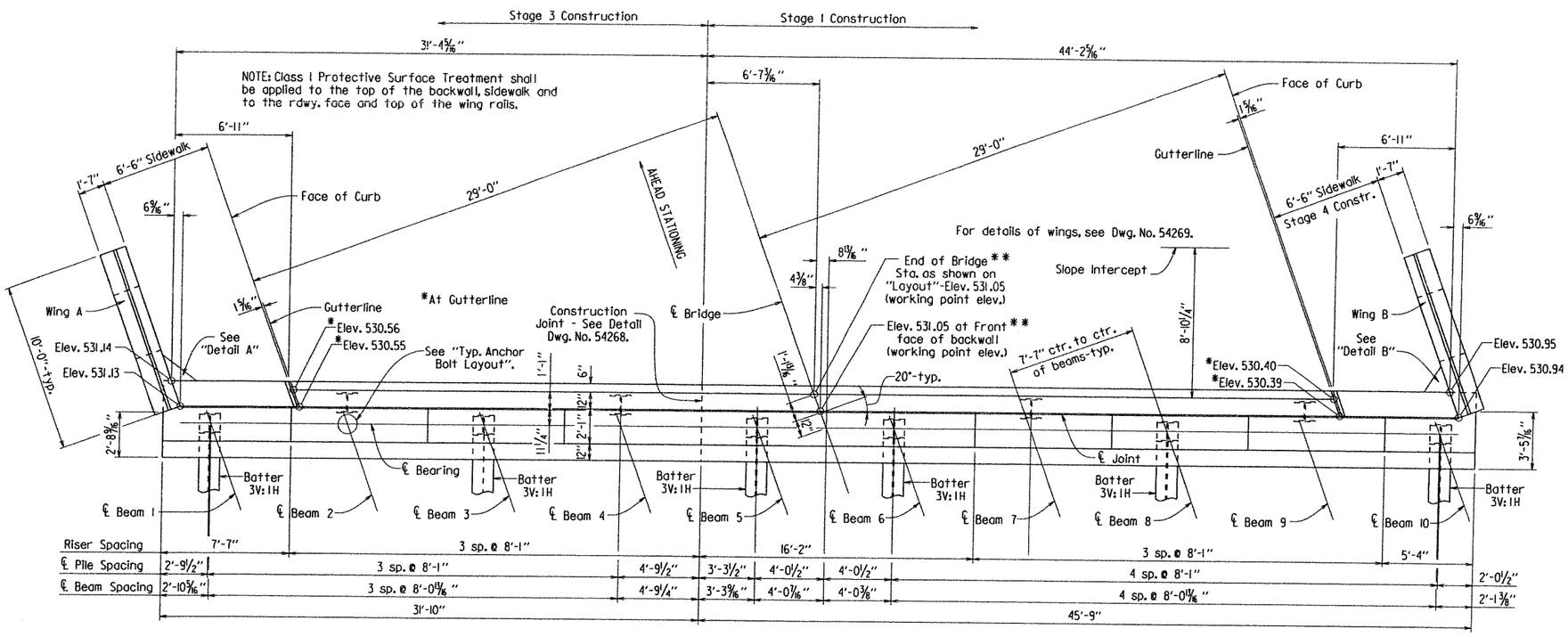
CHECKED BY: CJF DATE: 8/19/13 SCALE: AS NOTED

DESIGNED BY: CJF DATE: 10/12

BRIDGE NO. 07291 DRAWING NO. 54266

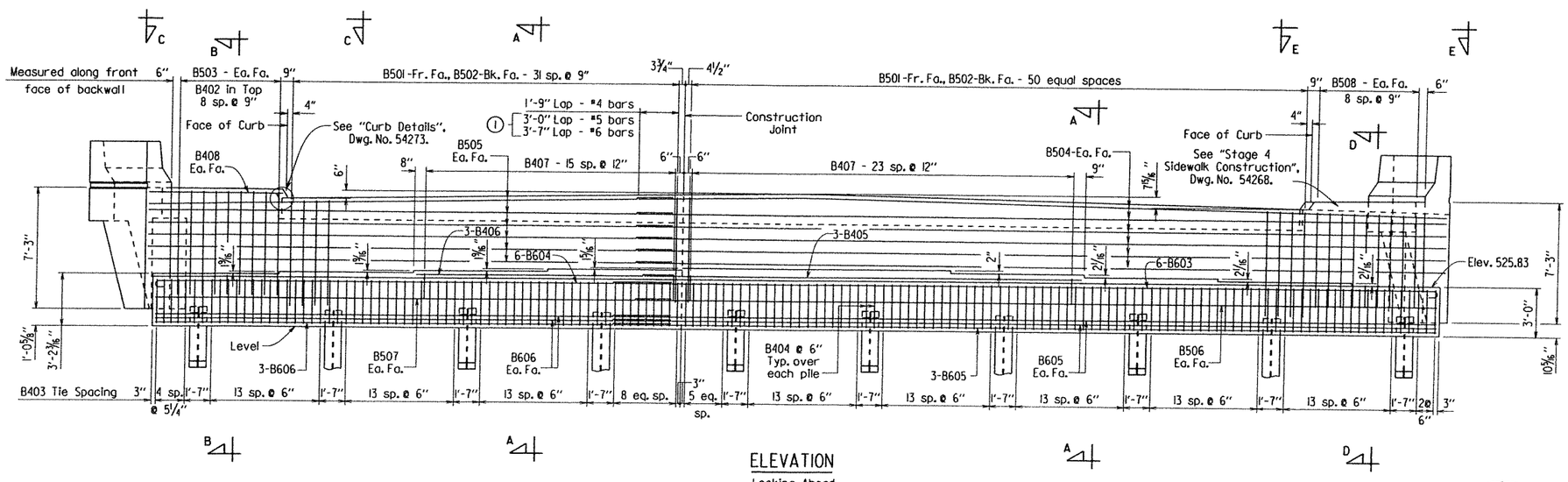
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	130263	
				①	07291 - BENT 5 - 54267			

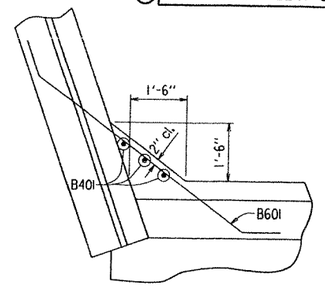


PLAN
Scale: 1/4" = 1'-0"

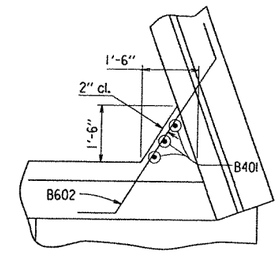
** See "Rounding Detail", Dwg. No. 54272.



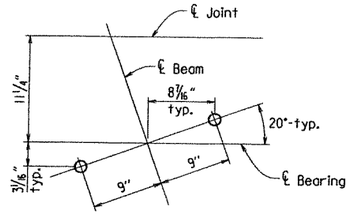
ELEVATION
Looking Ahead
Scale: 1/4" = 1'-0"



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



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



TYP. ANCHOR BOLT LAYOUT
No Scale
For details of elastomeric bearings, See Dwg. No. 54281.

① Mechanical rebar splices (Threaded type) may be needed. They shall develop at least 125% of the specified yield strength of the bar.

The mechanical rebar splices shall be an approved type on the AHTD Qualified Products List (QPL) and maintain the minimum clearance shown.

The cost for the mechanical rebar splices shall not be measured for separate payment but shall be considered subsidiary to the item 'Reinforcing Steel - Bridge (Grade 60)'.

STATE OF ARKANSAS
Carl J. Fuselier
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SHEET 1 OF 3
DETAILS OF BENT 5
ARCHEY FORK CREEK

ROUTE SEC.

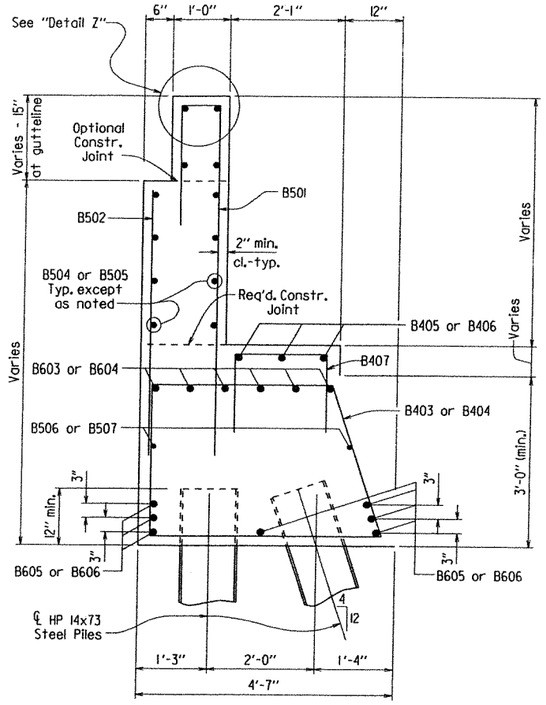
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: CJF DATE: 8/7/13 SCALE: AS NOTED
DESIGNED BY: CJF DATE: 6/1/12

BRIDGE NO. 07291 DRAWING NO. 54267

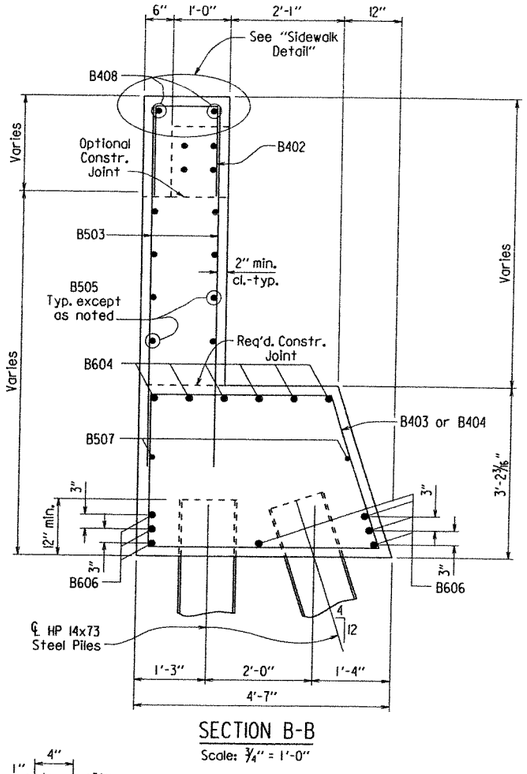
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				6	ARK.			
				JOB NO.		080390	137	263
				①		07291 - BENT 5 - 54268		



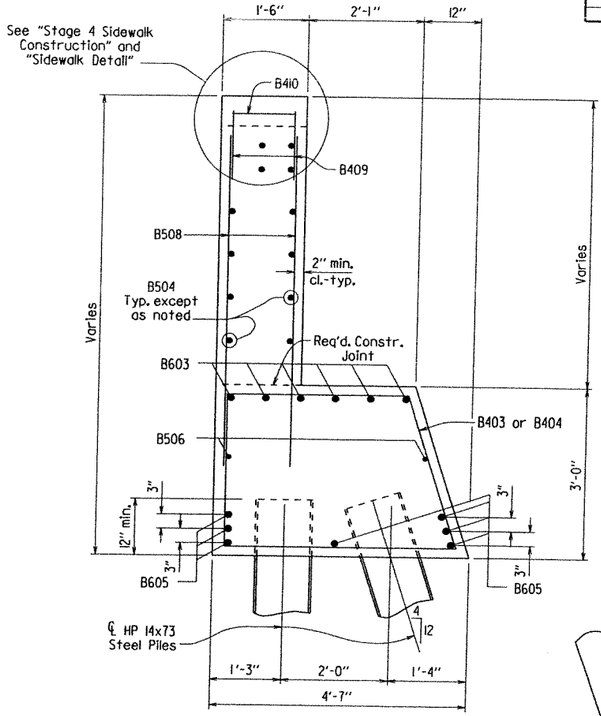
SECTION A-A

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



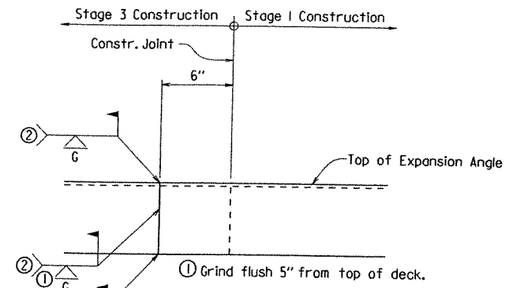
SECTION B-B

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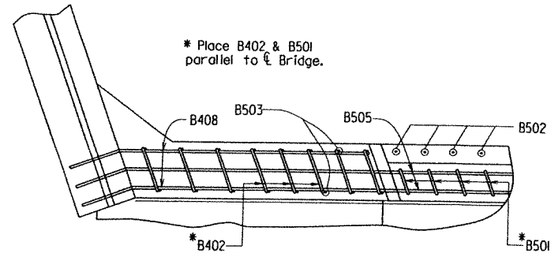
SECTION D-D

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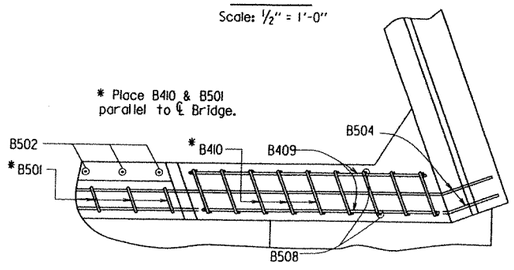
DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

Looking Ahead
No Scale



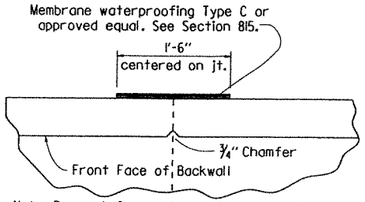
VIEW C-C

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



VIEW E-E

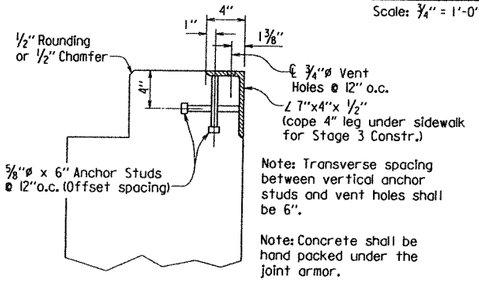
Scale: 1/2" = 1'-0"



Note: Payment for membrane to be considered subsidiary to "Class S Concrete-Bridge".

CONSTRUCTION JOINT DETAIL

No Scale



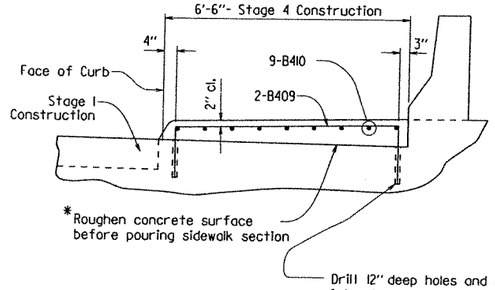
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54279.

DETAIL Z

No Scale

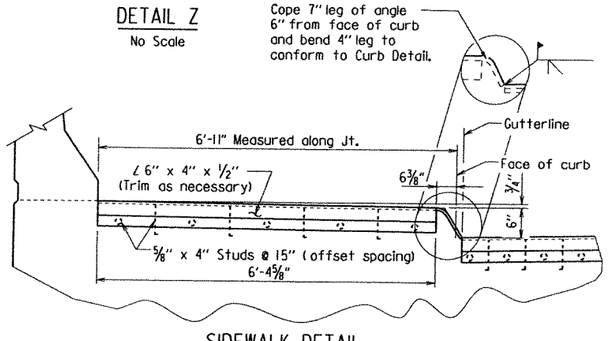


*This work to be completed as part of Stage 4 Construction. Payment for this work will not be paid for directly, but shall be considered subsidiary to the item "Class S Concrete".

Drill 12" deep holes and grout B409 bars into place as shown using an approved epoxy grout listed on the QPL. Hole diameter, and installation procedure shall be as recommended by the grout manufacturer.

STAGE 4 SIDEWALK CONSTRUCTION

No Scale



SIDEWALK DETAIL

No Scale

Concrete shall be hand packed under the joint armor in the sidewalk. See Dwg. No. 54280 for additional details.

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
8/19/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 5
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

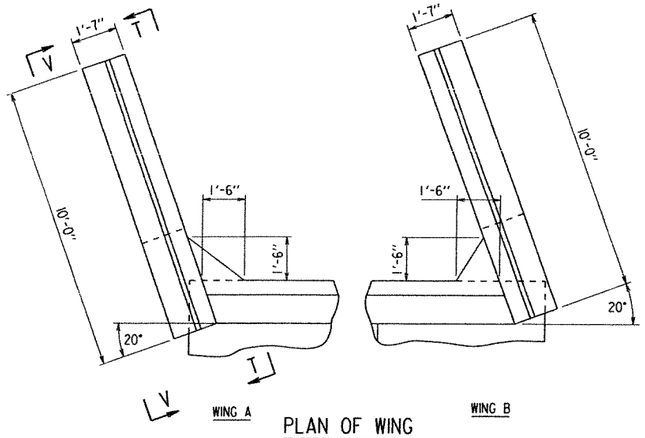
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-29-13
CHECKED BY: CSF DATE: 8/2/13
DESIGNED BY: CSF DATE: 1/6/12
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SCALE: AS NOTED

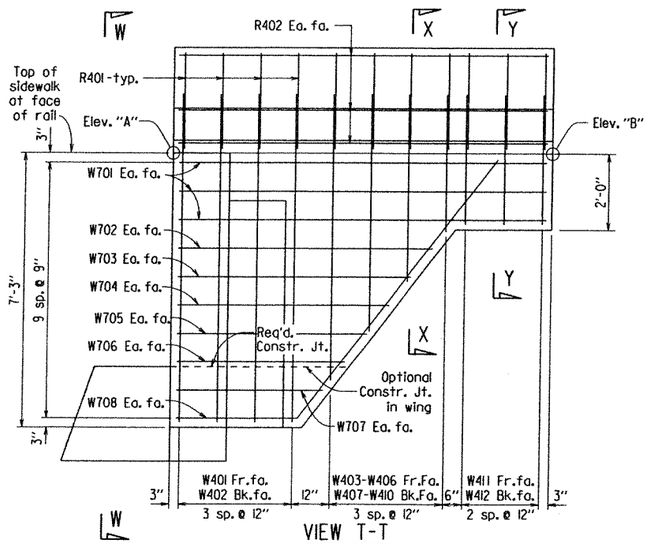
BRIDGE NO. 07291 DRAWING NO. 54268

PRINT DATE: 8/19/2013

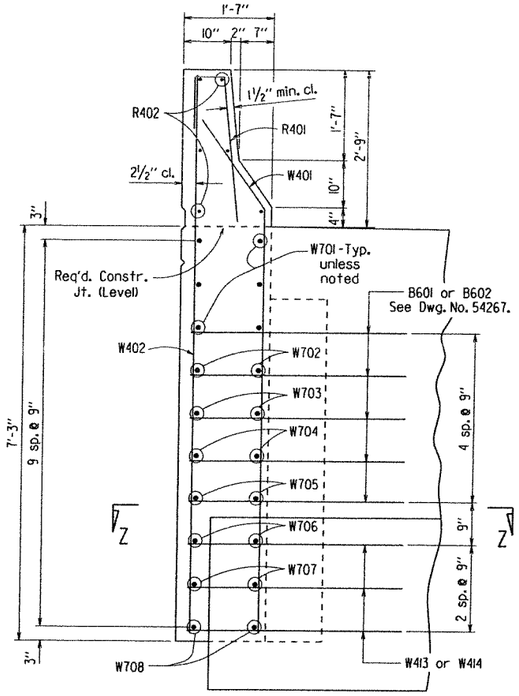
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				6	ARK.			
				JOB NO.		080390	138	263
				①	07291 - BENT 5 - 54269			



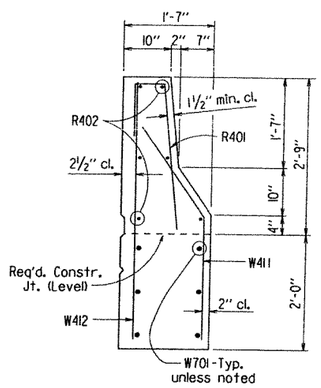
PLAN OF WING
Scale: 3/8" = 1'-0"



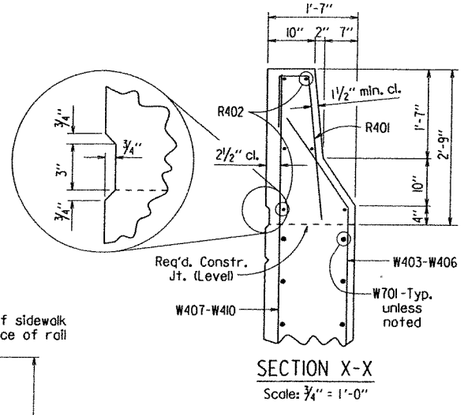
VIEW T-T
Scale: 1/2" = 1'-0"



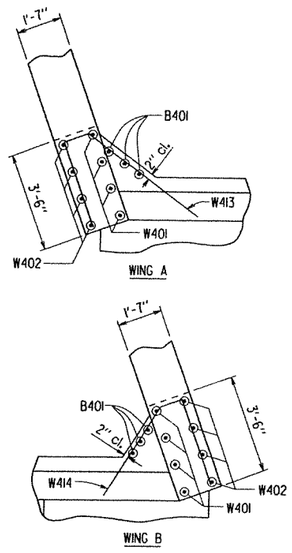
VIEW W-W
Scale: 3/4" = 1'-0"



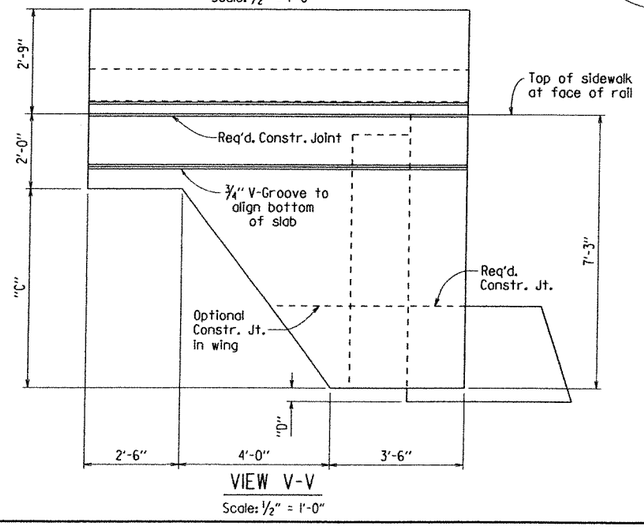
SECTION Y-Y
Scale: 3/4" = 1'-0"



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



SECTION Z-Z
No Scale



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

TABLE OF VARIABLES

	Wing A	Wing B
Elev. "A"	531.13	530.94
Elev. "B"	531.20	531.01
"C"	5'-3 15/16"	5'-3 15/16"
"D"	1'-0 5/8"	10 5/16"

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270-Gr. 50W)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

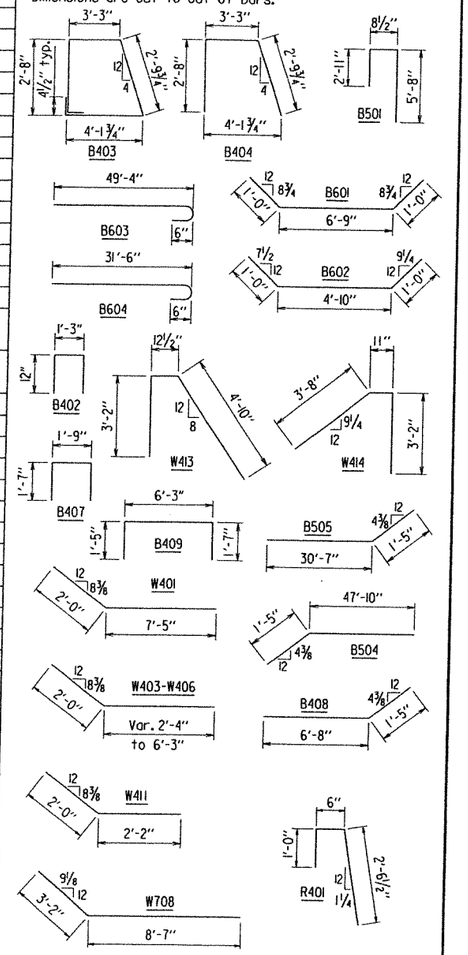
No portion of the backwall shall be poured until the beams are in place. Refer to "Expansion Device Installation at End Bents" note, Dwg. No. 54279.

For additional information, See layout.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	5'-1"	Str.
B402	9	3'-1"	2"
B403	135	13'-3"	2"
B404	20	8'-7"	2"
① B405	3	26'-0"	Str.
① B406	3	15'-10"	Str.
B407	40	4'-9"	2"
B408	2	8'-0"	3"
B409	2	9'-1"	2"
B410	9	1'-3"	Str.
R401	22	3'-11"	2"
R402	12	9'-8"	Str.
W401	8	9'-4"	2"
W402	8	9'-8"	Str.
W403-W406	2 each	Var. 4'-4" to 8'-3"	2"
W407-W410	2 each	Var. 4'-7" to 8'-6"	Str.
W411	6	4'-1"	2"
W412	6	4'-5"	Str.
W413	3	8'-11"	2"
W414	3	7'-7"	2"
B501	83	9'-1"	2½"
B502	83	4'-9"	Str.
B503	18	6'-3"	Str.
① B504	12	49'-2"	3¾"
① B505	12	31'-11"	3¾"
① B506	2	48'-9"	Str.
① B507	2	31'-6"	Str.
B508	18	6'-0"	Str.
B601	5	8'-7"	4½"
B602	5	6'-8"	4½"
① B603	6	50'-0"	4½"
① B604	6	32'-2"	4½"
① B605	7	49'-4"	Str.
① B606	7	31'-6"	Str.
W701	12	9'-8"	Str.
W702	4	6'-9"	Str.
W703	4	6'-2"	Str.
W704	4	5'-7"	Str.
W705	4	5'-0"	Str.
W706	4	4'-5"	Str.
W707	4	3'-10"	Str.
W708	4	11'-4"	5¼"

BENDING DIAGRAMS
Dimensions are out to out of bars.



① If required, bars shall have threaded ends for mechanical rebar splices.

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No. 7510
8/15/13
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SHEET 3 OF 3
DETAILS OF BENT 5
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

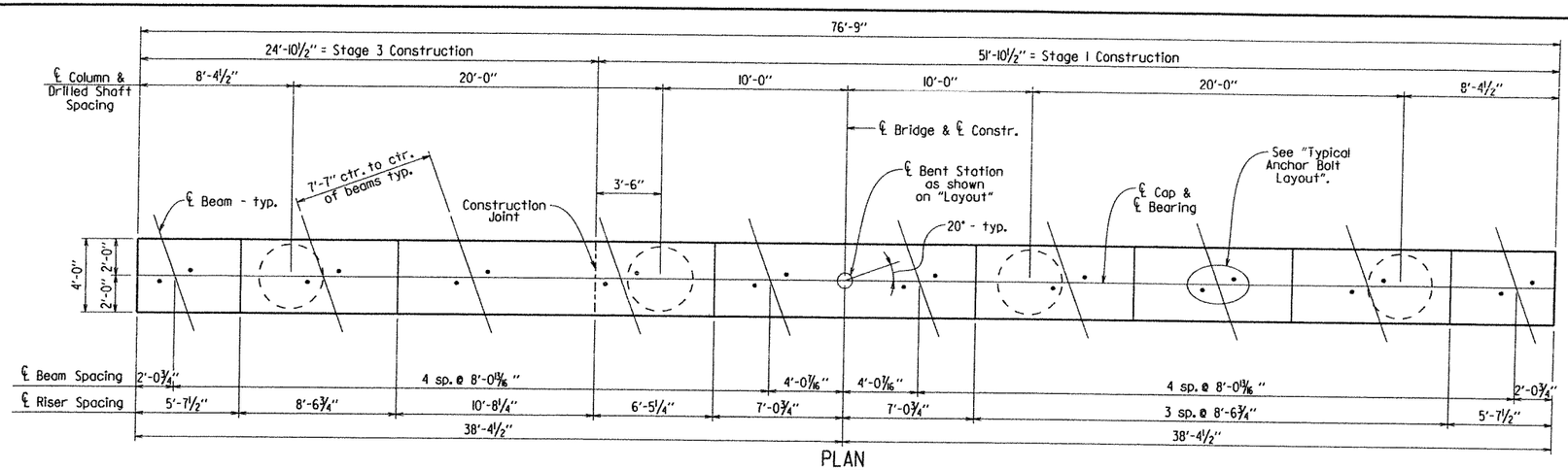
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CHECKED BY: CJF DATE: 8/12/13
DESIGNED BY: CJF DATE: 8/12

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SCALE: AS NOTED

BRIDGE NO. 07291 DRAWING NO. 54269

PRINT DATE: 8/19/2013

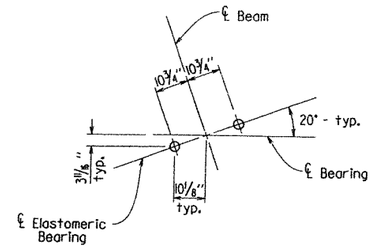
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				6	ARK.			
				JOB NO.		080390	139	263
				①		07291 - INT. BENTS - 54270		



PLAN

Scale: ¼" = 1'-0"

For Details of Section A-A, B-B, C-C, and D-D, See Dwg. No. 54271.



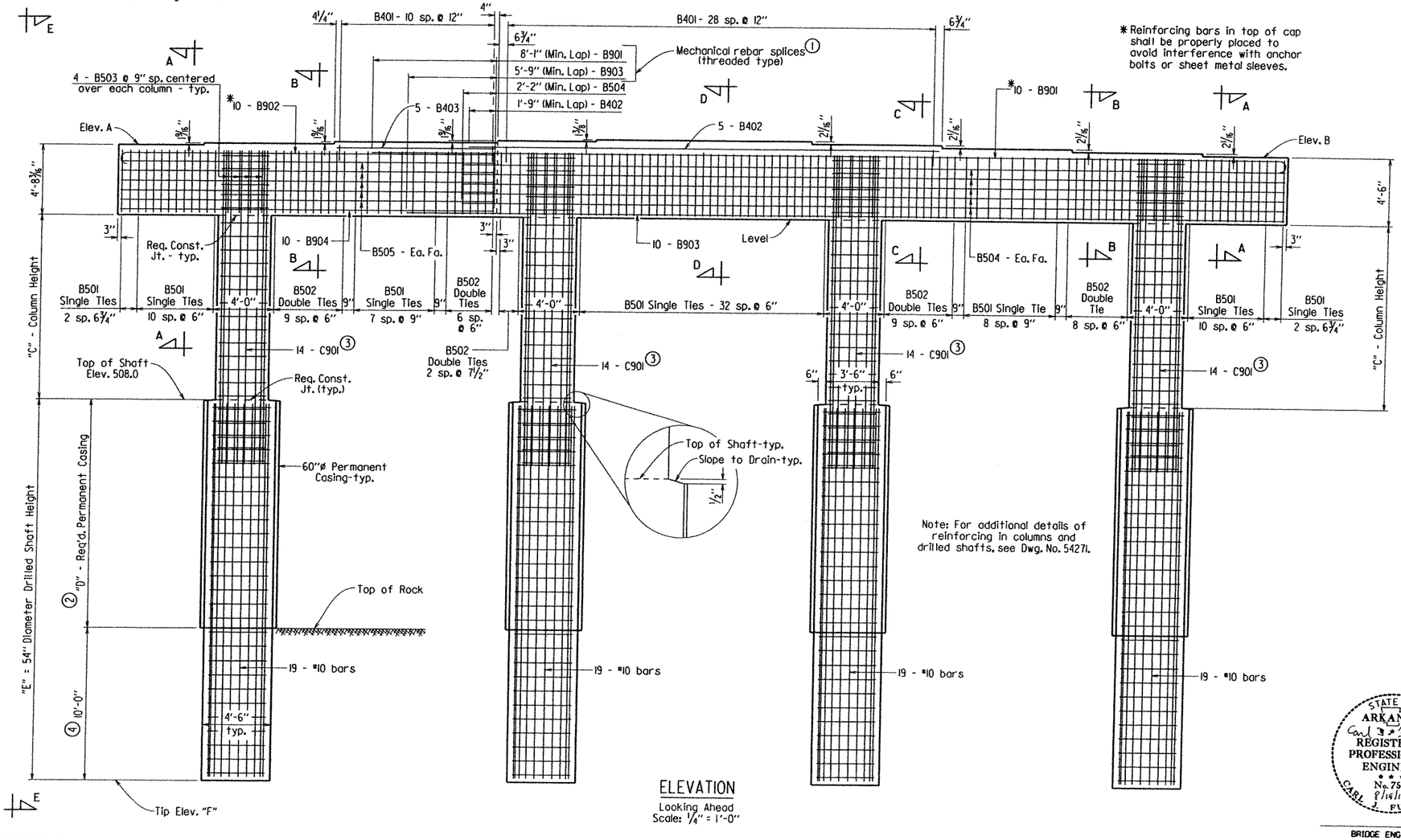
TYPICAL ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54281.

TABLE OF VARIABLES

	BENT 2	BENT 3	BENT 4
Elev. "A"	523.98	524.74	525.50
Elev. "B"	523.80	524.56	525.32
"C"	11'-3⅝"	12'-0¾"	12'-9⅛"
"D"	13'-3"	15'-0"	9'-9"
"E"	23'-3"	25'-0"	19'-9"
Elev. "F"	484.75	483.00	488.25



ELEVATION

Looking Ahead

Scale: ¼" = 1'-0"

Note: For additional details of reinforcing in columns and drilled shafts, see Dwg. No. 54271.

① Mechanical rebar splices (threaded type) are required at Bent 4 and may be needed at Bent 3. They shall develop at least 125% of the specified yield strength of the bar.

The mechanical rebar splices shall be an approved type on the AHTD Qualified Products List (QPL) and maintain the minimum clearance shown.

The cost for the mechanical rebar splices shall not be measured for seperate payment but shall be considered subsidiary to the item "Reinforcing Steel - Bridge (Grade 60)".

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080390 "Drilled Shaft Foundations". Permanent casing shall not extend below top of competent rock without approval from the Engineer.

③ The column reinforcing cage, consisting of bars C401 and C901, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

④ Minimum penetration into competent rock below permanent casing.

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SHEET 1 OF 2
DETAILS OF INTERMEDIATE BENTS
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 4/9/2013 FILENAME: b080390x2.b2.dgn

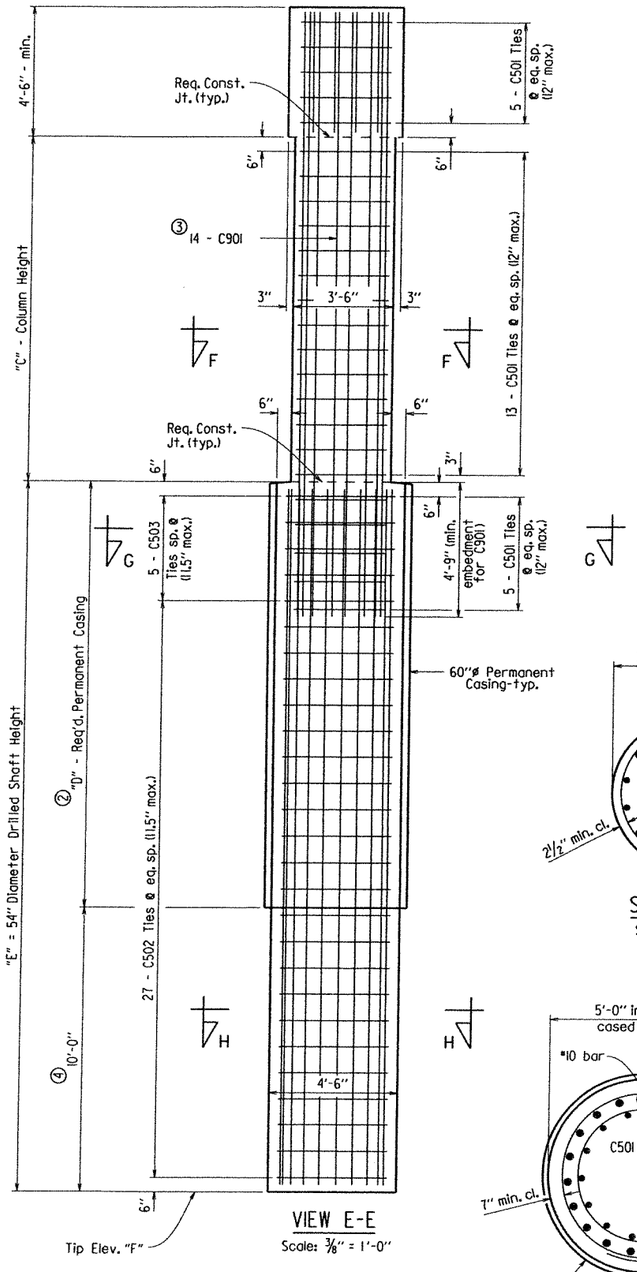
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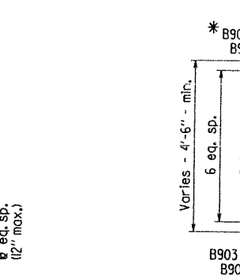
BRIDGE NO. 07291 DRAWING NO. 54270

PRINT DATE: 8/19/2013

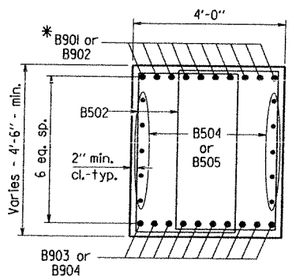
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				6	ARK.			
				JOB NO.		080390	140	263
				①		07291 - INT. BENTS - 54271		



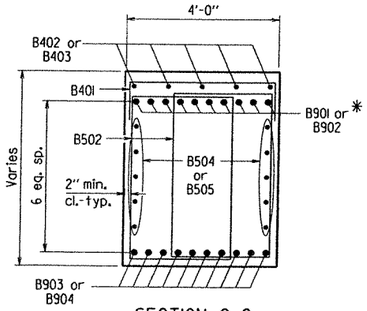
VIEW E-E
Scale: 3/8" = 1'-0"



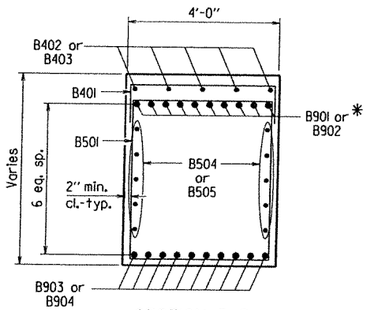
SECTION A-A
Scale: 1/2" = 1'-0"



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

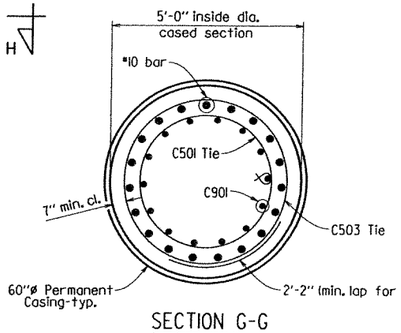


SECTION C-C
Scale: 1/2" = 1'-0"

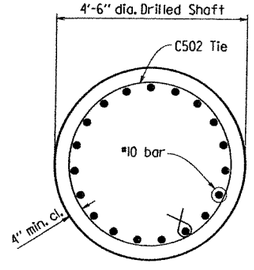


SECTION D-D
Scale: 1/2" = 1'-0"

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



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



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

TABLE OF VARIABLES

	BENT 2	BENT 3	BENT 4
"C"	11'-3 5/8"	12'-0 3/4"	12'-9 9/16"
"D"	13'-3"	15'-0"	9'-9"
"E"	23'-3"	25'-0"	19'-9"
Elev. "F"	484.75	483.00	488.25

* Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

① These bars shall have threaded ends for mechanical rebar splices at Bent 4 and if required at Bents 2 and 3. Lengths of Rebar shown is for estimating quantities only. Actual length to be determined in the field.

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080390 "Drilled Shaft Foundations". Permanent casing shall not extend below top of competent rock without approval from the Engineer.

③ The column reinforcing cage, consisting of bars C501 and C901, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

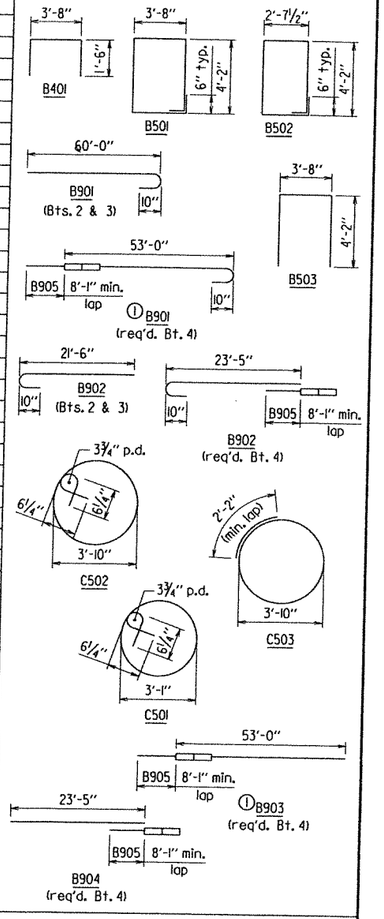
④ Minimum penetration into competent rock below permanent casing.

BAR LIST - PER BENT

	MARK	NO. REQ'D.	LENGTH Bent 2	LENGTH Bent 3	LENGTH Bent 4	P.D.
	B401	40	6'-6"	6'-6"	6'-6"	2"
	B402	5	30'-11"	30'-11"	30'-11"	Str.
	B403	5	10'-4"	10'-4"	10'-4"	Str.
	B501	76	16'-2"	16'-2"	16'-2"	2 1/2"
	B502	78	14'-1"	14'-1"	14'-1"	2 1/2"
	B503	16	11'-9"	11'-9"	11'-9"	2 1/2"
	B504	10	54'-1"	54'-1"	53'-0"	Str.
	B505	10	24'-6"	24'-6"	23'-5"	Str.
①	B901	10	61'-3"	61'-3"	54'-3"	9"
	B902	10	25'-9"	25'-9"	24'-8"	9"
①	B903	10	57'-8"	57'-8"	53'-0"	Str.
	B904	10	24'-6"	24'-6"	23'-5"	Str.
①	B905	20	—	—	8'-1"	Str.
	C501	92	11'-1"	11'-1"	11'-1"	3 3/4"
⑤	C502	108	13'-5"	13'-5"	13'-5"	3 3/4"
⑤	C503	20	14'-1"	14'-1"	14'-1"	3 3/4"
	C901	56	20'-4"	21'-1"	21'-10"	Str.
⑤	#10 bars	76	22'-11"	24'-8"	19'-5"	Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.



⑤ Non-pay item - Subsidiary to SP Job No. 080390 "Drilled Shaft Foundations".

GENERAL NOTES

Concrete in the cap and column shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. Concrete in the drilled shaft shall be Class S as modified by SP Job No. 080390 "Drilled Shaft Foundations". All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts.

For additional information see layout.

Drilled shafts shall conform to SP Job No. 080390 "Drilled Shaft Foundations".

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SHEET 2 OF 2
DETAILS OF INTERMEDIATE BENTS
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 4/15/2013 FILENAME: b0803902x_b2.dgn
CHECKED BY: DBS DATE: 8/7/2013 SCALE: AS NOTED
DESIGNED BY: CSR DATE: 11/12

BRIDGE NO. 07291 DRAWING NO. 54271

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	14	263
				(1) 07291 -		374 FT. UNIT	- 54272	

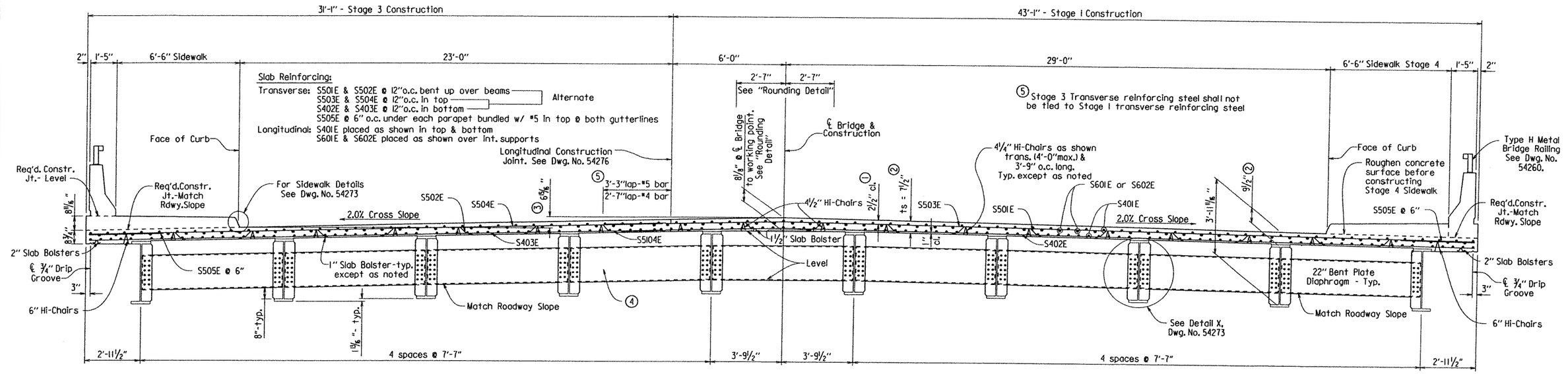
(1) Tolerance: Minus = 1/4", Plus equal to amount of Slab Thickening used to meet Slab Thickness Tolerance. See "Adjustment for Slab Thickness Tolerance", Dwg. No. 54273.

(2) See "Adjustment for Slab Thickness Tolerance", Dwg. No. 54273.

(3) Working point to gutterline. See "Rounding Detail".

Note: At Contractor's Option, in lieu of providing bars S501E or S502E, one #5 bar top and bottom may be substituted for each bar. Payment for reinforcing will be based on the weight of bars S501E and S502E. Bars in top and bottom shall be Epoxy Coated.

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

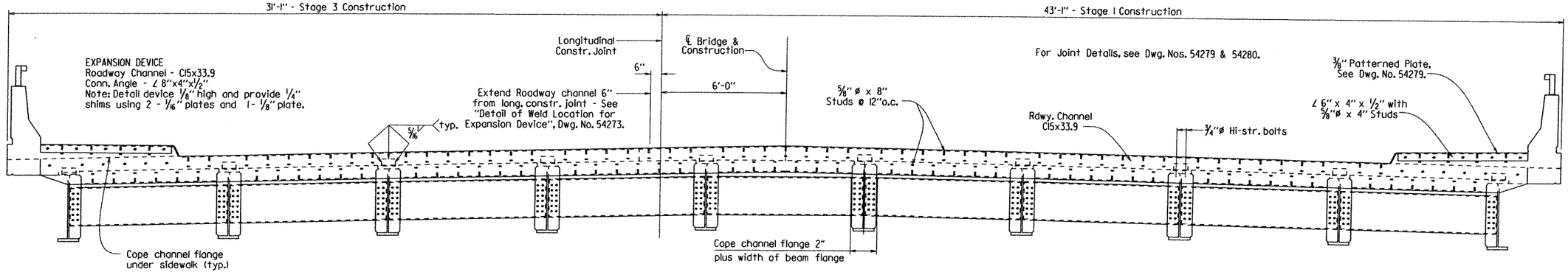


TYP. ROADWAY SECTION

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

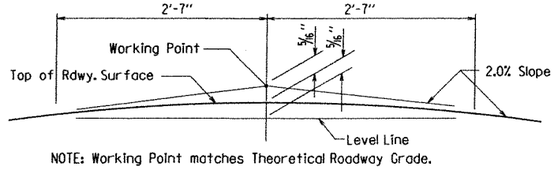
(4) In this bay, connection plate widths and diaphragm lengths shall be fabricated, as necessary, to facilitate installation of diaphragms between adjacent beams with significant differential deflections. Hole diameters of 15/16" shall be provided for these connections with a washer supplied under both the nut and head of bolt.

Before the Stage 3 deck pour, loosely install as many bolts as possible on both ends of the diaphragm in this bay to the satisfaction of the Engineer. An external means of supporting the Stage 1 overhang shall be provided and shall remain in place until after completion of the Stage 3 deck pour. See "Deck Support at Longitudinal Construction Joint" detail, Dwg. No. 54273. Install remaining bolts and fully tighten all bolts as soon as practical after completion of the Stage 3 deck pour.



TYP. SECTION THRU JOINT

Looking Ahead - Bent 1
Bent 5 Similar
Scale: 3/8" = 1'-0"



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale

STATE OF ARKANSAS
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SHEET 1 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

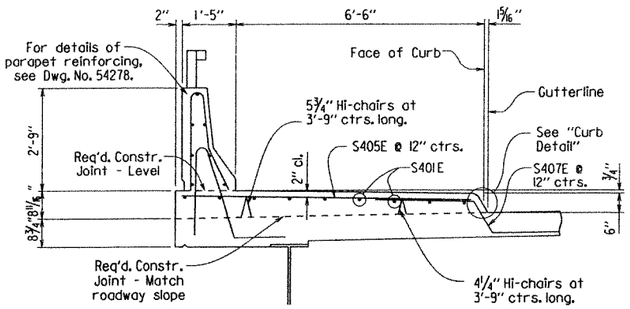
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CHECKED BY: CSK DATE: 8/14/13
DESIGNED BY: CSK DATE: 1/12
FILENAME: b080390x2_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07291

DRAWING NO. 54272

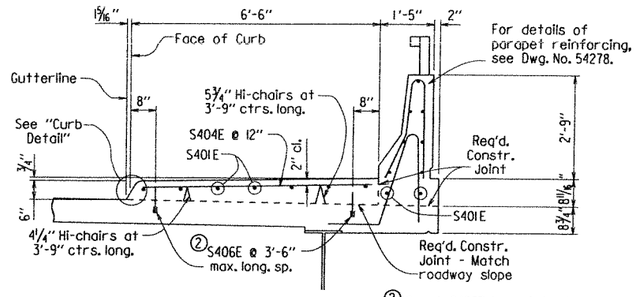
PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	142	263
				(1)	07291 -	374 FT. UNIT - 54273		



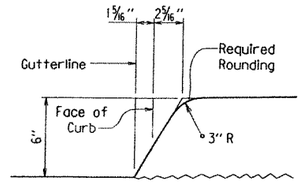
STAGE 3 SIDEWALK DETAIL

Scale: ½" = 1'-0"



Note: Roughen concrete surfaces before constructing Stage 4 sidewalk.

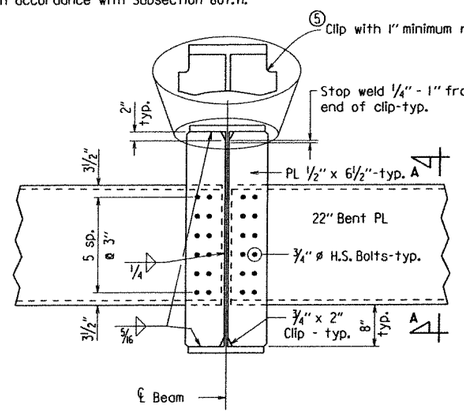
② Grout S406E bars into 4" deep drilled holes. Grout used shall be an approved epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer. Dowels shall be located to avoid damaging deck reinforcing. Payment for grouting and placement shall be considered subsidiary to "Epoxy Coated Reinforcing Steel (Grade 60)".



CURB DETAIL

No Scale

Bolts in diaphragm connections shall be properly installed and tightened in accordance with Subsection 807.71.

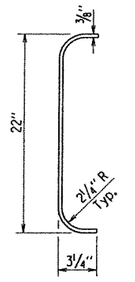


DETAIL X

No Scale

Beams 2 - 9 shown
Beams 1 & 10 similar

⑤ If permanent steel deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.



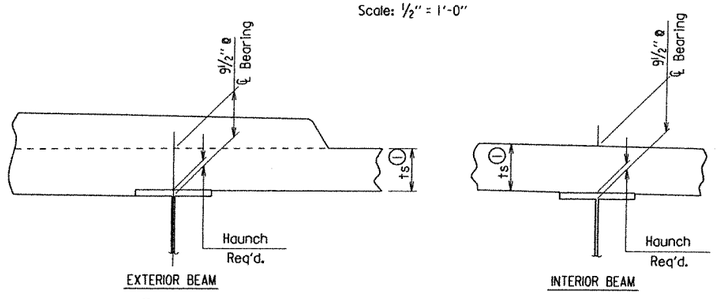
Typical cross-section for all 22" bent plate diaphragms.

SECTION A-A

No Scale

STAGE 4 SIDEWALK DETAIL

Scale: ½" = 1'-0"



① Tolerance when removable deck forming is used is +½", -¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Note : ts = slab thickness as shown in "Typ. Roadway Section".

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

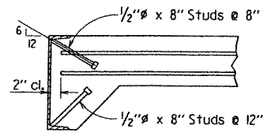
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

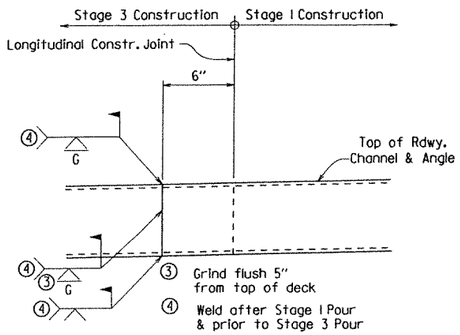
NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



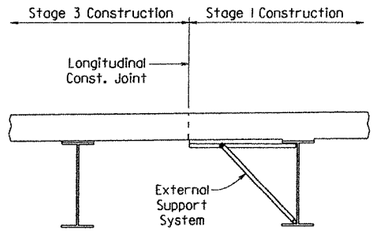
Note: As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structural steel in anchors.

DETAILS OF ALTERNATE ANCHORS

No Scale



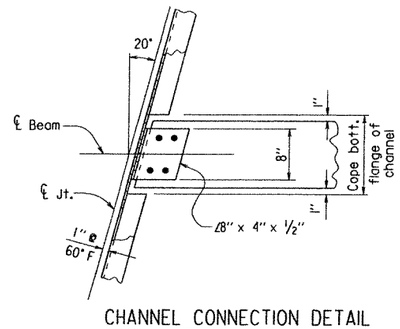
DETAIL OF WELD LOCATION FOR EXPANSION DEVICE



Stage 1 external supports in this bay shall remain in place until after completion of the Stage 3 deck pour. See Subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



CHANNEL CONNECTION DETAIL

No Scale

STATE OF ARKANSAS
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5/16/13
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BRIDGE ENGINEER

SHEET 2 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT ARCHEY FORK CREEK

ROUTE SEC.

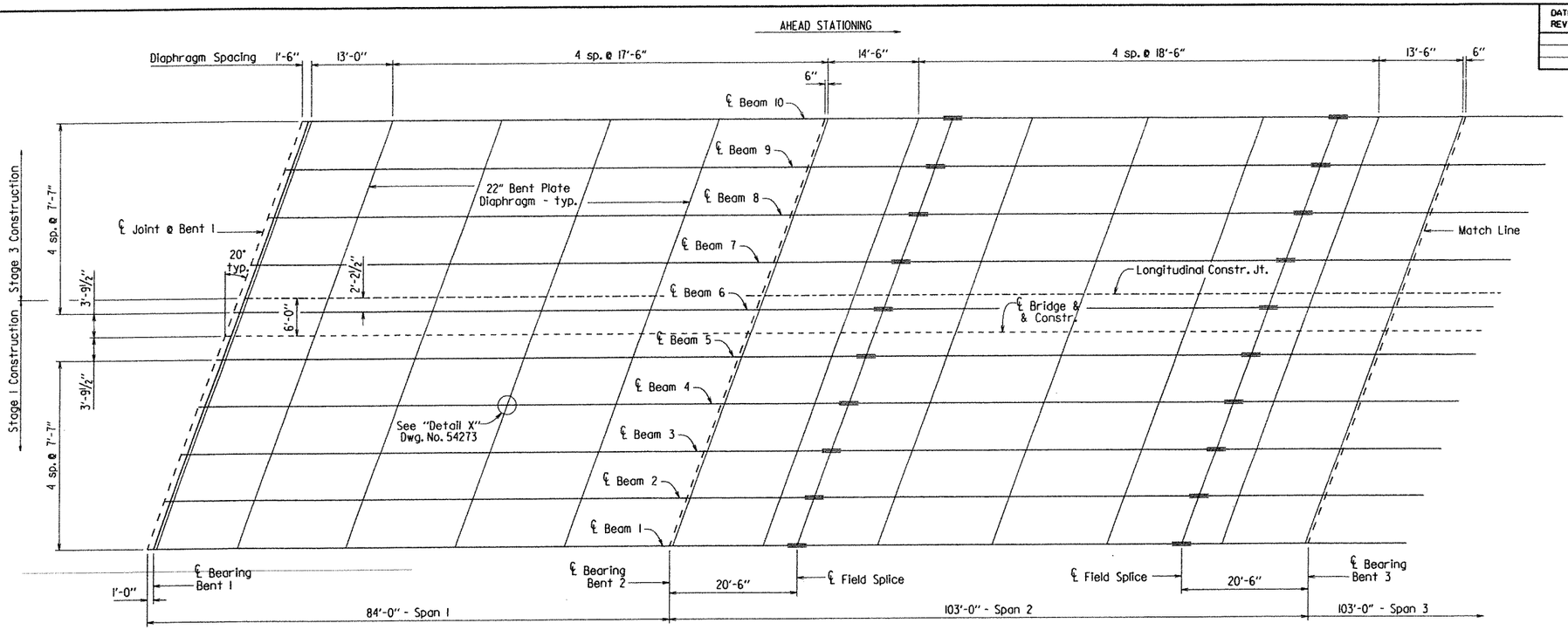
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

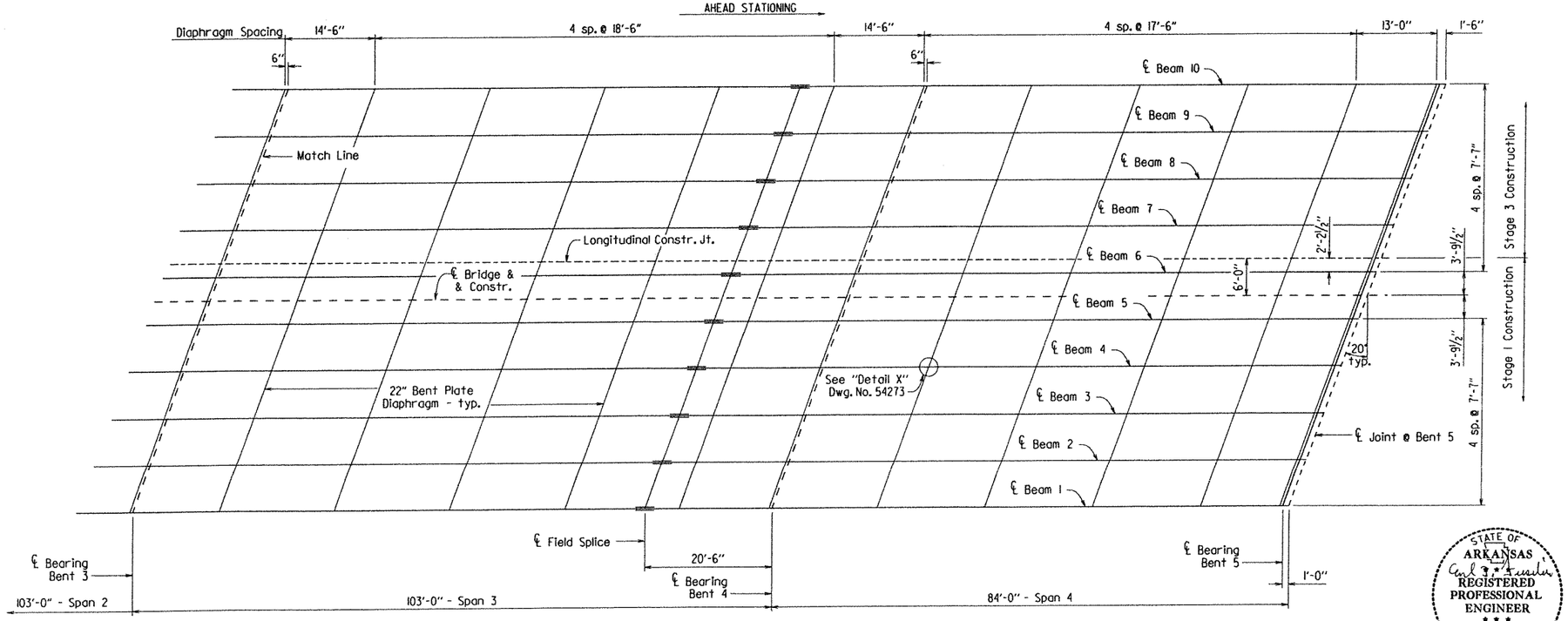
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CHECKED BY: CJF DATE: 5/16/13 SCALE: AS NOTED
DESIGNED BY: CJF DATE: 10/12

BRIDGE NO. 07291 DRAWING NO. 54273

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	143	263
				(1) 07291 -		374 FT. UNIT	- 54274	





FRAMING PLAN
Scale: 3/32" = 1'-0"

STATE OF ARKANSAS
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8/14/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 3 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ARCHEY FORK CREEK

ROUTE SEC.

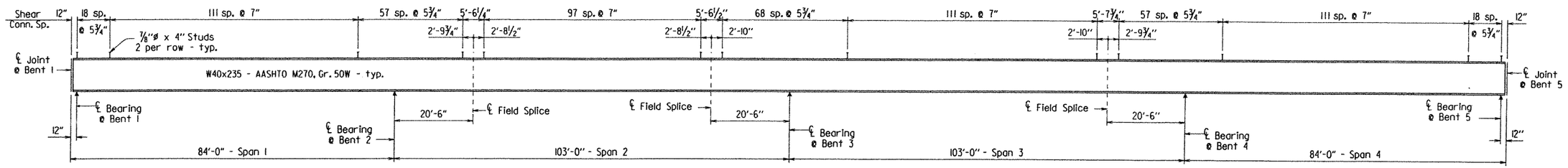
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 5/10/13
CHECKED BY: CJF DATE: 8/1/13
DESIGNED BY: CJF DATE: 10/12
FILENAME: b080390x2_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07291 DRAWING NO. 54274

PRINT DATE: 8/19/2013

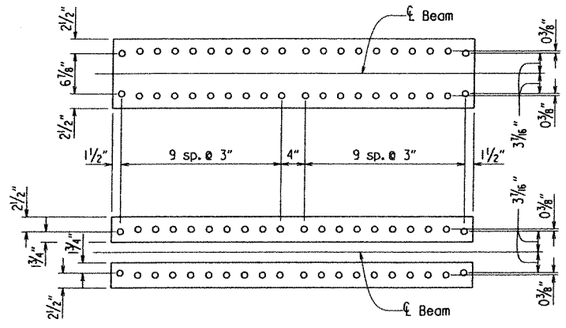
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	144	263
				07291 -		374 FT. UNIT	- 54275	



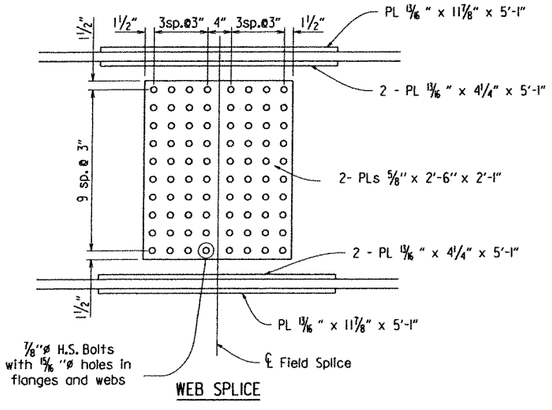
BEAM ELEVATION

No Scale

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



FLANGE SPLICE

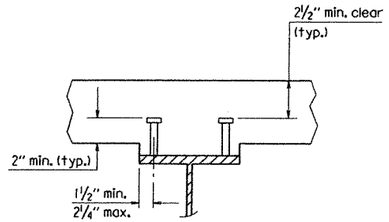


WEB SPLICE

Note: All field splice plates shall be AASHTO M270, Gr. 50W

FIELD SPLICE DETAILS

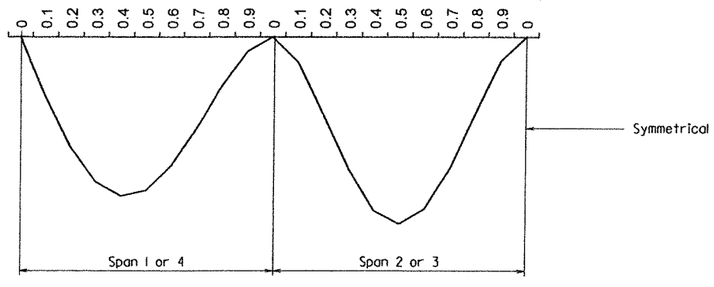
No Scale



Stud Shear Connectors shown shall be ⅞"ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 -¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

No Scale



DEAD LOAD DEFLECTIONS DIAGRAM (TYP.)

Note:
Camber for Dead Load Deflection plus Vertical curve ± ¼" tolerance. Deflections shown are from a chord from ℄ Bearing to ℄ Bearing. Vertical curve corrections not included. Negative sign (-) indicates point above chord.

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Sidewalk + Parapet	
		Bms. 1 & 10	Bms. 2-9	Bms. 1 & 10	Bms. 2-9	Bms. 1 & 10	Bms. 2-9
Span 1	0	0	0	0	0	0	0
	0.1	0.080	0.083	0.292	0.322	0.407	0.350
	0.2	0.147	0.153	0.537	0.593	0.749	0.644
	0.3	0.192	0.200	0.703	0.777	0.980	0.844
	0.4	0.212	0.220	0.774	0.855	1.079	0.929
	0.5	0.204	0.212	0.745	0.823	1.038	0.894
	0.6	0.171	0.178	0.626	0.692	0.873	0.752
	0.7	0.122	0.127	0.446	0.492	0.622	0.534
	0.8	0.066	0.069	0.242	0.267	0.337	0.290
	0.9	0.019	0.020	0.070	0.077	0.098	0.084
Span 2	0	0	0	0	0	0	0
	0.1	0.034	0.035	0.124	0.137	0.173	0.149
	0.2	0.104	0.108	0.380	0.420	0.530	0.456
	0.3	0.177	0.184	0.648	0.715	0.904	0.777
	0.4	0.230	0.240	0.842	0.930	1.174	1.010
	0.5	0.249	0.259	0.911	1.006	1.270	1.093
	0.6	0.229	0.238	0.837	0.925	1.167	1.005
	0.7	0.175	0.182	0.640	0.707	0.892	0.768
	0.8	0.101	0.106	0.371	0.410	0.517	0.445
	0.9	0.032	0.033	0.117	0.129	0.163	0.140
	0	0	0	0	0	0	0

← Symmetrical

Note: Table is symmetrical about ℄ Bent 3

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SHEET 4 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 5/10/13
CHECKED BY: CJF DATE: 8/16/13
DESIGNED BY: CJF DATE: 10/12

FILENAME: b080390x2_sl.dgn
SCALE: AS NOTED

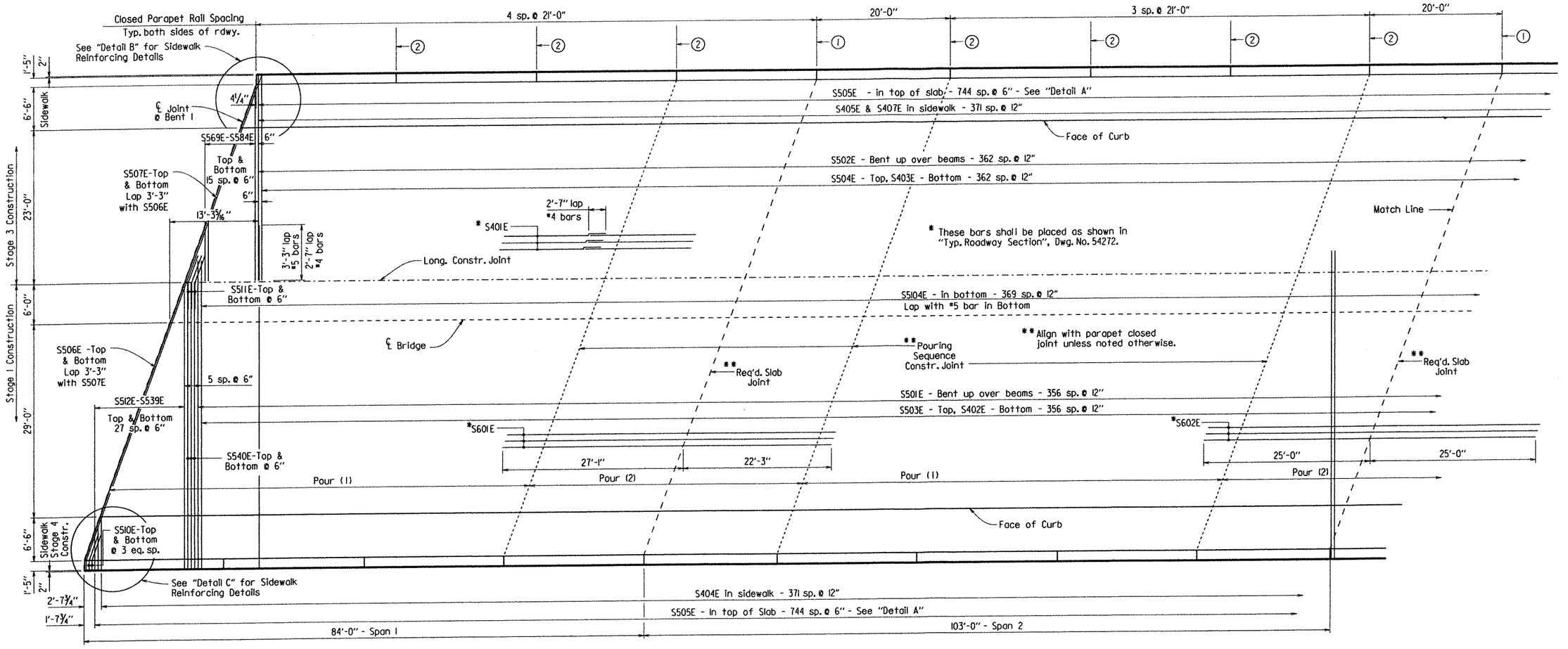
BRIDGE NO. 07291 DRAWING NO. 54275

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	145	263
				① 07291 -		374 FT. UNIT	- 54276	

① ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 54278.

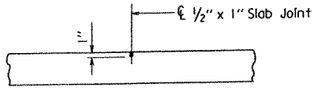
② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab. See Dwg. No. 54278.



REINFORCING PLAN AND POURING SEQUENCE

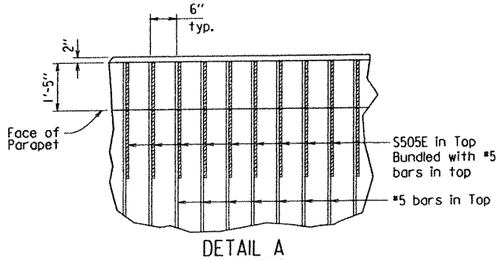
Scale: 1/8" = 1'-0"

Use Type 3, 4, or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the sidewalk and parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. No joint sealer shall be placed under the sidewalk area. The joint sealer shall extend across the deck slab and across the top of the sidewalk.



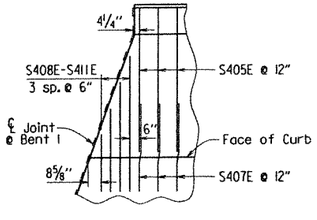
SLAB JOINT DETAIL

No Scale

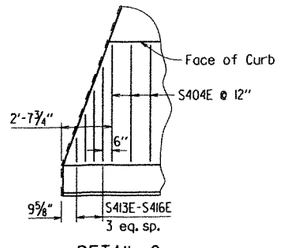


DETAIL A

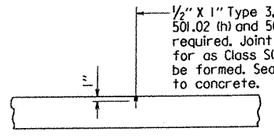
No Scale



DETAIL B



DETAIL C



LONGITUDINAL CONSTRUCTION JOINT

No Scale

STATE OF ARKANSAS
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8/19/13
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SHEET 5 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 5/10/13 FILENAME: b080390x2_sl.dgn

CHECKED BY: CSK DATE: 9/6/13 SCALE: 1/8" = 1'-0"

DESIGNED BY: CSK DATE: 5/12

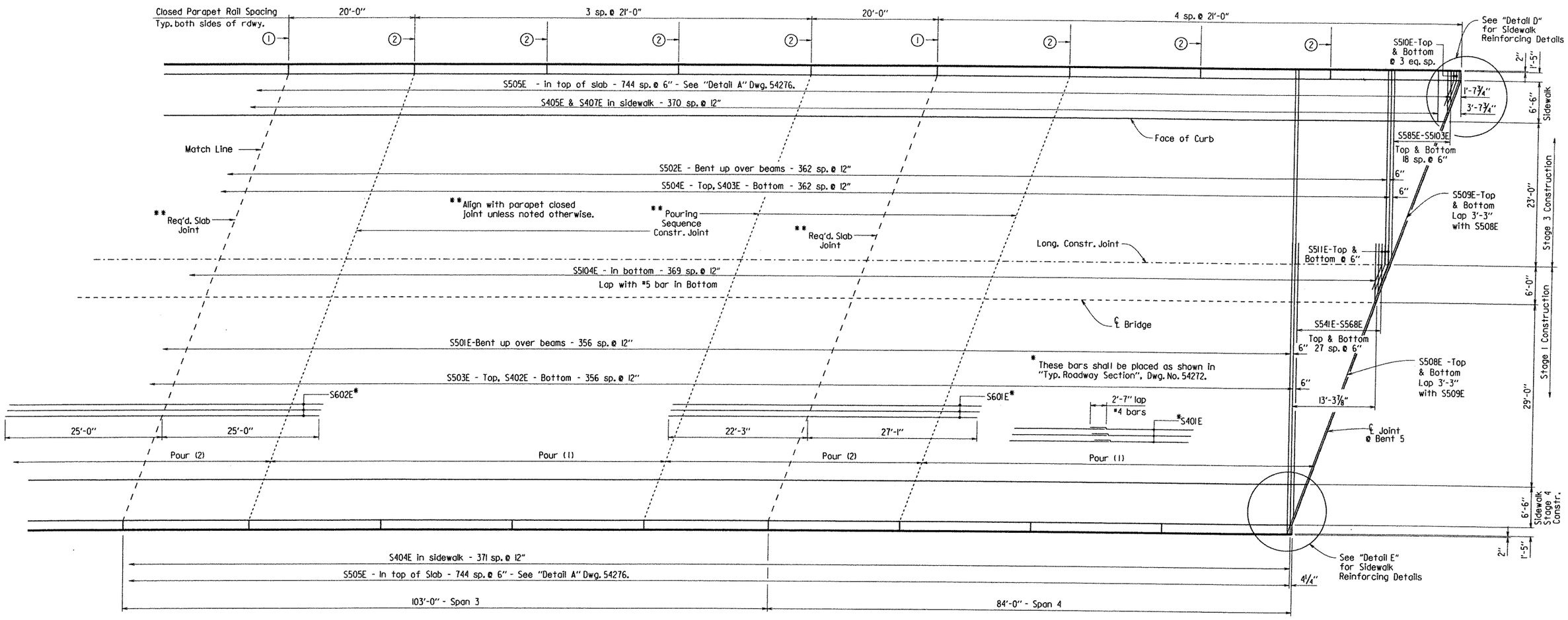
BRIDGE NO. 07291 DRAWING NO. 54276

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	146	203
				(1) 07291 -		374 FT. UNIT	- 54277	

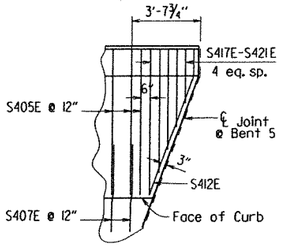
① ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 54278.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab. See Dwg. No. 54278.

