090331

JOB

9/20/2013

R090331.DGN

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	1	218
				(2)	WAGON WHEEL RD.-HWY. 264 (WIDENING) (S)			

WAGON WHEEL RD. - HWY. 264 (WIDENING) (S)

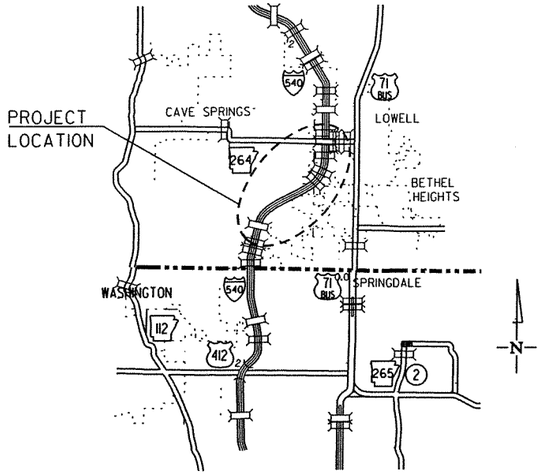
BENTON COUNTY

ROUTE 540 SECTION 5

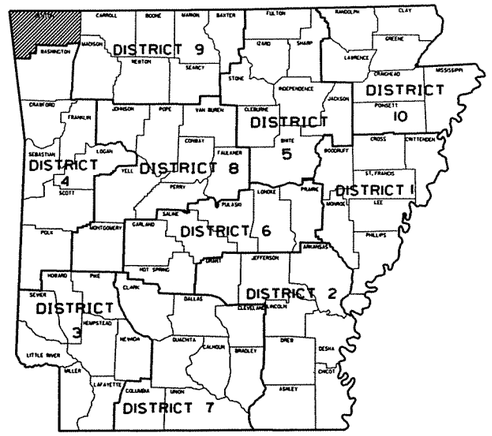
FEDERAL AID PROJ. NHPP-540-1(83)76

JOB 090331

NOT TO SCALE



VICINITY MAP



ARK. HWY. DIST. NO. 9

DESIGN TRAFFIC DATA

DESIGN YEAR	2014
2014 ADT	74,000
2034 ADT	104,000
2034 DHV	11,440
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	11%
DESIGN SPEED	70 MPH

STRUCTURES OVER 20'-0" SPAN

BRIDGE DATA

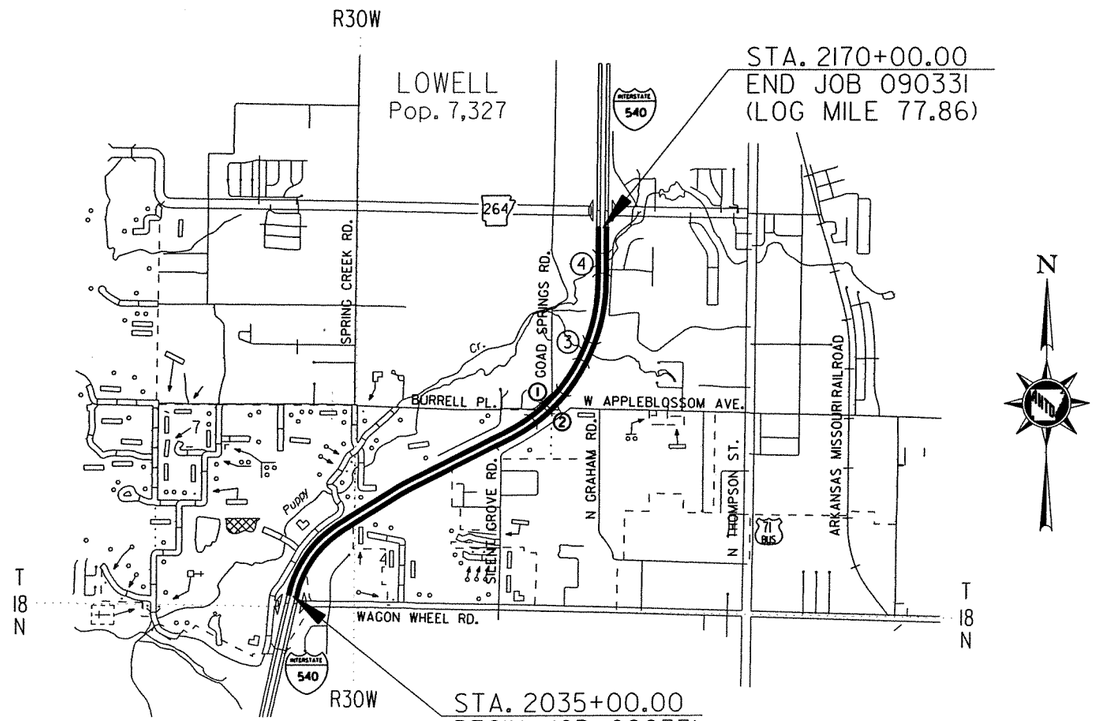
① STA. 2121+64.75 - BRIDGE END
BR. NO. A5948
149'-0" CONT. COMPOSITE W-BEAM UNIT (46'-57'-46')
56'-0" CLEAR ROADWAY
151'-3 3/16" BRIDGE LENGTH
STA. 2123+17.48 - BRIDGE END

② STA. 2121+35.44 - BRIDGE END
BR. NO. B5948
149'-0" CONT. COMPOSITE W-BEAM UNIT (46'-57'-46')
56'-0" CLEAR ROADWAY
151'-3 3/16" BRIDGE LENGTH
STA. 2122+85.27 - BRIDGE END

R.C. BOX CULVERT DATA: (SHOWN FOR INFORMATION ONLY)

③ STA. 2137+93 - IN PLACE
TRIPLE 8' x 7' x 291' R.C. BOX CULV'T.
(8°45' LT. FWD. SKEW) (SPAN = 27'-3")
Q50 = 1750 CFS; DA = 1137.1 AC.

④ STA. 2162+06 - IN PLACE
TRIPLE 12' x 10' x 336' R.C. BOX CULV'T.
(25° RT. FWD. SKEW) (SPAN = 43'-9")
Q50 = 3728 CFS; DA = 3098.3 AC.



APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

9/25/13

DEPUTY DIRECTOR AND CHIEF ENGINEER

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 36°13'38"	LATITUDE = N 36°14'15"	LATITUDE = N 36°15'10"
LONGITUDE = W 94°10'43"	LONGITUDE = W 94°09'37"	LONGITUDE = W 94°9'02"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT			13,500.00	FEET OR	2.557	MILES
NET	"	" ROADWAY	13,348.72	"	2.528	"
NET	"	" BRIDGES	151.28	"	0.029	"
NET	"	" PROJECT	13,500.00	"	2.557	"

P.E. 012070
NON-PART.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	2	218

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

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

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 090331
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
606-2	PIPE CULVERTS
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
821-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 090331	AIRPORT CLEARANCE REQUIREMENTS
JOB 090331	APPROACH SLABS AND GUTTERS
JOB 090331	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 090331	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090331	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090331	CALCIUM SULFONATE PAINT
JOB 090331	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL
JOB 090331	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 090331	ELASTOMERIC BEARINGS
JOB 090331	EXTENSION FOR PIPE CULVERTS
JOB 090331	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 090331	HIGH PERFORMANCE PAVEMENT MARKING
JOB 090331	INTERNET BIDDING
JOB 090331	MAINTENANCE OF TRAFFIC
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JOB 090331	PARTNERING REQUIREMENTS
JOB 090331	PROSECUTION AND PROGRESS
JOB 090331	REMOVAL AND DISPOSAL OF GUARDRAIL
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JOB 090331	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 090331	STORM WATER POLLUTION PREVENTION PLAN
JOB 090331	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090331	TEMPORARY IMPACT ATTENUATION BARRIER
JOB 090331	TEXTURED COATING FINISH
JOB 090331	UTILITY ADJUSTMENTS
JOB 090331	VALUE ENGINEERING
JOB 090331	WARM MIX ASPHALT
JOB 090331	WIRE ROPE SAFETY FENCE (WRSF) SPECIFICATIONS
JOB 090331	WIRE ROPE SAFETY FENCE END TERMINAL

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
6. 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 CONCRETE 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
9-24-13

INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES

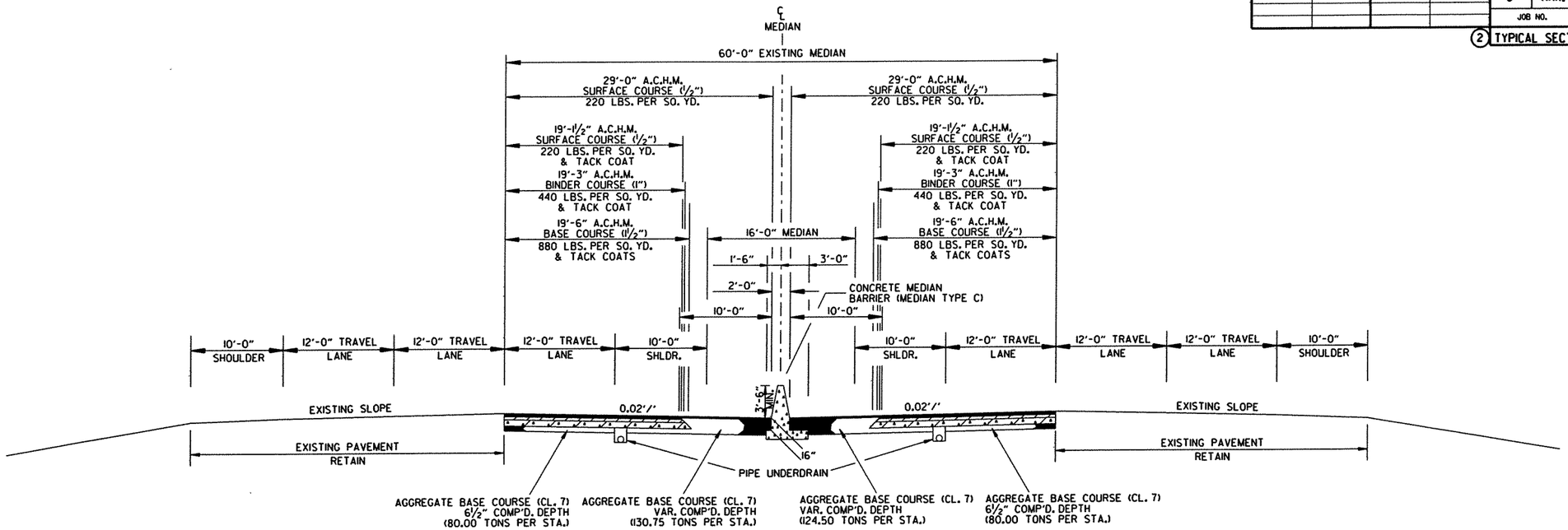
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



TYPICAL SECTION OF IMPROVEMENT

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.

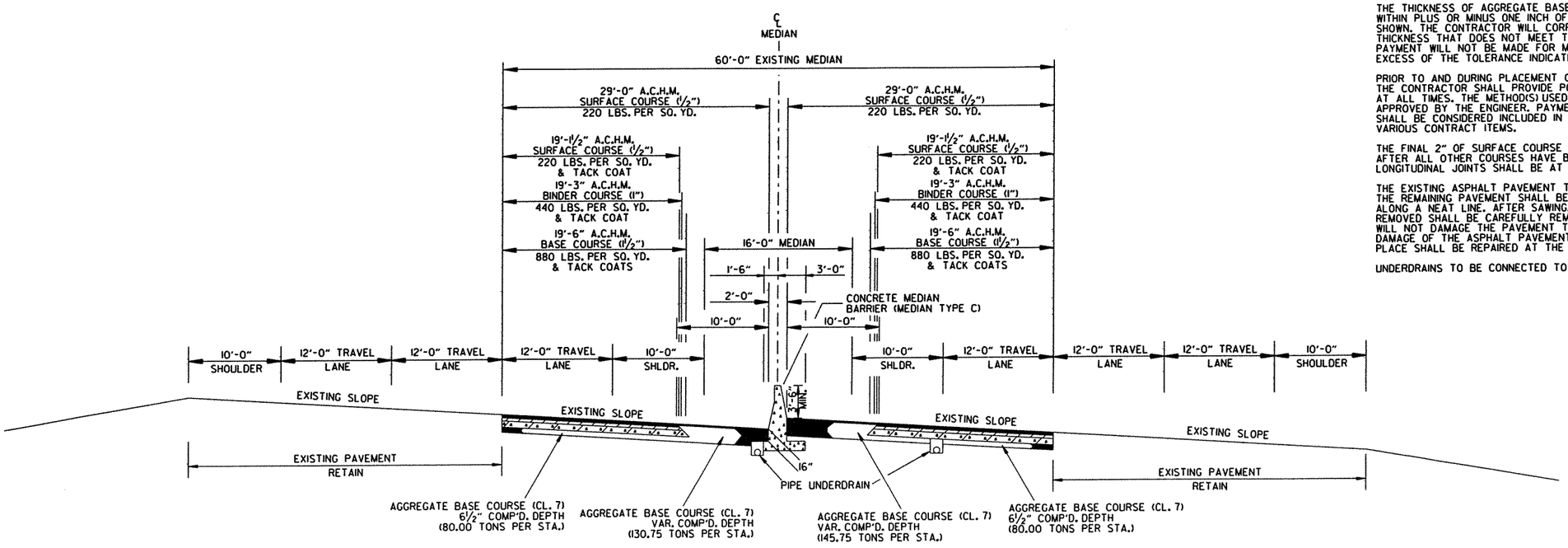
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT, 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 FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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.

UNDERDRAINS TO BE CONNECTED TO DROP INLETS.



TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION

TYPICAL SECTIONS OF IMPROVEMENT

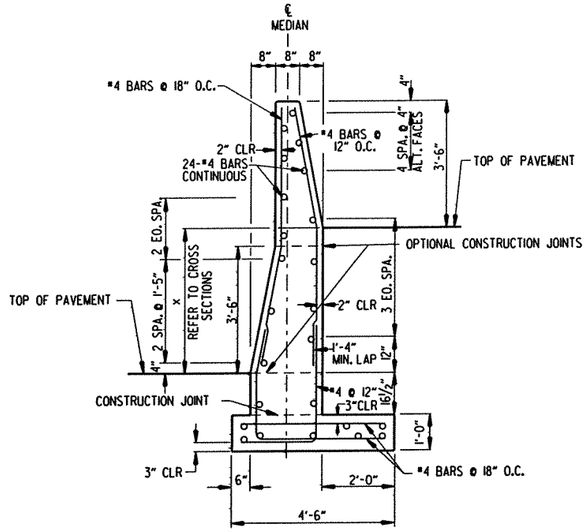
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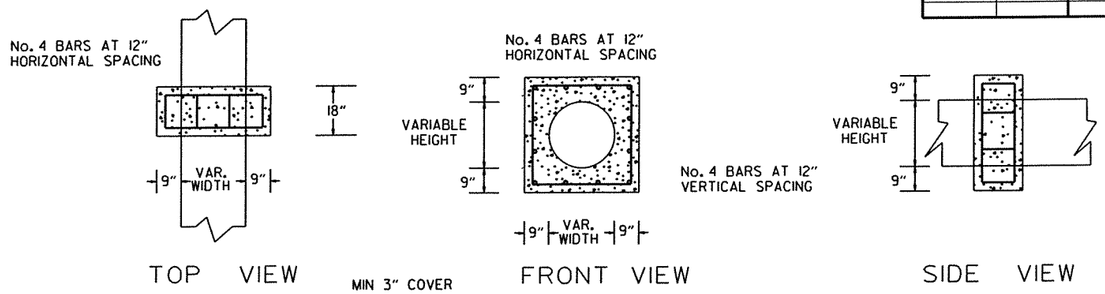
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(2) SPECIAL DETAILS

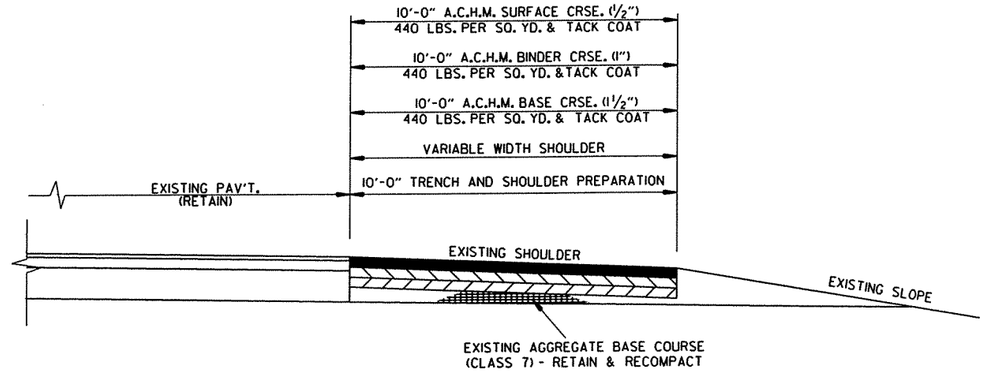
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



CONCRETE BARRIER WALL (MEDIAN TYPE C)
X = 0'-0" TO 5'-0" MAX.



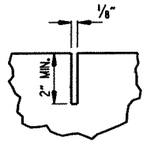
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



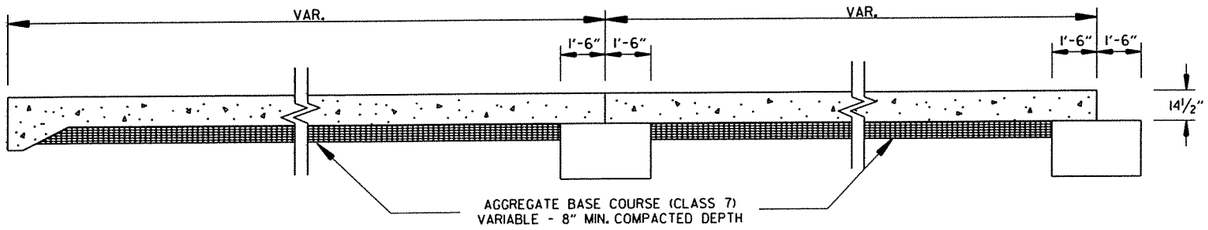
SHOULDER TRENCHING AND PREPARATION
OUTSIDE SHOULDER
(SHOWN IN DIRECTION OF TRAFFIC)

GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2003 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPE MEDIAN C.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.
5. THE DESIGN OF BARRIER WALL TYPE MEDIAN C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 120 FT FOR BARRIER TYPE MEDIAN C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. DRAINAGE OPENINGS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

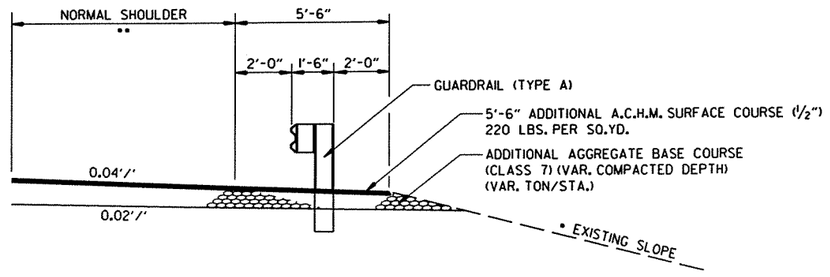


CONTRACTION JOINT DETAIL



DETAIL OF APPROACH SLAB

NOTE: REFER TO BRIDGE DRAWINGS
54206, 54207, 54229 & 54230 FOR ADDITIONAL INFORMATION.



WIDENING FOR GUARDRAIL DETAIL

NOTES:
- • REFER TO STD. DWG GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.
- •• REFER TO LOCATIONS OF SHOULDER TRENCHING AND PREPARATION.

SPECIAL DETAILS

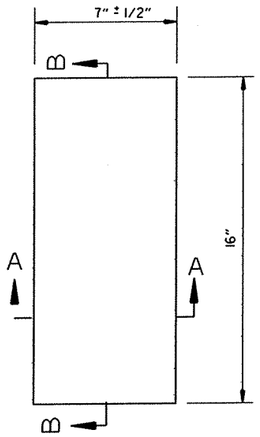
9/20/2013

R090331.DGN

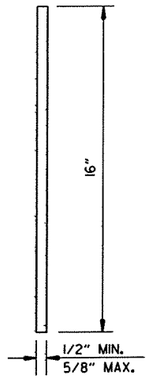
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				6	ARK.			
				JOB NO.		090331	5	218

(2) SPECIAL DETAILS

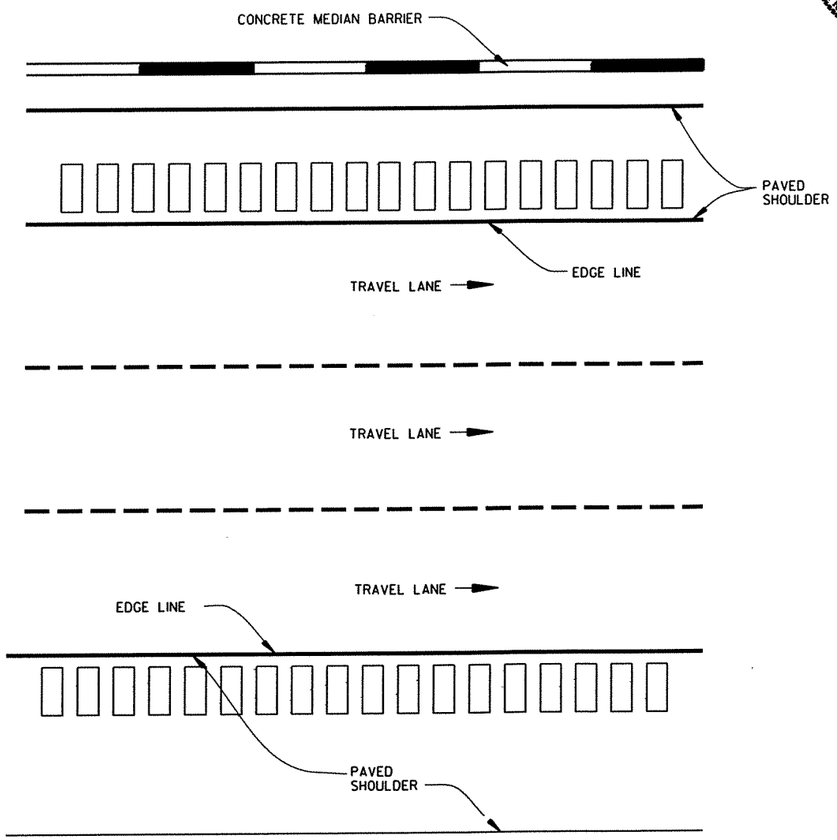
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



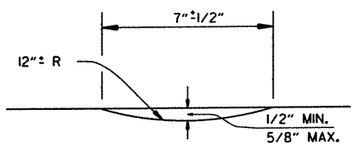
PLAN



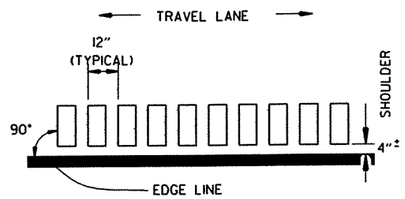
SECTION B-B



PLAN VIEW



SECTION A-A



LOCATION PLAN OF RUMBLE STRIPS
LEFT SHOULDER

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL JOINTS.
2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

DETAILS OF RUMBLE STRIPS

9/20/2013

R090331.DGN

SPECIAL DETAILS

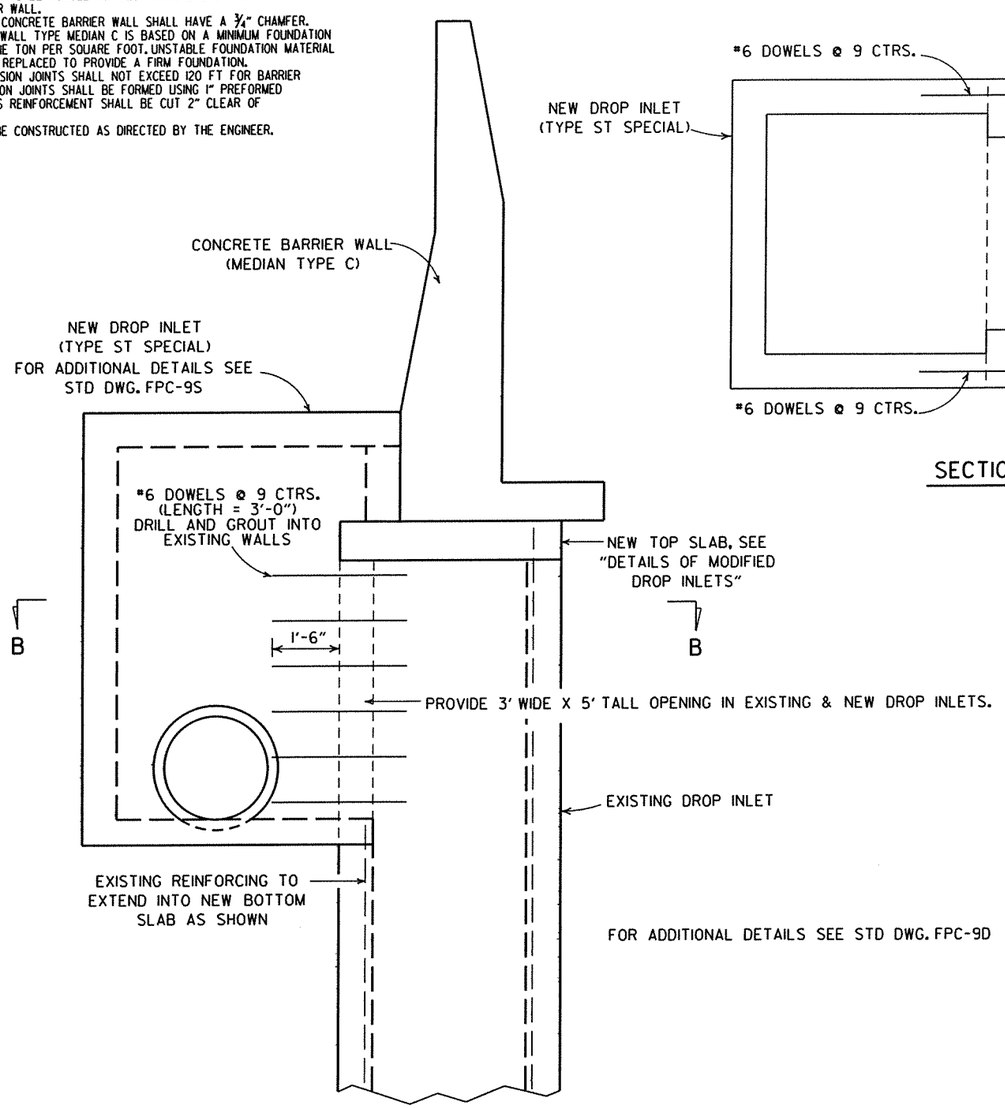
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				6	ARK.			
				JOB NO.		090331	6	218

(2) SPECIAL DETAILS

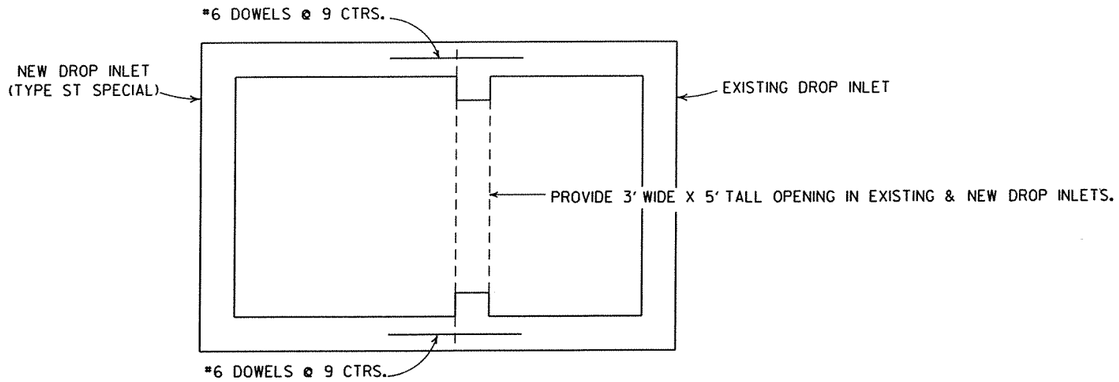
GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631OF THE STANDARD SPECIFICATIONS, 2003 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPE MEDIAN C.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.
5. THE DESIGN OF BARRIER WALL TYPE MEDIAN C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 120 FT FOR BARRIER TYPE MEDIAN C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. DRAINAGE OPENINGS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

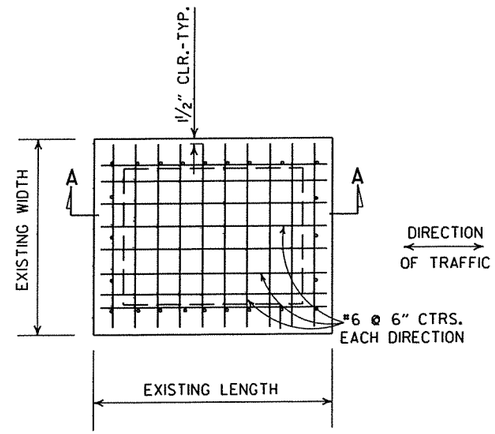
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH
9-24-13



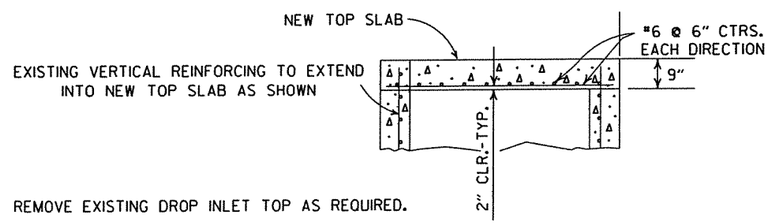
TYPICAL SECTION
(LOOKING AHEAD)



SECTION B-B



TOP VIEW



SECTION A-A

DETAILS OF DROP INLETS (TYPE ST SPECIAL)

STA. 2051+79 & STA. 2080+22

DETAILS OF MODIFIED DROP INLETS

STA. 2051+79, STA. 2080+22, STA. 2095+55, STA. 2120+89 & STA. 2137+91

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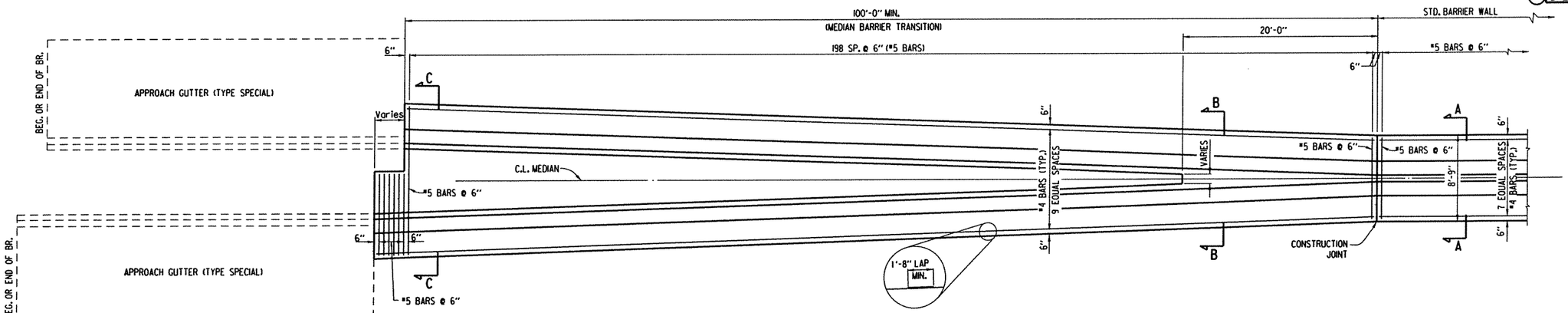
R090331.DGN

SPECIAL DETAILS

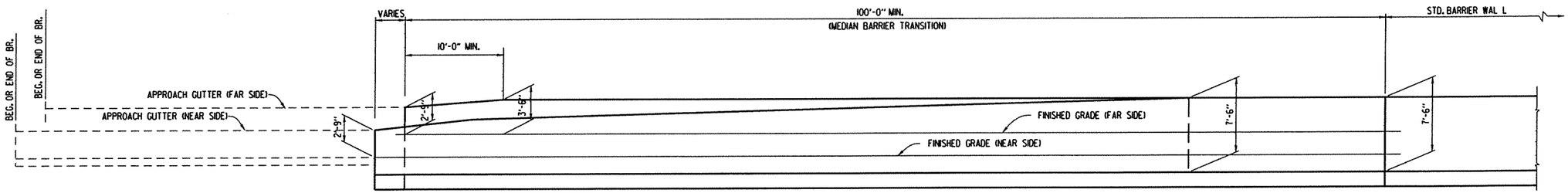
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				6	ARK.			
				JOB NO.		090331	7	218

(2) SPECIAL DETAILS

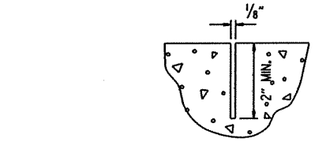
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



PLAN OF MEDIAN BARRIER TRANSITION



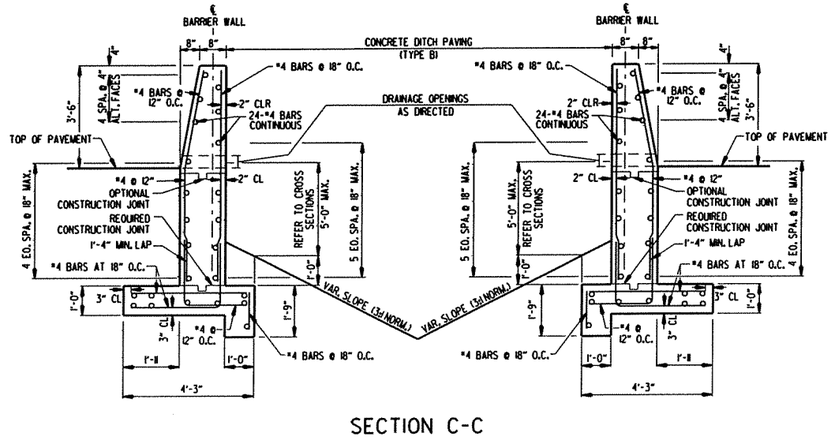
ELEVATION OF MEDIAN BARRIER TRANSITION



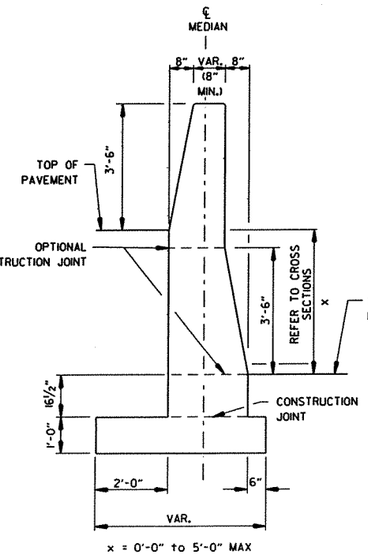
CONTRACTION JOINT DETAIL

CONCRETE BARRIER WALL

NOTE: TRANSITION FOR NORTH SIDE SHOWN.
SOUTH SIDE TRANSITION IS IDENTICAL.