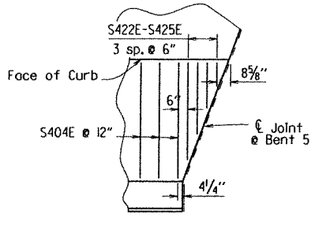


REINFORCING PLAN AND POURING SEQUENCE

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

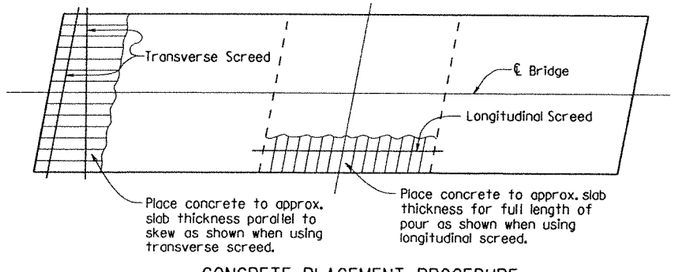


DETAIL D



DETAIL E

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



CONCRETE PLACEMENT PROCEDURE

No Scale

Note: For each stage of construction, pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. 72 hours shall elapse between the end of the deck pour and the start of the parapet railing pour for Stage 1. 72 hours shall elapse between the end of a deck pour and the start of a sidewalk pour for Stage 3. 72 hours shall elapse between the end of a sidewalk pour and the start of a parapet railing pour for Stage 3. Any sidewalk or railing pours made before the entire slab unit has been placed for each stage must be approved by the Engineer. The concrete in a bridge superstructure unit must be consolidated for the entire pour before concrete has taken its initial set. This may require the use of a retarding agent.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

STATE OF ARKANSAS
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SHEET 6 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 5/10/13
CHECKED BY: CJF DATE: 8/7/13
DESIGNED BY: CJF DATE: 10/12

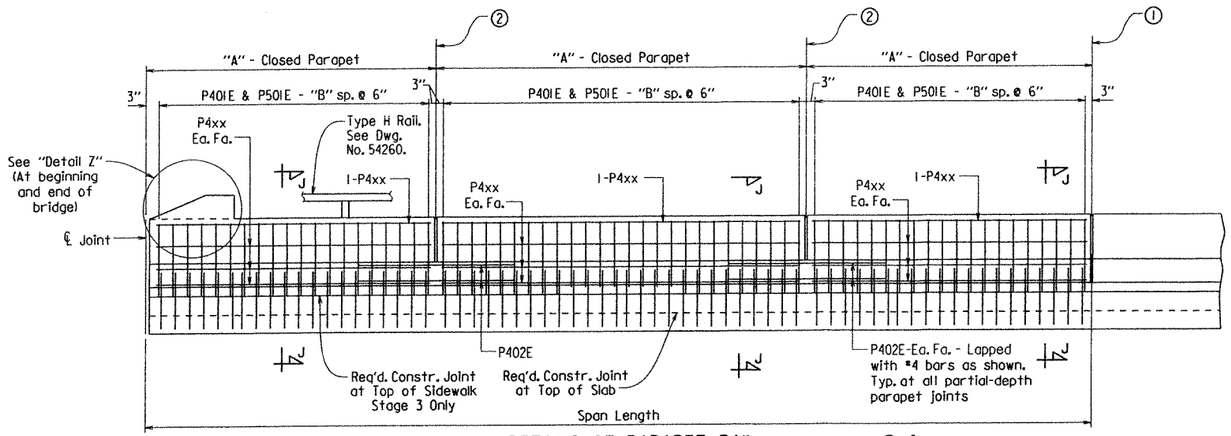
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SCALE: 1/8" = 1'-0"

BRIDGE NO. 07291

DRAWING NO. 54277

PRINT DATE: 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	147	263
				① 07291 -		374 FT. UNIT	- 54278	



DETAILS OF PARAPET RAIL

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

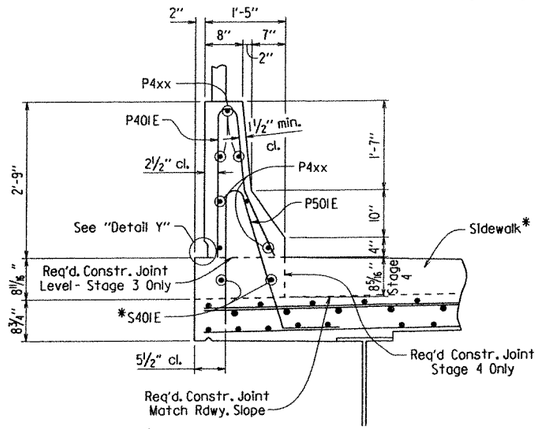
① ℄ Full-Depth Parapet Joint (1/4" to 1" max.) as shown in "Reinforcing Plan and Pouring Sequence", Dwg. Nos. 54276 & 54277. Stop 4" from top of sidewalk.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.) as shown in Reinforcing Plan and Pouring Sequence"", Dwg. Nos. 54276 & 54277. Stop 1'-2" from top of sidewalk.

TABLE OF PARAPET RAIL VARIABLES

"A" Closed Parapet	"B"	P4xx Bar
20'-0"	39	P403E
21'-0"	41	P404E

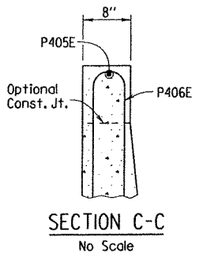
For location of Closed Parapet panels, see "Reinforcing Plan and Pouring Sequence", Dwg. No. 54276 & 54277.



* For additional information and details, see "Stage 3 Sidewalk Detail" or "Stage 4 Sidewalk Detail", Dwg. No. 54273.

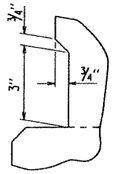
SECTION J-J

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



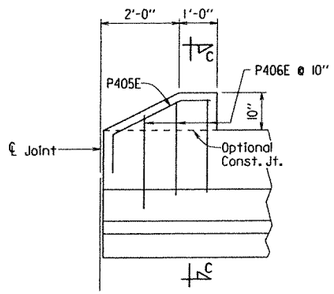
SECTION C-C

No Scale



DETAIL Y

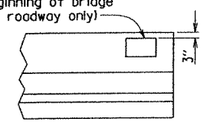
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DETAIL Z

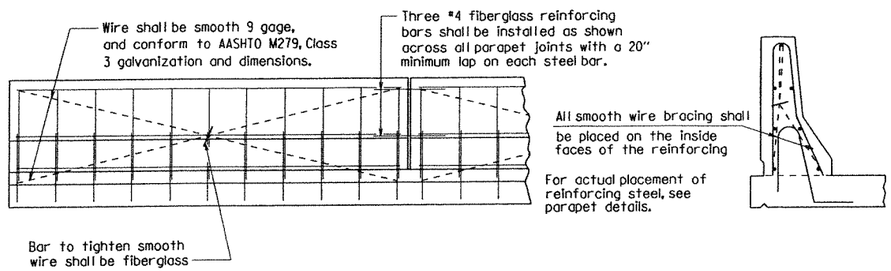
No Scale

Place Type D Bridge Name Plate on front face of span rail approx. 2'-0" from beginning of bridge (Right side of roadway only)



NAME PLATE DETAIL

No Scale



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

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

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

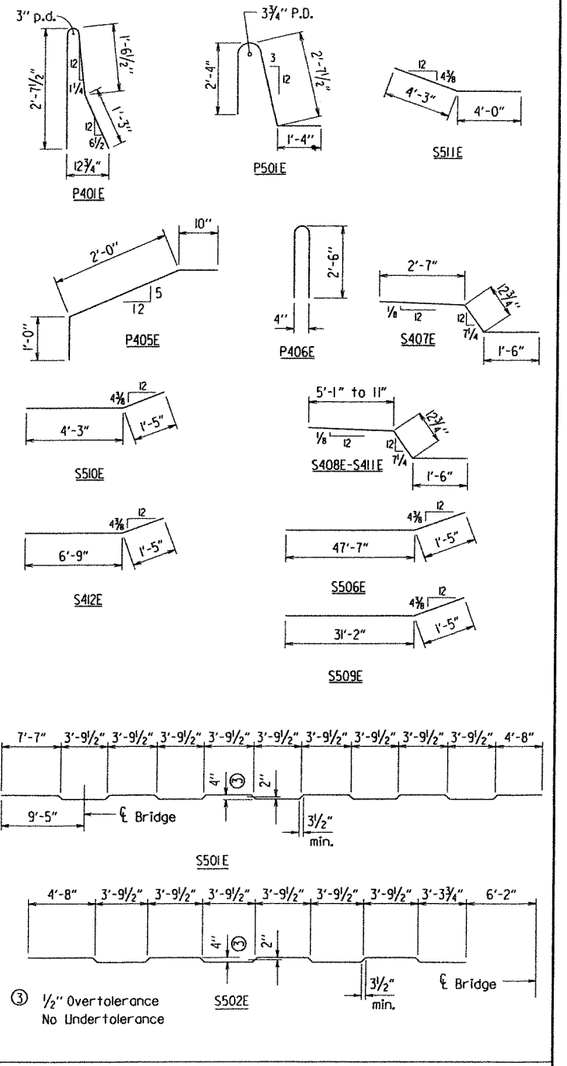
No Scale

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
S401E	2340	39'-9"	Str.
S402E	357	45'-8"	Str.
S403E	363	30'-9"	Str.
S404E	372	6'-1"	Str.
S405E	371	7'-8"	Str.
S406E	107	8"	Str.
S407E	371	5'-2"	3"
S408E-S411E	1 EACH	3'-6" - 7'-7"	3"
S412E	1	8'-2"	3"
S413E-S416E	1 EACH	1'-3" - 5'-0"	Str.
S417E-S421E	1 EACH	2'-10" - 7'-8"	Str.
S422E-S425E	1 EACH	1'-0" - 5'-2"	Str.
P401E	1496	5'-6"	3"
P402E	112	5'-6"	Str.
P403E	56	19'-8"	Str.
P404E	196	20'-8"	Str.
P405E	4	3'-10"	2"
P406E	12	5'-2"	3"
S501E	357	47'-5"	3"
S502E	363	31'-6"	3"
S503E	357	46'-4"	Str.
S504E	363	30'-9"	Str.
S505E	1490	4'-8"	Str.
S506E	2	48'-11"	3¾"
S507E	2	32'-9"	Str.
S508E	2	49'-1"	Str.
S509E	2	32'-6"	3¾"
S510E	8	5'-8"	3¾"
S511E	12	8'-3"	3¾"
S512E-S539E	2 EACH	5'-2" - 42'-3"	Str.
S540E	6	42'-9"	Str.
S541E-S568E	2 EACH	6'-8" - 43'-9"	Str.
S569E-S584E	2 EACH	7'-7" - 28'-2"	Str.
S585E-S5103E	2 EACH	5'-2" - 30'-2"	Str.
S5104E	370	8'-6"	Str.
P501E	1496	6'-5"	2½"
S601E	156	49'-4"	Str.
S602E	78	50'-0"	Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.



Note: Bars marked with an "E" suffix shall be epoxy coated.

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8/16/13
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SHEET 7 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 5/24/13
CHECKED BY: CJF DATE: 8/16/13
DESIGNED BY: CJF DATE: 10/12

FILENAME: b080390x2_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07291 DRAWING NO. 54278

PRINT DATE: 19-AUG-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	148	216
				① 07291 -		374 FT. UNIT	- 54279	

GENERAL NOTES - SUPERSTRUCTURE

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATION: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

MATERIAL AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Grade 60, AASHTO M31 or M322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi

CONCRETE:
Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All concrete shall be Class S(AE) with a minimum 28-day compressive strength f'c = 4,000 psi. The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The concrete deck, except sidewalks, shall be given a tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing and sidewalk. A mininum of 72 hours shall elapse between completion of the slab pour and the start of the parapet railing pour for Stage 1. A minimum of 72 hours shall elapse between completion of the slab and the start of the sidewalk pour for Stage 3. A minimum of 72 hours shall elapse between completion of a sidewalk pour and the beginning of a parapet pour for Stage 3. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL:
All Structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e) unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36 or Gr. 50 unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with subsection 807.04, submitted and approval secured before fabrication is begun.

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

Beams and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)".

All beams shall be blocked in their true position in the shop with the webs horizontal in groups as specified in subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

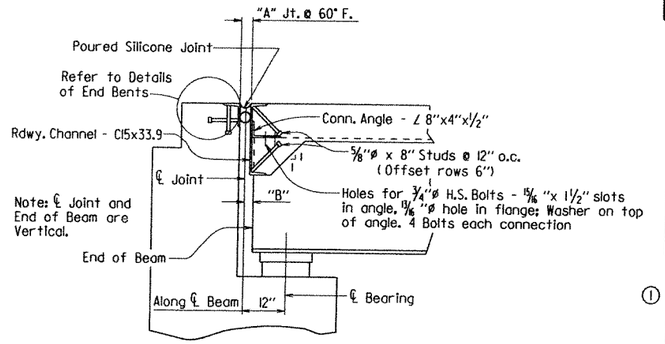
Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

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

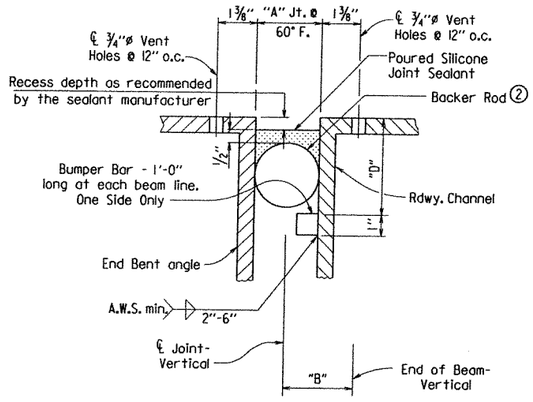
Field connections shall be bolted with high-strength bolts and shall be ¾" ø bolts unless otherwise noted. Open Holes shall be 15/16 " ø unless otherwise noted. Holes for ¾" ø high-strength bolts may be 15/16 " ø if a washer is supplied for use under both the nut and head of the bolt. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges.

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

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



JOINT AT END BENTS
Perpendicular to ℄ Joint
No Scale



DETAIL OF POURED SILICONE JOINT SEAL
No Scale

EXPANSION DEVICE INSTALLATION AT END BENTS

The Contractor may elect to install the expansion device for the end bents using one of the following two alternatives:

1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.

2) The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

SILICONE JOINT DATA

Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature ① Of:			"B" Perpendicular to Joint at 60°F	Bumper Bar Size	"D"
	40°F	60°F	80°F			
1 & 5	2¼"	2"	1¾"	± 2¼"	1" x 1"	5"

① The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary.

Notes: The temperature limitations recommended by the sealant manufacturer shall be observed.

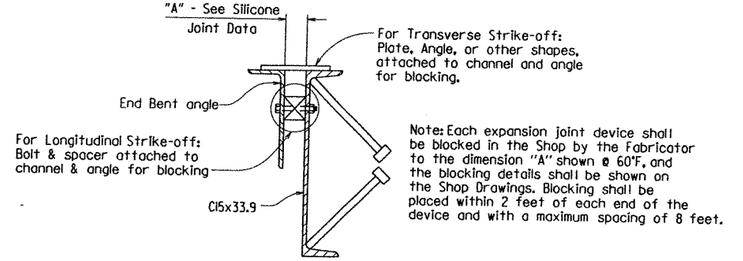
The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

② BACKER ROD NOTE:

Use an appropriately sized backer rod at the depth shown in the manufacturer's literature based on the joint width at the time of sealing.

Except as noted, do not install more backer rod than that which can be sealed in the same day.

The contractor shall verify separation of the backer rod from the joint material after the joint material has set.



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE
No Scale

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SHEET 8 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ARCHEY FORK CREEK

ROUTE SEC.

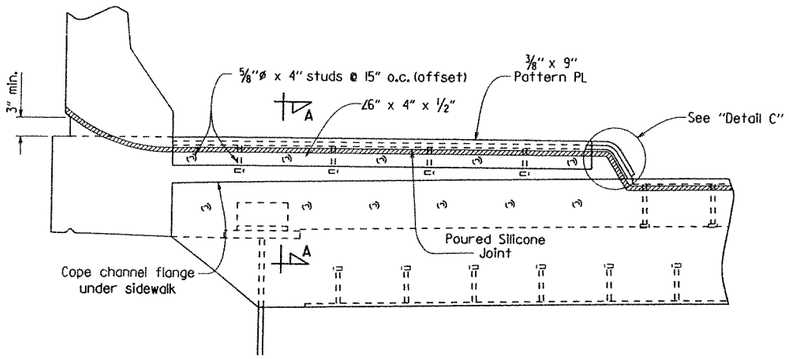
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 05/24/13
CHECKED BY: CJE DATE: 8/19/13
DESIGNED BY: CJE DATE: 10/12
FILENAME: b080390x2_sl.dgn
SCALE: AS NOTED

BRIDGE NO. 07291
DRAWING NO. 54279

PRINT DATE: 8/19/2013

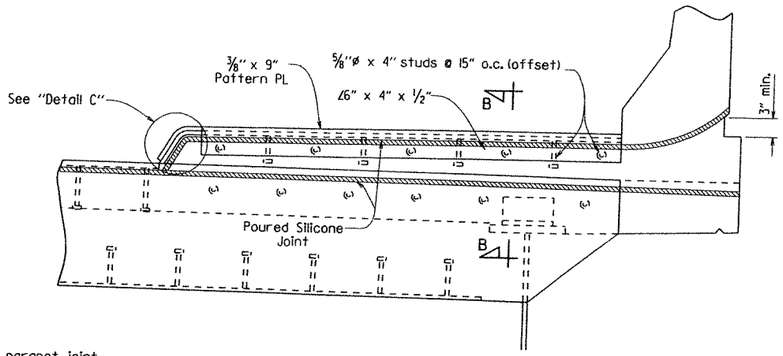
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	149	263
				(1) 07291 -		374 FT. UNIT	- 54280	



SECTION THRU SIDEWALK - STAGE 3

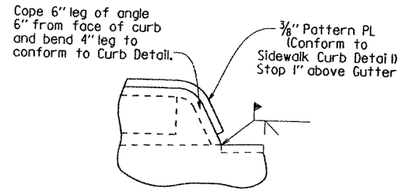
No Scale

Note: Install seal in slab joint and parapet joint with damming procedure as recommended by the manufacturer. The sealant shall be recessed to prevent damage and be allowed to cure prior to removal of the outer damming material.



SECTION THRU SIDEWALK - STAGE 4

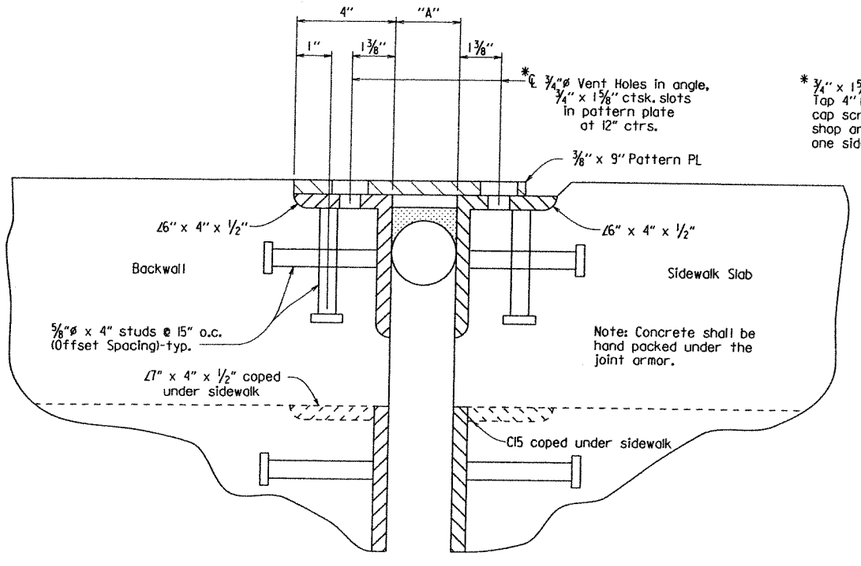
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DETAIL C

No Scale

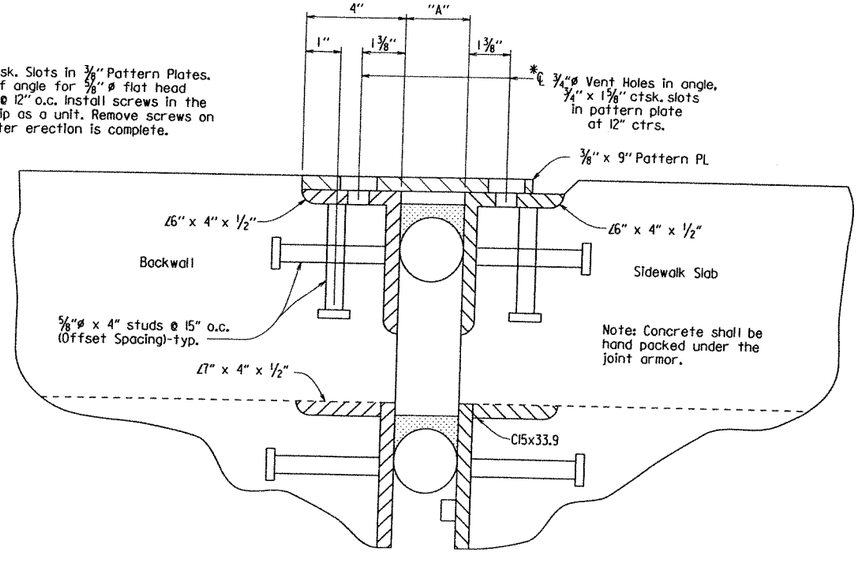
The surfaces of the 3/8" plates shall be painted with aluminum epoxy paint in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (M270, Gr. 50W)".



SECTION A-A

No Scale

* 3/4" x 1 5/8" Ctsk. Slots in 3/8" Pattern Plates. Tap 4" leg of angle for 5/8" ø flat head cap screws @ 12" o.c. Install screws in the shop and ship as a unit. Remove screws on one side after erection is complete.



SECTION B-B

No Scale

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SHEET 9 OF 9
DETAILS OF 374'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MCB DATE: 05/24/13
CHECKED BY: CJF DATE: 8/1/13
DESIGNED BY: CJF DATE: 10/12

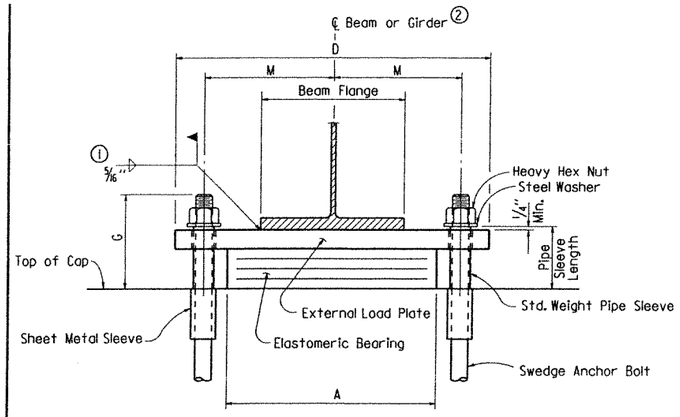
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BRIDGE NO. 07291

DRAWING NO. 54280

PRINT DATE: 19-AUG-2013

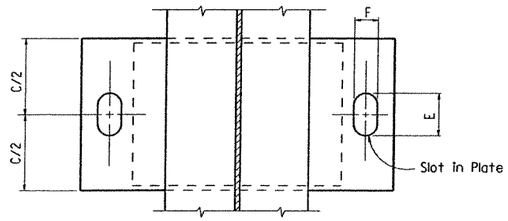
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		080390	150	263
				①	07291 -	ELASTO. BRGS. -	54281	



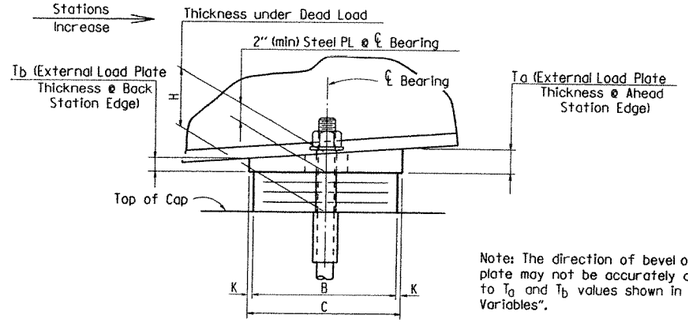
FRONT VIEW

① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

② ℄ Elastomeric pad shall be aligned with ℄ Beam.

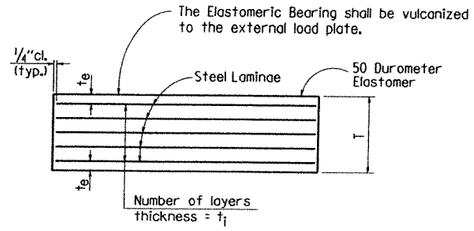


PLAN VIEW



SIDE VIEW

Note: The direction of bevel of the external load plate may not be accurately depicted with respect to T_a and T_b values shown in "Table of Fabricator Variables".



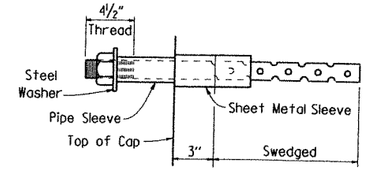
t_e = thickness of elastomer cover on top and bottom of pad

t_i = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_i

ELASTOMERIC BEARING

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40° F and 80° F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



ANCHOR BOLT DETAIL

NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Beam Spans, (M 270, Gr. 50W)"

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with subsection 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

Bearings shall be seated in accordance with subsection 808.08. This work and materials are considered as subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

** includes Load Plate Thickening for Bearings Along Beam No. 6.

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION BENT NO(S).	LOCATION BEAM NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD A	B	N	t_i	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE C	D	E	F	K	M	**T_a	**T_b	ANCHOR BOLT ANCHOR BOLT (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
07291	1 & 5	1-5 & 7-10	Exp.	9	118	8 9/16"	5 5/16"	13"	9"	5	1/2"	1/4"	6 @ 12 Gauge	3 5/8"	10"	24"	3 1/8"	2 5/8"	1/2"	9"	2.04"	1.96"	1 3/4" x 30"	55	2" x 6 1/8"	4" X 12"	3 3/8"
	1 & 5	6	Exp.	1	118	8 13/16"	5 5/16"	13"	9"	5	1/2"	1/4"	6 @ 12 Gauge	3 5/8"	10"	24"	3 1/8"	2 5/8"	1/2"	9"	2.28"	2.20"	1 3/4" x 30"	55	2" x 6 1/8"	4" X 12"	3 3/8"
	2 - 4	1-5 & 7-10	Fix	9	274	7 7/8"	4 3/8"	16"	12 1/2"	3	1/2"	1/4"	4 @ 12 Gauge	2 7/16"	13 1/2"	28"	3 1/8"	3 1/8"	1/2"	10 3/4"	2.05"	1.95"	2 1/4" x 34"	55	2 1/2" x 4 7/8"	4" X 12"	4"
	2 - 4	6	Fix	1	274	8 1/8"	4 5/8"	16"	12 1/2"	3	1/2"	1/4"	4 @ 12 Gauge	2 7/16"	13 1/2"	28"	3 1/8"	3 1/8"	1/2"	10 3/4"	2.29"	2.19"	2 1/4" x 34"	55	2 1/2" x 4 7/8"	4" X 12"	4"

* Maximum Design Load = Service I Limit State

Tabular Data by : CJR Date: 6/6/13

Checked by : mcb Date: 6/13/13

Designed by : CJR Date: 6/13

STATE OF ARKANSAS Carl J. Puseller REGISTERED PROFESSIONAL ENGINEER No. 7510 8/14/13 CARL J. PUSELLER

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS ARCHEY FORK CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: Nov.1996 FILENAME: b080390x2_el.dgn

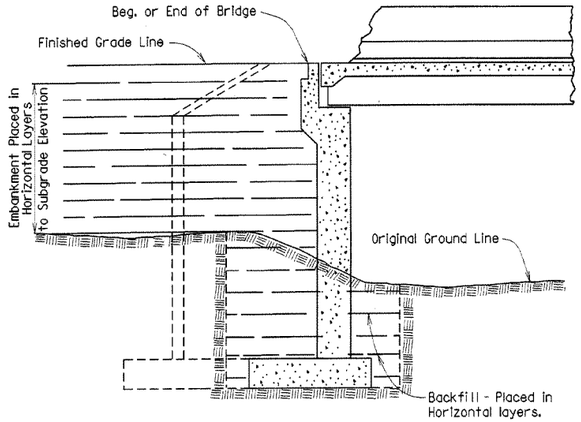
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DESIGNED BY: Std. DATE:

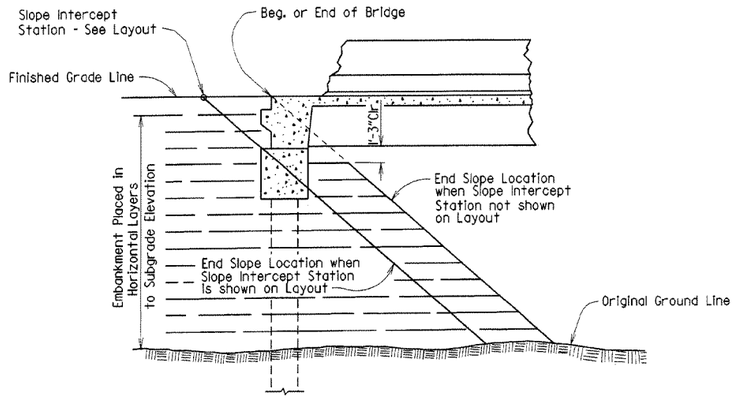
BRIDGE NO. 07291 DRAWING NO. 54281

PRINT DATE: 8/19/2013

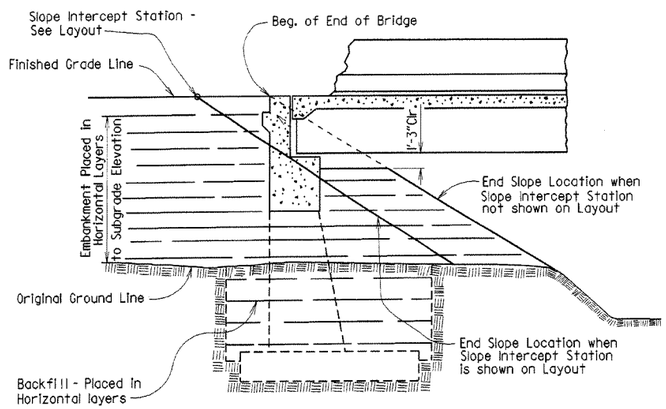
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04-10-2003				6	ARK.		151	
				JOB NO.				
				①	EMBANKMENT & BACKFILL			I888A



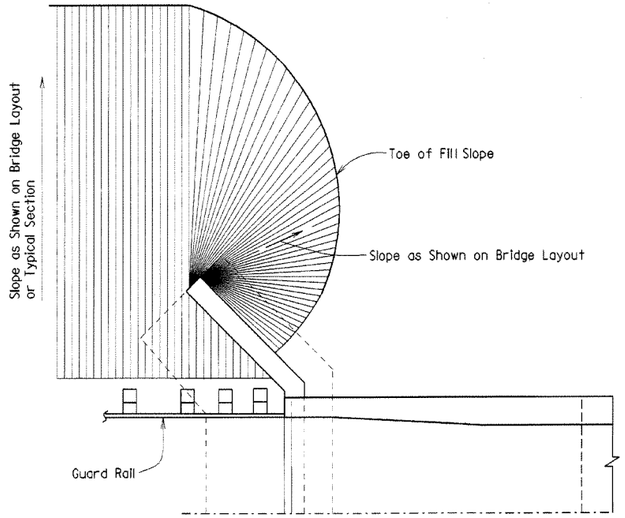
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



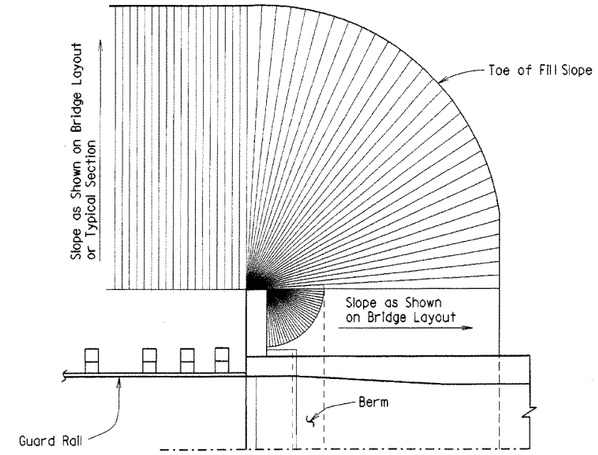
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



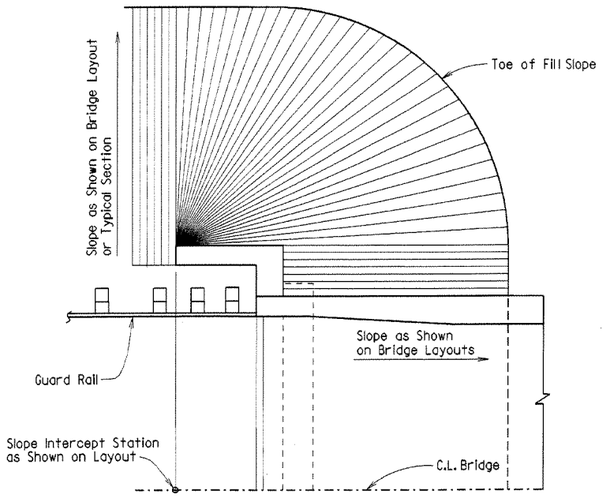
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



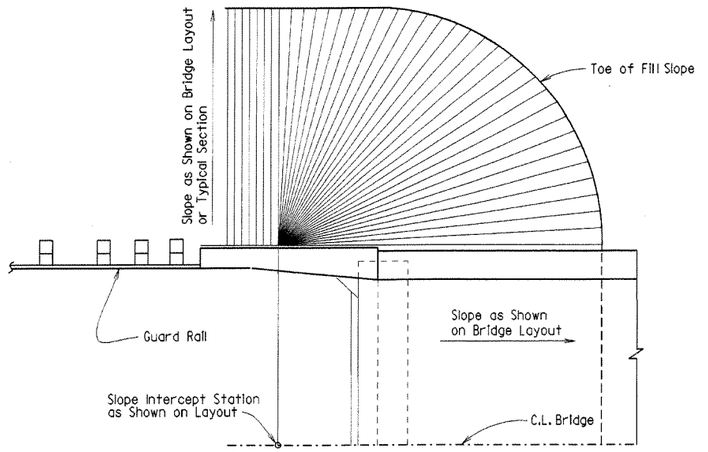
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

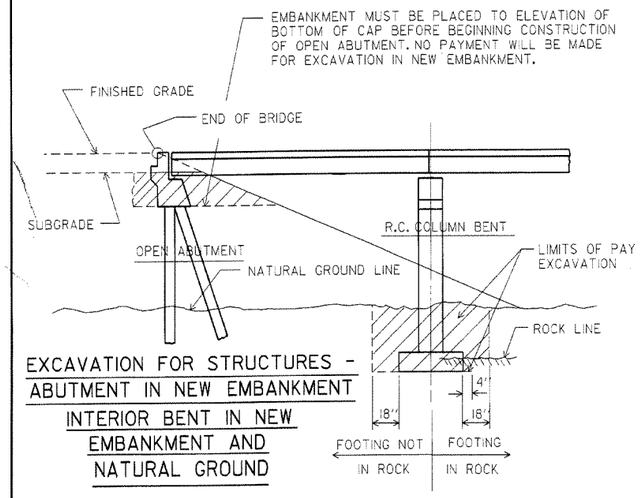
DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI888A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

BRIDGE NO. DRAWING NO. I888A

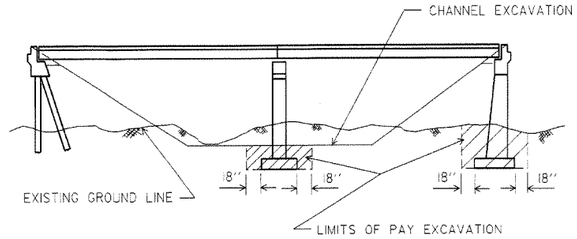
BI888A.STD

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		152	
				JOB NO.				

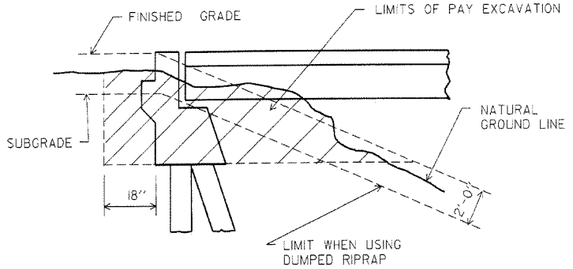
1 RIP. & EXCAV. 1891F



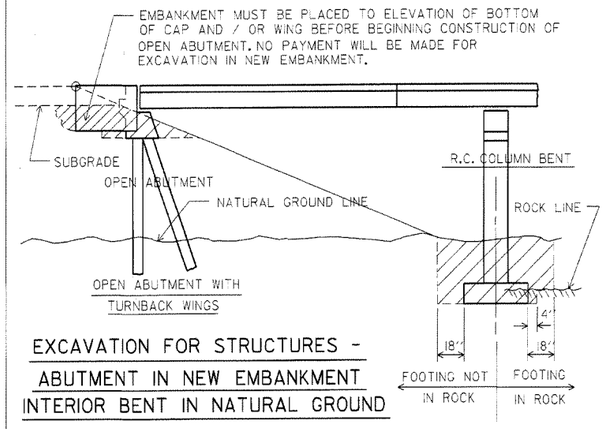
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



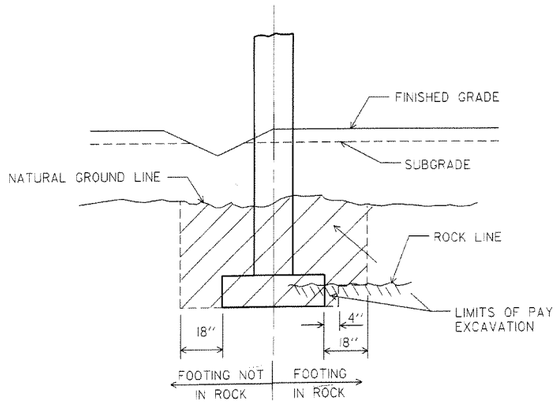
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



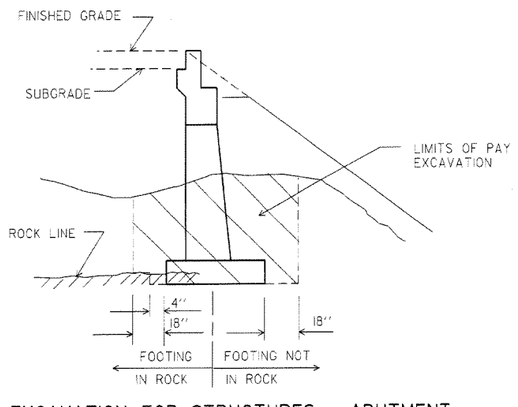
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



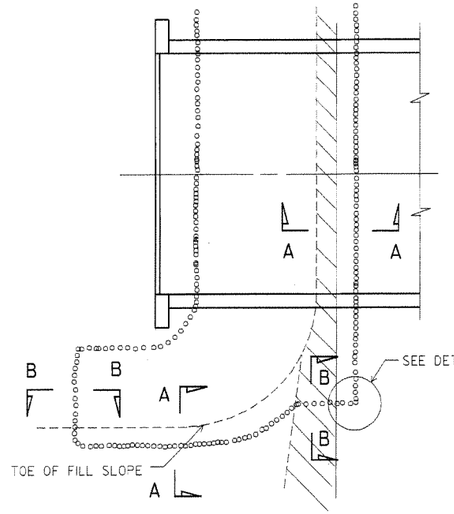
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



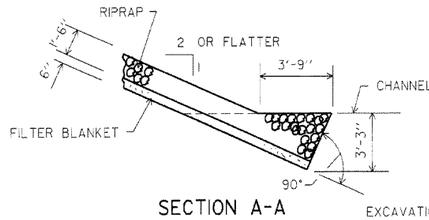
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



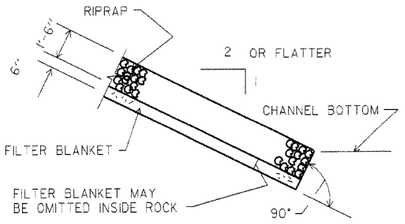
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



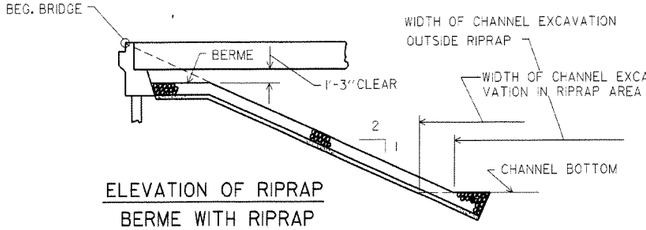
SECTION A-A

(TOE EXCAVATION IN ROCK)

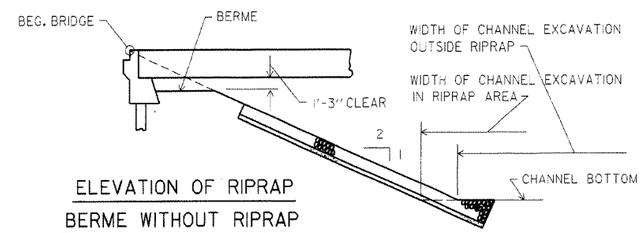
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

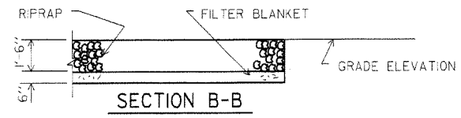
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



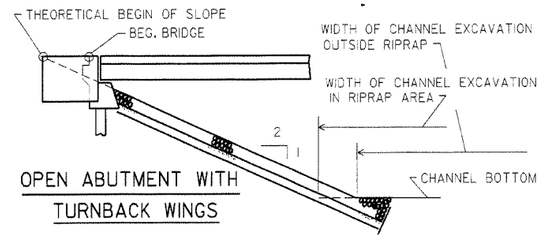
ELEVATION OF RIPRAP BERME WITH RIPRAP



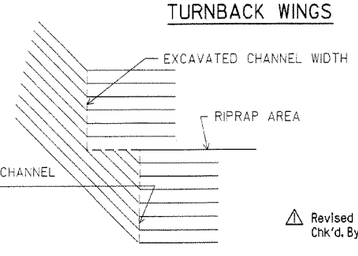
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4637
CHARLES P. BRAND

BRIDGE ENGINEER

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

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

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B1891F.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

BRIDGE NO. DRAWING NO. 1891F

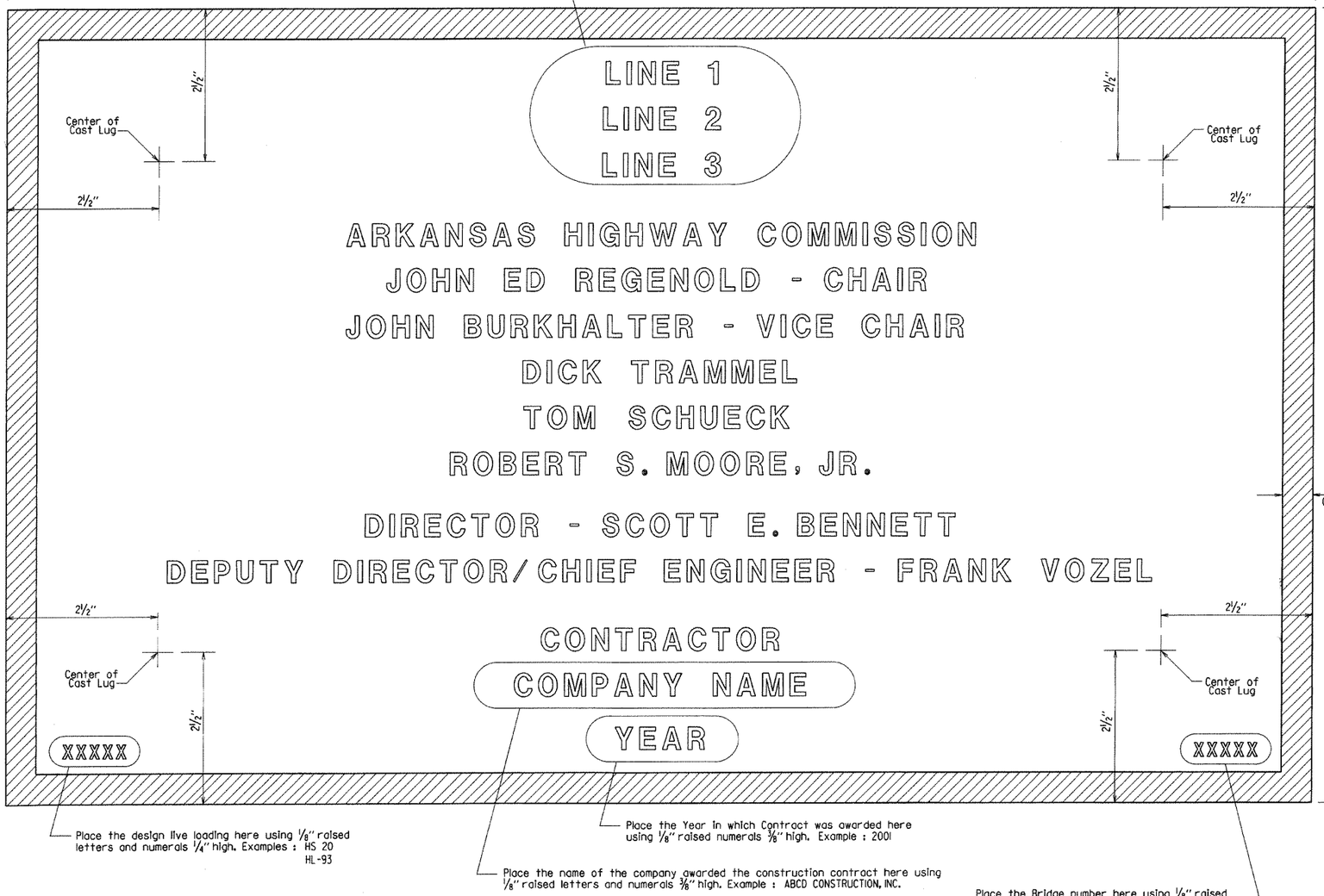
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-8-11			
1-3-13			
1-10-13			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		153	
JOB NO.				

(1) NAME PLATE 2387

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



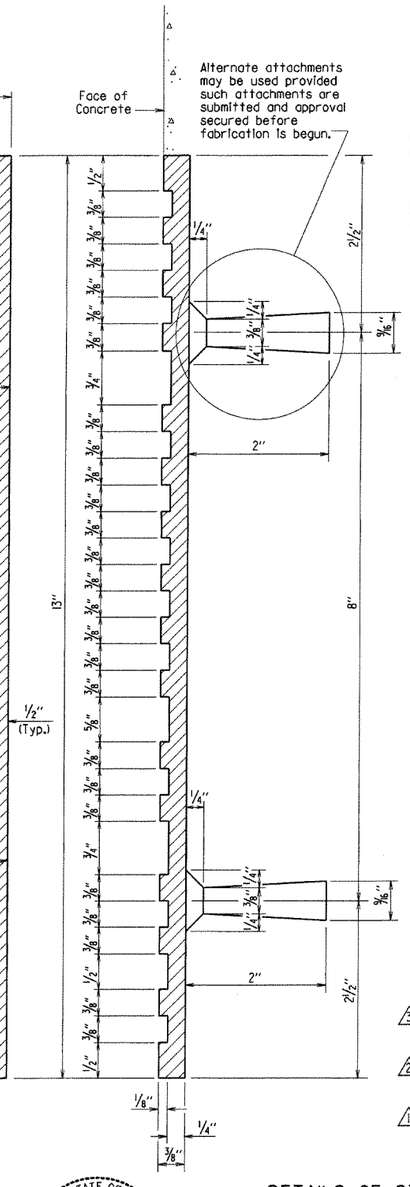
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 5/8" to 9/16"x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

(3) Revised Commission Names 1-10-13 KDH Checked By: CJF

(2) Revised Commission Names 1-3-13 KDH Checked By: CJF

(1) Revised and Redrawn 9-8-11 KDH Checked By: CRE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLIER

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	KDH	DATE:	9-8-11
CHECKED BY:	CRE	DATE:	9-8-11
DESIGNED BY:	STD.	DATE:	—

FILENAME: b2387_std.dgn

SCALE: 1'-0" = 1'-0" OR AS NOTED

BRIDGE NO.

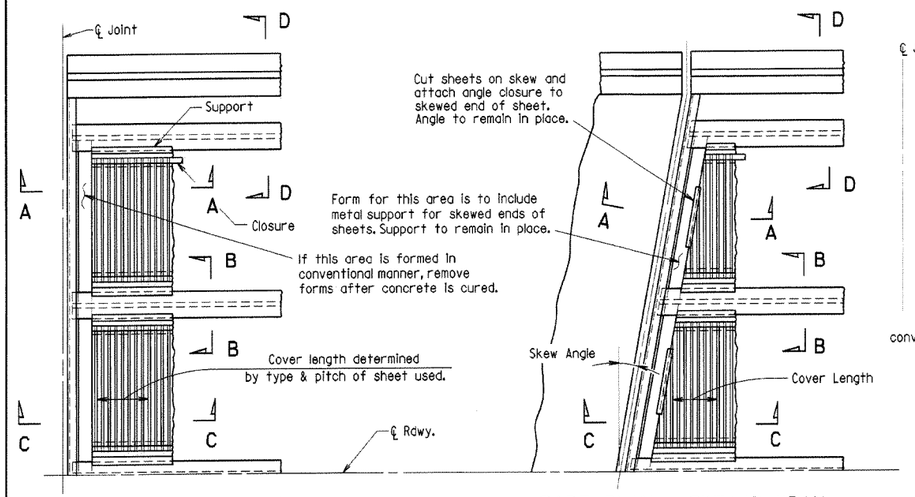
DRAWING NO. 2387

PRINT DATE: 1/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
11-27-96					
04-10-2003					

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		154	
JOB NO.				

BR. DECK FORMS 14991

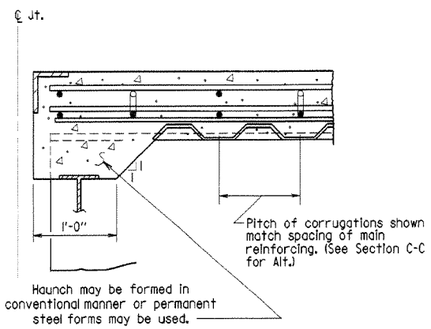


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

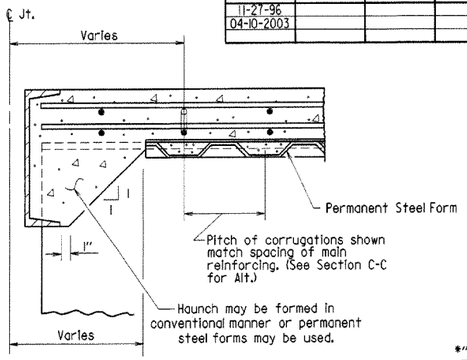
3/8" = 1'-0"



SECTION A-A

N.T.S.

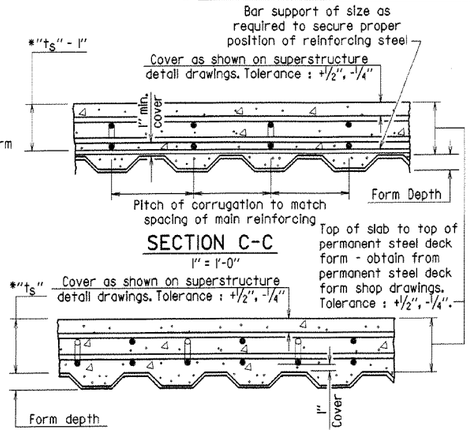
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



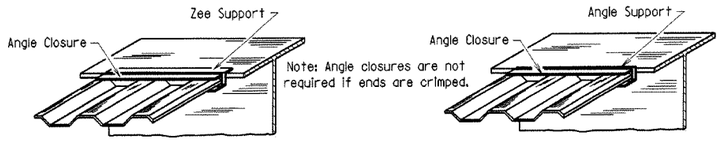
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

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

GENERAL NOTES

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

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

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

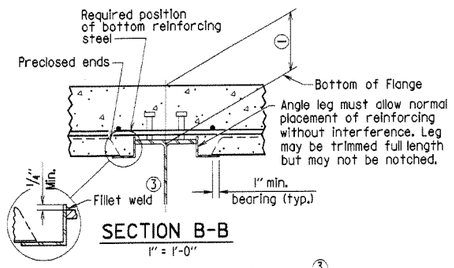
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

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

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

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

⚠2 Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

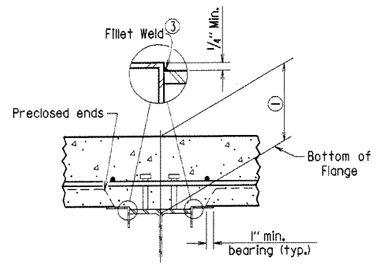


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

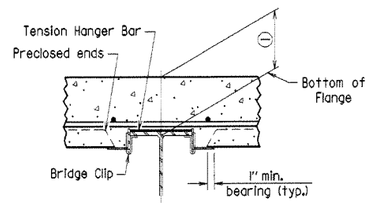
③ Minimum weld: 1/8" x 1" ℄ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

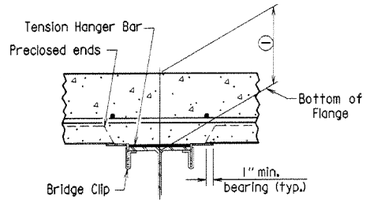
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

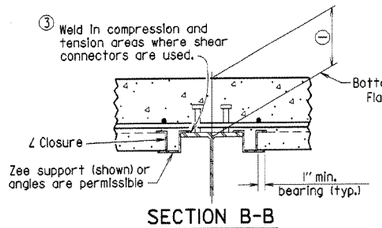
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

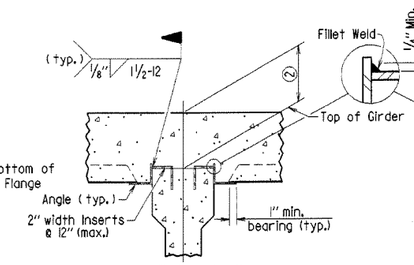
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

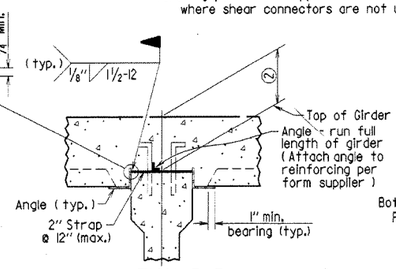


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

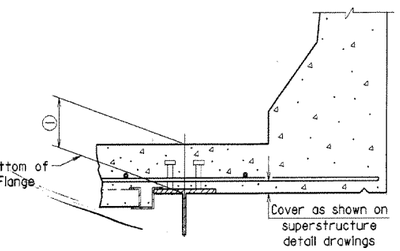


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

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

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

⚠1 Redrawn and revised 11/27/96; MJT

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 10-17-96

CHECKED BY: CPB DATE: 10-17-96 SCALE: as noted

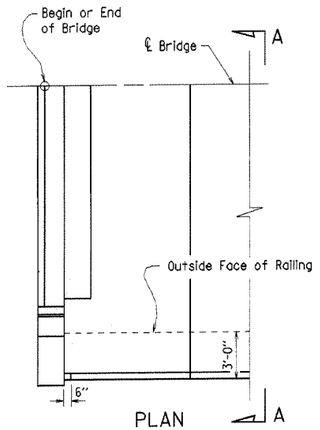
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 14991

B14991.STD

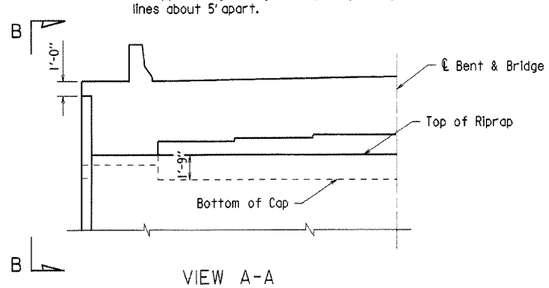
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		155	
				JOB NO.				

1 — RIPRAP & PILE - 14995A

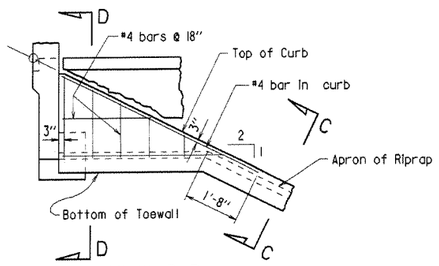


PLAN

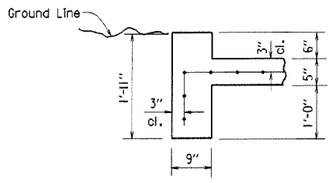
Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



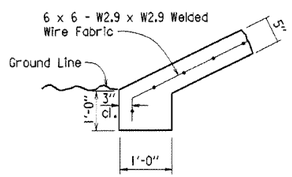
VIEW A-A



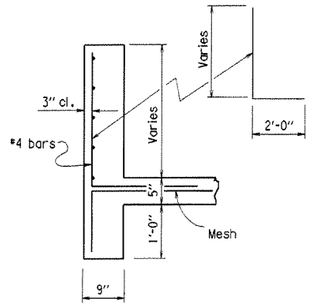
VIEW B-B



SECTION C-C

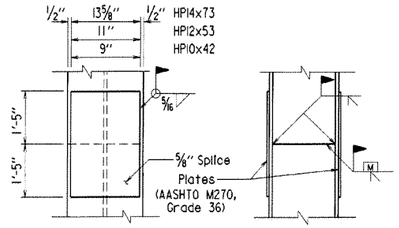


TOE WALL



SECTION D-D

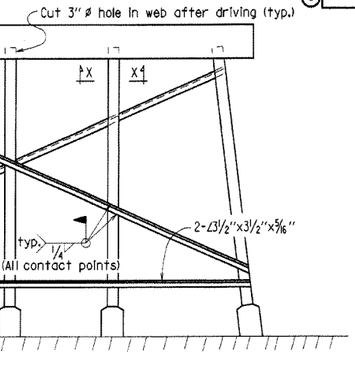
DETAILS OF CONCRETE RIPRAP



Note:
The contractor may for his own convenience and at this own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 ft.

PILE SPLICE DETAIL

Scale : 1" = 1'-0"



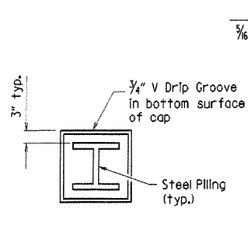
Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

Omit bottom bracing where "H" is less than 10 ft. Omit all bracing where "H" is less than 5 ft.

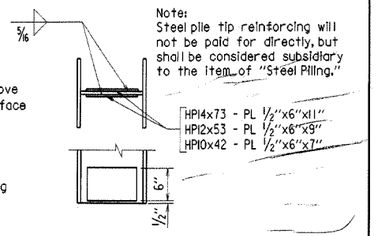
Note:
Where required by the bridge layout sheet, pile encasements shall be constructed.

Omit bracing (and V-groove in cap) where pile encasement is extended to bottom of bent cap.

TYPICAL BRACING FOR INT. STEEL PILE BENTS



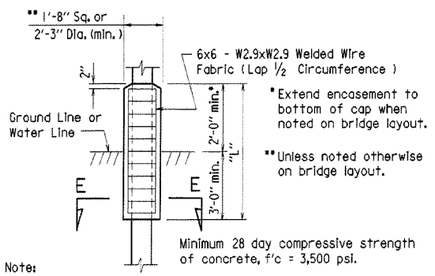
VIEW X-X



Note:
Steel pile tip reinforcing will not be paid for directly, but shall be considered subsidiary to the item of "Steel Piling."

REINFORCING DETAIL FOR STEEL PILE TIP

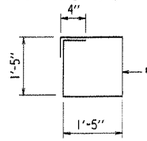
Scale : 1" = 1'-0"

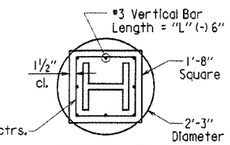


Note:
If concrete cannot be placed in the dry, seal concrete may be deposited under water. Concrete & welded wire fabric or reinforcing in encasements shall be paid for at the contract unit price per linear foot bid for "Pile Encasement."

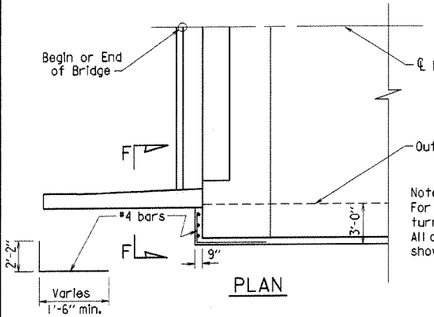
PILE ENCASEMENT DETAIL

Reinforcing Alternate
#3 Vertical - 8 per encasement
#3 ties @ 12" ctrs.
Yield Strength , fy = 60,000 psi.



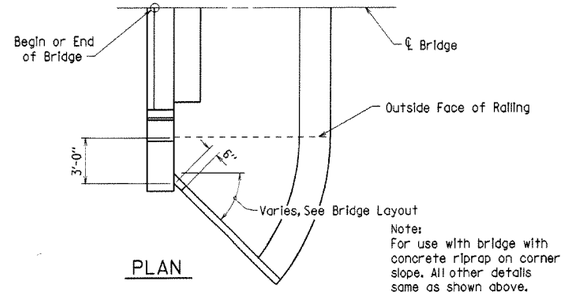


SECTION E-E
REINF. ALTERNATE



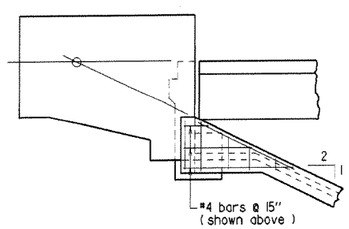
PLAN

Note:
For use on bridges with turned back wings. All other details same as shown above.

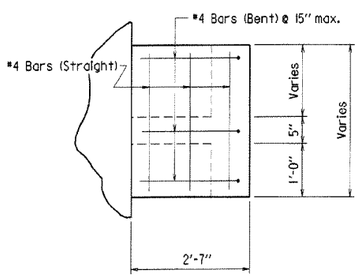


PLAN

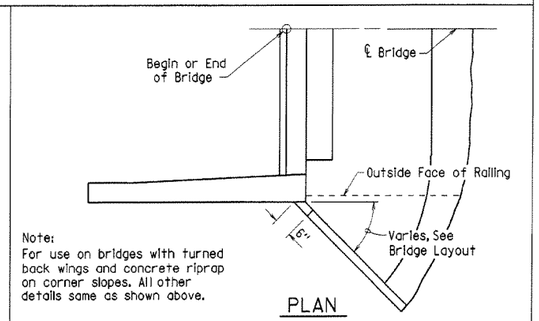
Note:
For use with bridge with concrete riprap on corner slope. All other details same as shown above.



ELEVATION



SECTION F-F



PLAN

Note:
For use on bridges with turned back wings and concrete riprap on corner slopes. All other details same as shown above.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

⚠1 Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

DETAILS OF CONCRETE RIPRAP AND MISC. DETAILS OF STEEL PILING

ROUTE SEC.

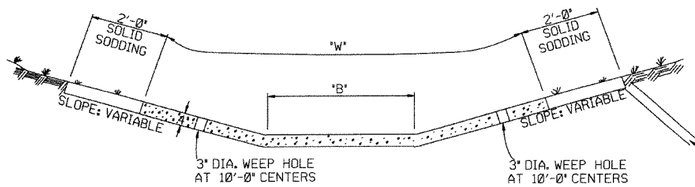
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI4995A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: No Scale or As Noted
DESIGNED BY: STD. DATE: —

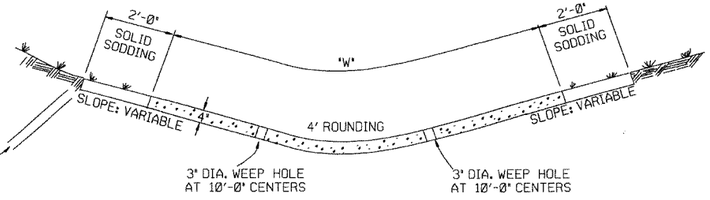
BRIDGE NO. DRAWING NO. 14995A

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



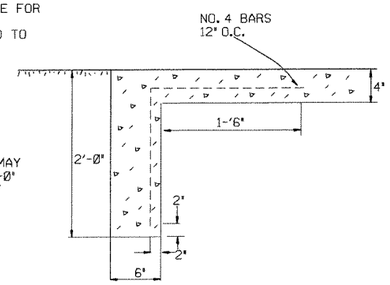
TYPE A

REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



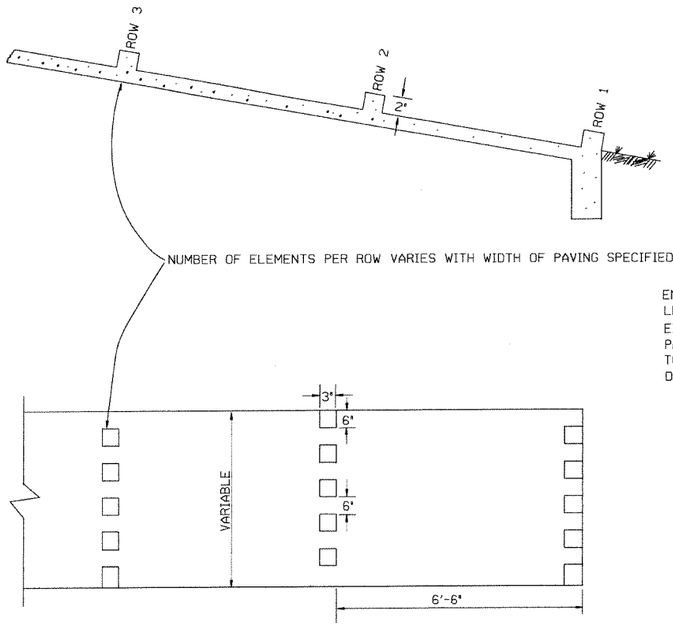
TYPE B

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



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

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

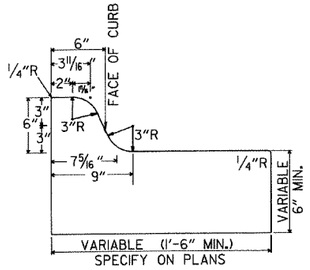
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

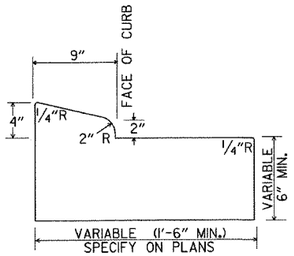
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

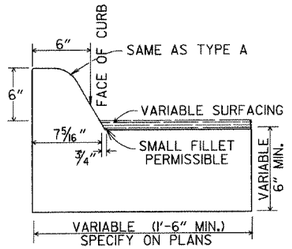
STANDARD DRAWING CDP-1



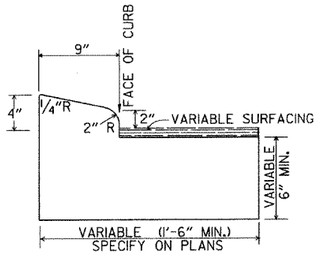
TYPE A



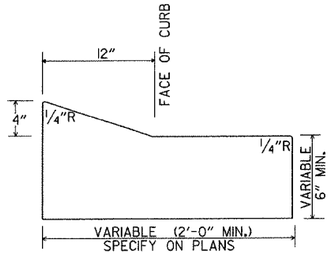
TYPE B-I



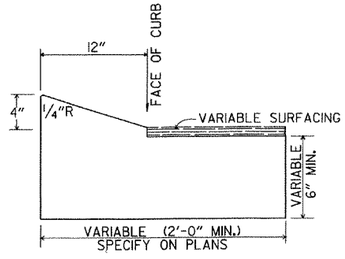
TYPE C



TYPE B-2

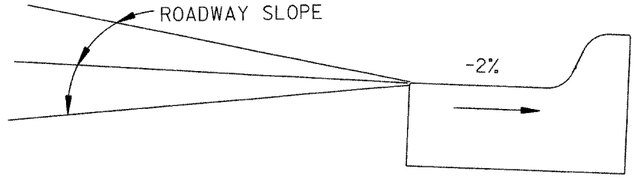


TYPE E-I



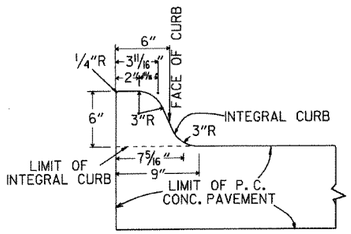
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

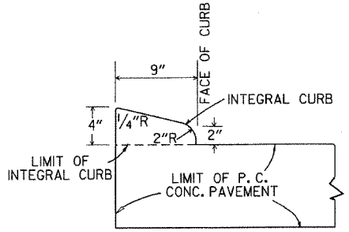


DETAIL OF GUTTER SLOPE

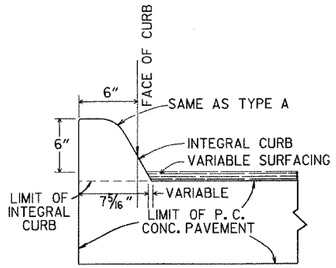
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

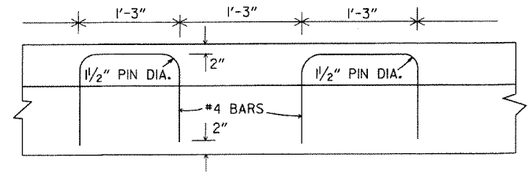


TYPE B

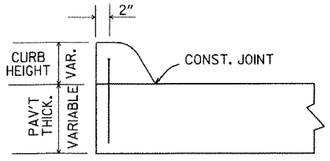


TYPE C

INTEGRAL CURB

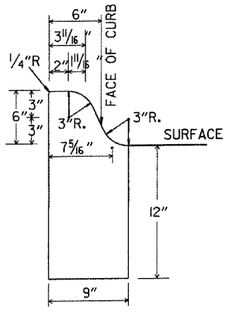


LONGITUDINAL SECTION

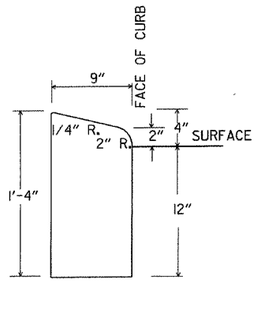


ELEVATION

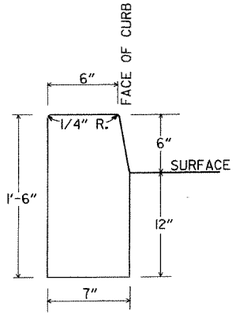
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



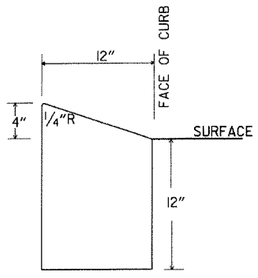
TYPE A



TYPE B

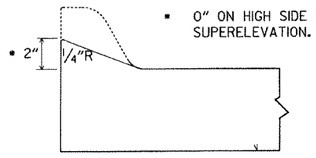


TYPE D



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.

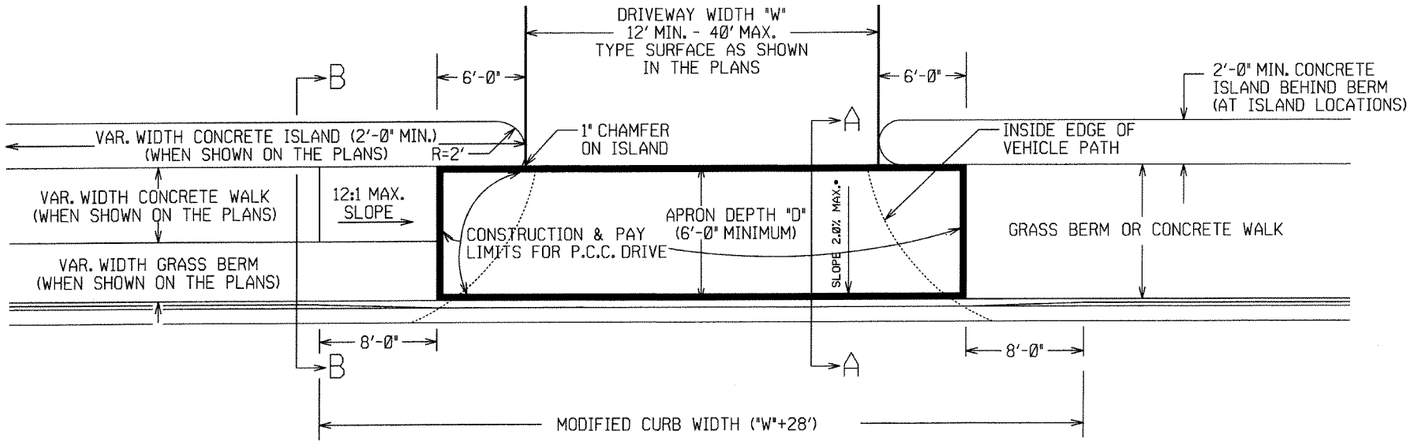
DETAILS OF MODIFIED CURB

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 I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

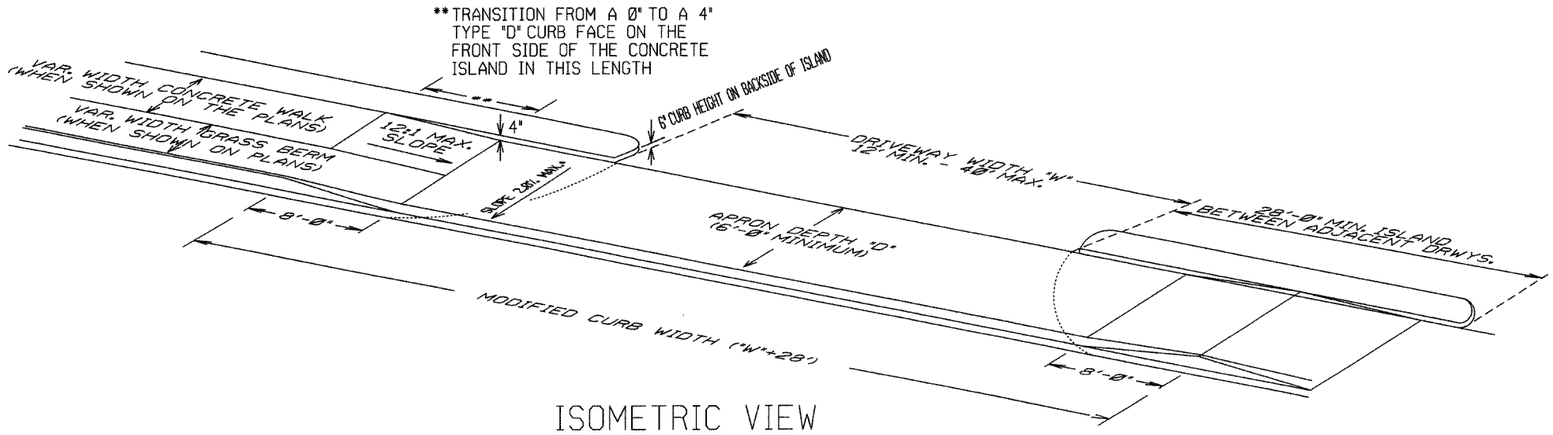
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

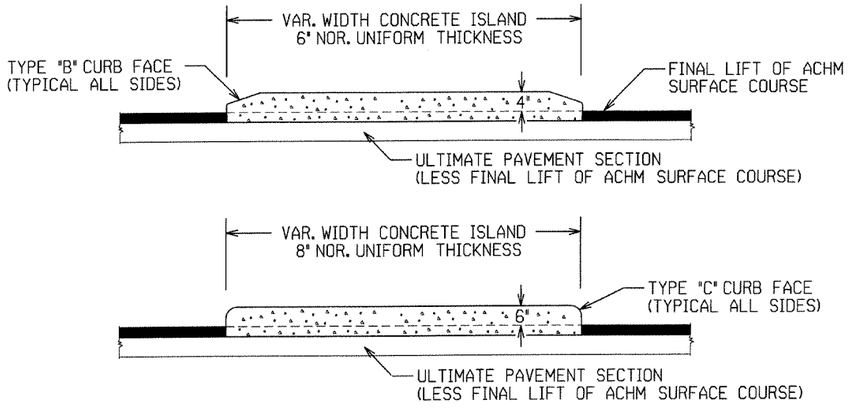


PLAN VIEW

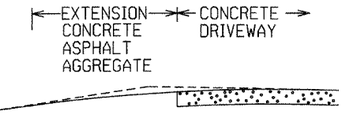


ISOMETRIC VIEW

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".



CURBED ISLANDS FOR CHANNELIZATION



EXTENSION TYPICAL SECTIONS

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

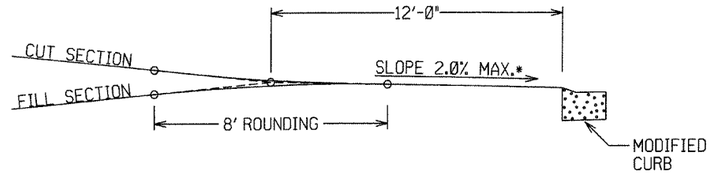
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

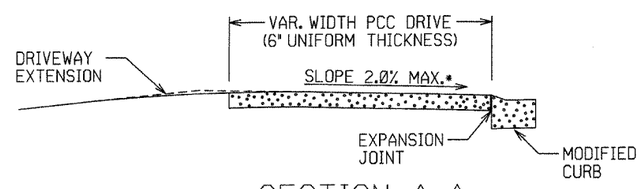
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

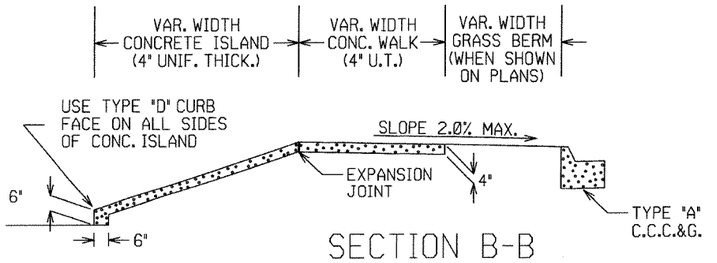


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



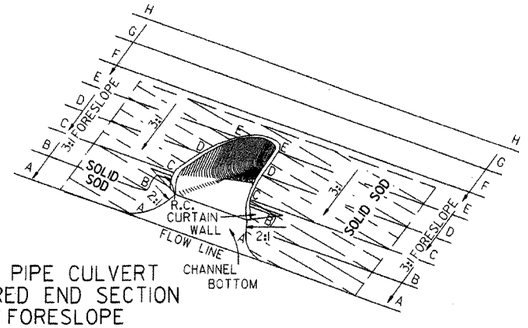
SECTION A-A



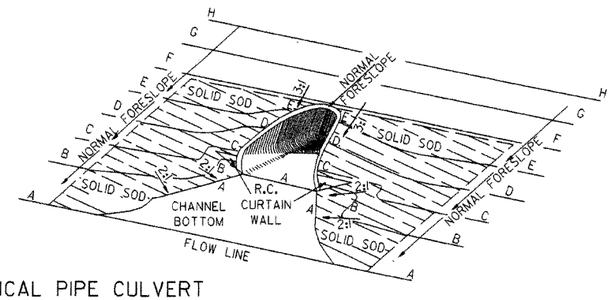
SECTION B-B
CURBED ISLAND BEHIND WALK

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

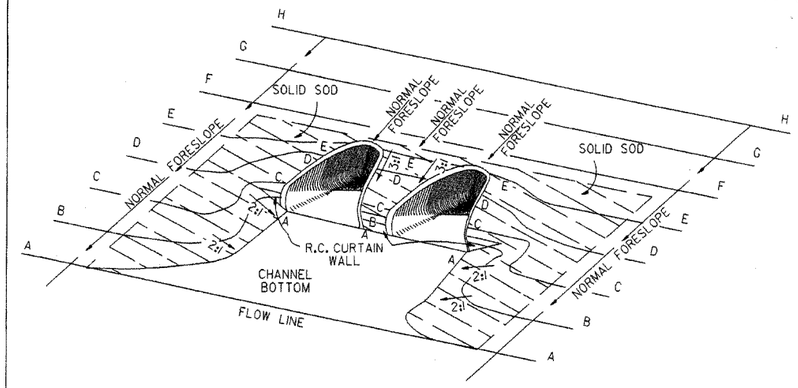
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	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.