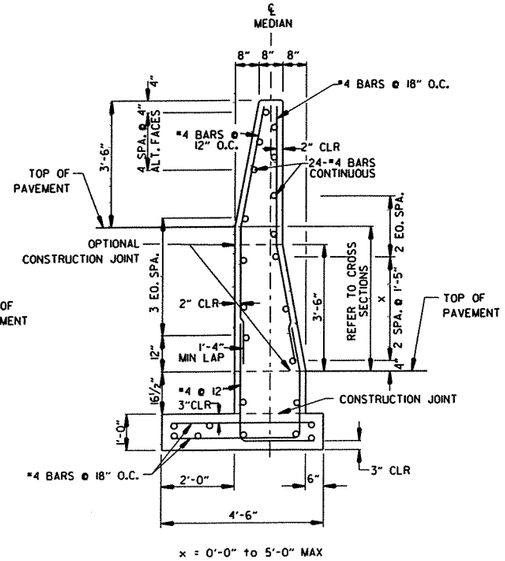


SECTION C-C



x = 0'-0" to 5'-0" MAX
SAME REINFORCEMENT AS SECTION A-A

SECTION B-B



x = 0'-0" to 5'-0" MAX

SECTION A-A

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3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3"#4" CHAMFER.
5. THE DESIGN OF BARRIER WALL TYPE MEDIAN C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 120 FT FOR BARRIER TYPE MEDIAN C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. DRAINAGE OPENINGS TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

9/20/2013

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DETAILS OF CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)

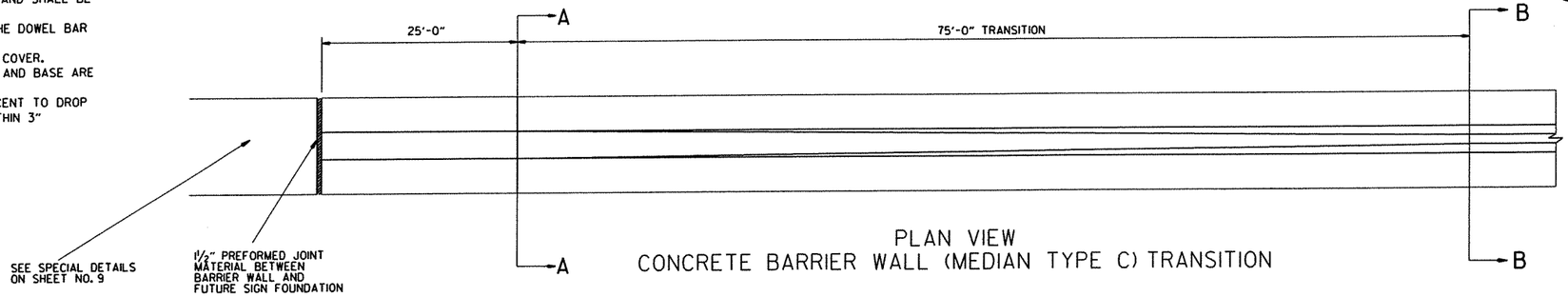
SPECIAL DETAILS

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.		090331	8	218

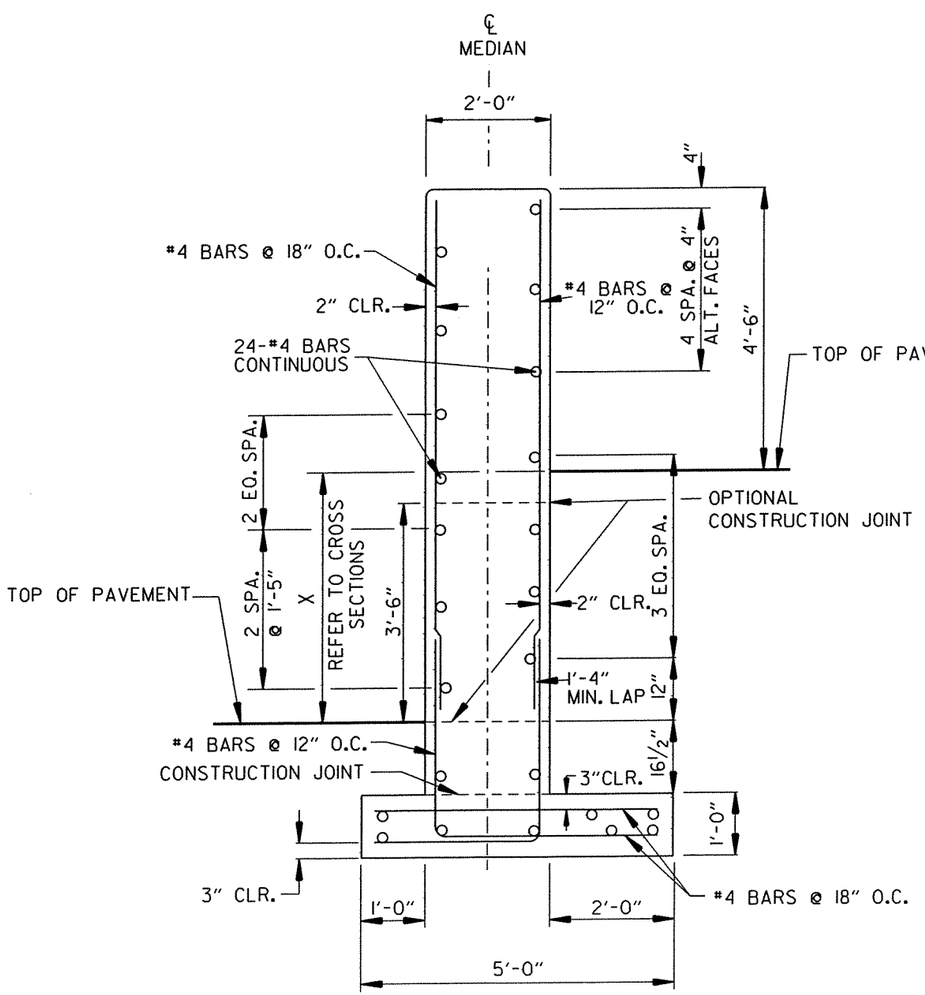
(2) SPECIAL DETAILS

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.

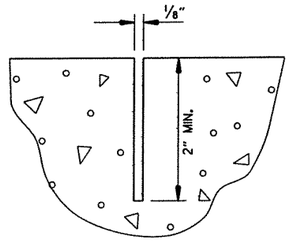
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



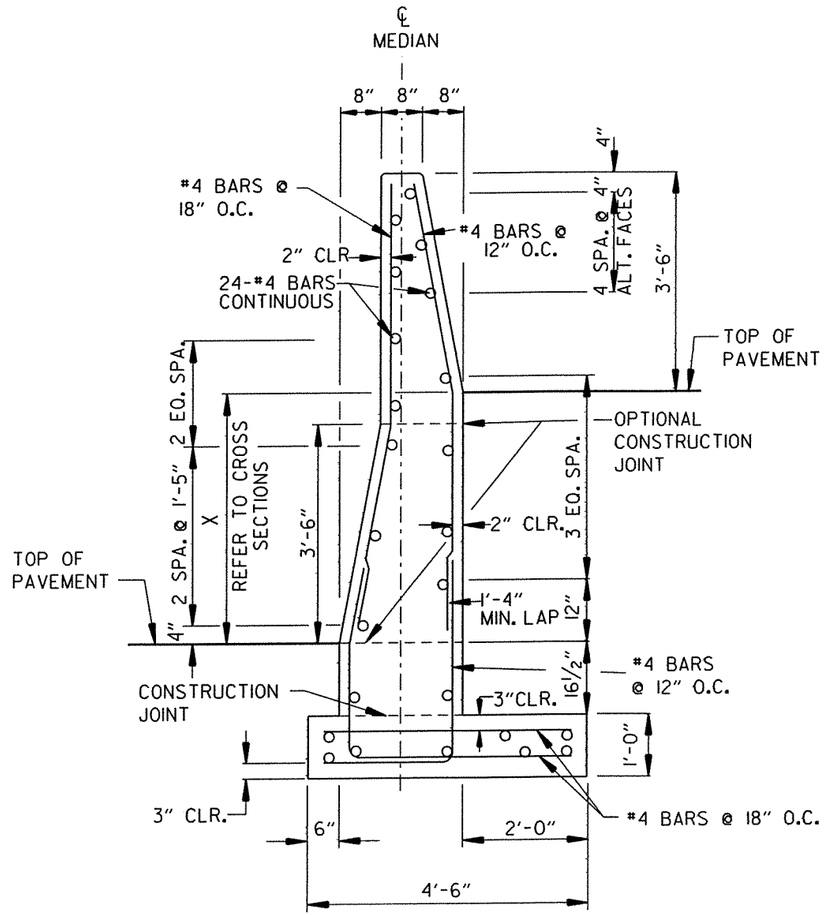
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE C) TRANSITION



CONCRETE BARRIER WALL (MEDIAN TYPE SP-I)
(SECTION A-A)
X = 0'-0" TO 5'-0" MAX.



CONTRACTION JOINT DETAIL



CONCRETE BARRIER WALL (MEDIAN TYPE C)
(SECTION B-B)
X = 0'-0" TO 5'-0" MAX.

CONCRETE BARRIER WALL (MEDIAN TYPE C)
TRANSITION FOR OVERHEAD SIGN STRUCTURE

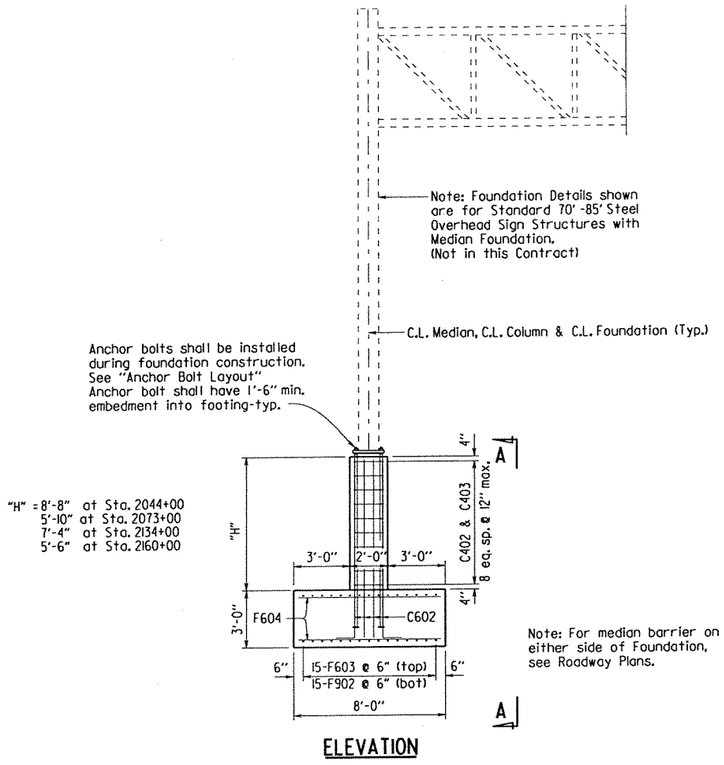
SPECIAL DETAILS

9/20/2013

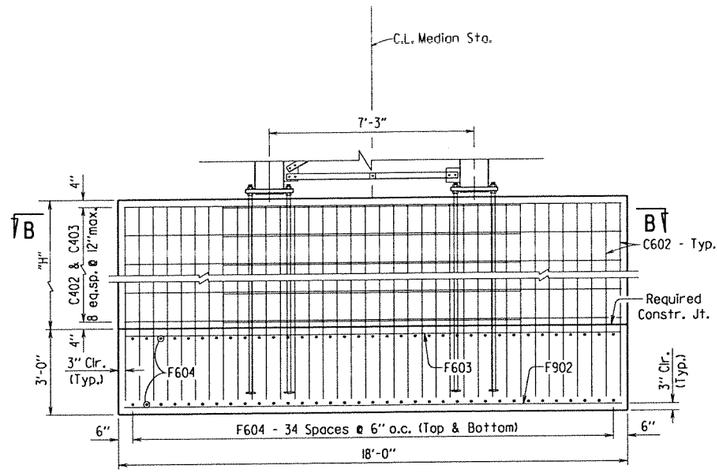
R090331.DGN

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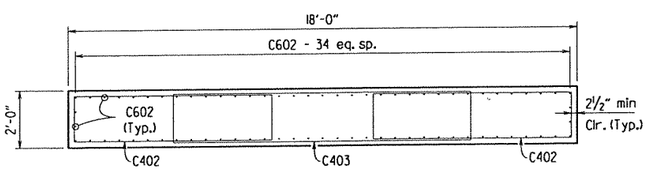
(1) SPECIAL DETAILS



ELEVATION



VIEW A-A



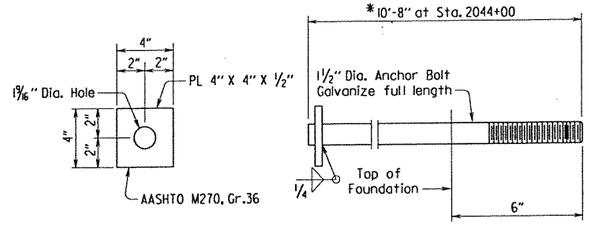
SECTION B-B

GENERAL NOTES:

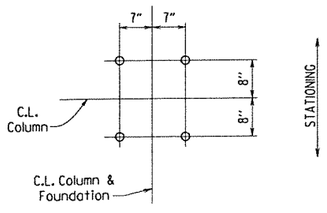
FOUNDATION MATERIALS AND STRENGTHS:
Class S Concrete f'c = 3,500 psi
Reinforcing Steel (Grade 60, AASHTO M 31 or M 322, Type A) fy = 60,000 psi

Anchor bolts shall comply with AASHTO M 314, Grade 55 including Supplementary Requirement S1, and galvanized according to subsection 807.07. Anchor bolts will not be paid for directly but shall be considered subsidiary to the pay item "Concrete Barrier Wall (Median Type Special 2)".

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to other items in the Contract.



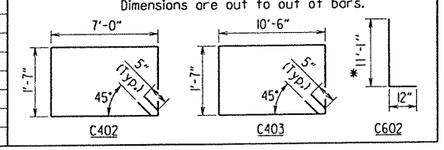
ANCHOR BOLT DETAIL



ANCHOR BOLT LAYOUT

BAR LIST-FOUNDATION

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
C402	18	17'-8"	3"	Dimensions are out to out of bars.
C403	9	24'-8"	3"	
* C602	74	11'-11"	4½"	
F603	15	17'-6"	Str.	
F604	70	7'-6"	Str.	
F902	15	17'-6"	Str.	



*APPROXIMATE QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

CLASS S CONCRETE (Cu. Yds.)	REINFORCING STEEL (Lbs.)	EXCAVATION (Cu. Yds.)
27.6	3765	26

* Note: Anchor bolt length, Bar List and Quantities based on 8'-8" column height. Contractor shall make appropriate adjustments for other column heights.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
8/29/13

BRIDGE ENGINEER

SPECIAL DETAILS FOR MEDIAN FOUNDATIONS

PRINT DATE: 8/29/2013 FILE NAME: b090331medfoundations.dgn

NOTE:
STAGE 2 MAINTENANCE OF TRAFFIC INVOLVES LANE TRAFFIC SHIFTS AROUND THE BRIDGE AND STAGE 1EROSION CONTROL ITEMS WILL REMAIN IN PLACE.

TEMPORARY EROSION CONTROL GENERAL NOTES:

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.

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(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
9-24-13

STA. 2035+00.00
BEGIN JOB 090331
(LOG MILE 75.30)

WAGON WHEEL RD.

130' LANE TAPER
53' P.C.C.B. TAPER
+20
+97
+50

2030
2035
2040
2045
N 14°21'40" E

12'
12'
11'
11'
2'

E-5
E-7

TEMP. PRECAST CONCRETE BARRIER WALL FOR MOT

P.C. 2032+78.65
TEMPORARY IMPACT ATTENUATION BARRIER
40' P.C.C.B. TAPER
60' P.C.C.B.
130' LANE TAPER
100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.
TRAFFIC DRUMS @ 60' O.C.
+20
+20
+50

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

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

N 59°53'05" E
2050
2055
2060
P.T. 2055+54.83
RET. WALL

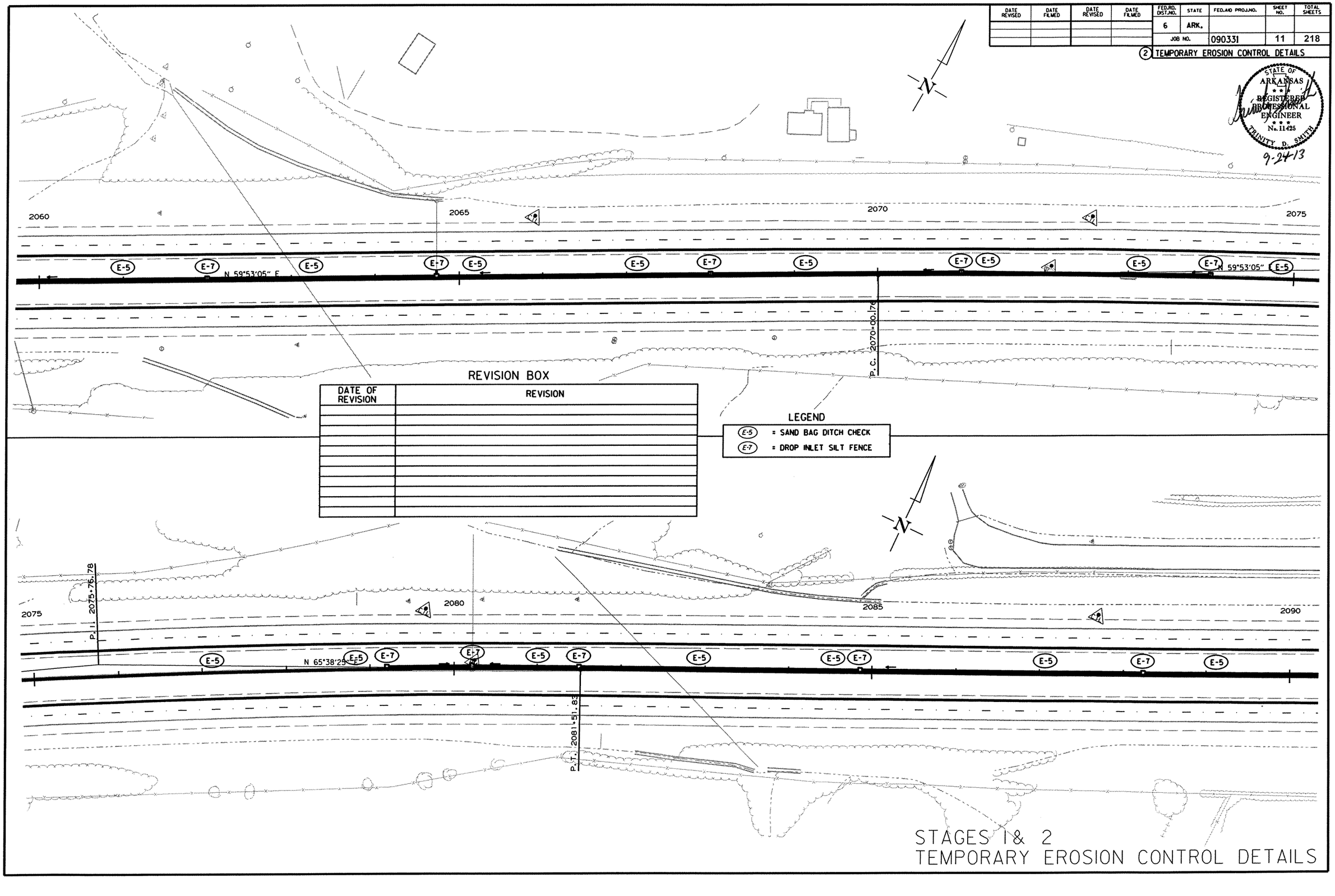
STAGES 1 & 2
TEMPORARY EROSION CONTROL DETAILS

9/20/2013
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				JOB NO.		090331	11	218

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
9-24-13



STAGES 1& 2
TEMPORARY EROSION CONTROL DETAILS

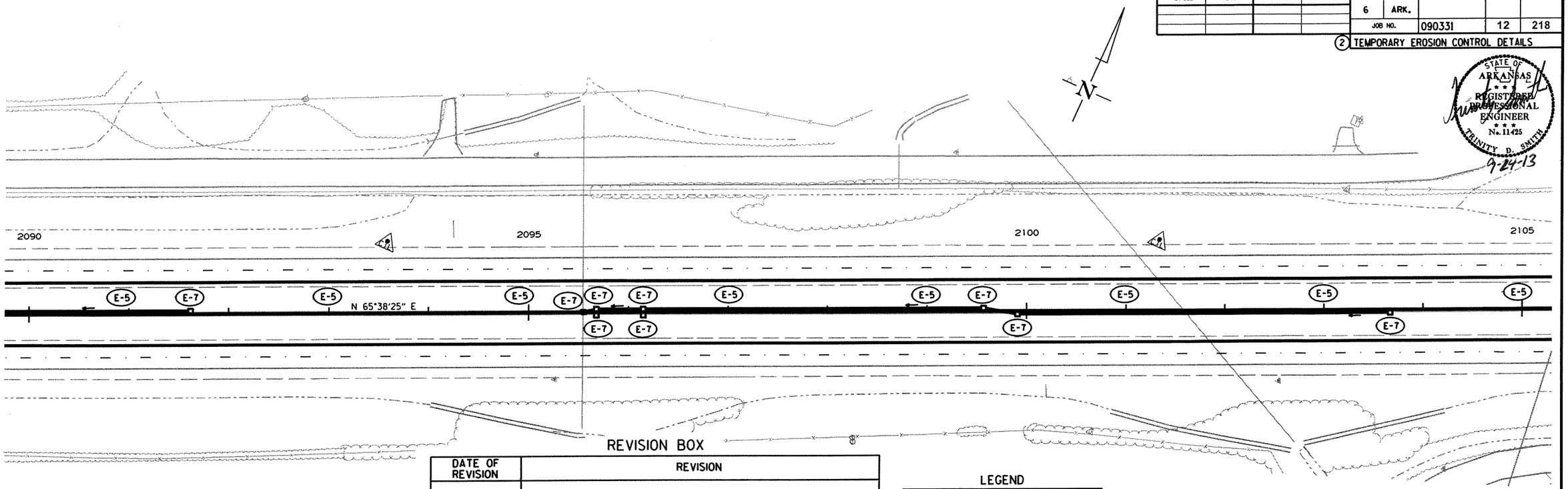
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(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

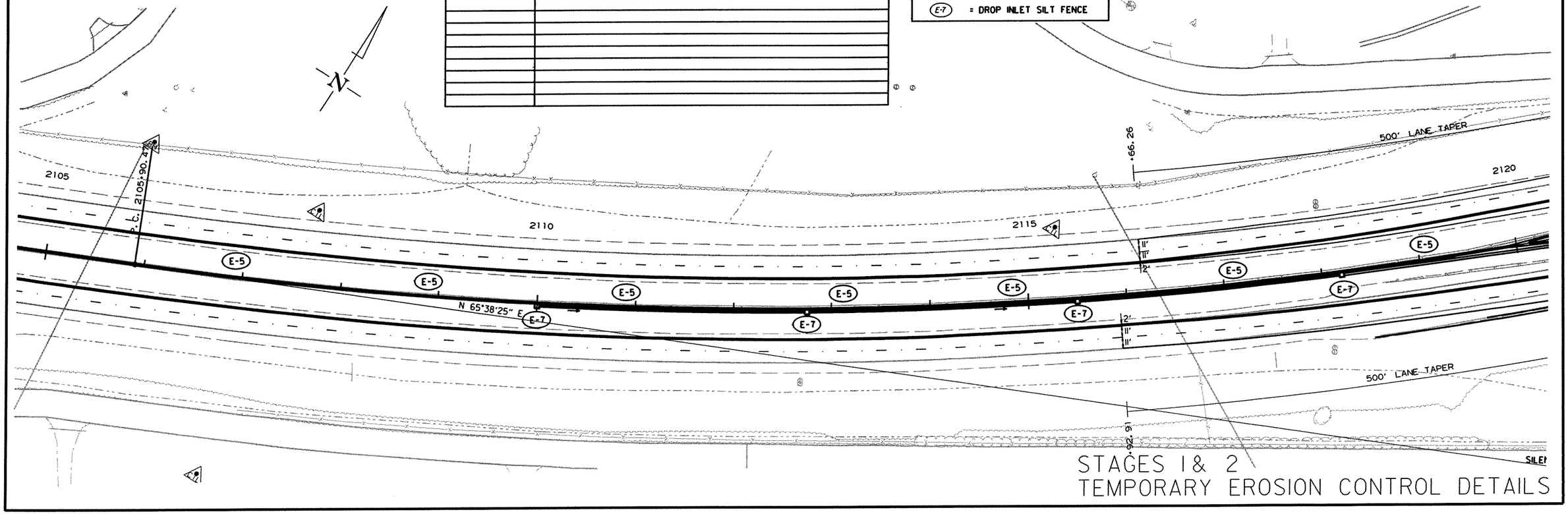


REVISION BOX

DATE OF REVISION	REVISION

LEGEND

(E-5) = SAND BAG DITCH CHECK
(E-7) = DROP INLET SILT FENCE



STAGES 1& 2
TEMPORARY EROSION CONTROL DETAILS

9/20/2013

R090331.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.		090331	13	218

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

SILT FENCE = 125 LIN. FT.

BURRELL PL.

GOAD SPRINGS RD.

500' LANE TAPER

500' LANE TAPER

2120 2125 2130 2135

2135 2140 2145 2150

.61.97 .61.97 .92.91 .34.93 .84.93

N 2°05'25" E

REVISION BOX

DATE OF REVISION	REVISION
4-98	

LEGEND

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

9/20/2013

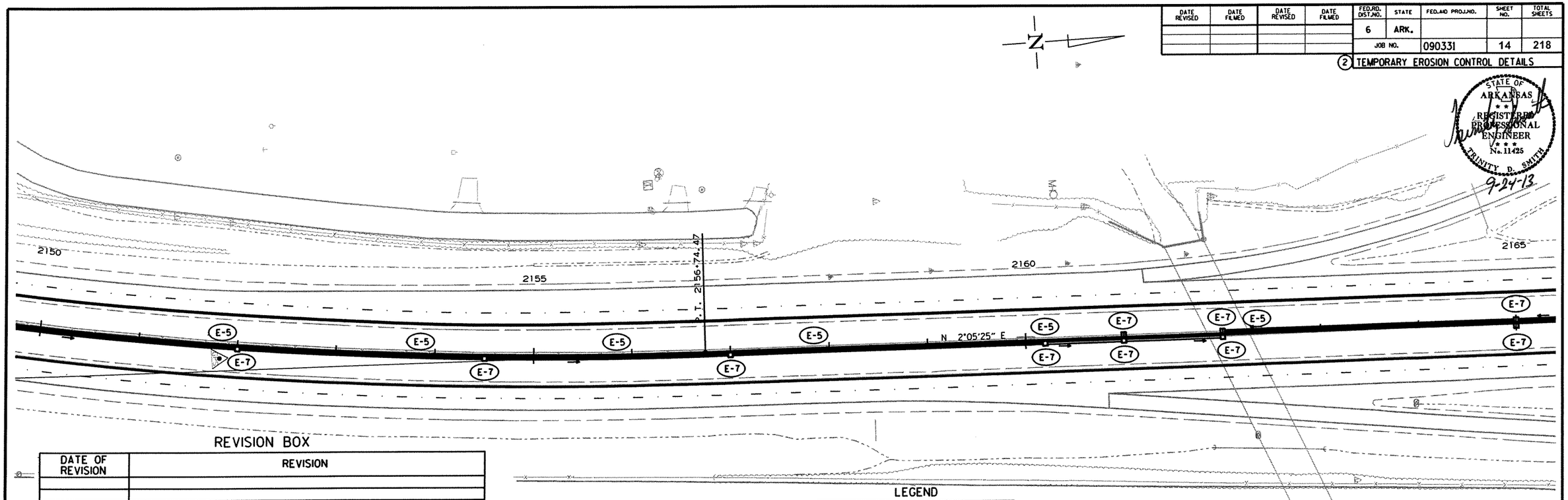
R090331.DGN

STAGES 1& 2
TEMPORARY EROSION CONTROL DETAILS

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.		090331	14	218

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



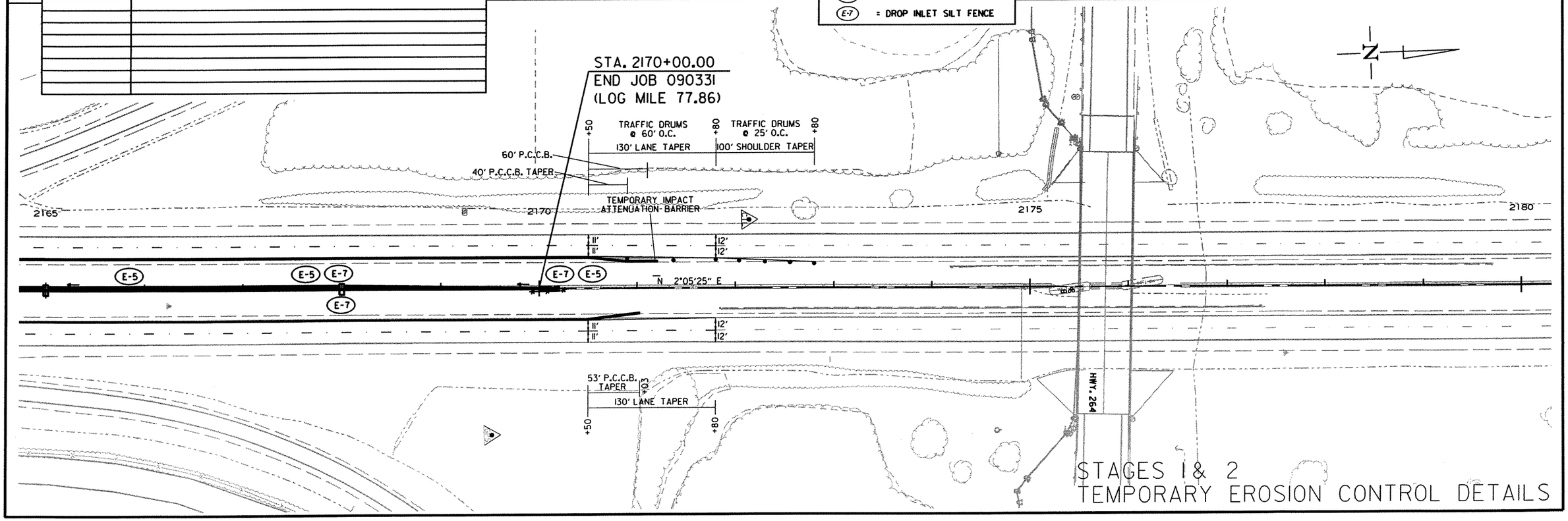
REVISION BOX

DATE OF REVISION	REVISION

LEGEND

(E-5) = SAND BAG DITCH CHECK
(E-7) = DROP INLET SILT FENCE

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)



STAGES 1 & 2
TEMPORARY EROSION CONTROL DETAILS

9/20/2013

R090331.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.		090331	15	218

(2) MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE:

INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAIL. INSTALL END ROAD WORK SIGNS AND SPEED LIMIT 65 SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL. INSTALL ROAD WORK AHEAD (W20-1) SIGN AND END ROAD WORK (G20-2) ON RAMPS AS SHOWN ON THE ADVANCE WARNING DETAIL.

STAGE 1:
CONSTRUCT SHOULDER TRENCHING FOR MOT TRAFFIC SHIFT AS FOLLOWING.
REFER TO SPECIAL DETAILS FOR SHOULDER TRENCHING,
FROM STA. 2115+93 TO STA. 2120+93 ON RML,
FROM STA. 2123+35 TO SAT. 2128+35 ON RML,
FROM STA. 2116+16 TO STA. 2121+16 ON LML, AND
FROM STA. 2123+62 TO STA. 2128+62 ON LML.

INSTALL REMOVABLE CONSTRUCTION PAVEMENT MARKINGS AND PRECAST CONCRETE BARRIERS AS SHOWN IN STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

TRAFFIC WILL BE MAINTAINED ON EXISTING PAVEMENT IN (2) 11'-0" LANES EXCEPT WHEN CROSSING THE EXISTING BRIDGE.
REFER TO STA. 2116+42.91 TO STA. 2127+84.83 ON RML.
REFER TO STA. 2116+66.26 TO STA. 2128+11.97 ON LML.

CONSTRUCT CONCRETE BARRIER WALL AND PAVEMENT WIDENING IN THE MEDIAN OF I-540.
CONSTRUCT THE PORTION OF BRIDGE ON BOTH LML & RML.