REINFORCING STEEL SCHEDULE

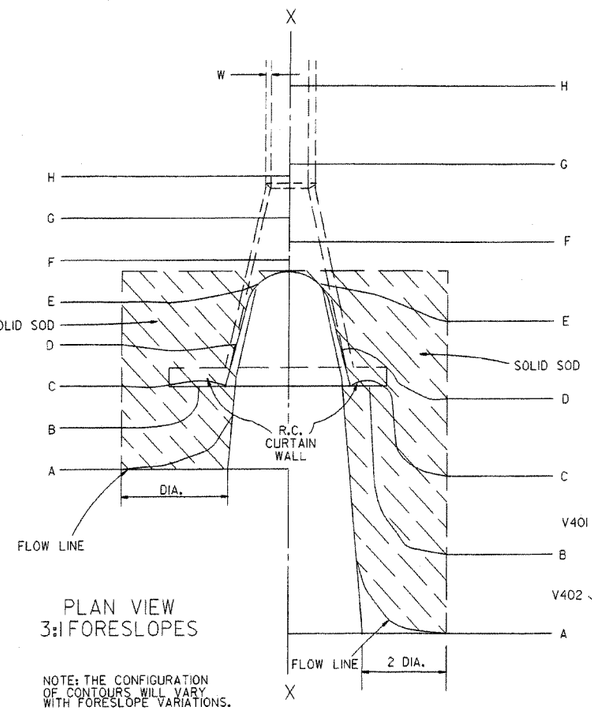
PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT											
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"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

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

SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	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

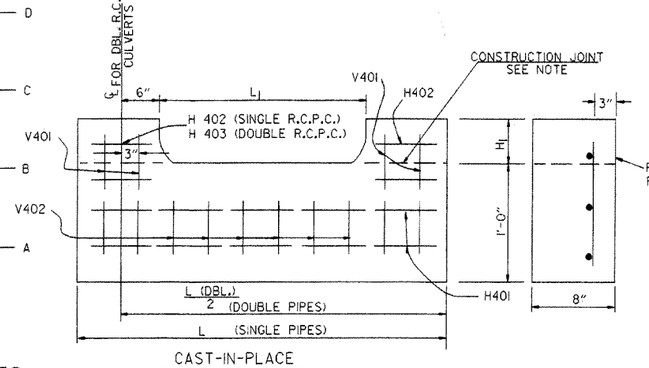
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.



PLAN VIEW
3:1 FORESLOPES

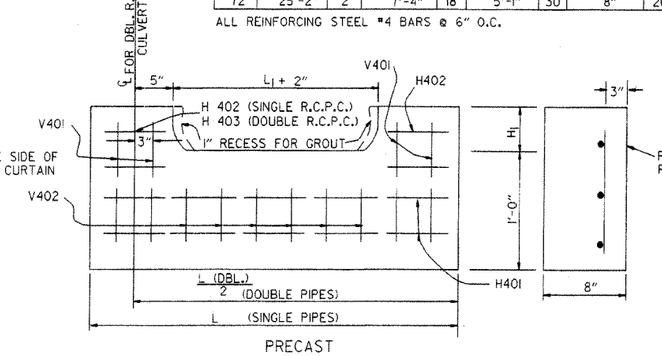
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



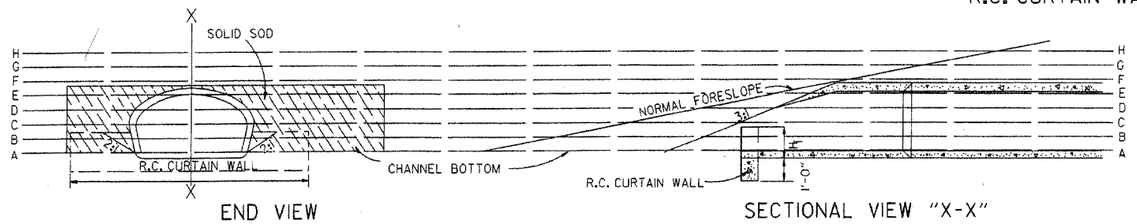
PRECAST

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

R.C. CURTAIN WALL DETAILS

GENERAL NOTES

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



END VIEW

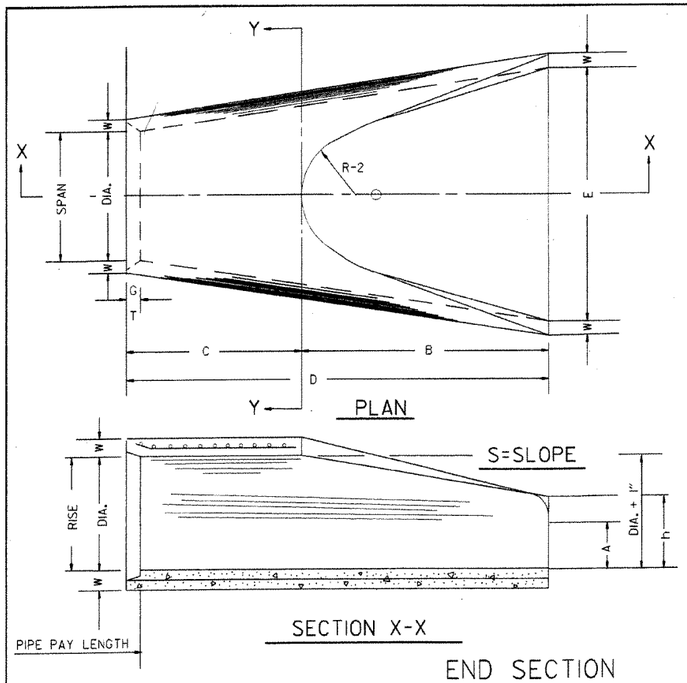
SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	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

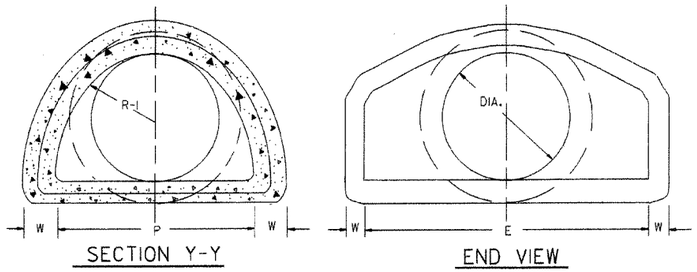
STANDARD DRAWING FES-1



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'-1½"	4'-0"	3:1	25"	33⅜"	16Ⅼ⅛"	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"	47¹³⁄₁₆"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅜"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36¹¹⁄₁₆"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77¹³⁄₁₆"	38⅝"	24"	5"	13250	4'-6"

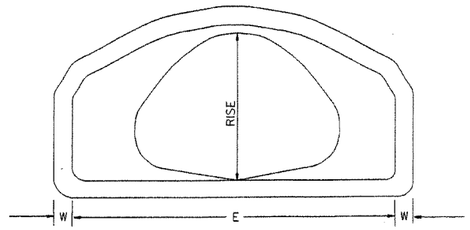


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

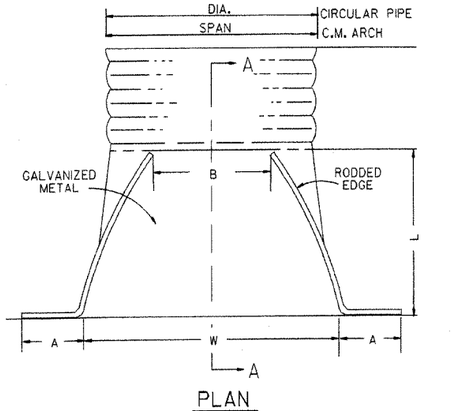
ARCH PIPE

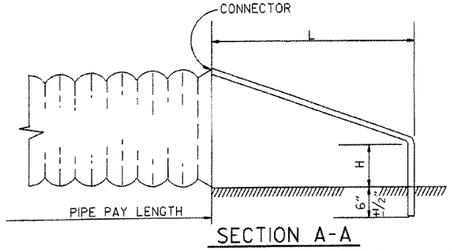
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36¹³⁄₁₆"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47¹³⁄₁₆"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72¹⁄₁₆"	24"	4¾"	2½:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77¹³⁄₁₆"	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.

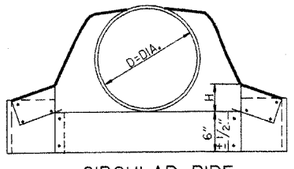


END VIEW
CONCRETE ARCH PIPE

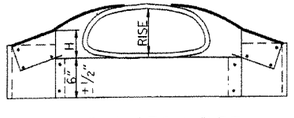




NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.



CIRCULAR PIPE



C.M. ARCH PIPE

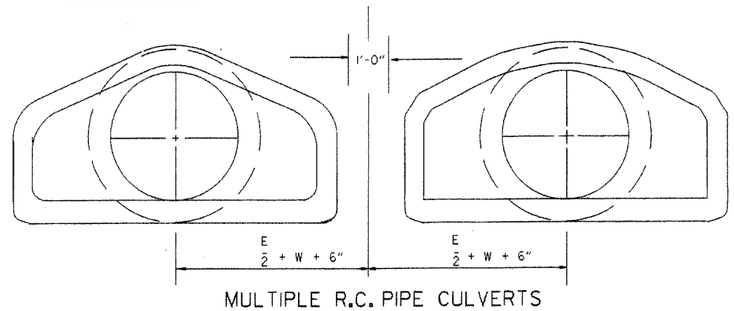
CIRCULAR PIPE

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

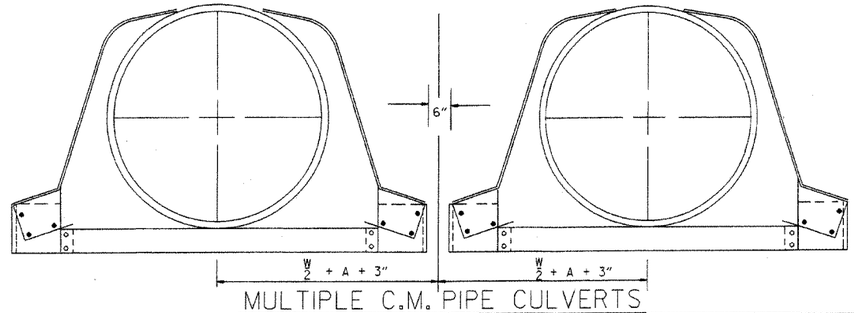
C.M. ARCH PIPE

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



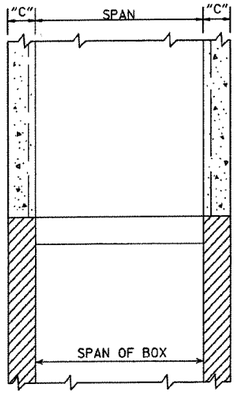
MULTIPLE C.M. PIPE CULVERTS

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

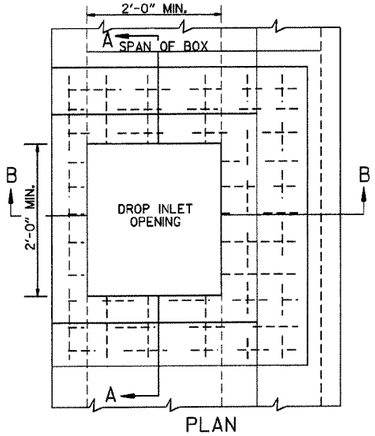
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

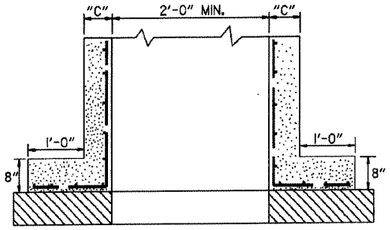
STANDARD DRAWING FES-2



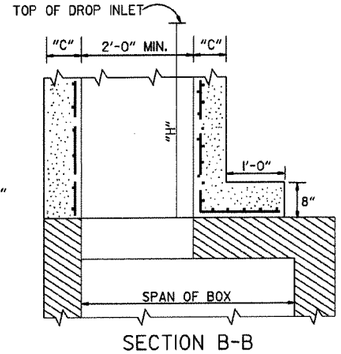
SECTION B-B



PLAN

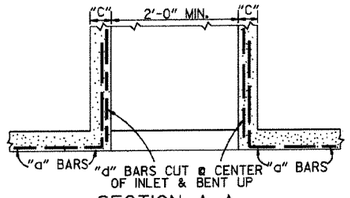


SECTION A-A

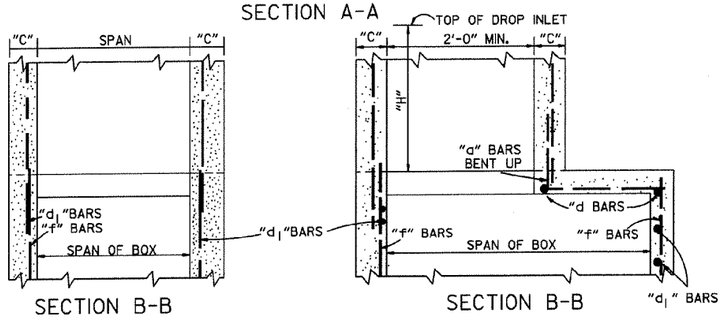


SECTION B-B

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



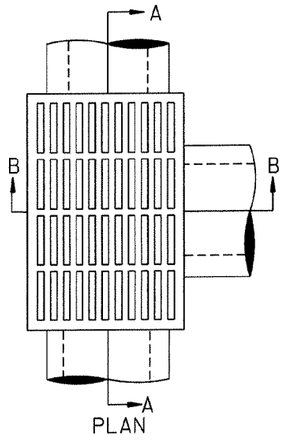
SECTION A-A



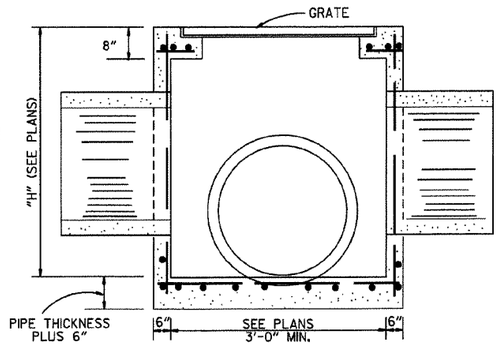
SECTION B-B SECTION B-B

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

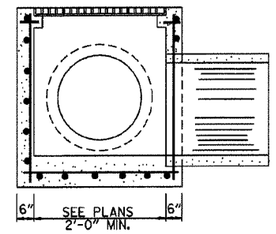
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



PLAN



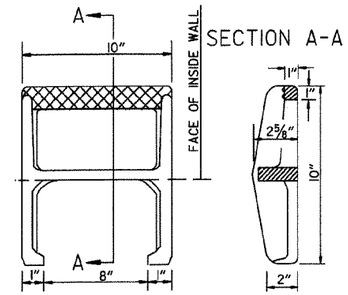
SECTION A-A



SECTION B-B

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.

DROP INLET (TYPE E)



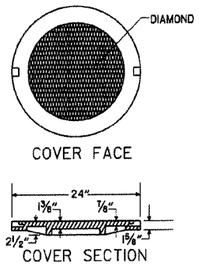
SECTION A-A

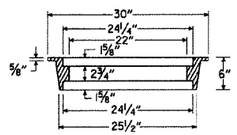
APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET

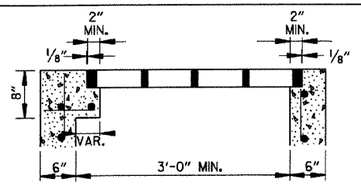




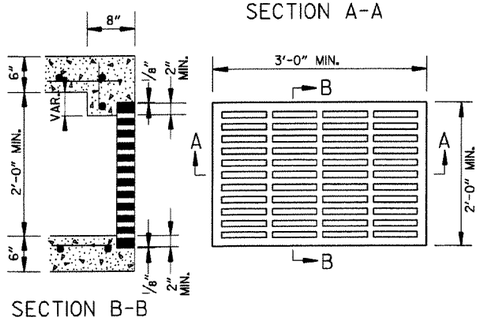
RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



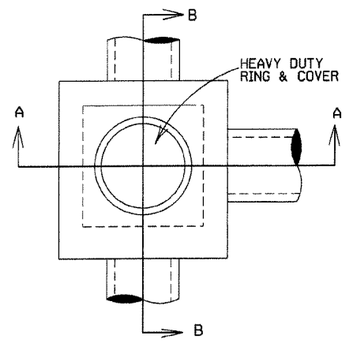
SECTION A-A



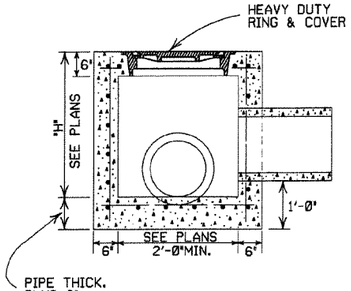
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

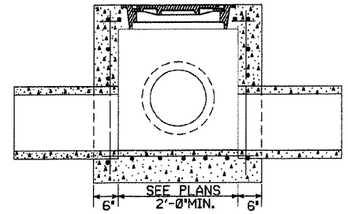
GRATE FOR TYPE E DROP INLET



PLAN



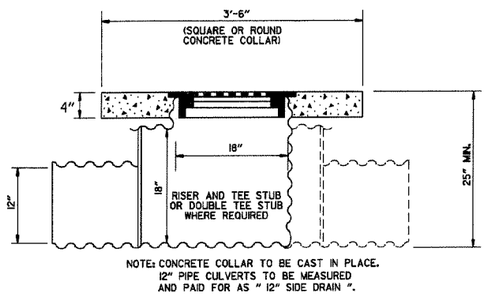
SECTION A-A



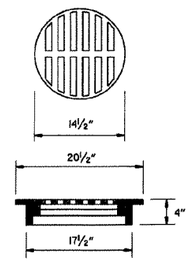
SECTION B-B

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

JUNCTION BOX (TYPE E)



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

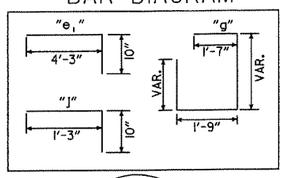
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

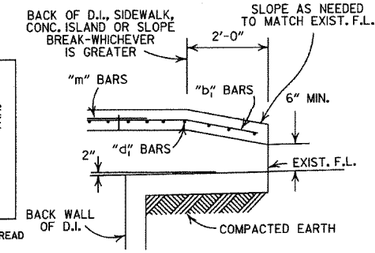
DROP INLET EXTENSION

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

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

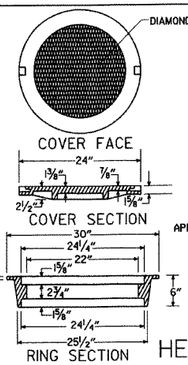
BAR DIAMETER





BACK OPENING

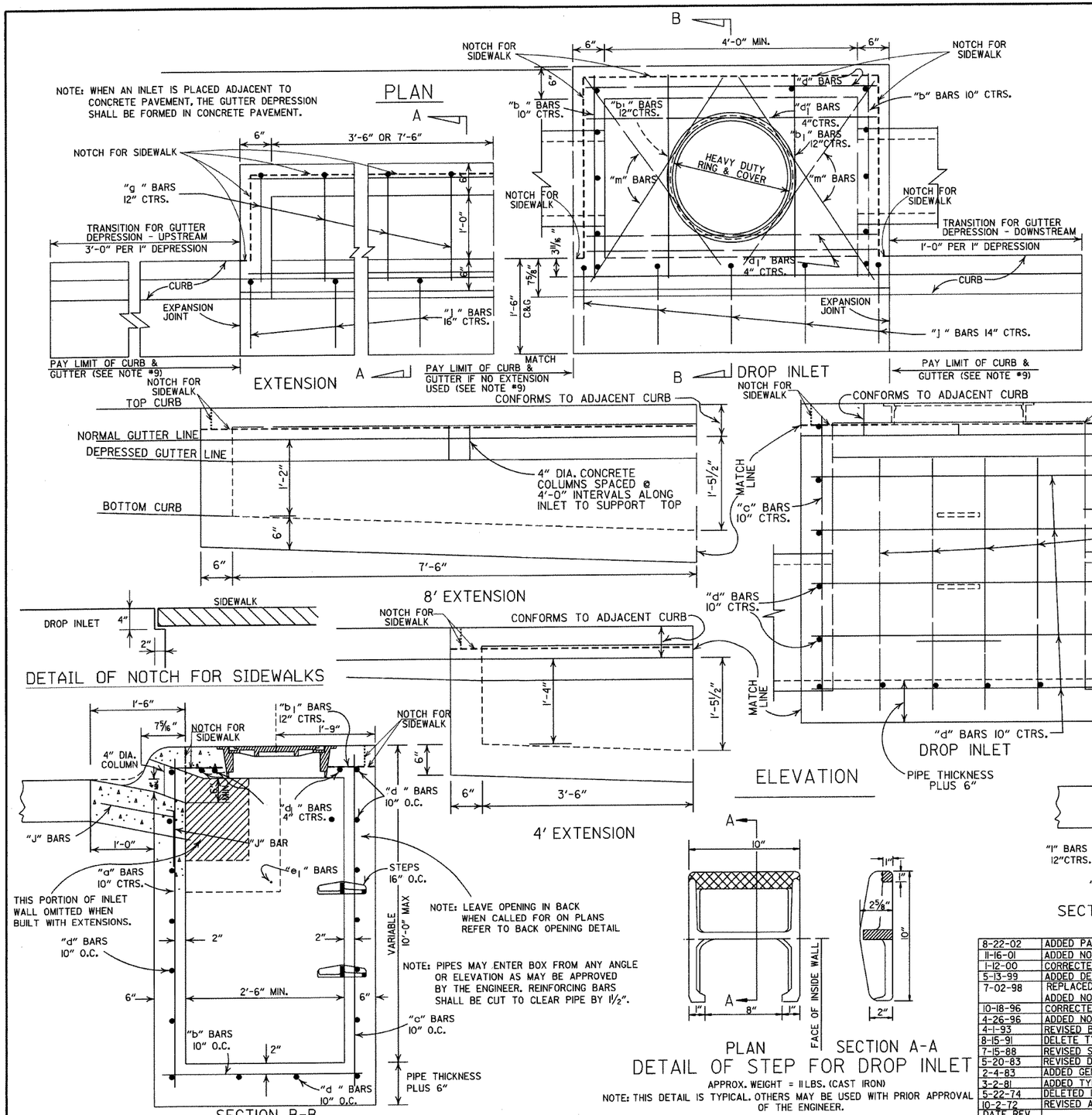
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

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



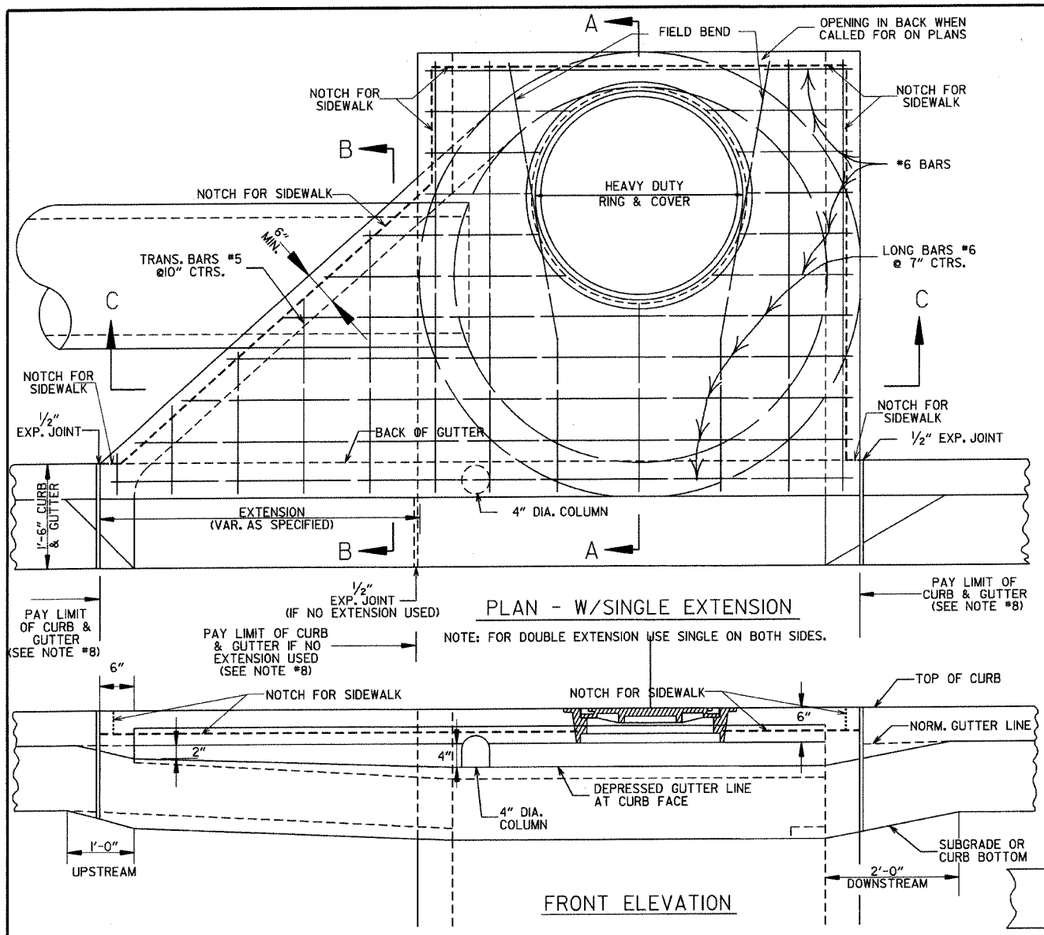
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

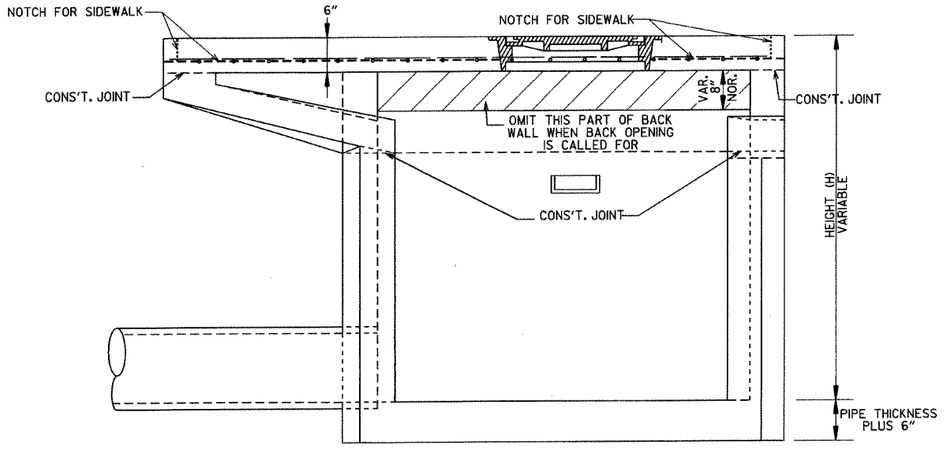
STANDARD DRAWING FPC-9E



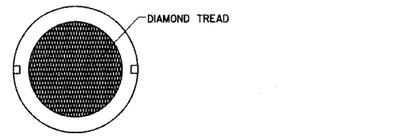
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



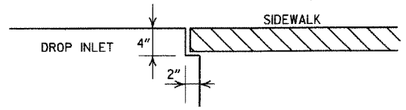
SECTION C-C



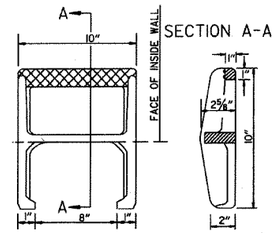
APPROXIMATE TOTAL WEIGHT = 333 LBS.

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

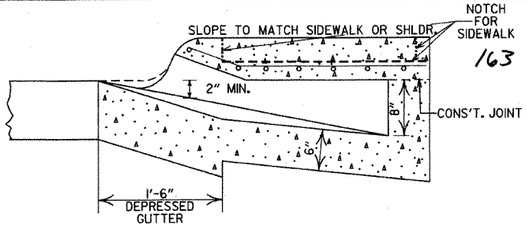


APPROX. WEIGHT = 11 LBS. (CAST IRON)

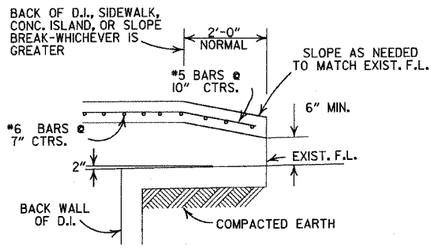
PLAN

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

DETAIL OF STEP FOR DROP INLET

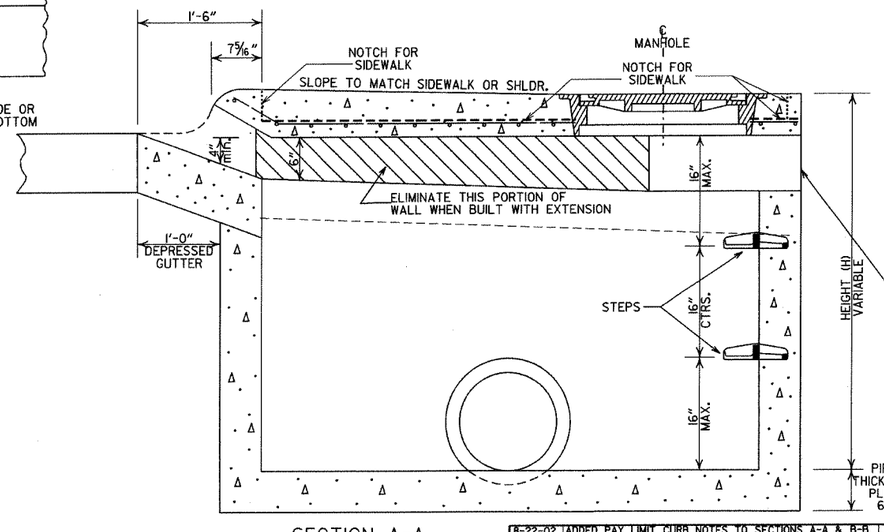


SECTION B-B



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).



SECTION A-A

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" 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. 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

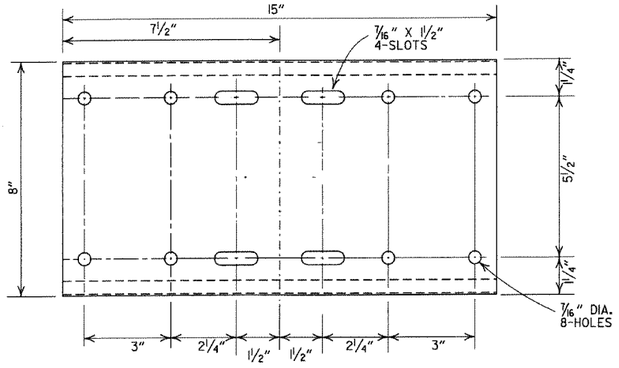
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	MINIMUM WALL THICKNESS PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #5 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
7-2-95	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 8 & MINIMUM WALL THICKNESS	518-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

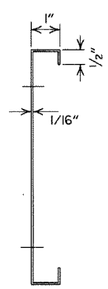
ARKANSAS STATE HIGHWAY COMMISSION

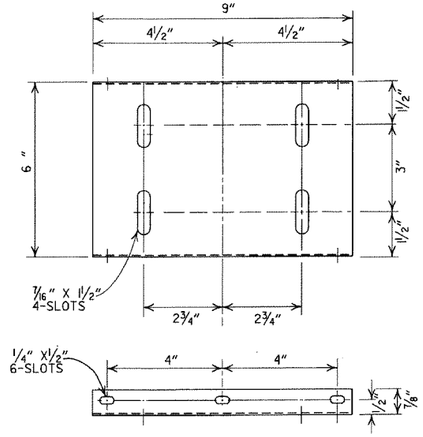
DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

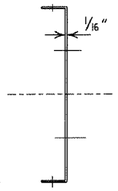


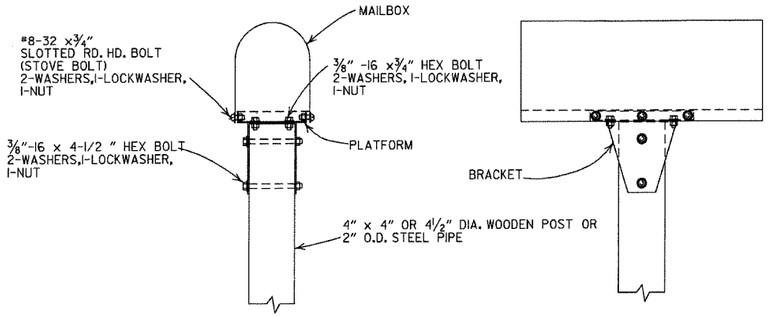
SHELF



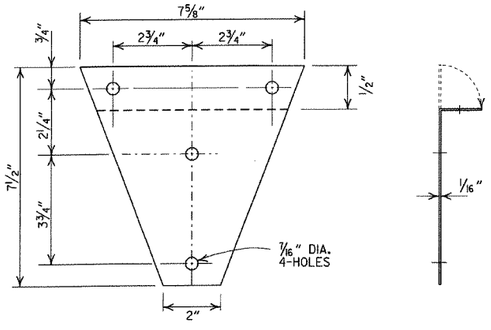


PLATFORM





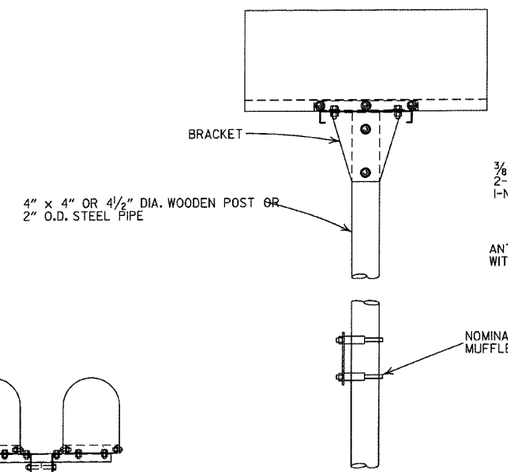
SINGLE INSTALLATION



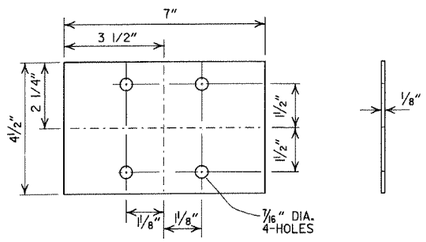
BRACKET

GENERAL NOTES

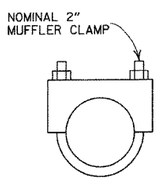
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED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



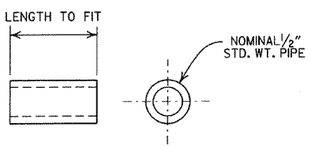
DOUBLE INSTALLATION



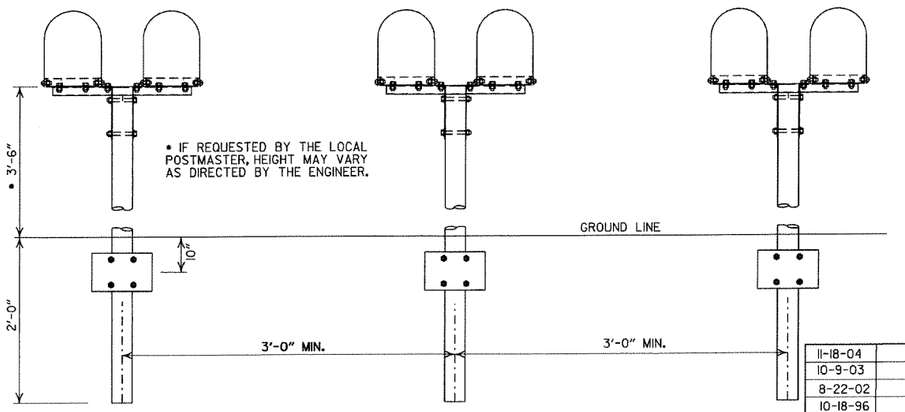
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

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
DATE	FILMED	REVISION

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	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.

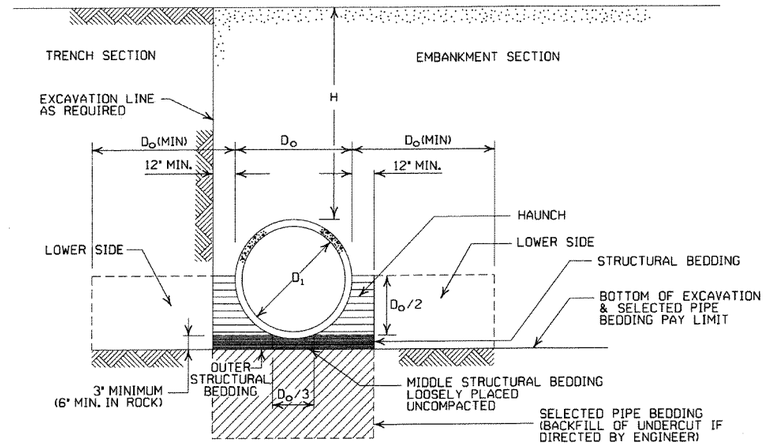
- LEGEND -

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	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		INSTALLATION
				TYPE 2	TYPE 1	TYPE 2	TYPE 1
36	40x31	5	0.079	3	2	12	15
42	46x36	6	0.079	3	2	13	15
48	53x41	7	0.079	3	2	13	15
54	60x46	8	0.079	3	2	13	15
60	66x51	9	0.079	3	2	13	15
66	73x55	12	0.079	3	2	15	15
72	81x59	14	0.079	3	2	15	15
78	87x63	14	0.079	3	2	15	15
84	95x67	16	0.109	3	2	15	15
90	103x71	16	0.109	3	2	15	15
96	112x75	18	0.109	3	2	15	15
102	117x79	18	0.109	3	2	15	15
108	128x83	18	0.138	3	2	15	15

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

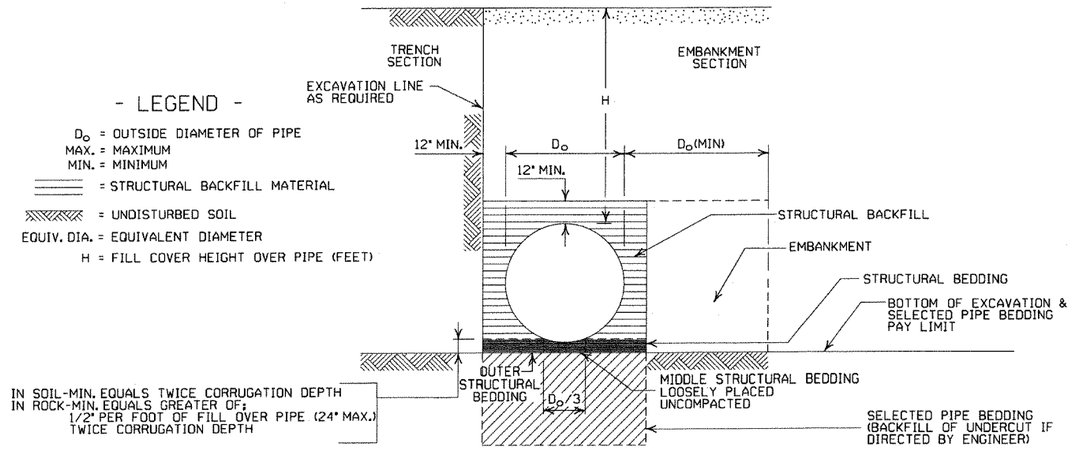
③ SM-3 WILL NOT BE ALLOWED.

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

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

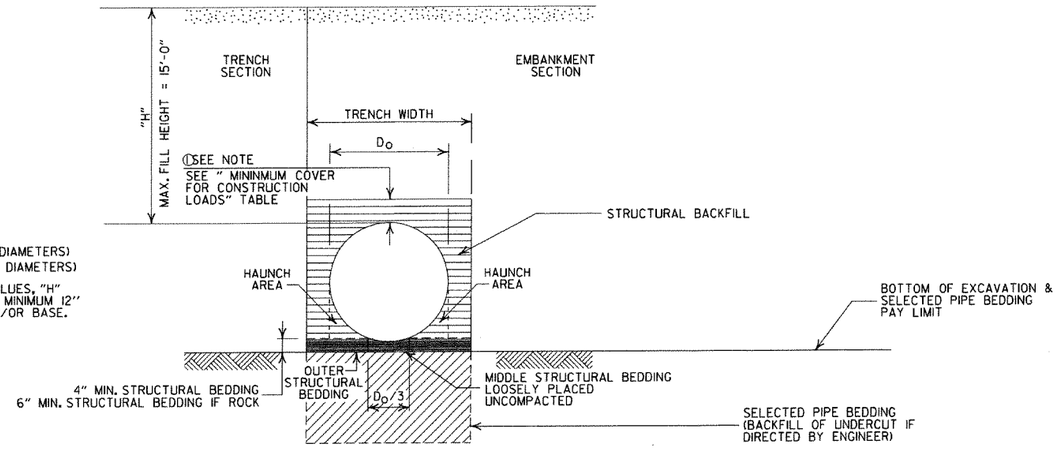
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

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.)
Ø = 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

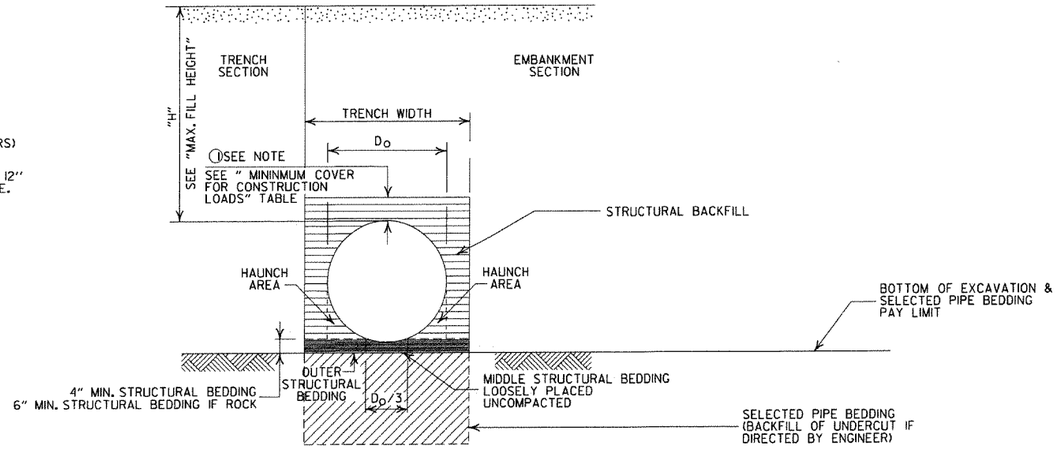
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

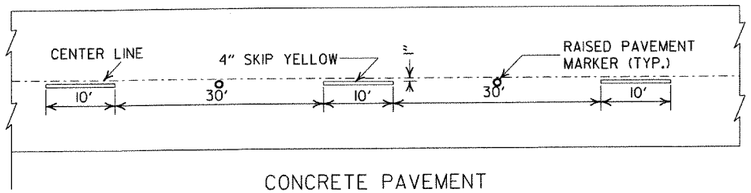
= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

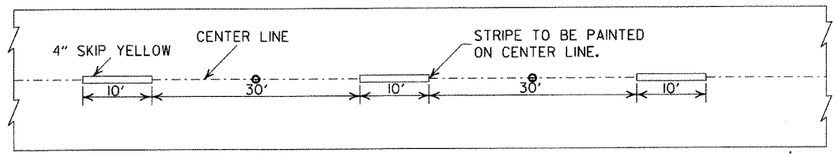
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

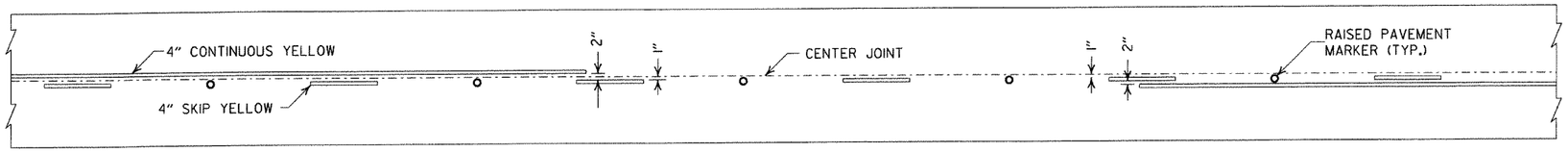


CONCRETE PAVEMENT

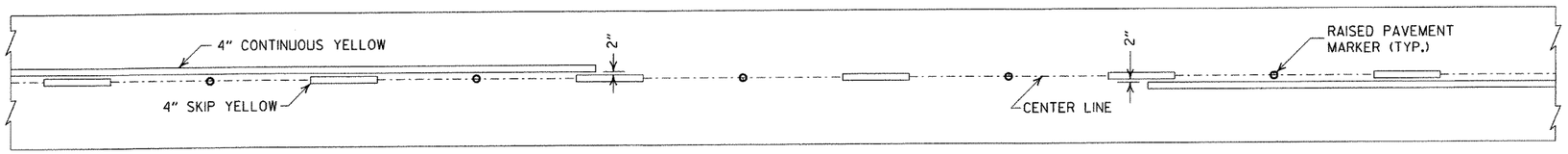


ASPHALT PAVEMENT

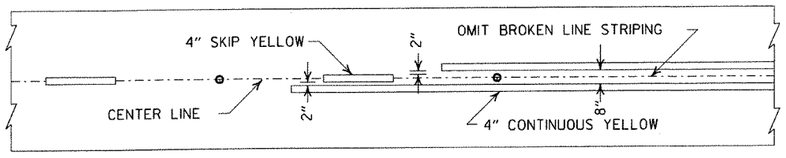
BROKEN LINE STRIPING



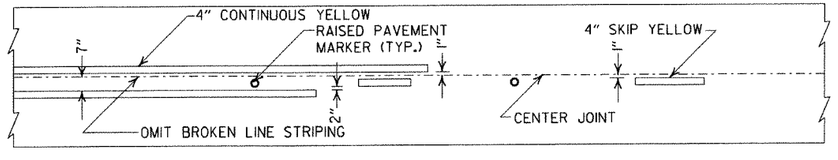
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



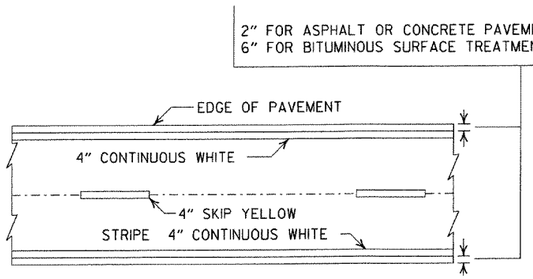
ASPHALT PAVEMENT



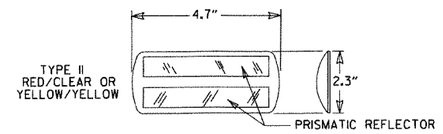
CONCRETE PAVEMENT

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

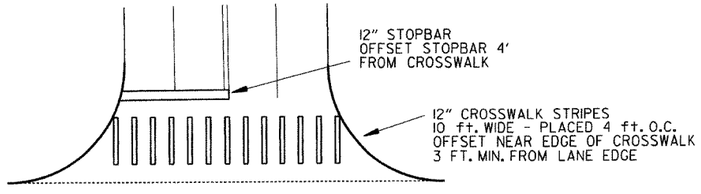
GENERAL NOTES:

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.

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

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

ARKANSAS STATE HIGHWAY COMMISSION

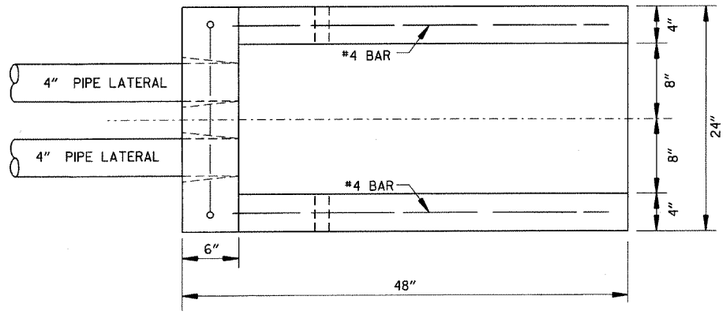
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

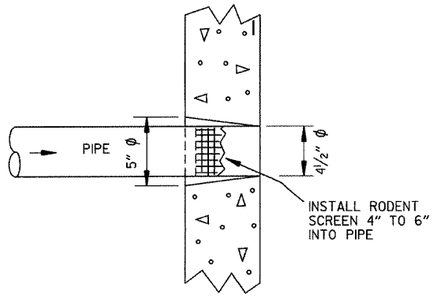
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

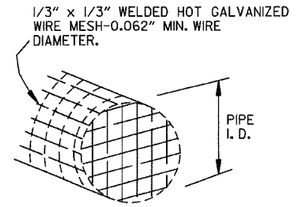
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



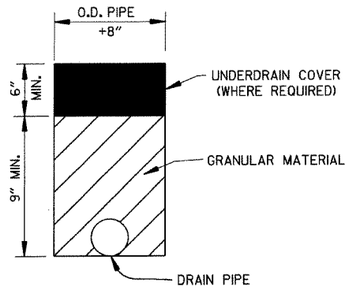
PLAN VIEW

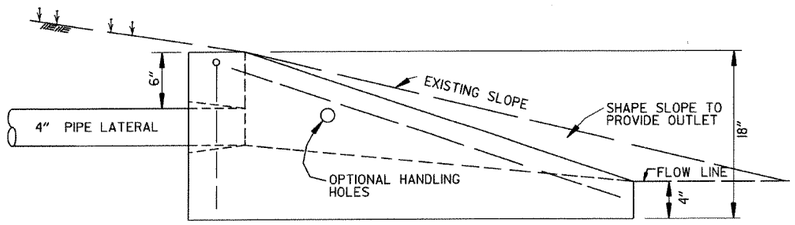


DETAIL OF HOLE FOR 4" PIPE

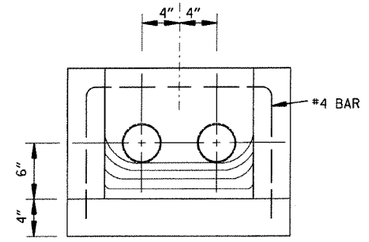


DETAIL OF RODENT SCREEN

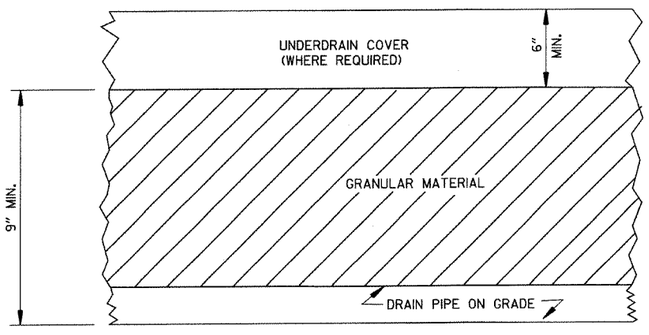




SIDE VIEW

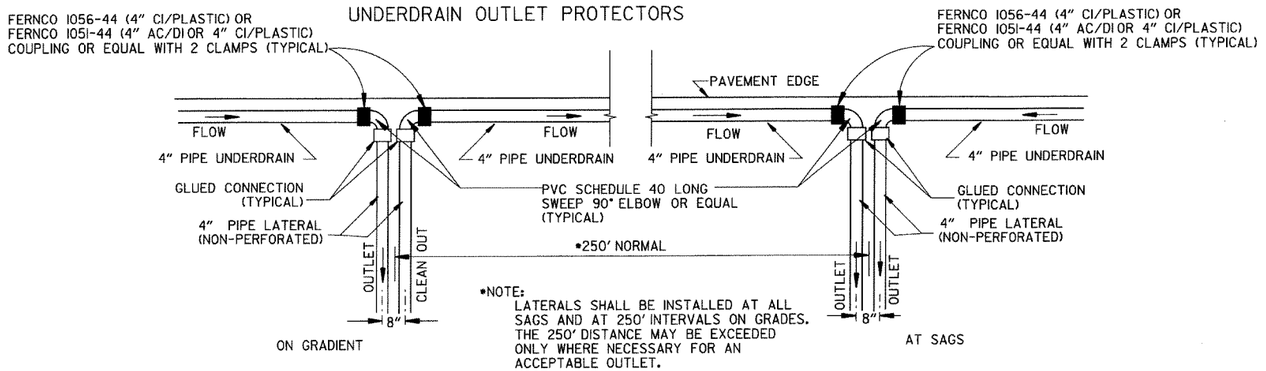


FRONT VIEW



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

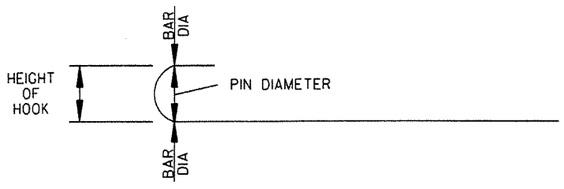
STANDARD DRAWING PU-1

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

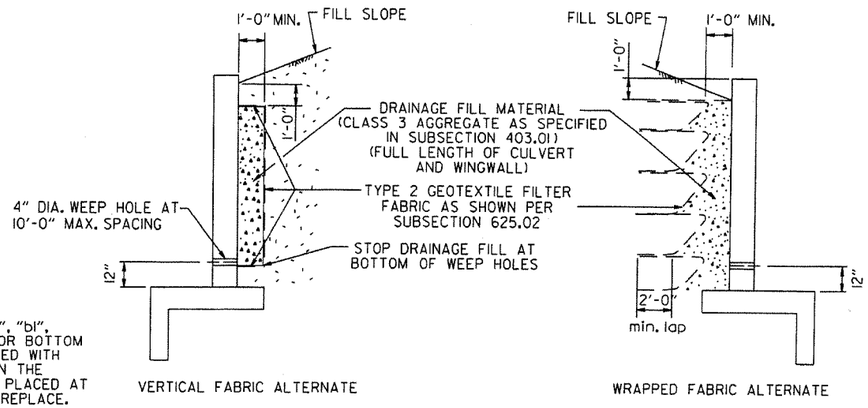
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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.

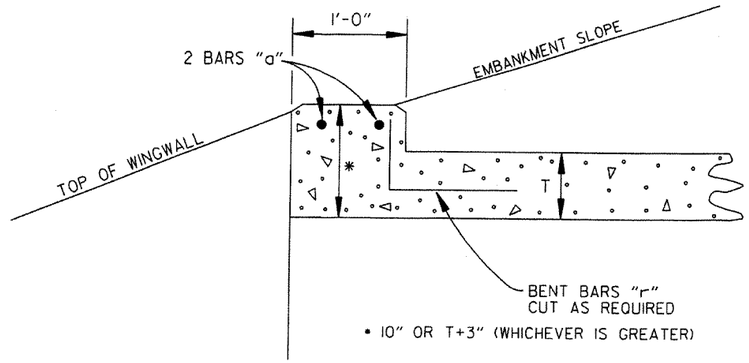
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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.

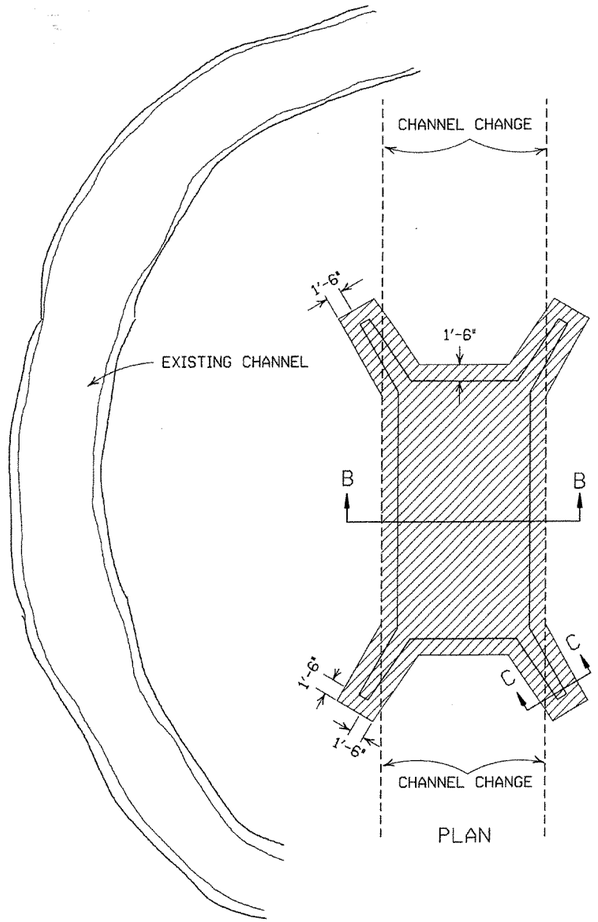
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

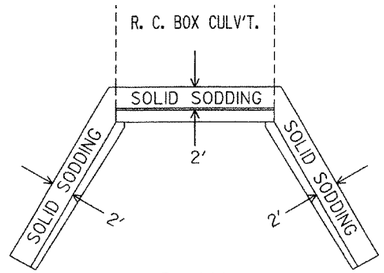
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

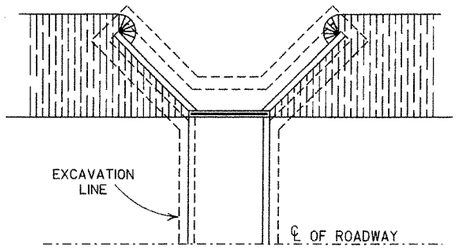
SOLID SODDING



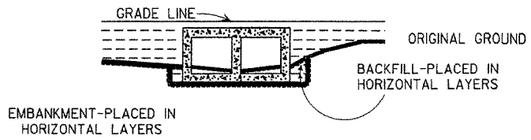
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

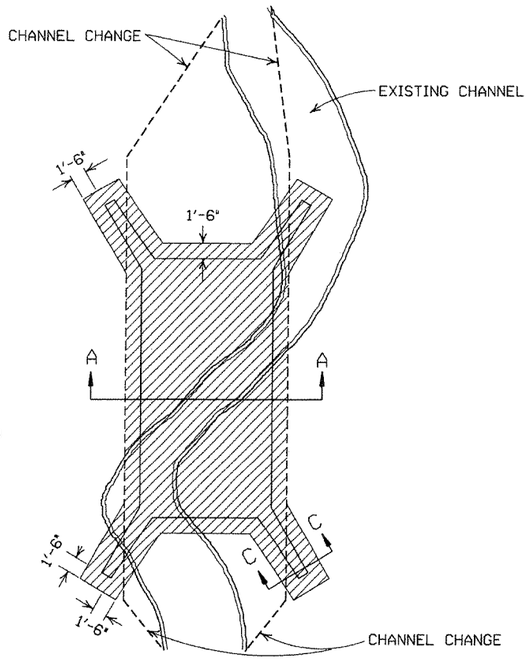


PLAN

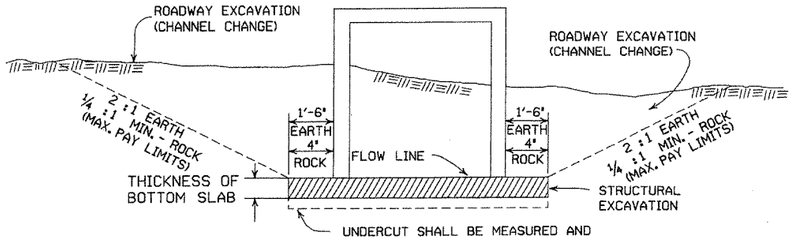


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

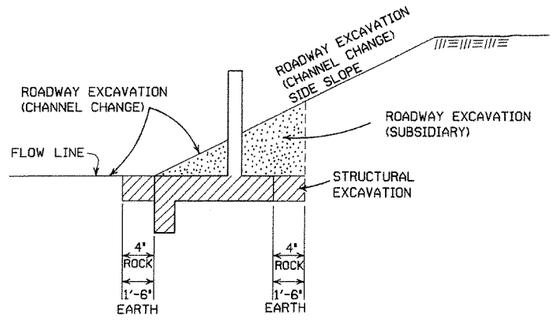


PLAN

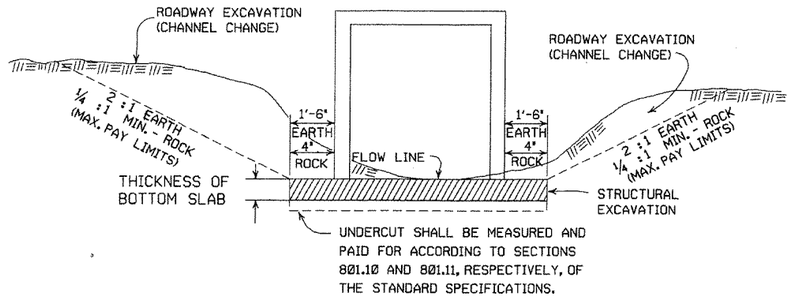


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

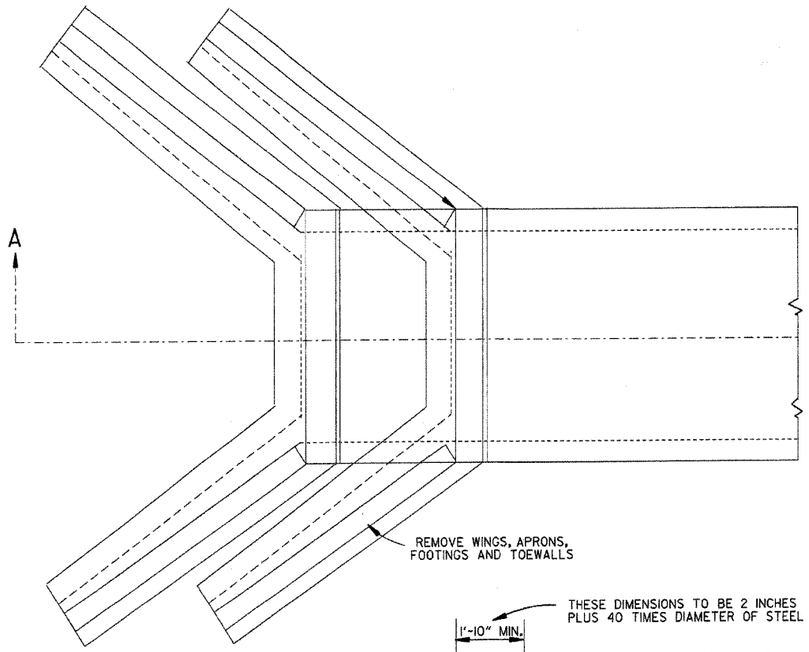
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 18918 AND 1888A	
1-4-83	REVISED GENERAL NOTES 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

ARKANSAS STATE HIGHWAY COMMISSION

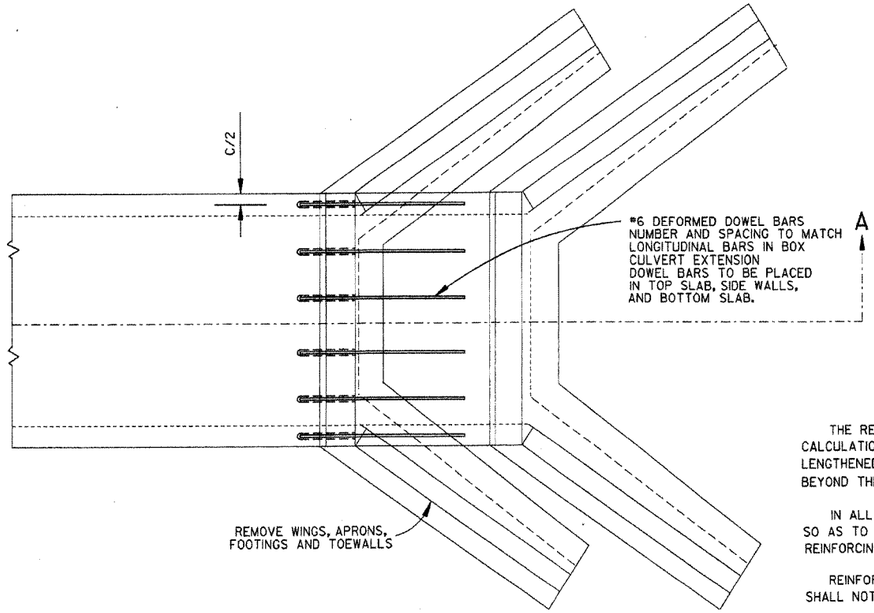
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

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

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS (2-4-2 CONFIGURATION) UNLESS OTHERWISE NOTED.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICE SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. DRAIN WIRE SHALL BE GROUNDED IN CABINET AND INSULATED AT LOOP TO FEEDER SPLICE.
3. THE LOOP TO FEEDER SPLICE, FEEDER JACKET AND JACKET OF LOOP WIRE IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. CONTRACTOR MAY MAKE CONNECTIONS TO SIGNAL CABLE AND LOOP TO FEEDER CONNECTION AT TERMINAL STRIPS MOUNTED TO POLE INSIDE HAND HOLD COVER AS SHOWN IN DETAIL. TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPARATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPARATE "FEEDER WIRE" UNLESS OTHERWISE NOTED. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE INCH (1"Ø) CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. WARRANTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE DETECTOR LOOP TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NOT MORE THAN 18" APART AND WEDGED INTO SLOT TO HOLD CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT BE ALLOWED WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED, CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MINIMUM OF TWO INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPARATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO CONTROLLER. CONTROLLER CABINET SHALL BE WIRED SUCH POWER TO LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

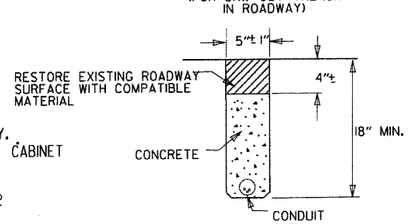
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPLICE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP

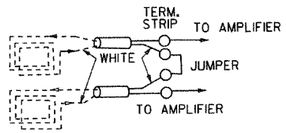
FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)

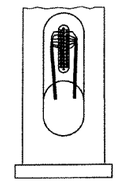


SERIES CONNECTED LOOPS

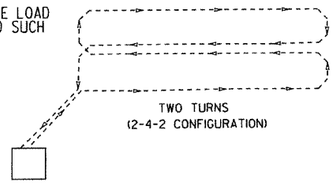


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

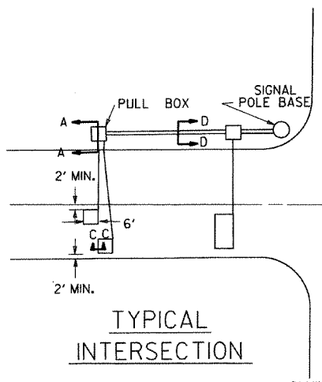
HANDHOLE TERMINAL



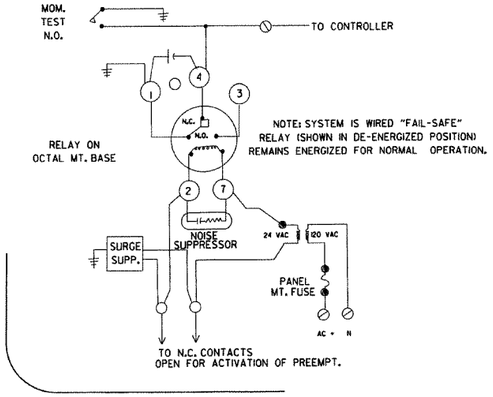
QUADRUPOLE LOOP

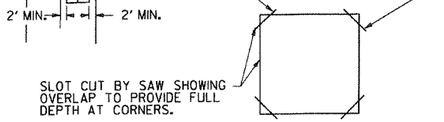


TYPICAL INTERSECTION

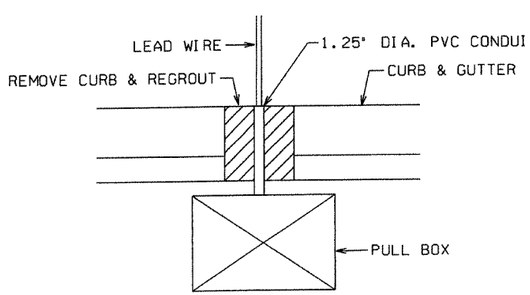


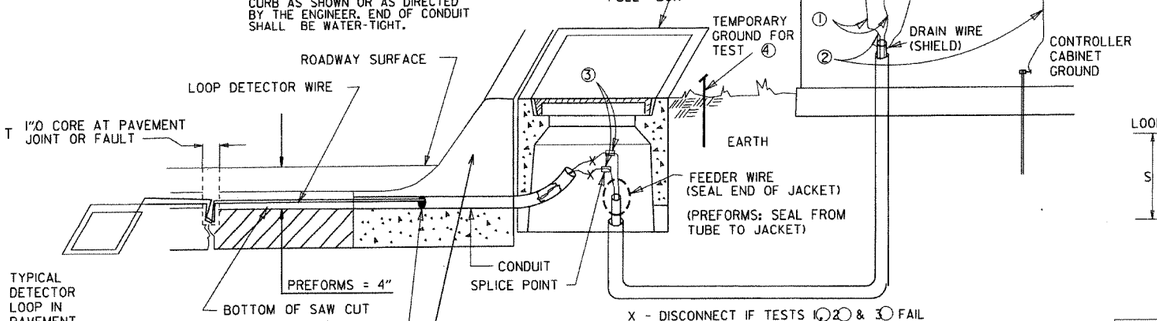
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM





(TYPICAL)





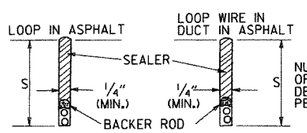
SECTION A-A

1'-6" CONCRETE COMBINATION CURB AND GUTTER

SPECIAL NOTE

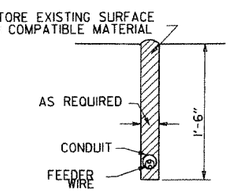
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SECTION C-C

S=2 ½" IN ASPHALT
S=1½" IN CONCRETE



SECTION D-D

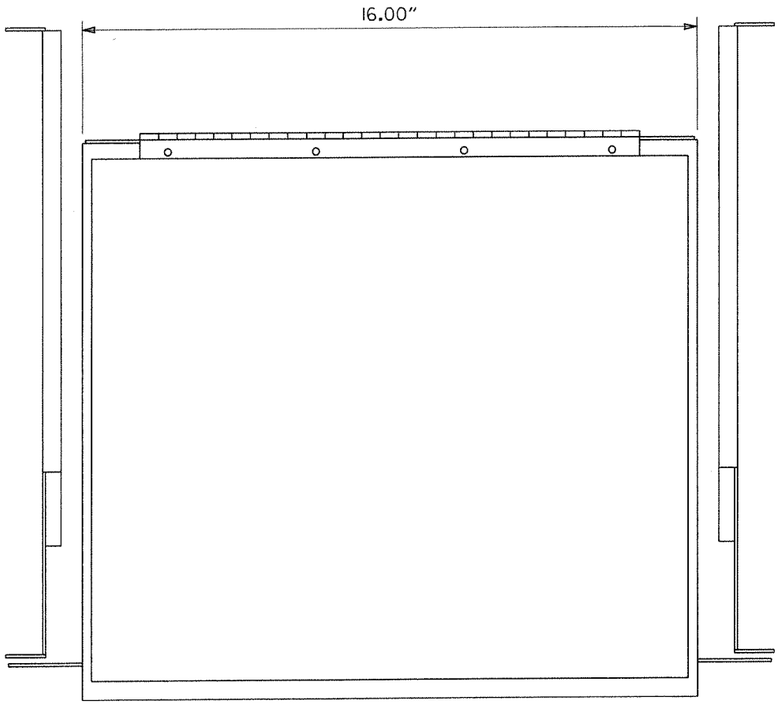
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
5-17-01	REVISED	
4-11-01	REVISED	
2-4-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

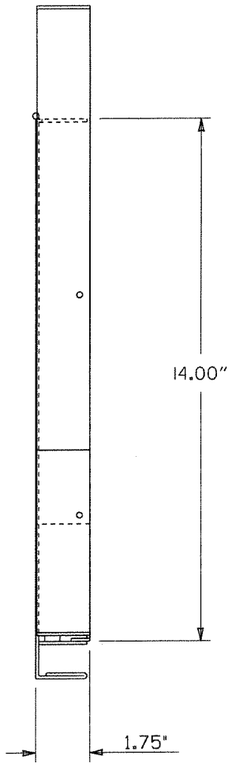
ARKANSAS STATE HIGHWAY COMMISSION

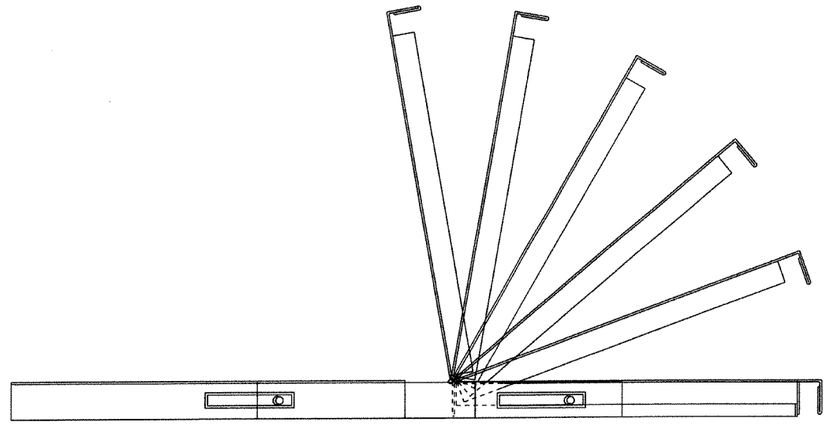
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

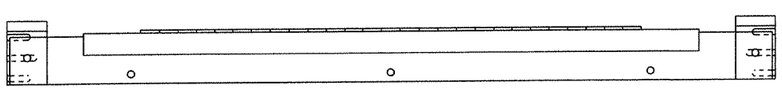
DRAWER PLAN VIEW



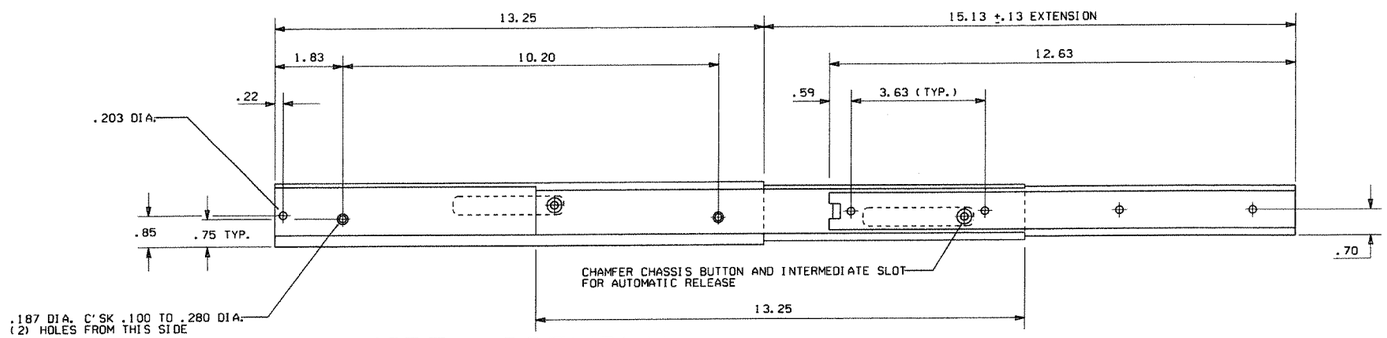




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

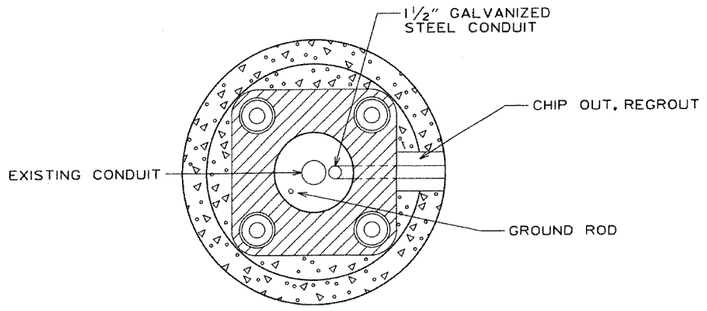
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

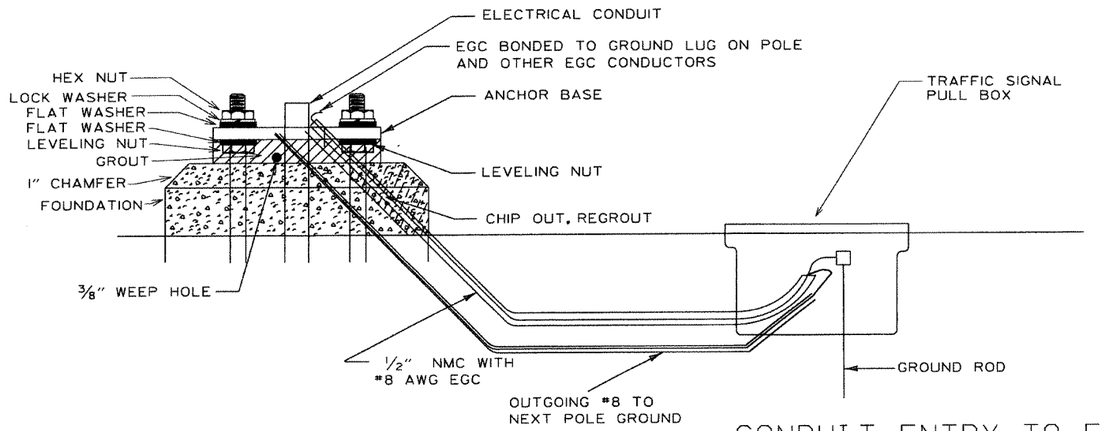
CONTROLLER CABINET
UTILITY DRAWER

STANDARD DRAWING SD-5

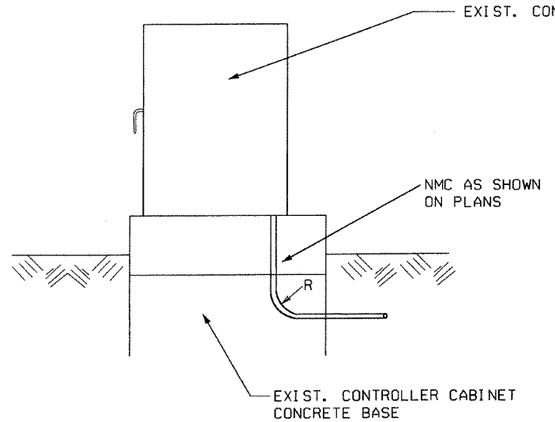
CONDUIT ENTRY TO EXISTING POLE BASE



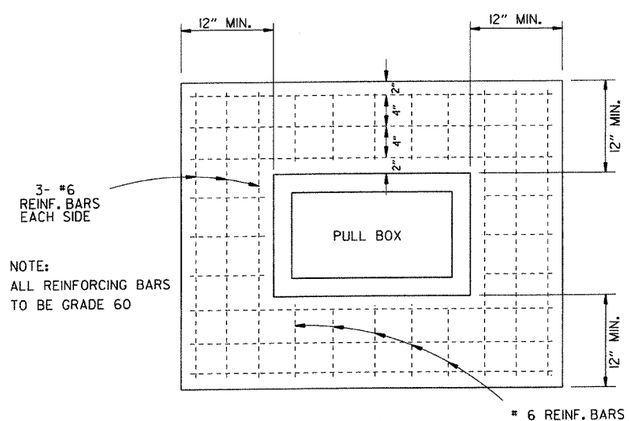
ANCHOR BASE



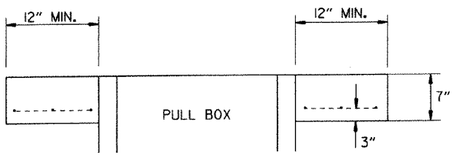
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



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

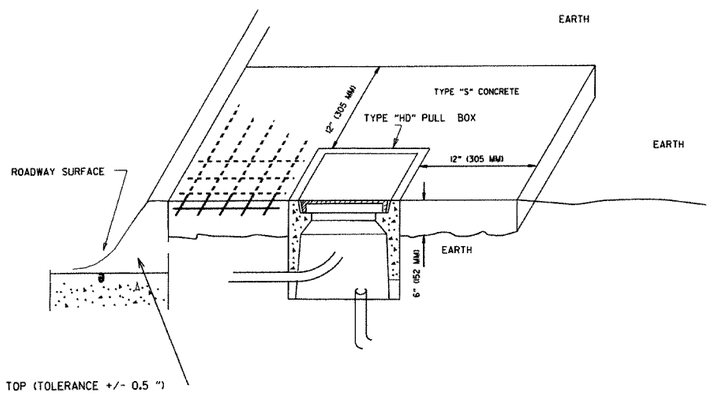


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



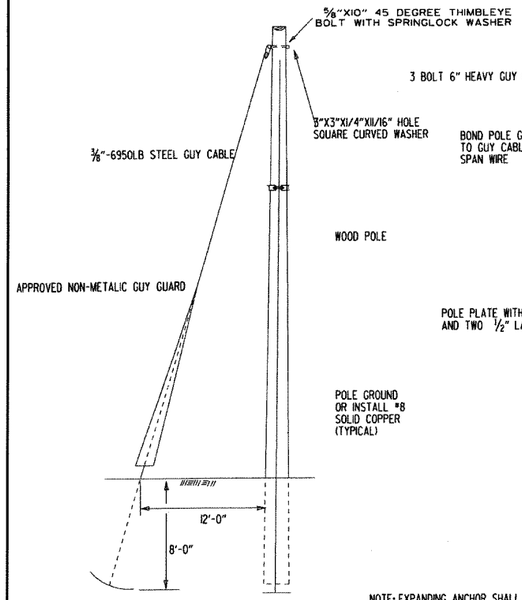
NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 6" (152 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE 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
9-12-13	ISSUED AS STANDARD DRAWING	
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	

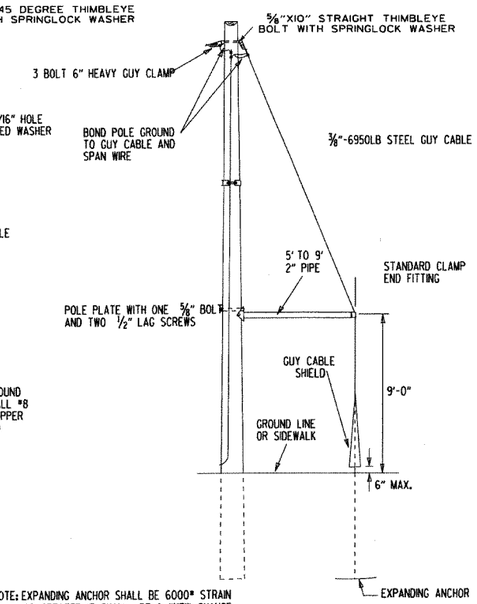
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



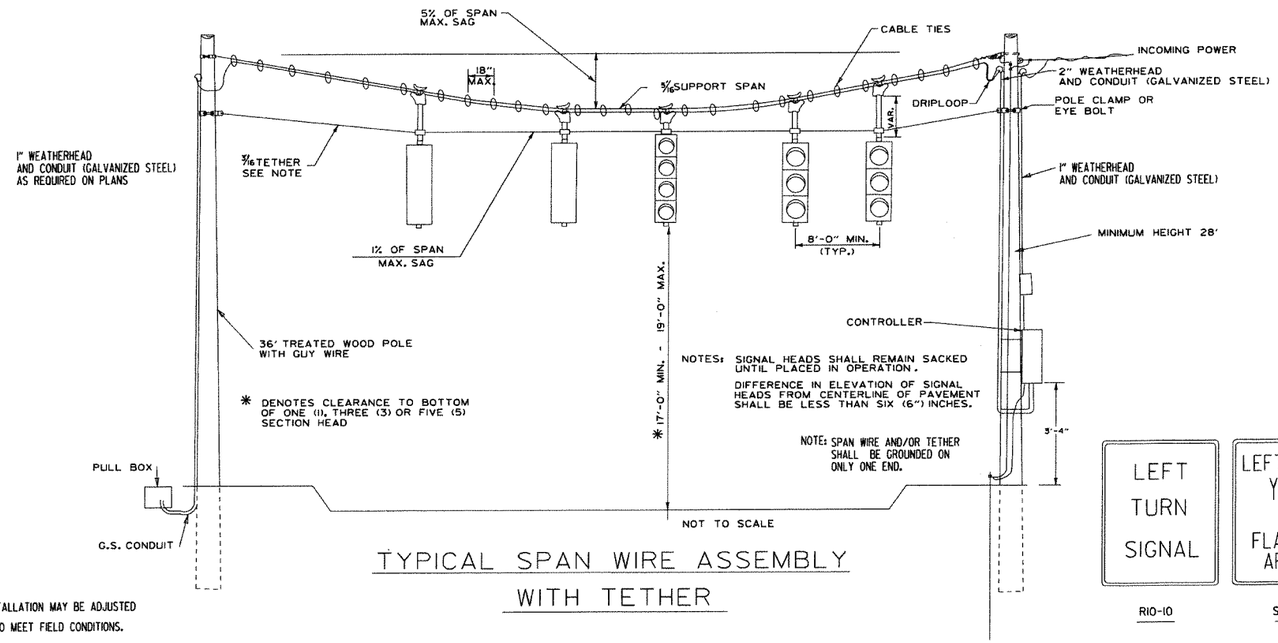
STANDARD GUY INSTALLATION



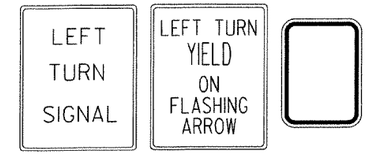
NOTE: EXPANDING ANCHOR SHALL BE 6000* STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE 8-WAY EXPANDING ANCHOR", WITH A ⅝" MINIMUM GUY ROD.