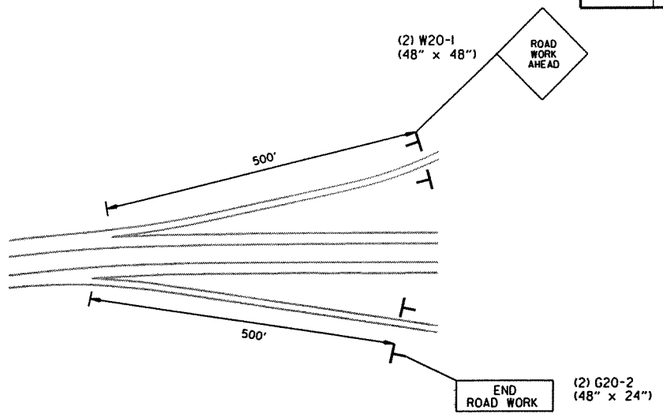
STAGE 2:
SHIFT TRAFFIC ON THE NEWLY CONSTRUCTED PART OF BRIDGE AS SHOWN ON STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.
REMOVE AND REPLACE EXISTING BRIDGE DECK (REFER TO BRIDGE PLANS) AND GUARD RAIL.

REMOVE PRECAST CONCRETE BARRIER WALL.

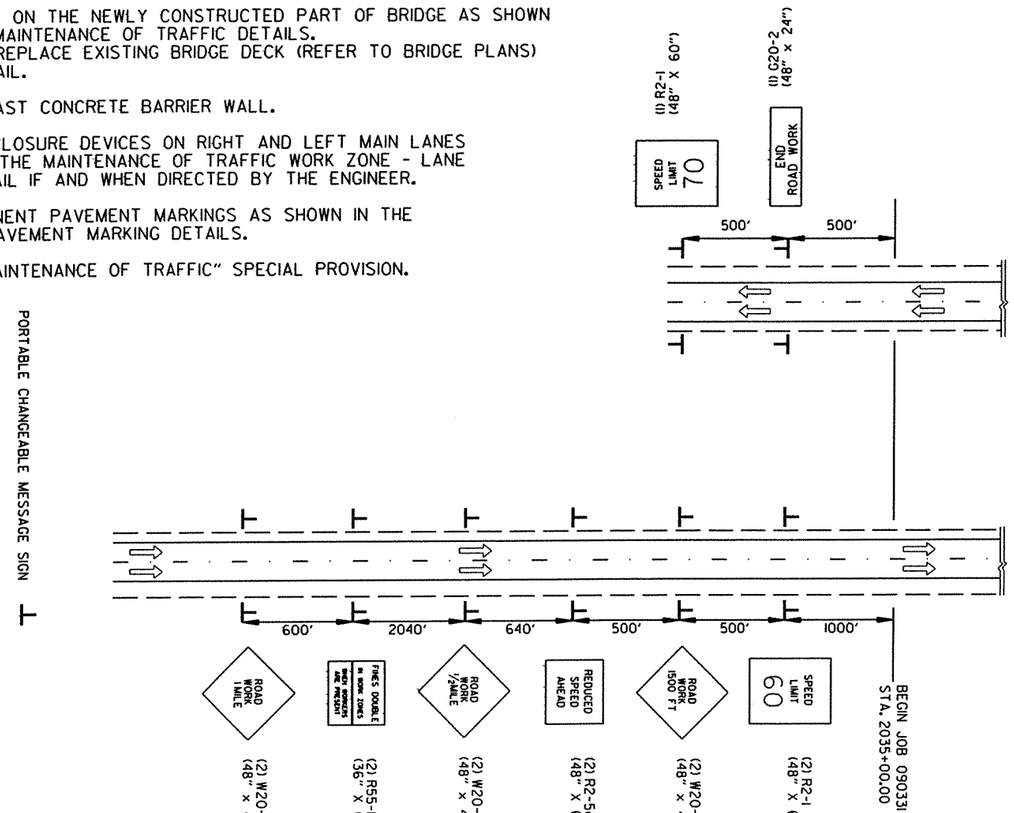
PLACE LANE CLOSURE DEVICES ON RIGHT AND LEFT MAIN LANES AS SHOWN IN THE MAINTENANCE OF TRAFFIC WORK ZONE - LANE CLOSURE DETAIL IF AND WHEN DIRECTED BY THE ENGINEER.

PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

REFER TO "MAINTENANCE OF TRAFFIC" SPECIAL PROVISION.



DETAIL OF ENTRANCE AND EXIT RAMPS
(ALL STAGES)
EXIT 76
EXIT 78



ADVANCE WARNING SIGNS
(ALL STAGES)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

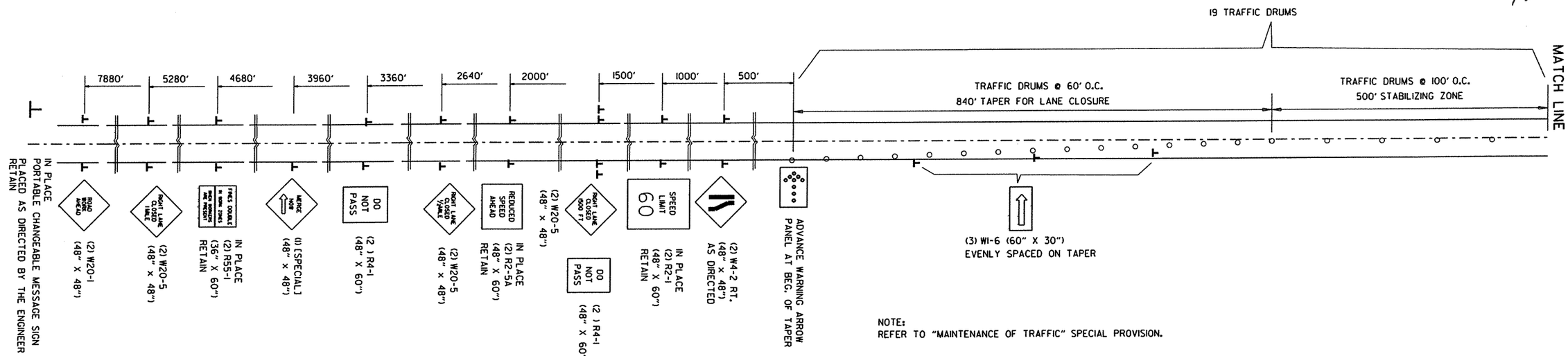
MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING

9/20/2013
R090331.DGN

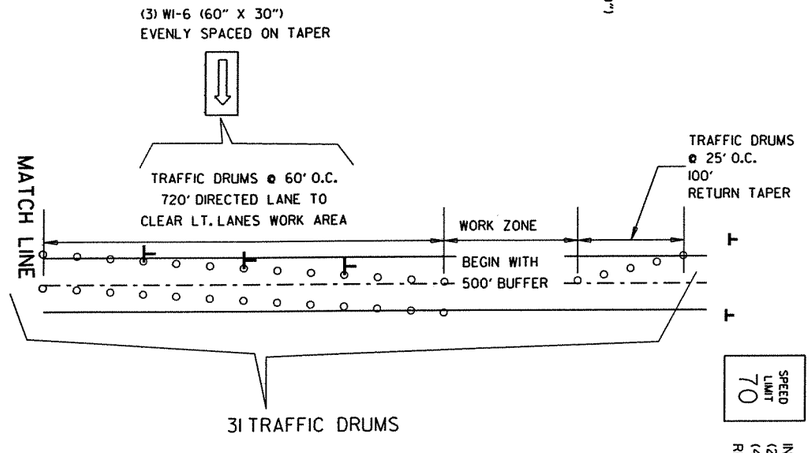
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	16	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

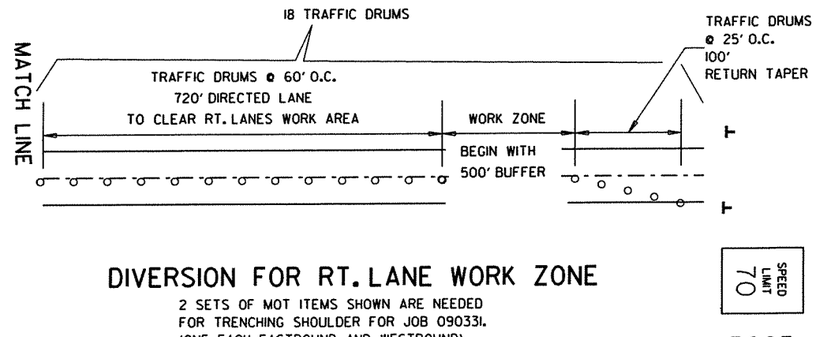


NOTE:
REFER TO "MAINTENANCE OF TRAFFIC" SPECIAL PROVISION.



DIVERSION FOR LT. LANE WORK ZONE

2 SETS OF MOT ITEMS SHOWN ARE NEEDED FOR JOB 090331.
(ONE EACH NORTHBOUND AND SOUTHBOUND)



DIVERSION FOR RT. LANE WORK ZONE

2 SETS OF MOT ITEMS SHOWN ARE NEEDED
FOR TRENCHING SHOULDER FOR JOB 090331.
(ONE EACH EASTBOUND AND WESTBOUND)

MAINTENANCE OF TRAFFIC DETAILS
WORK ZONE - LANE CLOSURE

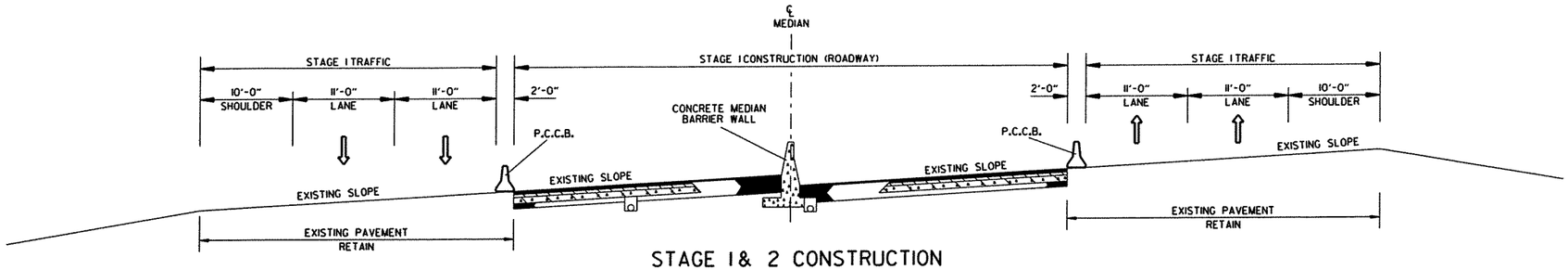
9/20/2013

R090331.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.		090331	17	218

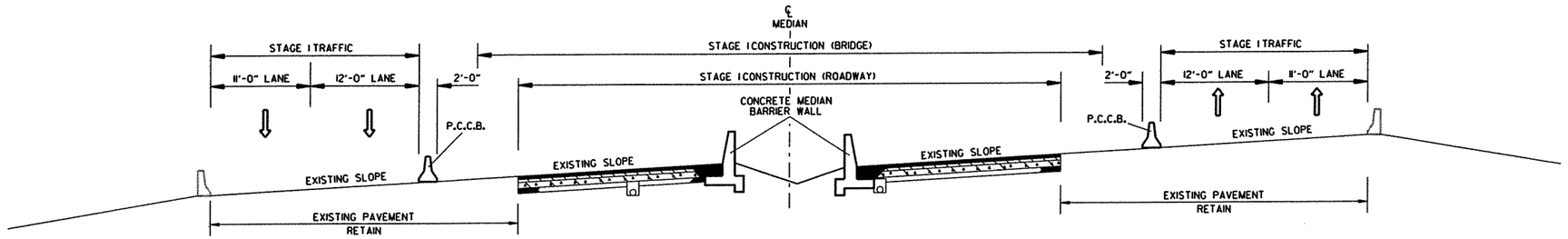
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



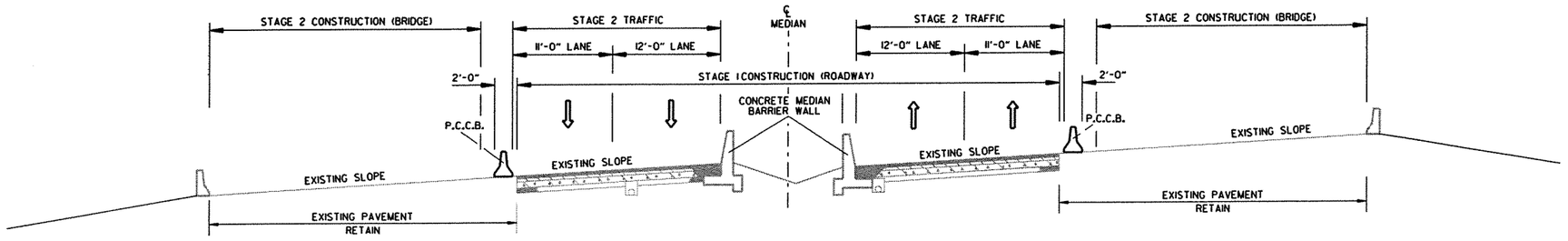
STAGE 1& 2 CONSTRUCTION

SEE TYPICAL SECTIONS FOR PAVEMENT DETAILS.
SEE SPECIAL DETAILS FOR CONCRETE BARRIER WALL DETAILS.
SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION.



STAGE 1 CONSTRUCTION AROUND THE BRIDGE

SEE TYPICAL SECTIONS FOR PAVEMENT DETAILS.
SEE SPECIAL DETAILS FOR CONCRETE BARRIER WALL DETAILS.
SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION.



STAGE 2 CONSTRUCTION AROUND THE BRIDGE

SEE TYPICAL SECTIONS FOR PAVEMENT DETAILS.
SEE SPECIAL DETAILS FOR CONCRETE BARRIER WALL DETAILS.
SEE BRIDGE PLANS FOR ADDITIONAL INFORMATION.

9/20/2013

R090331.DGN

STAGE CONSTRUCTION MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	18	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

STA. 2035+00.00
BEGIN JOB 090331
(LOG MILE 75.30)

WAGON WHEEL RD.

+20 130' LANE TAPER +50 53' P.C.C.B. TAPER +9'

2035 2040 2045

11' 11' 2' 12' 12'

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

N 14°21'40" E

13485' P.C.C.B.

REFER TO SPECIAL DETAILS

2030

2' 11' 11' 12' 12'

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

13500' P.C.C.B.

P.C. 2032+78.16

TEMPORARY IMPACT ATTENUATION BARRIER

40' P.C.C.B. TAPER

60' P.C.C.B.

100' SHOULDER TAPER +20 TRAFFIC DRUMS @ 25' O.C. +20 130' LANE TAPER TRAFFIC DRUMS @ 60' O.C. +50

N 59°53'05" E

2050 2055 2060

P.C.C.B.

P.C.C.B.

P.T. 2055+54.83

RET. WALL

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

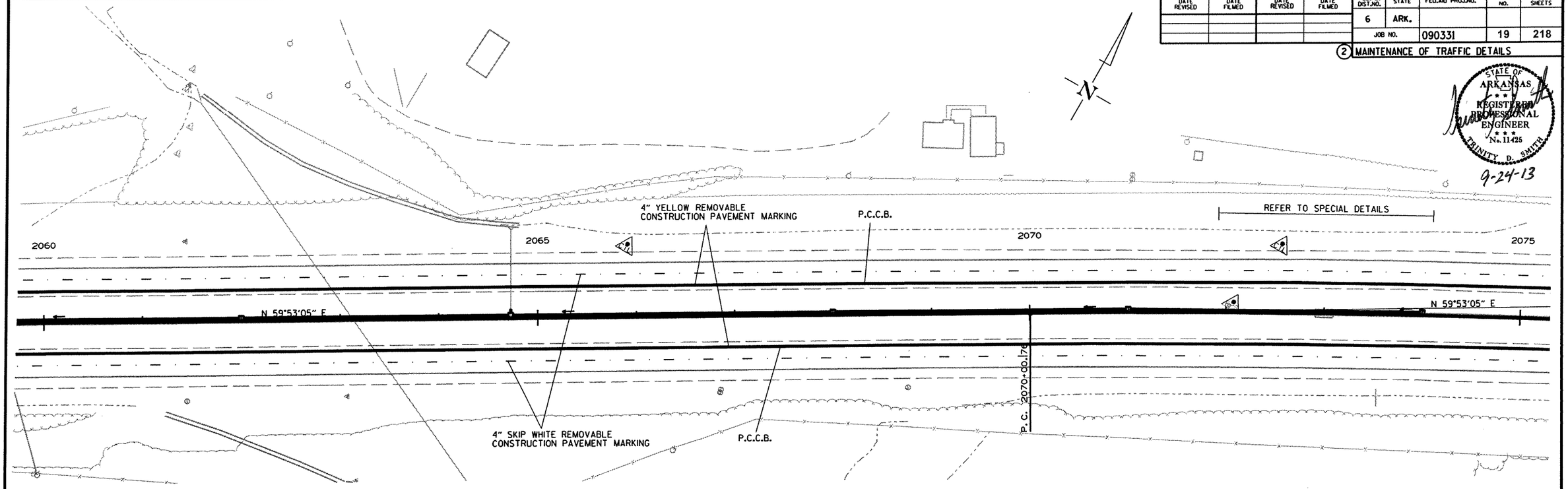
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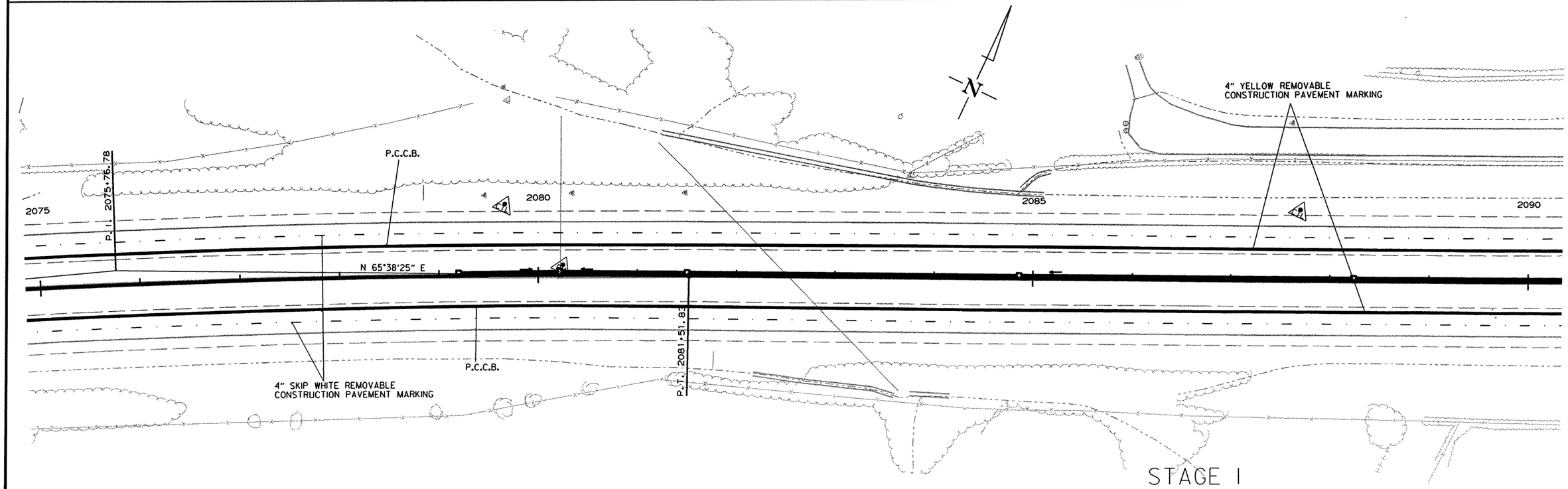
R090331.DGN

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.		090331	19	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





STAGE I
MAINTENANCE OF TRAFFIC DETAILS

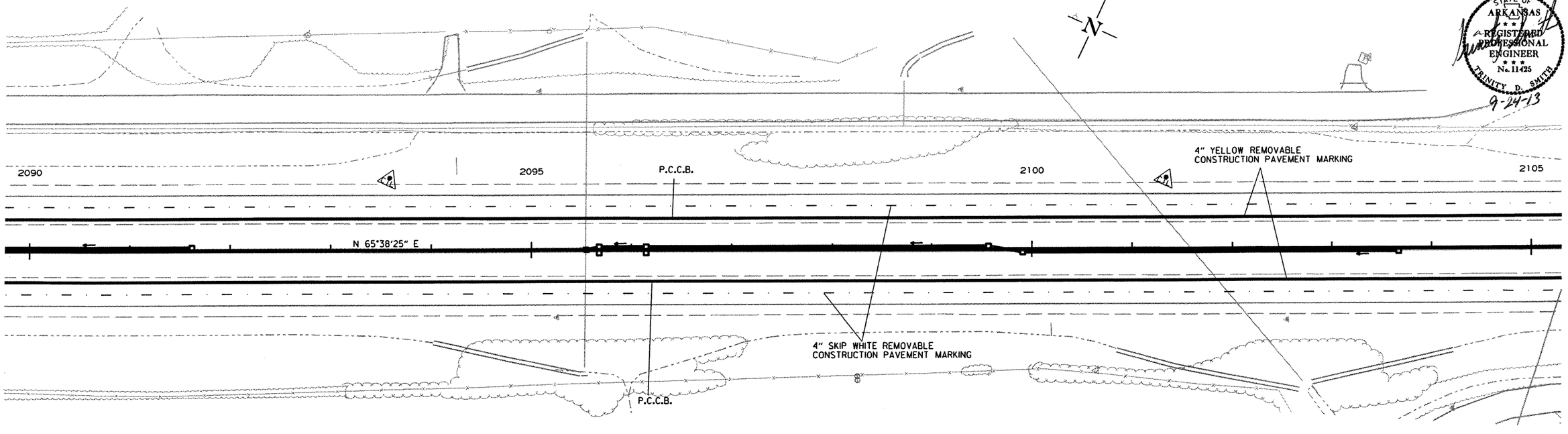
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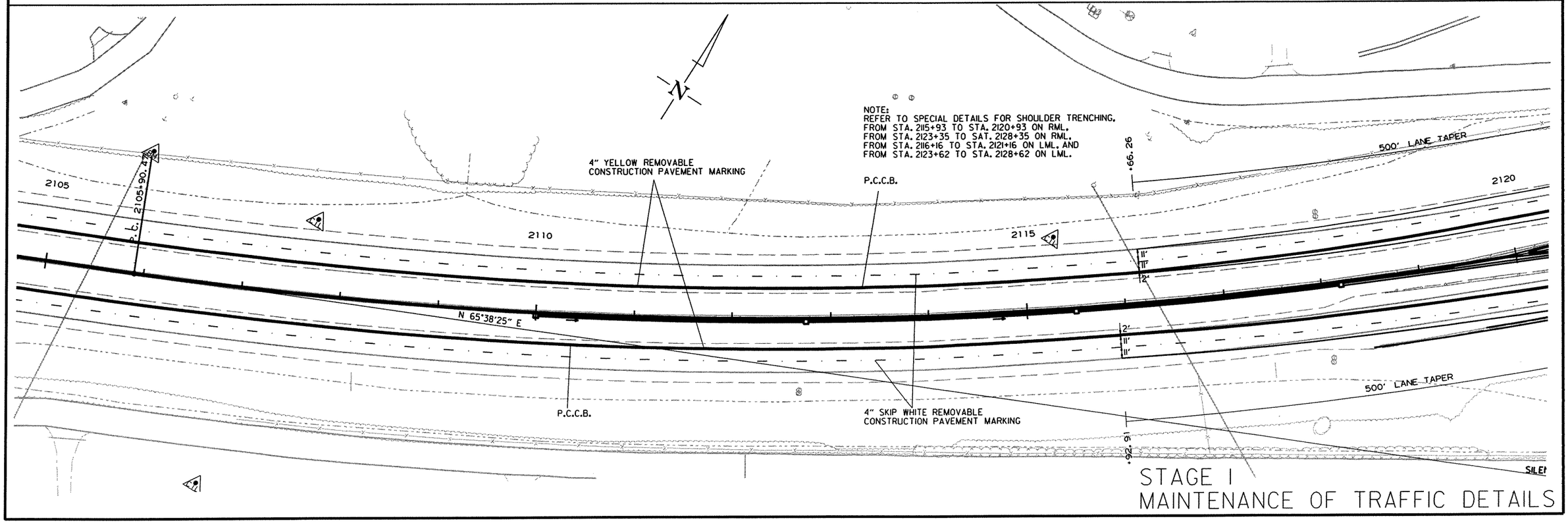
R090331.DGN

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.		090331	20	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





STAGE I
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013

R090331.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.		090331	21	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

END ROAD WORK
(I) G20-2 (48" x 24")
(I) W20-1 (48" x 48")
ROAD WORK AHEAD
GOAD SPRINGS RD.
BURRELL PL.
16.12
61.97
500' LANE TAPER
2120
2125
2130
2135
P.C.C.B.
4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
REFER TO SPECIAL DETAILS
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
92.91
34.93
11'
12'
2'

2135
2140
2145
2150
N 2°05'25" E

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013
R090331.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.		090331	22	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

P.C.C.B.

REFER TO SPECIAL DETAILS

2150 2155 2160 2165

P.T. 2156+74.47

N 2°05'25" E

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

P.C.C.B.

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)

13485' P.C.C.B.
INCLUDES (2) SPECIAL END UNITS

TRAFFIC DRUMS @ 60' O.C. +50 +80
130' LANE TAPER

TRAFFIC DRUMS @ 25' O.C. +80
100' SHOULDER TAPER

60' P.C.C.B.

40' P.C.C.B. TAPER

TEMPORARY IMPACT ATTENUATION BARRIER

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

2165 2170 2175 2180

11' 11' 12' 12'

N 2°05'25" E

11' 11' 12' 12'

53' P.C.C.B. TAPER +03
130' LANE TAPER +50 +80

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

13500' P.C.C.B.
INCLUDES (2) SPECIAL END UNITS

HWY. 264

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013

R090331.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.		090331	23	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

STA. 2035+00.00
BEGIN JOB 090331
(LOG MILE 75.30)

+20 130' LANE TAPER +50 53' P.C.C.B. TAPER
+97
2035
12' 12' 11' 11' 2'
2030
2032+78.65 P.C.
2' 11' 11' 12' 12'
TEMPORARY IMPACT ATTENUATION BARRIER
40' P.C.C.B. TAPER
60' P.C.C.B.
130' LANE TAPER
100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.
TRAFFIC DRUMS @ 60' O.C.
+20 +20 +50

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
N 14°21'40" E
2040
13485' P.C.C.B. RETAIN
2045
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
13500' P.C.C.B. RETAIN

4" STEEL CASING
4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
N 59°53'05" E
2050
P.C.C.B. RETAIN
2055
2060
2045
P.C.C.B. RETAIN
P.T. 2055+54.83
RET.WALL
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

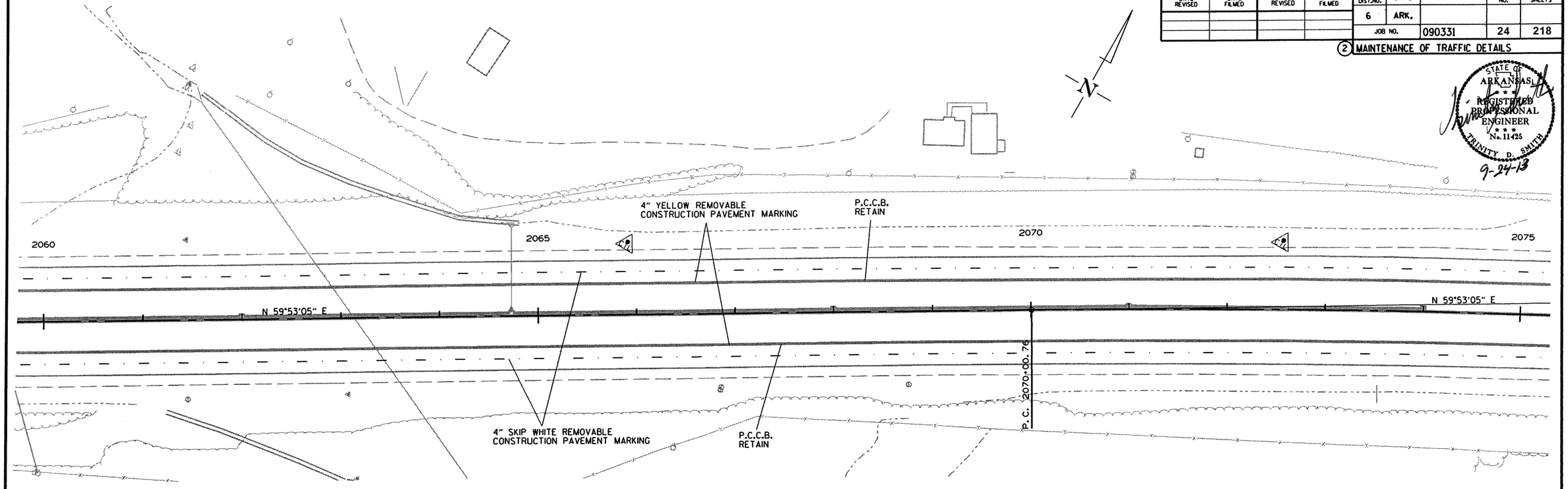
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

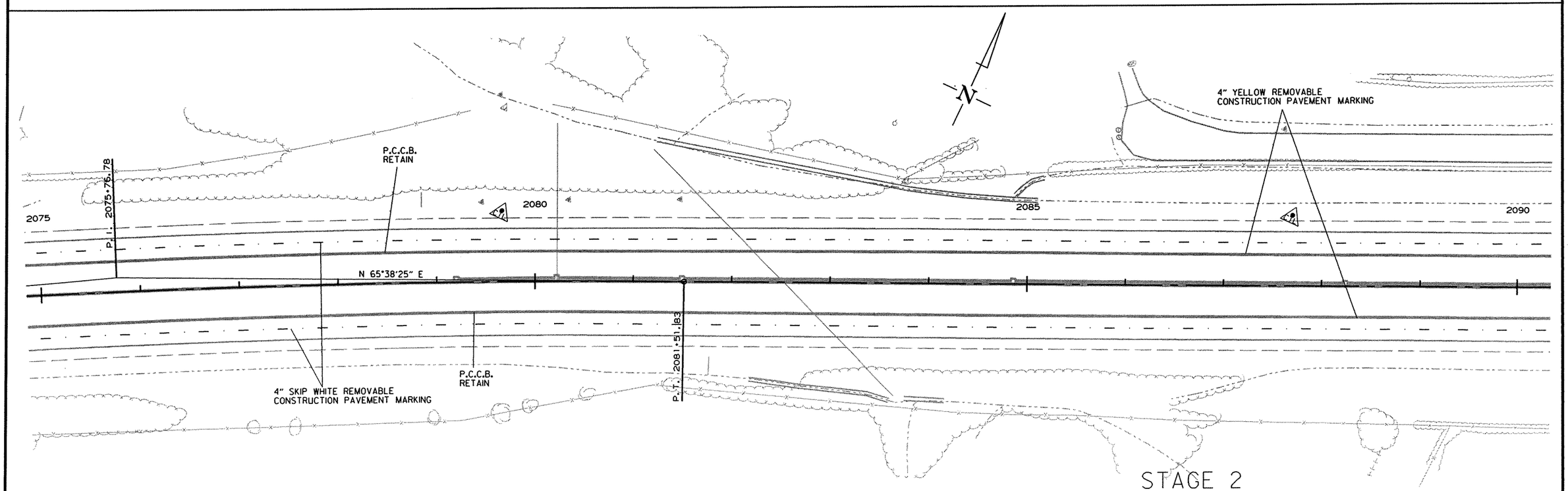
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R090331.DGN

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.		090331	24	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

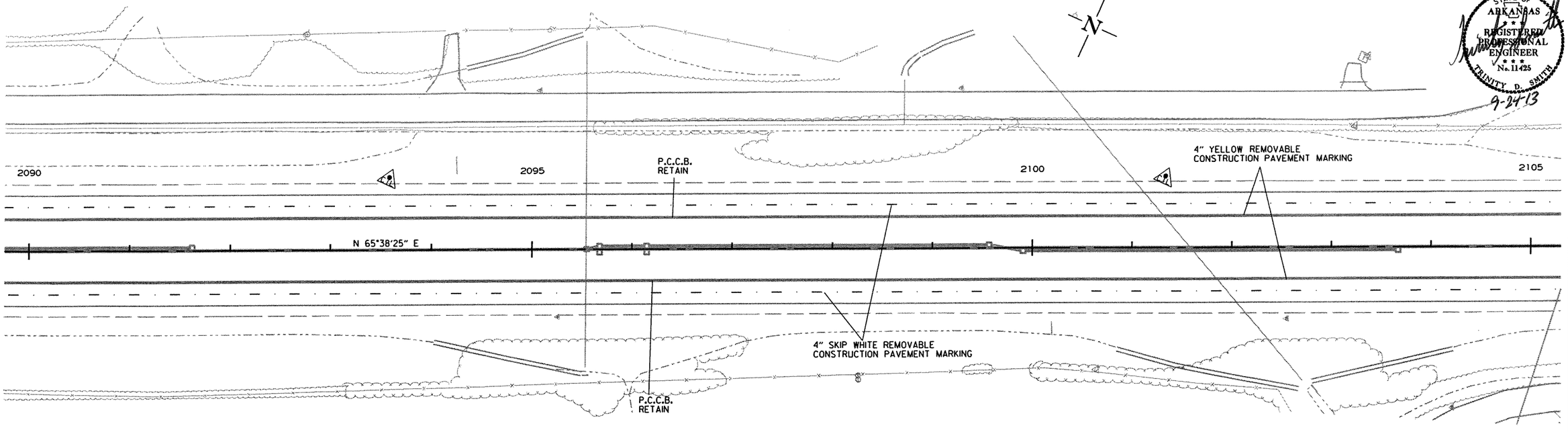
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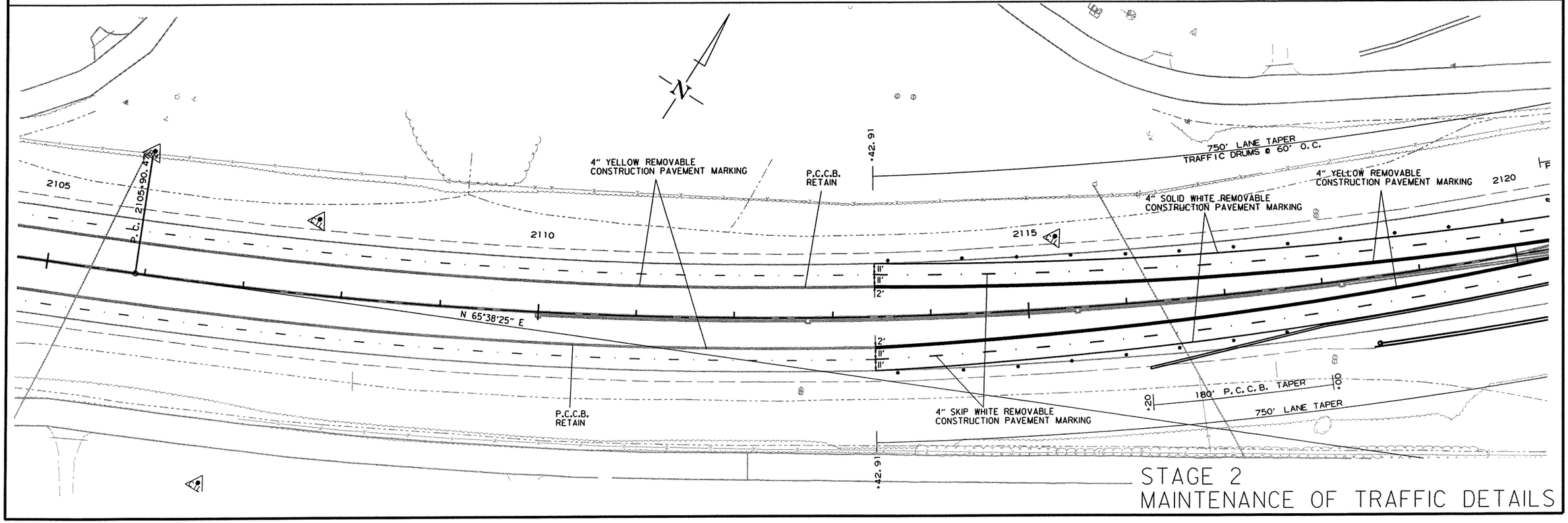
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	25	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013

R090331.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.		090331	26	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

END ROAD WORK
(1) G20-2 (48" x 24")
(1) W20-1 (48" x 48")
ROAD WORK AHEAD
92.91
61.97
750' LANE TAPER
111.97
2120
53' P.C.C.B. TAPER
180' P.C.C.B. TAPER
2125
2130
2135
P.C.C.B. RELOCATE
P.C.C.B. RETAIN
4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SOLID WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
750' LANE TAPER
TRAFFIC DRUMS @ 60' O.C.
11'
12'
2'

2135
2140
2145
2150
P.C.C.B. RETAIN
4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
N 2°05'25" E

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013
R090331.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.		090331	27	218

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

P.C.C.B. RETAIN

P.I. 21+56.74, 47

2150 2155 2160 2165

N 2°05'25" E

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

P.C.C.B. RETAIN

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)

13485' P.C.C.B. RETAIN

TRAFFIC DRUMS @ 60' O.C. +50
130' LANE TAPER
TRAFFIC DRUMS @ 25' O.C. +80
100' SHOULDER TAPER +80

60' P.C.C.B.
40' P.C.C.B. TAPER

TEMPORARY IMPACT ATTENUATION BARRIER

2165 2170 2175 2180

11' 11' 12' 12'

N 2°05'25" E

11' 11' 12' 12'

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

53' P.C.C.B. TAPER +03
130' LANE TAPER
+50 +80

13500' P.C.C.B. RETAIN

APRON

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

9/20/2013

R090331.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.		090331	28	218

(2) PERMANENT PAVEMENT MARKING DETAILS

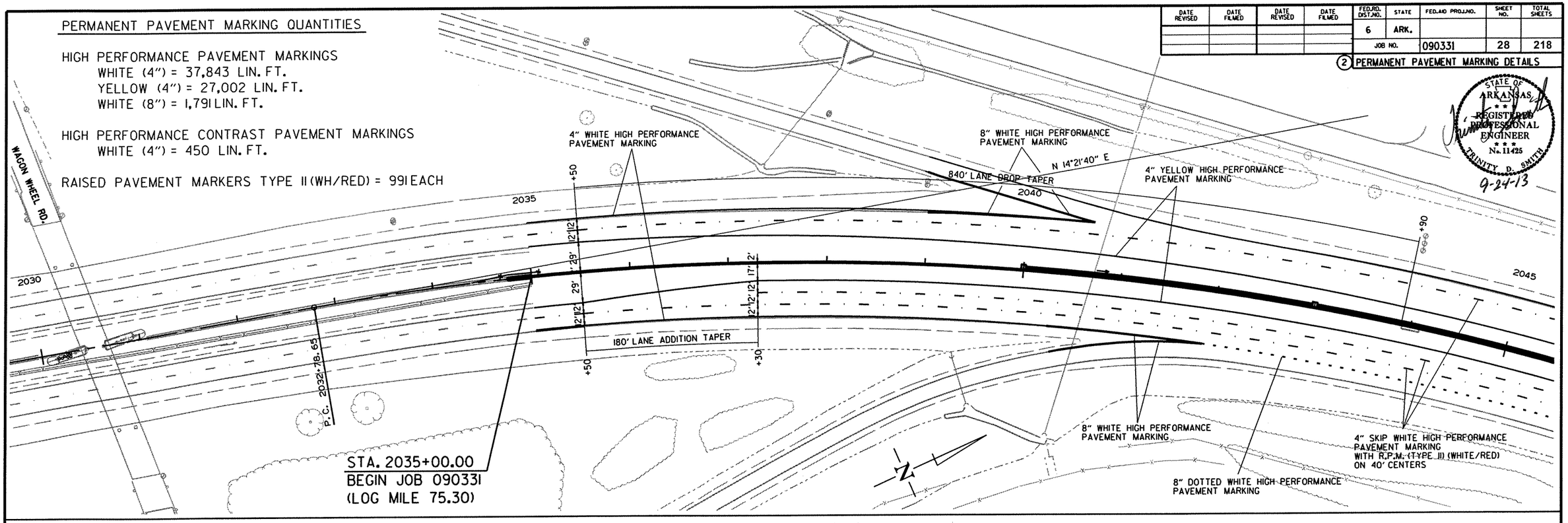
PERMANENT PAVEMENT MARKING QUANTITIES

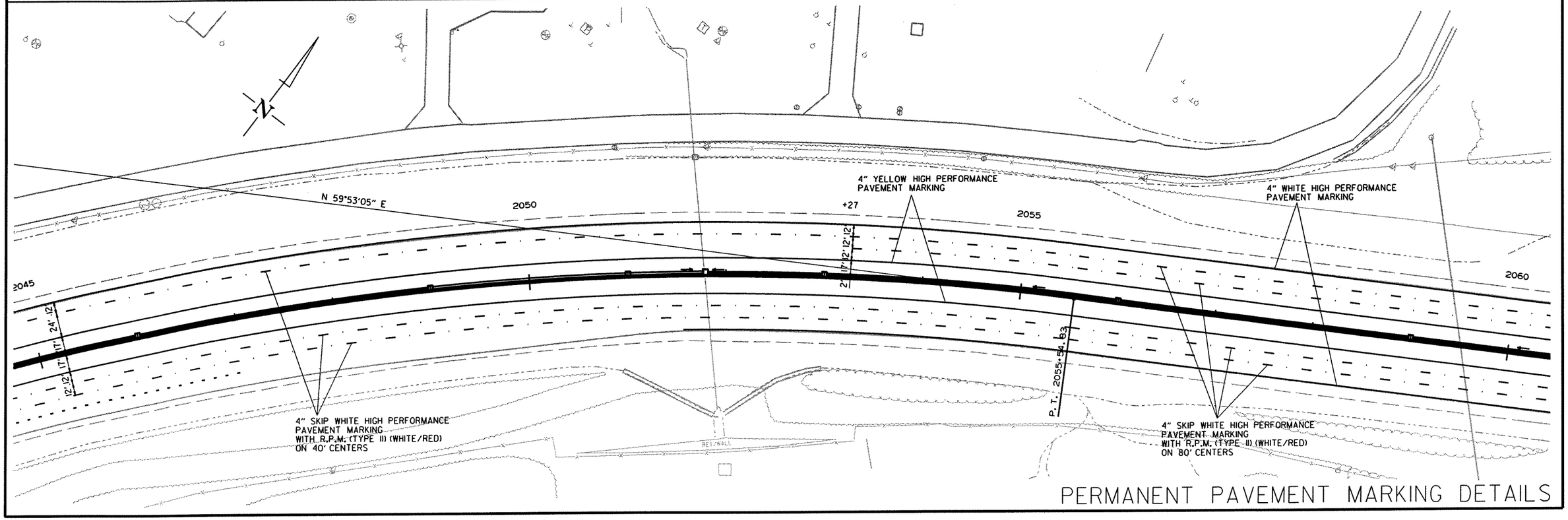
HIGH PERFORMANCE PAVEMENT MARKINGS
WHITE (4") = 37,843 LIN. FT.
YELLOW (4") = 27,002 LIN. FT.
WHITE (8") = 1,791 LIN. FT.

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
WHITE (4") = 450 LIN. FT.

RAISED PAVEMENT MARKERS TYPE II (WH/RED) = 991 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





PERMANENT PAVEMENT MARKING DETAILS

9/20/2013

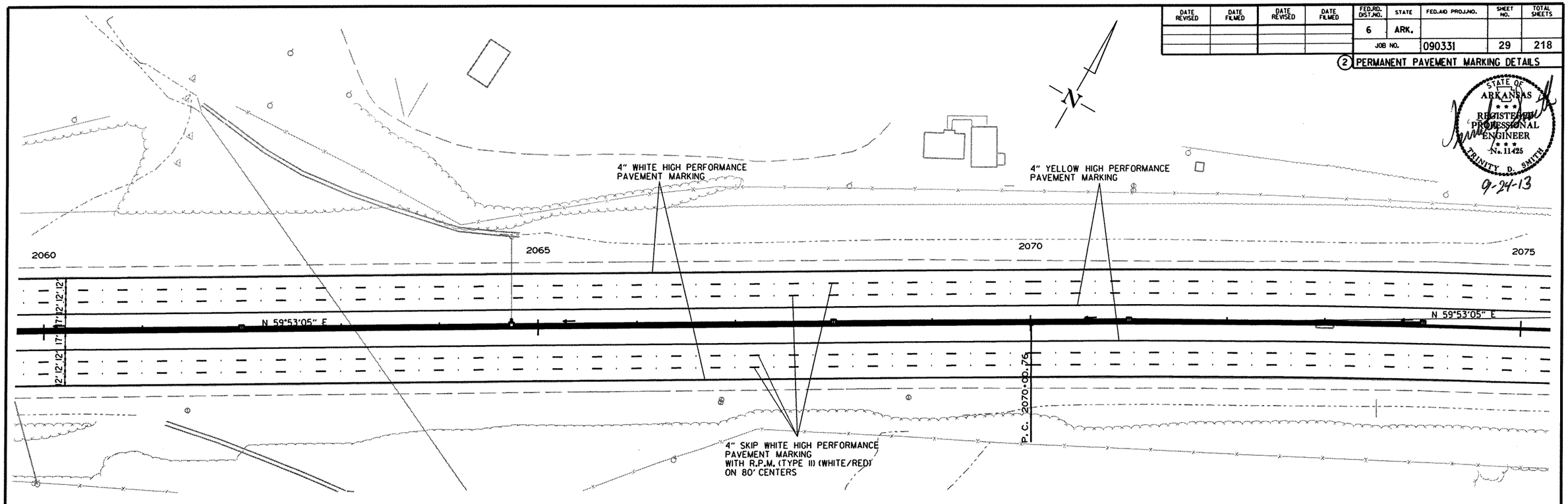
R090331.DGN

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.		090331	29	218

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



9/20/2013

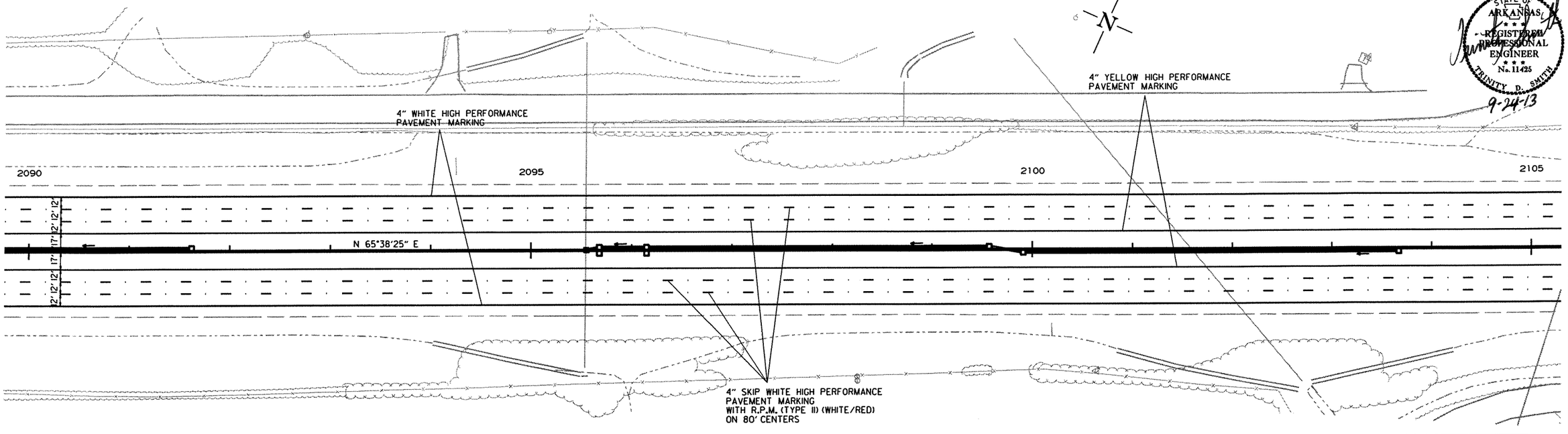
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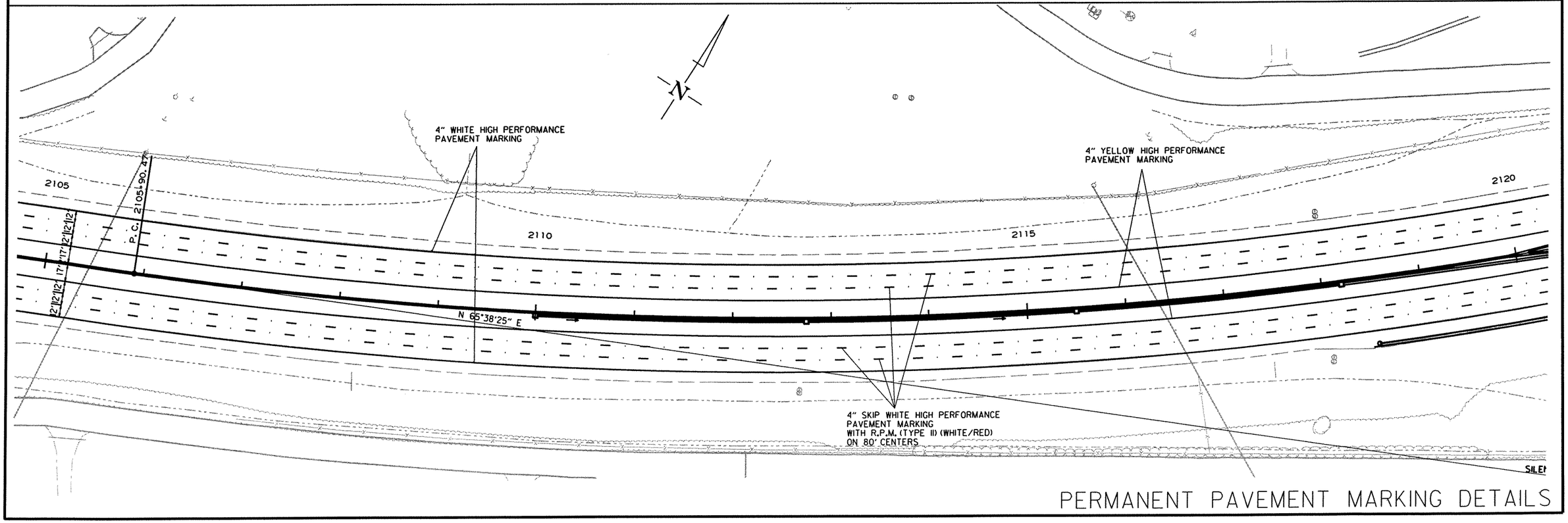
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	30	218

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





PERMANENT PAVEMENT MARKING DETAILS

9/20/2013

R090331.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.		090331	31	218

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

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

BURRELL PL.

GOAD SPRINGS RD.

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

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

2120 2125 2130 2135

12'-12' | 17' | 12'-12'

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

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

4" SKIP WHITE HIGH PERFORMANCE PAVEMENT MARKING WITH R.P.M. (TYPE II) (WHITE/RED) ON 40' CENTERS

N 2°05'25" E

2135 2140 2145 2150

12'-12' | 17' | 12'-12'

PERMANENT PAVEMENT MARKING DETAILS

9/20/2013

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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.		090331	32	218

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

2150 2155 2160 2165

P.T. 2156+74.47

+73

12' 12' 12' 17' 12' 12' 12'

N 2°05'25" E

840' LANE DR

+10

4" SKIP WHITE HIGH PERFORMANCE PAVEMENT MARKING WITH R.P.M. (TYPE II) (WHITE/RED) ON 40' CENTERS

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

+40

180' LANE ADDITION TAPER

+50

2165 2170 2175 2180

12' 12' 12' 17' 12' 12' 12'

N 2°05'25" E

840' LANE DROP TAPER

+50

4" SKIP WHITE HIGH PERFORMANCE PAVEMENT MARKING WITH R.P.M. (TYPE II) (WHITE/RED) ON 40' CENTERS

HWY. 264

PERMANENT PAVEMENT MARKING DETAILS

9/20/2013

R090331.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.		090331	33	218

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	REMOVAL OF PERMANENT PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	HIGH PERFORMANCE PAVEMENT MARKING		
			TYPE II (WHITE/RED)	4" WHITE	4" WHITE	4" YELLOW	8" WHITE
	LIN. FT.		EACH	LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS	27276						
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		48020					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			991				
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")				980			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")					37843		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")						27002	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")							1791
TOTALS:	**27276**	**48020**	**991**	**980**	**37843**	**27002**	**1791**

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN. BARR. (REPAIR)	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
					LIN. FT. - EACH	NO.	SQ. FT.	EACH	LIN. FT.		EACH		DAY	
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK AHEAD	48"x48"	7	7	7	7	112.0							
G20-2	END ROAD WORK	48"x24"	11	11	11	11	88.0							
SPECIAL 1	MERGE NOW + ARROW	48"x48"	2	2	2	2	32.0							
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	4	4	4	4	64.0							
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"	4	4	4	4	64.0							
W4-2R	RIGHT LANE CLOSING GRAPHIC	48"x48"	4	4	4	4	64.0							
R2-5A	REDUCED SPEED AHEAD	48"x60"	4	4	4	4	80.0							
R55-1	FINES DOUBLE IN WORK ZONES WHEN WORKERS ARE PRESENT	36"x60"	4	4	4	4	60.0							
W1-6	LARGE ARROW	60"x30"	6	6	6	6	75.0							
R2-1	SPEED LIMIT 60	48"x60"	6	6	6	6	120.0							
R2-1	SPEED LIMIT 70	48"x60"	6	6	6	6	120.0							
R4-1	DO NOT PASS	48"x60"	4	4	4	4	80.0							
RSP-1	SHOULDER CLOSED	48"x30"	2	2	2	2	20.0							
	TRAFFIC DRUMS		64	92	92			92						
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		26985		26985				26985					
	RELOCATING PRECAST CONCRETE BARRIER			826	826					826				
	TEMPORARY IMPACT ATTENUATION BARRIER		2	2	2						2			
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2	2	2							2		
	ADVANCE WARNING ARROW PANEL		2	2	2								80	
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2									700
TOTALS:							**1235.0**	**92**	**26985**	**826**	**2**	**2**	**80**	**700**

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

2/20/2013

R090331.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.		090331	34	218

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	APPROACH SLAB AND GUTTERS	GUARDRAIL	CONCRETE DITCH PAVING	WIRE ROPE SAFETY FENCE
			EACH	LIN. FT.	SQ. YD.	LIN. FT.
2034+40	2121+50	I-540 - C.L. MEDIAN	2		3871	8710
2118+51	2121+29	I-540 - R.M.L. - RT.		278		
2118+62	2121+31	I-540 - R.M.L. - LT.		269		
2123+00	2170+30	I-540 - C.L. MEDIAN	2		2102	4730
2123+21	2125+91	I-540 - L.M.L. - LT.		270		
2123+23	2126+10	I-540 - L.M.L. - RT.		287		
TOTALS:			4	1104	5973	13440

CRASH CUSHION

STATION	DESCRIPTION	EACH
2035+00	I-540 - C.L.	1
2170+00	I-540 - C.L.	1
TOTAL:		2

NOTE: THE CRASH CUSHION SHALL BE NON-GATING AND REDIRECTIVE AND COMPATIBLE WITH THE SITE GEOMETRY SHOWN ON THE PLANS.

EROSION CONTROL

STATION	STATION	LOCATION	TEMPORARY EROSION CONTROL						
			TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	ACRE	M.GAL.	BAG	LIN. FT.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	I-540	18.40	18.40	375.4	1606	1600	125	137
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.68	3.68	75.1	330	325	25	27
TOTALS:			22.08	22.08	450.5	1936	1925	150	164

BASIS OF ESTIMATE:
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION
DROP INLET SILT FENCE.....22 LIN. FT./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.

SELECTED PIPE BEDDING

LOCATION	CU.YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	700
TOTAL:	700

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

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	
2123+23	12"X15' R.C. PIPE - I-540 R.M.L.	1	1
TOTALS:		1	1

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

BENCH MARKS

STATION	LOCATION	EACH
2121+50	BRIDGE ON I-540 - RT.	1
TOTAL:		1

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	LIN. FT.
2121+41	2121+55	I-540 - MEDIAN	38
2122+95	2123+08	I-540 - MEDIAN	38
TOTAL:			76

WIRE ROPE SAFETY FENCE

STATION	STATION	LOCATION	WIRE ROPE SAFETY FENCE	END TERMINAL
			LIN. FT.	EACH
2034+40	2035+10	I-540 - MEDIAN	73	1
2169+90	2170+30	I-540 - MEDIAN	41	1
ENTIRE	PROJECT	I-540		
TOTALS:			114	2

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QUANTITIES

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				6	ARK.			
				JOB NO.		090331	35	218

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18" LIN. FT.	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24" LIN. FT.	DROP INLETS TYPE RM EACH	DROP INLETS TYPE ST EACH	DROP INLETS TYPE ST SP EACH	MODIFYING DROP INLETS EACH	STD. DWG. NOS.
2040+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2043+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2046+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2049+00	CONST. D.I. ON LT. W/ PIPE CULVERT		196		1			PCC-1, FPC-9S
2051+00	CONST. D.I. ON LT. W/ PIPE CULVERT		75		1			PCC-1, FPC-9S
2051+79	CONST. D.I. ON LT. & MODIFY EXIST. D.I. *					1	1	FPC-9D, FPC-9S
2053+00	CONST. D.I. ON LT. W/ PIPE CULVERT	117			1			PCC-1, FPC-9S
2056+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2059+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2062+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2064+73	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2068+00	CONST. D.I. ON LT. W/ PIPE CULVERT	323			1			PCC-1, FPC-9S
2071+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2074+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2079+20	CONST. D.I. ON LT. W/ PIPE CULVERT	98			1			PCC-1, FPC-9S
2080+22	CONST. D.I. ON LT. & MODIFY EXIST. D.I. *					1	1	FPC-9D, FPC-9S
2081+50	CONST. D.I. ON LT. W/ PIPE CULVERT	124			1			PCC-1, FPC-9S
2084+86	CONST. D.I. ON LT. W/ PIPE CULVERT	332			1			PCC-1, FPC-9S
2088+24	CONST. D.I. ON LT. W/ PIPE CULVERT	334			1			PCC-1, FPC-9S
2091+62	CONST. D.I. ON LT. W/ PIPE CULVERT	334			1			PCC-1, FPC-9S
2095+55	RETAIN & MODIFY D.I. ON C.L. *						1	
2095+68	CONST. D.I. ON LT. W/ PIPE CULVERT	10			1			PCC-1, FPC-9S
2095+68	CONST. D.I. ON RT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2096+15	CONST. D.I. ON LT. W/ PIPE CULVERT	43			1			PCC-1, FPC-9S
2096+15	CONST. D.I. ON RT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2099+57	CONST. D.I. ON LT. W/ PIPE CULVERT	338			1			PCC-1, FPC-9S
2099+91	CONST. D.I. ON RT. W/ PIPE CULVERT	30			1			PCC-1, FPC-9S
2103+67	CONST. D.I. ON RT. W/ PIPE CULVERT	372			1			PCC-1, FPC-9S
2110+00	CONST. D.I. ON RT. W/ PIPE CULVERT	271			1			PCC-1, FPC-9S
2112+75	CONST. D.I. ON RT. W/ PIPE CULVERT	271			1			PCC-1, FPC-9S
2115+50	CONST. D.I. ON RT. W/ PIPE CULVERT	266			1			PCC-1, FPC-9S
2118+20	CONST. D.I. ON RT. W/ PIPE CULVERT		265		1			PCC-1, FPC-9S
2120+89	CONST. D.I. ON RT. W/ PIPE CULVERT		7		1			PCC-1, FPC-9S
2120+89	RETAIN & MODIFY D.I. ON C.L. *						1	
2124+00	CONST. D.I. ON RT. W/ PIPE CULVERT	216			1			PCC-1, FPC-9S
2126+20	CONST. D.I. ON RT. W/ PIPE CULVERT	286			1			PCC-1, FPC-9S
2129+10	CONST. D.I. ON RT. W/ PIPE CULVERT	276			1			PCC-1, FPC-9S
2131+90	CONST. D.I. ON RT. W/ PIPE CULVERT	276			1			PCC-1, FPC-9S
2134+70	CONST. D.I. ON RT. W/ PIPE CULVERT	276			1			PCC-1, FPC-9S
2137+50	CONST. D.I. ON RT. W/ PIPE CULVERT	37			1			PCC-1, FPC-9S
2137+91	RETAIN & MODIFY D.I. ON C.L. *						1	
2138+50	CONST. D.I. ON RT. W/ PIPE CULVERT	55			1			PCC-1, FPC-9S
2139+35	CONST. D.I. ON RT. W/ PIPE CULVERT	81			1			PCC-1, FPC-9S
2142+00	CONST. D.I. ON RT. W/ PIPE CULVERT	261			1			PCC-1, FPC-9S
2144+50	CONST. D.I. ON RT. W/ PIPE CULVERT	246			1			PCC-1, FPC-9S
2149+50	CONST. D.I. ON RT. W/ PIPE CULVERT	246			1			PCC-1, FPC-9S
2152+00	CONST. D.I. ON RT. W/ PIPE CULVERT	246			1			PCC-1, FPC-9S
2154+50	CONST. D.I. ON RT. W/ PIPE CULVERT	246			1			PCC-1, FPC-9S
2157+00	CONST. D.I. ON RT. W/ PIPE CULVERT	316			1			PCC-1, FPC-9S
2160+20	CONST. D.I. ON RT. W/ PIPE CULVERT		76		1			PCC-1, FPC-9S
2161+00	CONST. D.I. ON LT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2161+00	CONST. D.I. ON RT. W/ PIPE CULVERT		96		1			PCC-1, FPC-9S
2162+00	CONST. D.I. ON LT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2162+00	CONST. D.I. ON RT. ON EXIST. R.C. BOX CULVT.				1			FPC-9, FPC-9S
2165+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2165+00	CONST. D.I. ON RT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2168+00	CONST. D.I. ON LT. W/ PIPE CULVERT	296			1			PCC-1, FPC-9S
2168+00	CONST. D.I. ON RT. W/ PIPE CULVERT	2			1			PCC-1, FPC-9S
2170+18	CONST. D.I. ON C.L. W/ PIPE CULVERT	214		1				PCC-1, FPC-9D,
TOTALS:		9809	715	1	53	2	5	

* REFER TO SPECIAL DETAILS
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.

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE C LIN. FT.	MEDIAN TYPE SPECIAL LIN. FT.	MEDIAN TYPE SP-1 LIN. FT.	MEDIAN TYPE SP-2 LIN. FT.
2035+00	2043+66	I-540 - C.L.	866			
2043+66	2043+91	I-540 - C.L.			25	
2043+91	2044+09	I-540 - C.L.				18
2044+09	2044+34	I-540 - C.L.			25	
2044+34	2072+66	I-540 - C.L.	2832			
2072+66	2072+91	I-540 - C.L.			25	
2072+91	2073+09	I-540 - C.L.				18
2073+09	2073+34	I-540 - C.L.			25	
2073+34	2119+93	I-540 - C.L.	4659			
2119+93	2121+16	I-540 - C.L.		123		
2123+35	2124+62	I-540 - C.L.		127		
2124+62	2133+66	I-540 - C.L.	904			
2133+66	2133+91	I-540 - C.L.			25	
2133+91	2134+09	I-540 - C.L.				18
2134+09	2134+34	I-540 - C.L.			25	
2134+34	2159+66	I-540 - C.L.	2532			
2159+66	2159+91	I-540 - C.L.			25	
2159+91	2160+09	I-540 - C.L.				18
2160+09	2160+34	I-540 - C.L.			25	
2160+34	2170+00	I-540 - C.L.	966			
TOTALS:			12759	250	200	72

NOTE: THE DESIGN OF BARRIER WALL IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	65	130
DIRECTED BY THE ENGINEER		
TOTALS:	65	130

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

2/20/2013
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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.		090331	36	218

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SOIL STABILIZATION	** STONE BACKFILL
			CU. YD.		TON	TON
2035+00	2170+00	I-540 - MEDIAN	22160	12324		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	400	400	100	640
TOTALS:			**22560**	**12724**	**100**	**640**

* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.
** QUANTITY ESTIMATED BY MATERIALS DIVISION. SEE SECTION 207 OF THE STD. SPECS.

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTERS (TYPE SPECIAL 1)	APPROACH GUTTERS (TYPE SPECIAL 2)	APPROACH GUTTERS (TYPE SPECIAL 3)	APPROACH GUTTERS (TYPE SPECIAL 4)	APPROACH SLABS (TYPE SPECIAL 1)	APPROACH SLABS (TYPE SPECIAL 2)	REINFORCING STEEL RDWY. (GR 60)	AGGREGATE BASE COURSE (CLASS 7)	TEXTURED COATING FINISH
			CU.YD.						POUND	TON	SQ.YD.
2121+16.26	2121+68.75	I-540 LML - BEG. BRIDGE A					95.30		10433	84.9	
2123+06.36	2123+61.97	I-540 LML - END BRIDGE A					97.80		10788	87.9	
2121+16.26	2121+56.64	I-540 LML - BEG. BRIDGE A (GUTTER A) - INSIDE	23.10						2533		27.9
2121+34.45	2121+72.00	I-540 LML - END BRIDGE A (GUTTER A) - OUTSIDE		19.50					2007		10.3
2123+02.85	2123+40.77	I-540 LML - BEG. BRIDGE A (GUTTER B) - INSIDE	21.50						2406		27.9
2123+19.57	2123+61.97	I-540 LML - END BRIDGE A (GUTTER B) - OUTSIDE		21.10					2169		10.3
2120+92.91	2121+44.64	I-540 RML - BEG. BRIDGE B						95.30	10439	85.0	
2122+81.07	2123+34.93	I-540 RML - END BRIDGE B						97.90	10798	88.0	
2120+92.91	2121+32.67	I-540 RML - BEG. BRIDGE B (GUTTER A) - OUTSIDE				21.00			2215		10.2
2121+10.91	2121+47.98	I-540 RML - END BRIDGE B (GUTTER A) - INSIDE			21.60				2414		28.0
2122+77.25	2123+14.01	I-540 RML - BEG. BRIDGE B (GUTTER B) - OUTSIDE				19.50			1930		10.2
2122+93.76	2123+34.93	I-540 RML - END BRIDGE B (GUTTER B) - INSIDE			23.20				2546		28.1
TOTALS:			**44.60**	**40.60**	**44.80**	**40.50**	**193.10**	**193.20**	**60678**	**345.8**	**152.9**

NOTE: USE T =22.5" FOR 10' SHOULDER.