SIDEWALK GUY INSTALLATION

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



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER



R10-10

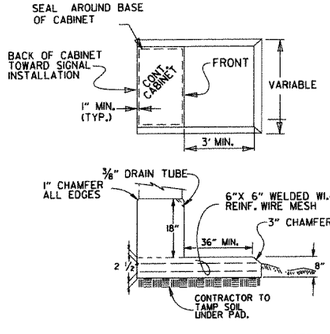
SPECIAL

R10-3E (SEE MUTCD)

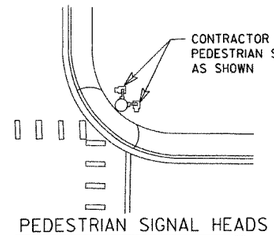
NOTES: SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF 4' BEHIND CURB OR SHOULDER.

SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS. CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

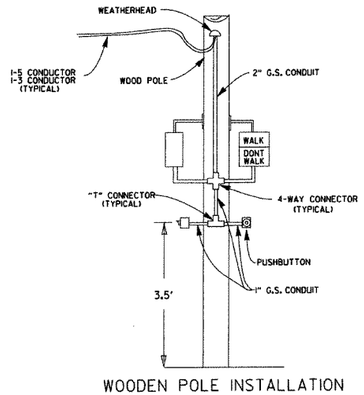
THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE GROUND ROD WITH A #8 AWG SOLID COPPER WIRE. ON EXISTING INSTALLATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X ⅝" COPPERWELD GROUND ROD.



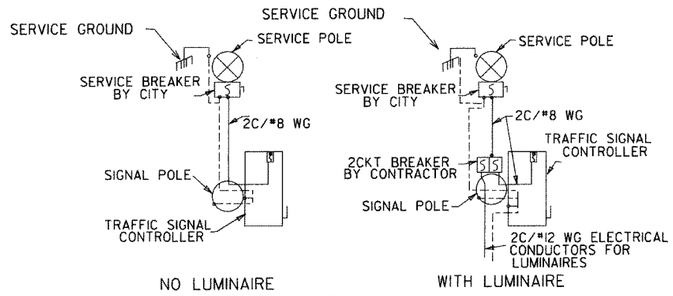
CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



WOODEN POLE INSTALLATION OF PED HEADS



NO LUMINAIRE — WITH LUMINAIRE

SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

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

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., 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.

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.

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.

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 ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

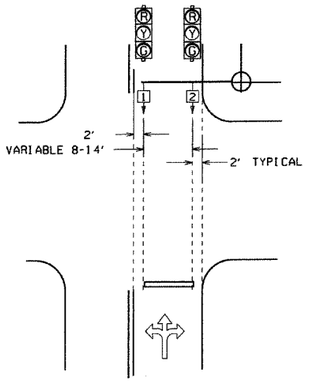
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
7-21-11	REVISED PED SIGN, CABINET GROUNDING	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENT. & SIGNAL OPER.	
5-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

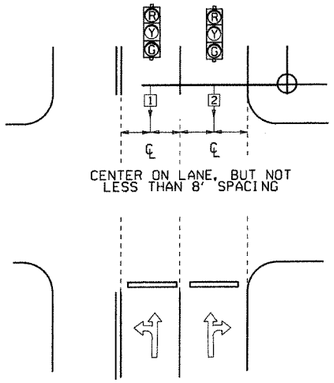
SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

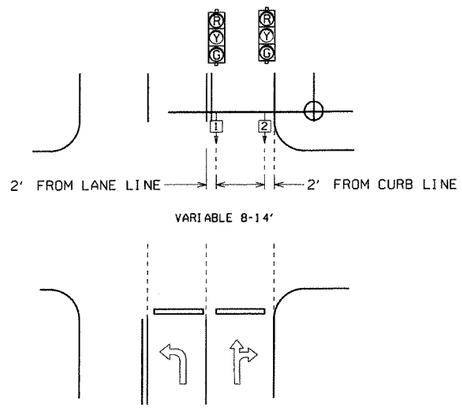
(A)



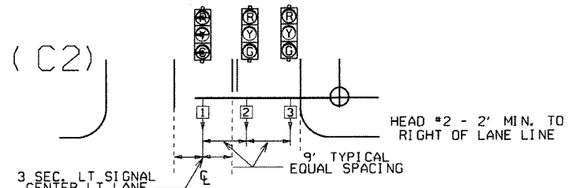
(B)



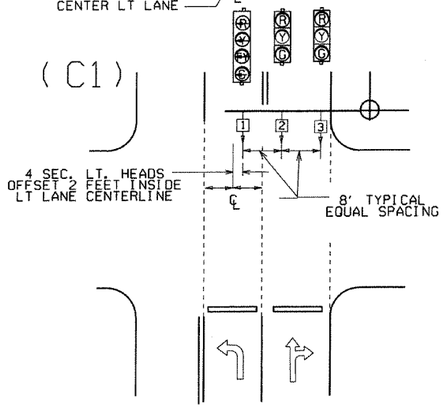
(C)



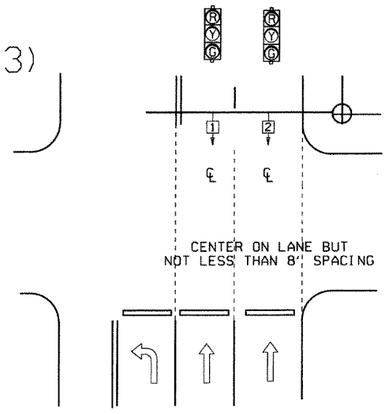
(C2)



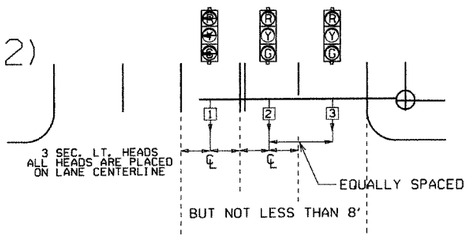
(C1)



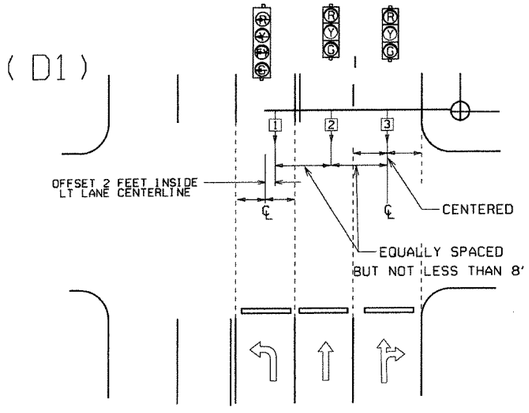
(C3)



(D2)

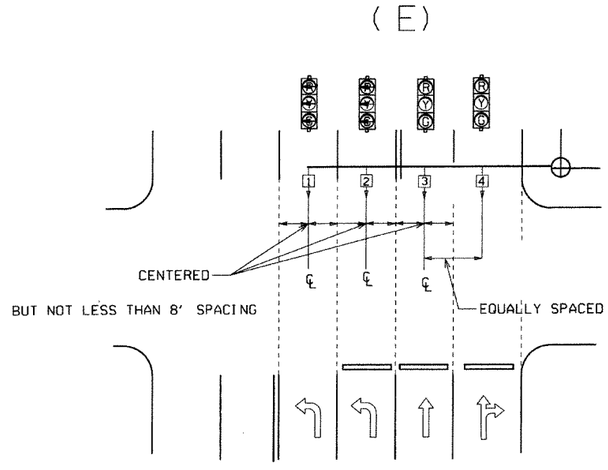


(D1)



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
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

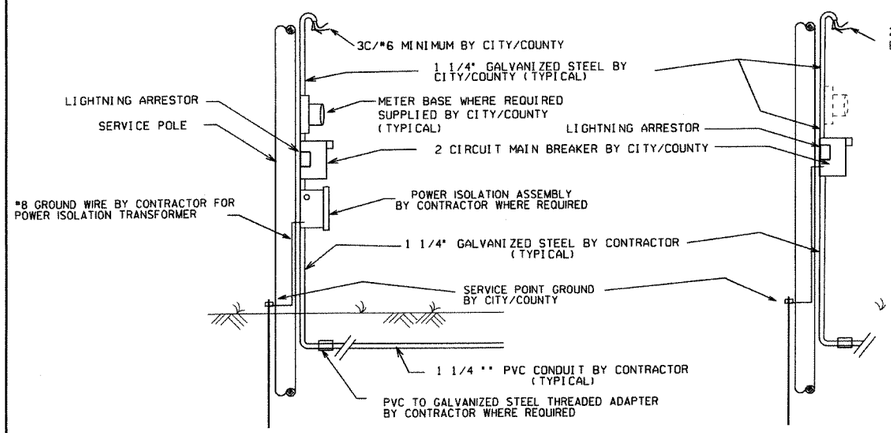
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

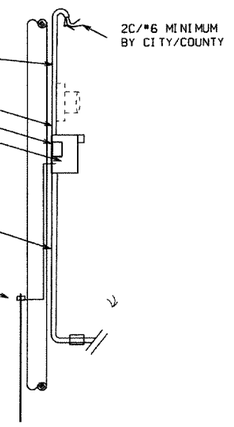
STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY

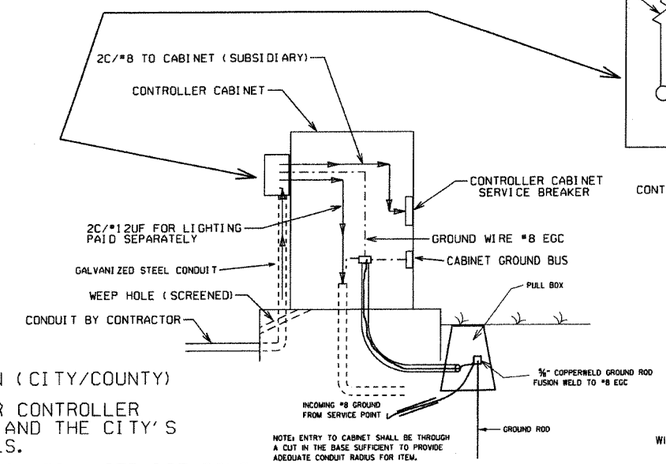


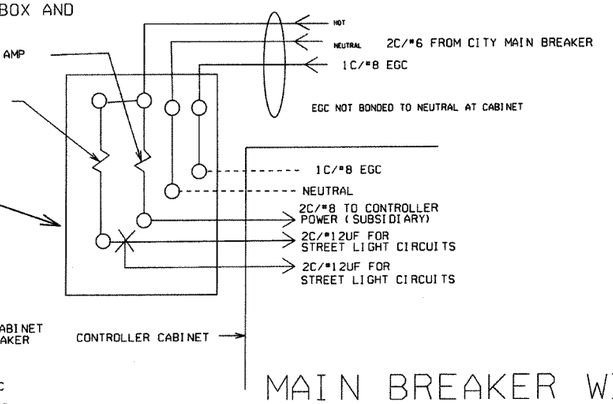
WITHOUT POWER ISOLATION ASSEMBLY



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)

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, LIGHTNING ARRESTOR, 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.

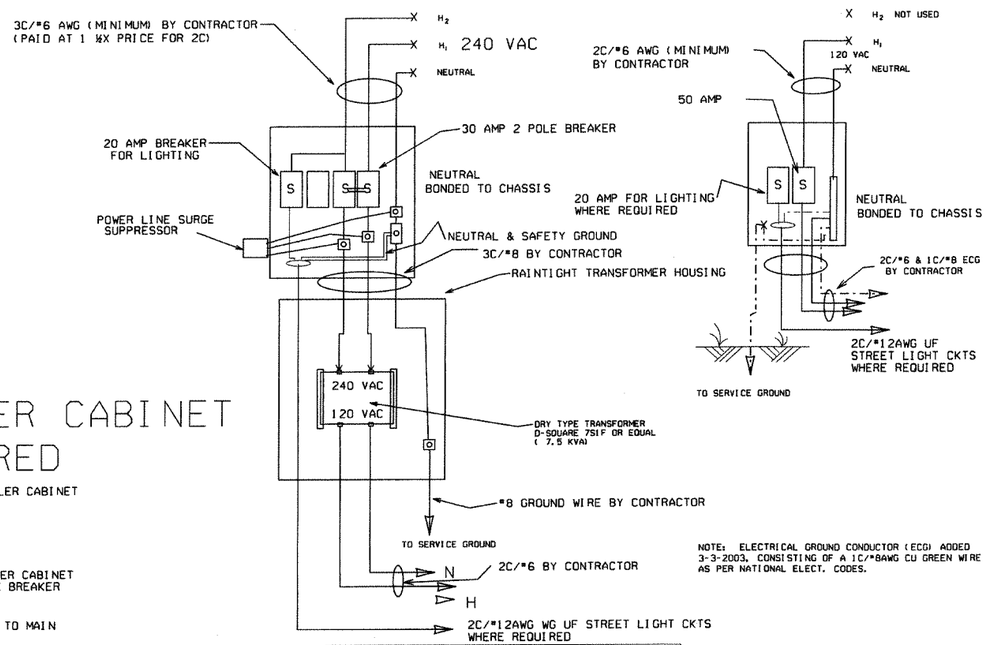
2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN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

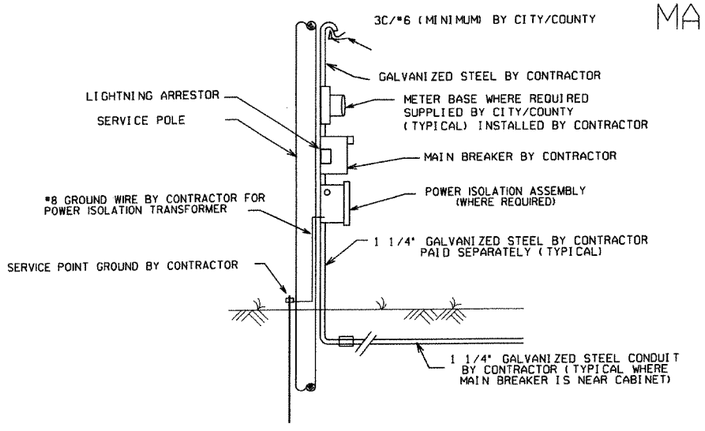
WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

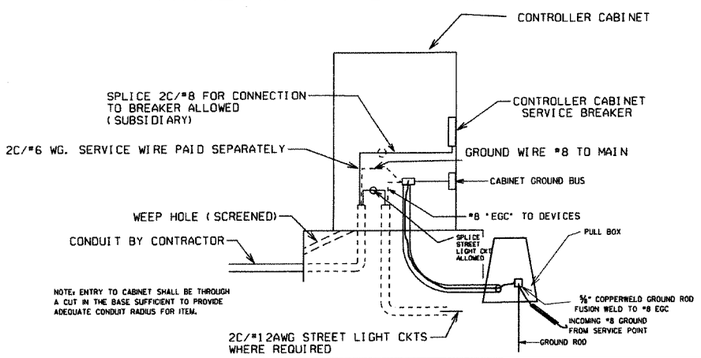
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (EGG) 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
9-12-13	ISSUED AS STANDARD DRAWING	
4-18-13	ADDED LIGHTNING ARRESTOR	
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

SERVICE POINT

STANDARD DRAWING SD-9

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.

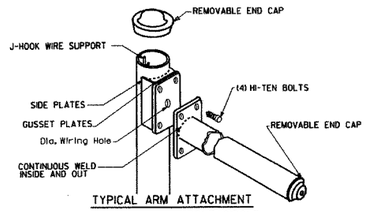
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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).

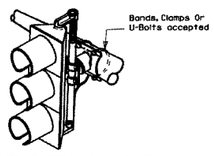
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

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.

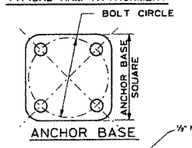
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



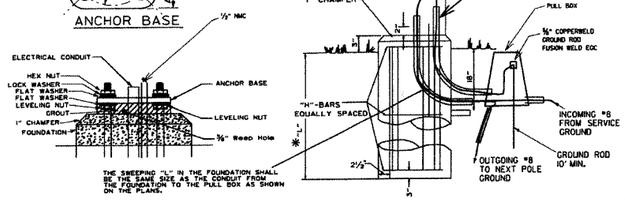
TYPICAL ARM ATTACHMENT



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



ANCHOR BASE

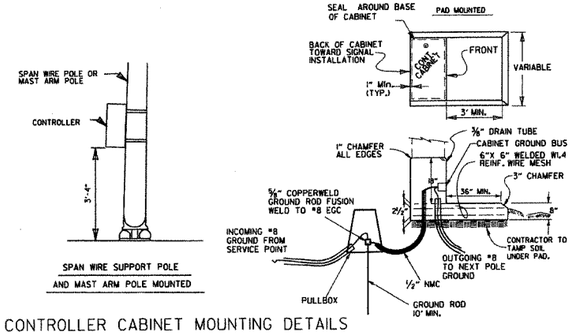


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

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.

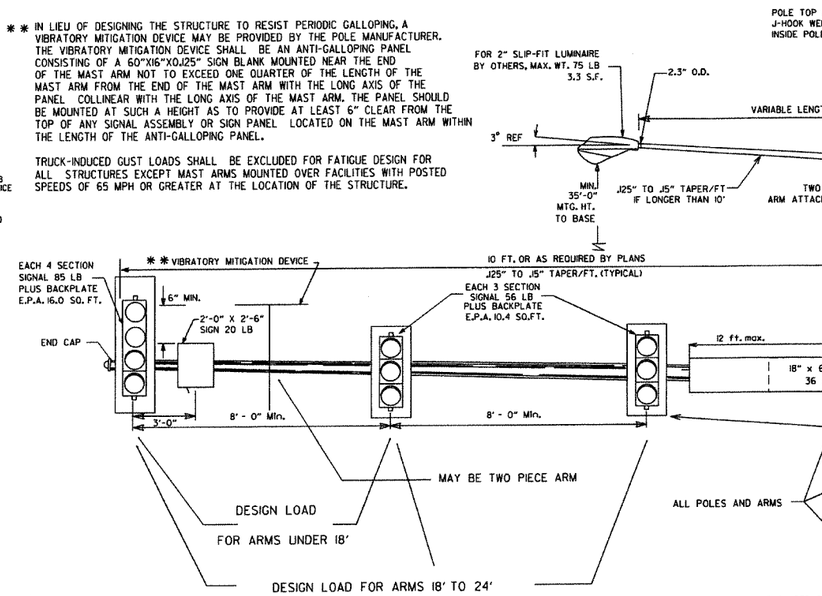
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD, AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS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

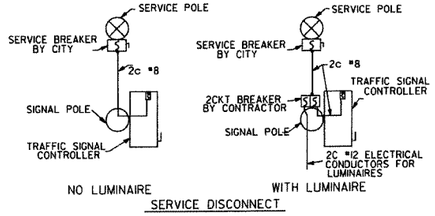
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

* 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.

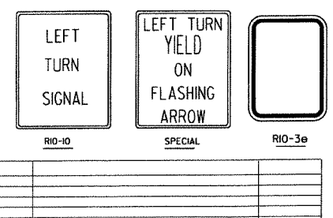
** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE 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.

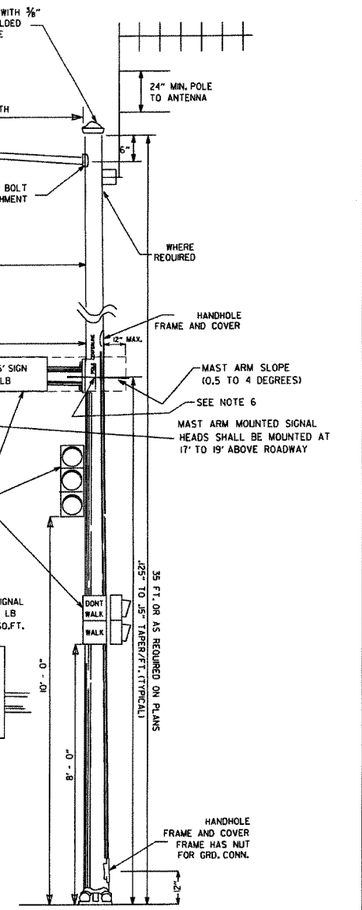
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

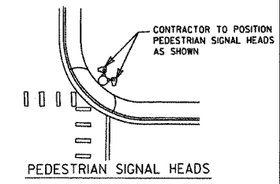




SERVICE DISCONNECT







PEDESTRIAN SIGNAL HEADS

DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
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	
5-13-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-6-01	REV. NOTES & POLE MAST ARM SLOPE	
4-8-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
1-26-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

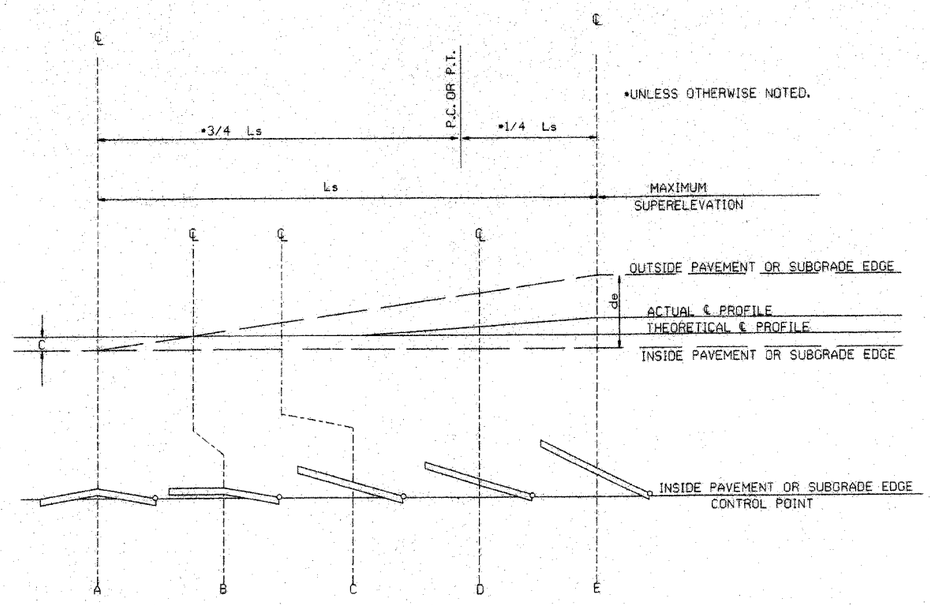
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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.			0.023			0.028		
0° 45′	N.C.			N.C.			R.C.			0.022			0.030			0.037	275	300
1° 00′	N.C.			N.C.			0.021			0.026			0.037	250	300	0.046		
1° 15′	N.C.			R.C.			0.026			0.032			0.043			0.054		
1° 30′	N.C.			0.021			0.031	200		0.037	225	300	0.049			0.062		
1° 45′	N.C.			0.025	175		0.036			0.043			0.055			0.070		
2° 00′	R.C.			0.028			0.040			0.048			0.061			0.078	300	350
2° 15′	R.C.			0.031			0.045			0.053			0.067			0.085	315	
2° 30′	0.021			0.034			0.049			0.058			0.072			0.091	335	
2° 45′	0.023			0.037			0.053			0.063			0.077	260		0.096	350	400
3° 00′	0.025			0.040			0.057			0.067	230		0.082	275		0.098	360	
3° 15′	0.027			0.043			0.061			0.072	245		0.086	285		0.100	360	
3° 30′	0.029			0.046			0.065	205		0.076	255		0.090	295	350			
3° 45′	0.031			0.049			0.069	215		0.080	265		0.093	305				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.096	315				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.098	320				
5° 00′	0.040			0.061			0.083	250		0.091	295							
5° 30′	0.043			0.066	185		0.088	260		0.094	300	350						
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.

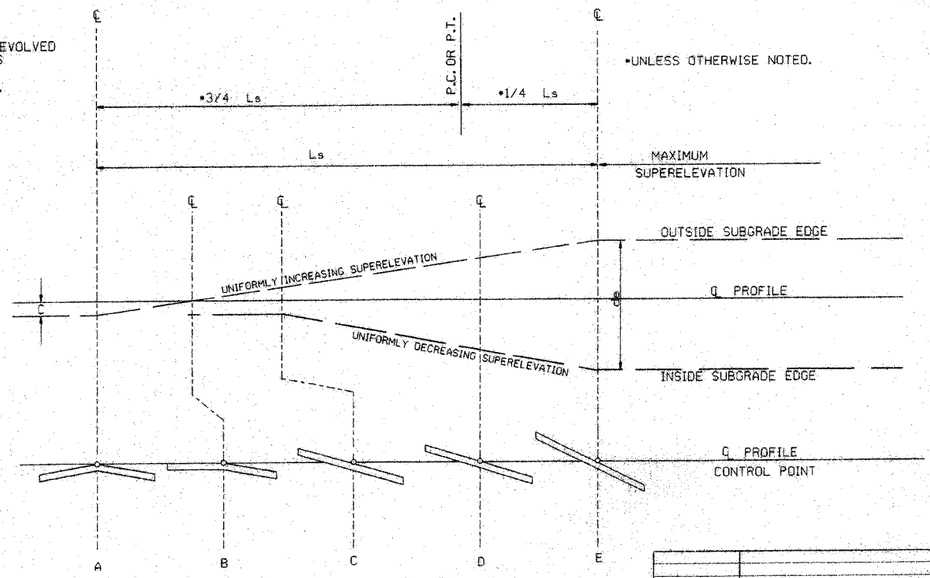
GENERAL NOTES

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 = $\frac{Lde}{Ls}$

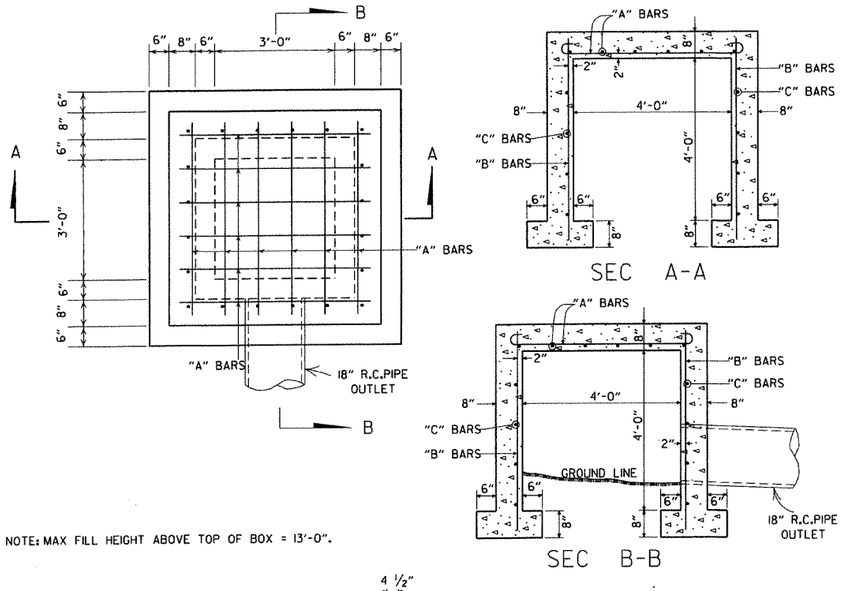
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

FILE STDSE2.DGN

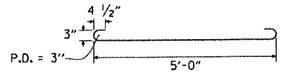


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



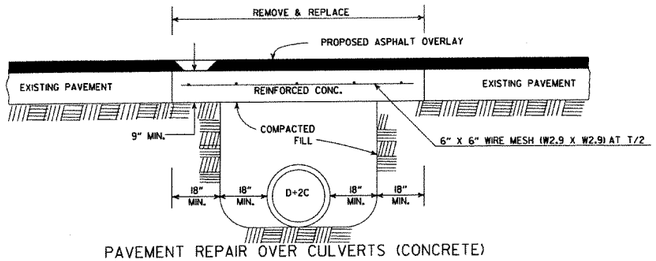
"A" BARS

QUANTITIES

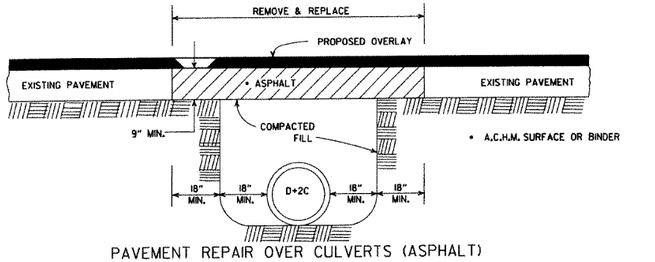
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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



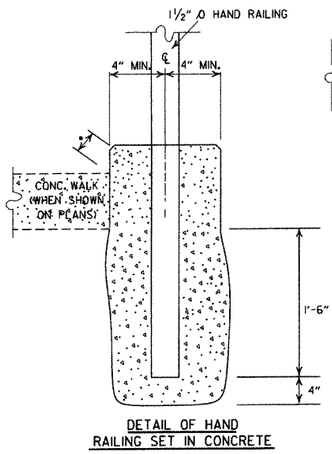
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



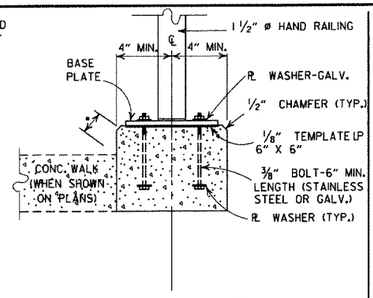
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

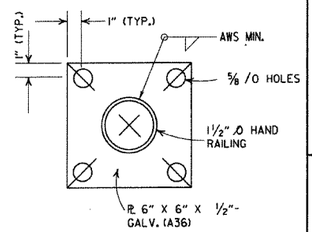
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

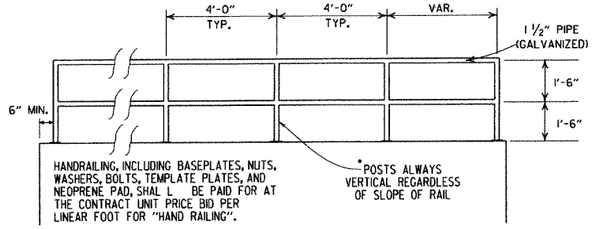


POST CONNECTION TO WALL

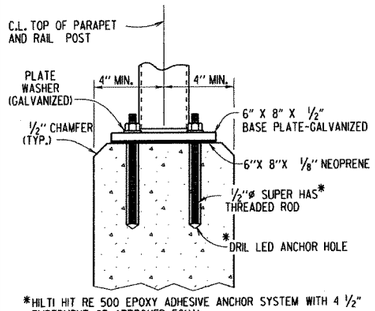


BASE PLATE

POST CONNECTION DETAILS



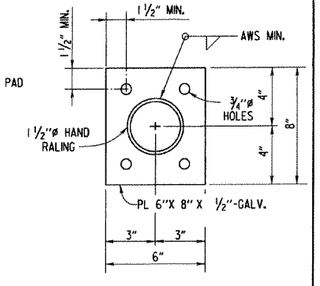
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

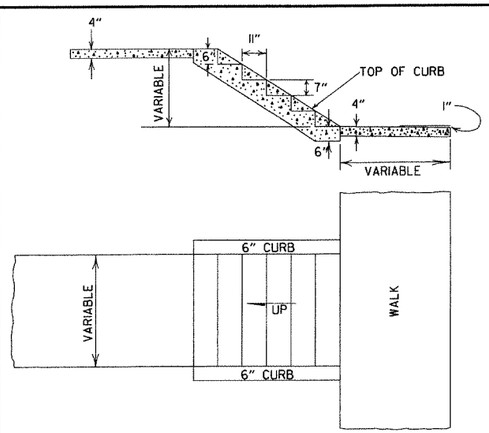
POST CONNECTION TO WALL



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.

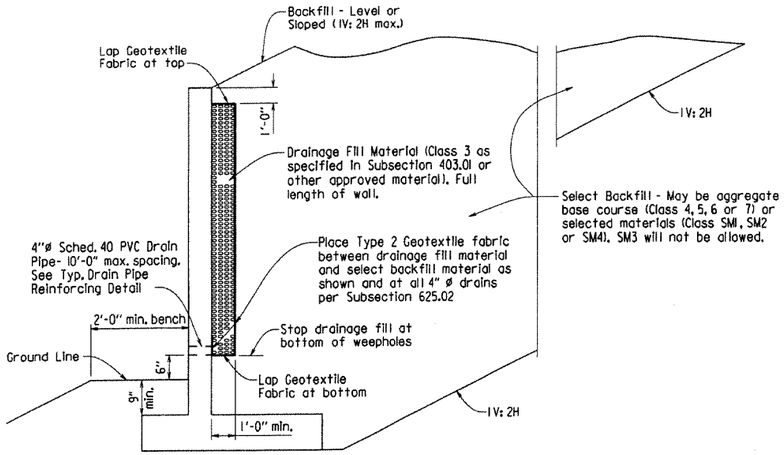
DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
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	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET. & PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

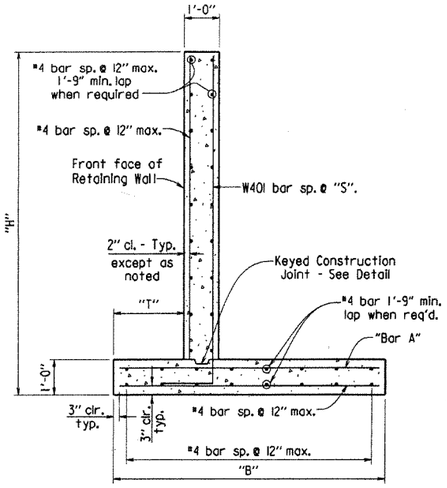
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1



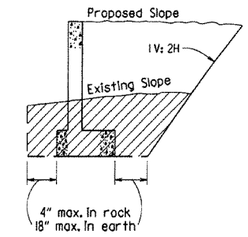
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S

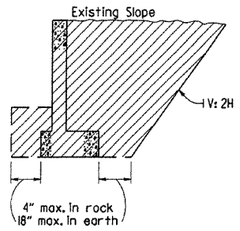


TYPICAL SECTION

N.T.S



In Embankment



In Excavation

NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted.

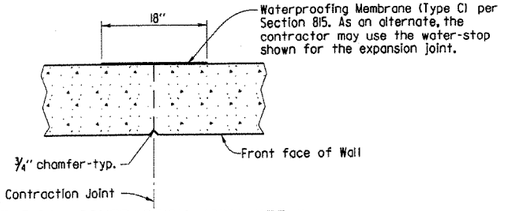
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

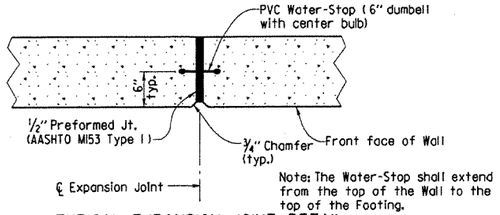
These details are not intended for use along streams or ditches without consideration for scour.



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.

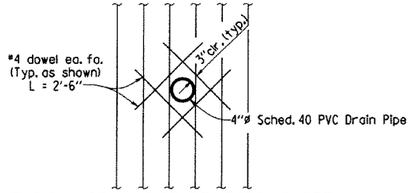


Note: The Water-Stop shall extend from the top of the Wall to the top of the Footing.

TYPICAL EXPANSION JOINT DETAIL

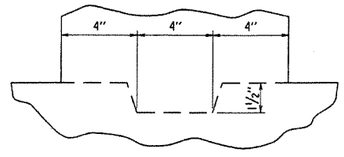
N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



KEYED CONSTRUCTION JOINT DETAIL

N.T.S

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - $A_S \leq .40g$
Sloped Backfill (1V: 2H max.) - $A_S \leq .30g$

TABLE OF RETAINING WALL VARIABLES (LEVEL BACKFILL)

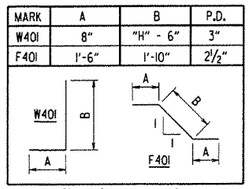
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

TABLE OF RETAINING WALL VARIABLES (SLOPED BACKFILL) (1V: 2H MAX.)

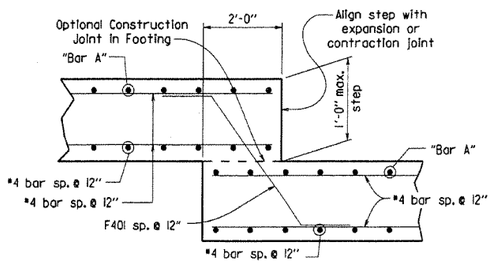
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

BENDING DIAGRAMS

MARK	A	B	P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



FOOTING STEP DETAIL

N.T.S.

DATE	REVISION	DATE FILMED
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

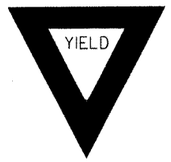
STANDARD DRAWING SI - 2

R1-1



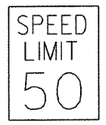
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



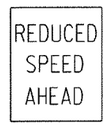
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



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

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



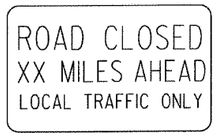
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



48"X30"

RII-3A



60"X30"

RII-4



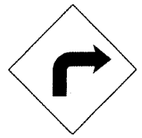
60"X30"

RSP-1



48"X30"

WI-1



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

WI-2



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

WI-3



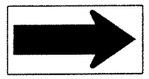
STD. 48"X48"

WI-4



STD. 48"X48"

WI-6



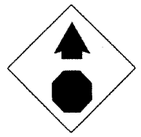
STD. 48"X24"
SPECIAL 60"X30"

WI-8



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

W3-1



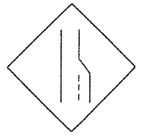
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



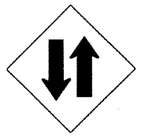
STD. 36"X36"
FWY. 48"X48"

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



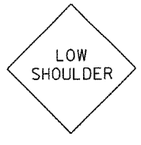
STD. 18"X18"

W8-11



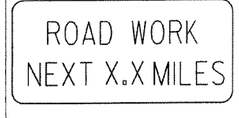
STD. 36"X36"
FWY. 48"X48"

W8-9



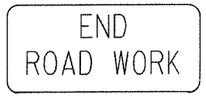
STD. 36"X36"
FWY. 48"X48"

G20-1



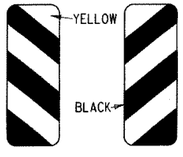
60"X24"

G20-2



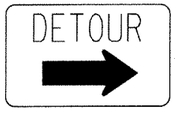
48"X24"

OM-3L OM-3R



12"X36"

M4-9



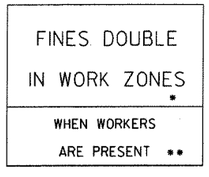
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

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.

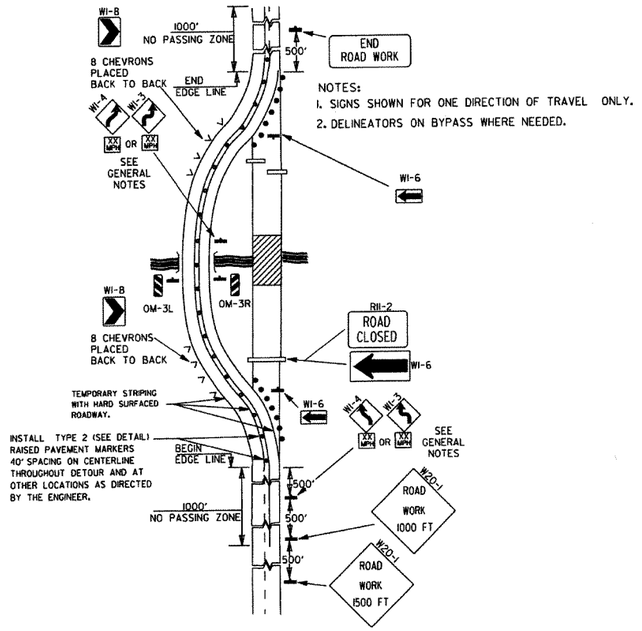
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

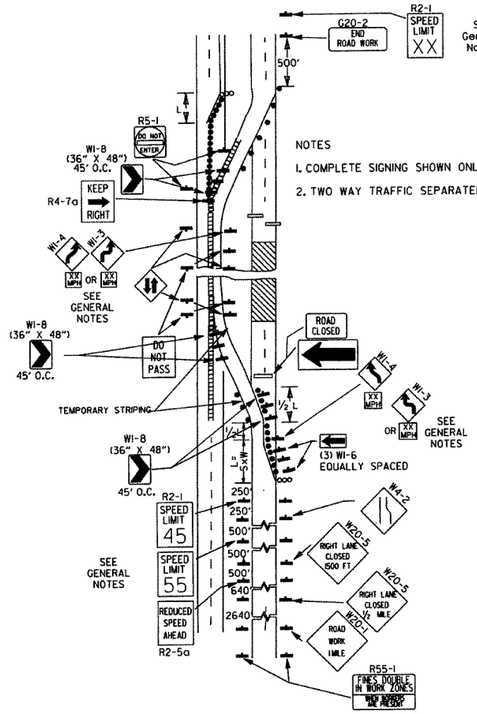
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



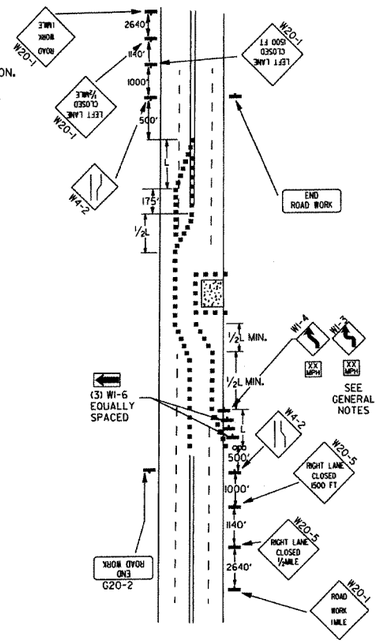
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

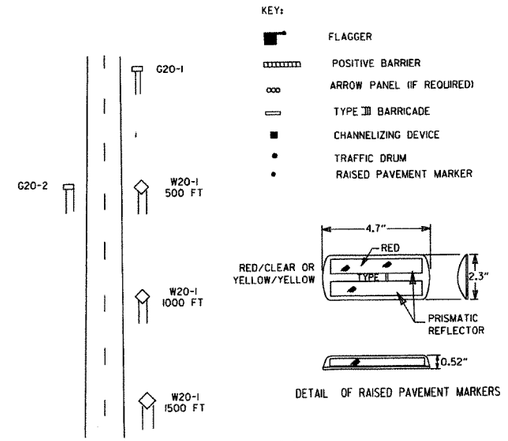


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

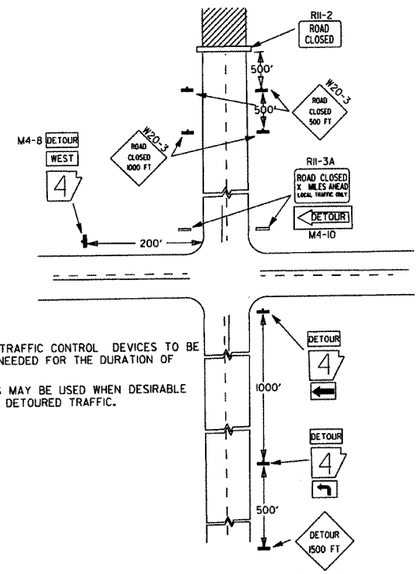
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



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

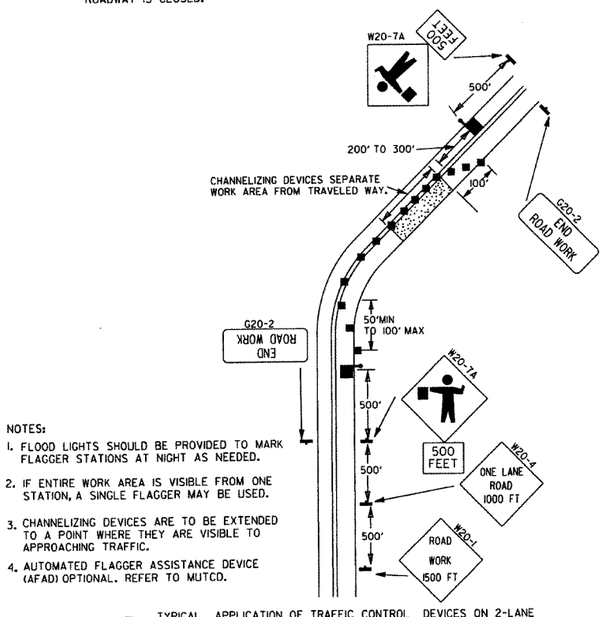


TYPICAL ADVANCE WARNING SIGN PLACEMENT



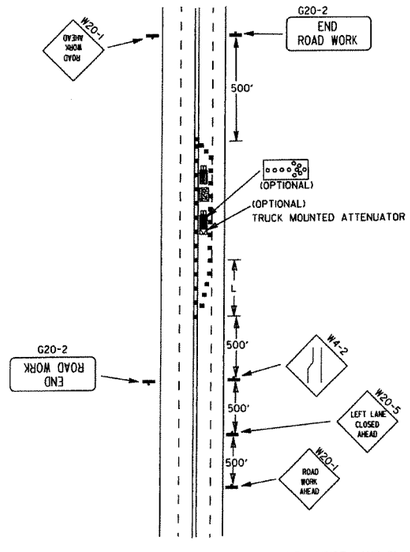
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

GENERAL NOTES:

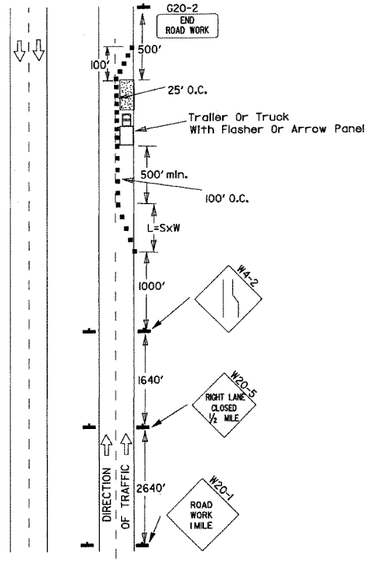
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

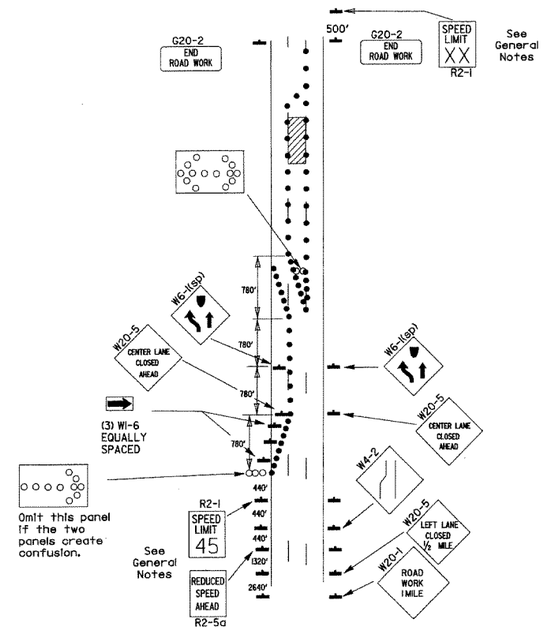
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

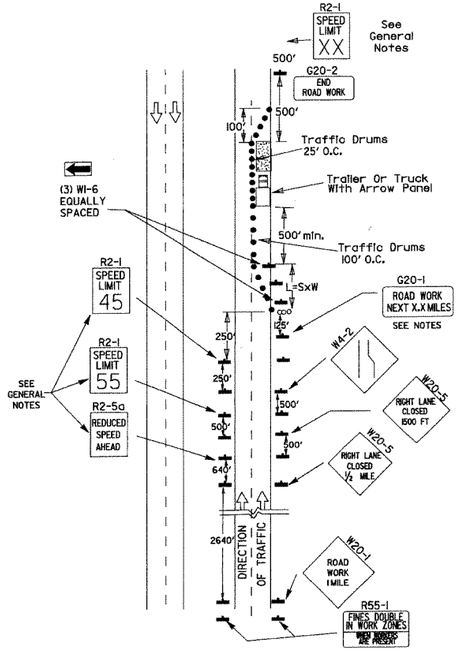
STANDARD DRAWING TC-2



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



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



(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)

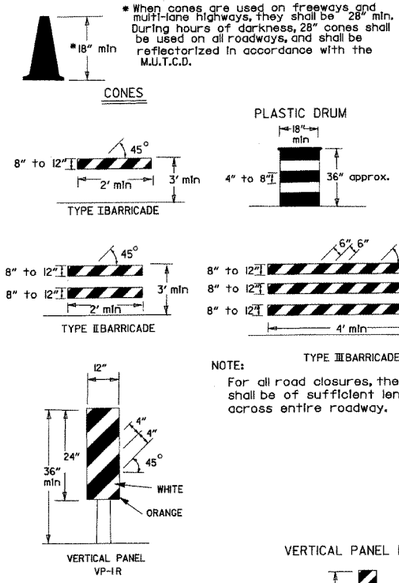
■ Channelizing Device

● 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 1mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of 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



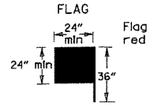
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

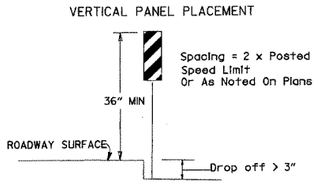
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical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

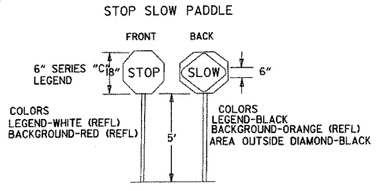
* When shown on the plans concrete barrier will be used.

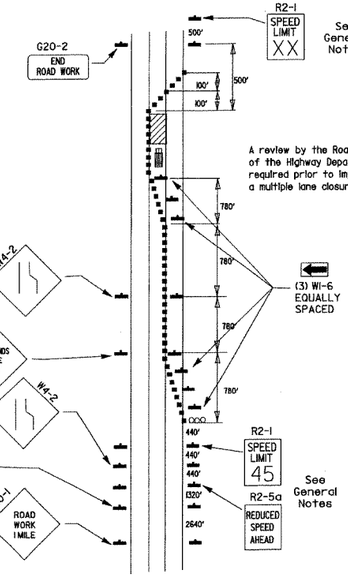
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



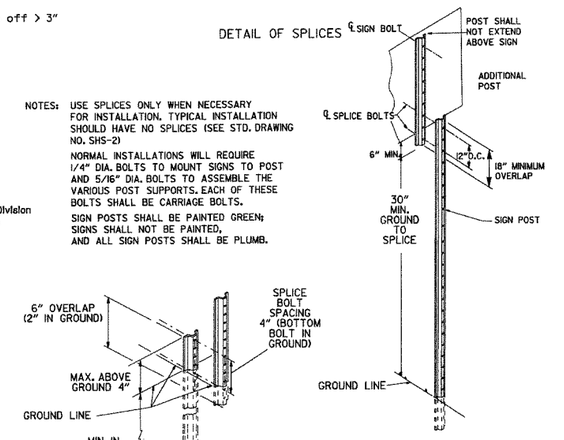
Flag shall be of good grade red material







(D) Typical application - closing multiple lanes of a multilane highway.



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	

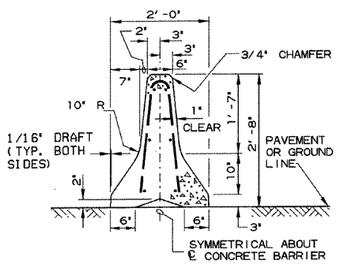
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

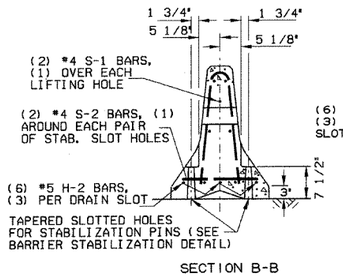
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

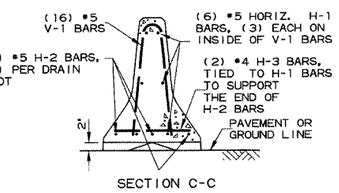
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 1/2", 9", 2'-1 3/8", 4 3/8"



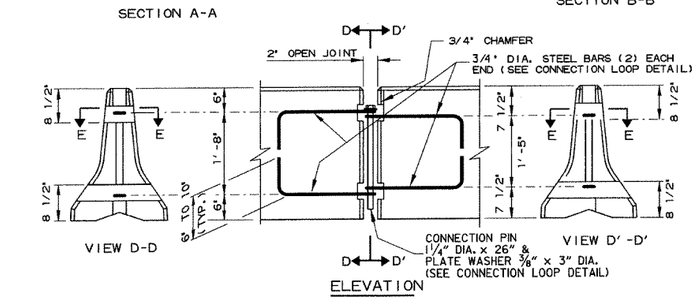
SECTION A-A



SECTION B-B



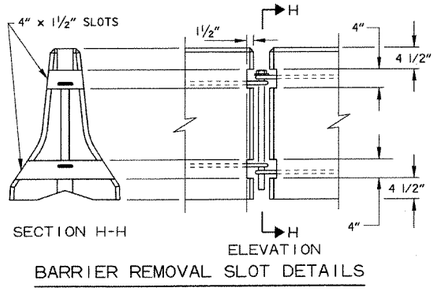
SECTION C-C



VIEW D-D

VIEW D'-D'

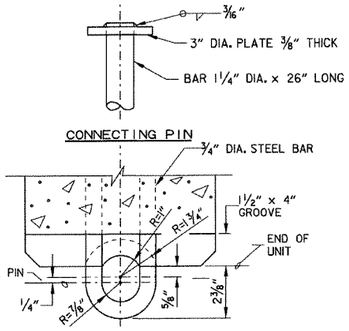
ELEVATION



SECTION H-H

ELEVATION

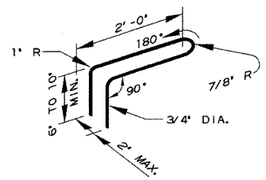
BARRIER REMOVAL SLOT DETAILS



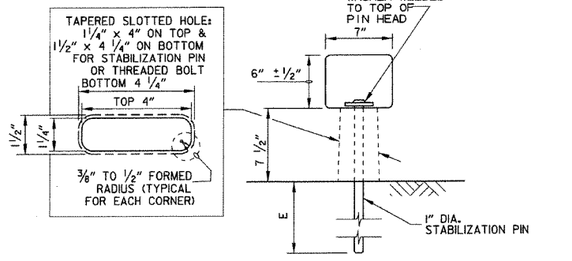
CONNECTING PIN

SECTION E-E

CONNECTION DETAILS



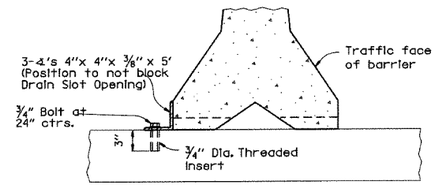
CONNECTION LOOP



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

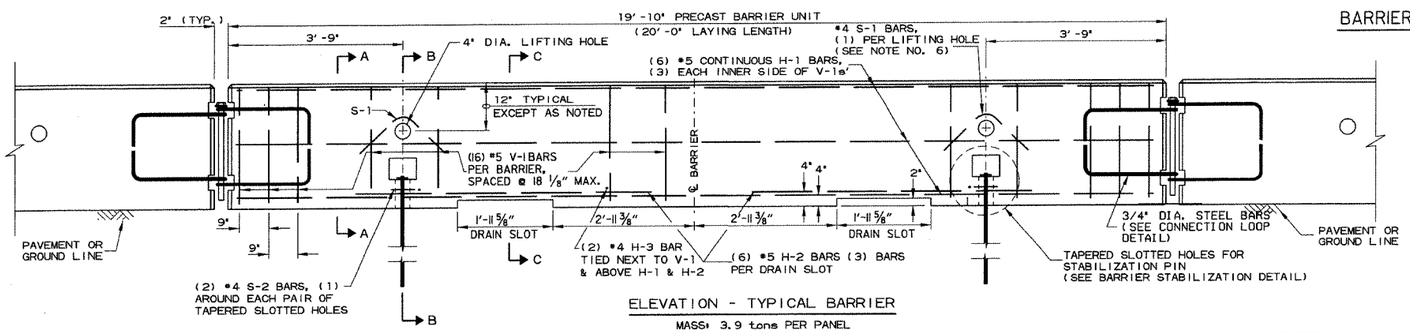
Ⓔ 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: ¾" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

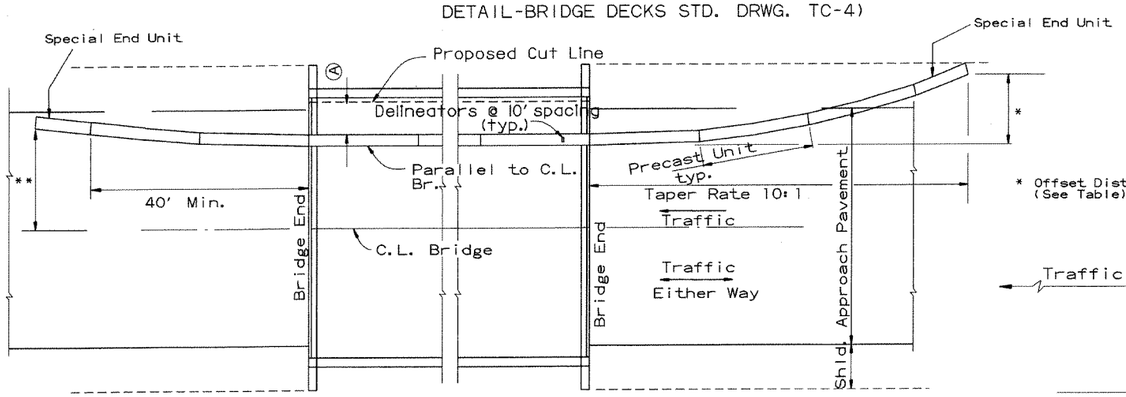
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
8-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

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

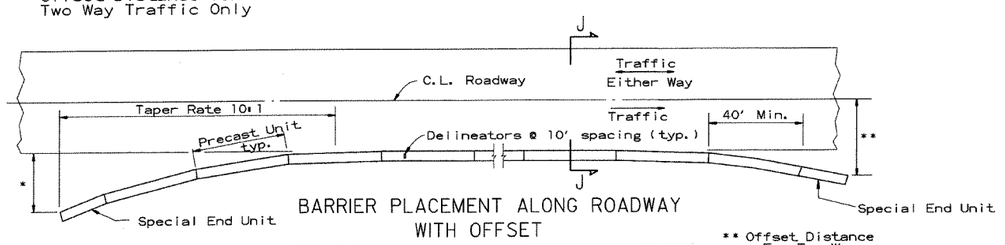


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

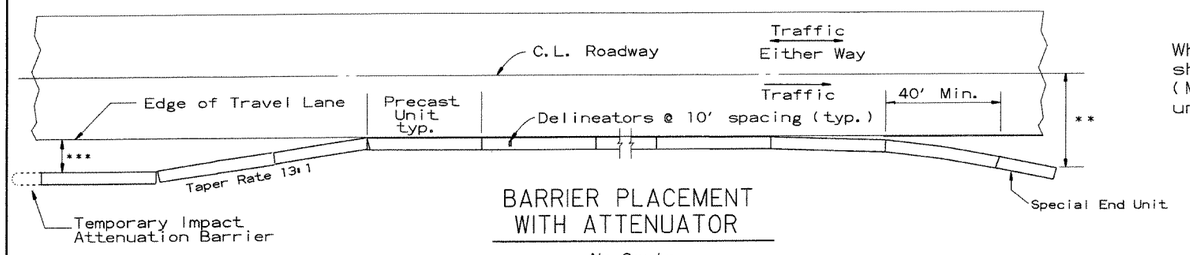
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

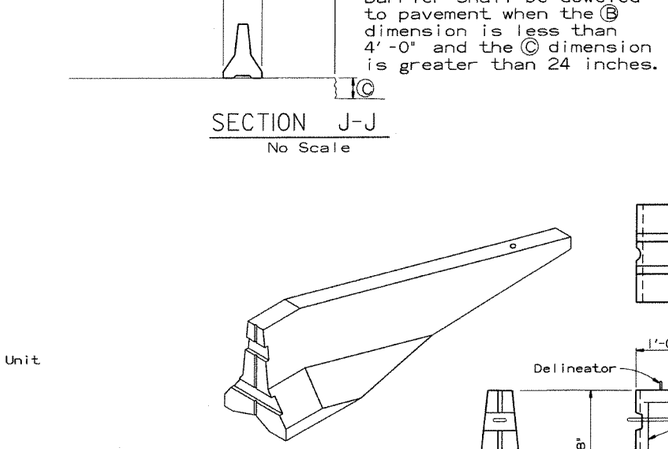


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

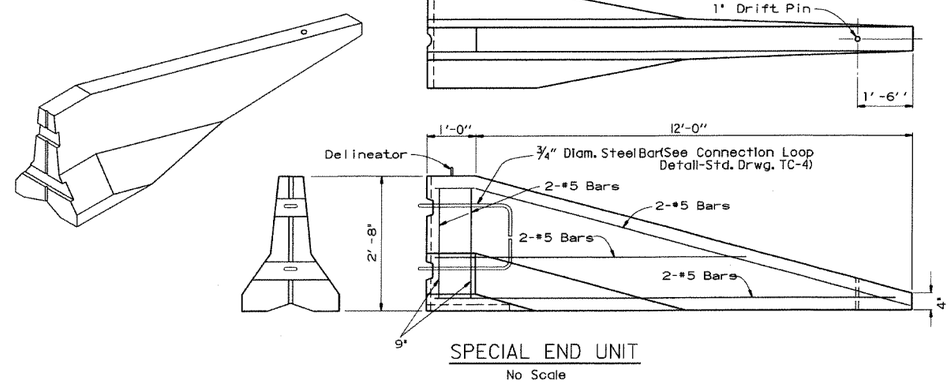
** Offset Distance For Two Way Traffic Only



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

SECTION J-J

No Scale



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

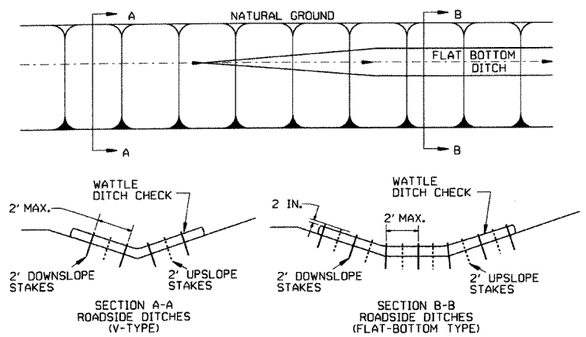
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

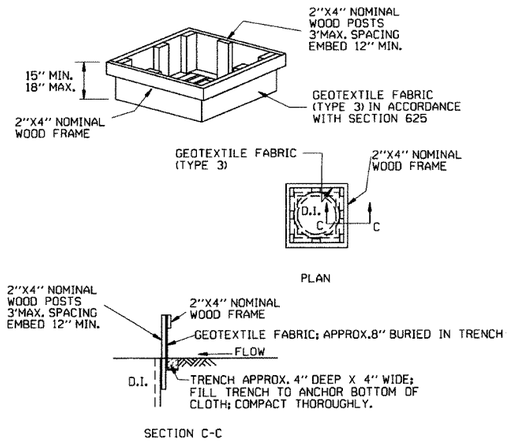
STANDARD DRAWING TC-5

GENERAL NOTES

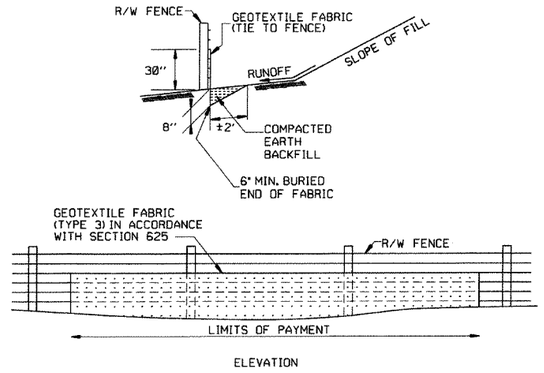
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

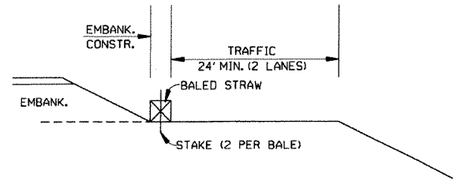
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

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

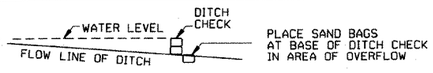
2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

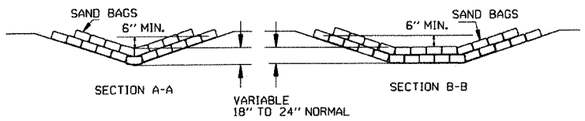


BALED STRAW FILTER BARRIER (E-2)

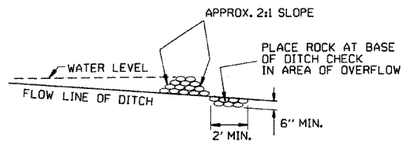
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

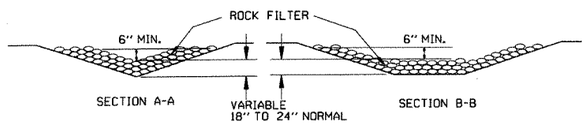


PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



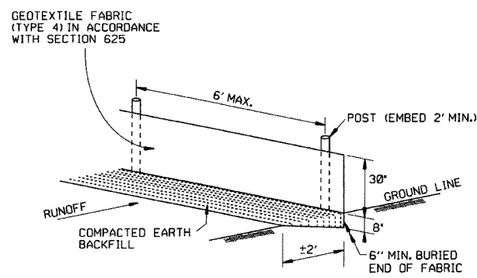
SAND BAG DITCH CHECK (E-5)





ROCK DITCH CHECK (E-6)

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625



SILT FENCE (E-11)

GENERAL NOTES

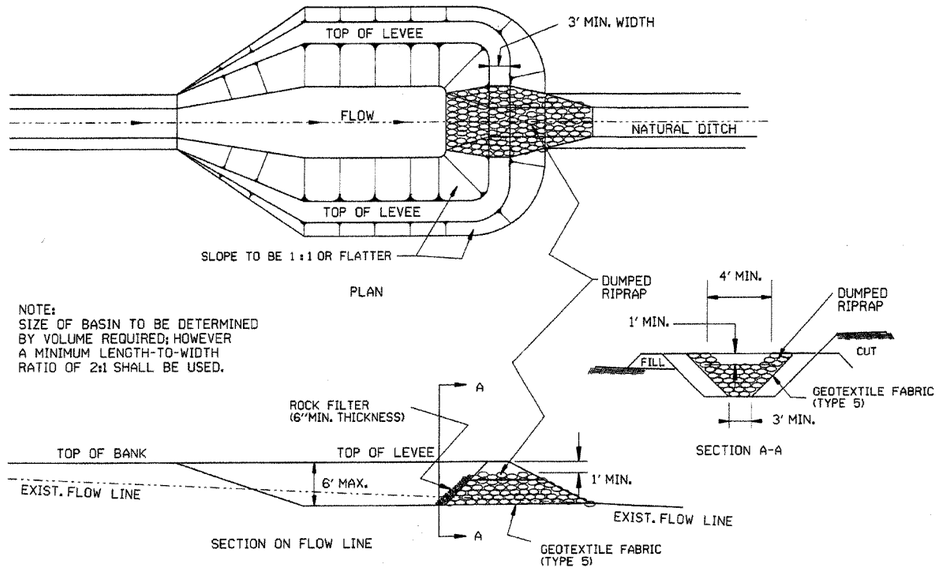
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1, 4, 7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

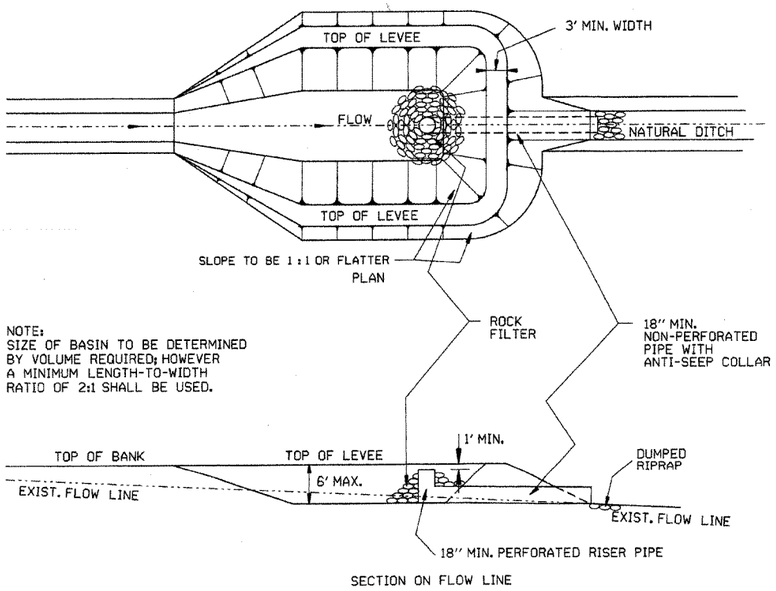
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

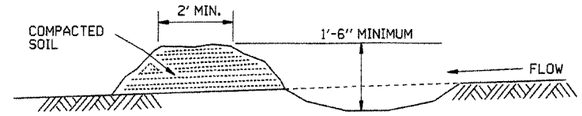
STANDARD DRAWING TEC-1



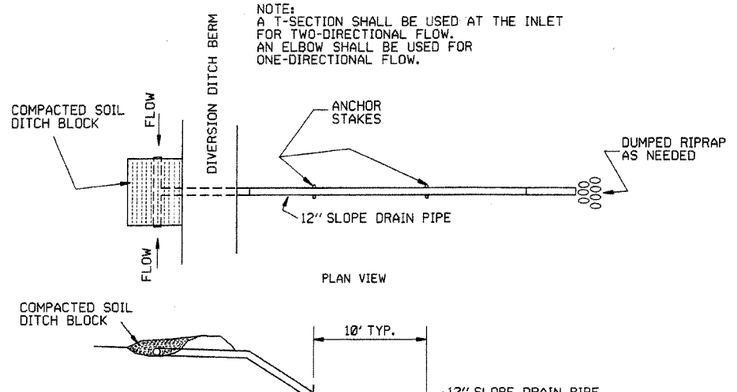
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



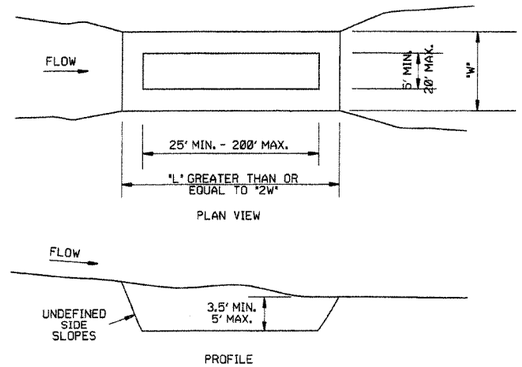
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

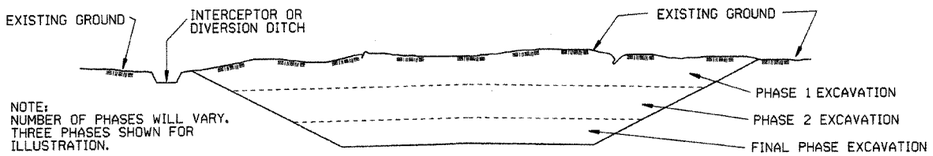
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



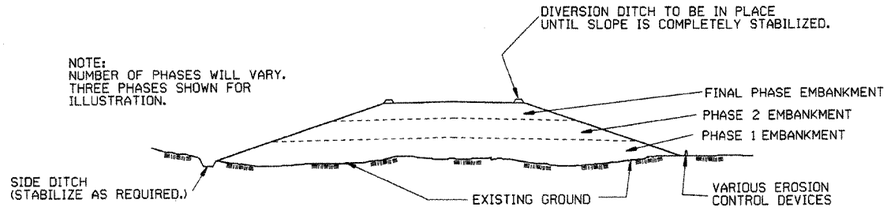
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING, STABILIZE DITCHES, CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

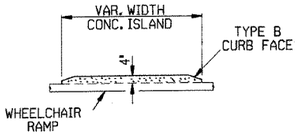
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

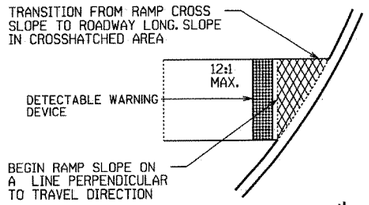
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



CONCRETE ISLAND DETAIL



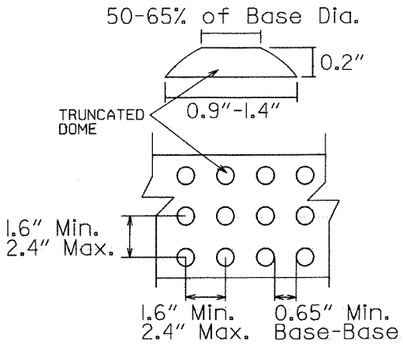
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

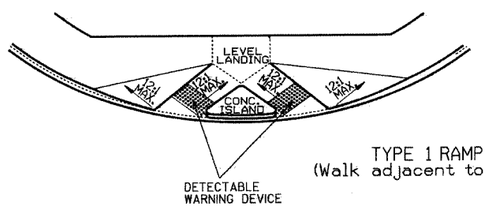
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

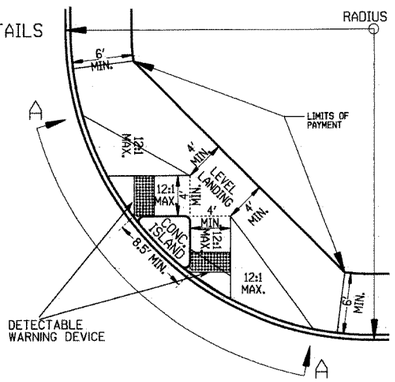
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT 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).