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			6000	24
TOTALS:			**6000**	**24**

* 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.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	LIN.FT.
2035+00	2120+93	I-540 - R.M.L. INSIDE SHOULDER	8593
2035+00	2121+16	I-540 - L.M.L. INSIDE SHOULDER	8616
2116+43	2120+93	I-540 - R.M.L. OUTSIDE SHOULDER	450
2116+43	2121+16	I-540 - L.M.L. OUTSIDE SHOULDER	473
2123+35	2170+00	I-540 - R.M.L. INSIDE SHOULDER	4665
2123+62	2170+00	I-540 - L.M.L. INSIDE SHOULDER	4638
TOTAL:			**27435**

2/20/2013

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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.		090331	37	218

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

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.
2034+40	2035+00	I-540 - C.L. MEDIAN	60.00	4	26.67	26.67	0.34
2120+20	2121+52	I-540 - C.L. MEDIAN	132.00	14	205.33		
2122+98	2124+34	I-540 - C.L. MEDIAN	136.00	14	211.56		
2170+00	2170+30	I-540 - C.L. MEDIAN	30.00	4	13.33	13.33	0.17
TOTALS:					456.89	40.00	0.51

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
2118+51.00	2121+32.67	RT. SIDE OF RT. MAIN LANES	250	1	1
2123+19.57	2126+10.00	LT. SIDE OF LT. MAIN LANES	250	1	1
TOTALS:			500	2	2

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET				TON
MAIN LANES																									
2035+00.00	2119+92.91	I-540 - R.M.L.	8492.9	204.50	17368.0	77.4	73038.9	0.03	2191.2	19.5	18401.3	880.0	8096.6	19.25	18165.4	440.0	3996.4	19.13	18052.1	220.0	1985.7	29.0	27366.0	220.0	3010.3	4996.0
2119+92.91	2120+92.91	I-540 - R.M.L.	100.0	158.00	158.0	77.4	860.0	0.03	25.8	19.5	216.7	880.0	95.3	19.25	213.9	440.0	47.1	19.13	212.6	220.0	23.4	25.5	283.3	220.0	31.2	54.6
2120+92.91	2121+10.91	I-540 - R.M.L.	18.0	157.25	28.3	29.4	58.8	0.03	1.8	7.5	15.0	880.0	6.6	7.25	14.5	440.0	3.2	7.13	14.3	220.0	1.6	7.0	14.0	220.0	1.5	3.1
2123+34.93	2123+61.97	I-540 - R.M.L.	27.0	111.50	30.1	77.4	232.2	0.03	7.0	19.5	58.5	880.0	25.7	19.25	57.8	440.0	12.7	19.13	57.4	220.0	6.3	22.0	66.0	220.0	7.3	13.6
2123+61.97	2124+61.97	I-540 - R.M.L.	100.0	158.00	158.0	77.4	860.0	0.03	25.8	19.5	216.7	880.0	95.3	19.25	213.9	440.0	47.1	19.13	212.6	220.0	23.4	25.5	283.3	220.0	31.2	54.6
2124+61.97	2170+00.00	I-540 - R.M.L.	4538.0	204.50	9280.2	77.4	39026.8	0.03	1170.8	19.5	9832.3	880.0	4326.2	19.25	9706.3	440.0	2135.4	19.13	9645.8	220.0	1061.0	29.0	14622.4	220.0	1608.5	2669.5
2035+00.00	2119+92.91	I-540 - L.M.L.	8492.9	210.75	17898.8	77.4	73038.9	0.03	2191.2	19.5	18401.3	880.0	8096.6	19.25	18165.4	440.0	3996.4	19.13	18052.1	220.0	1985.7	29.0	27366.0	220.0	3010.3	4996.0
2119+92.91	2120+92.91	I-540 - L.M.L.	100.0	161.25	161.3	77.4	860.0	0.03	25.8	19.5	216.7	880.0	95.3	19.25	213.9	440.0	47.1	19.13	212.6	220.0	23.4	25.5	283.3	220.0	31.2	54.6
2123+40.77	2123+61.97	I-540 - L.M.L.	21.2	157.25	33.3	29.4	69.3	0.03	2.1	7.5	17.7	880.0	7.8	7.25	17.1	440.0	3.8	7.13	16.8	220.0	1.8	7.0	16.5	220.0	1.8	3.6
2120+92.91	2121+16.26	I-540 - L.M.L.	23.4	111.50	26.1	77.4	201.2	0.03	6.0	19.5	50.7	880.0	22.3	19.25	50.1	440.0	11.0	19.13	49.7	220.0	5.5	22.0	57.2	220.0	6.3	11.8
2123+61.97	2124+61.97	I-540 - L.M.L.	100.0	161.25	161.3	77.4	860.0	0.03	25.8	19.5	216.7	880.0	95.3	19.25	213.9	440.0	47.1	19.13	212.6	220.0	23.4	25.5	283.3	220.0	31.2	54.6
2124+61.97	2170+00.00	I-540 - L.M.L.	4538.0	210.75	9563.8	77.4	39026.8	0.03	1170.8	19.5	9832.3	880.0	4326.2	19.25	9706.3	440.0	2135.4	19.13	9645.8	220.0	1061.0	29.0	14622.4	220.0	1608.5	2669.5
ADDITIONAL FOR SUPERELEVATION																										
		I-540 - L.M.L. & R.M.L.		VAR.	2380.0																					
ADDITIONAL FOR GUARDRAIL WIDENING																										
2118+45	2120+93	I-540 - R.M.L. - RT.	248.0	91.25	226.3													5.5	151.6	220.0	16.7					16.7
2123+62	2126+17	I-540 - L.M.L. - LT.	255.0	91.25	232.7													5.5	155.8	220.0	17.1					17.1
TOTALS:					57706.2		228132.9		6844.1		57475.9		25289.2		56738.5		12482.7		56691.8		6236.0		85263.7		9379.3	15615.3

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

TRENCHING AND SHOULDER PREPARATION

STATION	STATION	LOCATION	TRENCHING AND SHOULDER PREPARATION	TACK COAT 0.03 GAL. PER SQ. YD.			A.C.H.M. BASE COURSE (1 1/2") 440 LBS. PER SQ. YD.			A.C.H.M. BINDER COURSE (1") 440 LBS. PER SQ. YD.			A.C.H.M. SURFACE COURSE (1/2") 440 LBS. PER SQ. YD.		
				AVG. WIDTH	SQ. YD.	GAL.	AVG. WIDTH	SQ. YD.	PG 76-22	AVG. WIDTH	SQ. YD.	PG 76-22	AVG. WIDTH	SQ. YD.	PG 76-22
			STATION	FEET			FEET		TON	FEET		TON	FEET		TON
2115+93	2120+93	I-540 RML - OUTSIDE SHOULDER	5	30.0	1667	50.0	10.0	556	122.3	10.0	556	122.3	10.0	556	122.3
2123+35	2128+35	I-540 RML - OUTSIDE SHOULDER	5	30.0	1667	50.0	10.0	556	122.3	10.0	556	122.3	10.0	556	122.3
2116+16	2121+16	I-540 LML - OUTSIDE SHOULDER	5	30.0	1667	50.0	10.0	556	122.3	10.0	556	122.3	10.0	556	122.3
2123+62	2128+62	I-540 LML - OUTSIDE SHOULDER	5	30.0	1667	50.0	10.0	556	122.3	10.0	556	122.3	10.0	556	122.3
TOTALS:			20		6668	200.0		2224	489.2		2224	489.2		2224	489.2

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

2/20/2013

R090331.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.		090331	38	218
				① A&B5948 -		QUANTITIES	- 54182	

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 090331

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	801	802	802	803	SS & 804	SS & 804	805	807	807	SP & 808	812	SS & 821	SP JOB 090331	SP JOB 090331	SP JOB 090331
		ITEM	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S (AE) CONCRETE-BRIDGE	CLASS 2 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL ① PILING (HP 12x53)	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50)	PAINTING STRUCTURAL STEEL	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)	SILICONE JOINT SEALANT	CLEANING & PAINTING EXISTING STRUCTURAL STEEL	TEXTURED COATING FINISH
		UNIT	CU. YD	CU. YD.	CU. YD.	SQ. YD.	LB.	LB.	LIN. FT.	LB.	TON	CU. IN.	EACH	LUMP SUM	LIN. FT.	TON	SQ. YD.
A5948 X271 GOAD SPRINGS ROAD	BENT 1		20	16.75		7	1980		80			3283.0					44
	BENT 2		66	26.52			4300					3978.0					128
	BENT 3		36	24.65			3940					3978.0					127
	BENT 4		20	16.68		7	1920		46			3283.0					44
	149' CONT. COMP. W-BEAM UNIT				244.50	926		71060		50300	22.4		1		125	51.1	383
	EXIST. BR. NO. A5948													1			
	TOTALS FOR BRIDGE NO. A5948		142	84.60	244.50	940	12140	71060	126	50300	22.4	14522.0	1	1	125	51.1	726
B5948 X271 GOAD SPRINGS ROAD	BENT 1		25	16.70		7	1910		78			3283.0					44
	BENT 2		57	26.40			4265					3978.0					138
	BENT 3		25	23.60			3745					3978.0					133
	BENT 4		25	17.10		7	1990		44			3283.0					44
	149' CONT. COMP. W-BEAM UNIT				244.50	926		71240		50670	22.6		1		125	51.1	383
	EXIST. BR. NO. B5948													1			
	TOTALS FOR BRIDGE NO. B5948		132	83.80	244.50	940	11910	71240	122	50670	22.6	14522.0	1	1	125	51.1	742 *
TOTALS FOR JOB NO. 090331			274 *	168.40	489.00	1880	24050	142300	248	100970	45.0	29044.0	2		250	102.2	1468

* Includes approx. 69 cu. yds. of rock excavation.

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 12 x 53)'.

BRYAN FREELING
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
8/9/13

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
WAGON WHEEL RD. - HWY. 264
(WIDENING) (S)
BENTON COUNTY

ROUTE 540 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 6-12-13 FILENAME: b090331_ql.dgn
CHECKED BY: DBS DATE: 8/8/13 SCALE:
DESIGNED BY: DATE:

BRIDGE NO. A&B5948 DRAWING NO. 54182

PRINT DATE: 8/9/2013

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.		090331	39	218

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM		QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF FENCE		76	LIN. FT.
202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS		4	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		1	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		1	EACH
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL		1104	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING		5973	SQ. YD.
SP & 202	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE		13440	LIN. FT.
207	STONE BACKFILL		640	TON
210	UNCLASSIFIED EXCAVATION		22560	CU. YD.
210	COMPACTED EMBANKMENT		12724	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
215	TRENCHING AND SHOULDER PREPARATION		20	STATION
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		58052	TON
401	TACK COAT		7174	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		24721	TON
SP, SS, & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")		1057	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		12388	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")		584	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		15219	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		886	TON
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		65	TON
SP & 504	APPROACH SLABS		386.30	CU. YD.
SP & 504	APPROACH GUTTERS		170.50	CU. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	TRAFFIC CONTROL SUPERVISOR		1.00	LUMP SUM
SS & 604	SIGNS		1235	SQ. FT.
SS & 604	TRAFFIC DRUMS		92	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		26985	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		826	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		48020	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		27276	LIN. FT.
SS & 604	ADVANCE WARNING ARROW PANEL		80	DAY
SS & 604	PORTABLE CHANGEABLE MESSAGE SIGN		700	DAY
605	CONCRETE DITCH PAVING (TYPE B)		457	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		9809	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		715	LIN. FT.
606	SELECTED PIPE BEDDING		700	CU. YD.
609	DROP INLETS (TYPE RM)		1	EACH
609	DROP INLETS (TYPE ST)		53	EACH
609	DROP INLETS (TYPE ST SPECIAL)		2	EACH
611	UNDERDRAIN OUTLET PROTECTORS		24	EACH
611	4" PIPE UNDERDRAINS		6000	LIN. FT.
SS & 617	GUARDRAIL (TYPE A)		500	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)		2	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL		2	EACH
620	MULCH COVER		22.08	ACRE
SS & 620	WATER		451.0	M.GAL.
621	TEMPORARY SEEDING		22.08	ACRE
621	SILT FENCE		150	LIN. FT.
621	SAND BAG DITCH CHECKS		1936	BAG
621	DROP INLET SILT FENCE		1925	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL		164	CU. YD.
624	SOLID SODDING		40	SQ. YD.
631	CONCRETE BARRIER WALL (MEDIAN TYPE C)		12759	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-1)		200	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-2)		72	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)		250	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
640	MODIFYING DROP INLETS		5	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		27435	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	37843	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	37843	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	27002	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	27002	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8")	(ALTERNATE NO. 1)	1791	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (8")	(ALTERNATE NO. 2)	1791	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	980	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	980	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		991	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		60678	POUND
SP	TEMPORARY IMPACT ATTENUATION BARRIER		2	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2	EACH
SS & 732	CRASH CUSHION		2	EACH
SP	TEXTURED COATING FINISH		153	SQ. YD.
SP	WIRE ROPE SAFETY FENCE		114	LIN. FT.
SP	WIRE ROPE SAFETY FENCE END TERMINAL		2	EACH

* DENOTES ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES (BOX 2 OF 2)

STRUCTURES OVER 20' SPAN			
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	274	CU. YD.
802	CLASS S CONCRETE-BRIDGE	168.40	CU. YD.
802	CLASS S(AE) CONCRETE-BRIDGE	489.00	CU. YD.
803	CLASS 2 PROTECTIVE SURFACE TREATMENT	1880	SQ. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	24050	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	142300	POUND
805	STEEL PILING (HP 12X53)	248	LIN. FT.
807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50)	100970	POUND
807	PAINTING STRUCTURAL STEEL	45	TON
SP & 808	ELASTOMERIC BEARINGS	29044	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)	2	EACH
SS & 821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5948)	1.00	LUMP SUM
SS & 821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. B5948)	1.00	LUMP SUM
SP	SILICONE JOINT SEALANT	250	LIN. FT.
SP	CLEANING AND PAINTING EXISTING STRUCTURAL STEEL	102.2	TON
SP	TEXTURED COATING FINISH	1468	SQ. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER

9/20/2013

R090331.DGN

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	40	218

(2) SOIL BORING LOG

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
2050+80	36	13	44.00	94	10	39.70	CL	0-5	49	29	A-7-6(19)	BROWN
2076+00	36	13	59.90	94	10	15.30	CL	0-5	34	15	A-6(10)	BROWN
2102+80	36	14	11.70	94	9	47.10	CL	0-5	30	12	A-6(6)	BROWN
2128+80	36	14	31.30	94	9	12.50	CL	0-4.5 Z	66	48	A-7-6(26)	BROWN
2154+80	36	14	55.20	94	9	2.00	CL	0-5	38	23	A-6(5)	BROWN

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

9/20/2013
R090331.DGN

SOIL BORING LOG

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	41	218

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

SURVEY CONTROL COORDINATES

Project Name: s090331
Date: 4/16/2012
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
91	708188.9316	678352.3369	1310.74	CTL	5/8" Rebar with 2" Aluminum Cap
92	707160.6438	678314.6864	1304.34	CTL	5/8" Rebar with 2" Aluminum Cap
93	705873.8972	678268.2609	1282.84	CTL	5/8" Rebar with 2" Aluminum Cap
94	705077.5535	678235.7066	1267.48	CTL	5/8" Rebar with 2" Aluminum Cap
95	704299.1318	678203.3794	1271.48	CTL	5/8" Rebar with 2" Aluminum Cap
96	703629.4554	678131.5351	1285.55	CTL	5/8" Rebar with 2" Aluminum Cap
97	703074.5172	677985.6666	1284.55	CTL	5/8" Rebar with 2" Aluminum Cap
98	702004.9825	677464.3042	1291.64	CTL	5/8" Rebar with 2" Aluminum Cap
99	701370.7345	676955.1799	1308.79	CTL	5/8" Rebar with 2" Aluminum Cap
100	700851.5602	676354.0909	1310.26	CTL	5/8" Rebar with 2" Aluminum Cap
101	700465.5549	675714.1856	1311.70	CTL	5/8" Rebar with 2" Aluminum Cap
102	700195.6915	675140.4283	1312.33	CTL	5/8" Rebar with 2" Aluminum Cap
103	699876.8548	674433.7470	1310.04	CTL	5/8" Rebar with 2" Aluminum Cap
104	699633.3729	673897.7233	1304.81	CTL	5/8" Rebar with 2" Aluminum Cap
105	699300.6563	673165.6804	1293.52	CTL	5/8" Rebar with 2" Aluminum Cap
106	698974.0278	672530.3800	1292.35	CTL	5/8" Rebar with 2" Aluminum Cap
107	698645.1214	671950.2715	1273.24	CTL	5/8" Rebar with 2" Aluminum Cap
108	698323.5724	671395.5823	1258.77	CTL	5/8" Rebar with 2" Aluminum Cap
109	698036.7540	670902.7747	1253.22	CTL	5/8" Rebar with 2" Aluminum Cap
110	697624.0839	670411.2557	1253.83	CTL	5/8" Rebar with 2" Aluminum Cap
111	697072.6646	669984.2869	1257.33	CTL	5/8" Rebar with 2" Aluminum Cap
112	700403.4065	676149.9076	1315.70	CTL	5/8" Rebar with 2" Aluminum Cap
113	700629.7808	676518.7832	1314.68	CTL	5/8" Rebar with 2" Aluminum Cap
114	700176.7232	675752.3604	1318.24	CTL	5/8" Rebar with 2" Aluminum Cap
510	698898.7791	672516.3079	1289.53	GPS	5/8" Rebar with 2" Aluminum Cap AHTD GPS 040051
511	697703.5968	670588.4147	1251.04	GPS	5/8" Rebar with 2" Aluminum Cap AHTD GPS 040051A
512	705599.8001	678469.4071	1273.40	GPS	5/8" Rebar with 2" Aluminum Cap AHTD GPS 040052
513	703836.6020	678245.3223	1282.04	GPS	5/8" Rebar with 2" Aluminum Cap AHTD GPS 040052A
908	701254.3835	676862.7721	1310.07	BM	OVERPASS SOUTHBOUND LANE
910	700434.1495	675535.8992	1312.53	BM	CPS IN POWER POLE
911	699270.2079	673244.6677	1290.31	BM	DROP INLET
912	697858.7129	670783.3865	1249.26	BM	CHISELED SQUARE IN CENTER OF MEDIAN
913	695571.9114	669214.3680	1261.45	BM	CPS IN POWER POLE

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999455889 HAS BEEN USED TO COMPUTE THE GROUND COORDINATES LISTED ABOVE.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME S001966GI.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: 040052-040052A AND 040047-040047A
CONVERGENCE ANGLE: 01-15-36.86 LEFT AT LT: 36-17-41.57 LG: 094-09-56.64
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

I-540 C.L.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	2000+00.00	693118.0003	668939.5248
8001	PC	2032+78.65	696294.1946	669752.7374
8003	PT	2055+54.83	698061.7284	671090.6280
8004	PC	2070+00.76	698787.2063	672341.3802
8006	PT	2081+51.83	699313.8080	673364.3898
8007	PC	2105+90.47	700319.6626	675585.9266
8009	PT	2156+74.47	704328.0714	678275.9377
8010	PC	2242+23.19	712871.1079	678587.7456
8012	PT	2254+86.08	714082.6231	678292.5035
8013	PC	2326+10.07	720284.1366	674786.4375
8015	PT	2344+55.83	721499.3601	673439.6582
8016	PC	2371+51.98	722578.8880	670969.0638
8018	PT	2390+04.67	723800.1581	669618.8757
8019	PC	2405+02.06	725105.4294	668885.0998
8021	PT	2421+06.05	726646.0698	668520.8172
8022	POE	2502+10.03	734740.8132	668907.7545

9/20/2013

R090331.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

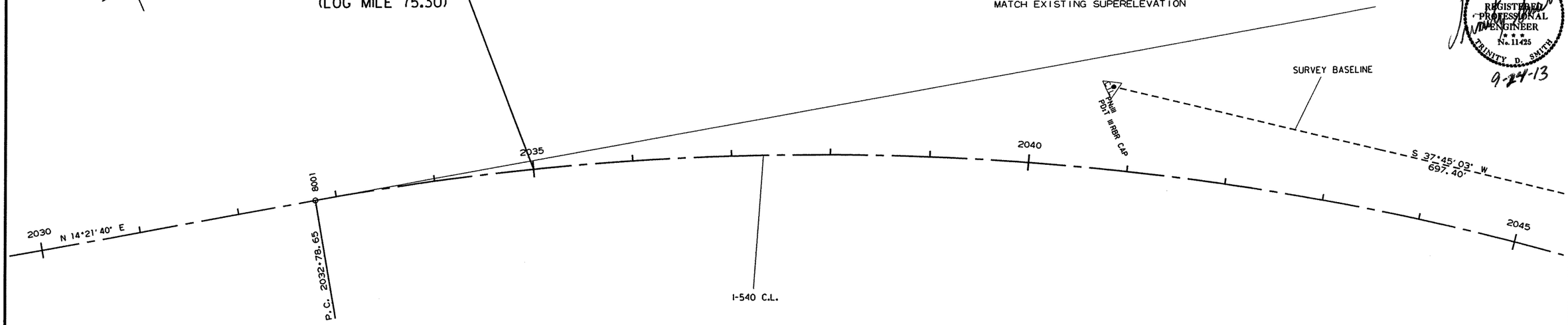
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		090331	42	218

(2) SURVEY CONTROL DETAILS

I-540
PI = 2044+80.65
Δ = 45°31'25" RT.
D = 2°00'00"
T = 1202.00'
L = 2276.18'
PC = 2032+78.65
PT = 2055+54.83
MATCH EXISTING SUPERELEVATION

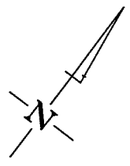
STA. 2035+00.00
BEGIN JOB 090331
(LOG MILE 75.30)

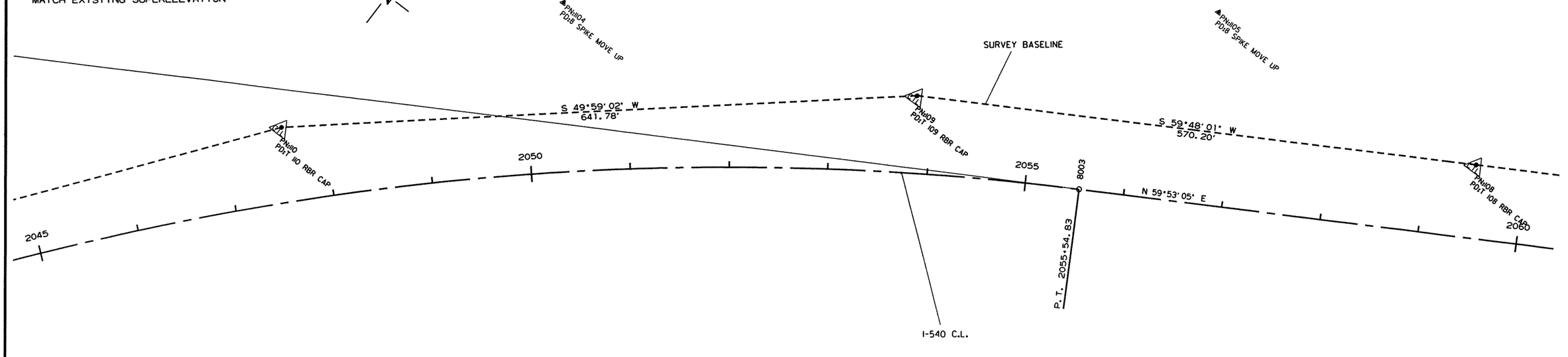




STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

I-540
PI = 2044+80.65
Δ = 45°31'25" RT.
D = 2°00'00"
T = 1202.00'
L = 2276.18'
PC = 2032+78.65
PT = 2055+54.83
MATCH EXISTING SUPERELEVATION





9/20/2013

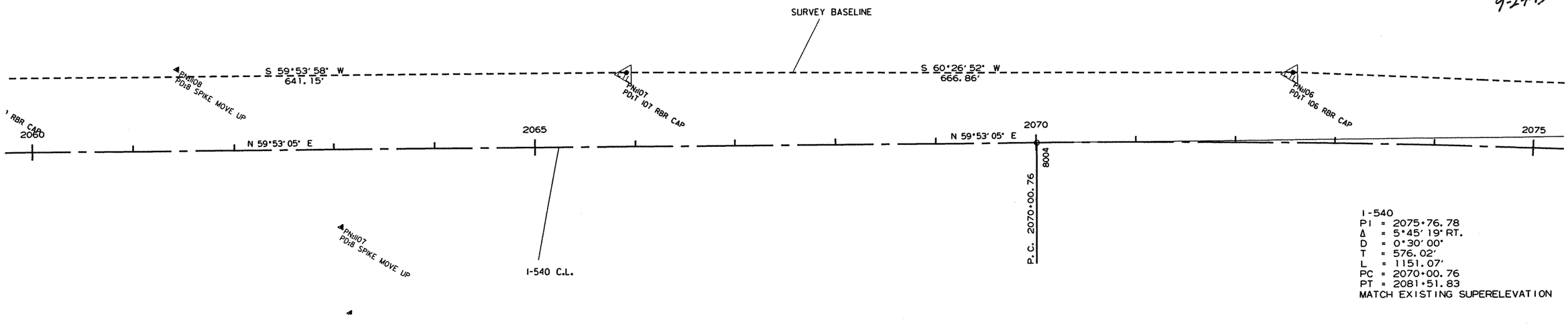
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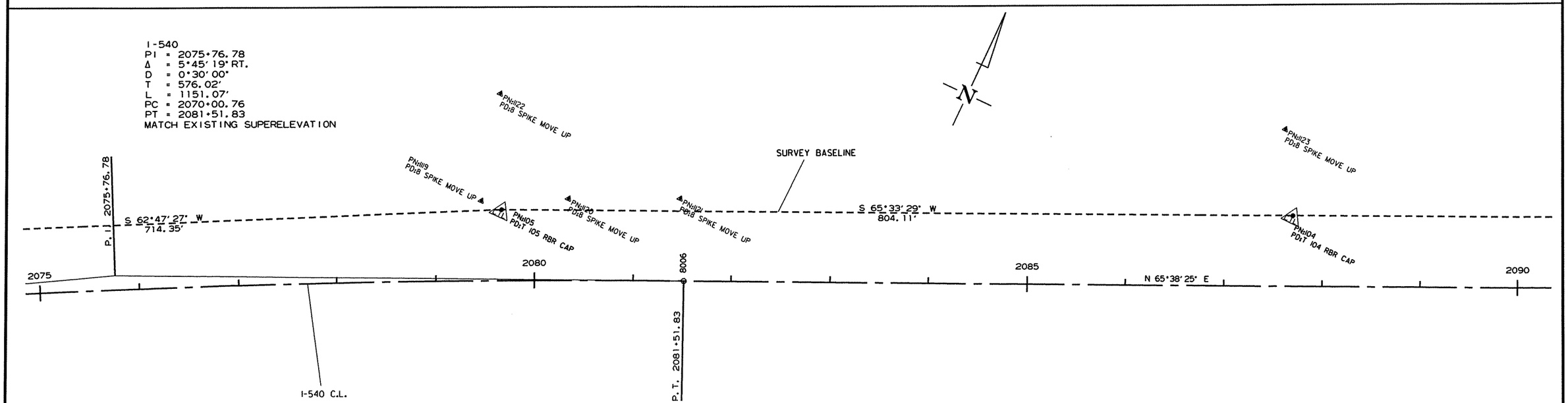
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	43	218

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





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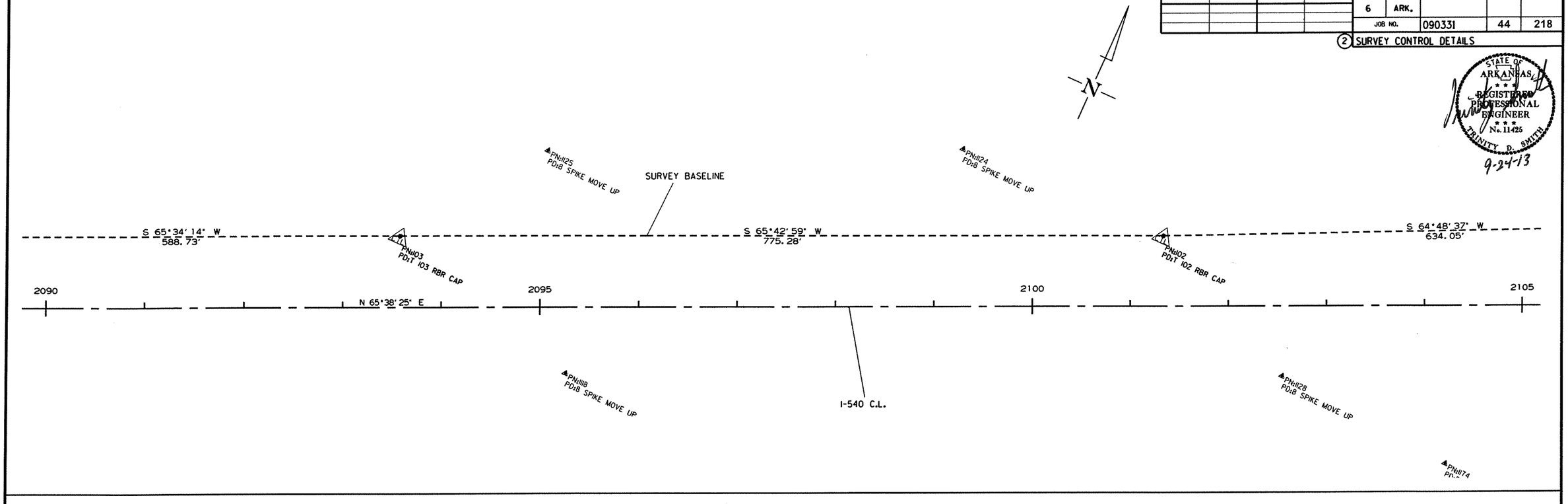
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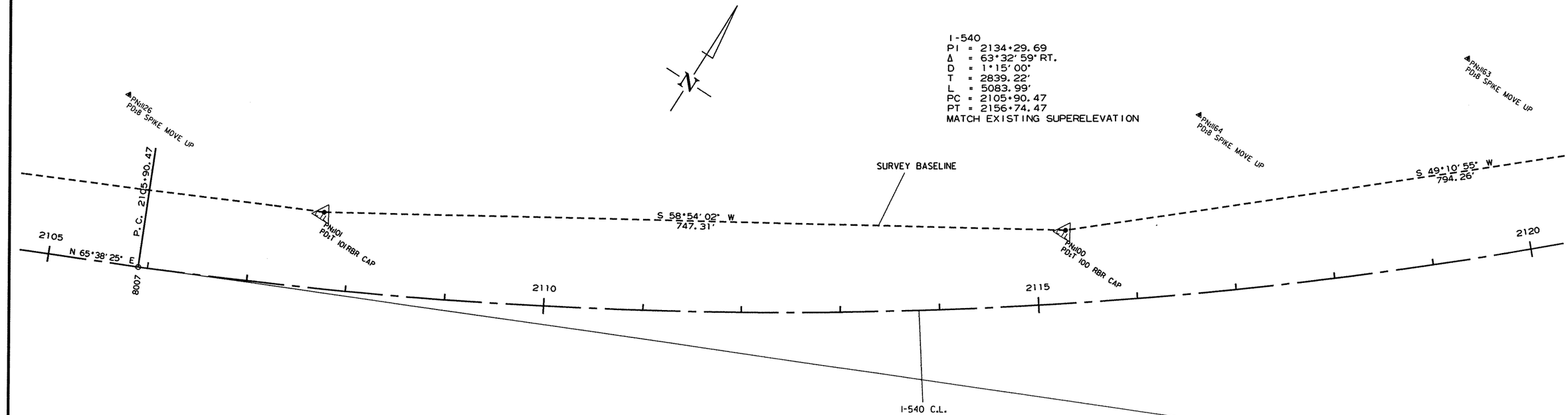
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	44	218

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





SURVEY CONTROL DETAILS

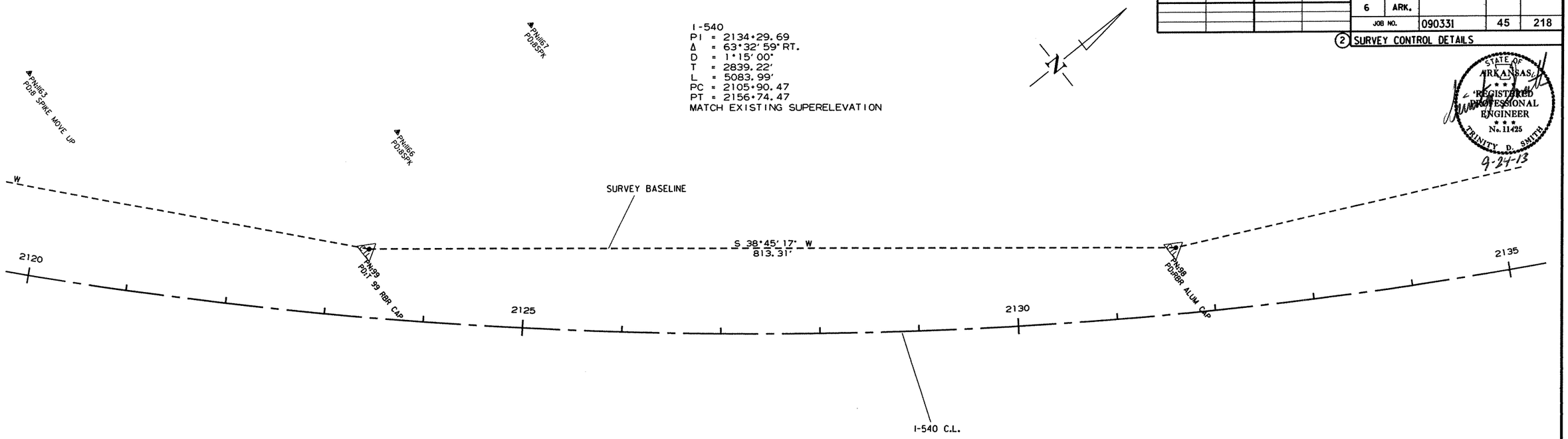
9/20/2013

R090331.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.		090331	45	218

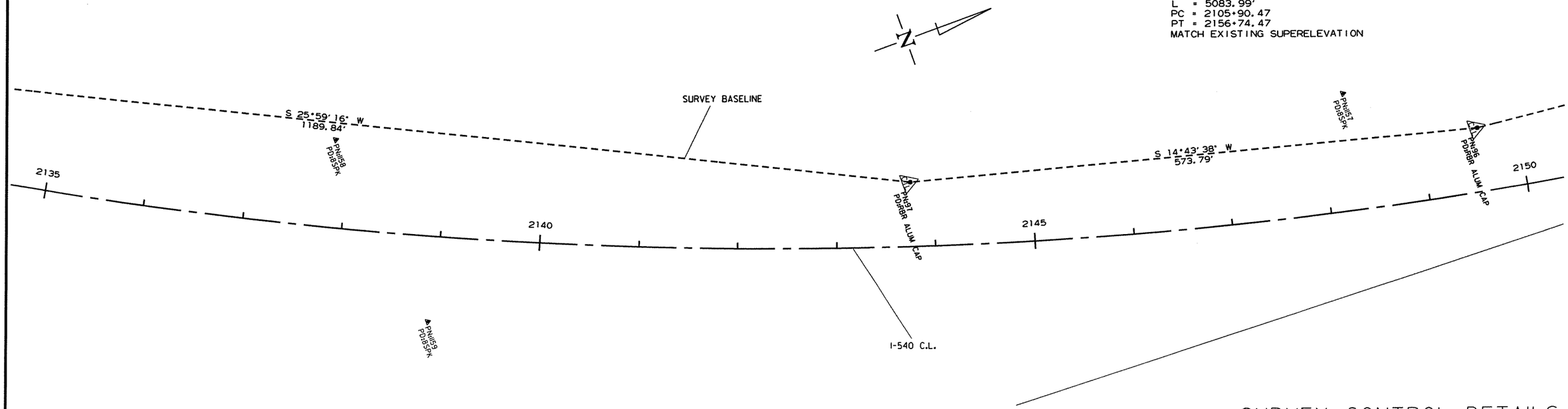
(2) SURVEY CONTROL DETAILS

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION



9/20/2013

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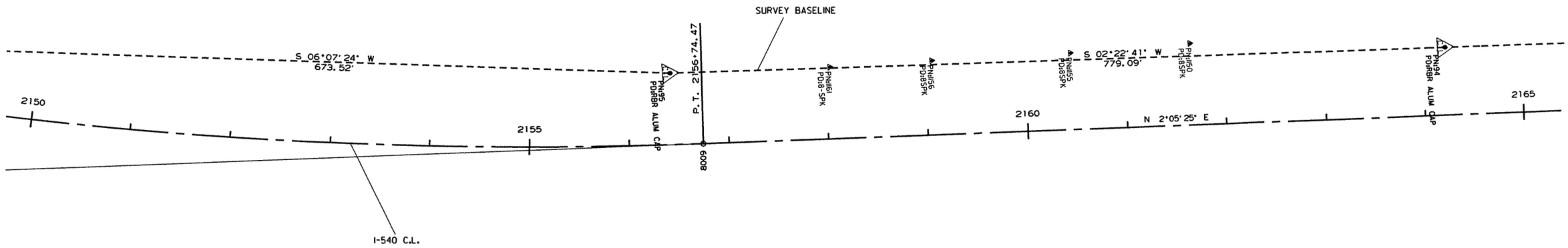
SURVEY CONTROL DETAILS

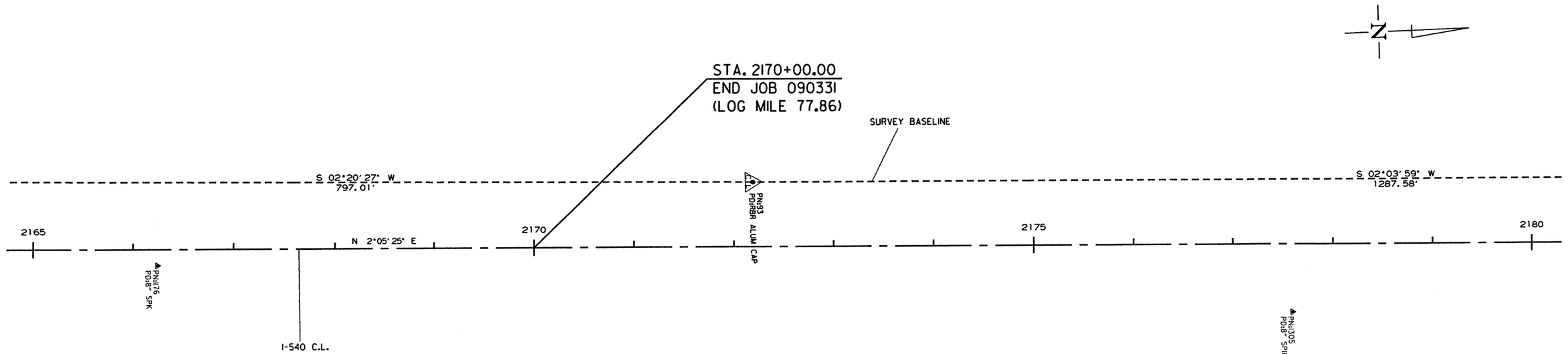
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	46	218

(2) SURVEY CONTROL DETAILS

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13





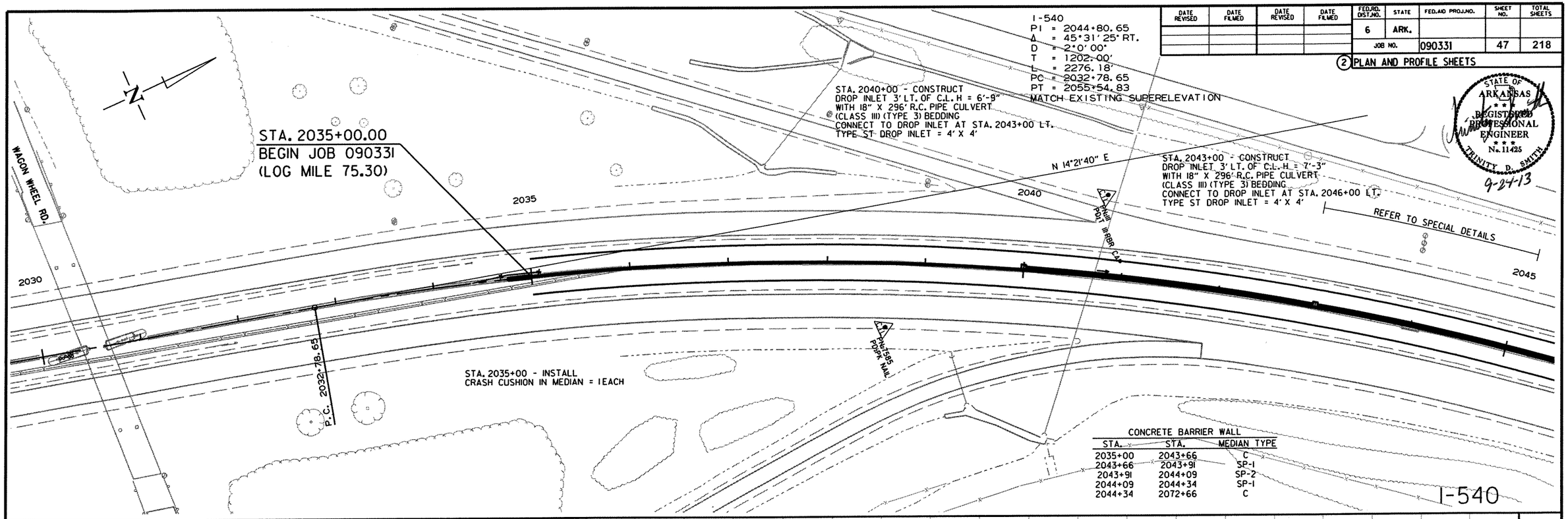
9/20/2013

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SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	47	218

(2) PLAN AND PROFILE SHEETS

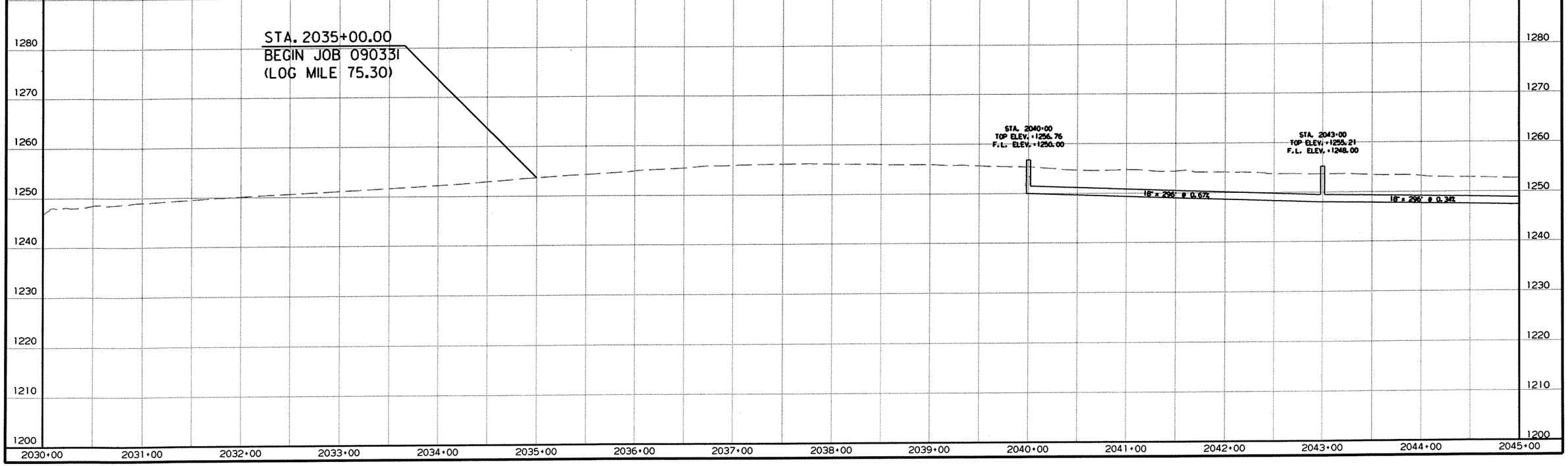


CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
2035+00	2043+66	C
2043+66	2043+91	SP-1
2043+91	2044+09	SP-2
2044+09	2044+34	SP-1
2044+34	2072+66	C

I-540

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



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				6	ARK.			
				JOB NO.		090331	48	218

(2) PLAN AND PROFILE SHEETS

I-540
PI = 2044+80.65
Δ = 45°31'25" RT.
D = 2°0'00"
T = 1202.00'
L = 2276.18'
PC = 2032+78.65
PT = 2055+54.83
MATCH EXISTING SUPERELEVATION

STA. 2046+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-10"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2049+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2049+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-2"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2051+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2051+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-8"
WITH 24" X 75' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2051+79 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2051+79 - IN PLACE
TYPE R DROP INLET
WITH 48" x 132' R.C. PIPE CULVERT
& 48" x 115' R.C. PIPE CULVERT
RETAIN & MODIFY EXIST. DROP INLET
CONSTRUCT DROP INLET 3' LT. OF C.L. H=8'-2"
TYPE ST SPECIAL DROP INLET = 4'-10" X 5'

STA. 2053+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-2"
WITH 18" X 117' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2051+79 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2056+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-2"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2053+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2059+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-8"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2056+00 LT.
TYPE ST DROP INLET = 4' X 4'

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N 59°53'05" E

2045 2050 2055 2060

PNIOB PD1.110 RBR CAP
PNIOB PD1.109 RBR CAP
PNIOB PD1.108 RBR CAP
PNIOB POWER POLE
PNIOB DITCH 50 DICE MEDIAN
P.T. 2055+54.83
RET WALL
PNIOB POWER POLE MOVE UP
PNIOB POWER POLE MOVE UP

I-540

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

STA. 2046+00
TOP ELEV. = 1253.84
F.L. ELEV. = 1247.00

STA. 2049+00
TOP ELEV. = 1252.12
F.L. ELEV. = 1245.00

STA. 2051+00
TOP ELEV. = 1251.66
F.L. ELEV. = 1244.00

STA. 2051+79
TOP ELEV. = 1251.55
F.L. ELEV. = 1243.38

STA. 2053+00
TOP ELEV. = 1252.15
F.L. ELEV. = 1245.00

STA. 2056+00
TOP ELEV. = 1255.12
F.L. ELEV. = 1248.00

STA. 2059+00
TOP ELEV. = 1259.64
F.L. ELEV. = 1252.00

18" x 296' @ 0.34%
18" x 296' @ 0.67%
24" x 196' @ 0.51%
24" x 75' @ 0.83%
18" x 117' @ 1.38%
18" x 296' @ 1.01%
18" x 296' @ 1.35%
18" x 296' @ 2.03%

79
(Exist.)
F.L. ELEV. = 1221.20

BM912: CHISELED SQUARE IN CENTER OF MEDIAN
2.21' LT. OF STA. 2051+86.47
ELEVATION = 1249.26

1300 1290 1280 1270 1260 1250 1240 1230 1220 1210

2045+00 2046+00 2047+00 2048+00 2049+00 2050+00 2051+00 2052+00 2053+00 2054+00 2055+00 2056+00 2057+00 2058+00 2059+00 2060+00

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(2) PLAN AND PROFILE SHEETS

STA. 2062+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-9"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2059+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2064+73 - IN PLACE
TYPE SPECIAL JUNCTION BOX IN MEDIAN
WITH 18" X 86' R.C. PIPE CULVERT
REMOVE JUNCTION BOX & CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-10"
WITH CONCRETE COLLAR
& 18" X 4' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. 18" X 86' R.C. PIPE CULVERT
& 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2062+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2068+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 18" X 323' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2064+73 LT.
TYPE ST DROP INLET = 4' X 4'

I-540
PI = 2075+76.78
Δ = 5°45'19" RT.
D = 0°30'00"
T = 576.02'
L = 1151.07'
PC = 2070+00.76
PT = 2081+51.83
MATCH EXISTING SUPERELEVATION

STA. 2071+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-8"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2068+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2074+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-3"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2071+00 LT.
TYPE ST DROP INLET = 4' X 4'

REFER TO SPECIAL DETAILS

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2060 2065 2070 2075

PNHOE PDA SPIKE MOVE UP

PNHOT PDA 107 RBR CAP

PNHOS PDAHTD GPS 040052A

PNHOS PDAHTD GPS 040051

PNHOT PDA SPIKE MOVE UP

RBR CAP

N 59°53'05" E

P.C. 2070+00.76

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
2072+66	2072+91	SP-1
2072+91	2073+09	SP-2
2073+09	2073+34	SP-1
2073+34	2119+93	C

I-540

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

STA. 2062+00
TOP ELEV. = 1264.76
F.L. ELEV. = 1258.00

STA. 2064+73
TOP ELEV. = 1271.79
F.L. ELEV. = 1264.93

STA. 2068+00
TOP ELEV. = 1281.47
F.L. ELEV. = 1274.00

STA. 2071+00
TOP ELEV. = 1289.66
F.L. ELEV. = 1282.00

STA. 2074+00
TOP ELEV. = 1294.23
F.L. ELEV. = 1287.00

18" x 296' @ 2.03%
18" x 269' @ 2.54%
18" x 323' @ 2.81%
18" x 296' @ 2.70%
18" x 296' @ 1.69%

1310 1300 1290 1280 1270 1260 1250 1240 1230 1220

2060+00 2061+00 2062+00 2063+00 2064+00 2065+00 2066+00 2067+00 2068+00 2069+00 2070+00 2071+00 2072+00 2073+00 2074+00 2075+00

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I-540
PI = 2075+76.78
Δ = 5°45'19" RT.
D = 0°30'00"
T = 576.02'
L = 1151.07'
PC = 2070+00.76
PT = 2081+51.83
MATCH EXISTING SUPERELEVATION

STA. 2079+20 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-5"
WITH 18" X 98' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2080+22 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2080+22 - IN PLACE
TYPE R DROP INLET
WITH 18" X 161' R.C. PIPE CULVERT
RETAIN & MODIFY EXIST. DROP INLET
CONSTRUCT DROP INLET 3' LT. OF C.L. H=8'-2"
TYPE ST SPECIAL DROP INLET = 4' X 5'

STA. 2081+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-1"
WITH 18" X 124' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2080+22 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2084+86 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-10"
WITH 18" X 332' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2081+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2088+24 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 9'-10"
WITH 18" X 334' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2084+86 LT.
TYPE ST DROP INLET = 4' X 4'

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(2) PLAN AND PROFILE SHEETS

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2075 2080 2085 2090
P.I. 2075+76.78
N 65°38'25" E
PNH03 PD:AHTD GPS 040052
PNH04 PD:T 104 RBR CAP
P.T. 2081+51.83

I-540

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

STA. 2079+20
TOP ELEV. = 1294.26
F.L. ELEV. = 1287.86
18" x 98' @ 2.12%

STA. 2080+22
TOP ELEV. = 1293.95
F.L. ELEV. = 1285.78
18" x 124' @ 1.10%

STA. 2081+50
TOP ELEV. = 1294.20
F.L. ELEV. = 1287.14
18" x 332' @ 1.00%

STA. 2084+86
TOP ELEV. = 1299.31
F.L. ELEV. = 1290.46
18" x 334' @ 2.00%

STA. 2088+24
TOP ELEV. = 1306.98
F.L. ELEV. = 1297.14
18" x 334' @ 2.00%

22
(EXIST.)
F.L. ELEV. = 1261.00

BM911: DROP INLET
10.37' LT. OF STA. 2080+24.90
ELEVATION = 1290.31

1340 1330 1320 1310 1300 1290 1280 1270 1260 1250

2075+00 2076+00 2077+00 2078+00 2079+00 2080+00 2081+00 2082+00 2083+00 2084+00 2085+00 2086+00 2087+00 2088+00 2089+00 2090+00

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(2) PLAN AND PROFILE SHEETS

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STA. 2091+62 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-0"
WITH 18" X 334' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2088+24 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2095+55 - IN PLACE
TYPE R DROP INLET IN MEDIAN
RETAIN & MODIFY

STA. 2095+68 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-4"
WITH 18" X 10' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2095+55
TYPE ST DROP INLET = 4' X 4'

STA. 2096+15 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-4"
WITH 18" X 43' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2095+68 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2099+57 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-4"
WITH 18" X 338' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2096+15 LT.
TYPE ST DROP INLET = 4' X 4'

PNW25 PD18 SPIKE

PNW24 PD18 SPIKE

2090

2095

2100

2105

PNW03 PD17 103 RBR CAP

PNW02 PD17 102 RBR CAP

N 65°38'25" E

PNW18 PD18 SPIKE MOVE UP

PNW26 PD18 SPIKE MOVE UP

STA. 2095+68 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-5"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2095+68 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2096+15 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2096+15 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2099+91 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-5"
WITH 18" X 30' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2099+57 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2103+67 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 18" X 372' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2099+91 RT.
TYPE ST DROP INLET = 4' X 4'

1-540

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

STA. 2091+62
TOP ELEV. =1310.82
F.L. ELEV. =1303.82

18" x 334' @ 2.00%

STA. 2095+68
TOP ELEV. =1311.65
F.L. ELEV. =1304.30

18" x 10' @ 1.03%

STA. 2096+15
TOP ELEV. =1311.89
F.L. ELEV. =1304.56

18" x 43' @ 0.60%

STA. 2099+57
TOP ELEV. =1312.92
F.L. ELEV. =1306.59

18" x 338' @ 0.60%

STA. 2099+91
TOP ELEV. =1313.20
F.L. ELEV. =1306.77

18" x 30' @ 0.60%

STA. 2103+67
TOP ELEV. =1314.26
F.L. ELEV. =1309.00

18" x 372' @ 0.60%

STA. 2095+68 RT.
TOP ELEV. =1311.80
F.L. ELEV. =1304.40

STA. 2096+15 RT.
TOP ELEV. =1312.00
F.L. ELEV. =1304.70

55
(EXIST.)
F.L. ELEV. =1281.00

1350 1340 1330 1320 1310 1300 1290 1280 1270 1260

2090+00 2091+00 2092+00 2093+00 2094+00 2095+00 2096+00 2097+00 2098+00 2099+00 2100+00 2101+00 2102+00 2103+00 2104+00 2105+00

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(2) PLAN AND PROFILE SHEETS

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION

GUARDRAIL (TYPE A)

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
2118+51.00	2121+32.67	R.M.L. - RT.	250 LIN. FT.	1EA.	1EA.

REMOVAL AND DISPOSAL GUARDRAIL

STA.	STA.	SIDE	LIN. FT.
2118+51	2121+29	R.M.L. - RT.	278
2118+62	2121+31	R.M.L. - LT.	269

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
2119+93	2121+16	SPECIAL

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EXPOSE PORT SPIKE MOVE UP

EXPOSE PORT SPIKE MOVE UP

2105

2110

2115

2120

P.C. 2105+90.47

RMBO CHCPS PP

PNUOI PORT 101 RBR CAP

PNUOO PORT 100 RBR CAP

N 65°38'25" E

STA. 2110+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-3"
WITH 18" X 271' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2112+75 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2112+75 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-3"
WITH 18" X 271' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2115+50 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2115+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-1"
WITH 18" X 266' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2118+20 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2118+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-9"
WITH 24" X 265' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2120+80 RT.
TYPE ST DROP INLET = 4' X 4'

I-540

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

STA. 2110+00
TOP ELEV. = 1314.19
F.L. ELEV. = 1307.00

STA. 2112+75
TOP ELEV. = 1313.42
F.L. ELEV. = 1306.19

STA. 2115+50
TOP ELEV. = 1312.44
F.L. ELEV. = 1305.38

STA. 2118+20
TOP ELEV. = 1311.22
F.L. ELEV. = 1304.50

18" x 271' @ 0.30%
18" x 271' @ 0.30%
18" x 266' @ 0.33%
24" x 265' @ 0.50%

BM910: CPS IN POWER POLE
124.93' LT. OF STA. 2105+92.17
ELEVATION = 1312.53

1350 1340 1330 1320 1310 1300 1290 1280 1270 1260

2105+00 2106+00 2107+00 2108+00 2109+00 2110+00 2111+00 2112+00 2113+00 2114+00 2115+00 2116+00 2117+00 2118+00 2119+00 2120+00

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				JOB NO.		090331	53	218

(2) PLAN AND PROFILE SHEETS

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STA. 2120+89 - IN PLACE
TYPE R DROP INLET IN MEDIAN
RETAIN AND MODIFY

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
2120+20	2121+52	C.L.	14'-0"	205.33
2122+98	2124+00	C.L.	14'-0"	211.56

GUARDRAIL (TYPE A)

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
2123+19.57	2126+10.00	L.M.L. - LT.	250 LIN. FT.	1EA.	1EA.

REMOVAL AND DISPOSAL GUARDRAIL

STA.	STA.	SIDE	LIN. FT.
2123+21	2125+91	L.M.L. - LT.	270
2123+23	2126+10	L.M.L. - RT.	287

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
2123+35	2124+62	SPECIAL
2124+62	2133+66	C
2133+66	2133+91	SP-1
2133+91	2134+09	SP-2
2134+09	2134+34	SP-1
2134+34	2159+66	C

STA. 2121+64.75 BR. END
I-540 LML BRIDGE (S.B.)
151'-3⅜" CONT. COMPOSITE W-BEAM UNIT
(46'-57'-46')
56'-0" CLEAR ROADWAY
BR. NO. 5948A
STA. 2123+17.48 BR. END

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION

GOAD SPRINGS RD.
BURRELL PL.
100' CONC. BARRIER WALL TRANSITION
+92.91
+92.91
100' CONC. BARRIER WALL TRANSITION
+64.97
+64.97
REFER TO SPECIAL DETAILS
2120
2125
2130
2135

STA. 2120+89 - CONSTRUCT
DROP INLET 7'-8" RT. OF C.L. H = 7'-10"
WITH 24" X 7' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2120+89
TYPE ST DROP INLET = 4' X 4'

STA. 2121+35.44 BR. END
I-540 RML BRIDGE (N.B.)
151'-3⅜" CONT. COMPOSITE W-BEAM UNIT
(46'-57'-46')
56'-0" CLEAR ROADWAY
BR. NO. 5948B
STA. 2122+85.27 BR. END

STA. 2124+00 - CONSTRUCT
DROP INLET 5' RT. OF C.L. H = 6'-8"
WITH 18" X 216' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2126+20 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2126+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-6"
WITH 18" X 286' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2129+10 RT.
TYPE ST DROP INLET = 4' X 4'

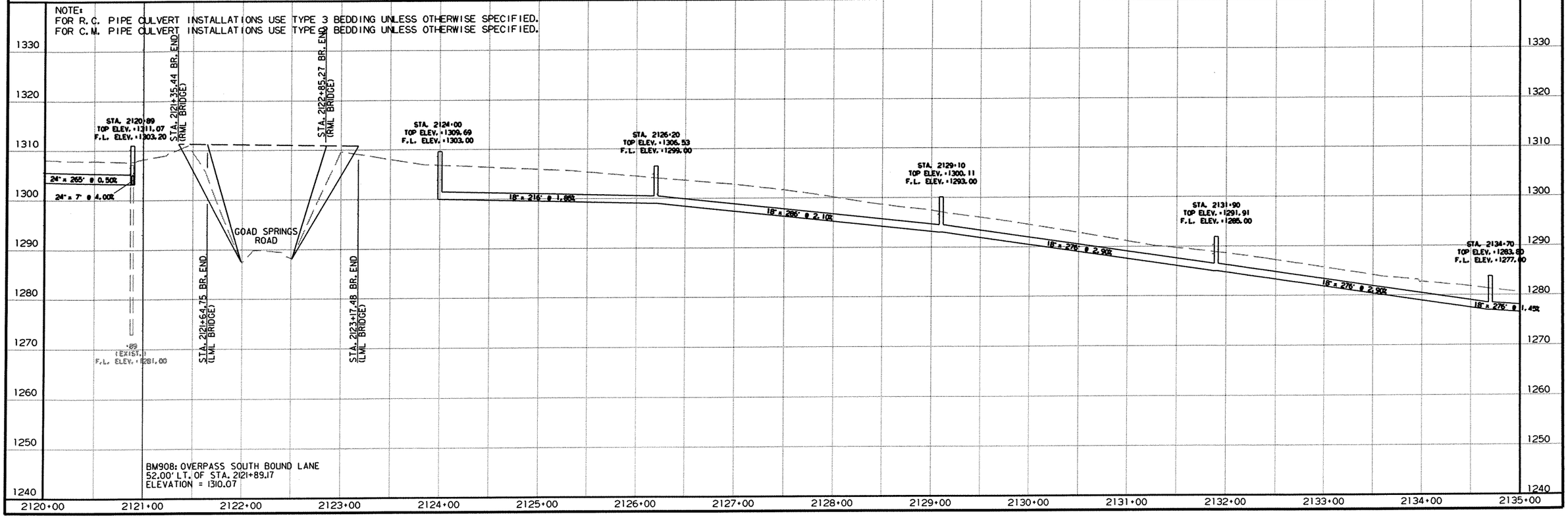
STA. 2129+10 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-1"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2131+90 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2131+90 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-11"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2134+70 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2134+70 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2137+50 RT.
TYPE ST DROP INLET = 4' X 4'

I-540

NOTE:
FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 6 BEDDING UNLESS OTHERWISE SPECIFIED.



BM908: OVERPASS SOUTH BOUND LANE
52.00' LT. OF STA. 2121+89.17
ELEVATION = 1310.07

9/20/2013
R090331.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.		090331	54	218

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION

STA. 2137+91 - IN PLACE
TYPE T DROP INLET IN MEDIAN
RETAIN AND MODIFY

STA. 2137+93 - IN PLACE
TRIPLE 8' x 7' x 291' R.C. BOX CULV'T.
(8°45' LT. FWD. SKEW) (SPAN = 27'-3")
RETAIN
Q50 = 1750 CFS; DA = 1137.1 AC.

FLOODPLAIN LIMITS

2135 2140 2145 2150

STA. 2137+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-5"
WITH 18" X 37' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2137+91
TYPE ST DROP INLET = 4' X 4'

STA. 2138+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-5"
WITH 18" X 55' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2137+91
TYPE ST DROP INLET = 4' X 4'

STA. 2139+35 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 18" X 81' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2138+50 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2142+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-0"
WITH 18" X 261' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2139+35 RT.
TYPE ST DROP INLET = 4' X 4'

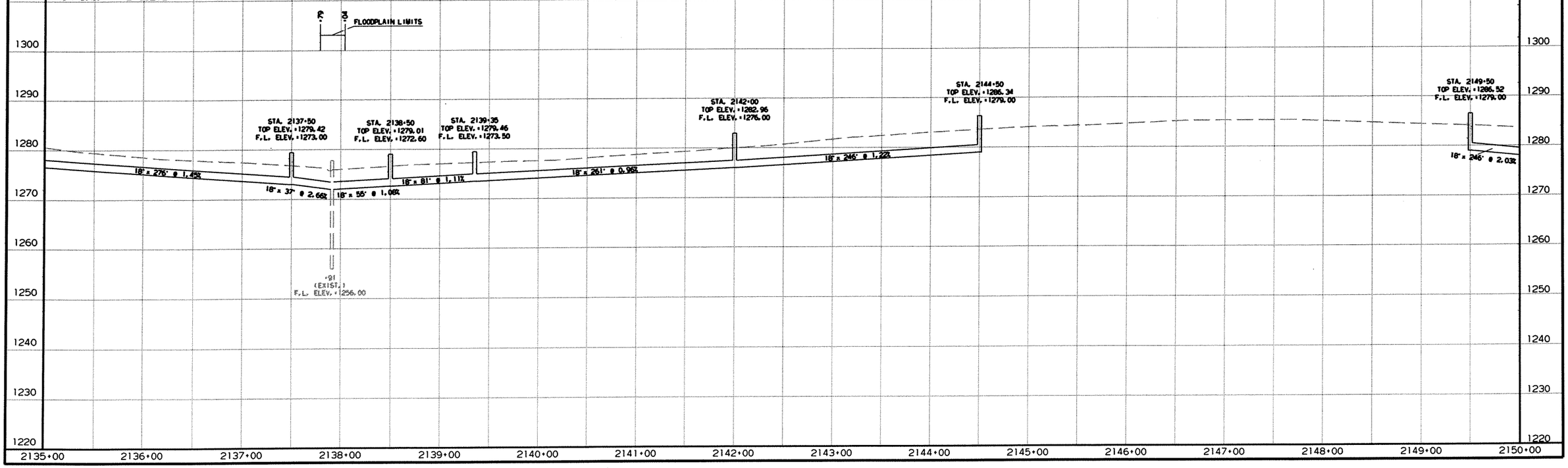
STA. 2144+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 246' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2142+00 RT.
TYPE ST DROP INLET = 4' X 4'

N 2°05'25" E

STA. 2149+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-6"
WITH 18" X 246' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2152+00 RT.
TYPE ST DROP INLET = 4' X 4'

I-540

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



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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.	090331		55	218

(2) PLAN AND PROFILE SHEETS

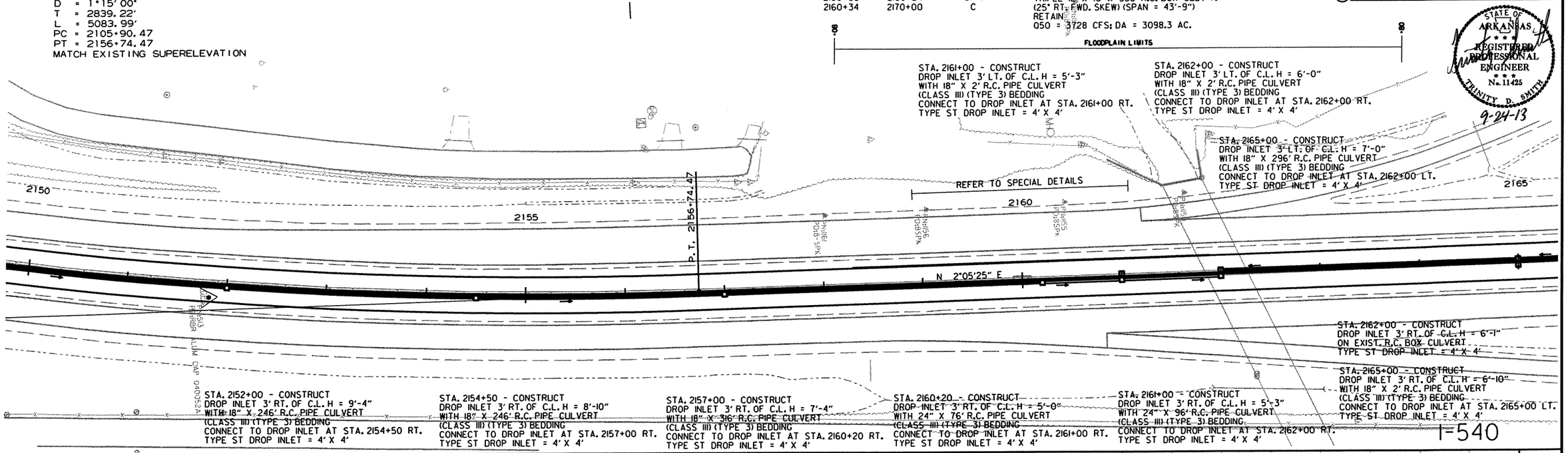
I-540
PI = 2134+29.69
Δ = 63°32'59" RT.
D = 1°15'00"
T = 2839.22'
L = 5083.99'
PC = 2105+90.47
PT = 2156+74.47
MATCH EXISTING SUPERELEVATION

CONCRETE BARRIER WALL

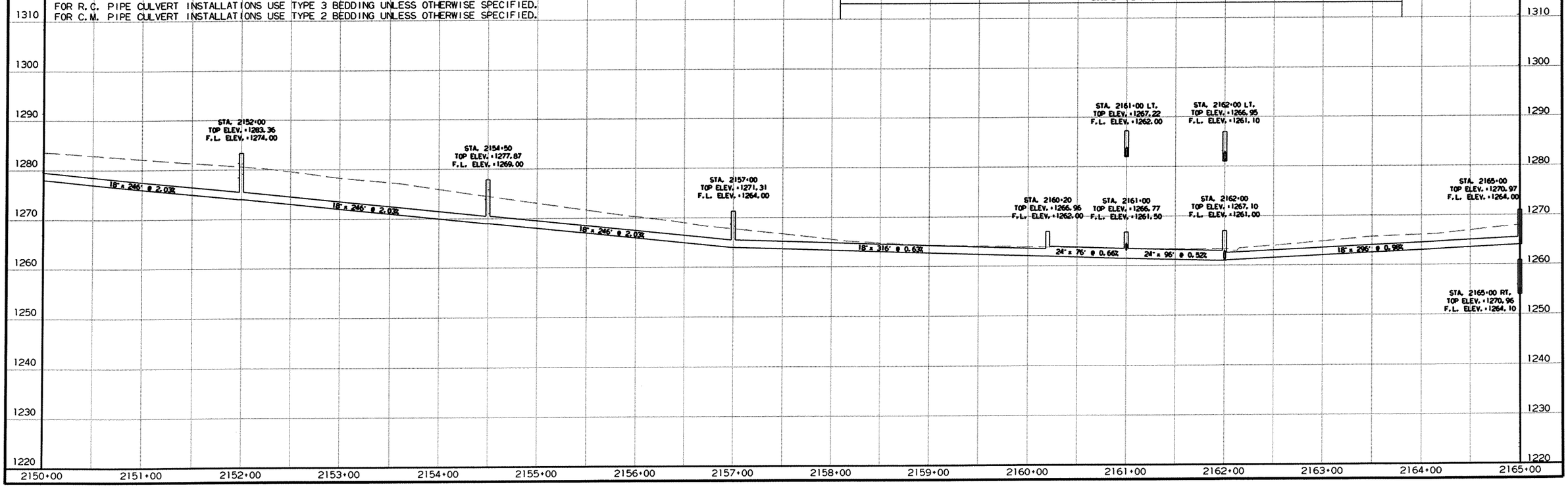
STA.	STA.	MEDIAN TYPE
2159+66	2159+91	SP-1
2159+91	2160+09	SP-2
2160+09	2160+34	SP-1
2160+34	2170+00	C