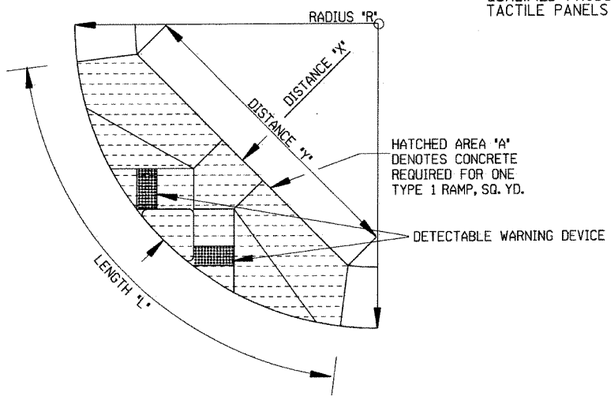


DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)





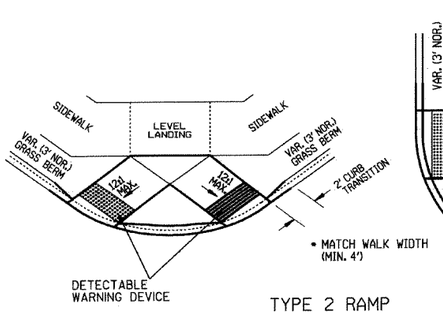


SECTION A-A

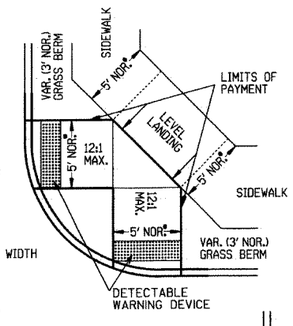
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

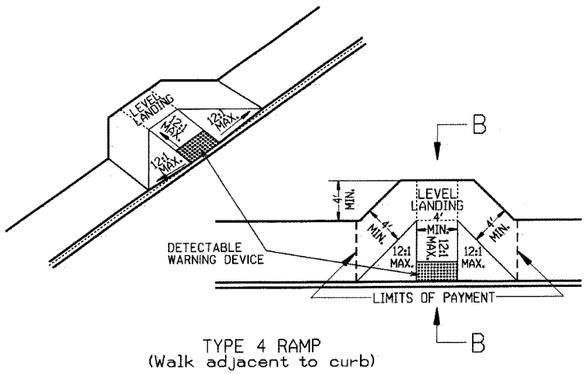
GENERAL NOTES:

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.

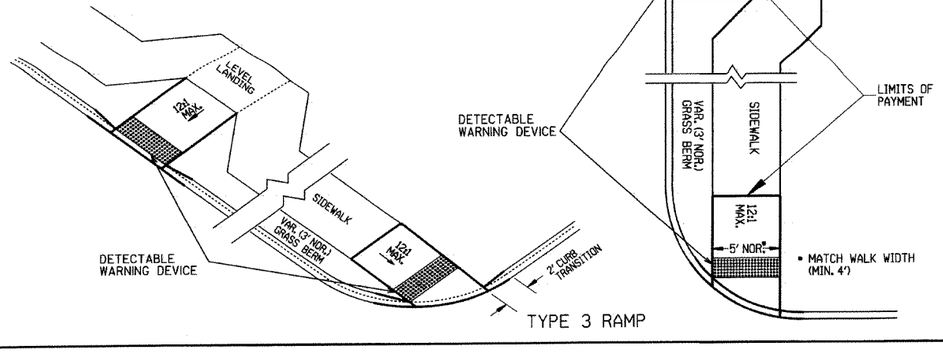


TYPE 2 RAMP

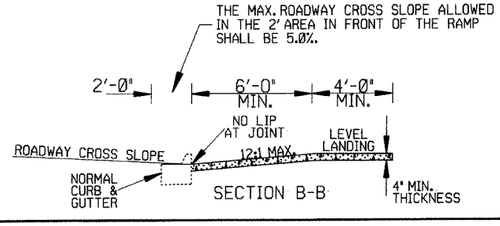




TYPE 4 RAMP
(Walk adjacent to curb)



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.

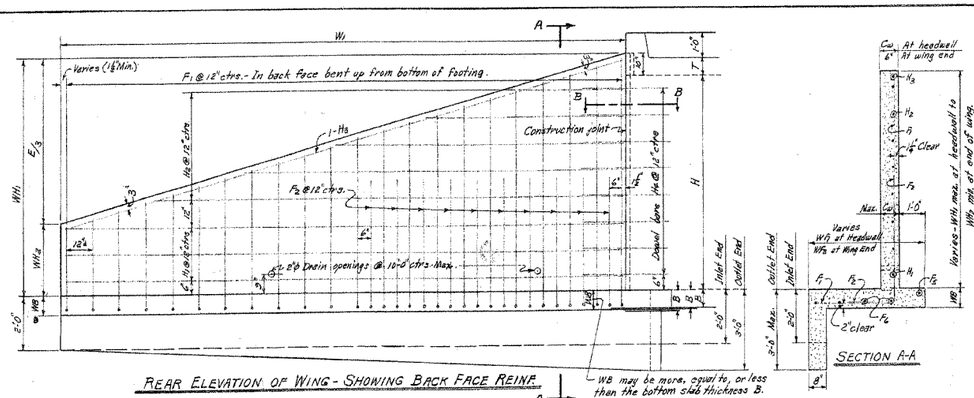
DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8HTOR2/MAX.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

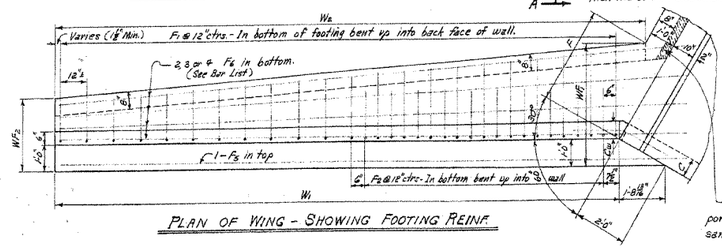
WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

FED. ROAD DIV.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
8	ARK.		193	
JOB NO.				



REAR ELEVATION OF WING - SHOWING BACK FACE REINF.



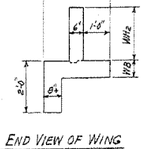
PLAN OF WING - SHOWING FOOTING REINF.

SECTION A-A

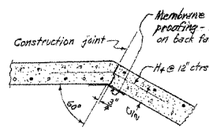
WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT END OF WING	WIDTHS OF WING FOOTINGS AT HEADWALL	WIDTHS OF WING FOOTINGS AT END OF WING	PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE	
											INLET END	OUTLET END
H	WB	Cw	WH1	WH2	W5	W3	F	E	W1	N2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-9"	2'-0"	0'-11⅜"	6'-6"	7'-6"	7'-1⅝"	0.889	0.996
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-4⅜"	8'-6"	9'-9⅜"	9'-2⅝"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1⅝"	12'-1⅜"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅜"	12'-6"	14'-5⅝"	14'-1⅞"	2.978	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅜"	12'-6"	14'-5⅝"	14'-7⅛"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅛"	3.940	3.661
		7⅛"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1⅝"	3.811	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1⅝"	3.582	3.803
7'	8½"	7⅛"	7'-10"	2'-4"	4'-2"	2'-7⅛"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅜"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7⅛"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅜"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-6⅝"	22'-4"	5.761	6.049

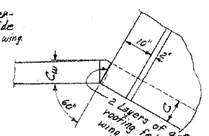
* Quantity per wing does not include headwall or that portion of apron or toewall for the length W5.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



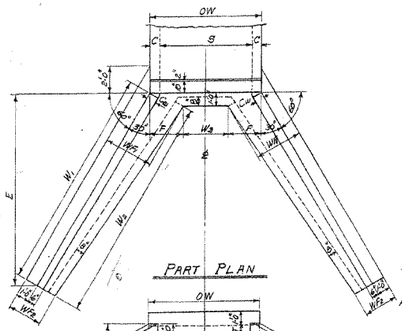
DETAIL AT TOP OF WING

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

APRON DIMENSION W3

W3 = (CW - 2F)

CLEAR SPAN	CLEAR HEIGHT	FOOTING DIMENSION	SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
			OW	W3	OW	W3	OW	W3	OW	W3	OW	W3
S	H	2F										
4'	2'	1'-11½"	5'-0"	3'-0½"	9'-8"	7'-6½"	14'-4"	12'-4½"	19'-0"	17'-0½"	23'-8"	21'-8½"
	3'	2'-8⅜"	5'-0"	2'-3½"	9'-8"	6'-11⅛"	14'-4"	11'-7⅛"	19'-0"	16'-3½"	23'-8"	20'-11⅝"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-8"
	5'	4'-3⅜"	5'-0"	0'-8½"	9'-8"	5'-4⅝"	14'-4"	10'-0⅜"	19'-0"	14'-8⅝"	23'-8"	19'-1⅞"
	6'	5'-0½"	5'-2"	0'-1½"	9'-11"	4'-10⅝"	14'-8"	9'-7⅜"	19'-5"	14'-1⅜"	24'-2"	19'-1⅞"
5'	3'	2'-8⅜"	6'-0"	3'-3½"	11'-8"	8'-11⅛"	17'-4"	14'-7⅛"	23'-0"	20'-3½"	28'-8"	25'-11⅝"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8½"	11'-8"	7'-4⅝"	17'-4"	13'-0⅜"	23'-0"	18'-8⅝"	28'-8"	24'-6⅞"
	6'	5'-0½"	6'-2"	1'-1½"	11'-11"	6'-10⅝"	17'-8"	12'-7⅜"	23'-5"	18'-1⅜"	29'-2"	24'-1⅞"
	7'	6'-2⅜"	6'-3"	0'-0½"	12'-1"	5'-10⅜"	17'-11"	11'-8⅝"	23'-9"	17'-1⅝"	29'-7"	23'-1⅞"
6'	3'	2'-8⅜"	7'-0"	4'-3½"	13'-8"	10'-11⅛"	20'-6"	17'-7⅛"	27'-0"	24'-3½"	33'-8"	30'-11⅝"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-6"	16'-10"	27'-0"	23'-6"	33'-8"	30'-8"
	5'	4'-3⅜"	7'-0"	2'-8½"	13'-8"	9'-6⅝"	20'-6"	16'-0⅜"	27'-0"	22'-8⅝"	33'-8"	29'-10⅞"
	6'	5'-0½"	7'-2"	2'-1½"	13'-11"	8'-10⅝"	20'-6"	15'-7⅜"	27'-5"	22'-1⅜"	34'-2"	29'-1⅞"
	7'	6'-2⅜"	7'-3"	1'-0½"	14'-1"	7'-10⅜"	20'-11"	14'-8⅝"	27'-9"	21'-1⅝"	34'-7"	28'-1⅞"
	8'	7'-4"	7'-4"	0'-0"	14'-3"	6'-10"	21'-0"	13'-8"	27'-10"	20'-6"	34'-8"	27'-10"
7'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-2"	23'-6"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3⅜"	8'-0"	3'-8½"	15'-8"	11'-4⅝"	23'-6"	19'-0⅜"	31'-0"	26'-8⅝"	38'-8"	34'-6⅞"
	6'	5'-0½"	8'-2"	3'-1½"	15'-11"	10'-10⅝"	23'-8"	18'-7⅜"	31'-5"	26'-1⅜"	39'-2"	34'-1⅞"
	7'	6'-2⅜"	8'-3"	2'-0½"	16'-1"	9'-10⅜"	23'-11"	17'-8⅝"	31'-9"	25'-1⅝"	39'-7"	33'-1⅞"
	8'	7'-4"	8'-4"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-6"	39'-8"	32'-10"
8'	4'	3'-6"	9'-0"	5'-6"	17'-8"	14'-2"	26'-6"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3⅜"	9'-2"	4'-8½"	17'-11"	13'-7⅛"	26'-8"	22'-0⅜"	35'-5"	31'-1⅝"	44'-2"	39'-10⅞"
	6'	5'-0½"	9'-2"	4'-1½"	17'-11"	12'-10⅝"	26'-8"	21'-7⅜"	35'-5"	30'-5⅝"	44'-2"	39'-1⅞"
	7'	6'-2⅜"	9'-3"	3'-0½"	18'-1"	11'-10⅜"	26'-11"	20'-8⅝"	35'-9"	29'-6⅝"	44'-7"	38'-6⅞"
	8'	7'-4"	9'-4"	2'-0"	18'-2"	10'-10"	27'-0"	19'-8"	35'-10"	28'-6"	44'-8"	37'-10"
9'	5'	4'-3⅜"	10'-2"	5'-10½"	19'-11"	15'-7⅛"	29'-8"	25'-4⅜"	39'-5"	35'-1⅝"	49'-2"	44'-10⅞"
	6'	5'-0½"	10'-3"	5'-2½"	20'-1"	15'-0⅛"	29'-11"	24'-10⅝"	39'-9"	34'-5⅝"	49'-7"	44'-2⅞"
	7'	6'-2⅜"	10'-3"	4'-1½"	20'-1"	13'-10⅜"	29'-11"	23'-8⅝"	39'-9"	33'-4⅝"	49'-7"	43'-1⅞"
	8'	7'-4"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-8"	39'-10"	32'-6"	49'-8"	42'-10"
10'	5'	4'-3⅜"	11'-2"	6'-0⅜"	21'-11"	17'-7⅛"	32'-5"	28'-4⅜"	43'-5"	39'-1⅝"	54'-2"	49'-10⅞"
	6'	5'-0½"	11'-3"	6'-2½"	22'-1"	17'-0⅛"	32'-11"	27'-10⅝"	43'-9"	38'-5⅝"	54'-7"	49'-2⅞"
	7'	6'-2⅜"	11'-3"	5'-1½"	22'-1"	15'-10⅜"	32'-11"	26'-8⅝"	43'-9"	37'-4⅝"	54'-7"	48'-1⅞"
	8'	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-6"	54'-8"	47'-10"
11'	6'	5'-0½"	12'-4"	7'-3½"	24'-2"	19'-1⅛"	36'-0"	30'-11⅝"	47'-10"	42'-9⅝"		
	7'	6'-2⅜"	12'-4"	6'-1½"	24'-2"	17'-11⅛"	36'-0"	29'-9⅝"	47'-10"	41'-7⅝"		
	8'	7'-4"	12'-5"	5'-0"	24'-3"	16'-10"	36'-0"	28'-8"	47'-11"	40'-6"		
12'	6'	5'-0½"	13'-6"	8'-3½"	26'-2"	21'-1⅛"	39'-0"	33'-11⅝"	51'-10"	46'-9⅝"		
	7'	6'-2⅜"	13'-6"	7'-1½"	26'-2"	19'-11⅛"	39'-0"	32'-9⅝"	51'-10"	45'-7⅝"		
	8'	7'-4"	13'-6"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		



RESHOT 5-4-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			194	
JOB No.					

BAR LIST FOR VARIOUS SECTIONS OF BARREL

SECTION & BAR GROUP	DEPTH OF SECTIONS	DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT — In Top and Bottom Slabs of Barrel. 2 Add'l in Apron and Headwall - Each. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
SECTION "A" & BAR GROUP "A"	4:1 = 32'-0"	0' TO 10'-0"	3'-11" = 24'-0"	3'	#5	12"	48	68	4'-9"
				4' @ 1/2			48	68	4'-9"
				5'			48	68	4'-9"
				6'			48	68	4'-11"
				3'			98	68	5'-9"
				4' @ 1/2	#5	12"	98	68	5'-9"
				5'			98	68	5'-11"
				6'			98	68	6'-0"
				7'			98	68	6'-0"
				8'			98	68	6'-2"
				9'			98	68	6'-3"
				5'	#5	12"	98	68	6'-5"
				6' @ 1/2			98	68	6'-7"
				7'			98	68	6'-9"
				8'			98	68	7'-1"
				9'			98	68	7'-3"
SECTION "B" & BAR GROUP "B"	4:1 = 16'-0"	10'-0" TO 15'-0"	3'-11" = 24'-0"	3'	#5	12"	22	32	4'-9"
				4' @ 1/2			22	32	4'-9"
				5'			22	32	4'-9"
				6'			22	32	4'-11"
				3'			22	32	5'-9"
				4' @ 1/2	#5	12"	22	32	5'-9"
				5'			22	32	5'-11"
				6'			22	32	6'-0"
				7'			22	32	6'-0"
				8'			22	32	6'-2"
				9'			22	32	6'-3"
				5'	#5	12"	22	32	6'-5"
				6' @ 1/2			22	32	6'-7"
				7'			22	32	6'-9"
				8'			22	32	7'-1"
				9'			22	32	7'-3"
SECTION "C" & BAR GROUP "C"	4:1 = 16'-0"	15'-0" TO 20'-0"	3'-11" = 24'-0"	3'	#5	12"	22	32	4'-9"
				4' @ 1/2			22	32	4'-9"
				5'			22	32	4'-9"
				6'			22	32	4'-11"
				3'			24	36	5'-9"
				4' @ 1/2	#5	11"	24	36	5'-9"
				5'			24	36	5'-11"
				6'			24	36	6'-0"
				7'			24	36	6'-0"
				8'			24	36	6'-2"
				9'			24	36	6'-3"
				5'	#5	11"	24	36	6'-5"
				6' @ 1/2			24	36	6'-7"
				7'			24	36	6'-9"
				8'			24	36	7'-1"
				9'			24	36	7'-3"
SECTION "D" & BAR GROUP "D"	4:1 = 16'-0"	20'-0" TO 25'-0"	3'-11" = 24'-0"	3'	#6	11"	24	36	6'-9"
				4' @ 1/2			24	36	6'-9"
				5'			24	36	6'-9"
				6'			24	36	6'-11"
				3'			22	32	5'-9"
				4' @ 1/2	#6	12"	22	32	5'-9"
				5'			22	32	5'-9"
				6'			22	32	5'-11"
				7'			22	32	6'-1"
				8'			22	32	6'-3"
				9'			22	32	6'-5"
				5'	#6	12"	22	32	6'-7"
				6' @ 1/2			22	32	6'-9"
				7'			22	32	6'-11"
				8'			22	32	7'-1"
				9'			22	32	7'-2"
SECTION "E" & BAR GROUP "E"	4:1 = 16'-0"	25'-0" TO 30'-0"	3'-11" = 24'-0"	3'	#6	11"	24	36	6'-9"
				4' @ 1/2			24	36	6'-9"
				5'			24	36	6'-9"
				6'			24	36	7'-0"
				3'			20	30	4'-9"
				4' @ 1/2	#6	13"	20	30	4'-9"
				5'			20	30	4'-11"
				6'			20	30	5'-1"
SECTION "F" & BAR GROUP "F"	4:1 = 16'-0"	30'-0" TO 35'-0"	3'-11" = 24'-0"	3'	#6	12"	22	32	5'-9"
				4' @ 1/2			22	32	5'-9"
				5'			22	32	5'-11"
				6'			22	32	6'-0"
				3'			22	32	6'-10"
				4' @ 1/2	#7	12"	22	32	6'-10"
				5'			22	32	7'-0"
				6'			22	32	7'-2"
				7'			22	32	7'-2"
				8'			22	32	7'-4"
				9'			22	32	7'-6"
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel	35'-0" TO 40'-0"	3'-11" = 24'-0"	3'	#6	12"	24	36	6'-10"
				4' @ 1/2			24	36	7'-0"
				5'			24	36	7'-2"
				6'			24	36	7'-4"
				3'			22	32	6'-10"
				4' @ 1/2	#7	11"	22	32	6'-10"
				5'			22	32	7'-0"
				6'			22	32	7'-2"
				7'			22	32	7'-2"
				8'			22	32	7'-4"
				9'			22	32	7'-6"

SECTION & BAR GROUP	"b" bars STRAIGHT — In Top and Bottom Slabs of Barrel. Alternate with "a" bars. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X
SECTION "A" & BAR GROUP "A"	#4	12"	44	64	5'-7"	4'-8½"
			44	64	5'-7"	4'-8½"
			44	64	5'-7"	4'-8½"
			44	64	5'-9"	4'-10½"
	#5	12"	44	64	6'-8"	5'-8½"
			44	64	6'-8"	5'-8½"
			44	64	6'-10"	5'-10½"
			44	64	6'-10"	5'-10½"
			44	64	7'-0"	6'-0½"
	#6	12"	44	64	7'-10"	6'-8"
			44	64	8'-0"	6'-10"
			44	64	8'-1"	6'-11"
			44	64	8'-2"	7'-0"
SECTION "B" & BAR GROUP "B"	#4	12"	22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-10"	4'-10½"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-10"
			22	32	7'-0"	6'-0"
			22	32	7'-1"	6'-1"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"
SECTION "C" & BAR GROUP "C"	#4	12"	22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-10"	4'-10½"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-10"
			22	32	7'-0"	6'-0"
			22	32	7'-1"	6'-1"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"
SECTION "D" & BAR GROUP "D"	#4	12"	22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-10"	4'-10½"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-10"
			22	32	7'-0"	6'-0"
			22	32	7'-1"	6'-1"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"
SECTION "E" & BAR GROUP "E"	#4	12"	22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-8"	4'-8½"
			22	32	5'-10"	4'-10½"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-10"
			22	32	7'-0"	6'-0"
			22	32	7'-1"	6'-1"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"
SECTION "F" & BAR GROUP "F"	#4	12"	20	30	5'-10"	4'-9"
			20	30	5'-10"	4'-9"
			20	30	6'-0"	4'-10"
			20	30	6'-2"	5'-0"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	7'-0"	5'-10"
			22	32	7'-1"	6'-1"
			22	32	7'-3"	6'-3"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"
SECTION "G" & BAR GROUP "G"	#4	12"	22	32	5'-10"	4'-9"
			22	32	5'-10"	4'-9"
			22	32	6'-0"	4'-10"
			22	32	6'-2"	5'-0"
	#5	12"	22	32	6'-10"	5'-8"
			22	32	6'-10"	5'-8"
			22	32	7'-0"	5'-10"
			22	32	7'-1"	6'-1"
			22	32	7'-3"	6'-3"
	#6	12"	22	32	7'-10"	6'-8"
			22	32	8'-0"	6'-10"
			22	32	8'-1"	6'-11"
			22	32	8'-2"	7'-0"

SECTION & BAR GROUP	"d" bars STRAIGHT — Longitudinal in Top Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH
SECTION "A" & BAR GROUP "A"	#4	12"	5	38'-8" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "B" & BAR GROUP "B"	#4	12"	5	33'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "C" & BAR GROUP "C"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "D" & BAR GROUP "D"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "E" & BAR GROUP "E"	#4	12"	5	39'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "F" & BAR GROUP "F"	#4	12"	5	39'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel			

SECTION & BAR GROUP	"d" bars STRAIGHT — Longitudinal in Sidewalls SIZE	SPACING	NO. REQ'D	LENGTH
SECTION "A" & BAR GROUP "A"	#4	12"	6	38'-8" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "B" & BAR GROUP "B"	#4	12"	6	33'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "C" & BAR GROUP "C"	#4	12"	6	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "D" & BAR GROUP "D"	#4	12"	6	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "E" & BAR GROUP "E"	#4	12"	6	39'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "F" & BAR GROUP "F"	#4	12"	6	39'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel			

SECTION & BAR GROUP	"g" bars STRAIGHT — Longitudinal in Bottom Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH
SECTION "A" & BAR GROUP "A"	#4	12"	5	38'-8" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "B" & BAR GROUP "B"	#4	12"	5	33'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "C" & BAR GROUP "C"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "D" & BAR GROUP "D"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "E" & BAR GROUP "E"	#4	12"	5	39'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "F" & BAR GROUP "F"	#4	12"	5	39'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel			

SECTION & BAR GROUP	"h" bars STRAIGHT — Longitudinal in Bottom Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH
SECTION "A" & BAR GROUP "A"	#4	12"	5	38'-8" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "B" & BAR GROUP "B"	#4	12"	5	33'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "C" & BAR GROUP "C"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "D" & BAR GROUP "D"	#4	12"	5	34'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "E" & BAR GROUP "E"	#4	12"	5	39'-3" for 32'-0" Section
	#5	12"	6	
	#6	12"	7	
SECTION "F" & BAR GROUP "F"	#4	12"	5	39'-3" for 33'-0" Length Section
	#5	12"	6	
	#6	12"	7	
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel			

SECTION & BAR GROUP	"f" bars STRAIGHT — Vertical in Sidewalls SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
SECTION "A" & BAR GROUP "A"	#4	12"	44	64	3'-10"
			44	64	3'-11"
			44	64	4'-10"
			44	64	5'-10"
	#5	12"	44	64	5'-11"
			44	64	6'-11"
			44	64	7'-11"
			44	64	8'-11"
			44	64	9'-11"
	#6	12"	44	64	9'-11"
			44	64	10'-11"
			44	64	11'-11"
			44	64	12'-11"
SECTION "B" & BAR GROUP "B"	#4	12"	22	32	3'-10"
			22	32	4'-10"
			22	32	5'-10"
			22	32	6'-10"
	#5	12"	22	32	7'-11"
			22	32	8'-11"
			22	32	9'-11"
			22	32	10'-11"
			22	32	11'-11"
	#6	12"	22	32	11'-11"
			22	32	12'-11"
			22	32	13'-11"
			22	32	14'-11"
SECTION "C" & BAR GROUP "C"	#4	12"	22	32	4'-0"
			22	32	5'-0"
			22	32	6'-0"
			22	32	7'-0"
	#5	12"	22	32	8'-0"
			22	32	9'-0"
			22	32	10'-0"
			22	32	11'-0"
			22	32	12'-0"
	#6	12"	22	32	12'-0"
			22	32	13'-0"
			22	32	14'-0"
			22	32	15'-0"
SECTION "D" & BAR GROUP "D"	#4	12"	22	32	4'-2"
			22	32	5'-2"
			22	32	6'-2"
			22	32	7'-2"
	#5	12"	22	32	8'-2"
			22	32	9'-2"
			22	32	10'-2"
			22	32	11'-2"
			22	32	12'-2"
	#6	12"	22	32	12'-2"
			22	32	13'-2"
			22	32	14'-2"
			22	32	15'-2"
SECTION "E" & BAR GROUP "E"	#4	12"	22	32	4'-10"
			22	32	5'-10"
			22	32	6'-10"
			22	32	7'-10"
	#5	12"	22	32	8'-10"
			22	32	9'-10"
			22	32	10'-10"
			22	32	11'-10"
			22	32	12'-10"
	#6	12"	22	32	12'-10"
			22	32	13'-10"
			22	32	14'-10"
			22	32	15'-10"
SECTION "F" & BAR GROUP "F"	#4	12"	22	32	5'-7"
			22	32	6'-7"
			22	32	7'-7"
			22	32	8'-7"
	#5	12"	22	32	9'-7"
			22	32	10'-7"
			22	32	11'-7"
			22	32	12'-7"
			22	32	13'-7"
	#6	12"	22	32	13'-7"
			22	32	14'-7"
			22	32	15'-7"
			22	32	16'-7"
SECTION "G" & BAR GROUP "G"	#4	12"	22	32	5'-10"
			22	32	6'-10"
			22	32	7'-10"
			22	32	8'-10"
	#5	12"	22	32	9'-10"
			22	32	10'-10"
			22	32	11'-10"
			22	32	12'-10"
			22	32	13'-10"
	#6	12"	22	32	13'-10"
			22	32	14'-10"
			22	32	15'-10"
			22	32	16'-10"

NOTE:- Bars for each Section to be marked with the Section Letter, thus for Section B, the bars should be marked Ba, Bb, Bc, Bd, Be and Bf.

Designed By:- W.C.H. 9-5-62 Checked By:- R.H.S. 11-8-62
Drawn By:- W.C.H. 10-10-62 Checked By:- J.E.M. 11-12-62
Quantities By:- W.C.H. 11-7-62 Checked By:- E.M. 11-16-62

DIMENSIONS AND QUANTITIES

MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS CLEAR SPAN	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES CLASS 'S' CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL — ADDITIONAL PER LAP	ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	B	OH	CU.YD.	LB.	LB.	LB.
SECTION "A" — 10'-0"	3'	3'	12	5'-0"	6½"	6"	6½"	4'-1"	0.312	29.62	13.36	51.44
	4' @ 1/2	4'	16	5'-0"		6"		5'-1"	0.349	32.29	15.03	51.44
	5'	5'	20	5'-0"		6"		6'-1"	0.386	34.96	16.70	51.44
	6'	6'	24	5'-2"		7"		7'-1"	0.467	38.08	18.37	52.33
SECTION "B" — 15'-0"	3'	3'	15	6'-0"	7"	6"	7"	4'-2"	0.370	93.16	15.03	79.37
	4' @ 1/2	4'	20	6'-0"		6"		5'-2"	0.907	95.83	16.70	79.37
	5'	5'	25	6'-0"		6"		6'-2"	0.444	98.50	18.37	79.37
	6'	6'	30	6'-2"		7"		7'-2"	0.526	51.87	20.04	80.77
	7'	7'	35	6'-3"		7½"		8'-2"	0.594	52.00	21.71	81.96
SECTION "C" — 20'-0"	4'	4'	24	7'-0"	7½"	6"	8"	5'-3"	0.972	58.99	18.37	93.29
	4' @ 1/2	5'	30	7'-0"		6"		6'-3"	0.509	61.66	20.04	93.29
	6'	6'	36	7'-2"		7"		7'-3"	0.591	65.18	21.71	94.68
	7'	7'	42	7'-3"		7½"		8'-3"	0.660	70.41	23.38	95.37
	8'	8'	48	7'-4"		8"		9'-3"	0.735	78.83	25.05	96.07
SECTION "D" — 25'-0"	4'	4'	24	7'-0"	8"	6"	8½"	5'-4"	0.999	65.30	18.37	
	4' @ 1/2	5'	30	7'-0"		6"		6'-4"	0.536	66.63	20.04	
	6'	6'	36	7'-2"		7"		7'-4"	0.619	73.58	21.71	
	7'	7'	42	7'-3"		7½"		8'-4"	0.688	82.91	23.38	
	8'	8'	48	7'-4"		8"		9'-4"	0.763	92.19	25.05	
SECTION "E" — 30'-0"	4'	4'	24	7'-0"	8½"	6"	9"	5'-5"	0.316	37.54	13.36	
	4' @ 1/2	5'	30	7'-0"		6"		6'-5"	0.353	40.21	15.03	
	6'	6'	36	7'-2"		7"		7'-5"	0.390	49.44	16.70	
	7'	7'	42	7'-3"		7½"		8'-5"	0.471	51.38	18.37	
	8'	8'	48	7'-4"		8"		9'-5"	0.548	52.85	15.03	
SECTION "F" — 35'-0"	4'	4'	24	7'-0"	9"	6"	9½"	5'-6"	0.431	55.52	16.70	
	4' @ 1/2	5'	30	7'-0"		6"		6'-6"	0.468	58.32	18.37	
	6'	6'	36	7'-2"		7"		7'-6"	0.550	67.09	20.04	
	7'	7'	42	7'-3"		7½"		8'-6"	0.618	78.27	21.71	
	8'	8'	48	7'-4"		8"		9'-6"	0.691	85.82	23.38	
	9'	9'	54	7'-5"		8½"		10'-6"	0.768	98.56	25.05	
SECTION "G" — 40'-0"	4'	4'	24	7'-0"	9½"	6"	10"	5'-7"	0.373	49.38	15.03	
	4' @ 1/2	5'	30	7'-0"		6"		6'-7"	0.414	52.56	16.70	
	6'	6'	36	7'-2"		7"		7'-7"	0.507	60.85	18.37	
	7'	7'	42	7'-3"		7½"		8'-7"	0.599	71.86	20.04	
	8'	8'	48	7'-4"		8"		9'-7"	0.691	85.28	21.71	
	9'	9'	54	7'-5"		8½"		10'-7"	0.784	98.84	23.38	

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#4	2"	4"	0'-10½"
#5	2½"	5"	0'-11½"
#6	3"	5"	1'-2"
#7	3½"	5⅝"	1'-4"

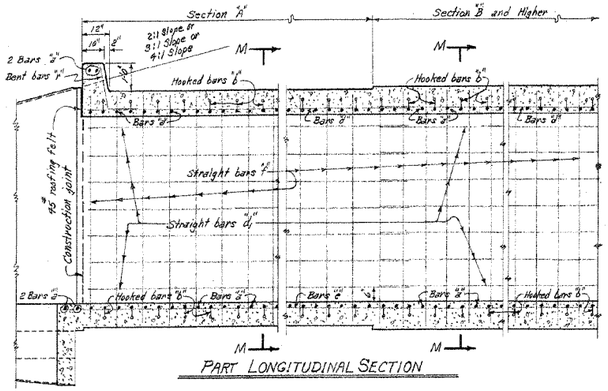
Bars "b": K, Pin Diam, X

NOTE:- Dimensions are to centers of bars.

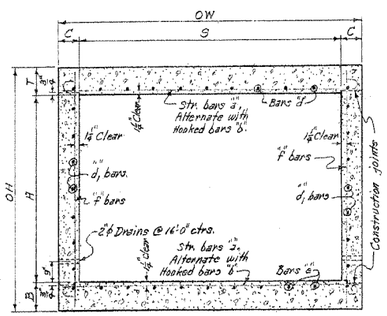
DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	11⅛"	12	2'-5"	1'-2⅛"
5'	#4	11⅛"	14	2'-6"	1'-3"
6'	#4	12"	16	2'-7"	1'-3⅛"

Bars "x": Dowel bars in Headwalls; X, 12, r = 2" Pin, X

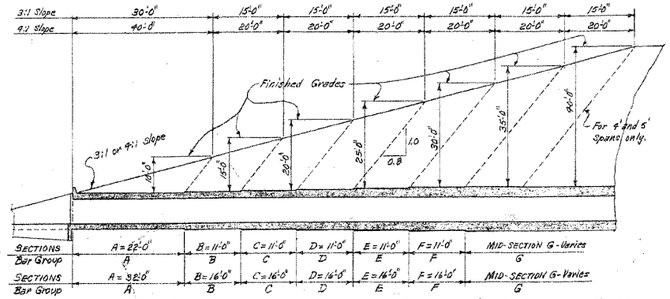


PART LONGITUDINAL SECTION



TYPICAL SECTION M-M

Notes for details of wings and bar lists, see Drawing Nos. W-X002-1, W-X003-1, and W-X004-1.



	SECTIONS	A	B	C	D	E	F	G
3:1 Slope =	Bar Group	A	B	C	D	E	F	MID-SECTION G-Varies
		A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	
4:1 Slope =	Bar Group	A	B	C	D	E	F	G
		A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	MID-SECTION G-Varies

TYPICAL LONGITUDINAL SECTION - SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER

NOTE:- Lengths of Sections with Bar Groups to be shown on Cross Section Sheets.

SECTIONS AND BAR GROUPS TO BE USED FOR VARIOUS DEPTHS OF COVER

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS A	B	C	D	E	F	MID-SECTION AND BAR GROUP
5.0 to 9.5	✓						A
10.0 to 14.5	✓	✓					B
15.0 to 19.5	✓	✓	✓				C
20.0 to 24.5	✓	✓	✓	✓			D
25.0 to 29.5	✓	✓	✓	✓	✓		E
30.0 to 34.5	✓	✓	✓	✓	✓	✓	F
35.0 to 40.0	✓	✓	✓	✓	✓	✓	G

LENGTH OF SECTIONS FOR SKEWED CULVERTS

SKEW ANGLE	SEC. OF SKEW ANGLE	3:1 SLOPES SECTIONS A	3:1 SLOPES SECTIONS B,C,D,E,F	4:1 SLOPES SECTIONS A	4:1 SLOPES SECTIONS B,C,D,E,F
0°	1.0	22.0'	11.0'	32.0'	16.0'
15°	1.0353	22.776'	11.388'	33.129'	16.564'
30°	1.1547	25.403'	12.702'	36.950	18.475'
45°	1.4142	31.113'	15.556'	45.255'	22.627'

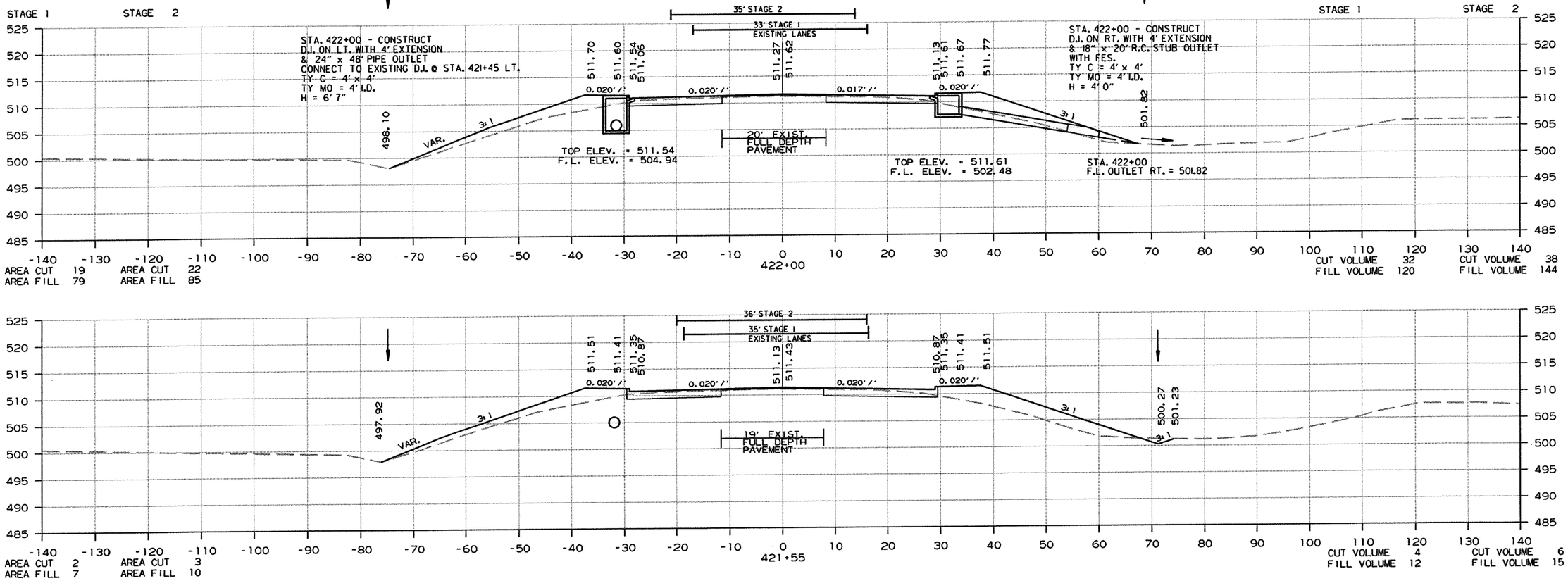
GENERAL NOTES:-

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 and slabs shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

NOTE:- This drawing to be used in conjunction with Standard Drawing Nos. W-X002-1, W-X003-1 and W-

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	195	263

(2) CROSS SECTIONS

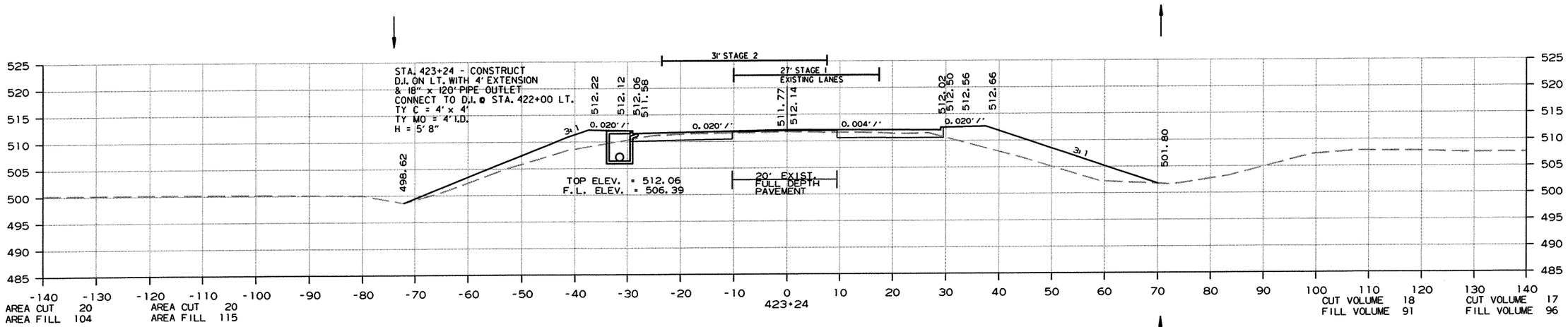


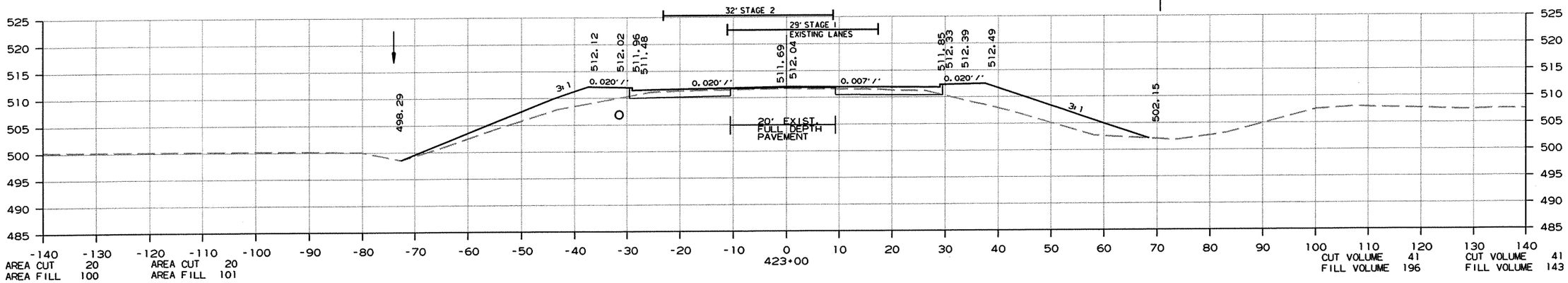
CROSS SECTION STA. 421+50 TO STA. 422+00

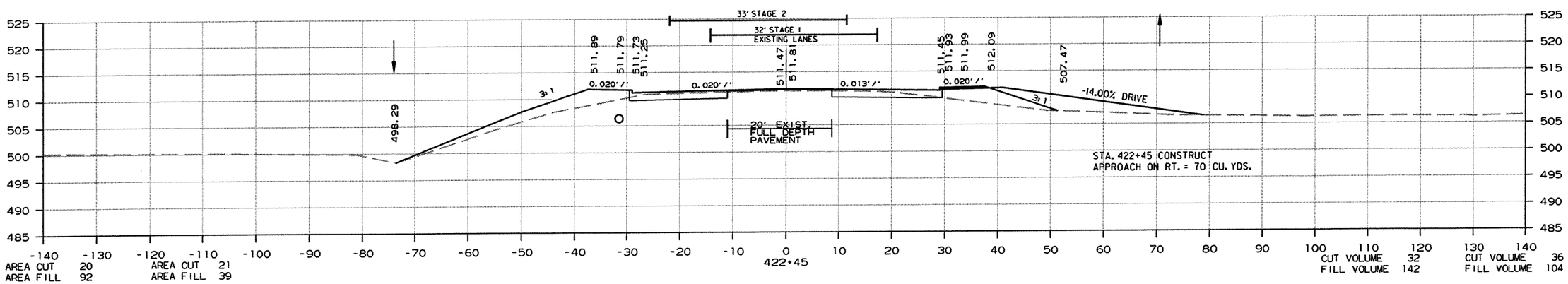
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		080390	196	263

(2) CROSS SECTIONS





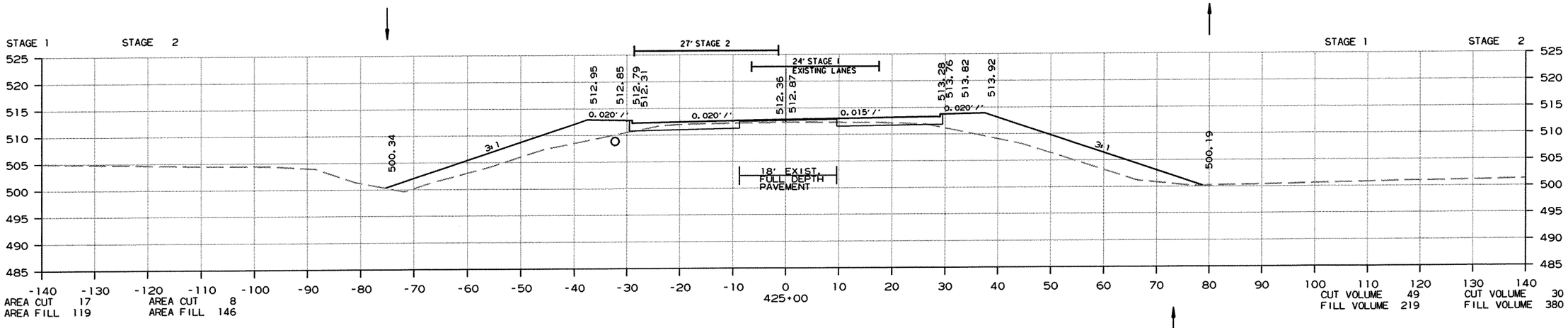


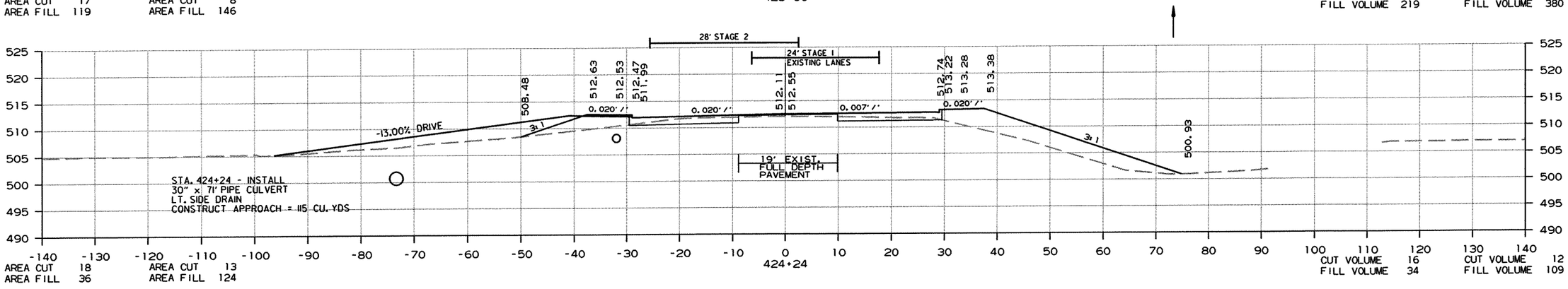
CROSS SECTION STA. 422+45 TO STA. 423+24

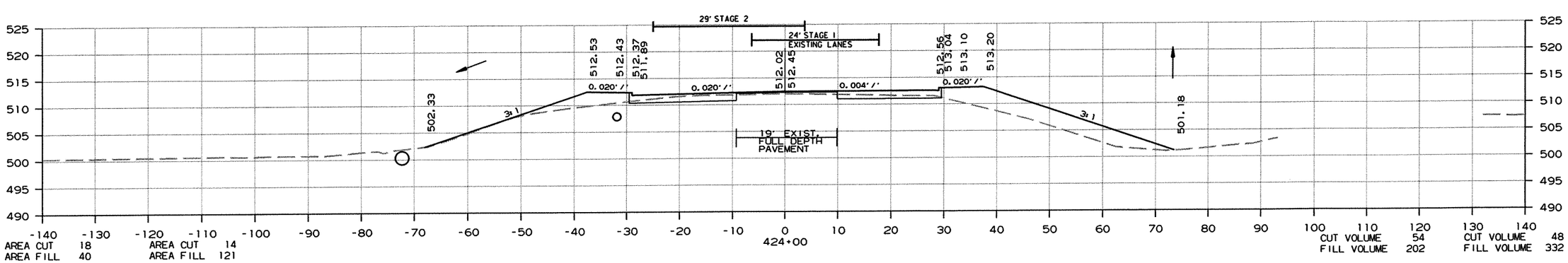
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	197	263

(2) CROSS SECTIONS





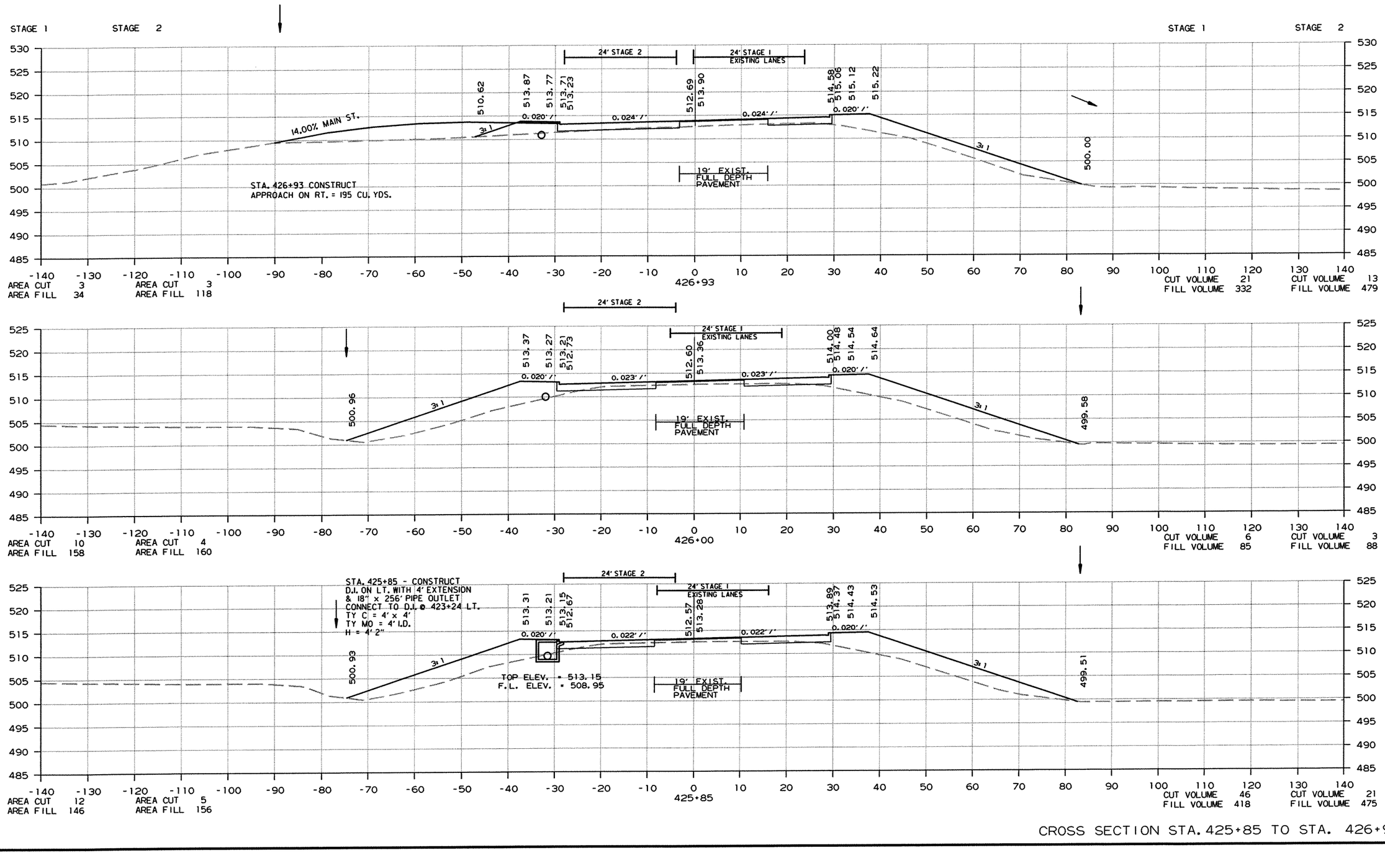


CROSS SECTION STA. 424+00 TO STA. 425+00

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(2) CROSS SECTIONS

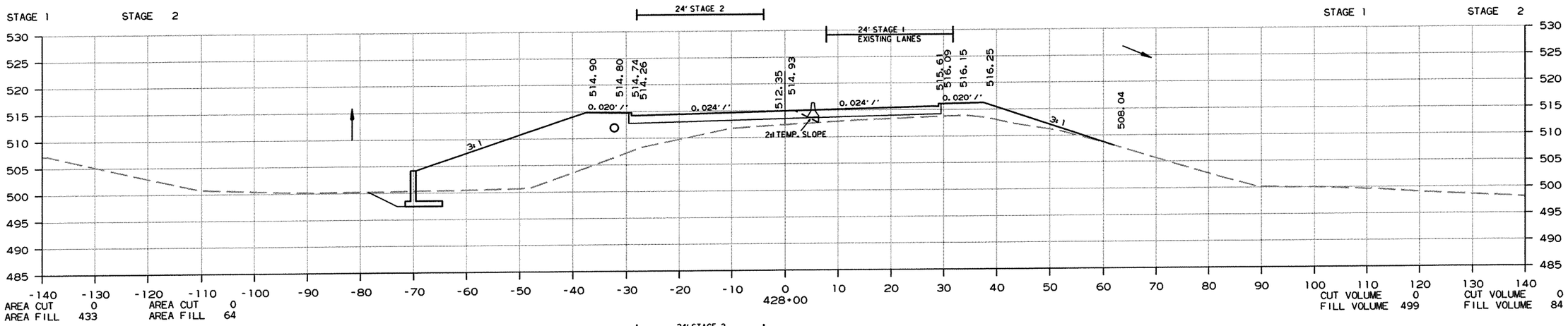


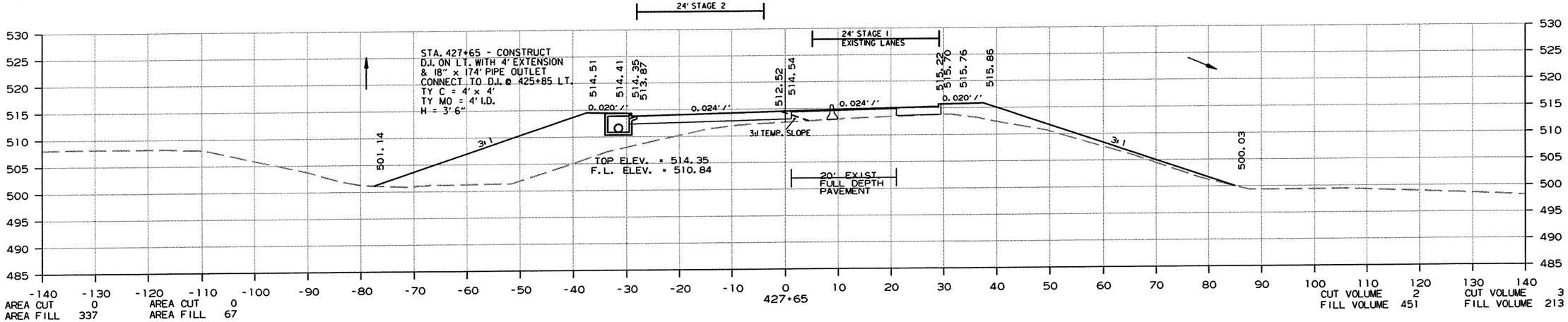
CROSS SECTION STA. 425+85 TO STA. 426+93

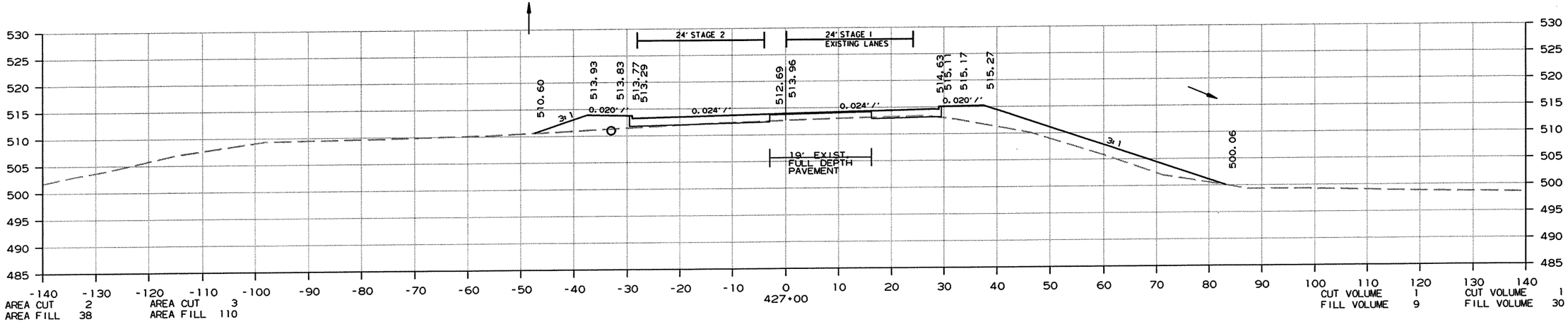
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				6	ARK.			
				JOB NO.		080390	199	263

(2) CROSS SECTIONS





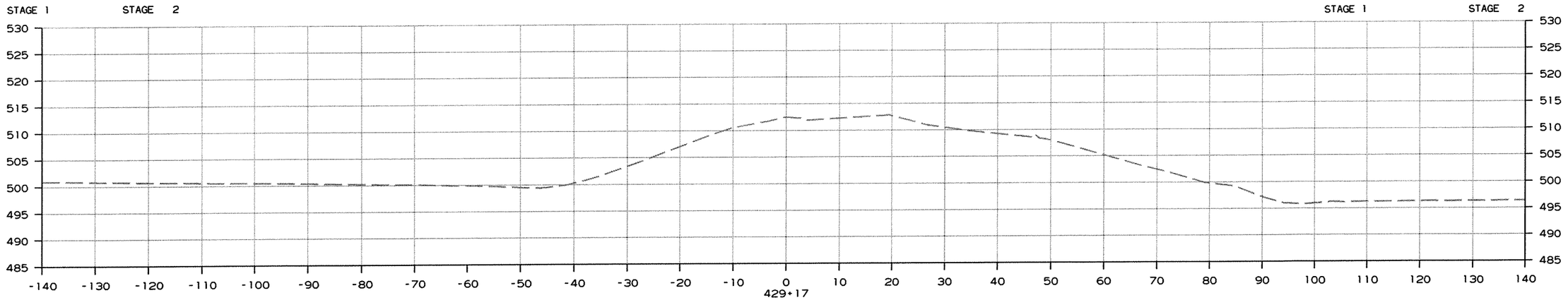


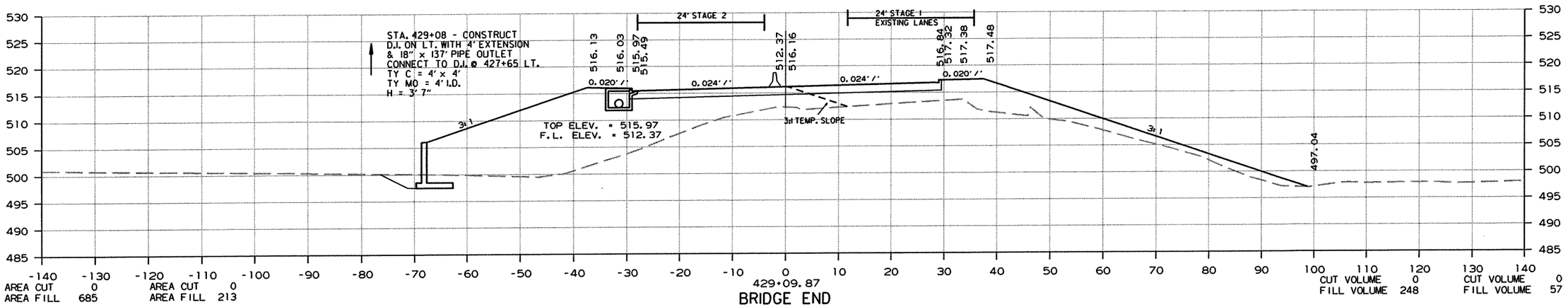
CROSS SECTION STA. 427+00 TO STA. 428+00

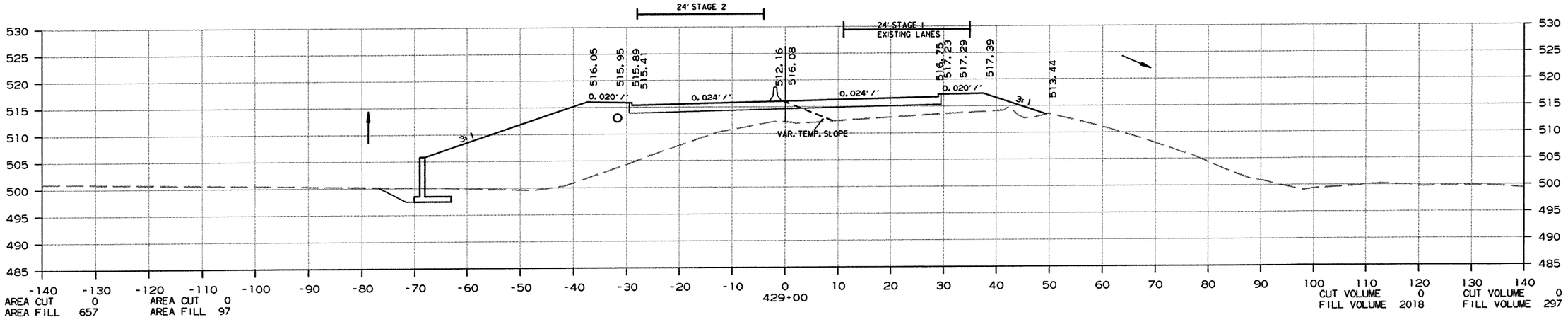
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) CROSS SECTIONS







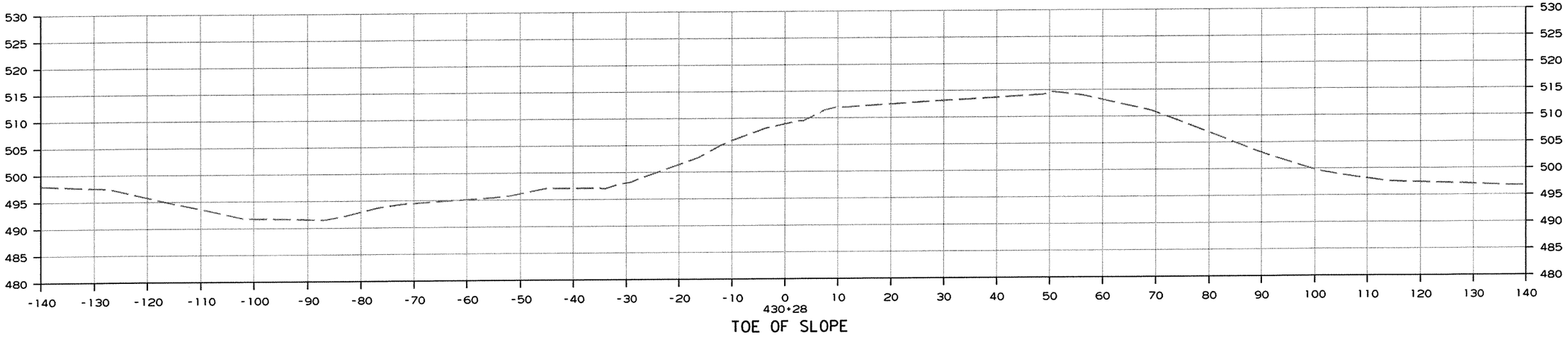
CROSS SECTION STA. 429+00 TO STA. 429+17

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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.		080390	201	263

(2) CROSS SECTIONS

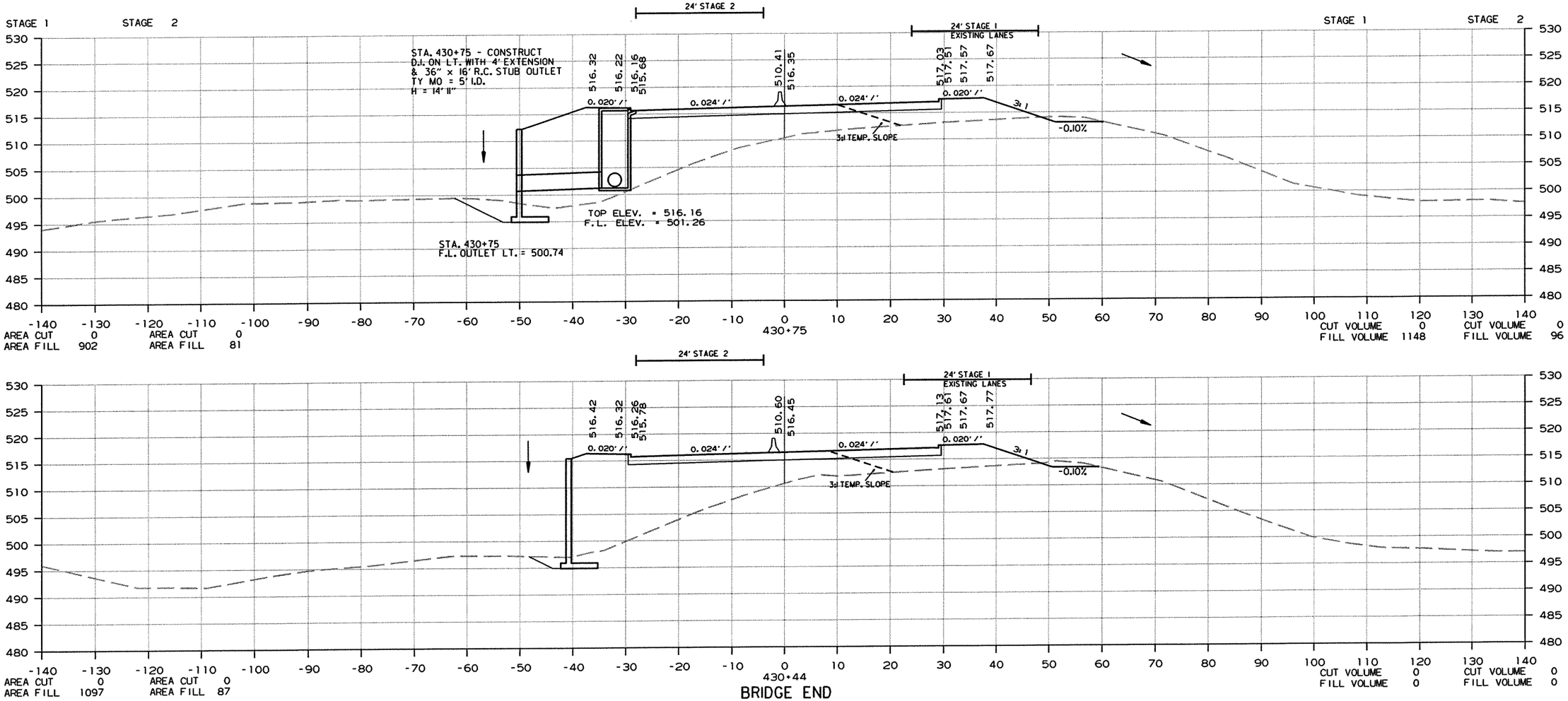


CROSS SECTION STA. 430+28 TO STA. 430+28

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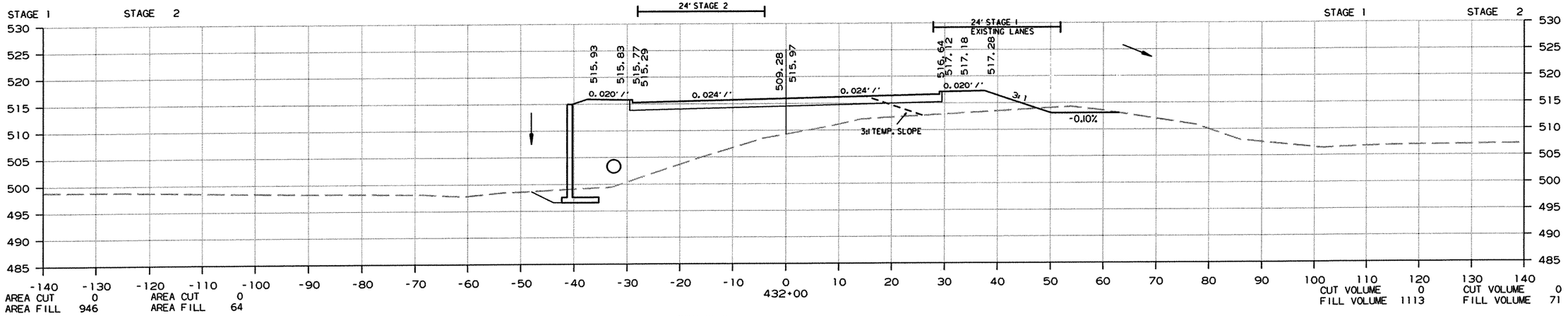


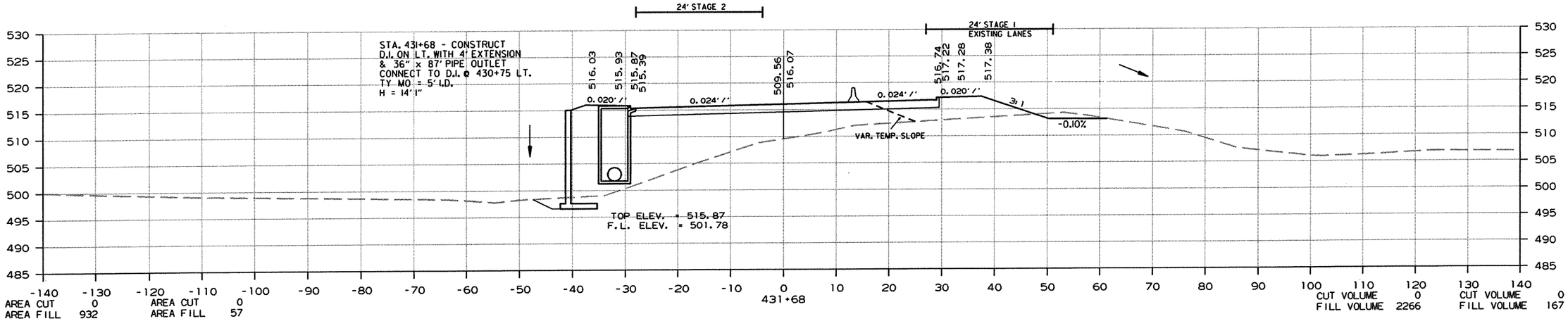
CROSS SECTION STA. 430+44 TO STA. 430+75

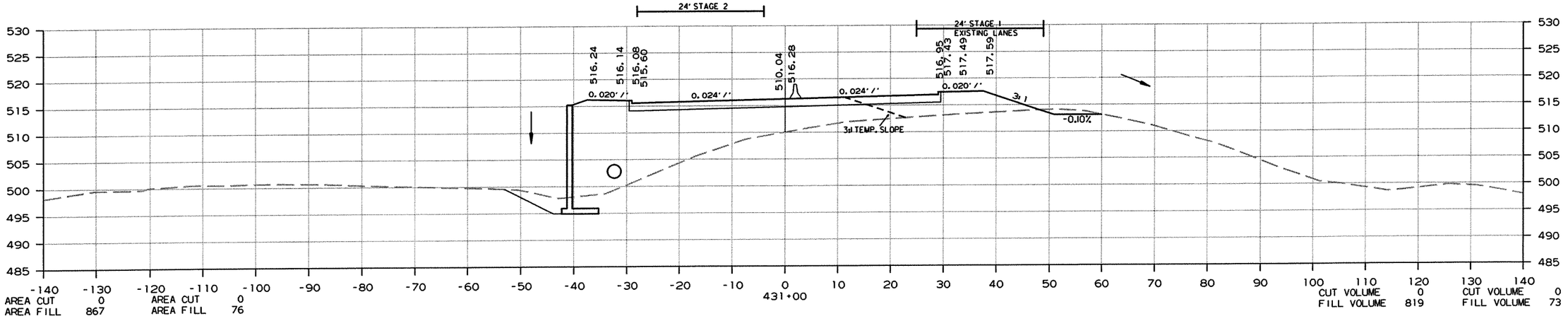
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS





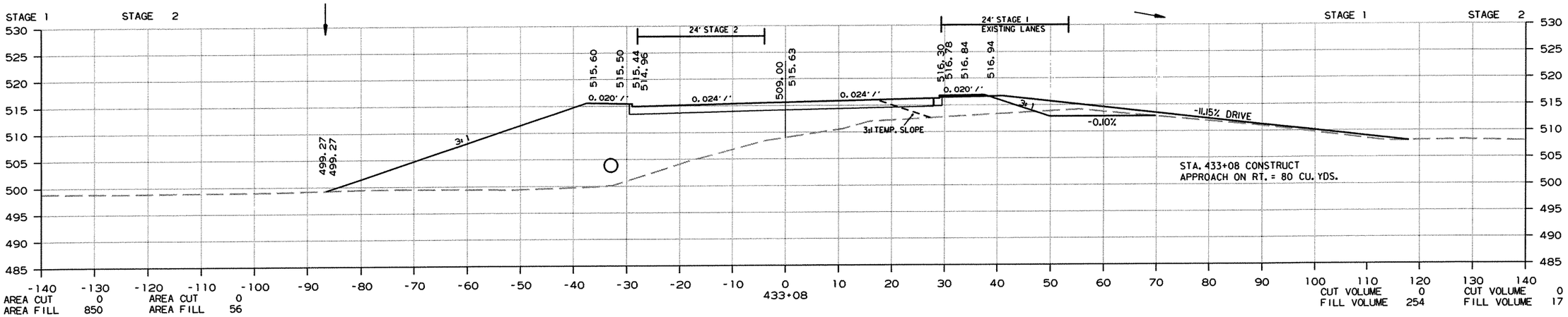


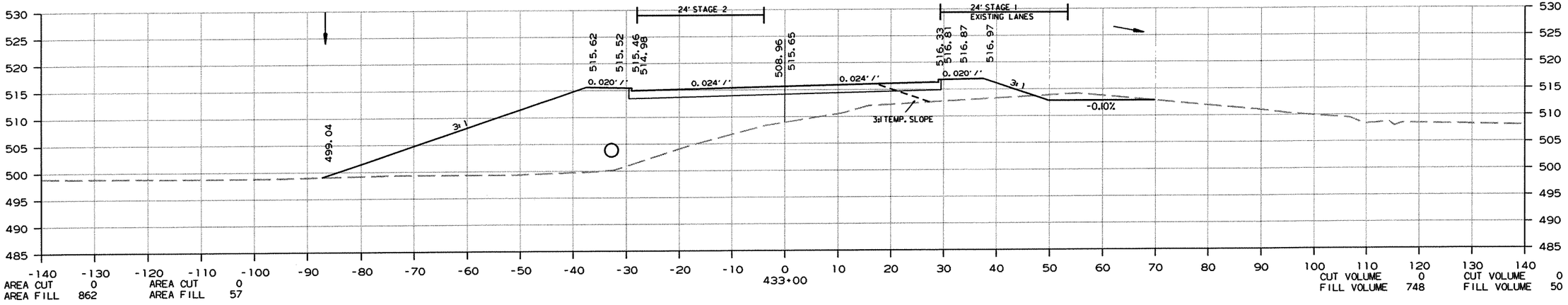
CROSS SECTION STA. 431+00 TO STA. 432+00