STA. 2162+06 - IN PLACE
TRIPLE 12' x 10' x 336' R.C. BOX CULV'T.
(25° RT. FWD. SKEW) (SPAN = 43'-9")
RETAIN 050 = 3728 CFS; DA = 3098.3 AC.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13



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



9/20/2013
R090331.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.		090331	56	218

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-24-13

STA. 2170+18 - CONSTRUCT
DROP INLET IN MEDIAN H = 4'-4"
WITH 18" X 214' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2168+00 LT.
TYPE RM DROP INLET = 4' X 3'

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)

STA. 2168+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2165+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2170+00 - INSTALL
CRASH CUSHION IN MEDIAN = 1 EACH

2165 2170 2175 2180

PK NAIL
PON7093
P.O.T. CAP RBR

N 2°05'25" E

PK NAIL
PON7176
P.O.T. SPK

STA. 2168+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2168+00 LT.
TYPE ST DROP INLET = 4' X 4'

PK NAIL
PON7172
P.O.T.R.R. ALUM CAP

HWY. 264

PK NAIL
PON7205
P.O.T. SPIKE & SPIKE

I-540

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

STA. 2170+00.00
END JOB 090331
(LOG MILE 77.86)

STA. 2165+00
TOP ELEV. = 1270.97
F.L. ELEV. = 1264.00

STA. 2168+00
TOP ELEV. = 1276.51
F.L. ELEV. = 1269.00

STA. 2170+18
TOP ELEV. = 1277.35
F.L. ELEV. = 1273.00

18" x 296' @ 1.69%

18" x 214' @ 1.87%

STA. 2165+00 RT.
TOP ELEV. = 1270.96
F.L. ELEV. = 1264.10

STA. 2168+00 RT.
TOP ELEV. = 1276.47
F.L. ELEV. = 1269.15

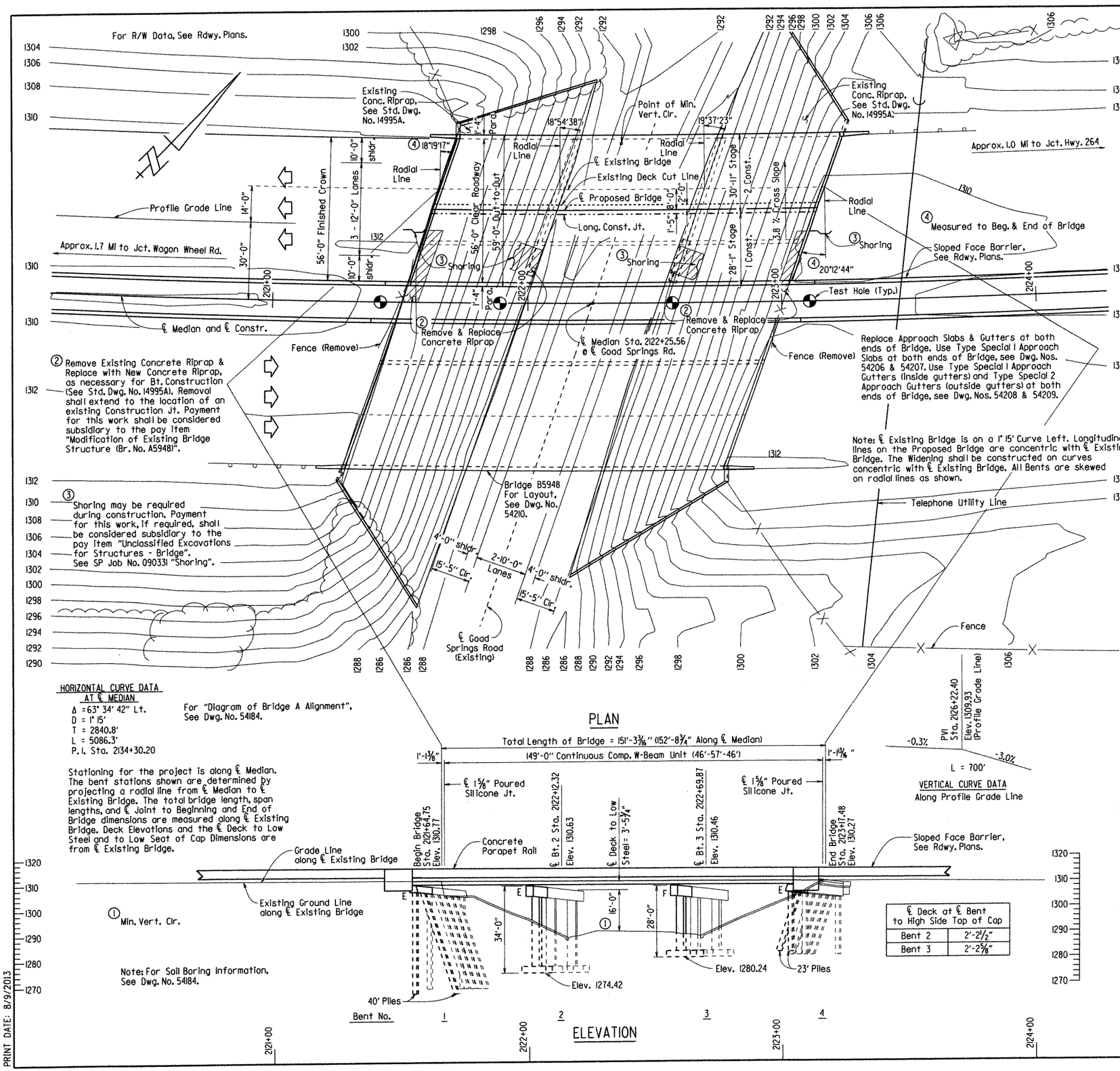
1320 1310 1300 1290 1280 1270 1260 1250 1240 1230

2165+00 2166+00 2167+00 2168+00 2169+00 2170+00 2171+00 2172+00 2173+00 2174+00 2175+00 2176+00 2177+00 2178+00 2179+00 2180+00

9/20/2013

R090331.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.		090331	57	218
				(1)	A5948 -	LAYOUT	- 54183	



GENERAL NOTES

BENCH MARK: 908, 52.0' Lt. of ℄ Median Sta. 2121+89.17, Elev. 1310.07.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Section and Subsection refer to the Standard Construction Specification unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (17th Edition, 2002) with Interim Specifications.

LIVE LOADING: HS20 DESIGN METHOD: LOAD FACTOR

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. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M270, Gr. 50)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division upon request.

STEEL PILING: Piling for Bents 1 & 4 shall be HP 12 x 53 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 deisignated as hard gray limestone on the boring legend. Lengths of piling shown are for estimating quantities and for use in determing payment for cut-off and build up in accordance with Standard Specifications. Piles to be driven after embankment at bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile Driving points.

FOOTINGS: Footings at Bents 2 & 3 shall have a minimum cover above top of footings of 2'-0" and shall be set a minimum of 1.5' into material designated as hard gray limestone on the boring legend. Foundations for footings shall be prepared in accordance with Section 801.04. Rock excavations shall be made to neat lines of the concrete footings. Blasting will not be allowed. Concrete in footings shall be poured directly against excavated surfaces of rock.

PAINT: All new Structural Steel execpt galvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection 807.75. The Existing Structural Steel shall be cleaned and painted in accordance with Special Provision Job No. 090331 "Cleaning and Painting Existing Structural Steel". The color of paint shall be Dark Brown and shall match Fed. Std. 595B, Color Chip No. 20108.

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

DETAIL DRAWINGS:	DRAWING NO.
End Bents	54188-54193
Int. Bents	54194-54196
Widening Details	54197-54204
Elastomeric Bearings	54205
Steel Piling	14995A
Type Special 1 Approach Slabs	54206-54207
Type Special 1 Approach Gutters	54208
Type Special 2 Approach Gutters	54209

EXISTING BRIDGE: The Existing Bridge No. A5948 is 42'-10" wide and 151'-3 3/16" long and consists of a 149'-0" Cont. Comp. W-Beam unit supported by two column concrete intermediate bents with spread footings and steel H-Pile trestle end bents. Plans of the existing structure may be obtained upon request to the Programs and Contracts Division.

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, modifying the existing bents, removing and replacing the concrete deck, replacing bearing devices which will require raising existing beams, cleaning and painting exsiting beams and diaphrams (see "Method of Work" Dwg. No. 54204 for additional details) and replacing the joint seals. For additional requirements in conducting the work, see Section 821.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to the proposed work. Information and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to the requirements for verification of the geometry of the existing bridge and its relationship to the proposed work described in subsection 821.02 and make necessary adjustments to fit the proposed work to the existing structure. Payement for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5948)".

REMOVAL AND SALVAGE: All material removed from the existing bridge under item 821 shall be disposed of according to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

SHEET 1 OF 2
LAYOUT OF BRIDGE OVER GOAD SPRINGS RD. (BRIDGE A) WAGON WHEEL RD. - HWY. 264 (WIDENING) (S) BENTON COUNTY

ROUTE 540 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS Carl J. Fuselier REGISTERED PROFESSIONAL ENGINEER No. 7510 8/9/13 CARL J. FUSELIER

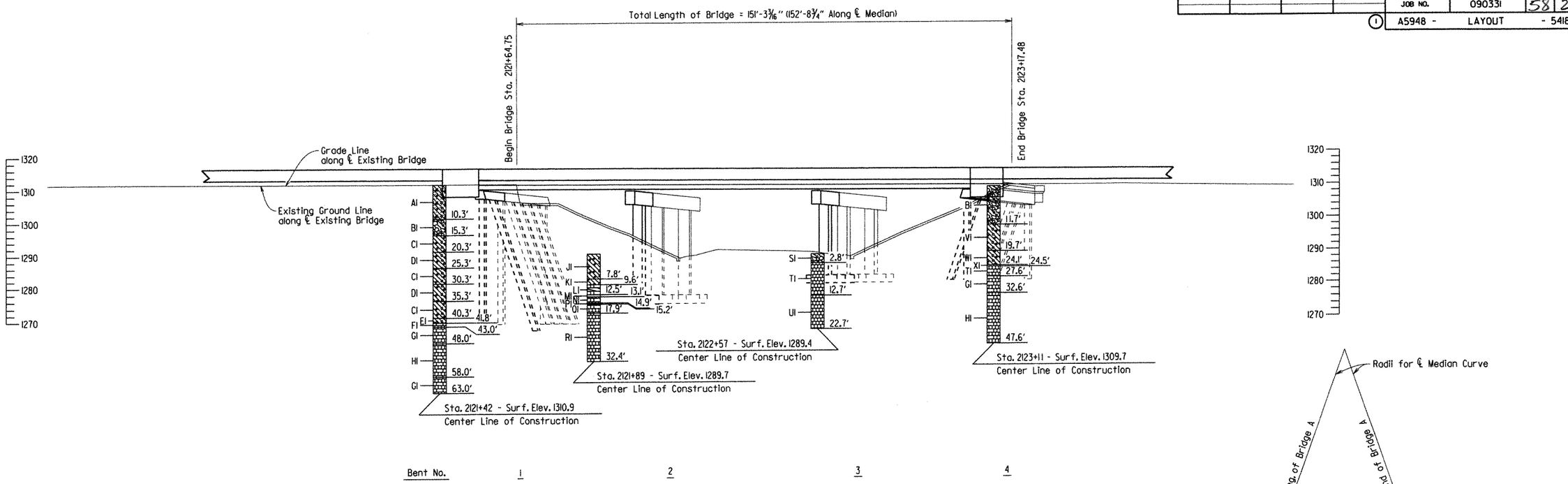
BRIDGE ENGINEER

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CHECKED BY: BEF DATE: 8/1/13 SCALE: 1" = 20'
DESIGNED BY: BEF DATE: 3/13

BRIDGE NO. A5948 DRAWING NO. 54183

PRINT DATE: 8/9/2013

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.		090331	58	218
				(1) A5948 -		LAYOUT		- 54184



ELEVATION

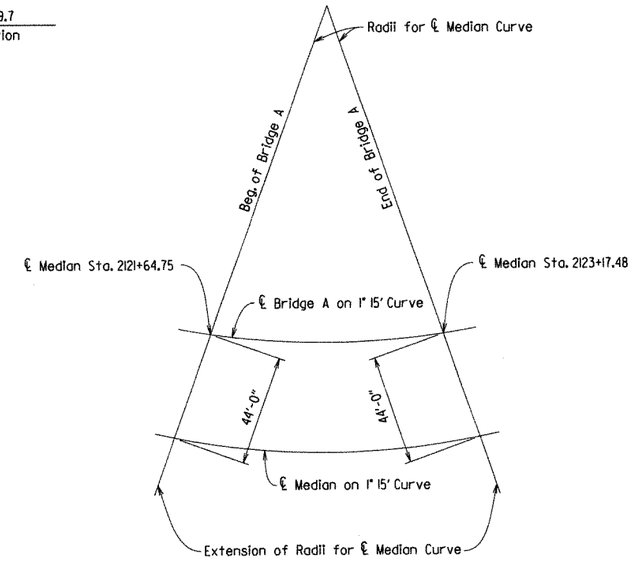


DIAGRAM OF BRIDGE A ALIGNMENT

BORING LEGEND

A1-Moist, Stiff, Reddish Brown Sandy Clay with White Gravel (Chert Fragments)
B1-Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments) and Cobbles
C1-Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
D1-Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
E1-Moist, Very Stiff to Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
F1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
G1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Hard, with Slight Dip
H1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Hard, with Slight Dip
J1-Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
K1-Moist, Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
L1-LIMESTONE WITH REDDISH BROWN CLAY SEAMS - Light Gray, Moderately Hard
M1-Cavity (12.5' to 13.1')
N1-LIMESTONE WITH OCCASIONAL CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
P1-Cavity (14.9' to 15.2')
O1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Hard, with Slight Dip
R1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Hard, with Slight Dip
S1-Moist, Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments) and Cobbles
T1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
U1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
V1-Moist, Hard, Reddish Brown Clay with White Gravel (Chert Fragments)
W1-Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
X1-LIMESTONE - Light Gray, Moderately Hard

"N" VALUES

Sta. 2121+42 - Center Line of Construction
5.8- 6.8, N=11
10.8- 11.8, N=10
15.8- 16.8, N=18
20.8- 21.8, N=11
25.8- 26.8, N=17
30.8- 31.8, N=10
35.8- 36.8, N=23
40.8- 41.2, N=29(11")
41.8- 41.8, N=60(.01")

Sta. 2121+89 - Center Line of Construction
5.3- 6.3, N=8
8.3- 9.3, N=48
9.8- 10.0, N=60(2")

Sta. 2122+57 - Center Line of Construction
2.8- 2.9, N=60(1")

Sta. 2123+11 - Center Line of Construction
15.2- 16.2, N=39
20.2- 21.2, N=6
24.5- 24.5, N=60(.01")

STATE OF ARKANSAS
Carl J. Puseliер
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. PUSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE OVER
GOAD SPRINGS RD. (BRIDGE A)
WAGON WHEEL RD. - HWY. 264
(WIDENING) (S)
BENTON COUNTY

ROUTE 540 SEC. 5

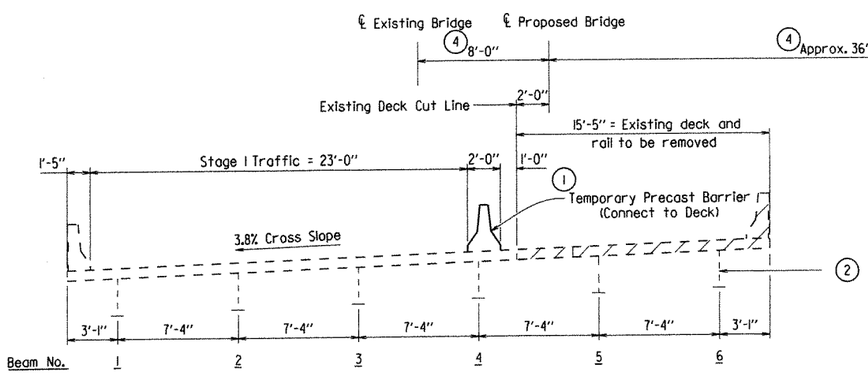
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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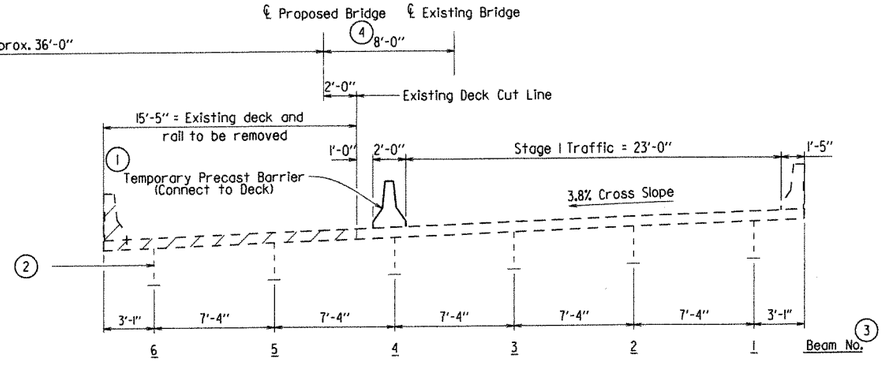
BRIDGE NO. A5948 DRAWING NO. 54184

PRINT DATE: 8/9/2013

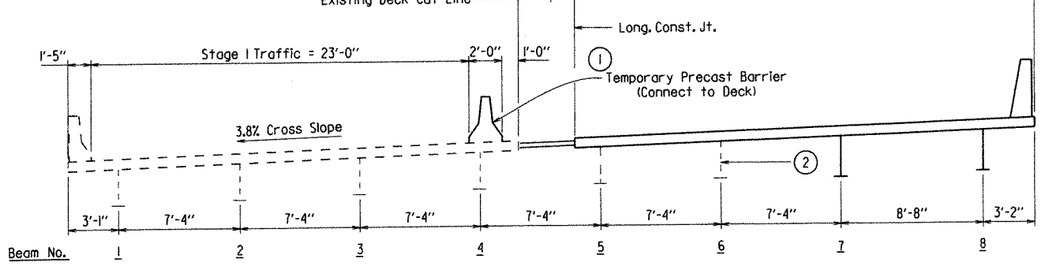
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				6	ARK.			
				JOB NO.		090331	59	2/8
				(1)	A&B5948 - STAGE CONST. - 54185			



STAGE I
Looking Ahead

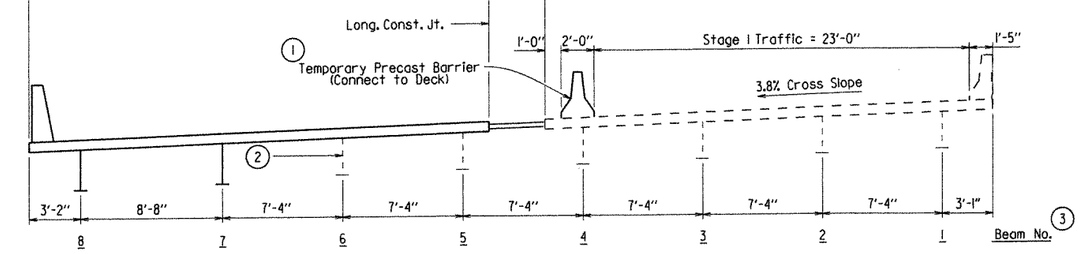


STAGE I
Looking Ahead



STAGE I
Looking Ahead

SOUTHBOUND BRIDGE A5948



STAGE I
Looking Ahead

NORTHBOUND BRIDGE B5948

Details which relate to maintenance of traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

The ℄ Existing Bridges are on 1° 15' curves. Longitudinal lines on the Proposed Bridges are concentric with the respective ℄ Existing Bridge. The Widening shall be constructed on curves concentric with the respective ℄ Existing Bridge.

(1) For Details of Temporary Precast Barrier, See Std. Dwg. No. TC-4.

(2) These beams shall be temporarily removed for Stage I Const. of Intermediate and End Bents, see Intermediate and End Bent details. After Stage I Const. of the Intermediate and End Bents is complete and prior to Stage I Const. of the Superstructure these beams shall be re-erected.

(3) Beam numbers for Northbound Bridge No. B5948, have been reversed from the original plans to provide consistency to the plan details.

(4) Dimensions are measured along a radial line projected from ℄ Median to ℄ Existing Bridge.

STATE OF ARKANSAS
Carl J. Puseliер
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. PUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF STAGE CONSTRUCTION
BRIDGES OVER GOAD SPRINGS RD.
WAGON WHEEL RD. - HWY. 264
(WIDENING) (S)
BENTON COUNTY

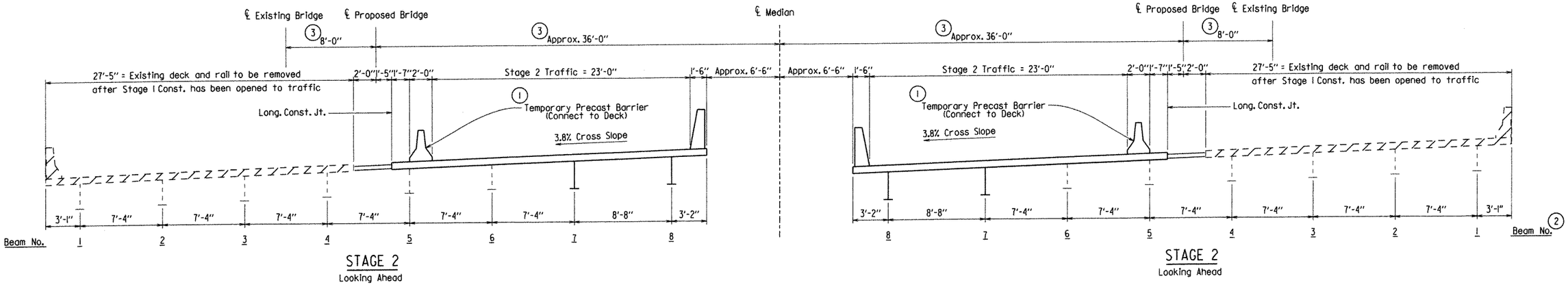
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

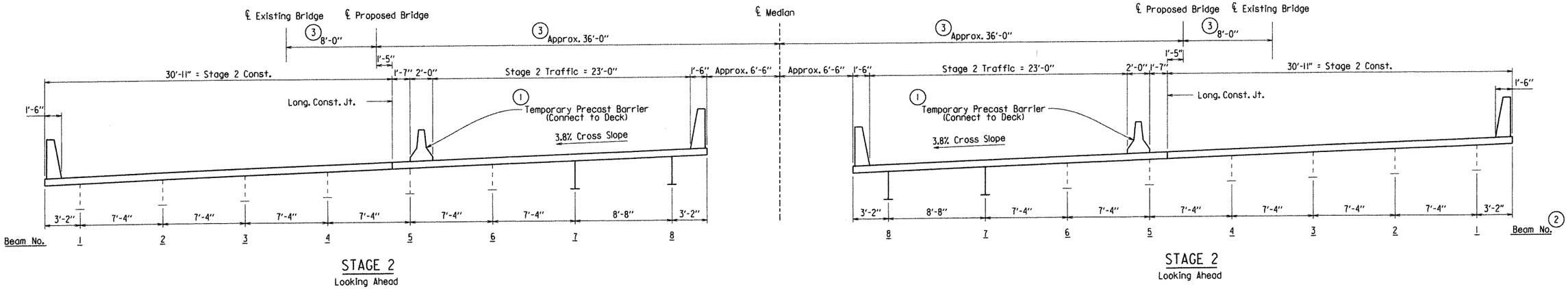
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DESIGNED BY: BEF DATE: 3/13

BRIDGE NO. A&B5948 DRAWING NO. 54185

PRINT DATE: 8/9/2013

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.		090331	60	218
				(1)		A&B5948 - STAGE CONST. - 54186		





SOUTHBOUND BRIDGE A5948

NORTHBOUND BRIDGE B5948

Details which relate to maintenance of traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

The ℄ Existing Bridges are on 1° 15' curves. Longitudinal lines on the Proposed Bridges are concentric with the respective ℄ Existing Bridge. The Widening shall be constructed on curves concentric with the respective ℄ Existing Bridge.

(1) For Details of Temporary Precast Barrier, See Std. Dwg. No. TC-4.

(2) Beam numbers for Northbound Bridge No. B5948, have been reversed from the original plans to provide consistency to the plan details.

(3) Dimensions are measured along a radial line projected from ℄ Median to ℄ Existing Bridge.

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SHEET 2 OF 3
DETAILS OF STAGE CONSTRUCTION
BRIDGES OVER GOAD SPRINGS RD.
WAGON WHEEL RD. - HWY. 264
(WIDENING) (S)
BENTON COUNTY

ROUTE 540 SEC. 5

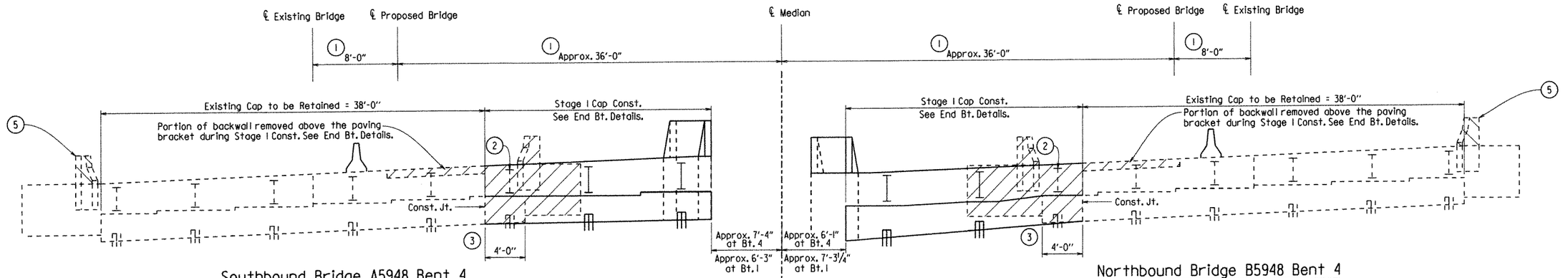
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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BRIDGE NO. A&B5948 DRAWING NO. 54186

PRINT DATE: 8/9/2013

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.		090331	61	218
				(1)	A&B5948 - STAGE CONST. - 54187			

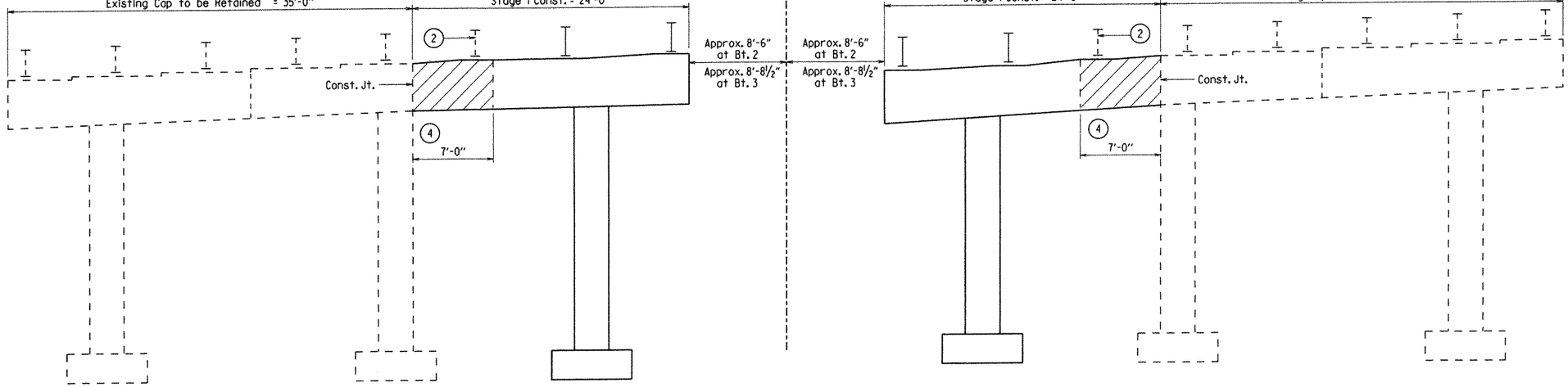


Southbound Bridge A5948 Bent 4

Looking Ahead Along ℄ Bt.
Bent 1 Similar

Northbound Bridge B5948 Bent 4

Looking Ahead Along ℄ Bt.
Bent 1 Similar



Southbound Bridge A5948 Int. Bts. (Typical)

Looking Ahead Along ℄ Bt.

Northbound Bridge B5948 Int. Bts. (Typical)

Looking Ahead Along ℄ Bt.

Unless otherwise noted all dimensions shown are along ℄ Bent.

(1) Dimensions are measured along a radial line projected from ℄ Median to ℄ Existing Bridge.

(2) These beams shall be temporarily removed for Stage 1 Const. of Intermediate and End Bents, see Intermediate and End Bent details. After Stage 1 Const. of the Intermediate and End Bents is complete and prior to Stage 1 Const. of the Superstructure these beams shall be re-erected.

(3) The concrete should be removed from the existing cap as shown. The existing reinforcing steel shall be retained to be lapped to the new reinforcing steel. See End Bent Details.

(4) The concrete of the median side cantilever of the existing Int. Bts. is to be removed to the face of column as shown. The existing reinforcing steel shall be retained to be lapped to the new reinforcing steel. See Intermediate Bent Details.

(5) The concrete of the existing posts shall be removed and the reinforcing steel shall be modified as shown in the plans. New posts to be constructed during Stage 2 Const., see End Bent Details.

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SHEET 3 OF 3
DETAILS OF STAGE CONSTRUCTION
BRIDGES OVER GOAD SPRINGS RD.
WAGON WHEEL RD. - HWY. 264
(WIDENING) (S)
BENTON COUNTY

ROUTE 540 SEC. 5

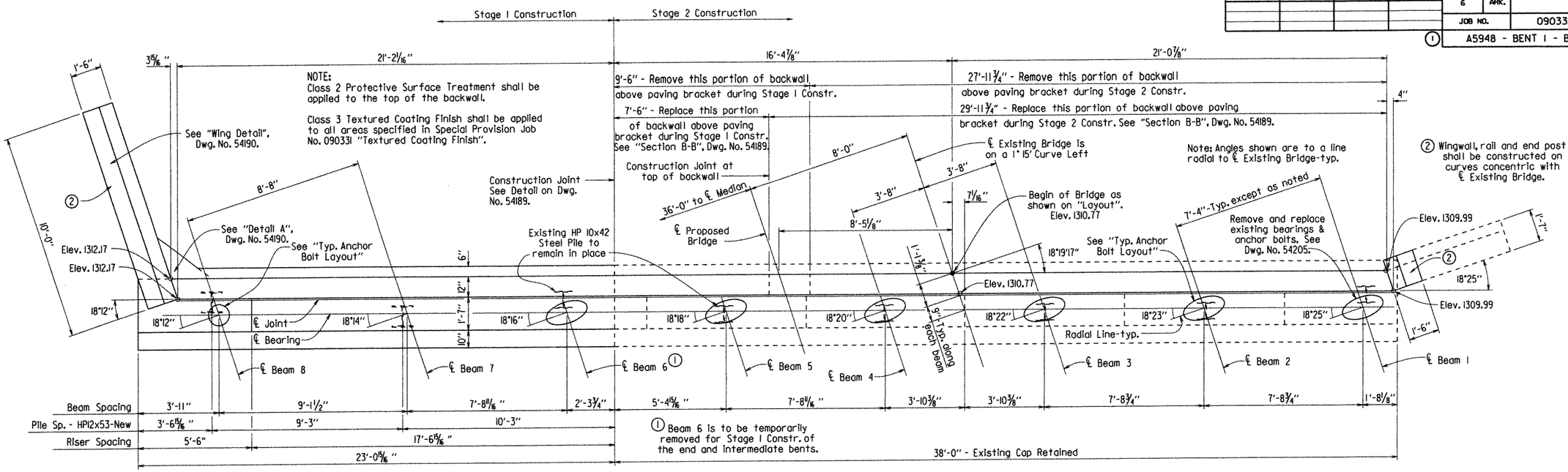
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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BRIDGE NO. A&B5948 DRAWING NO. 54187

PRINT DATE: 8/9/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	62	218
				(1)	A5948 - BENT 1 - BR. A - 54188			

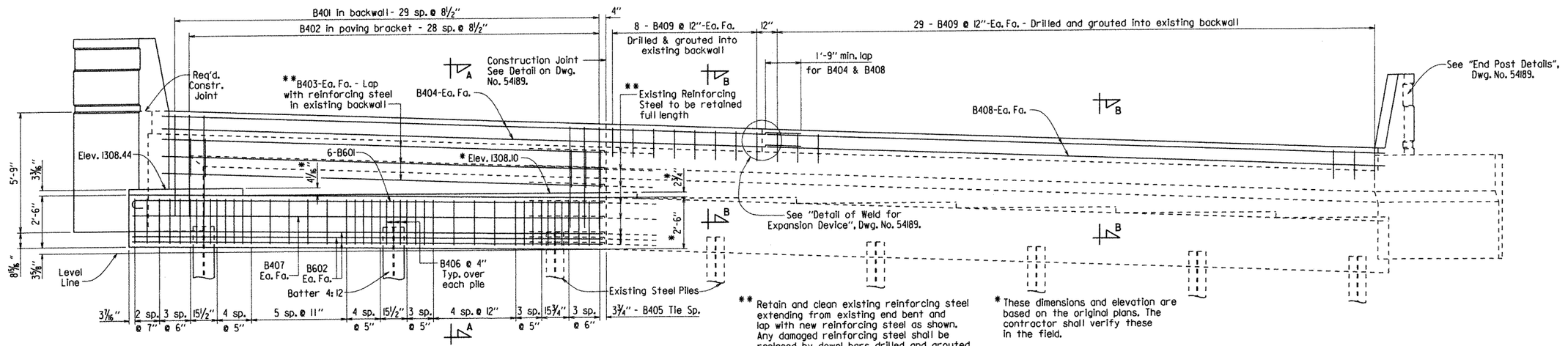


Note: For additional details of stage construction, see Dwg. No. 54187.