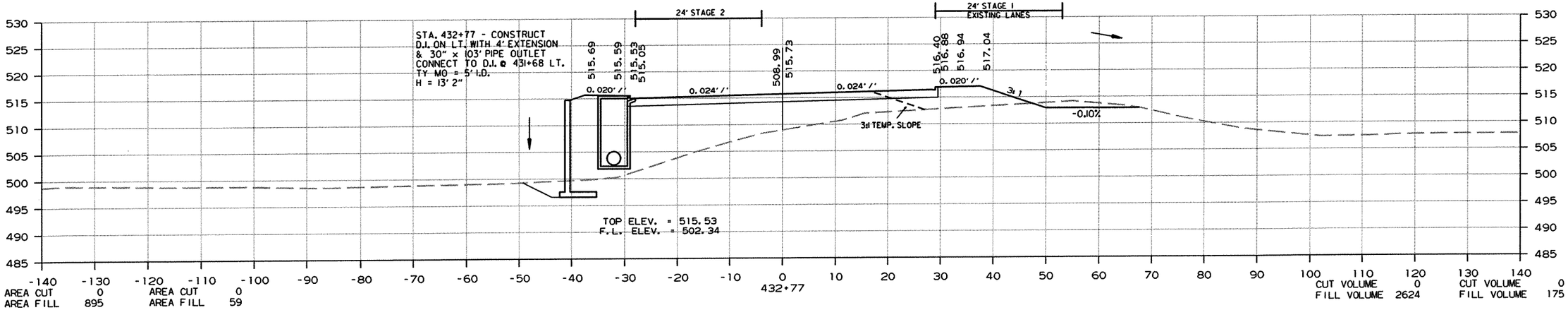
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				JOB NO.		080390	204	263

(2) CROSS SECTIONS





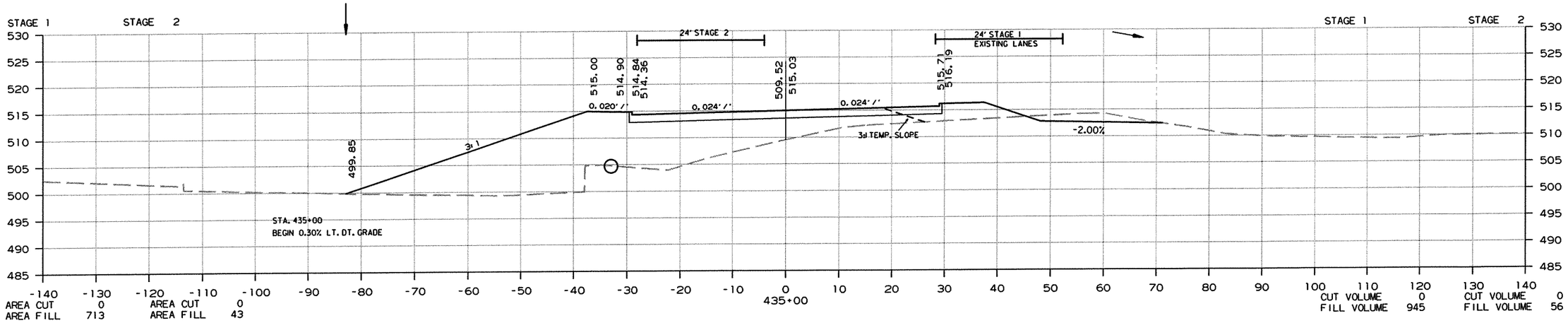


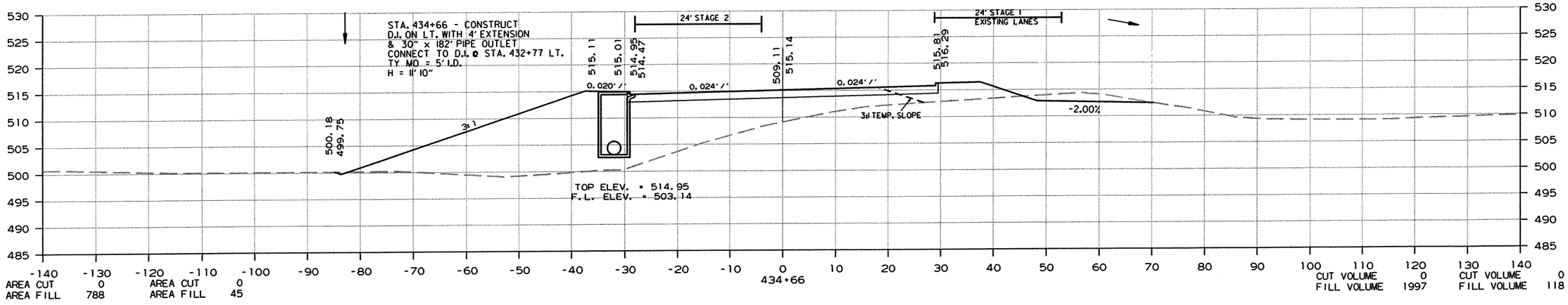
CROSS SECTION STA. 432+77 TO STA. 433+08

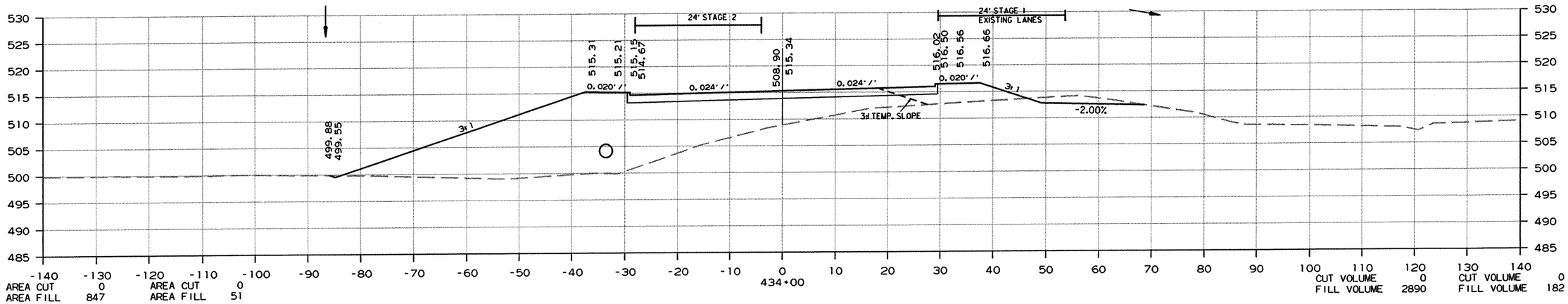
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS





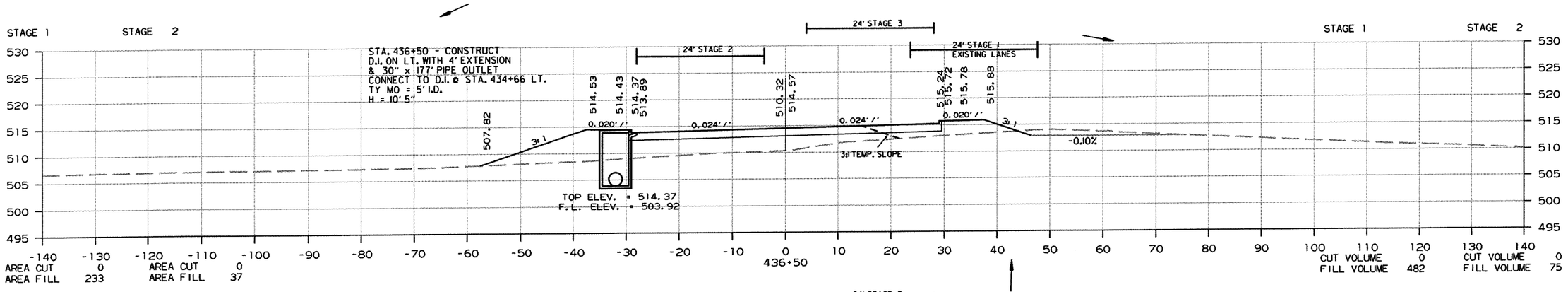


CROSS SECTION STA. 434+00 TO STA. 435+00

R080390.DGN 12/14/2012

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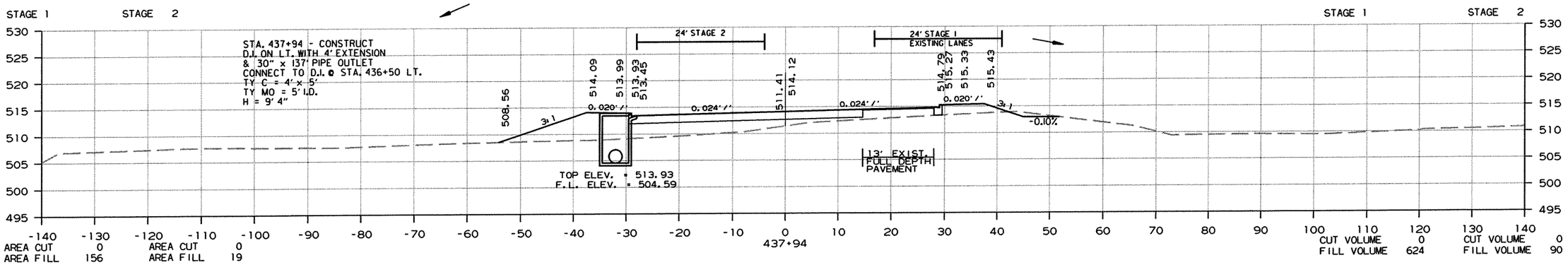


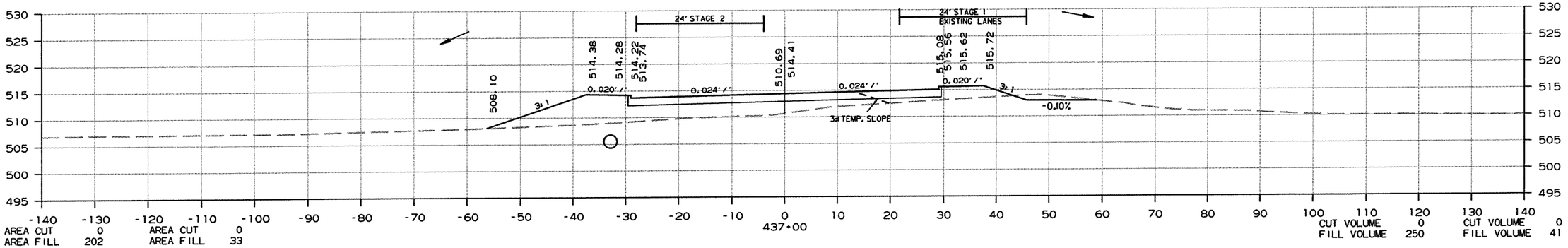
CROSS SECTION STA. 435+79 TO STA. 436+50

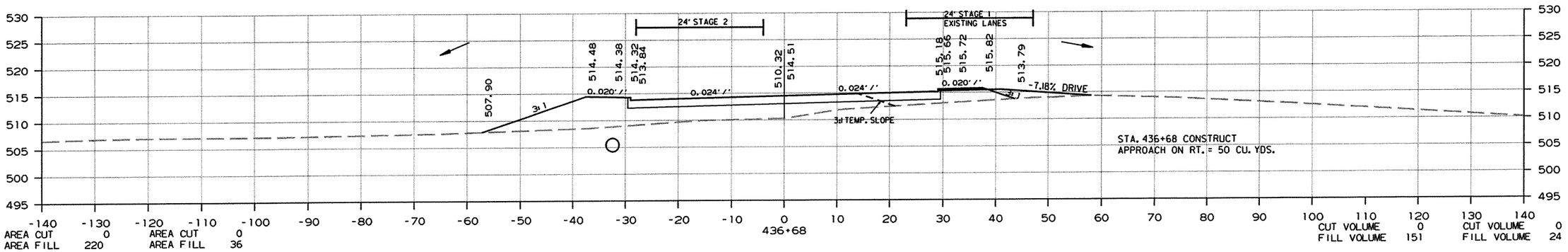
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(2) CROSS SECTIONS





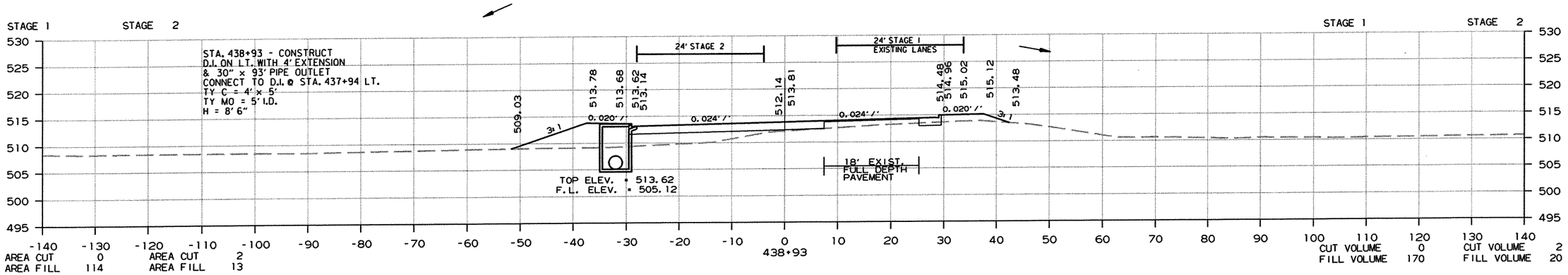


CROSS SECTION STA. 436+68 TO STA. 437+94

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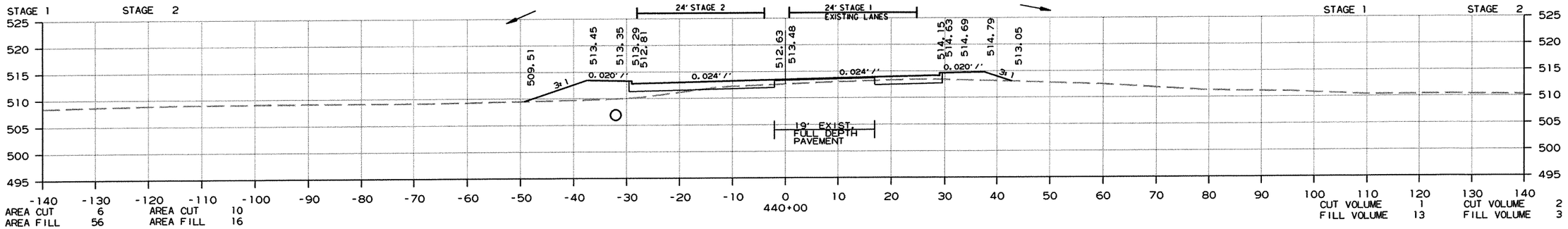


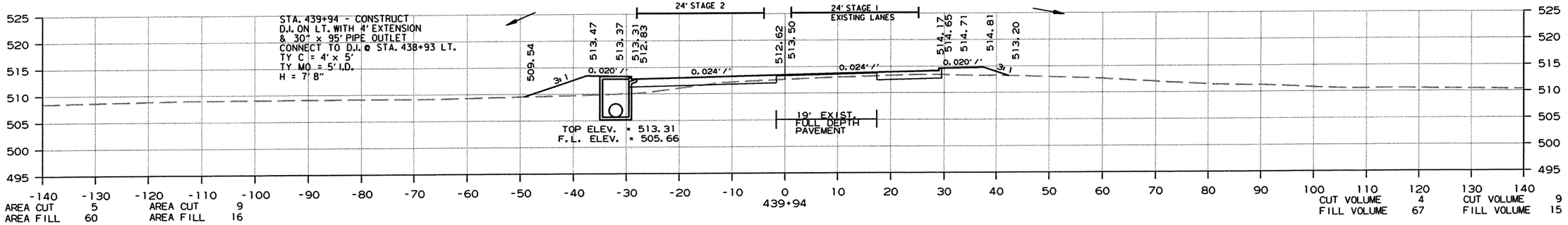
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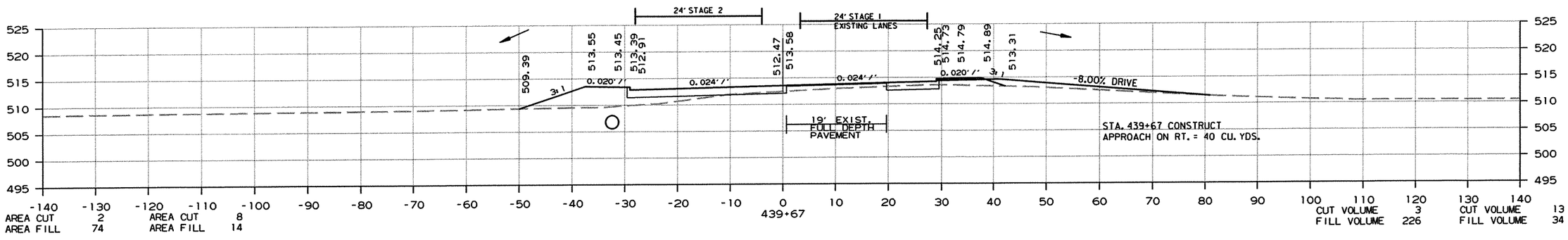
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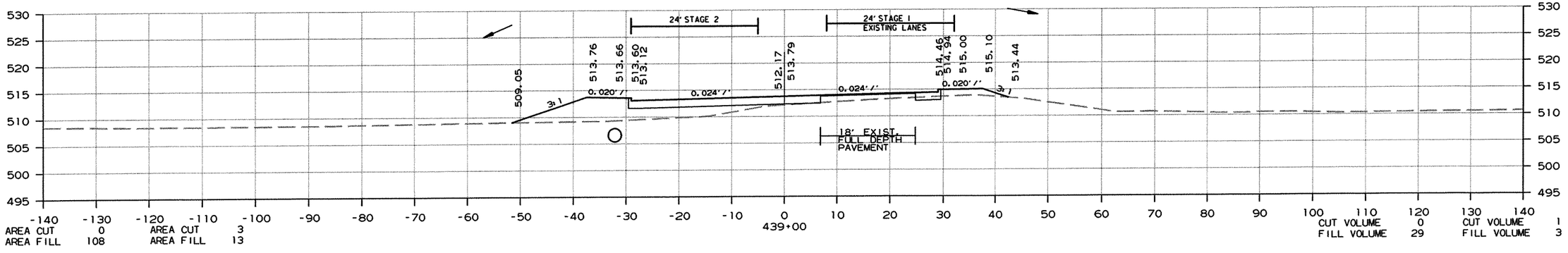
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(2) CROSS SECTIONS







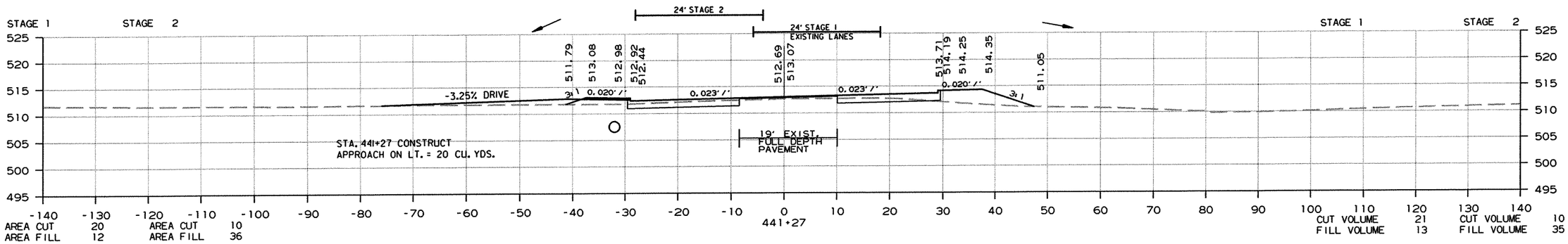


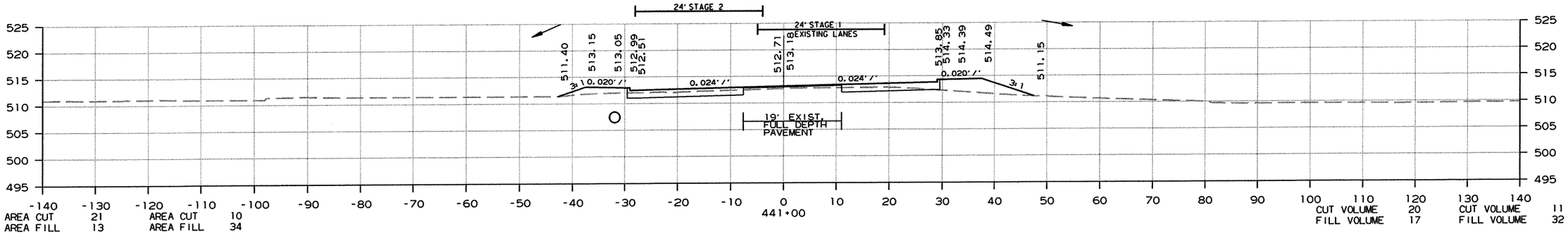
CROSS SECTION STA. 439+00 TO STA. 440+00

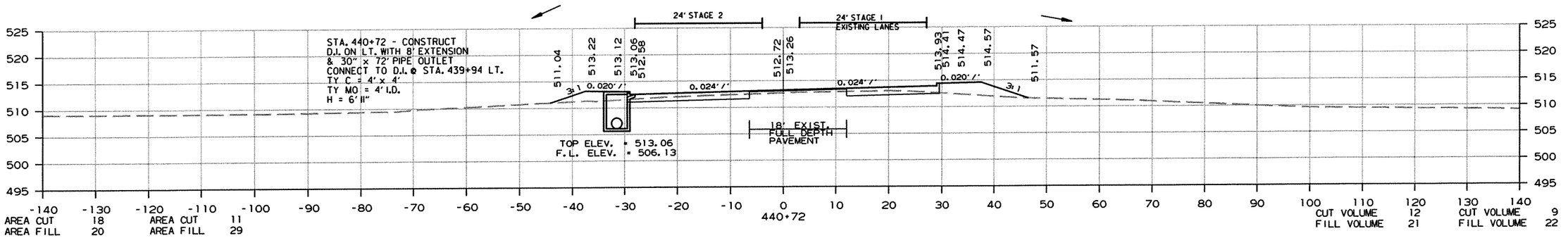
R080390.DGN 12/17/2012

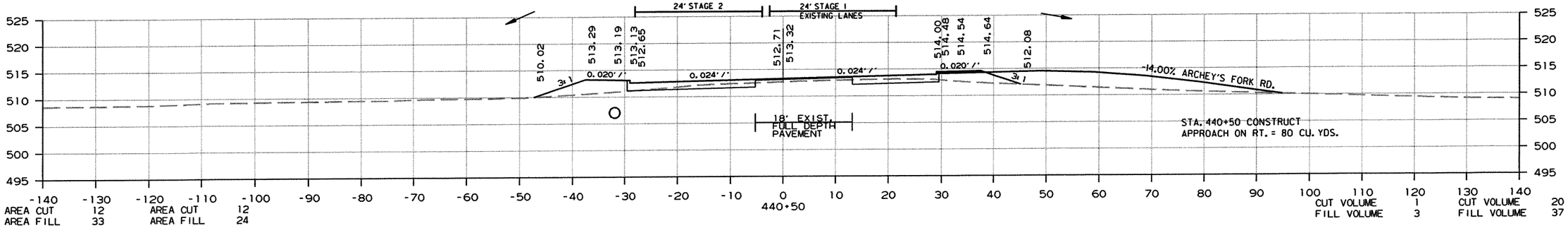
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	210	263

(2) CROSS SECTIONS







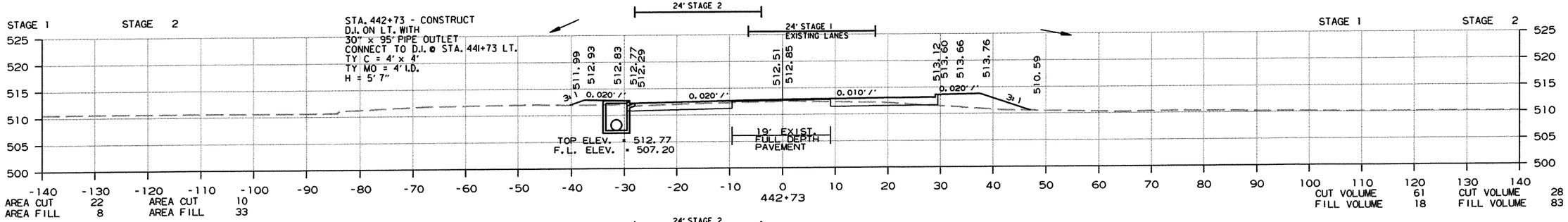


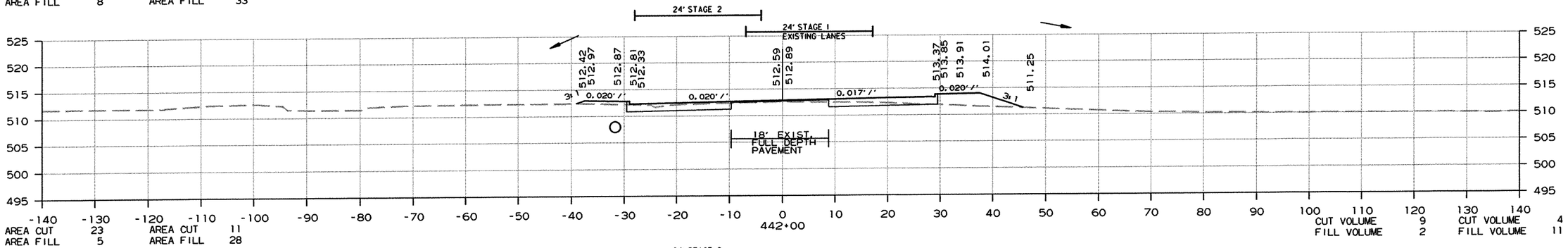
CROSS SECTION STA. 440+50 TO STA. 441+27

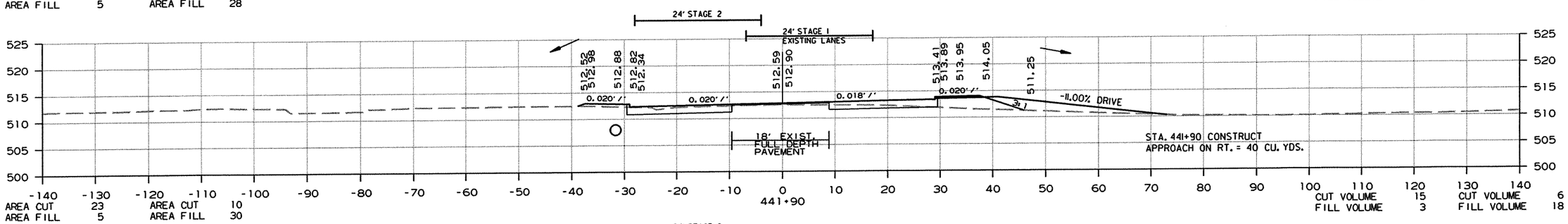
R080390.DGN 12/17/2012

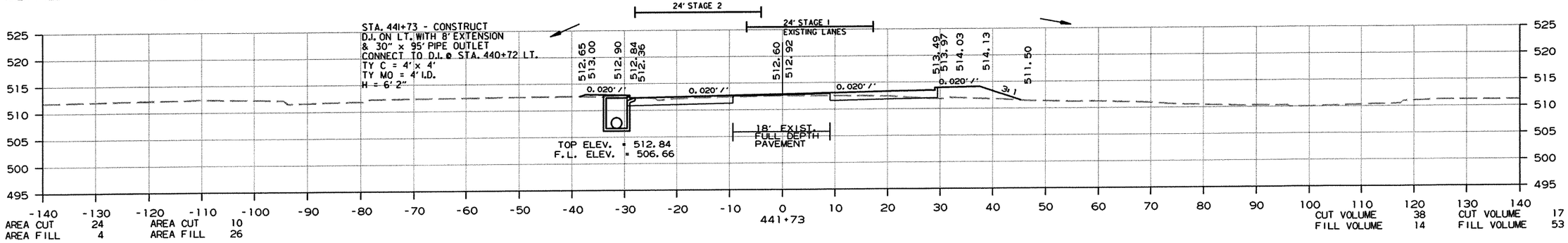
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	211	263

(2) CROSS SECTIONS







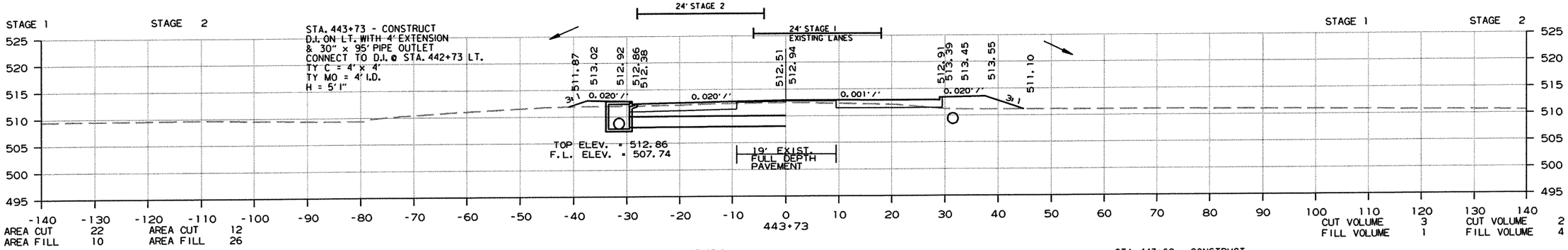


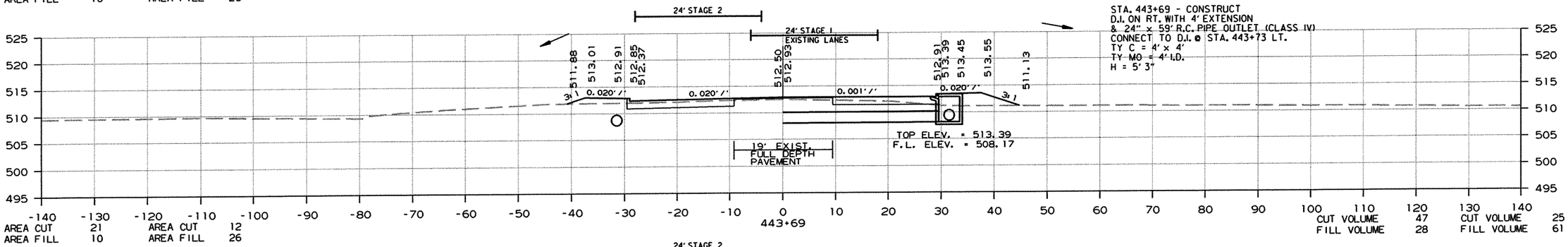
CROSS SECTION STA. 441+73 TO STA. 442+73

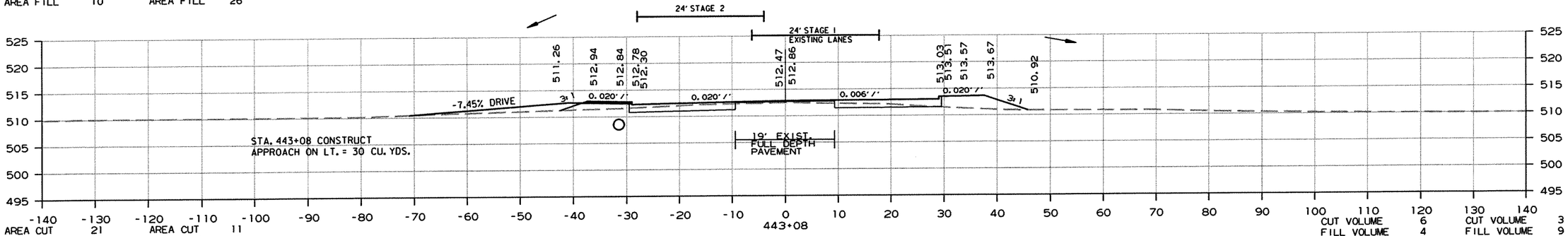
R080390.DGN 12/17/2012

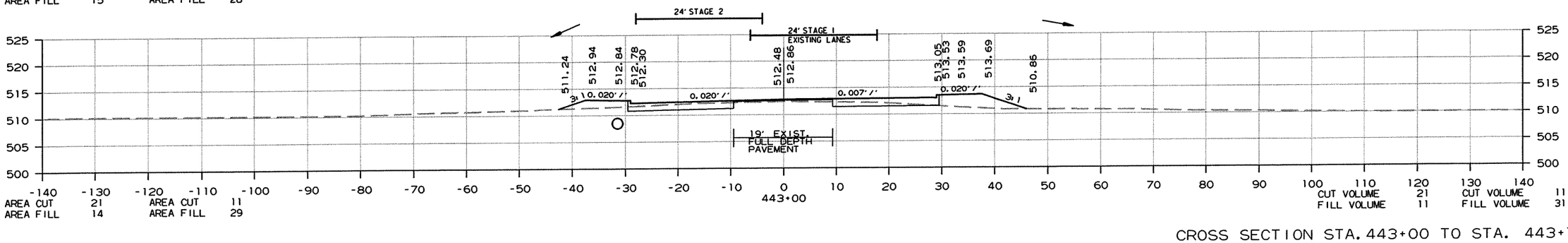
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	212	263

(2) CROSS SECTIONS







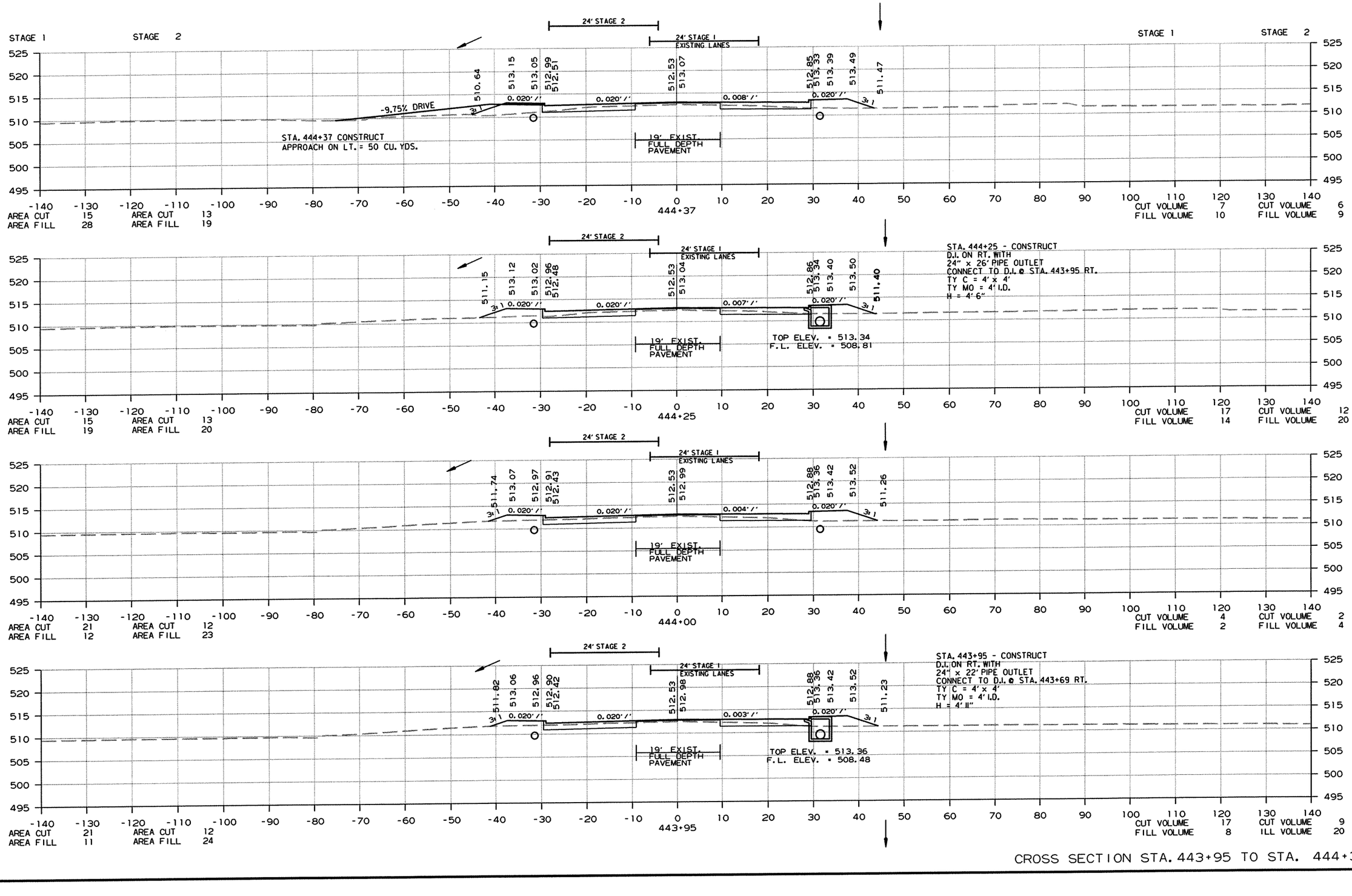


CROSS SECTION STA. 443+00 TO STA. 443+73

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	213	263

(2) CROSS SECTIONS

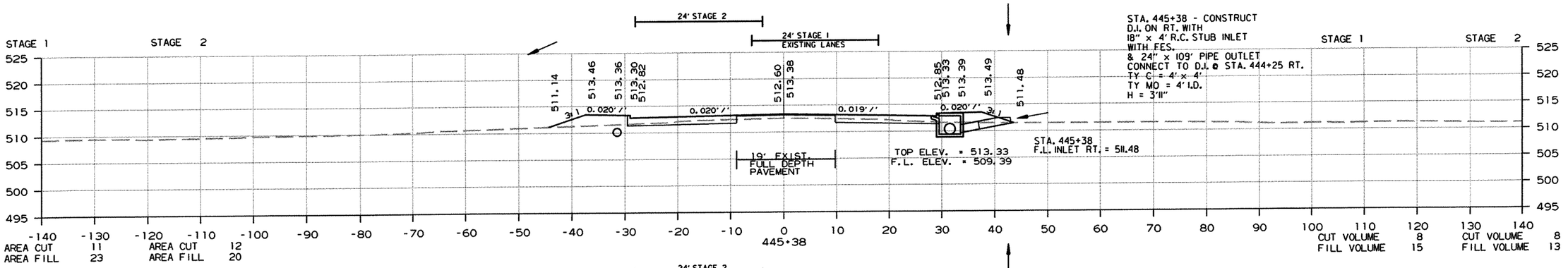


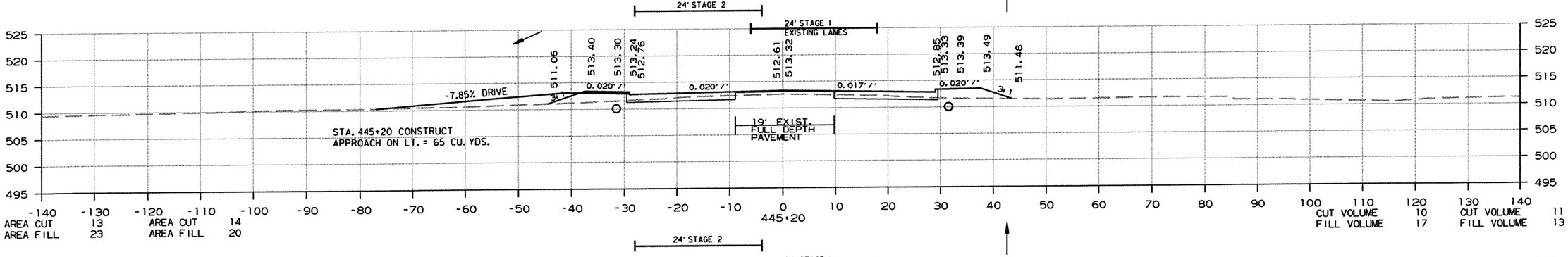
CROSS SECTION STA. 443+95 TO STA. 444+37

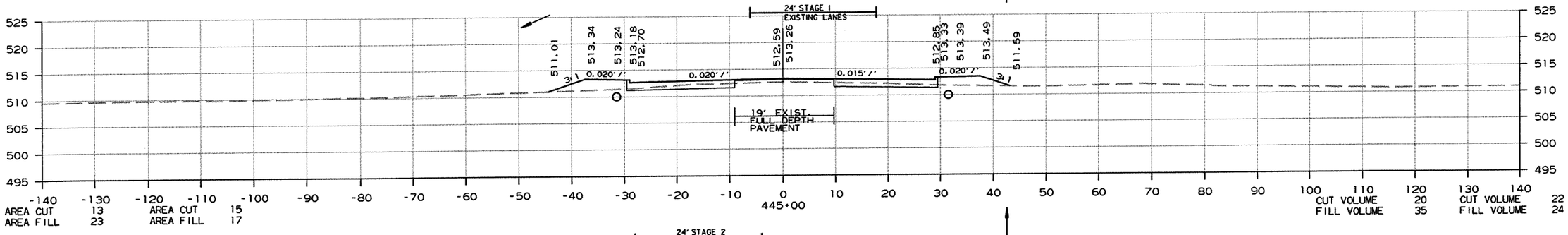
R080390.DGN 12/17/2012

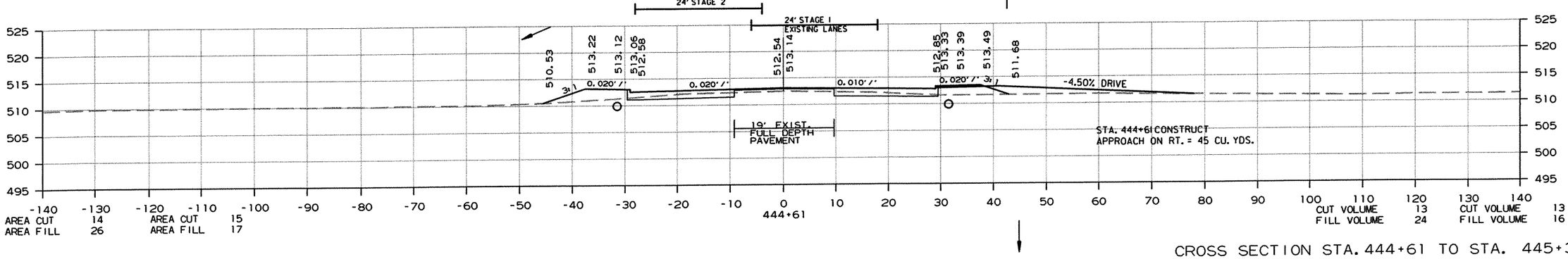
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	214	263

(2) CROSS SECTIONS







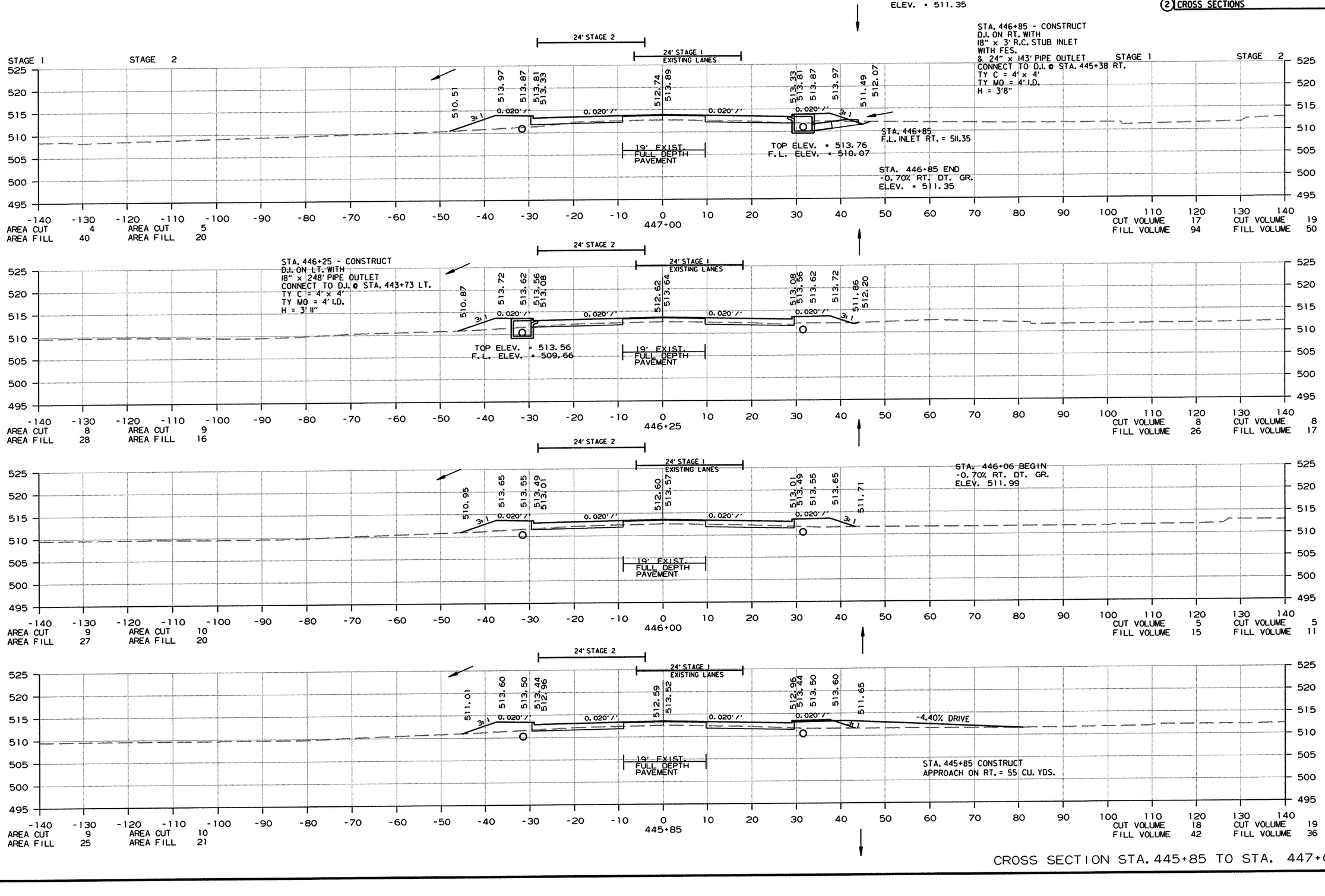


CROSS SECTION STA. 444+61 TO STA. 445+38

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	215	263

(2) CROSS SECTIONS

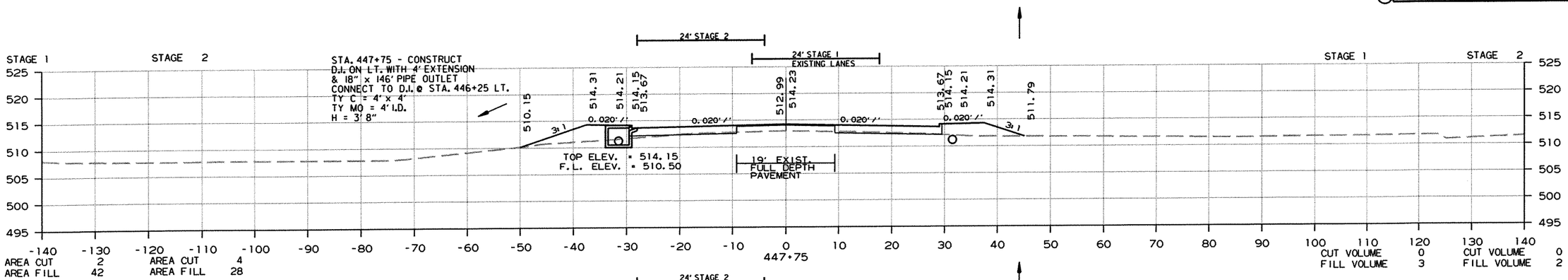


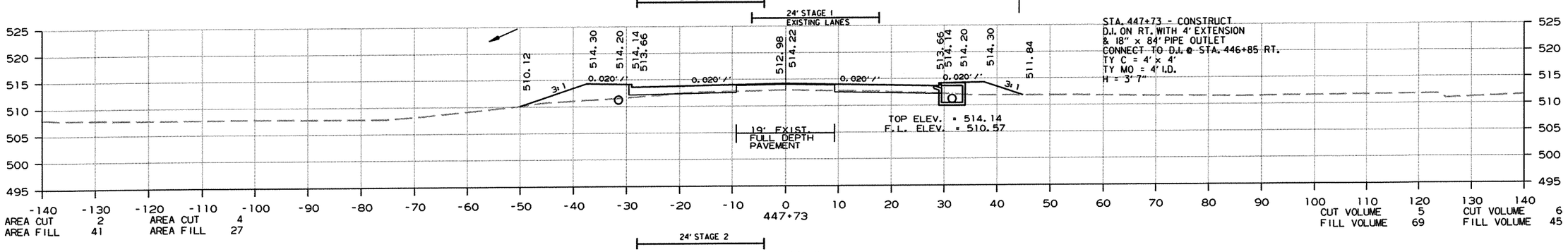
CROSS SECTION STA. 445+85 TO STA. 447+00

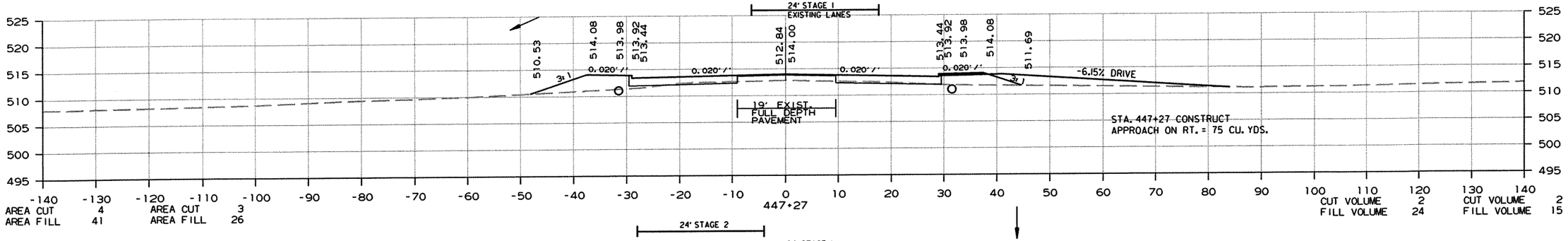
R080390.DGN 12/17/2012

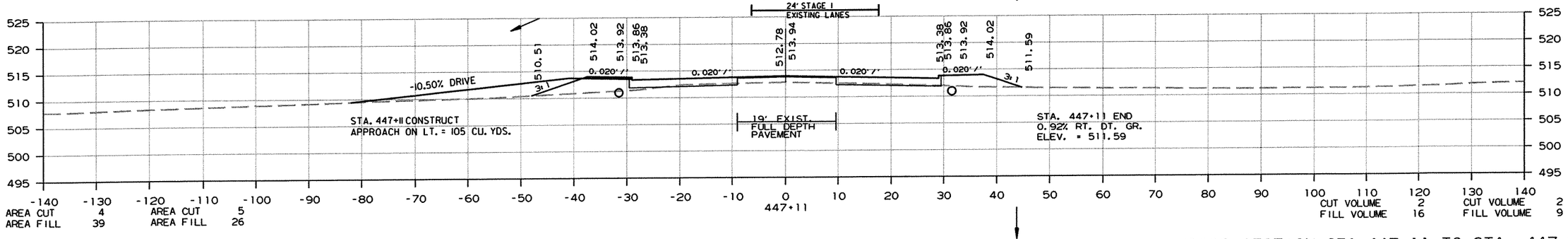
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	216	263

(2) CROSS SECTIONS







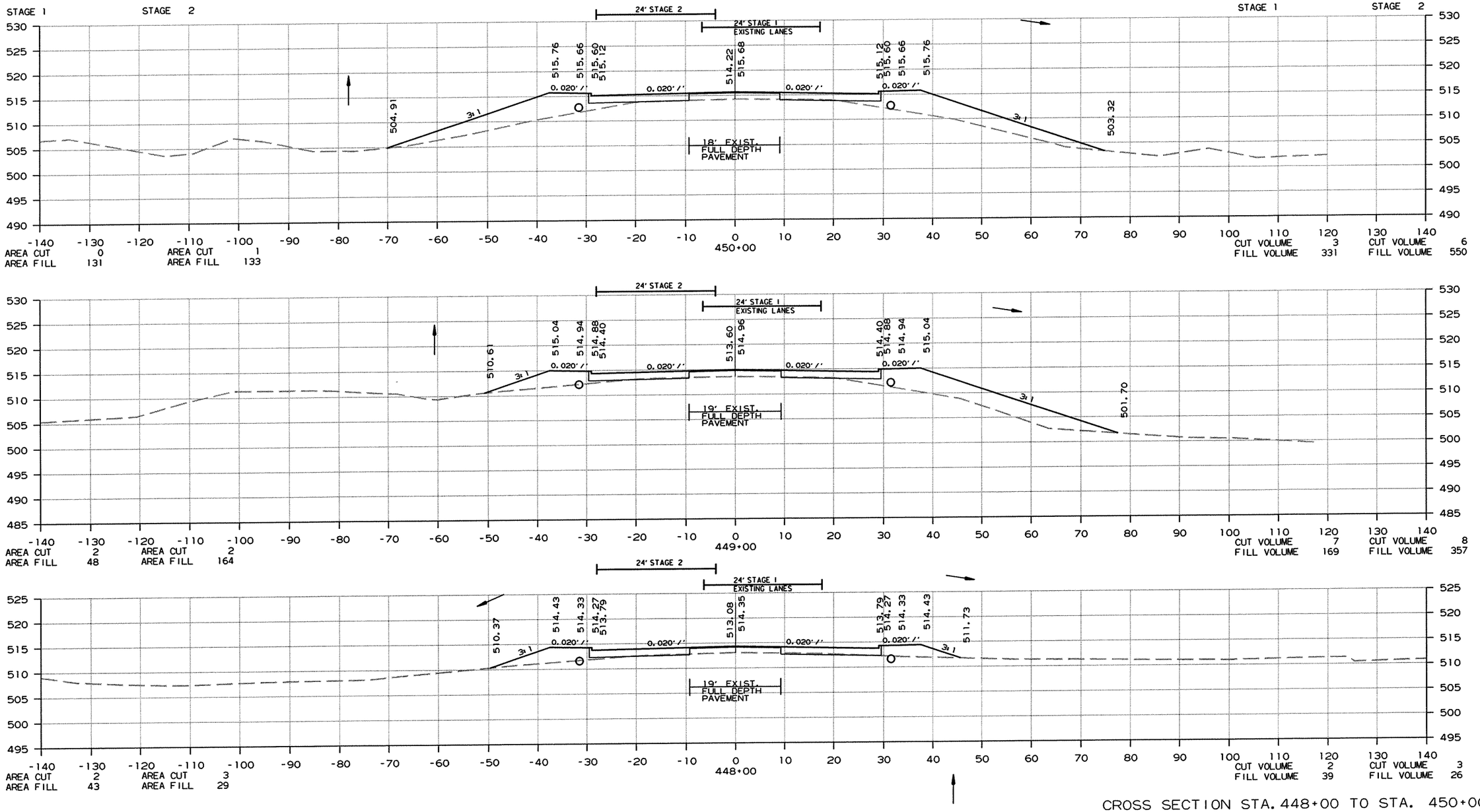


CROSS SECTION STA. 447+11 TO STA. 447+75

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	217	263

(2) CROSS SECTIONS

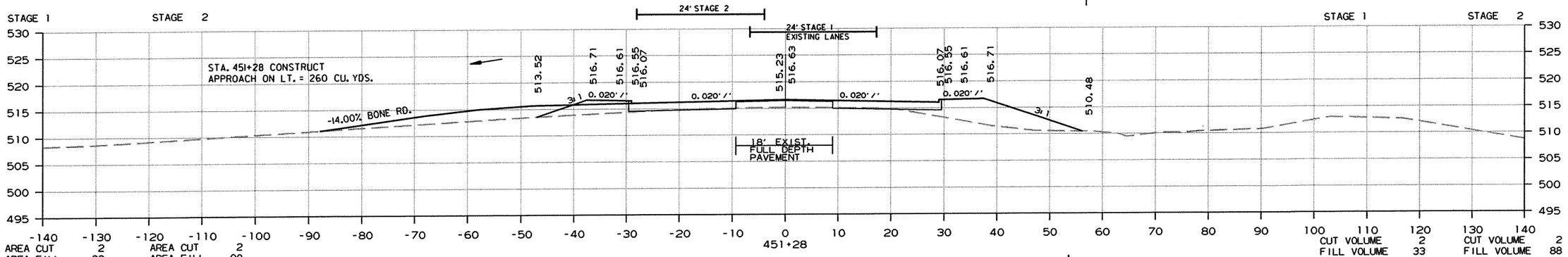


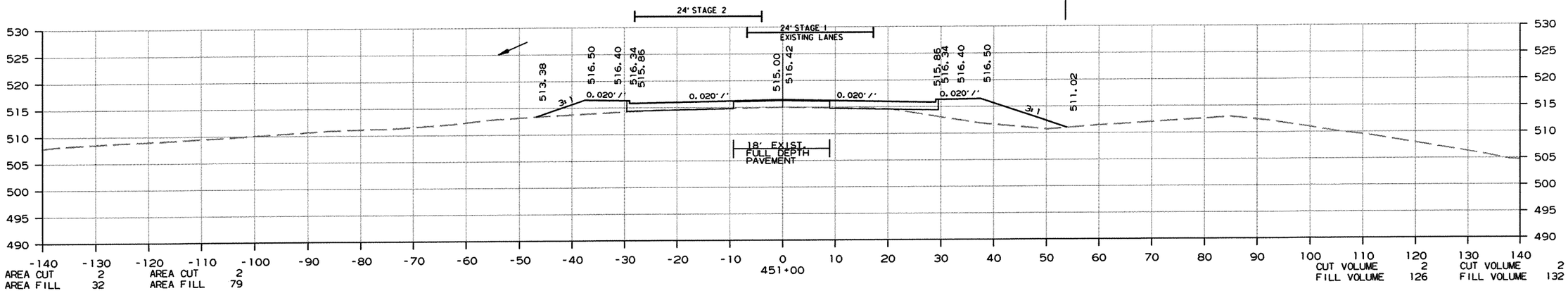
CROSS SECTION STA. 448+00 TO STA. 450+00

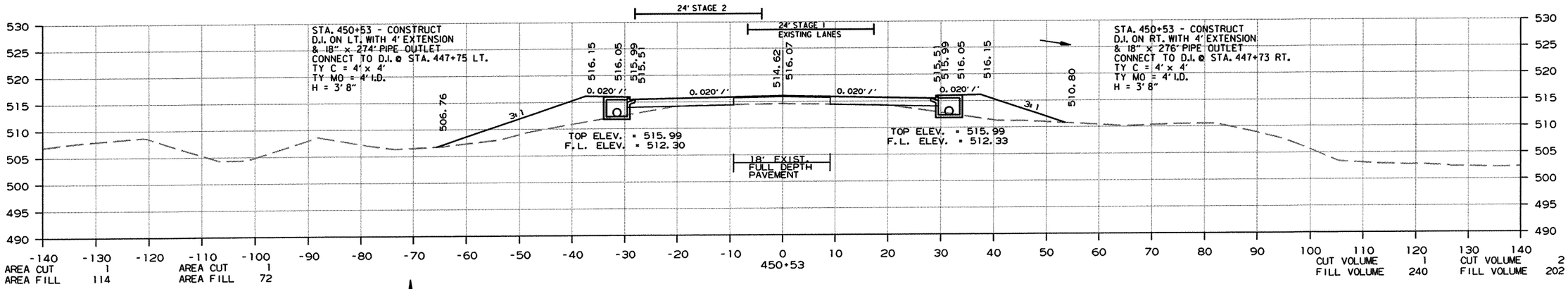
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	218	263

(2) CROSS SECTIONS





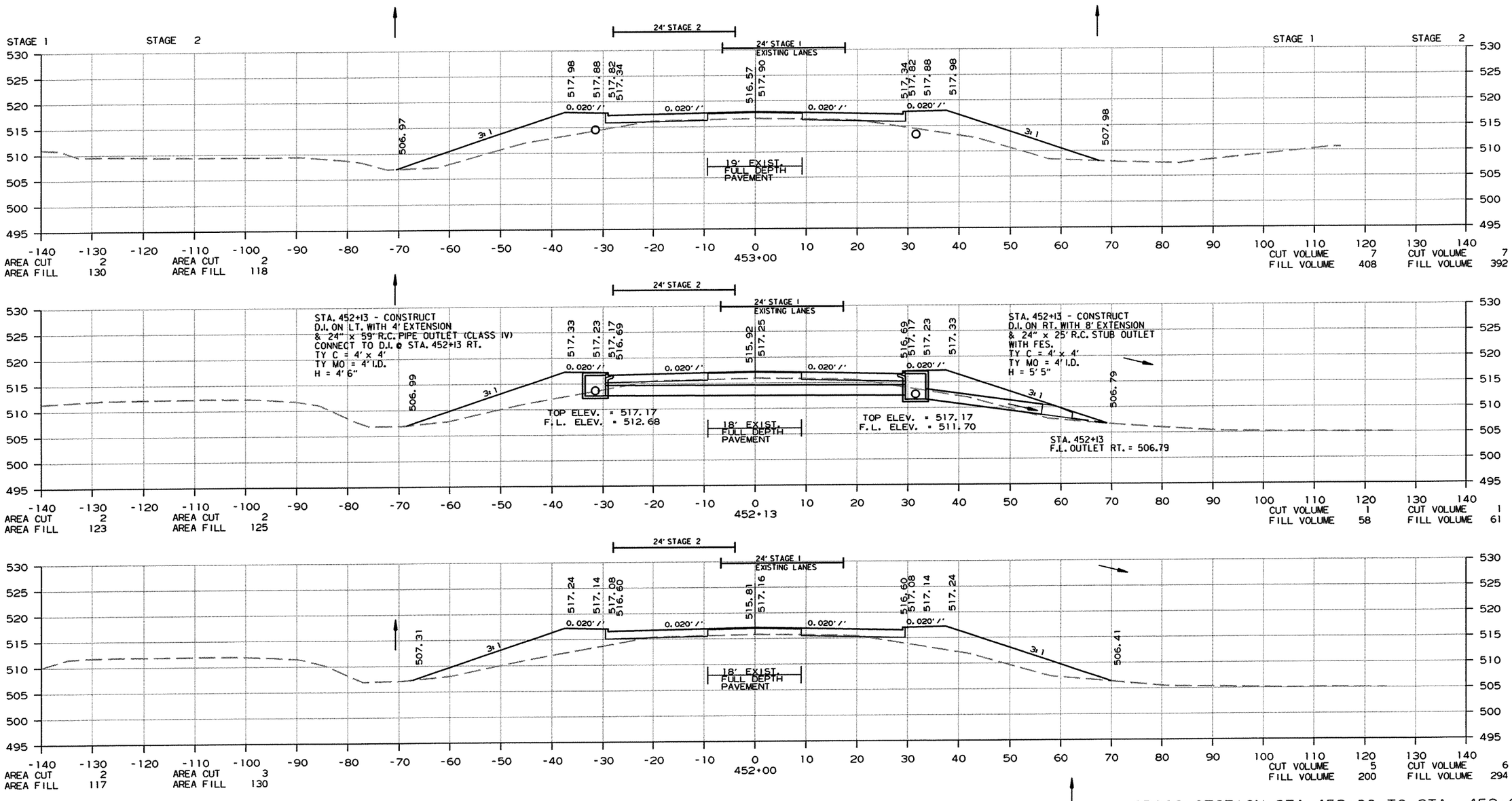


CROSS SECTION STA. 450+53 TO STA. 451+28

R080390.DGN 12/17/2012

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.		080390	219	263

(2) CROSS SECTIONS

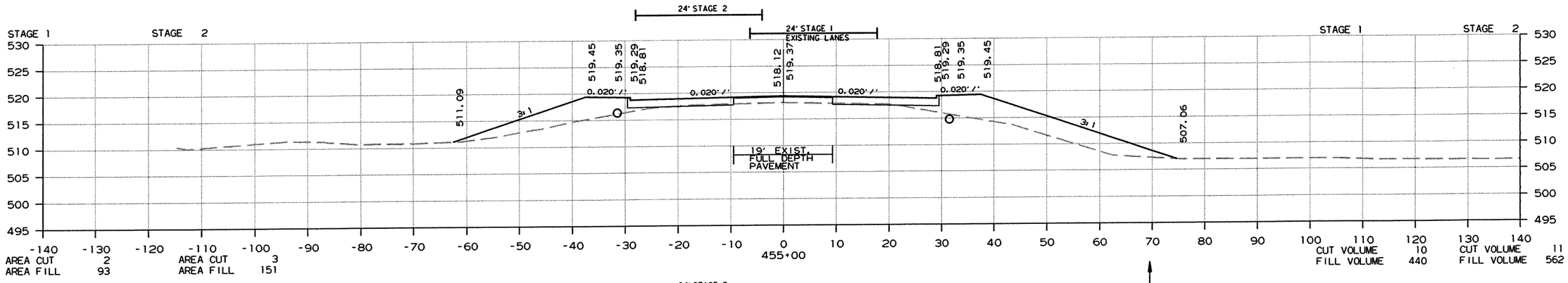


CROSS SECTION STA. 452+00 TO STA. 453+00

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	220	263

(2) CROSS SECTIONS

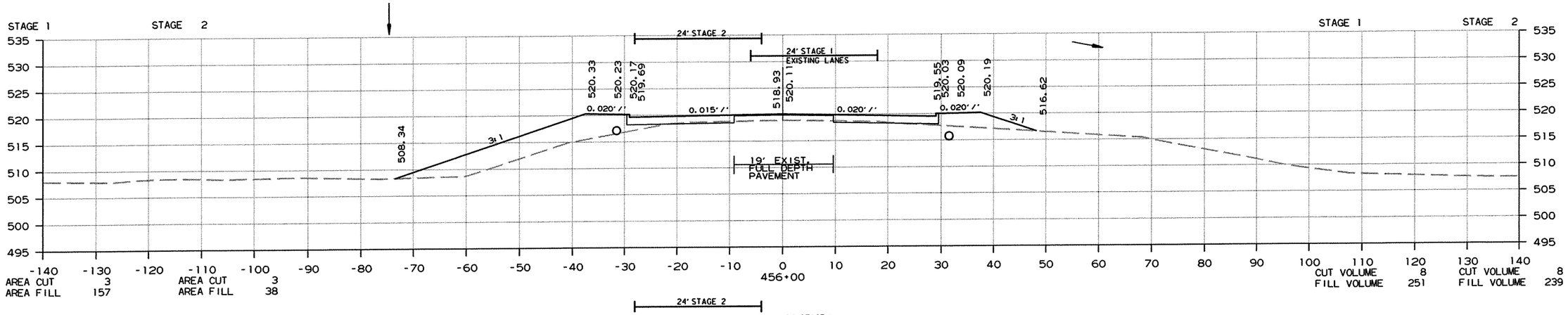


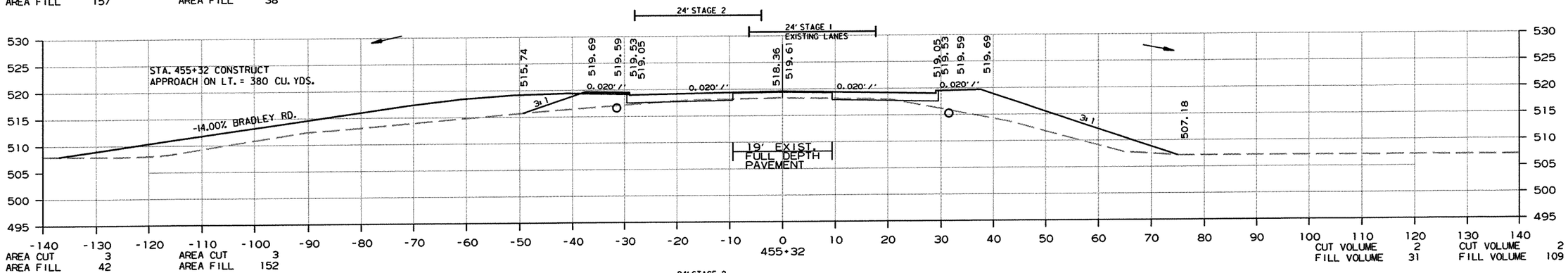
CROSS SECTION STA. 453+53 TO STA. 455+00

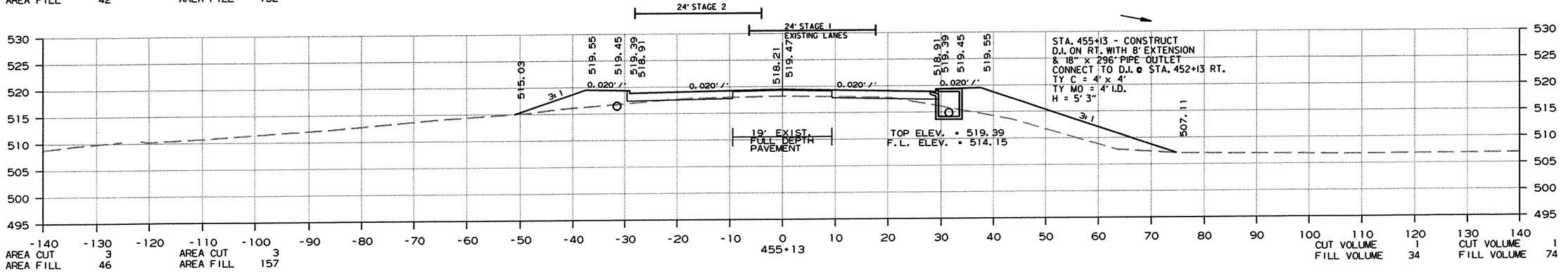
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	221	263

(2) CROSS SECTIONS





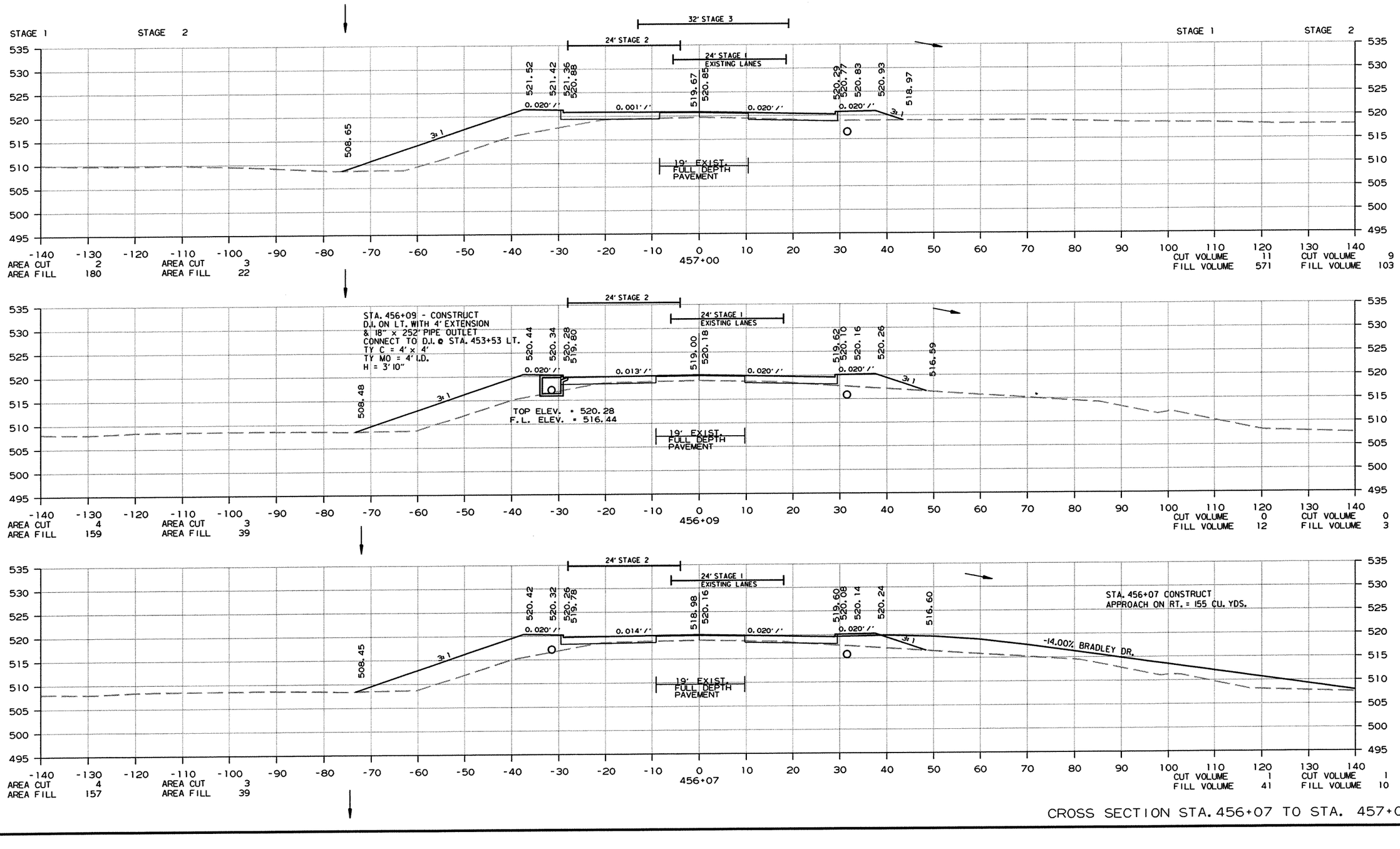


CROSS SECTION STA. 455+13 TO STA. 456+00

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	222	263

(2) CROSS SECTIONS

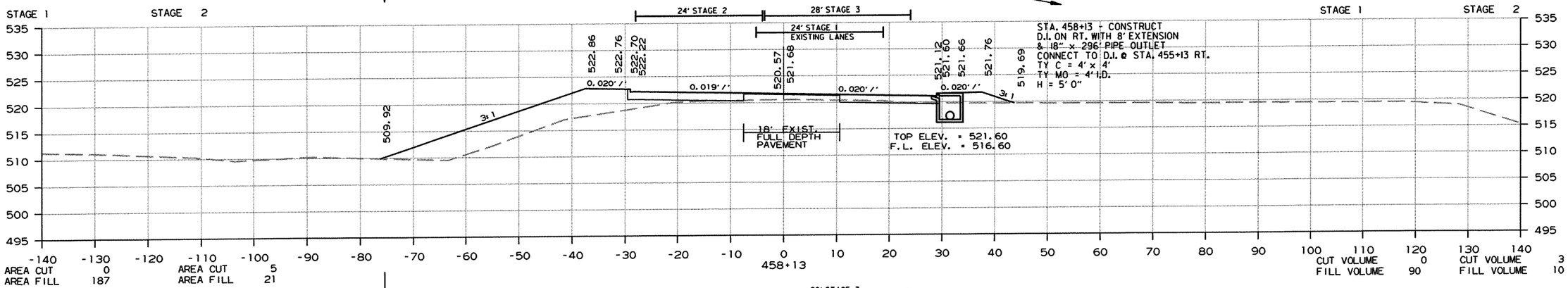


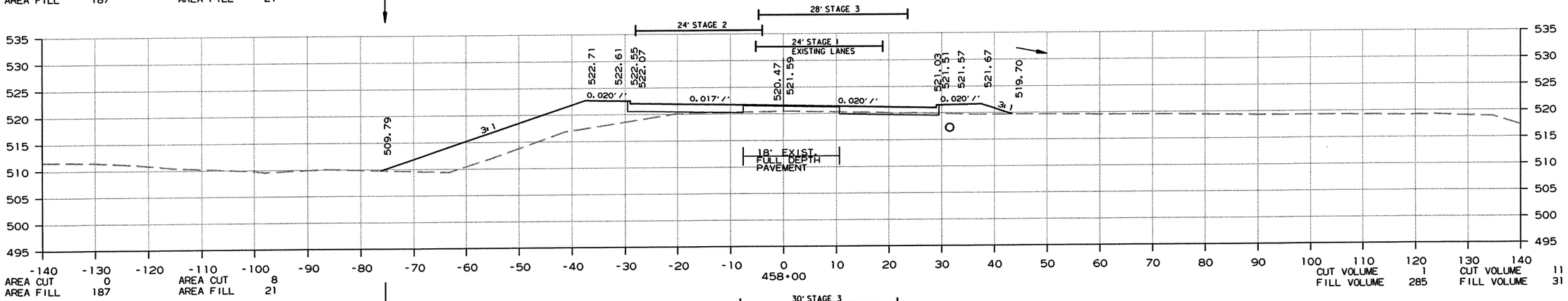
CROSS SECTION STA. 456+07 TO STA. 457+00

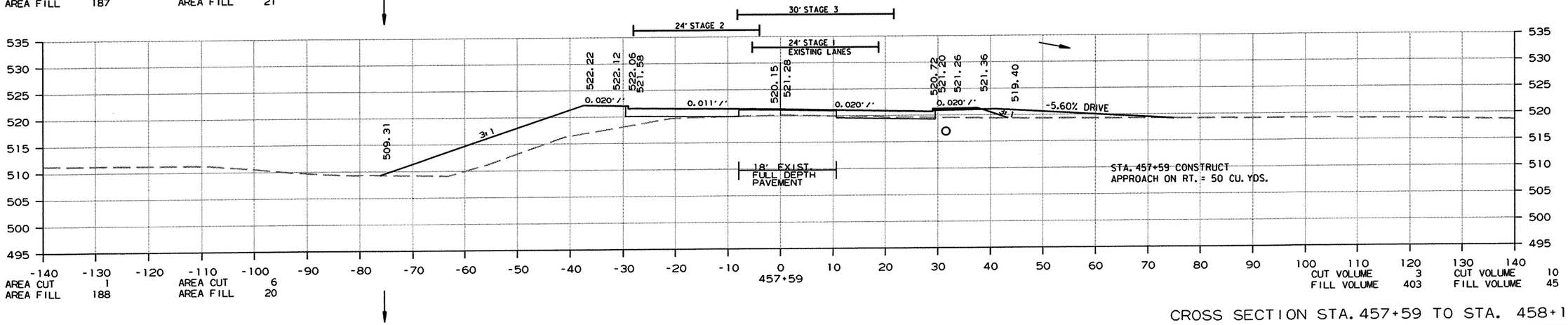
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	223	263

(2) CROSS SECTIONS





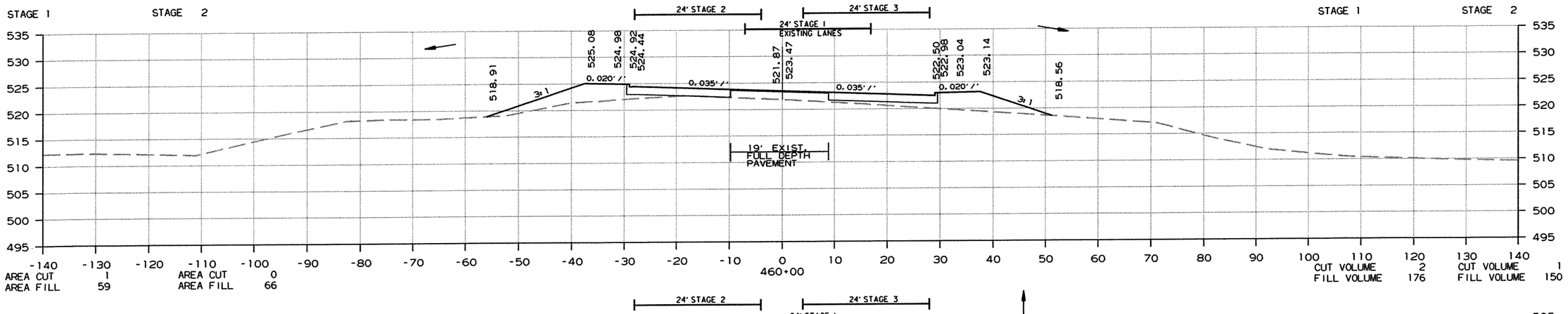


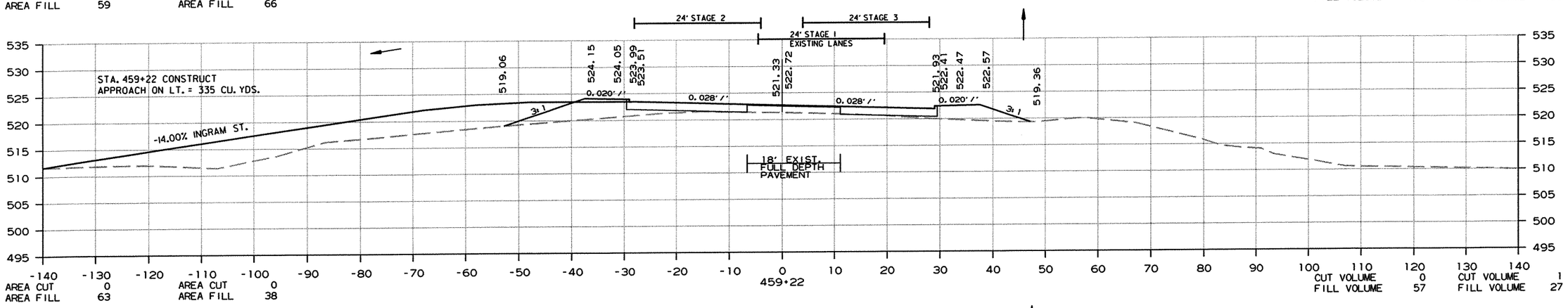
CROSS SECTION STA. 457+59 TO STA. 458+13

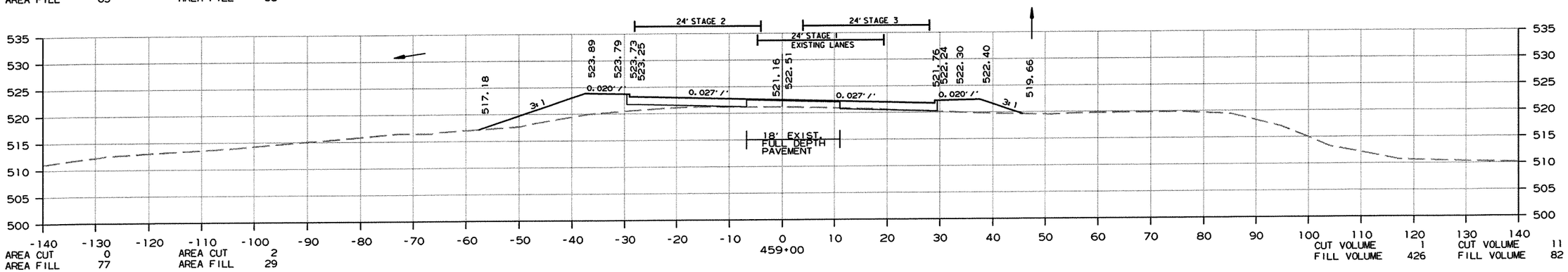
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	224	263

(2) CROSS SECTIONS





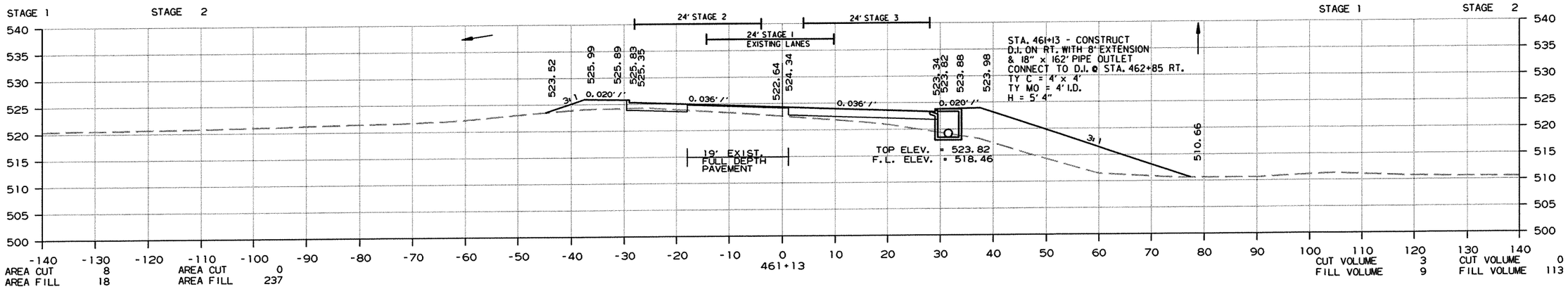


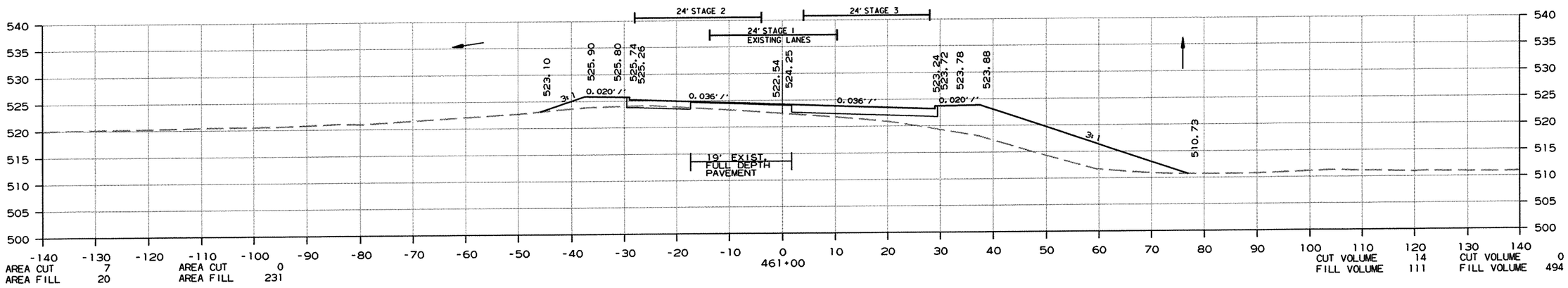
CROSS SECTION STA. 459+00 TO STA. 460+00

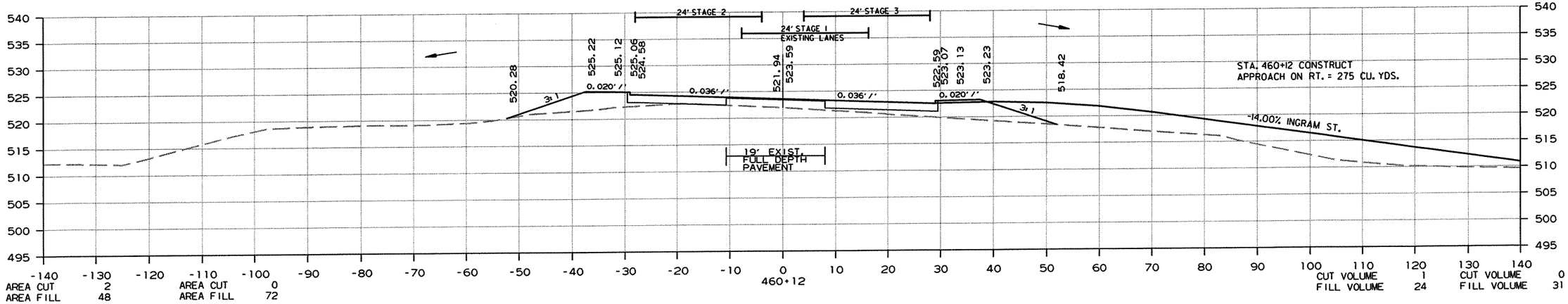
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	225	263

(2) CROSS SECTIONS





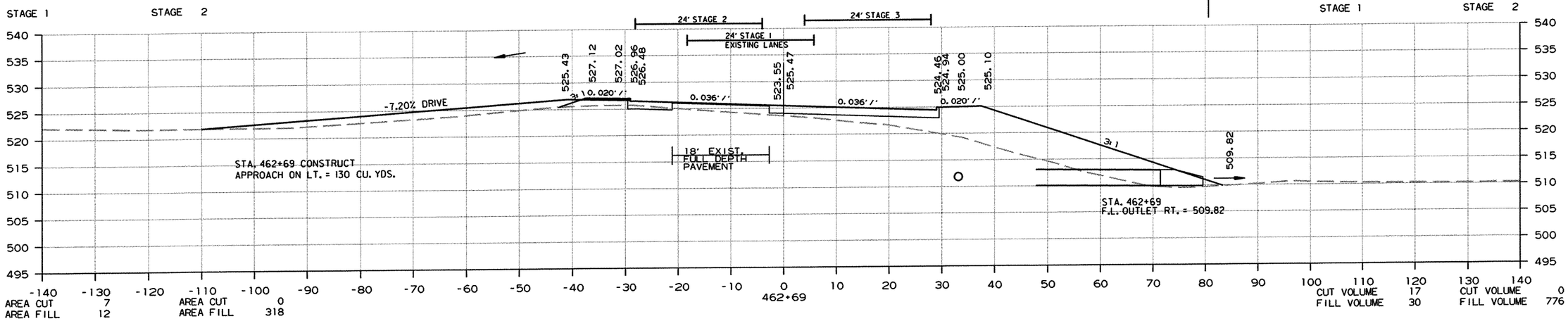


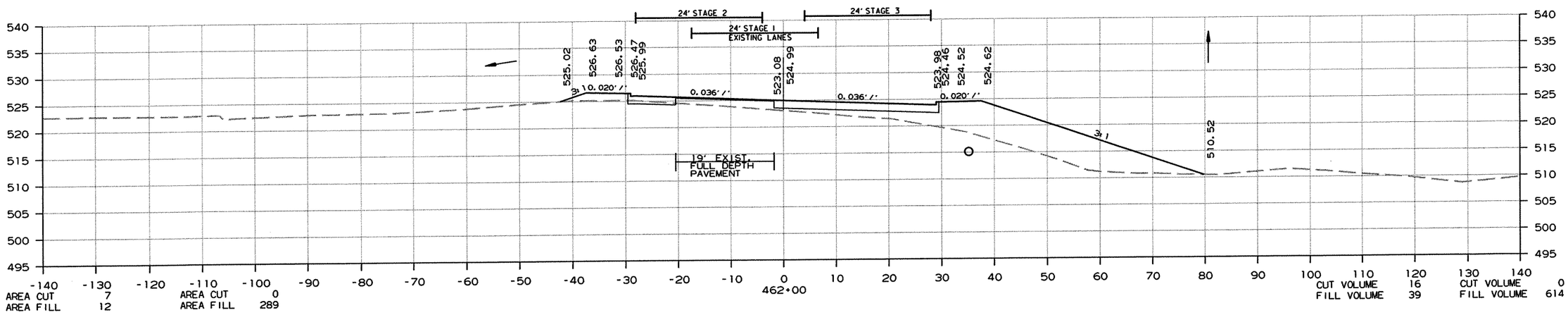
CROSS SECTION STA. 460+12 TO STA. 461+13

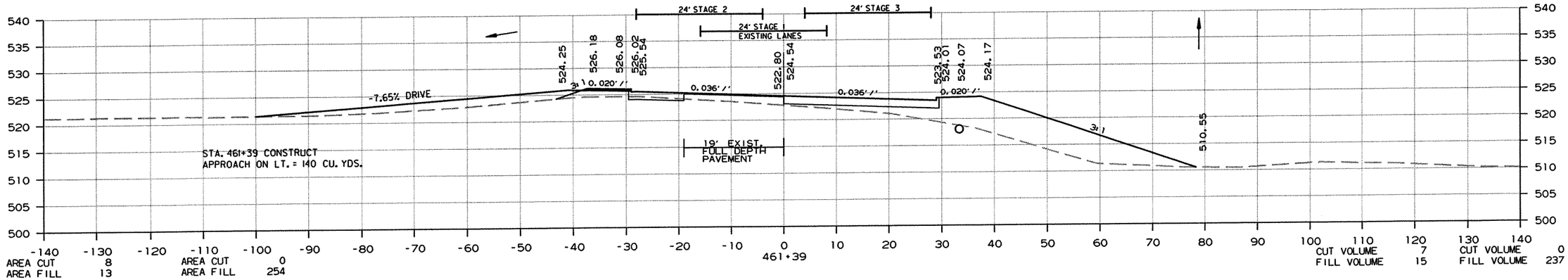
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	226	263

(2) CROSS SECTIONS





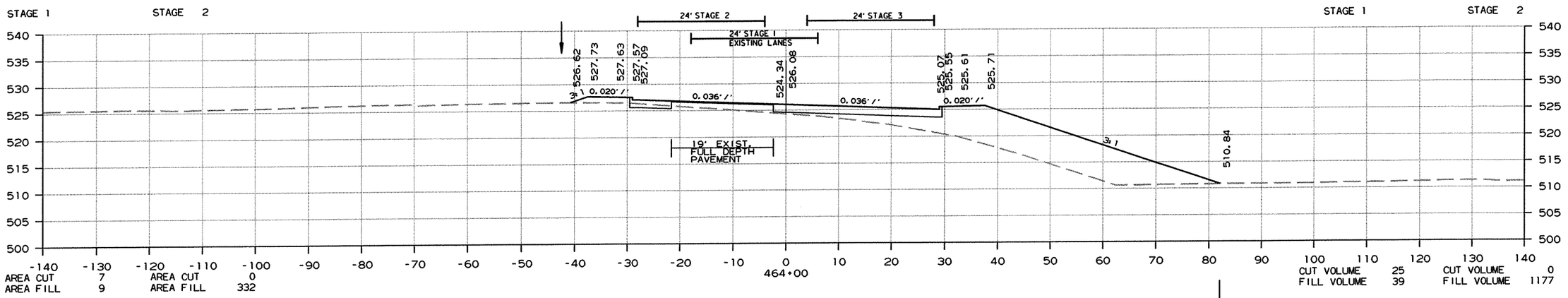


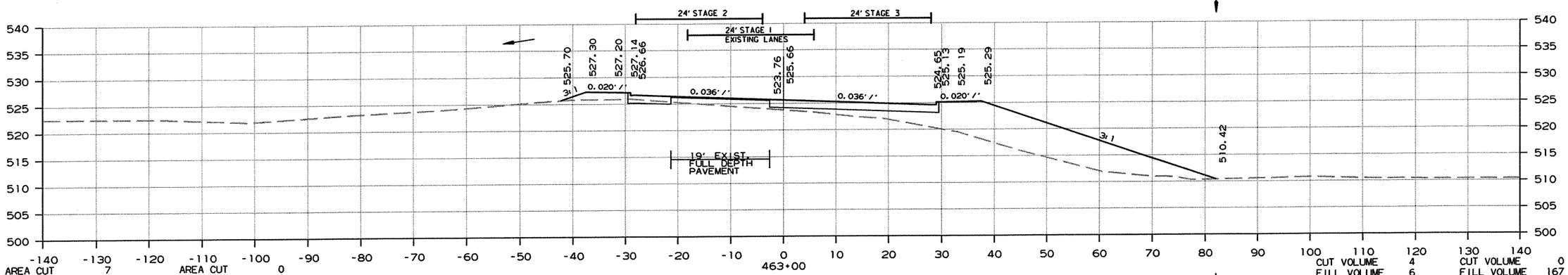
CROSS SECTION STA. 461+39 TO STA. 462+69

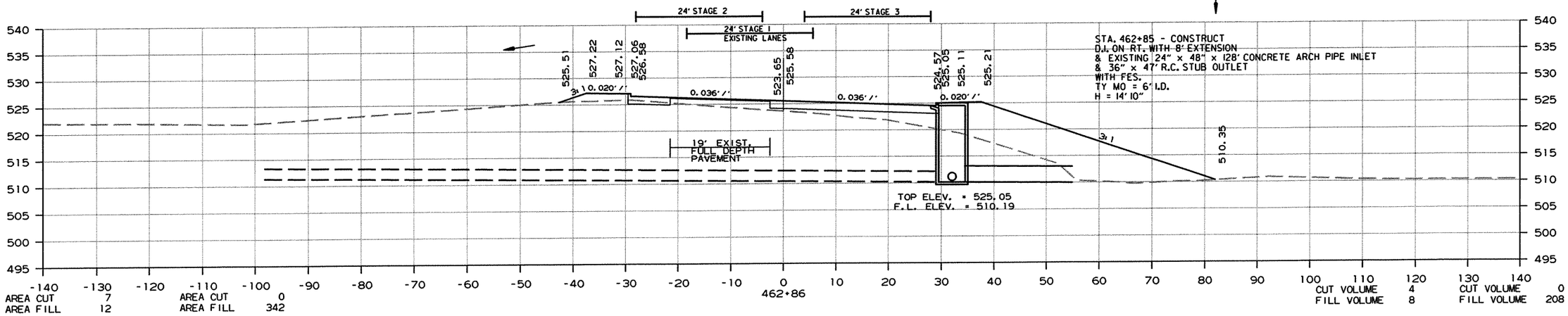
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	227	263

(2) CROSS SECTIONS





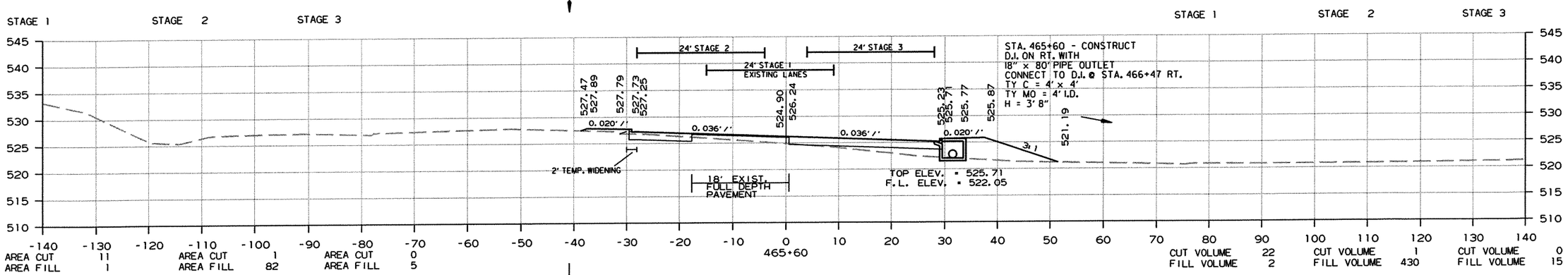


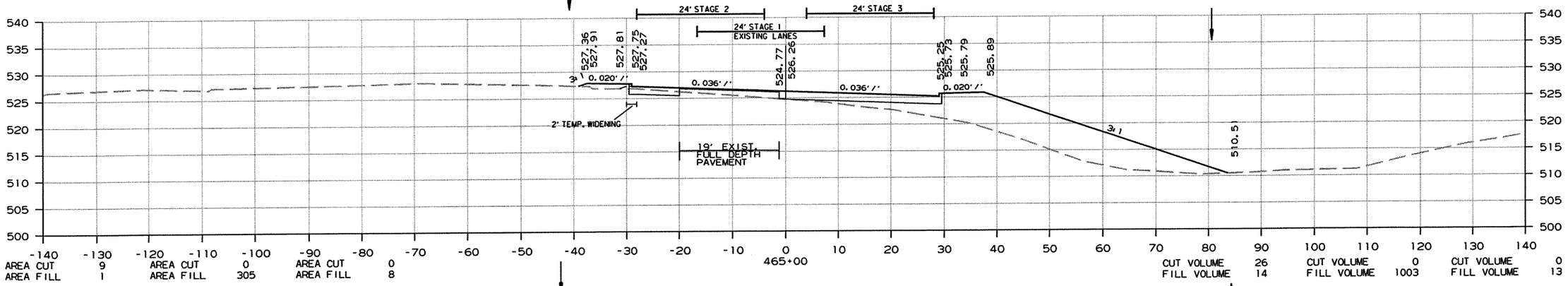
CROSS SECTION STA. 462+86 TO STA. 464+00

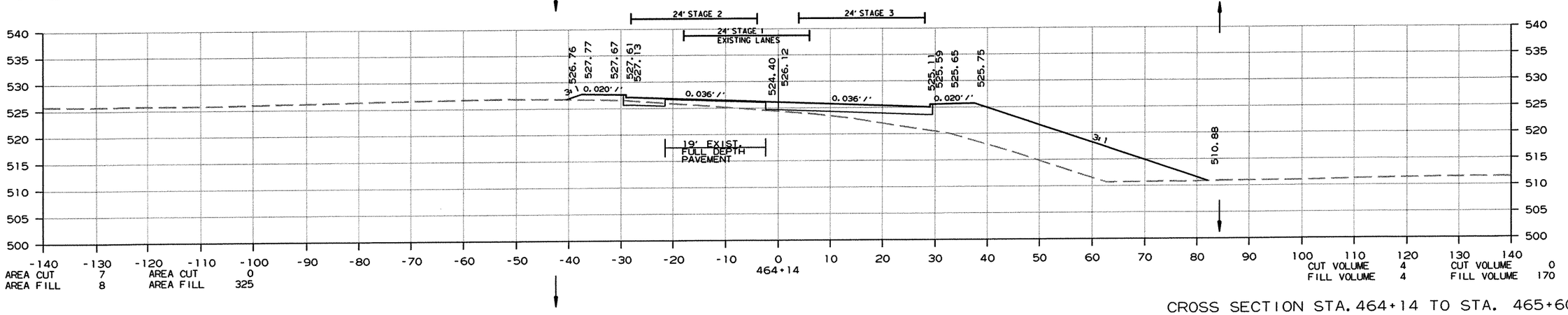
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	228	263

(2) CROSS SECTIONS





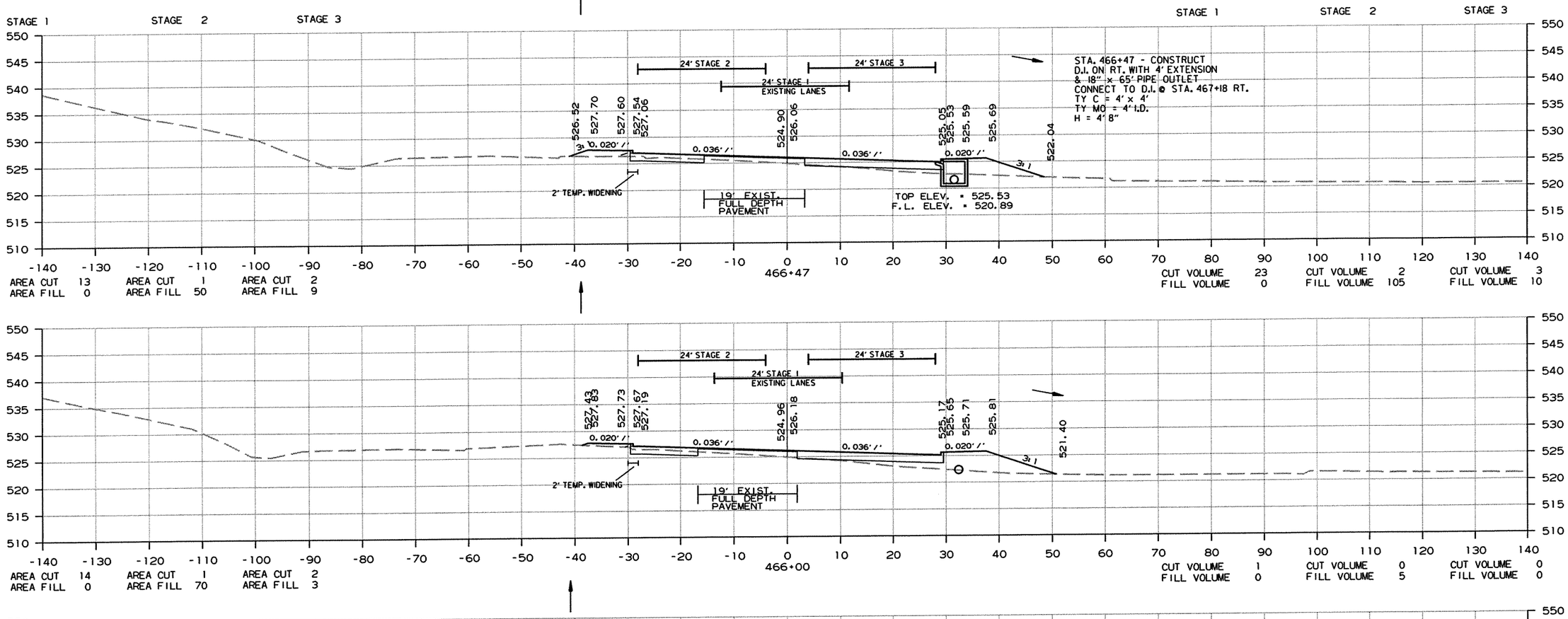


CROSS SECTION STA. 464+14 TO STA. 465+60

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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.		080390	229	263

(2) CROSS SECTIONS

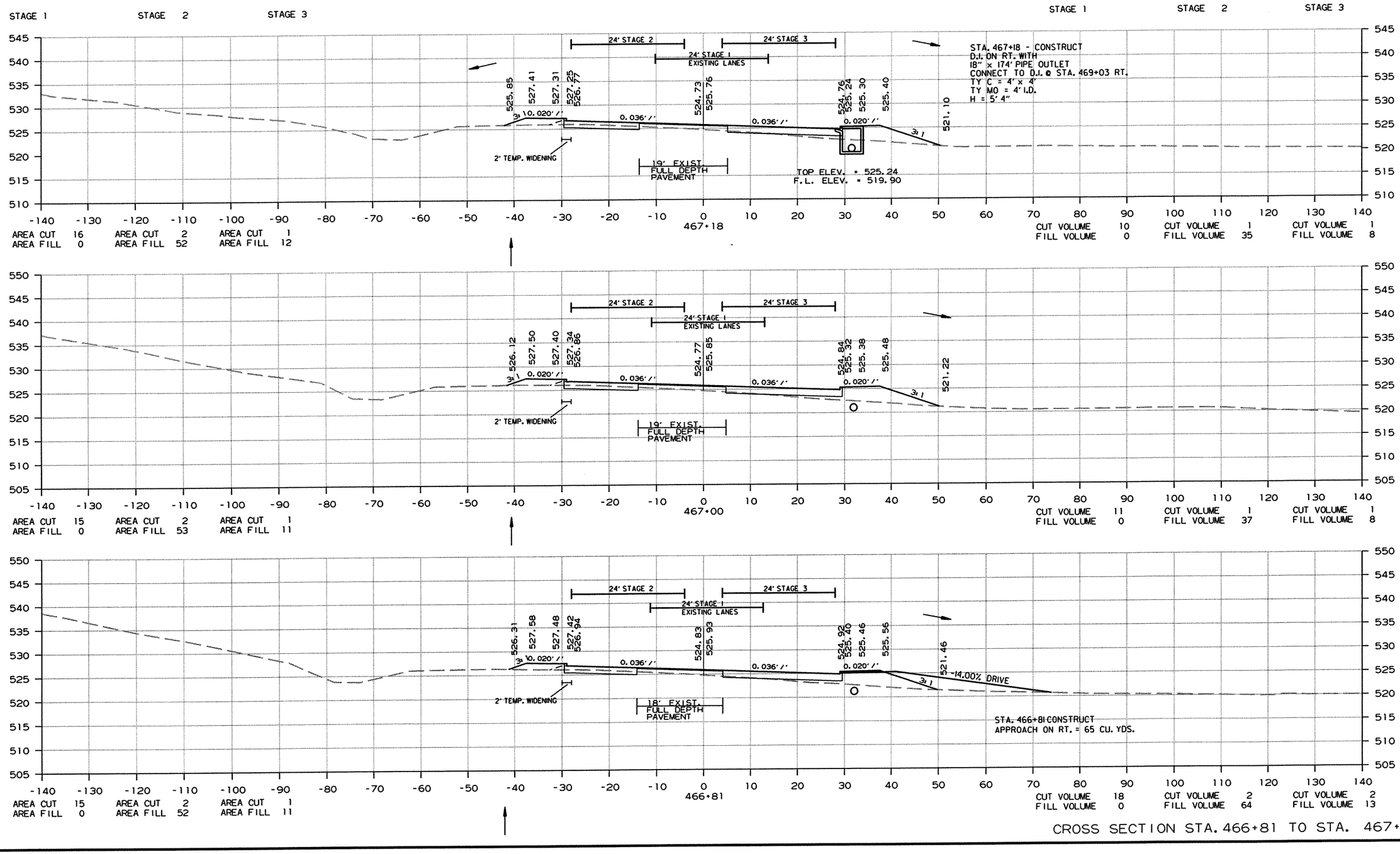


CROSS SECTION STA. 465+98 TO STA. 466+47

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	230	263

(2) CROSS SECTIONS



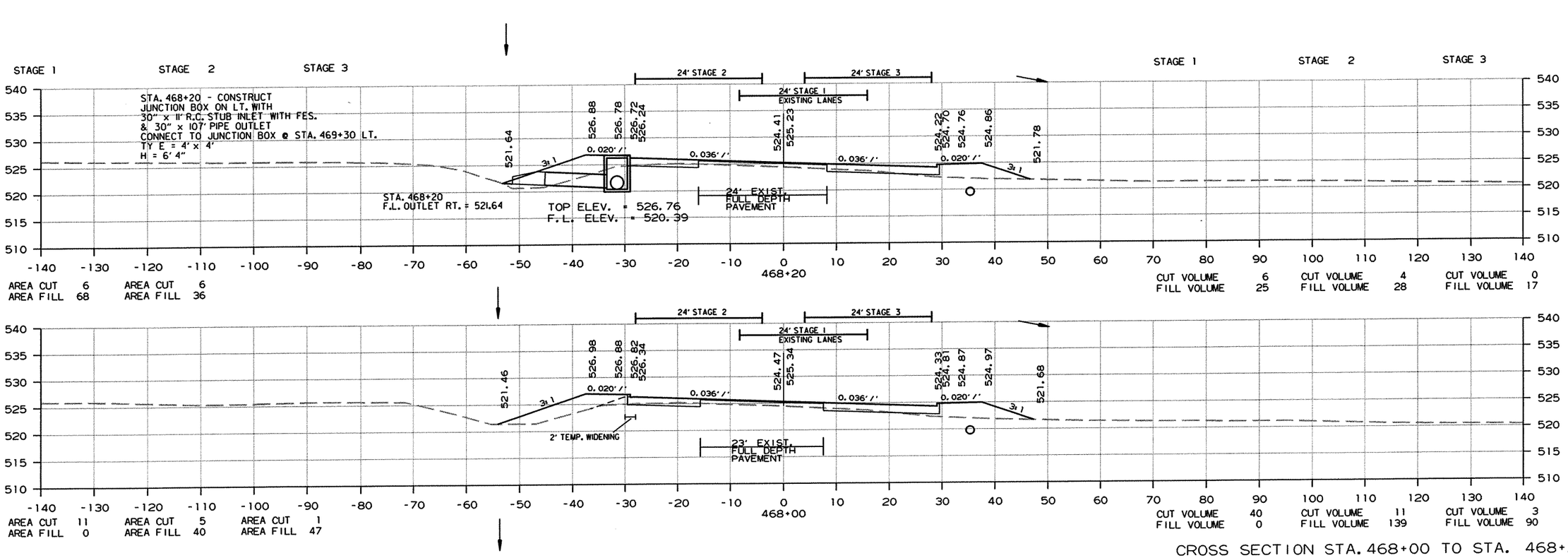
CROSS SECTION STA. 466+81 TO STA. 467+18

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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.		080390	231	263

(2) CROSS SECTIONS



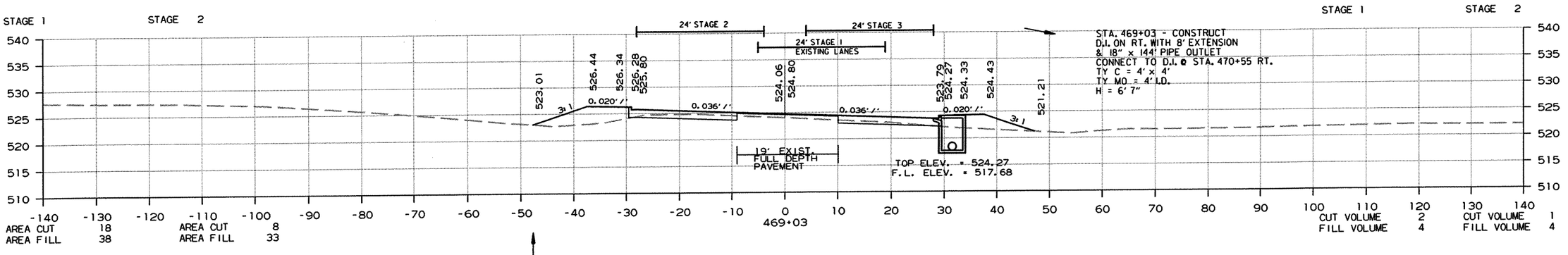
CROSS SECTION STA. 468+00 TO STA. 468+20

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	232	263

(2) CROSS SECTIONS



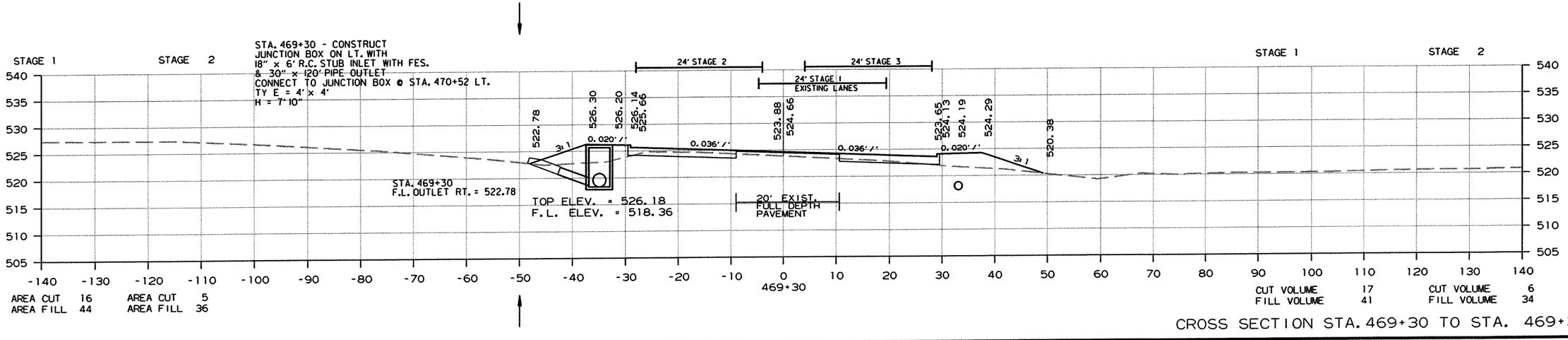
CROSS SECTION STA. 468+59 TO STA. 469+03

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	233	263

(2) CROSS SECTIONS



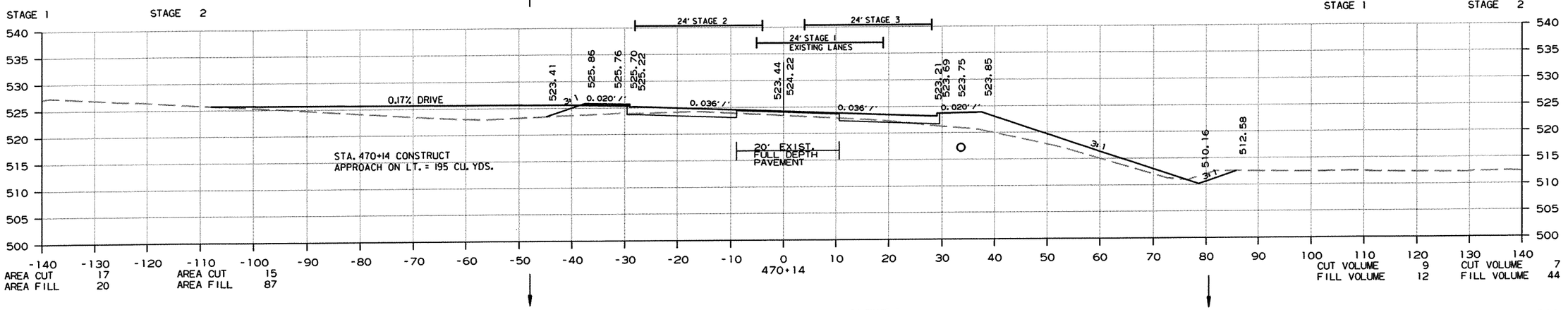
CROSS SECTION STA. 469+30 TO STA. 469+30

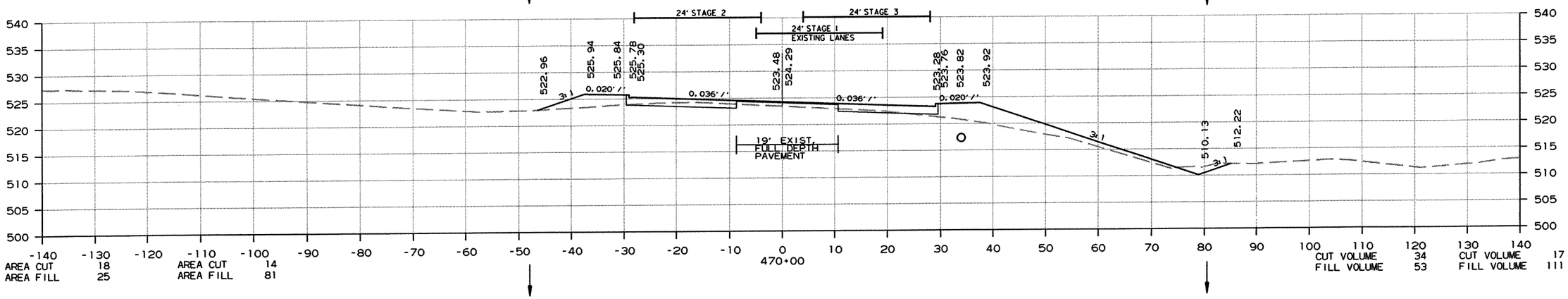
11/8/2011

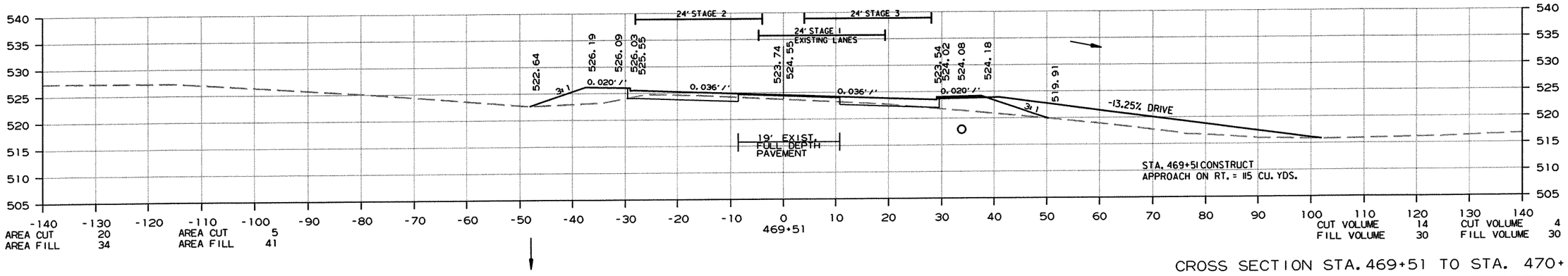
ZBORDER.CEL

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.		080390	234	263

(2) CROSS SECTIONS





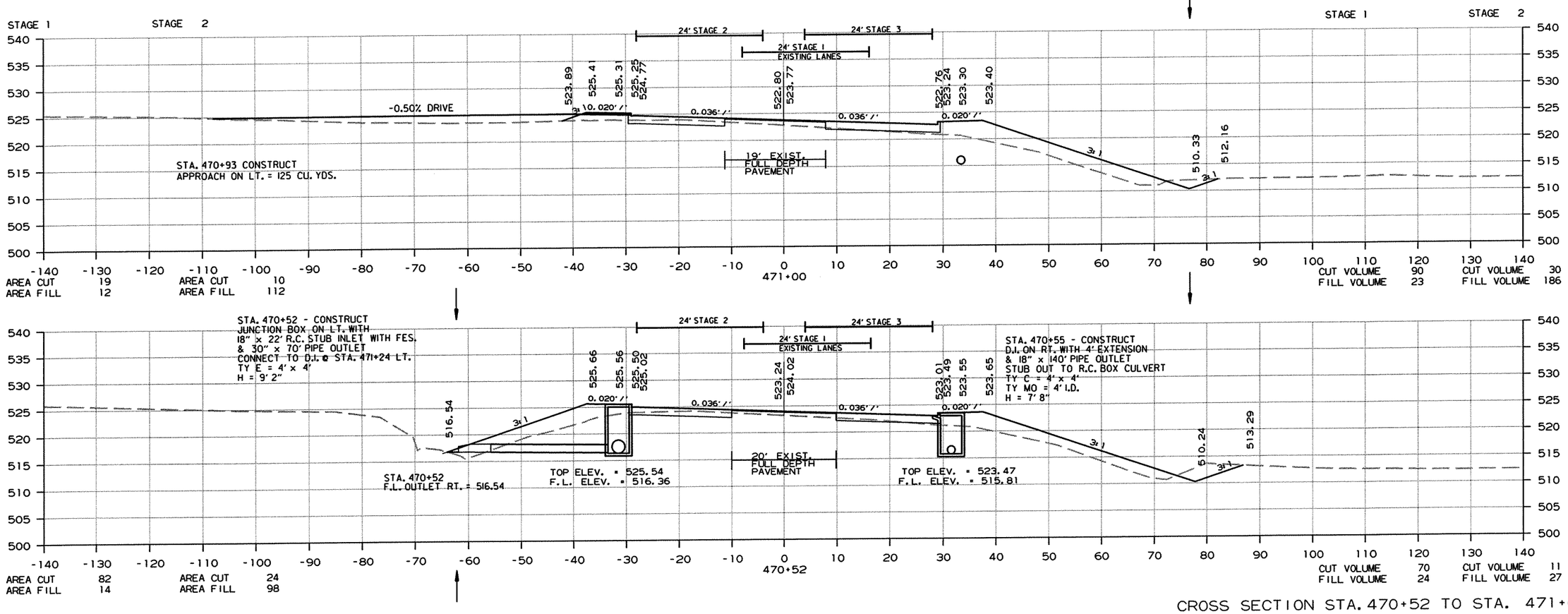


CROSS SECTION STA. 469+51 TO STA. 470+14

R080390.DGN 12/17/2012

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.		080390	235	263

(2) CROSS SECTIONS

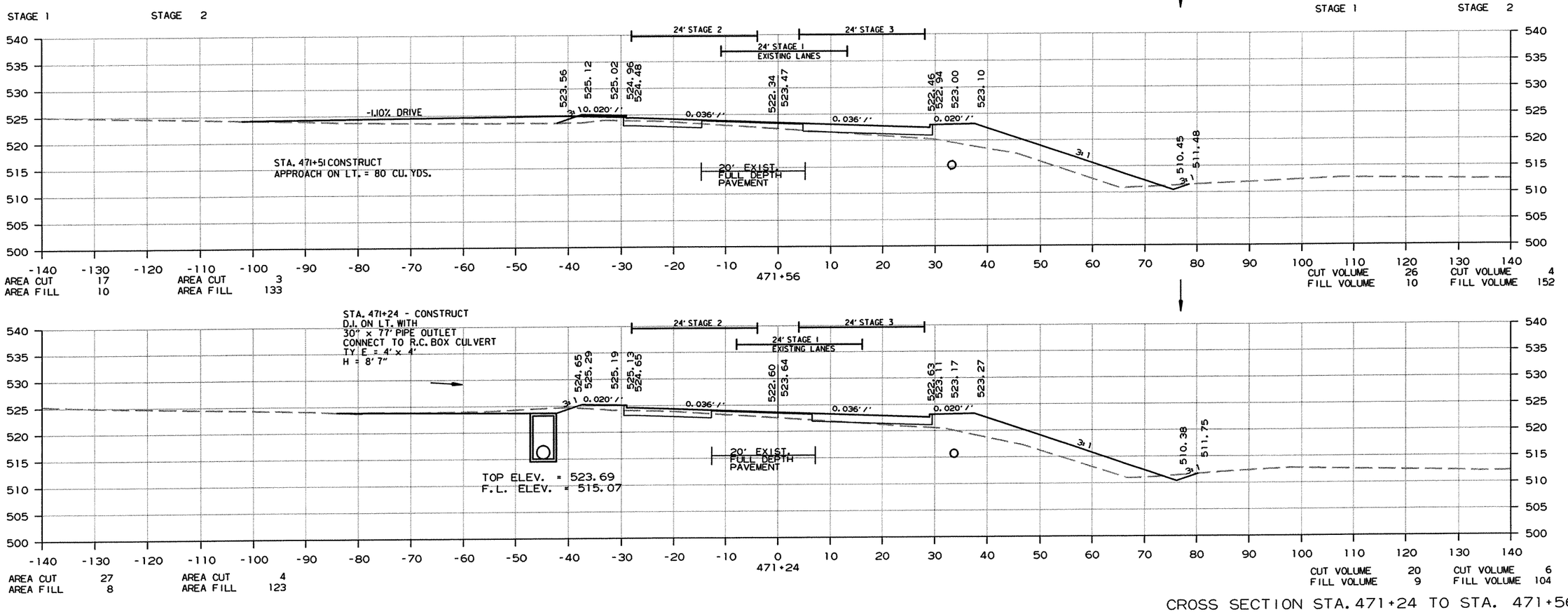


CROSS SECTION STA. 470+52 TO STA. 471+00

R080390.DGN 12/17/2012

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



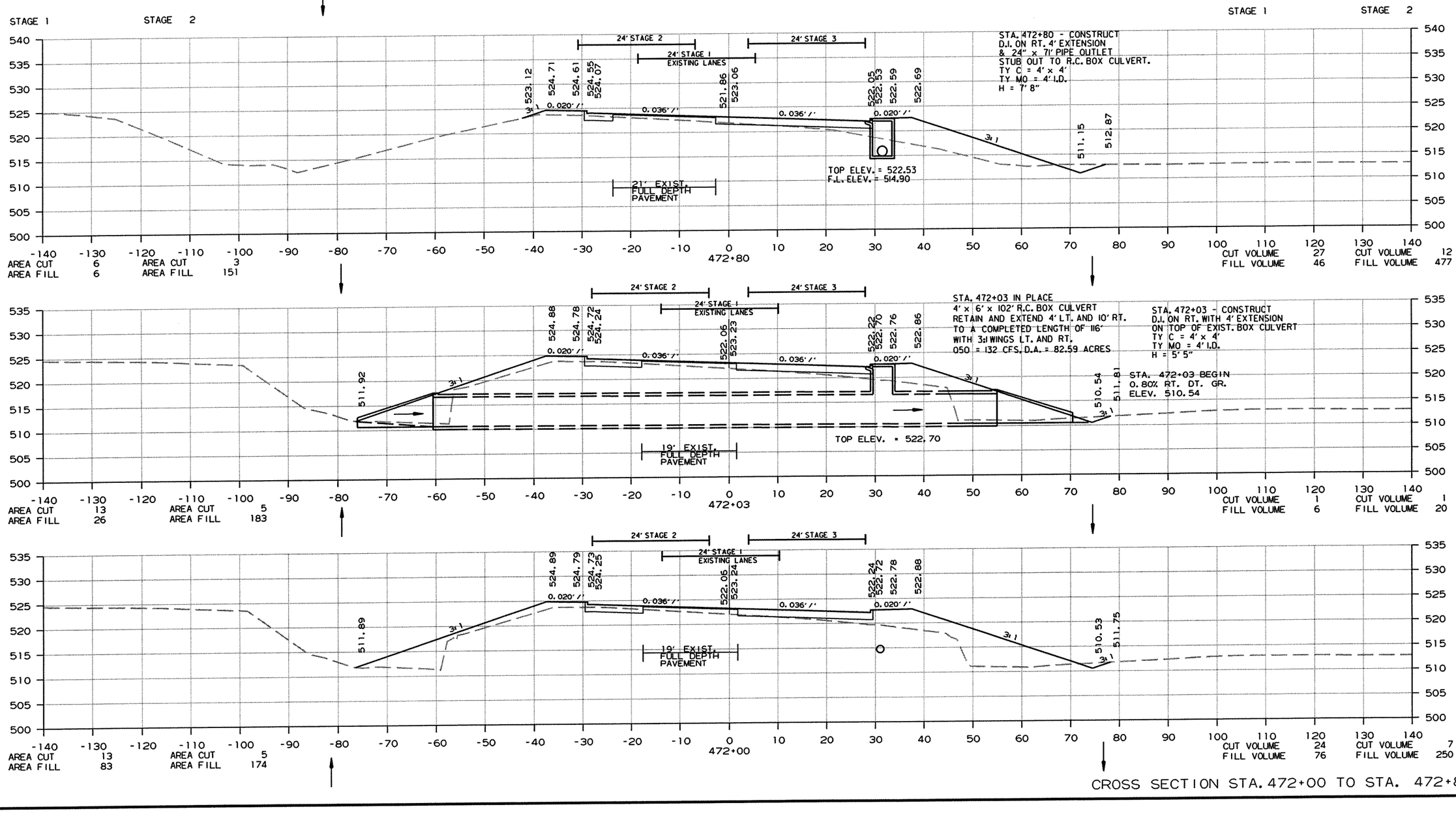
CROSS SECTION STA. 471+24 TO STA. 471+56

11/8/2011

ZBORDER.CEL

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

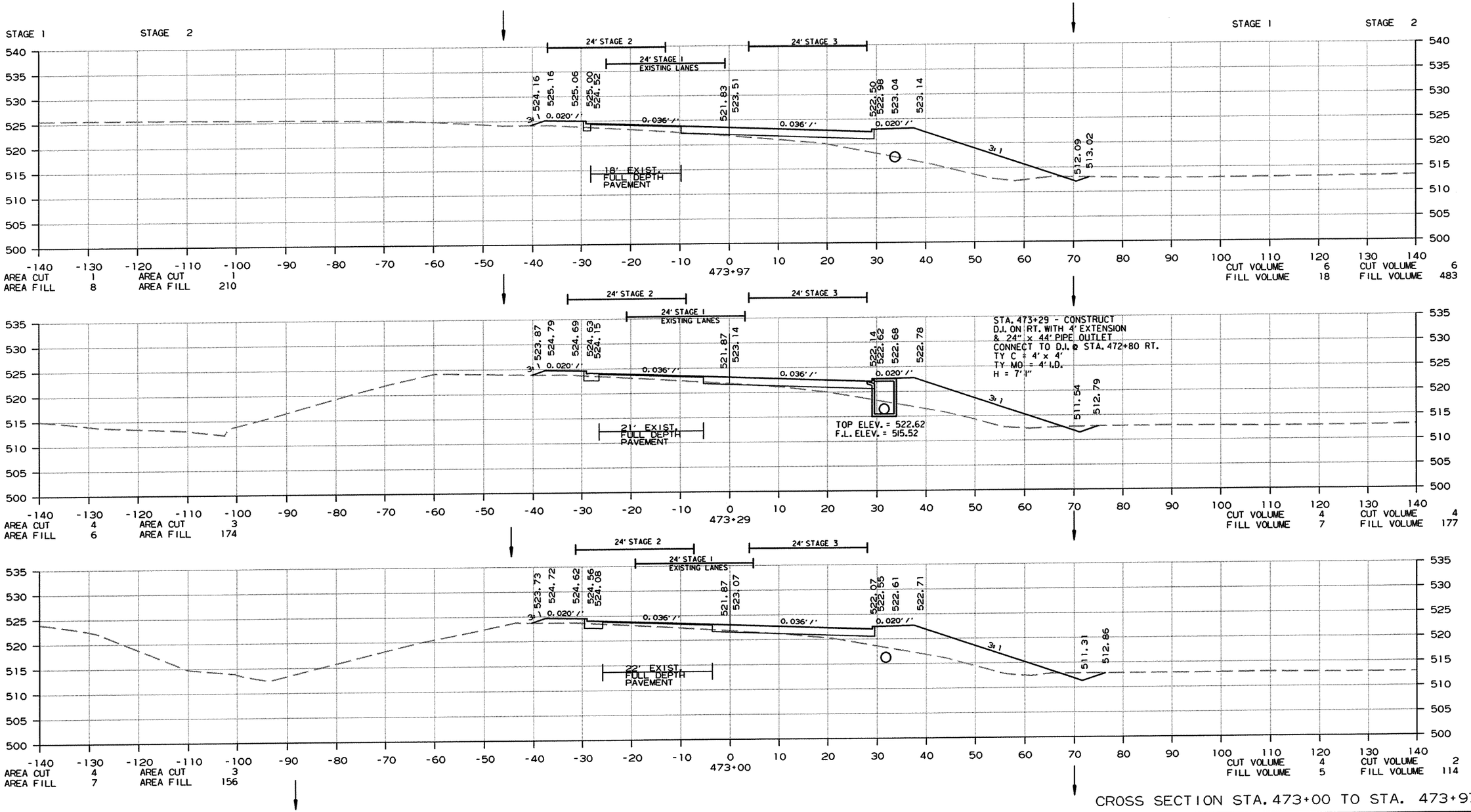


CROSS SECTION STA. 472+00 TO STA. 472+80

R080390.DGN 12/17/2012

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

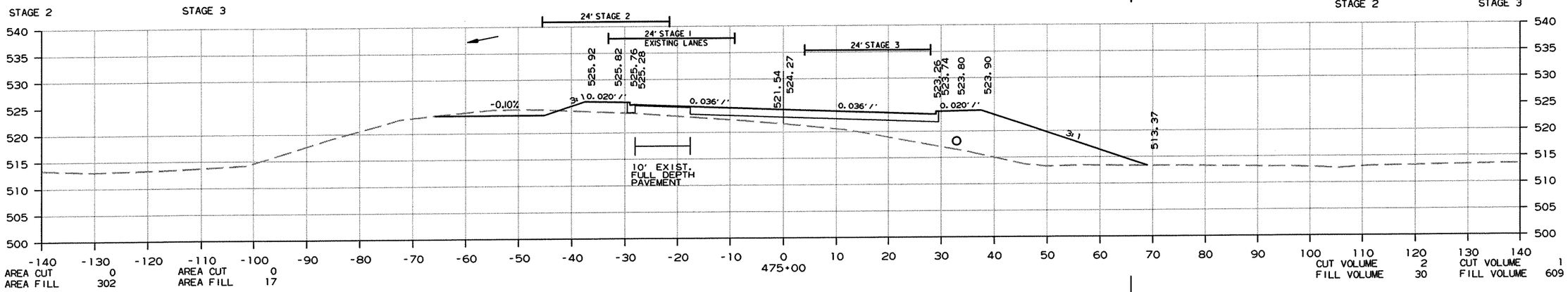


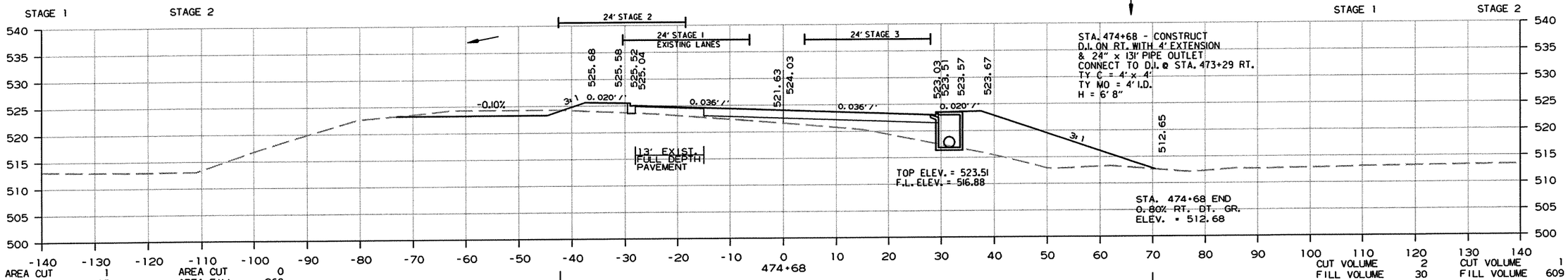
CROSS SECTION STA. 473+00 TO STA. 473+97

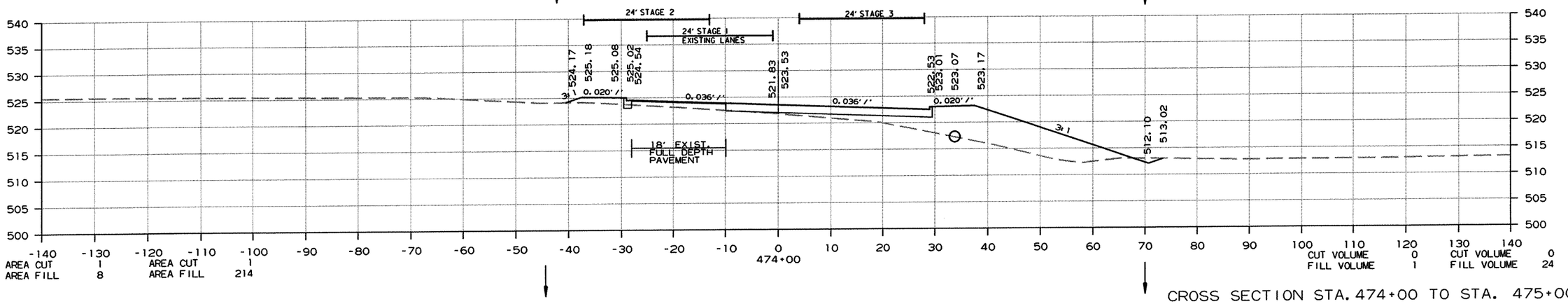
R080390.DGN 12/17/2012

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





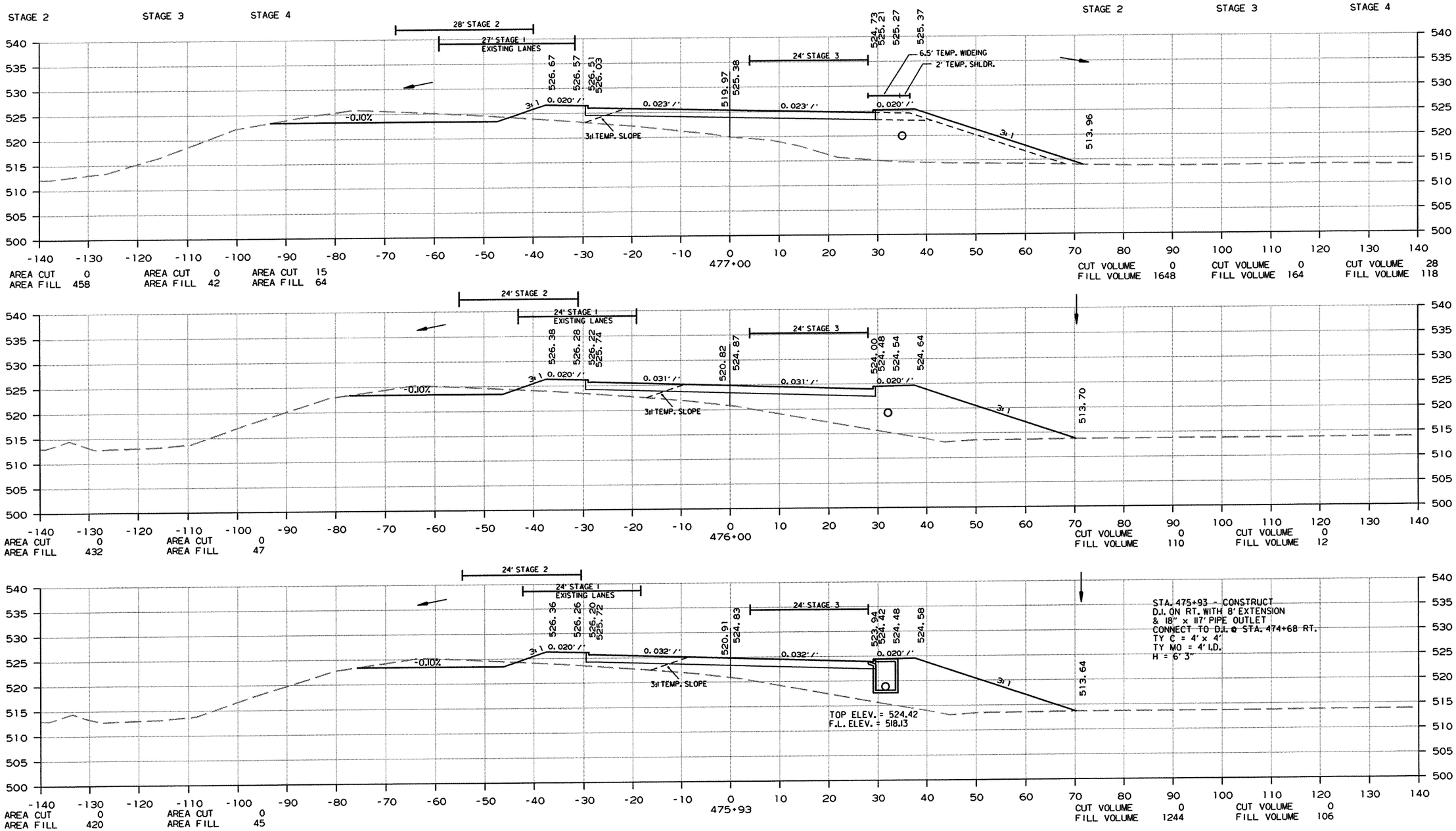


CROSS SECTION STA. 474+00 TO STA. 475+00

R080390.DGN 12/17/2012

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

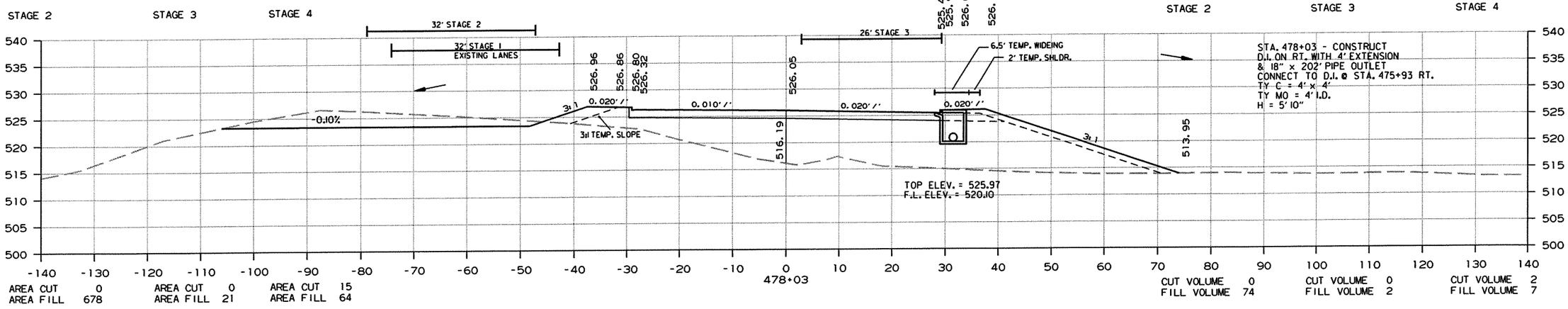


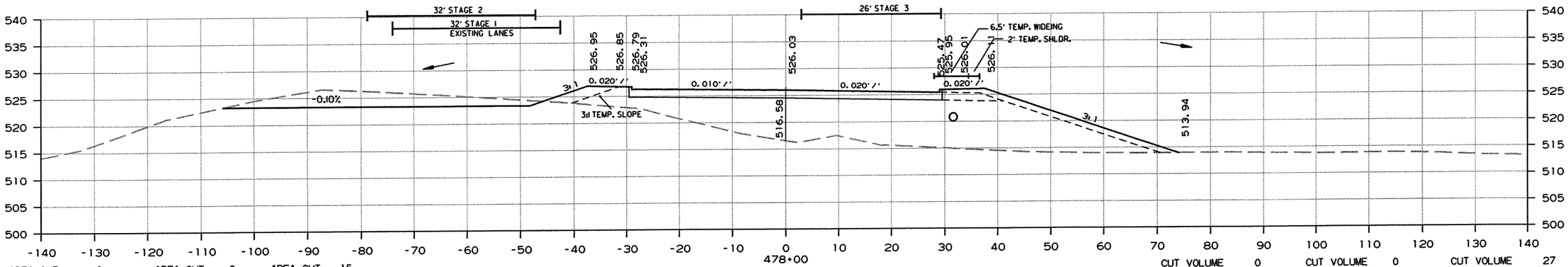
CROSS SECTION STA. 475+93 TO STA. 477+00

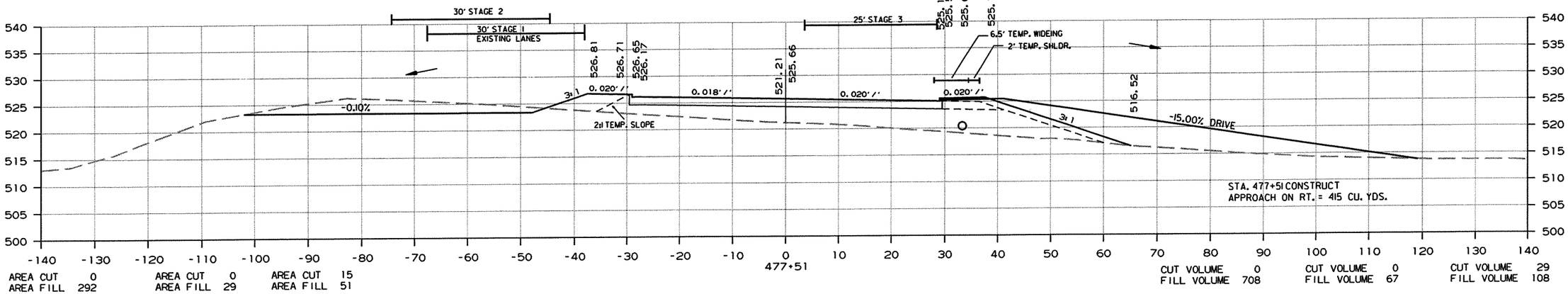
R080390.DGN 12/17/2012

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





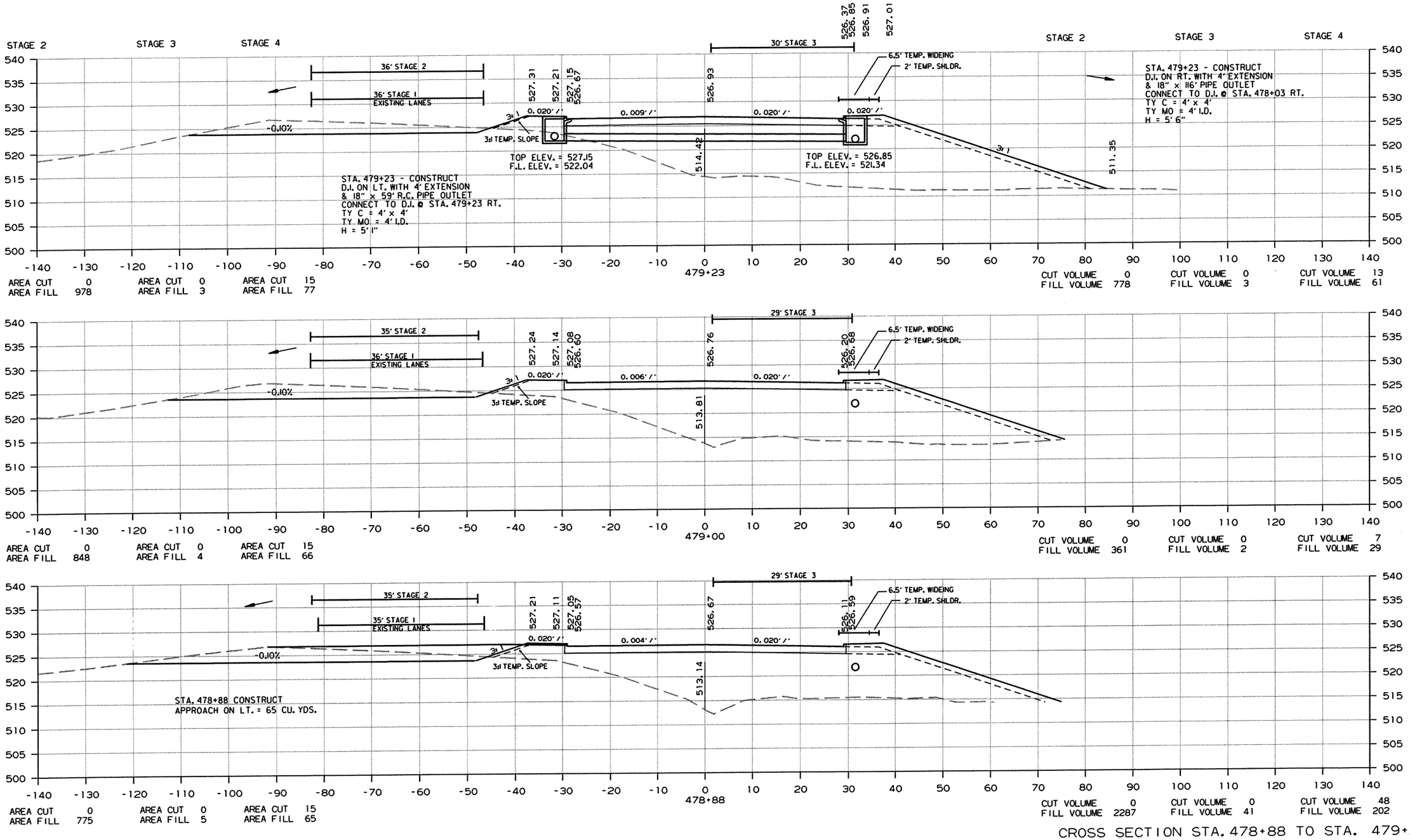


CROSS SECTION STA. 477+51 TO STA. 478+03

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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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(2) CROSS SECTIONS

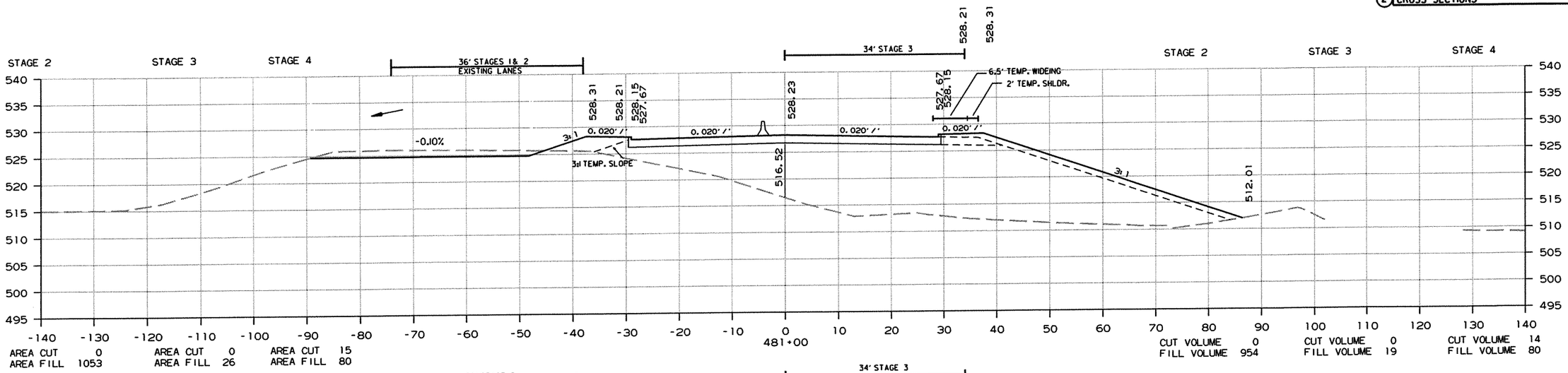


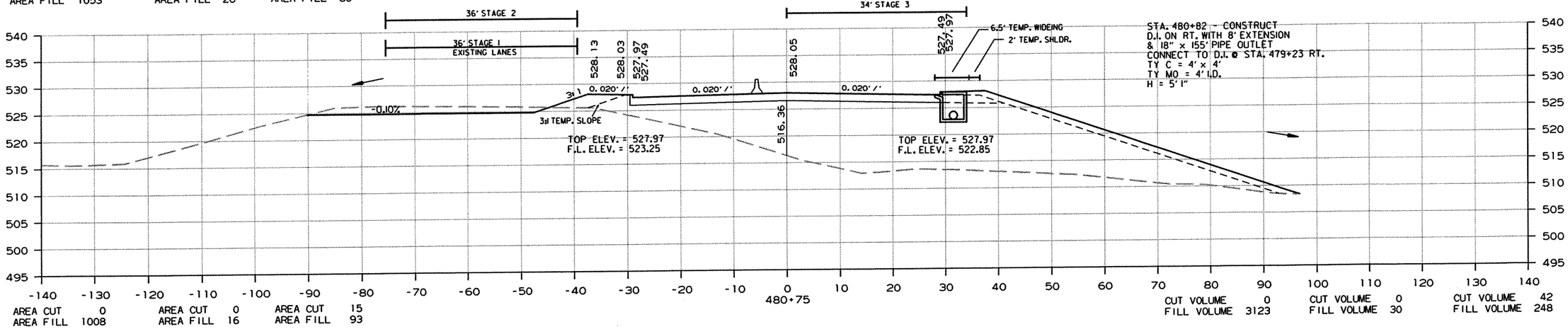
CROSS SECTION STA. 478+88 TO STA. 479+23

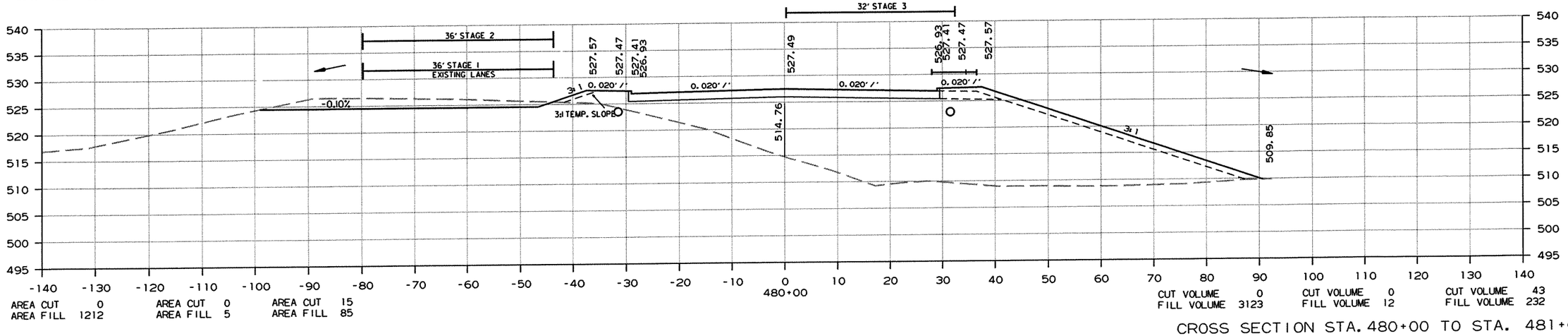
R080390.DGN 12/17/2012

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





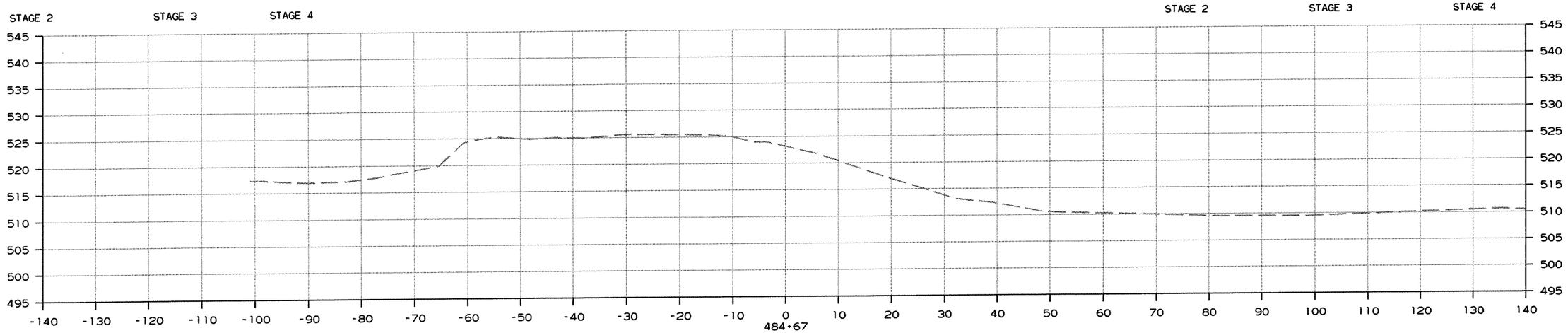


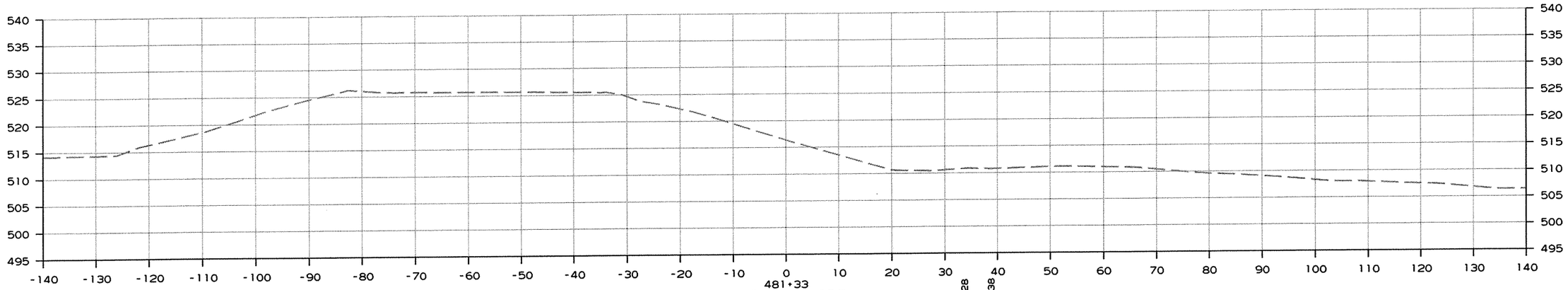
CROSS SECTION STA. 480+00 TO STA. 481+00

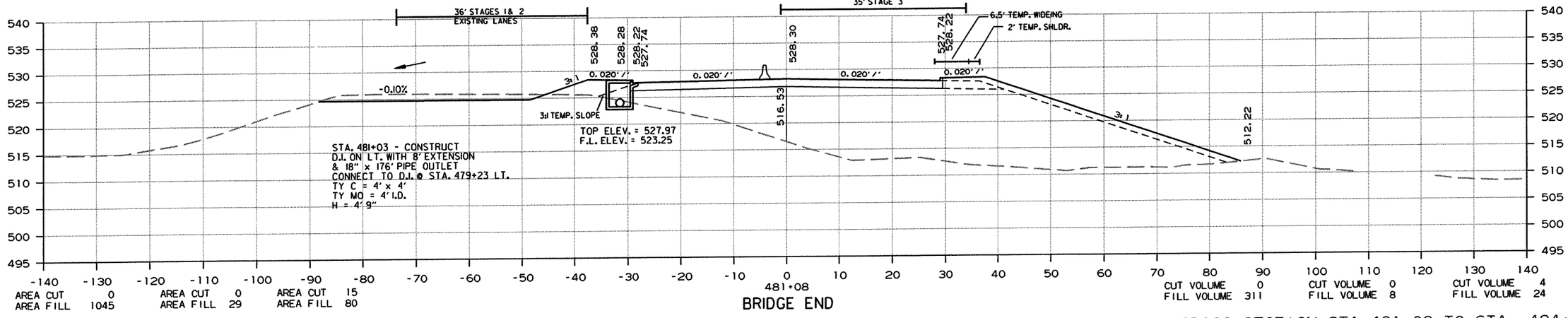
R080390.DGN 12/17/2012

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





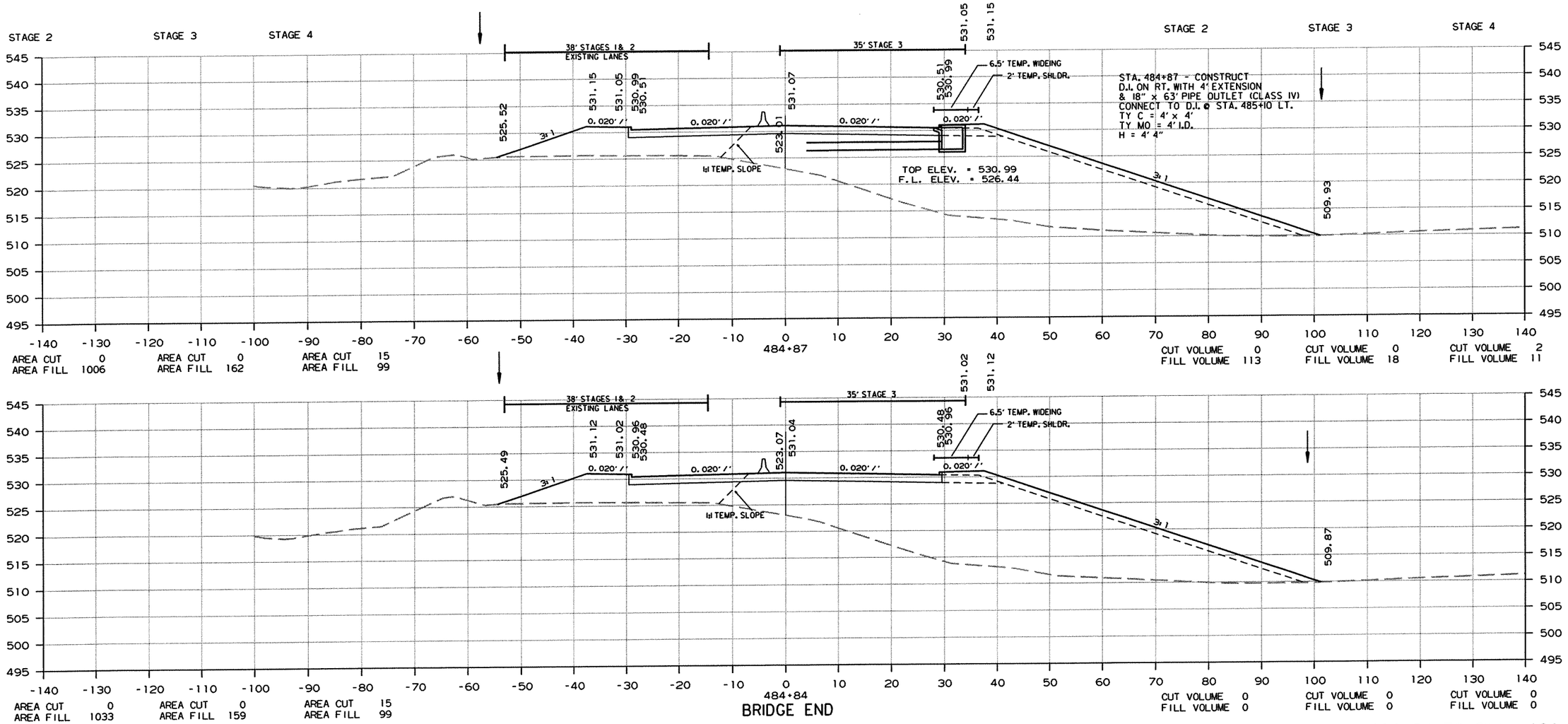


CROSS SECTION STA. 481+08 TO STA. 484+67

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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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(2) CROSS SECTIONS

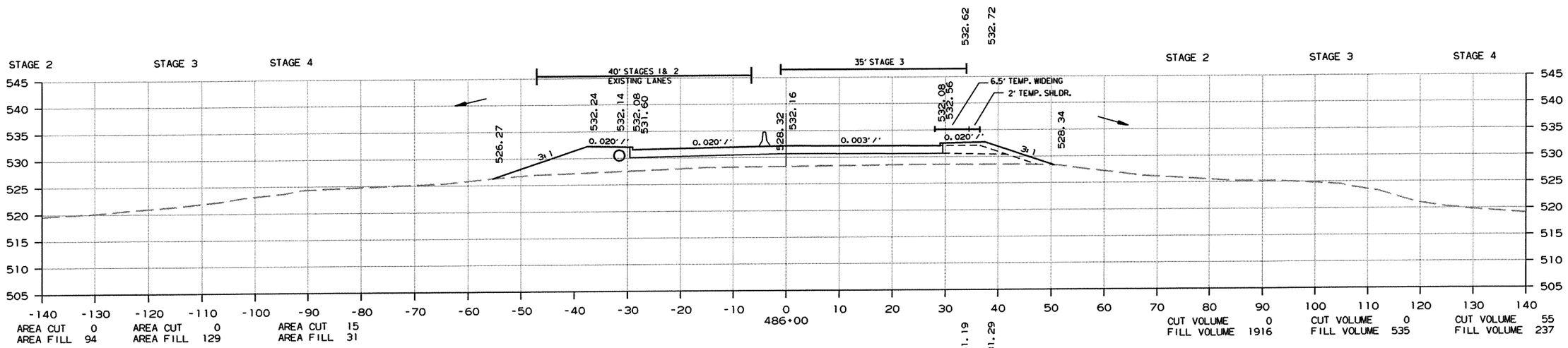


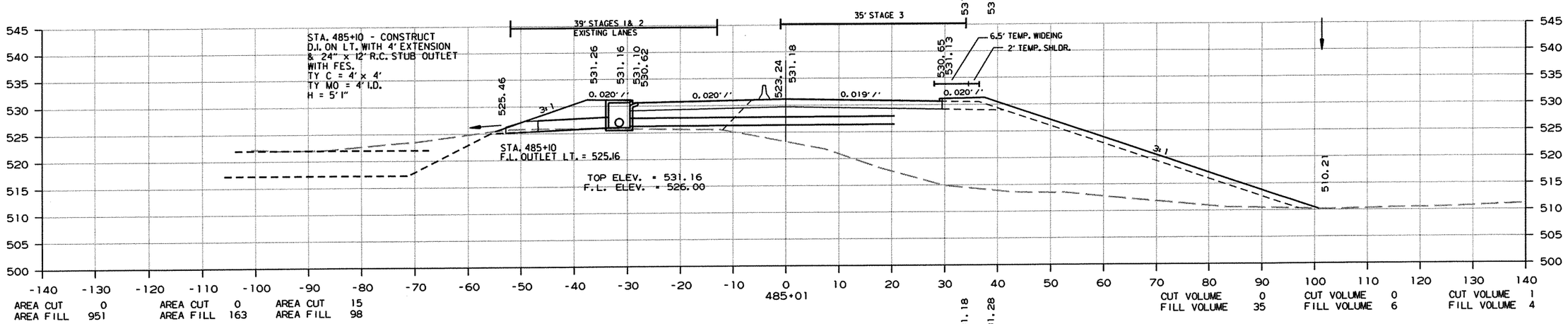
CROSS SECTION STA. 484+84 TO STA. 484+87

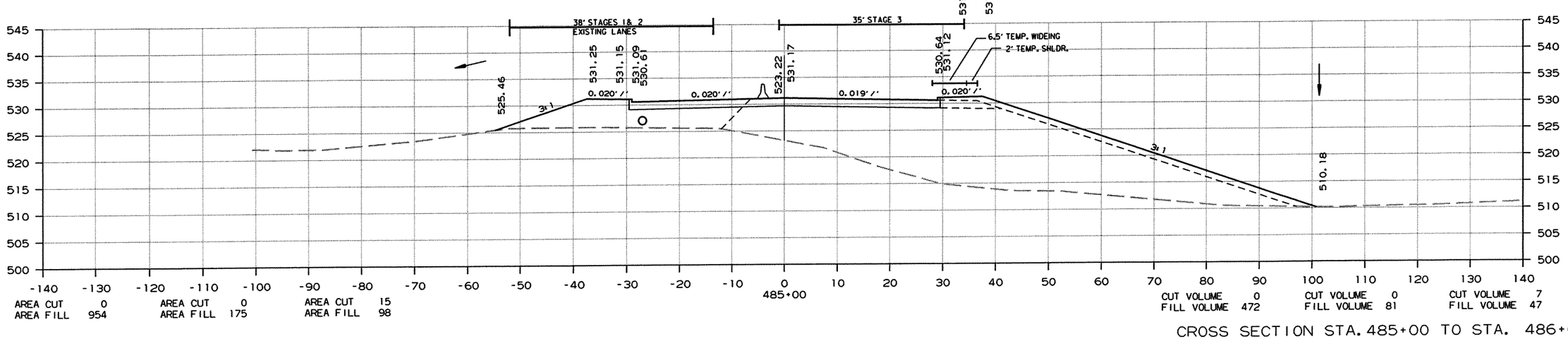
R080390.DGN 12/17/2012

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







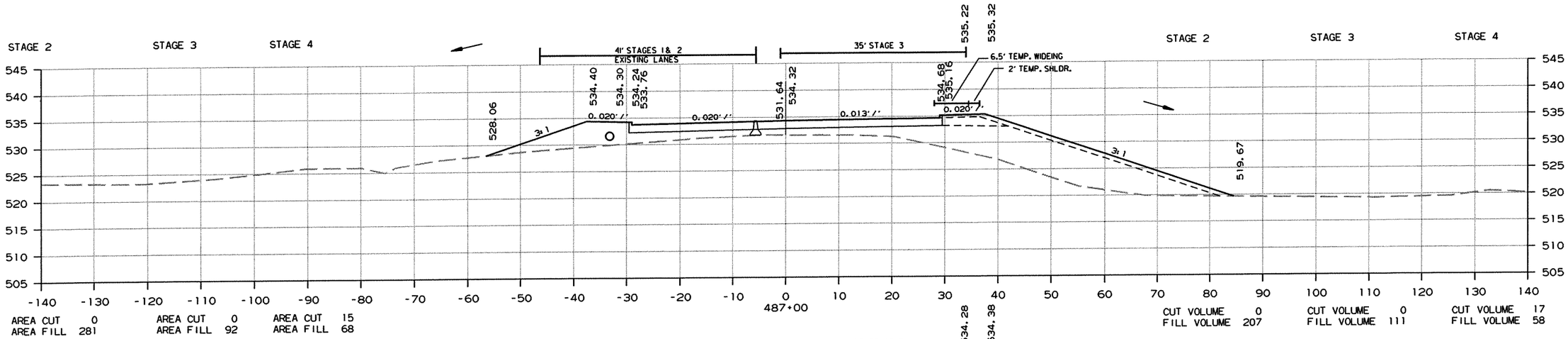
CROSS SECTION STA. 485+00 TO STA. 486+00

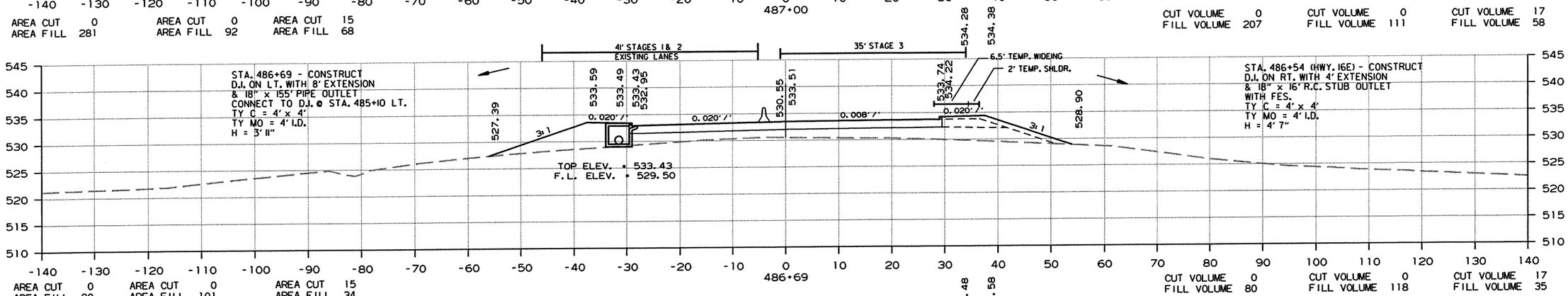
R080390.DGN 12/17/2012

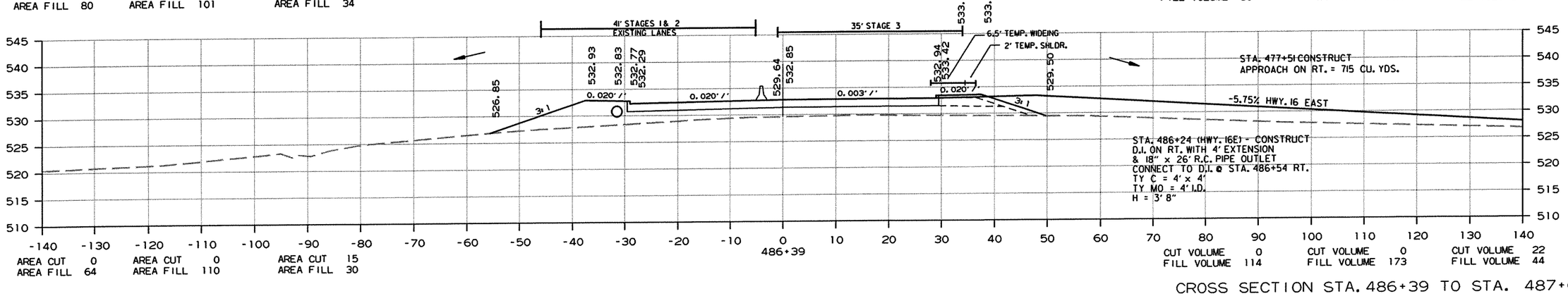
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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JOB NO.		080390	247	263

(2) CROSS SECTIONS





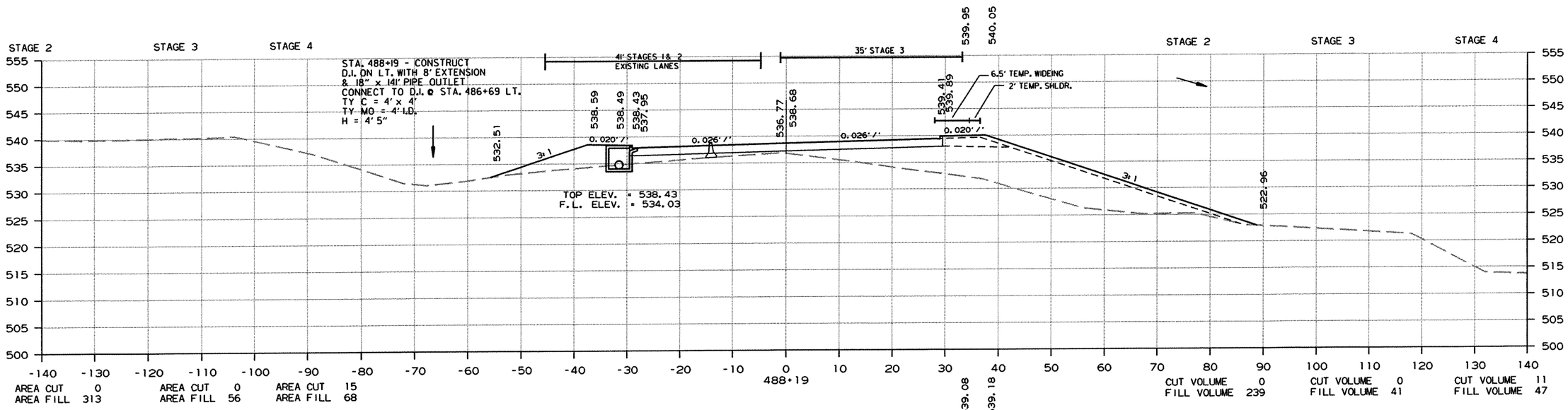


CROSS SECTION STA. 486+39 TO STA. 487+00

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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.		080390	248	263

(2) CROSS SECTIONS

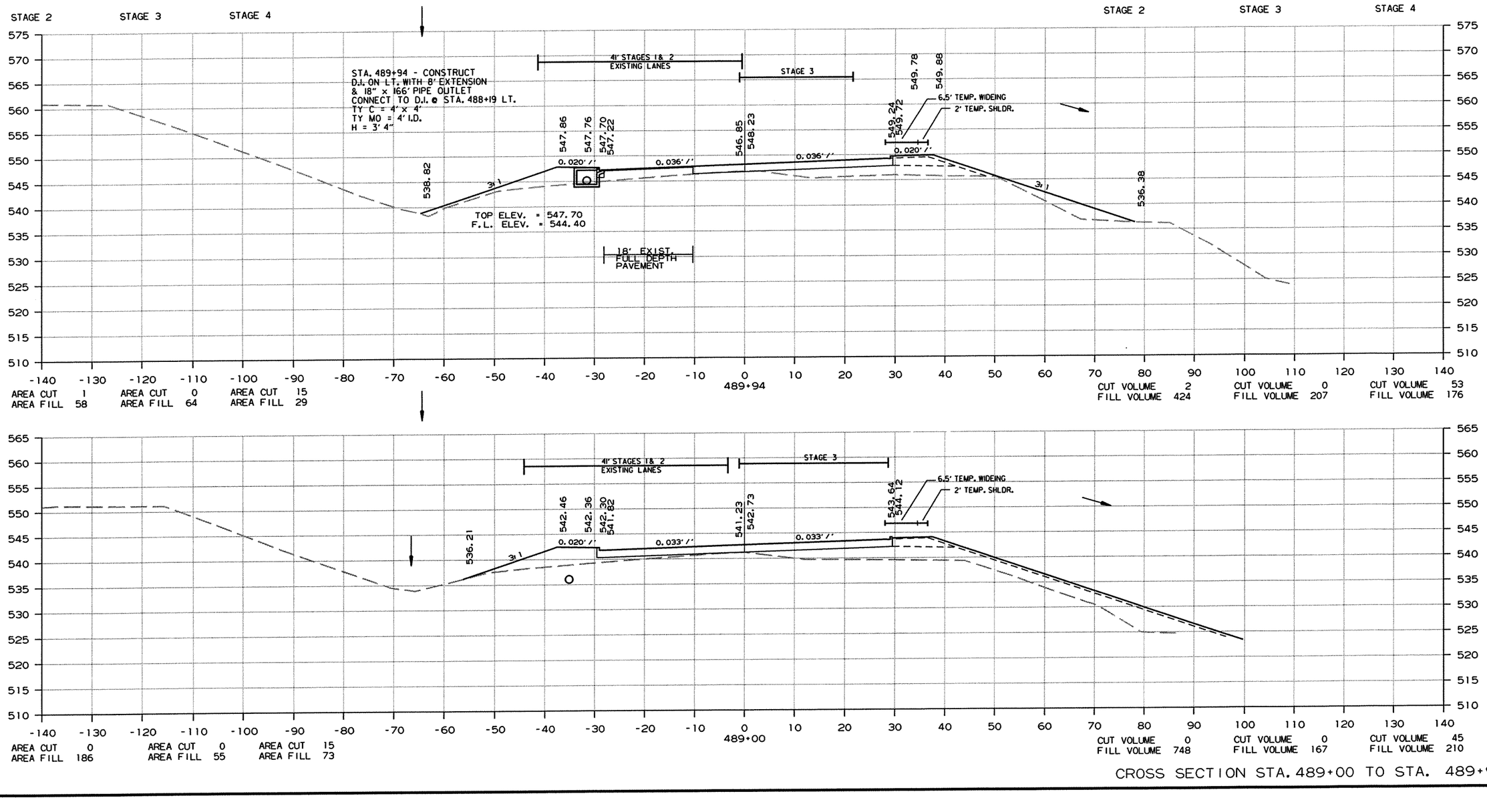


CROSS SECTION STA. 488+00 TO STA. 488+19

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	249	263

(2) CROSS SECTIONS

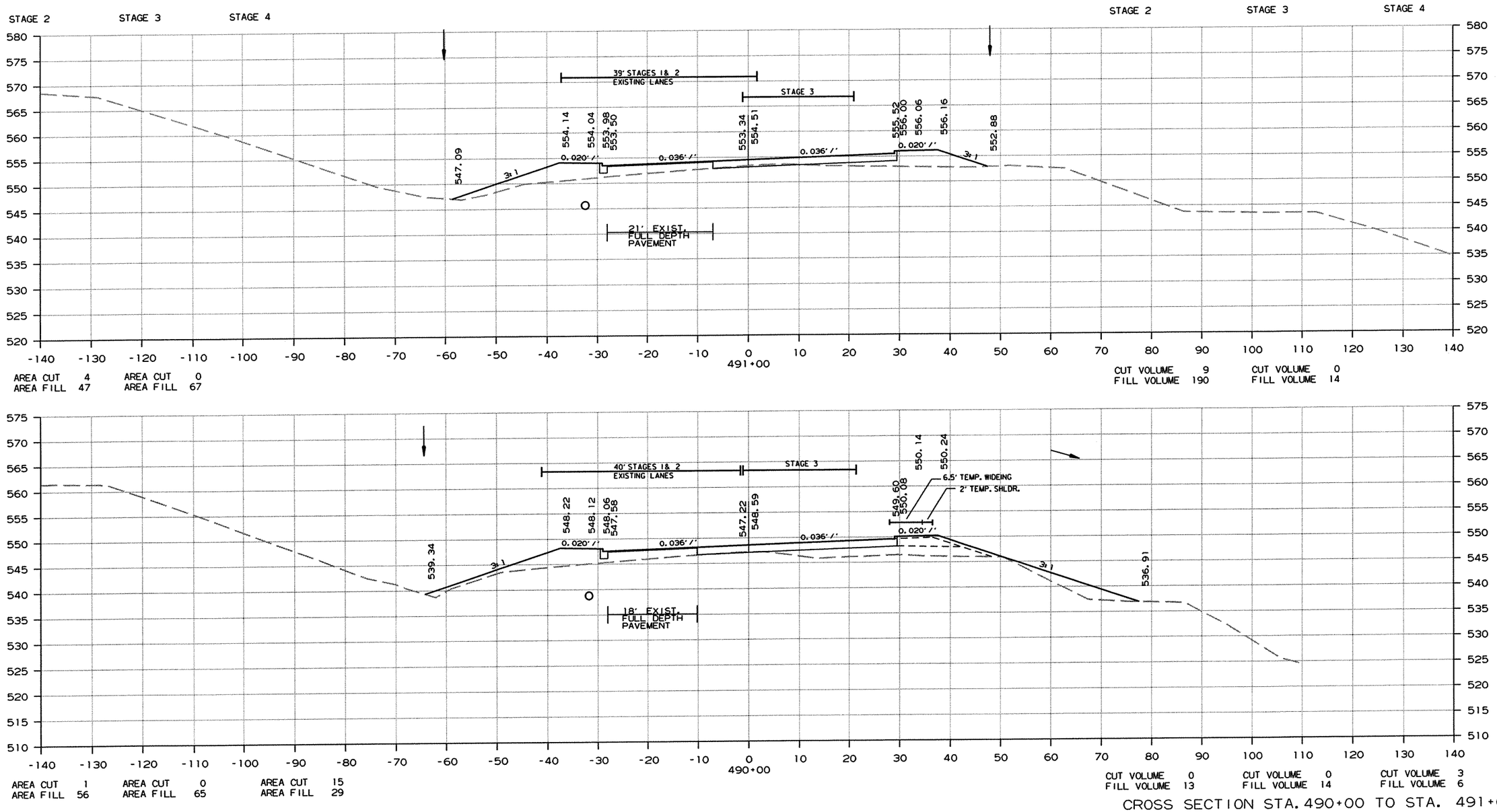


CROSS SECTION STA. 489+00 TO STA. 489+94

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	250	263

(2) CROSS SECTIONS

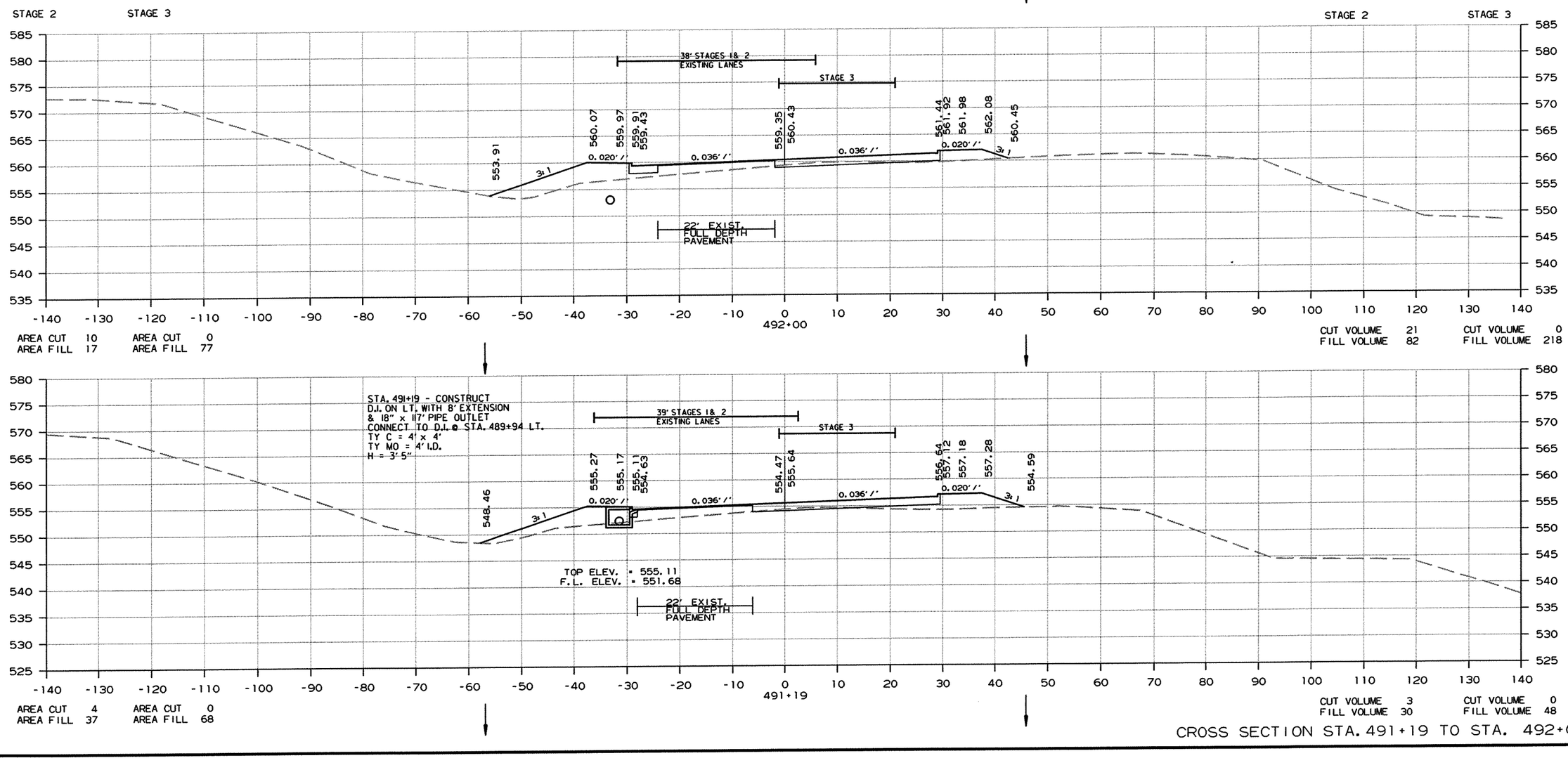


CROSS SECTION STA. 490+00 TO STA. 491+00

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	251	263

(2) CROSS SECTIONS

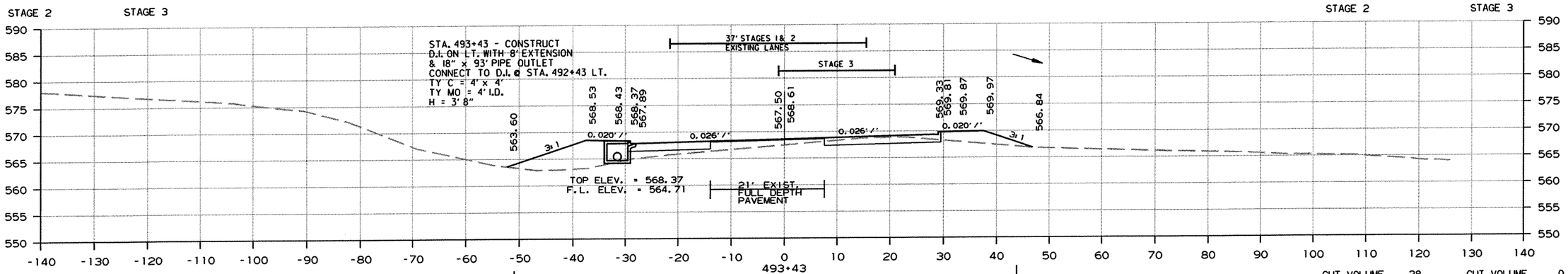


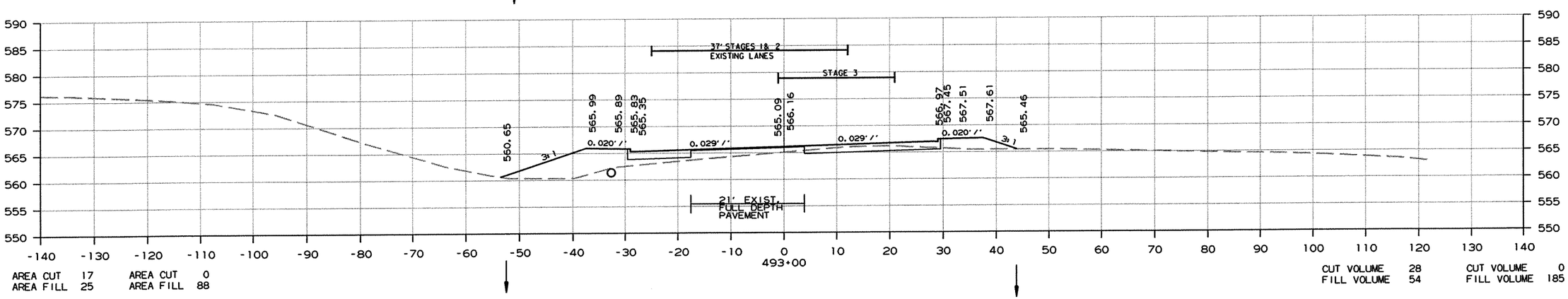
CROSS SECTION STA. 491+19 TO STA. 492+00

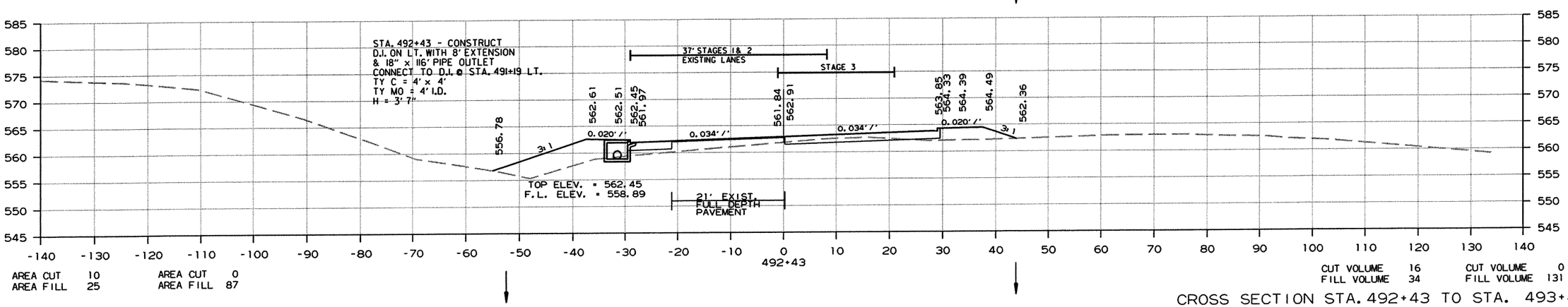
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	252	263

(2) CROSS SECTIONS





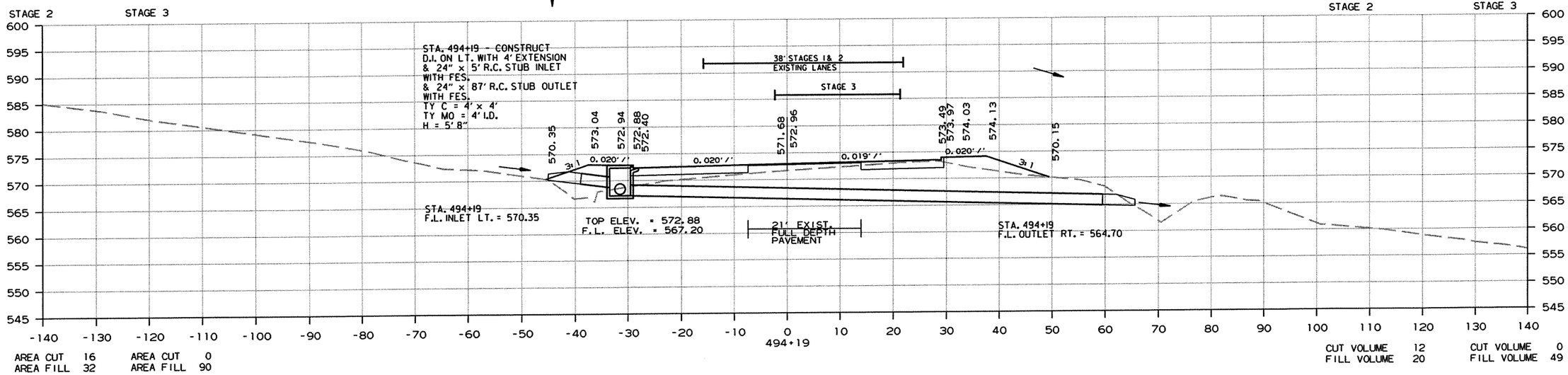


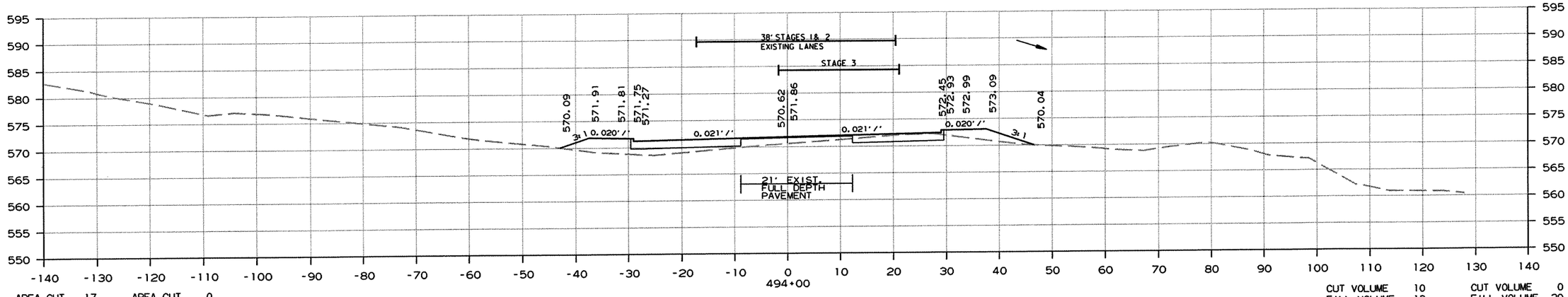
CROSS SECTION STA. 492+43 TO STA. 493+43

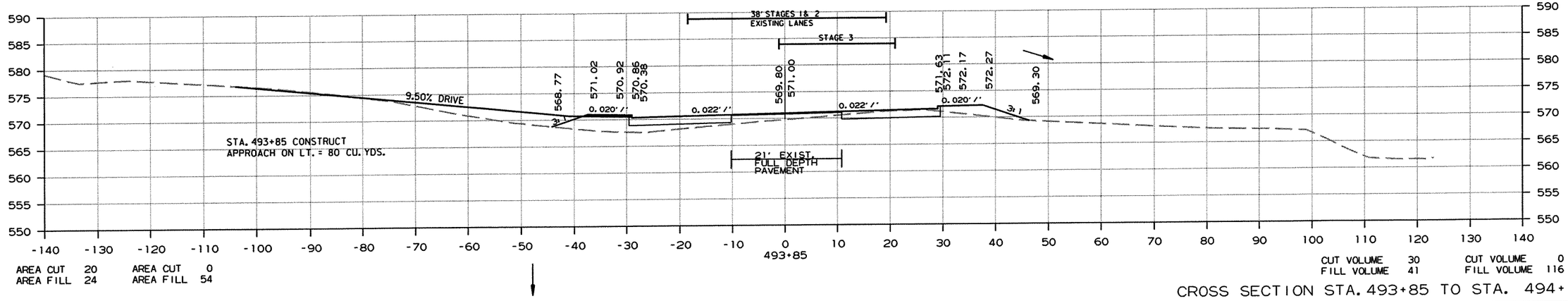
R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	253	263

(2) CROSS SECTIONS





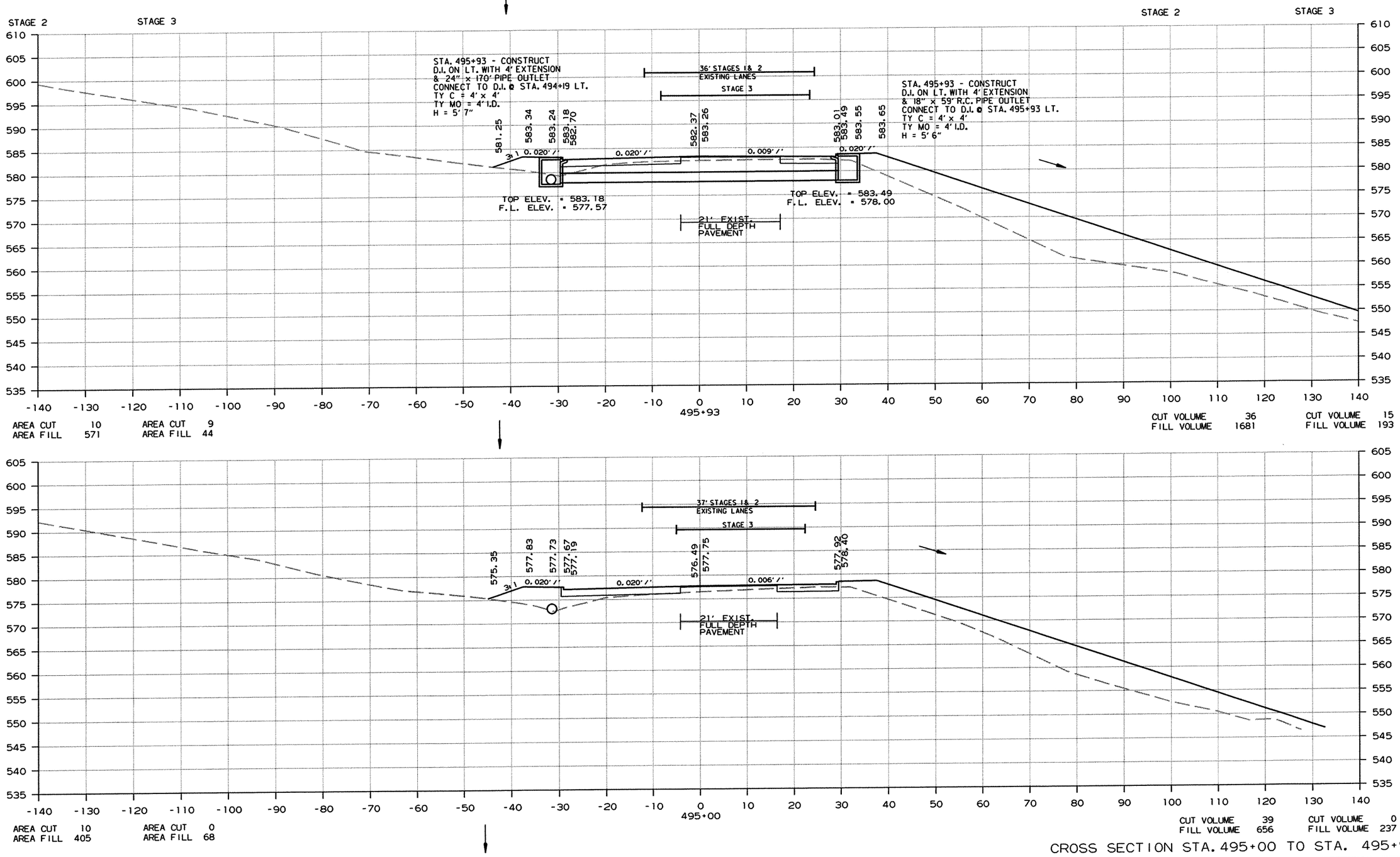


CROSS SECTION STA. 493+85 TO STA. 494+19

R080390.DGN 12/17/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	254	263

(2) CROSS SECTIONS

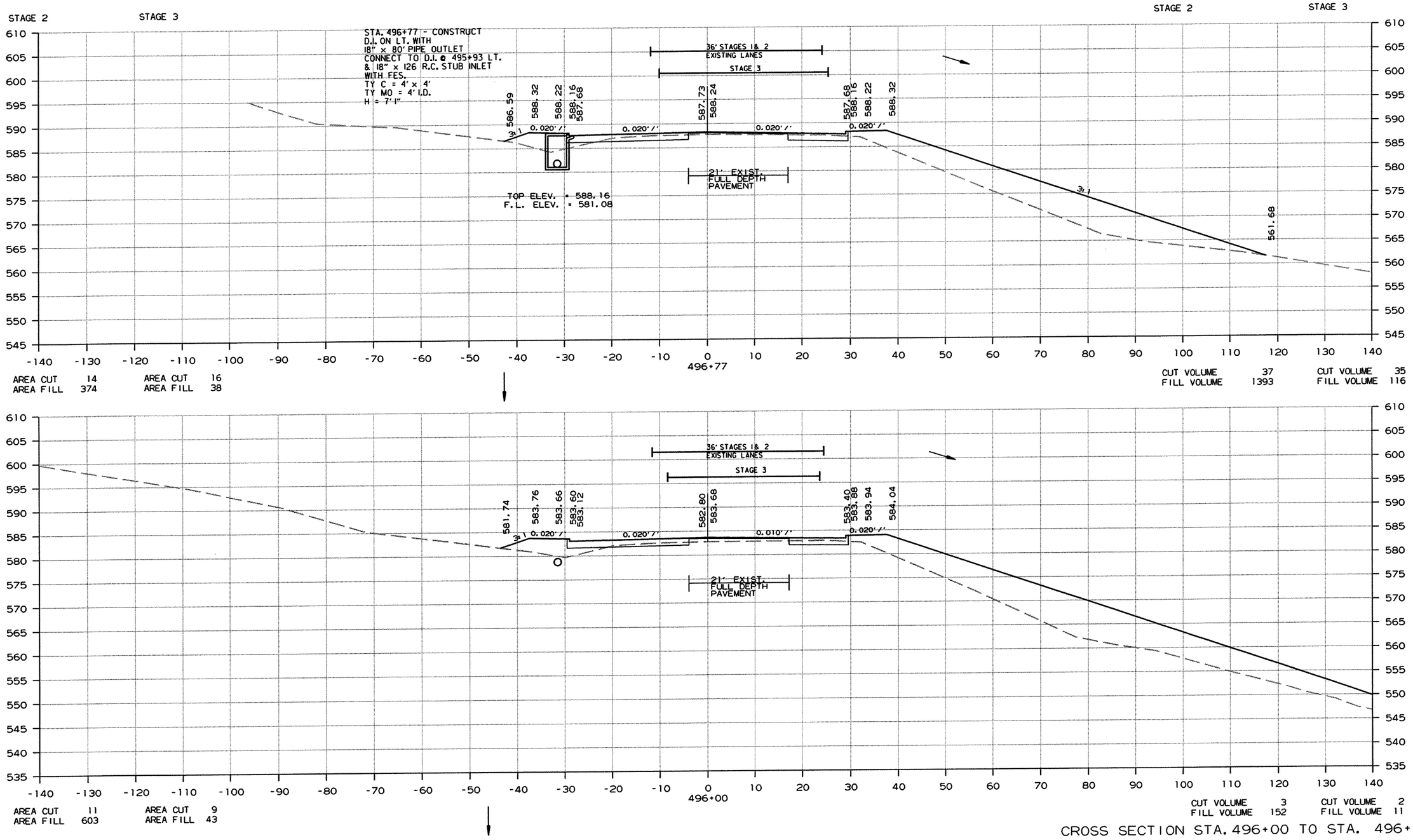


CROSS SECTION STA. 495+00 TO STA. 495+93

R080390.DGN 12/17/2012

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

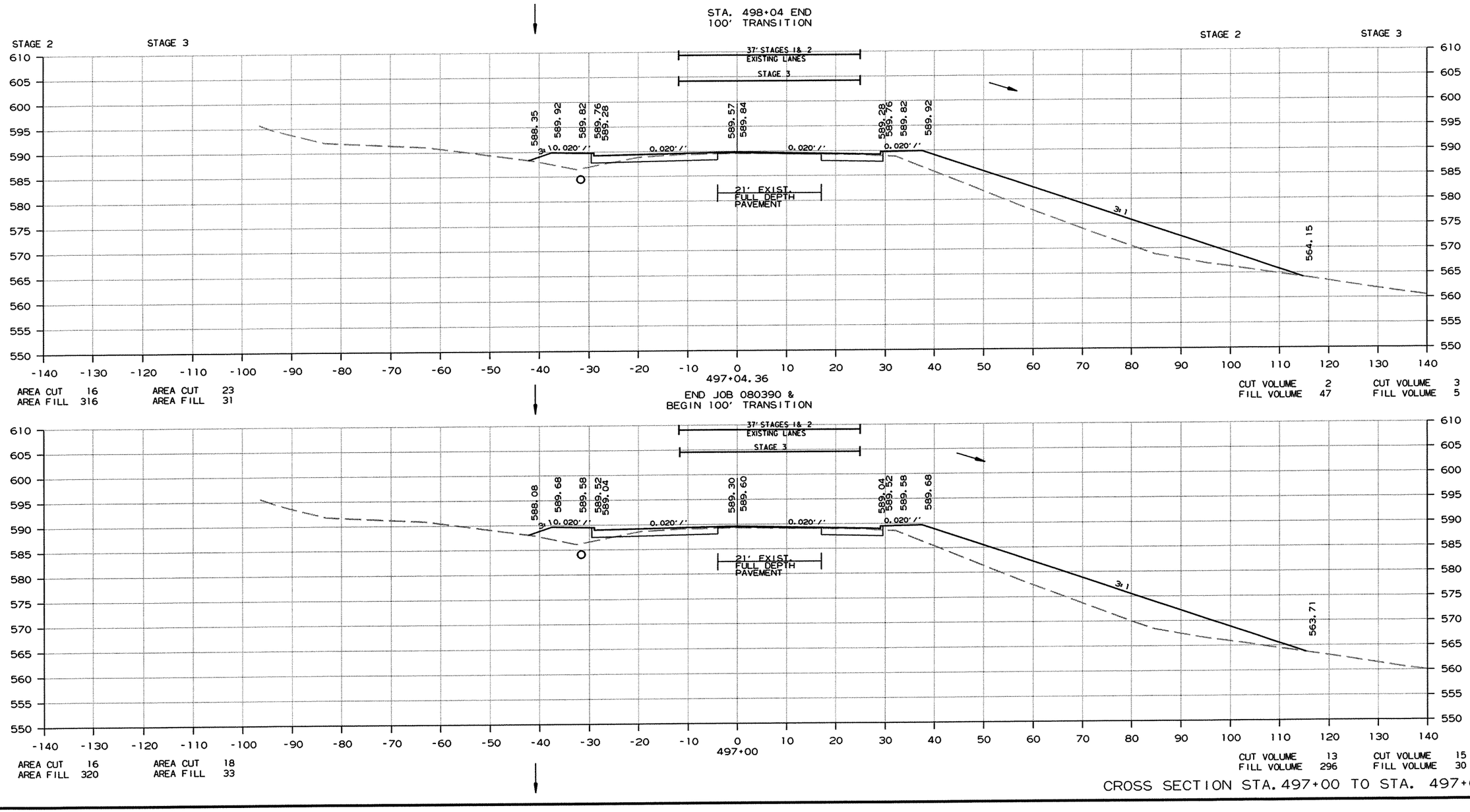


CROSS SECTION STA. 496+00 TO STA. 496+77

R080390.DGN 12/17/2012

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



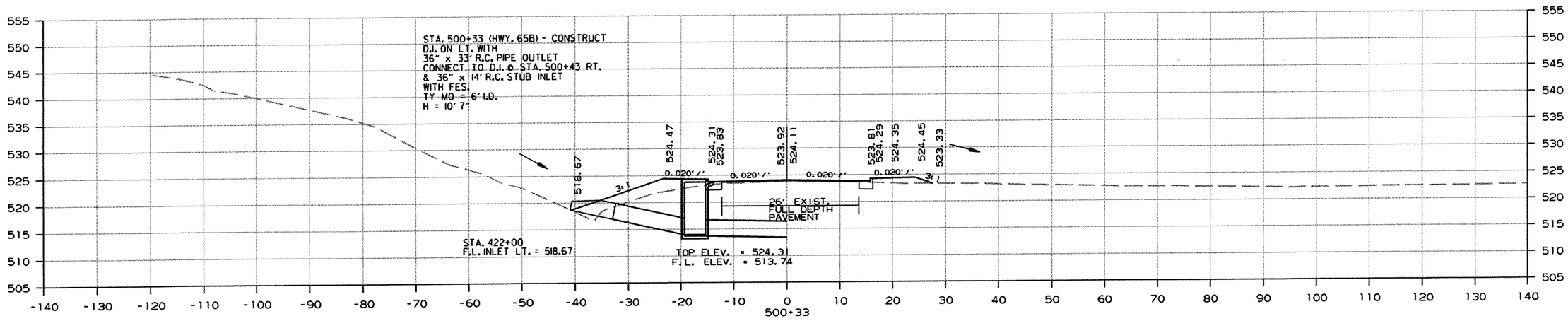
CROSS SECTION STA. 497+00 TO STA. 497+04

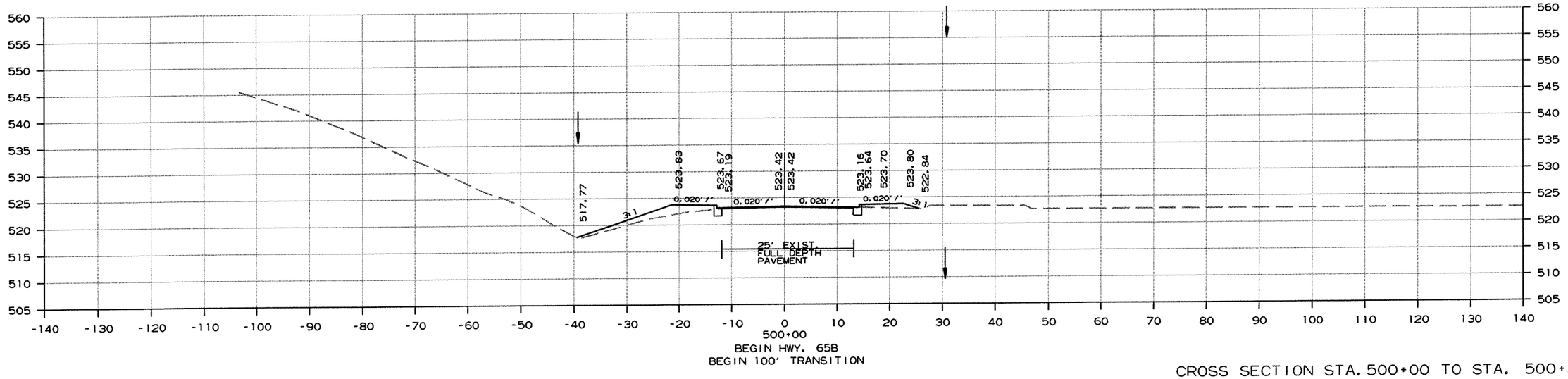
R080390.DGN 12/20/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080390	257	263

(2) CROSS SECTIONS





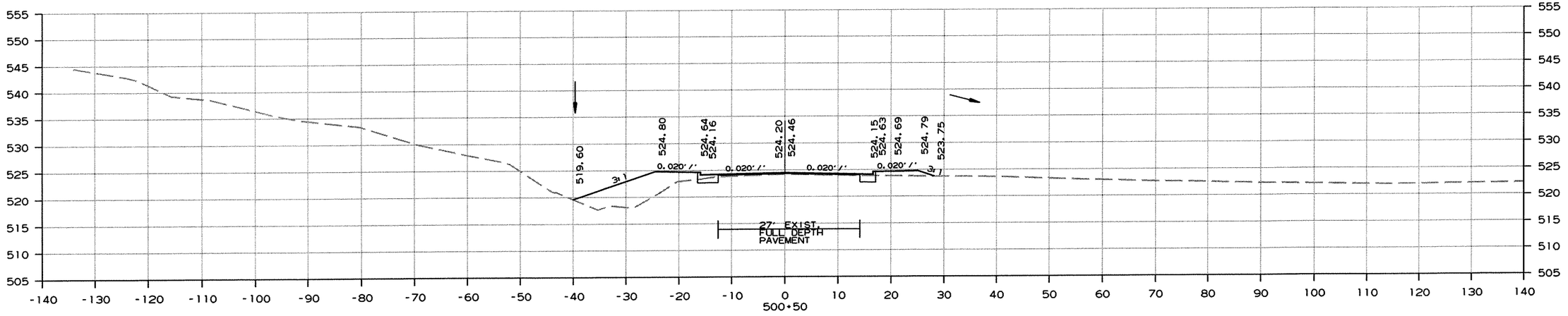
CROSS SECTION STA. 500+00 TO STA. 500+33

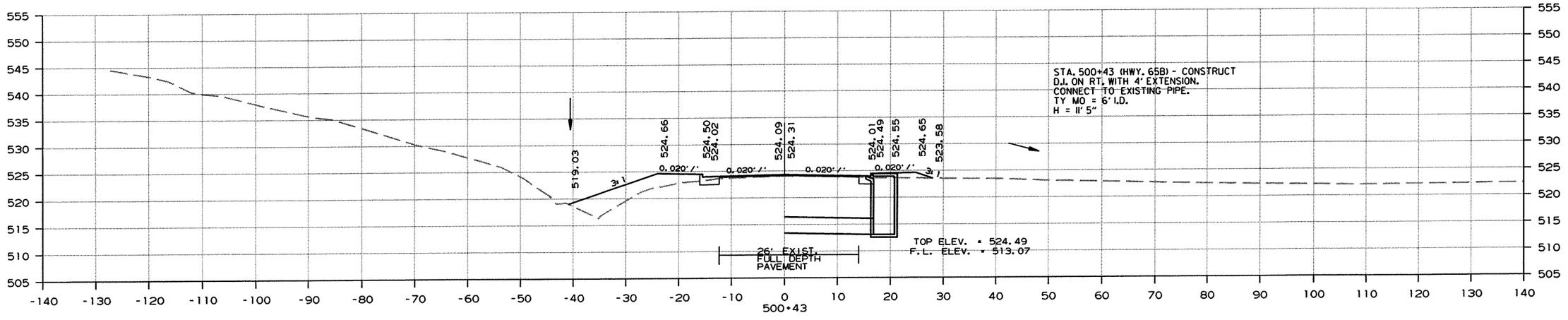
1/22/2013

R080390.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.		080390	258	263

(2) CROSS SECTIONS





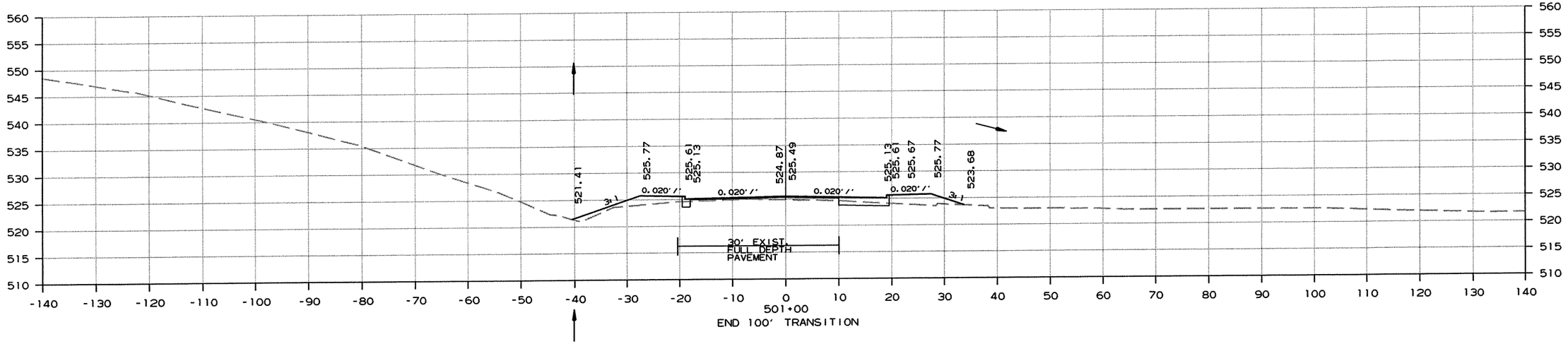
CROSS SECTION STA. 500+43 TO STA. 500+50

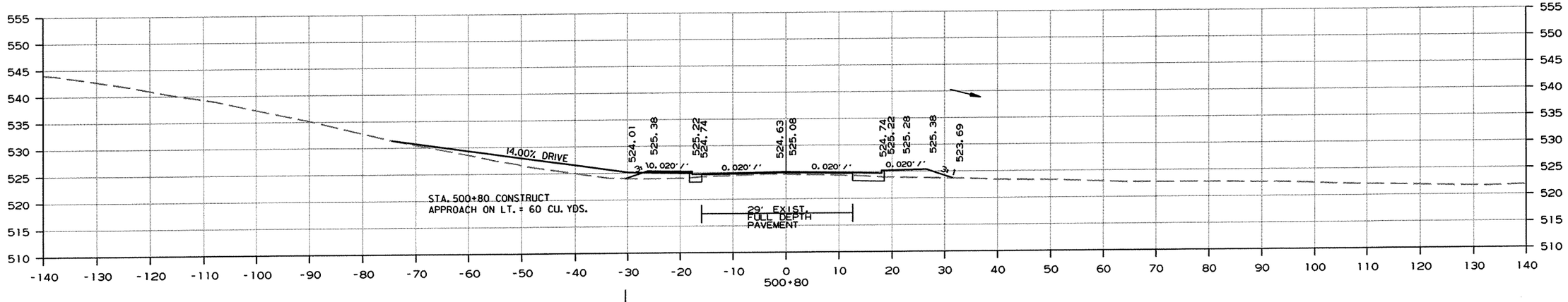
11/8/2011

R080390.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.		080390	259	263

(2) CROSS SECTIONS





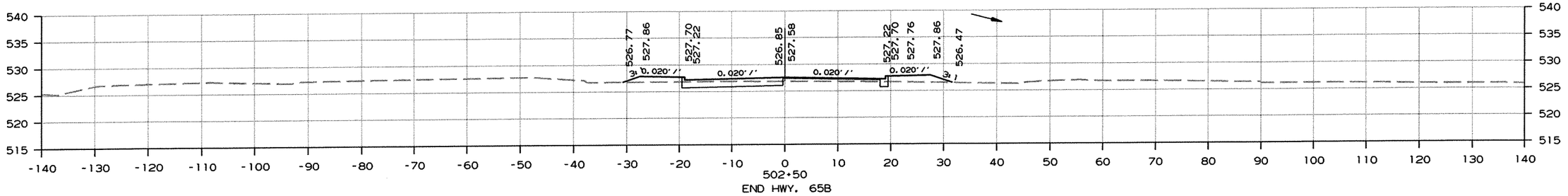
CROSS SECTION STA. 500+80 TO STA. 501+00

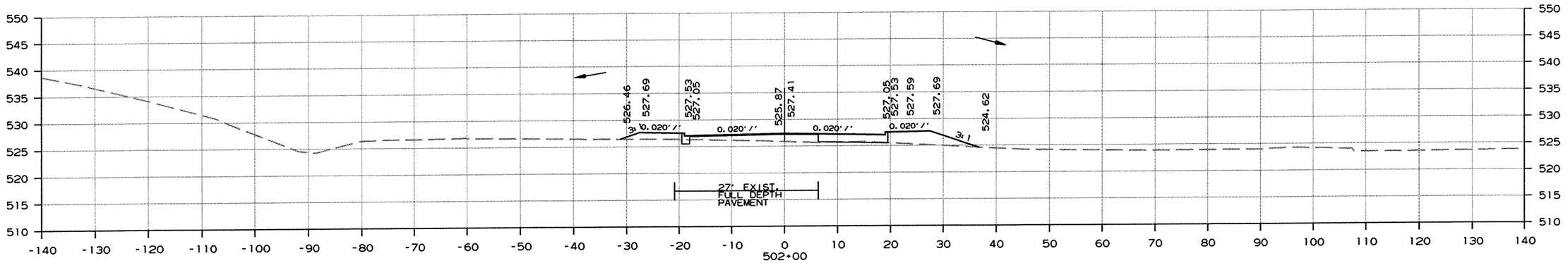
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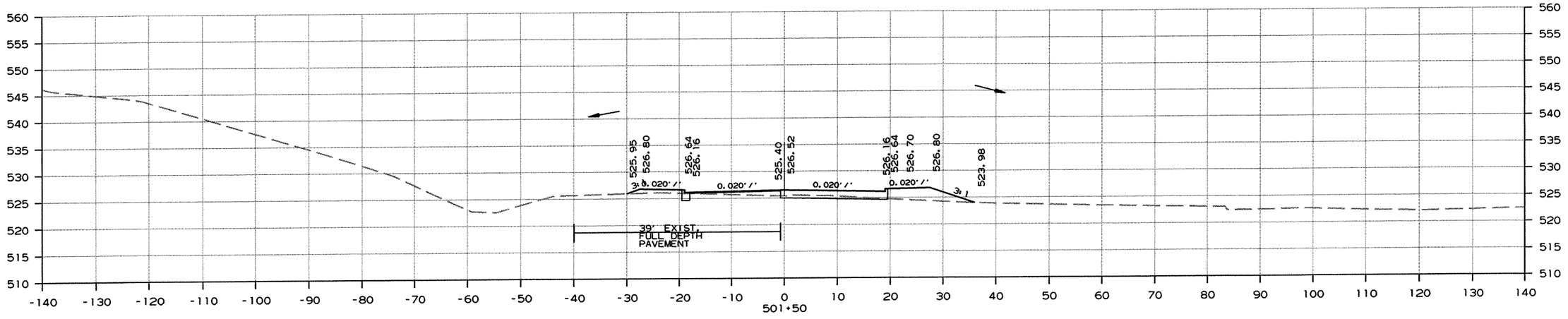
R080390.DGN

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.		080390	260	263

(2) CROSS SECTIONS







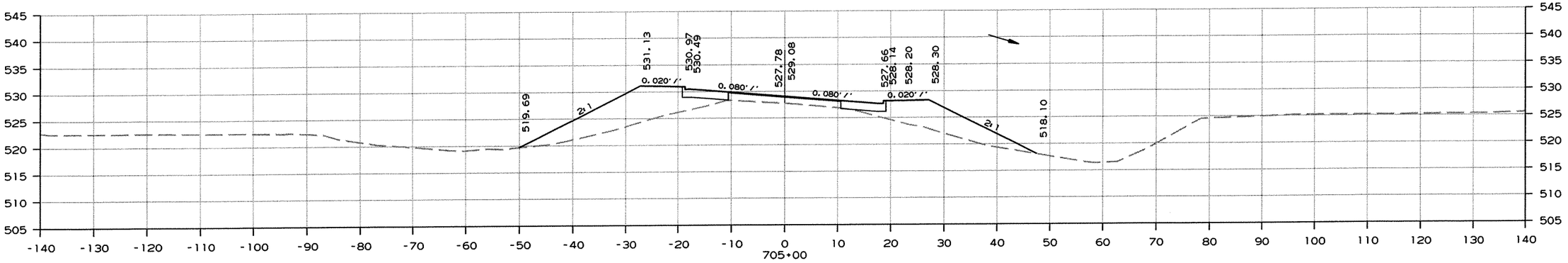
CROSS SECTION STA. 501+50 TO STA. 502+50

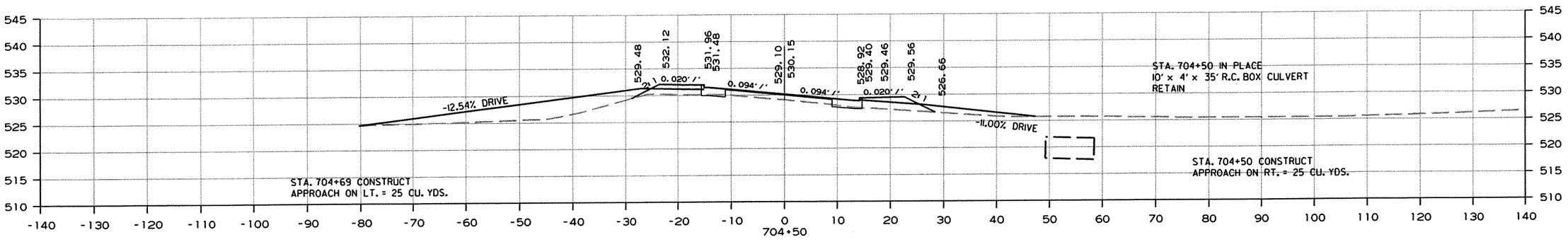
1/22/2013

R080390.DGN

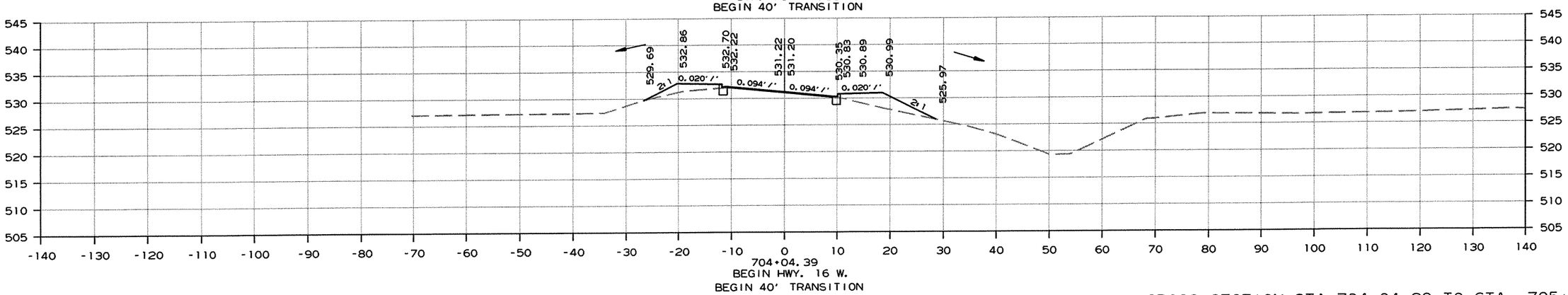
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	261	263

(2) CROSS SECTIONS





STA. 704+44.36
BEGIN 40' TRANSITION



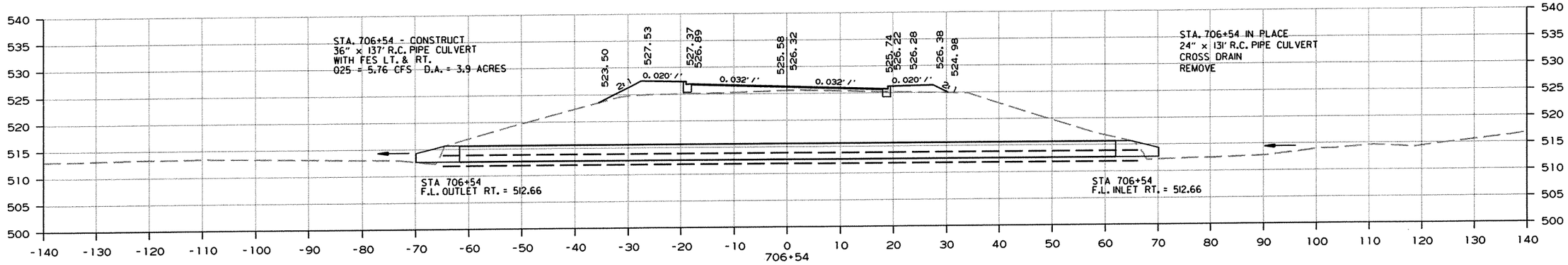
CROSS SECTION STA. 704+04.39 TO STA. 705+00

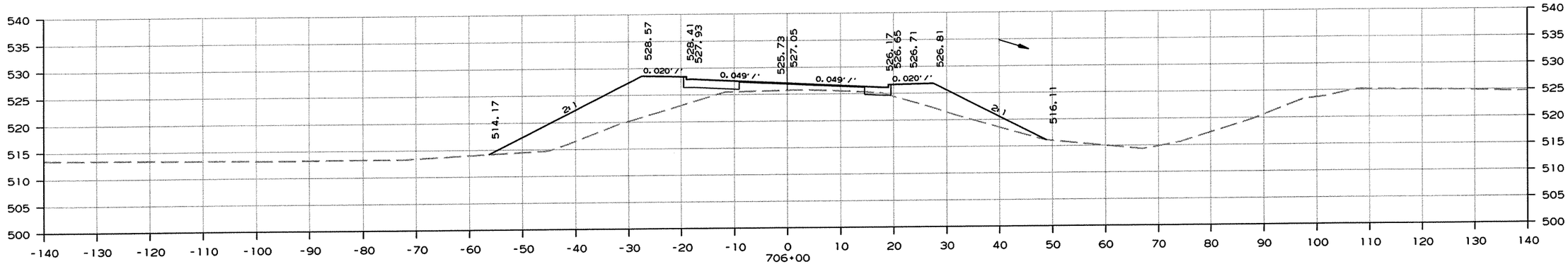
11/8/2011

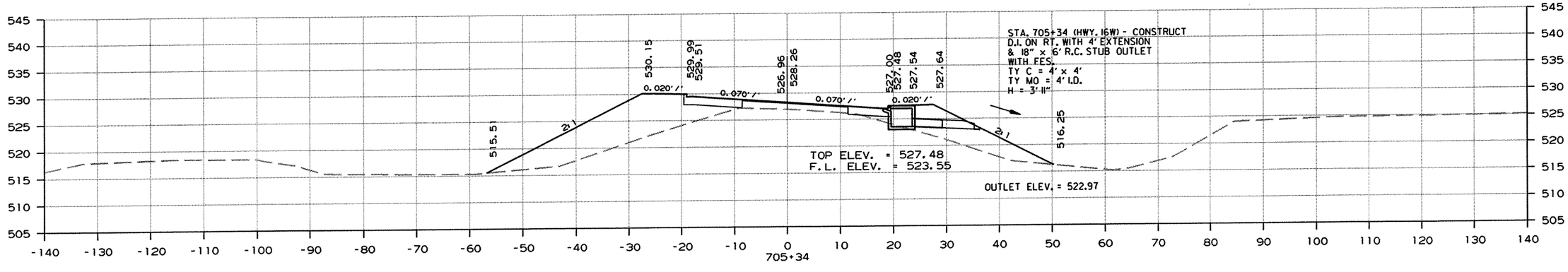
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	262	263

(2) CROSS SECTIONS







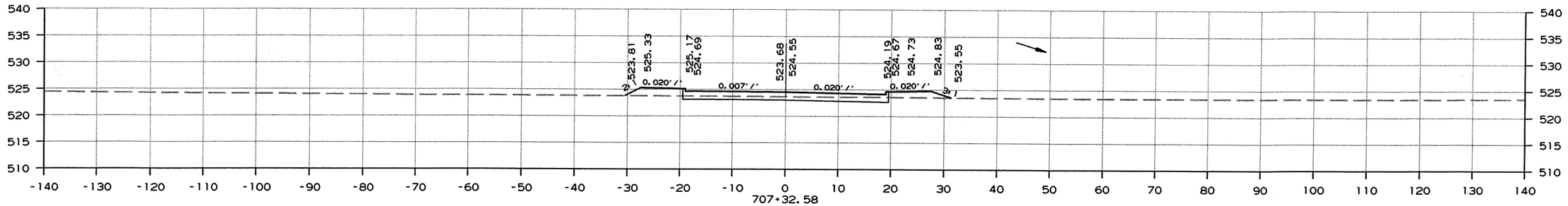
CROSS SECTION STA. 705+34 TO STA. 706+54

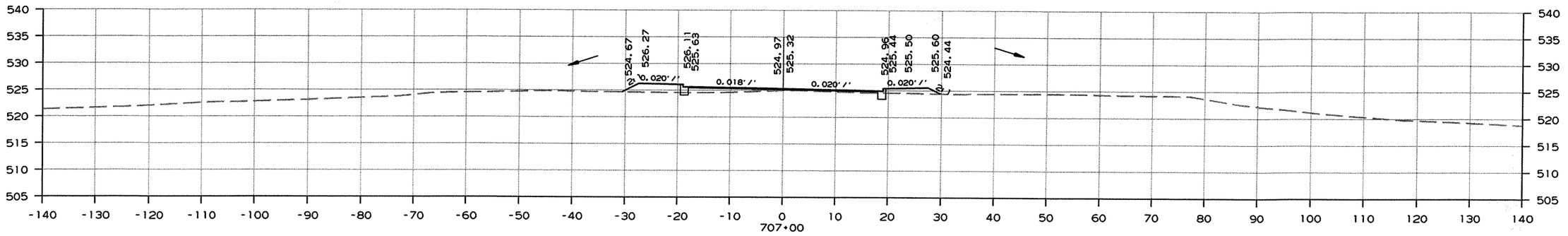
11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080390	263	263

(2) CROSS SECTIONS





CROSS SECTION STA. 707+00 TO STA. 707+32.58

11/8/2011

ZBORDER.CEL