PLAN

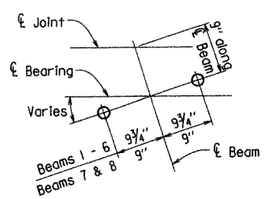
Scale: 3/8" = 1'-0"

(2) Wingwall, rail and end post shall be constructed on curves concentric with ℄ Existing Bridge.



ELEVATION

Looking Back
Scale: 3/8" = 1'-0"



TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, see Dwg. No. 54205.

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SHEET 1 OF 3
DETAILS OF BENT 1 - BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

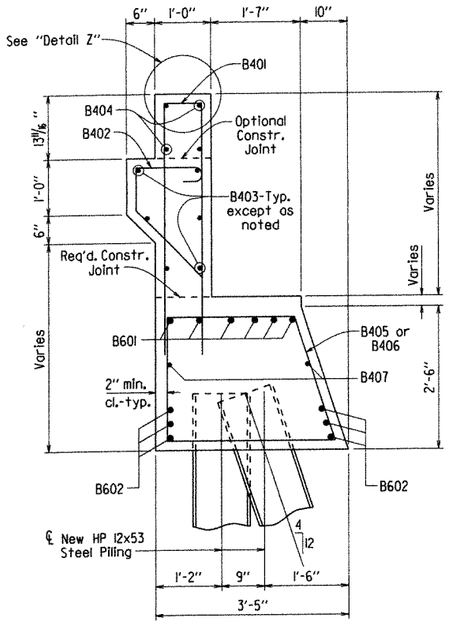
LITTLE ROCK, ARK.

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CHECKED BY: BEF DATE: 8/1/13 SCALE:
DESIGNED BY: ADN DATE: 6/13

BRIDGE NO. A5948 DRAWING NO. 54188

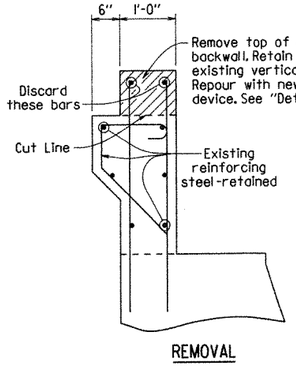
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD	STATE	FED. AID PROJ. NO.	SHEET NO.	SHEETS
					ARK.			
				JOB NO.		090331	63	218
				①		A5948 - BENT 1 - BR. A - 54189		

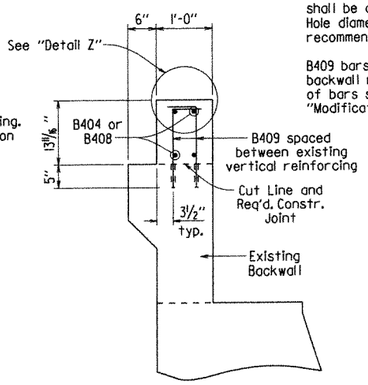


SECTION A-A

Scale: ¾" = 1'-0"



REMOVAL



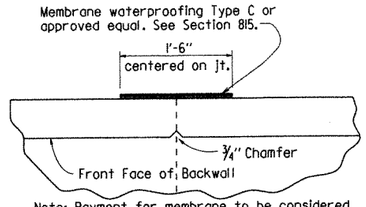
CONSTRUCTION

SECTION B-B

Scale: ¾" = 1'-0"

Grout B409 bars into 5" min. 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.

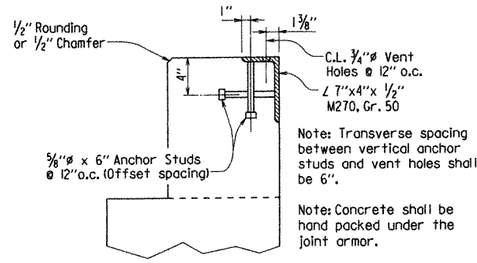
B409 bars shall be located to avoid damaging the existing backwall reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5948)".



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

CONSTRUCTION JOINT DETAIL

No Scale



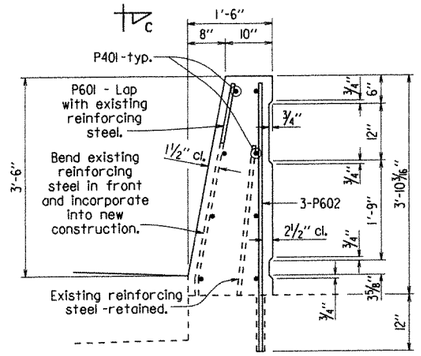
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54203.

DETAIL Z

No Scale

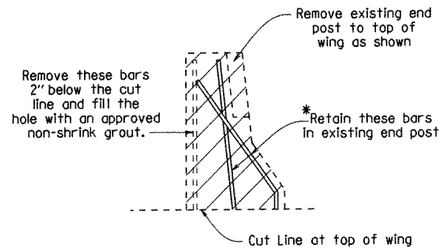


Grout P602 bars into 12" min. deep drilled holes. Grout used shall be an approved non-shrink or epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer.

P602 bars shall be located to avoid damaging the existing wing reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

END POST DETAILS

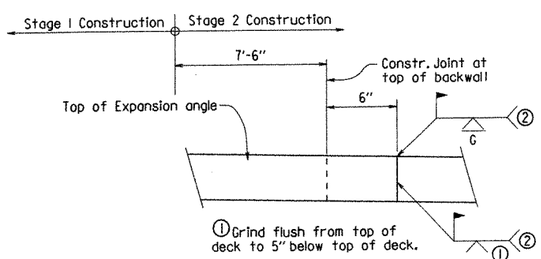
Scale: ¾" = 1'-0"



END POST REMOVAL DETAILS

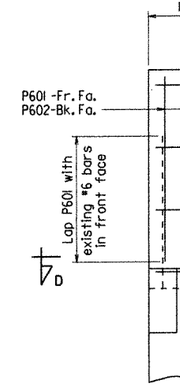
Scale: ¾" = 1'-0"

*Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.



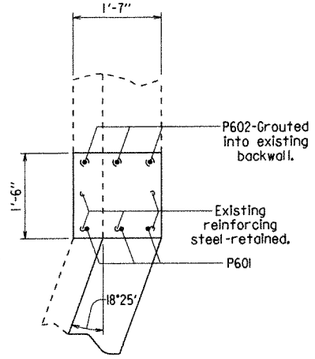
DETAIL OF WELD FOR EXPANSION DEVICE

Looking Back - Bent 1
No Scale



VIEW C-C

Scale: ¾" = 1'-0"



SECTION D-D

Scale: ¾" = 1'-0"

PRINT DATE: 8/9/2013

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SHEET 2 OF 3
DETAILS OF BENT 1 - BRIDGE A

ROUTE SEC.

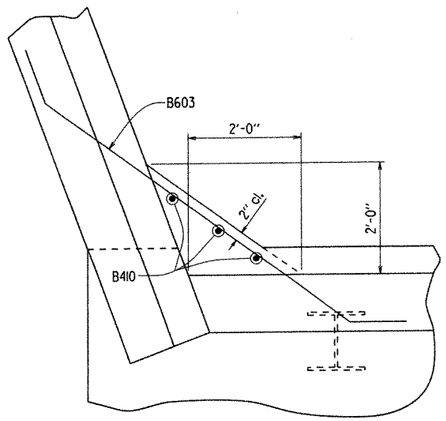
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 6-18-13
CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADV DATE: 6/13

FILENAME: b090331al_bl.dgn
AS NOTED

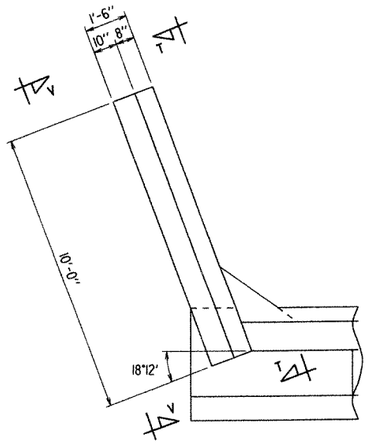
BRIDGE NO. A5948 DRAWING NO. 54189

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.		090331	64	218
				(1)		A5948 - BENT 1 - BR. A - 54190		



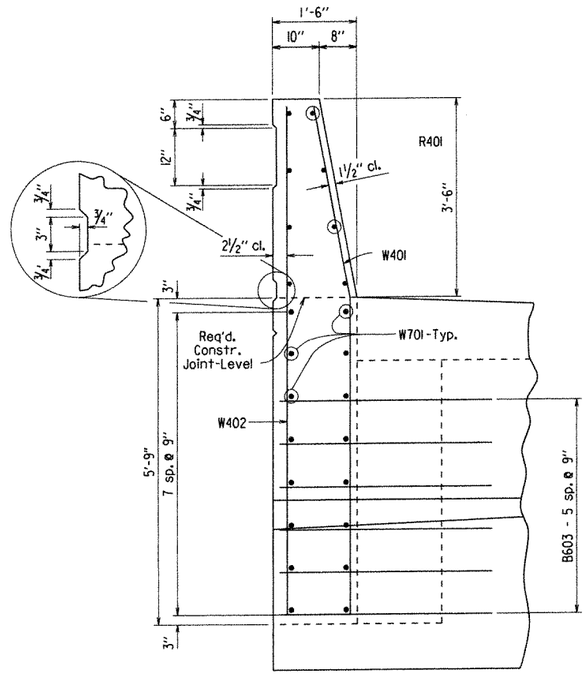
DETAIL A

Scale: 3/4" = 1'-0"



WING DETAIL

Scale: 3/8" = 1'-0"

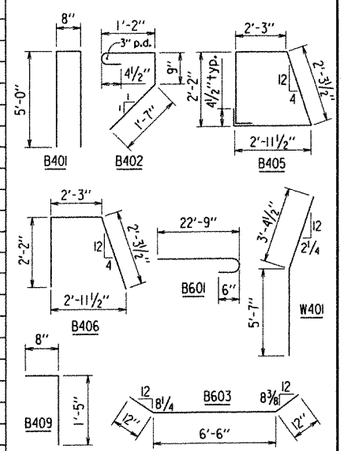


VIEW W-W

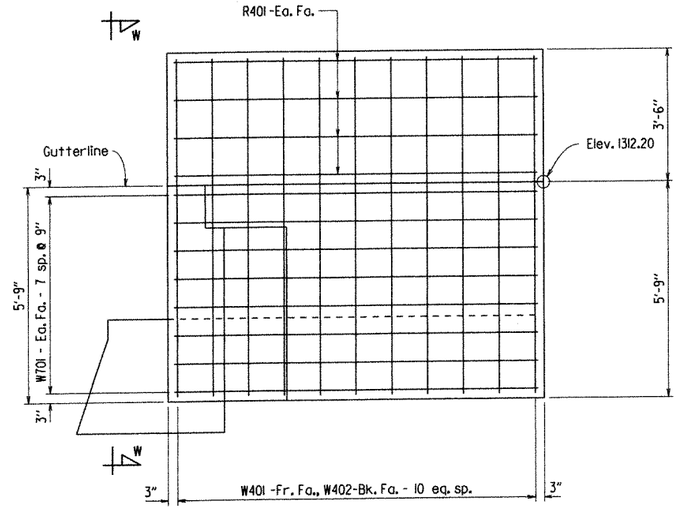
Scale: 3/4" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.	BENDING DIAGRAMS
B401	30	10'-6"	2"	
B402	29	3'-11"	2"	
B403	6	21'-4"	Str.	
B404	4	31'-1"	Str.	
B405	35	10'-0"	2"	
B406	9	6'-6"	2"	
B407	2	22'-9"	Str.	
B408	4	30'-1"	Str.	
B409	74	2'-0"	2"	
B410	3	4'-3"	Str.	
R401	8	9'-8"	Str.	
W401	11	9'-0"	2"	
W402	11	9'-0"	Str.	
P401	8	1'-3"	Str.	
B601	6	23'-5"	4 1/2"	
B602	6	22'-9"	Str.	
B603	6	8'-4"	4 1/2"	
P601	3	3'-6"	Str.	
P602	3	4'-8"	Str.	
W701	16	9'-8"	Str.	

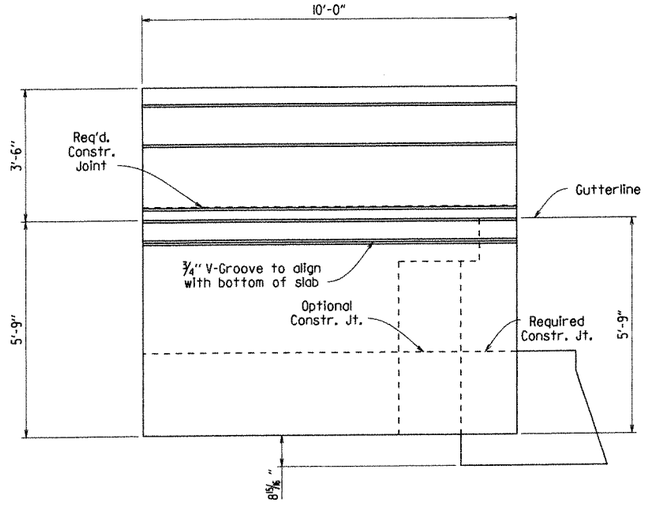


Dimensions are out to out of bars.



VIEW T-T

Scale: 1/2"= 1'-0"



VIEW V-V

Scale: 1/2"= 1'-0"

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

Remove existing anchor bolts 1 1/2" below the top of cap and fill the holes with an approved non-shrink grout.

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

All reinforcing steel shall conform to Grade 60, AASHTO M31 or M322, Type A.

No portion of the backwall for Stage I Construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving bracket shall not be placed until the adjacent deck pour has been made.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50)".

All new structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 20108, Dark Brown.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid damage. The existing reinforcing steel in top of cap may be drilled during placement of anchor bolts for Stage 2 Construction.

For additional information, See Layout.

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SHEET 3 OF 3
DETAILS OF BENT 1 - BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 6-20-13 FILENAME: b090331al_bl.dgn

CHECKED BY: BEF DATE: 8/4/13 SCALE: AS NOTED

DESIGNED BY: ADV DATE: 6/13

BRIDGE NO. A5948 DRAWING NO. 54190

PRINT DATE: 8/9/2013

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.		090331	65	218

① A5948 - BENT 4 - BR. A - 54191

Stage 2 Construction | Stage 1 Construction

Note: Angles shown are to a line radial to ℄ Existing Bridge-typ.

4 7/16" | 20'-11 3/8" | 17'-7 7/8" | 20'-8 1/4"

29'-5 11/16" - Remove this portion of backwall above paving bracket during Stage 2 Constr.

9'-6" - Remove this portion of backwall above paving bracket line during Stage 1 Constr.

31'-5 5/16" - Replace this portion of backwall above paving bracket during Stage 2 Constr. See "Section B-B", Dwg. No. 54192.

7'-6" - Replace this portion of backwall above paving bracket during Stage 1 Constr. See "Section B-B", Dwg. No. 54192.

NOTE:
Class 2 Protective Surface Treatment shall be applied to the top of the backwall.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".

℄ Existing Bridge is on a 1° 15' Curve Left

8'-0" | 8'-6 5/16" | 36'-0" to ℄ Median

End of Bridge as shown on "Layout". Elev. 1310.27

3'-8" | 3'-8" | 1'-11 5/16" | 20°12'44"

℄ Proposed Bridge

Construction Joint at top of backwall

Construction Joint See Detail on Dwg. No. 54192.

Existing HP 10x42 Steel Pile to remain in place

See "Wing Detail", Dwg. No. 54193.

4 3/16" | 10'-0"

② Wingwall, rail and end post shall be constructed on curves concentric with ℄ Existing Bridge.

8'-8" | See "Detail A", Dwg. No. 54193

1'-6" | ② | 7'-4"-Typ. except as noted | Remove and replace existing bearings & anchor bolts. See Dwg. No. 54205. | Elev. 1309.48

See "Typ. Anchor Bolt Layout" | Elev. 1310.28 | 9"-Typ. along ℄ beam | See "Typ. Anchor Bolt Layout" | Elev. 1311.70 | 20'02"

6" | 1'-7" | 10"

20°17" | 20°16" | 20°14" | 20°12" | 20°10" | 20°08" | 20°06" | 20°04" | 20°02"

1'-7 7/16" | Radial Line-typ.

℄ Joint | ℄ Bearing

℄ Beam 1 | ℄ Beam 2 | ℄ Beam 3 | 7 7/8" | ℄ Beam 4 | ℄ Beam 5 | ℄ Beam 6 ① | ℄ Beam 7 | ℄ Beam 8

1'-5 1/2"	7'-9 15/16"	7'-9 13/16"	3'-10 7/8"	3'-10 7/8"	7'-9 3/4"	5'-3 3/8"	2'-6 3/8"	7'-9 11/16"	9'-2 11/16"	2'-10 3/4"	Beam Spacing
							10'-3"		9'-3"	2'-11 1/2"	Pile Sp. - HP12x53-New
							17'-8 1/2"			4'-9"	Riser Spacing
38'-0" - Existing Cap Retained							22'-5 1/2"				

① Beam 6 is to be temporarily removed for Stage 1 Constr. of the end and intermediate bents.

Note: For additional details of stage construction, see Dwg. No. 54187.

PLAN

Scale: 3/8" = 1'-0"

4 1/2" | B401 in backwall - 27 sp. @ 9" | B402 in paving bracket - 24 sp. @ 9"

30 - B409 @ 12"-Ea. Fa. - Drilled and grouted into existing backwall | 12" | 8 - B409 @ 12"-Ea. Fa. Drilled & grouted into existing backwall

1'-9" min. lap for B404 & B408

Construction Joint See Detail on Dwg. No. 54192.

See "End Post Details", Dwg. No. 54192

B408-Ea. Fa.

** Existing Reinforcing Steel to be retained full length

** B403-Ea. Fa. - Lap with reinforcing steel in existing backwall

B404-Ea. Fa.

Req'd. Constr. Joint

*Elev. 1307.63 | 6-B601 | Elev. 1307.97

3 3/8" | 5'-9" | 4 1/16" | 2'-6" | 9 1/8"

* 2 1/16" | * 2'-6" | * 3 1/2"

See "Detail of Weld for Expansion Device", Dwg. No. 54192.

B406 @ 4" Typ. over each pile | B602 Ea. Fa. | B407 Ea. Fa.

Existing Steel Piles | Batter 4:12 | Level Line

B405 Tie Sp. - 3 3/4" | 3 sp. @ 6" | 15 3/4" | 3 sp. @ 5" | 4 sp. @ 12" | 3 sp. @ 5" | 15 1/2" | 4 sp. @ 5" | 5 sp. @ 11" | 4 sp. @ 5" | 15 3/4" | 4 sp. @ 6" | 3 3/4"

** Retain and clean existing reinforcing steel extending from existing end bent and lap with new reinforcing steel as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

* These dimensions and elevation are based on the original plans. The contractor shall verify these in the field.

ELEVATION

Looking Ahead
Scale: 3/8" = 1'-0"

℄ Joint | ℄ Bearing | Varies | 9" along ℄ Beam | Beams 1 - 6 | Beams 7 & 8 | 9 3/4" | 9" | ℄ Beam

TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, see Dwg. No. 54205.

STATE OF ARKANSAS
Carl E. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/19/13
CARL E. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 4 - BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

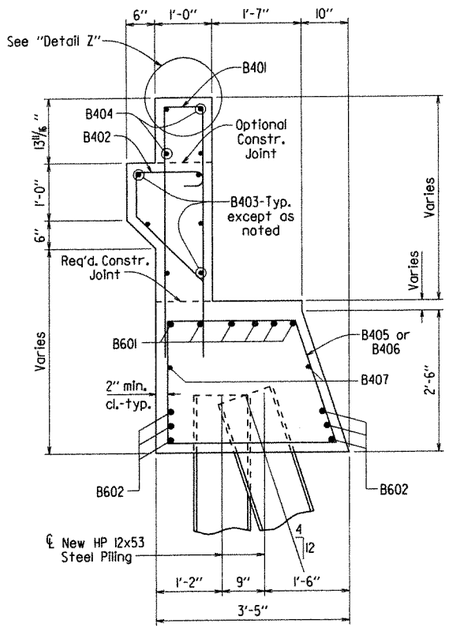
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CHECKED BY: BEF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: RDA DATE: 8/1/13

BRIDGE NO. A5948 DRAWING NO. 54191

PRINT DATE: 8/9/2013

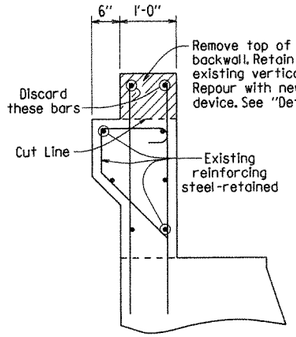
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
				JOB NO.		090331	66	218

(1) A5948 - BENT 4 - BR. A - 54192

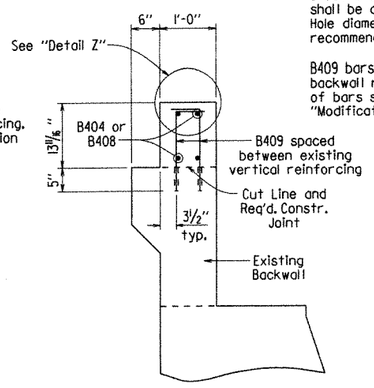


SECTION A-A

Scale: 3/4" = 1'-0"



REMOVAL



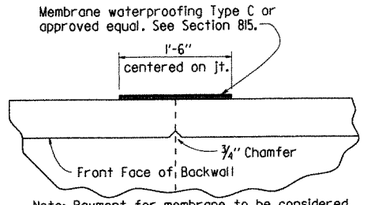
CONSTRUCTION

SECTION B-B

Scale: 3/4" = 1'-0"

Grout B409 bars into 5" min. 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.

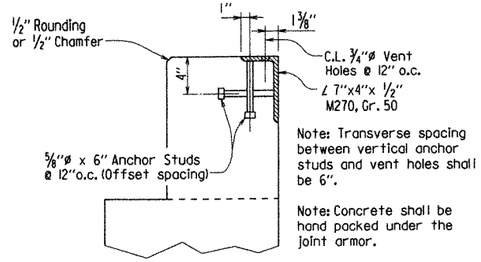
B409 bars shall be located to avoid damaging the existing backwall reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5948)".



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

CONSTRUCTION JOINT DETAIL

No Scale



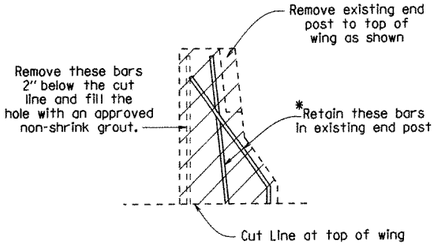
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54203.

DETAIL Z

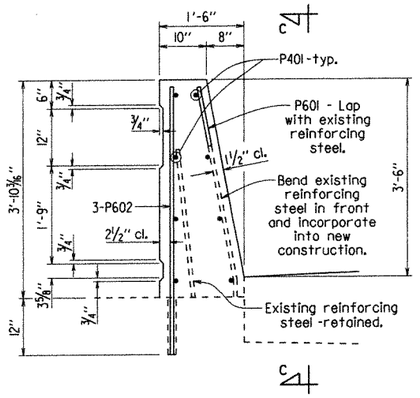
No Scale



END POST REMOVAL DETAILS

Scale: 3/4" = 1'-0"

*Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

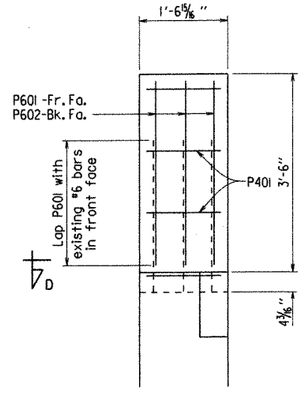


Grout P602 bars into 12" min. deep drilled holes. Grout used shall be an approved non-shrink or epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer.

P602 bars shall be located to avoid damaging the existing wing reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

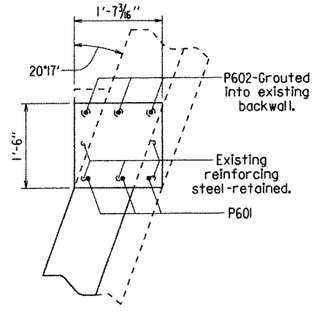
END POST DETAILS

Scale: 3/4" = 1'-0"



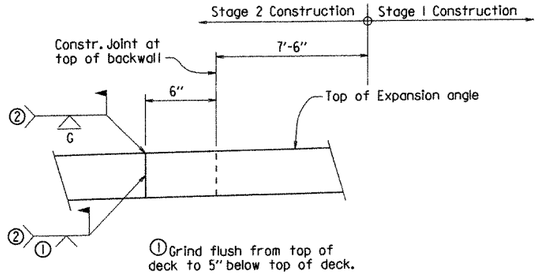
VIEW C-C

Scale: 3/4" = 1'-0"



SECTION D-D

Scale: 3/4" = 1'-0"



① Grind flush from top of deck to 5" below top of deck.

② Weld after Stage 2 Const.

DETAIL OF WELD FOR EXPANSION DEVICE

Looking Back - Bent 1
No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 4 - BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

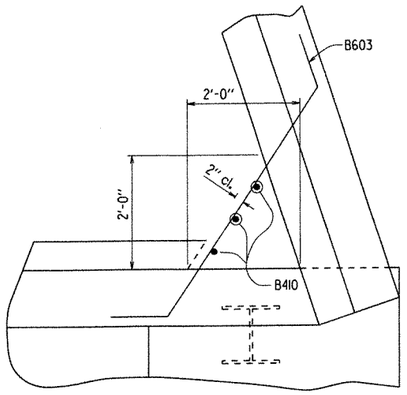
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: AOW DATE: 6/13

FILENAME: b090331al_b4.dgn
AS NOTED

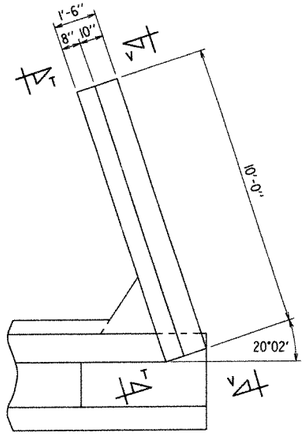
BRIDGE NO. A5948 DRAWING NO. 54192

PRINT DATE: 8/9/2013

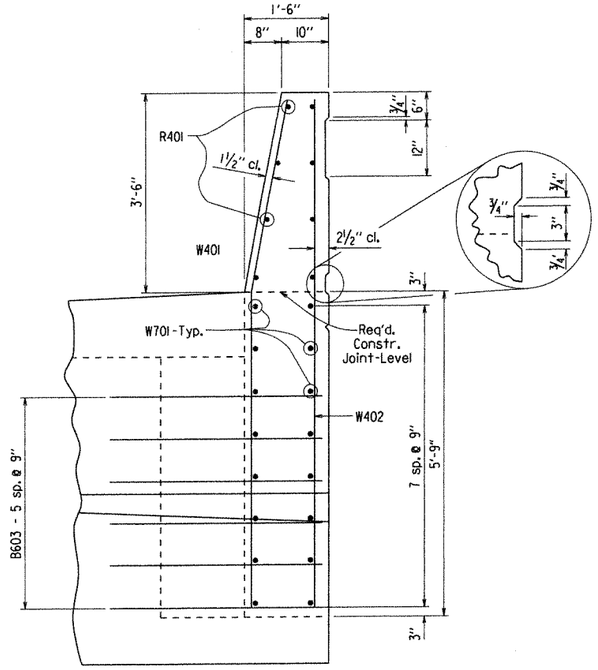
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	67	218
				(1)	A5948 - BENT 4 - BR. A - 54193			



DETAIL A
Scale: 3/4" = 1'-0"



WING DETAIL
Scale: 3/8" = 1'-0"

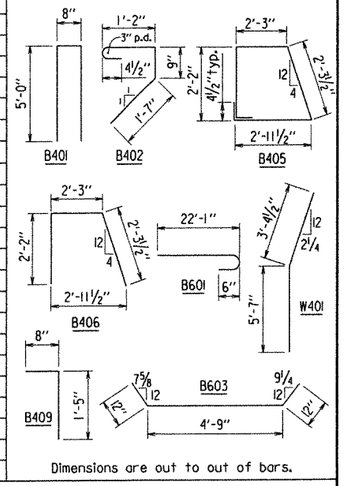


VIEW W-W
Scale: 3/4" = 1'-0"

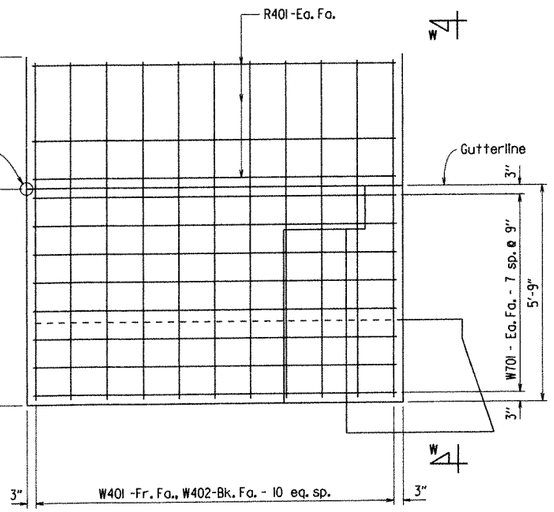
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	28	10'-6"	2"
B402		3'-11"	2"
B403	6	20'-10"	Str.
B404	4	30'-6"	Str.
B405	34	10'-0"	2"
	9	6'-6"	2"
B407	2	22'-1"	Str.
B408	4	31'-3"	Str.
B409	76	2'-0"	2"
B410	3	4'-3"	Str.
R401	8	9'-8"	Str.
	11	9'-0"	2"
W402	11	9'-0"	Str.
P401	8	1'-3"	Str.
B601	6	22'-9"	4½"
B602	6	22'-1"	Str.
B603	6	6'-7"	4½"
P601	3	3'-6"	Str.
P602	3	4'-8"	Str.
W701	16	9'-8"	Str.

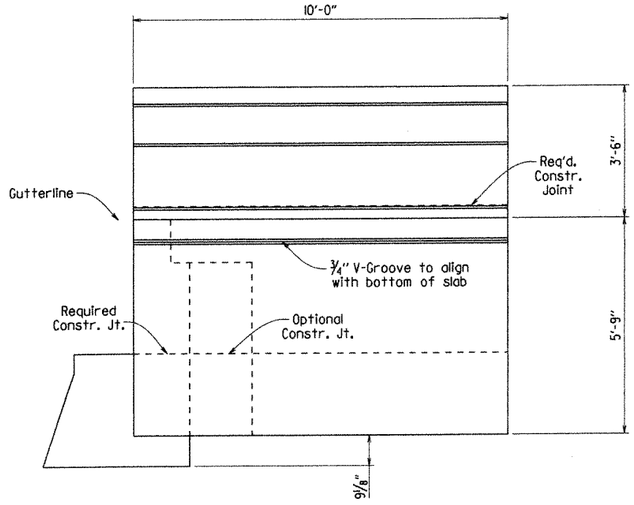
BENDING DIAGRAMS



Dimensions are out to out of bars.



VIEW T-T
Scale: ½"= 1'-0"



VIEW V-V
Scale: ½"= 1'-0"

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

Remove existing anchor bolts 1½" below the top of cap and fill the holes with an approved non-shrink grout.

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

All reinforcing steel shall conform to Grade 60, AASHTO M31 or M322, Type A.

No portion of the backwall for Stage I Construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving bracket shall not be placed until the adjacent deck pour has been made.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50)".

All new structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 20108, Dark Brown.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid damage. The existing reinforcing steel in top of cap may be drilled during placement of anchor bolts for Stage 2 Construction.

For additional information, See Layout.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 4 - BRIDGE A

ROUTE SEC.

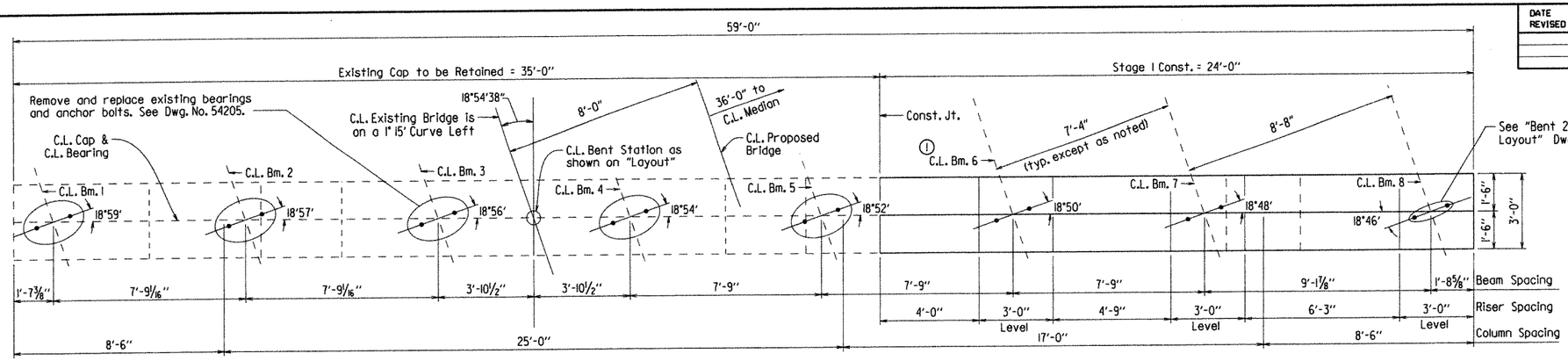
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADN DATE: 6/13
FILENAME: b090331al_b4.dgn
SCALE: AS NOTED

BRIDGE NO. A5948 DRAWING NO. 54193

PRINT DATE: 8/9/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						090331	68	218
				① A5948 - Int. Bent - BR. A - 54194				



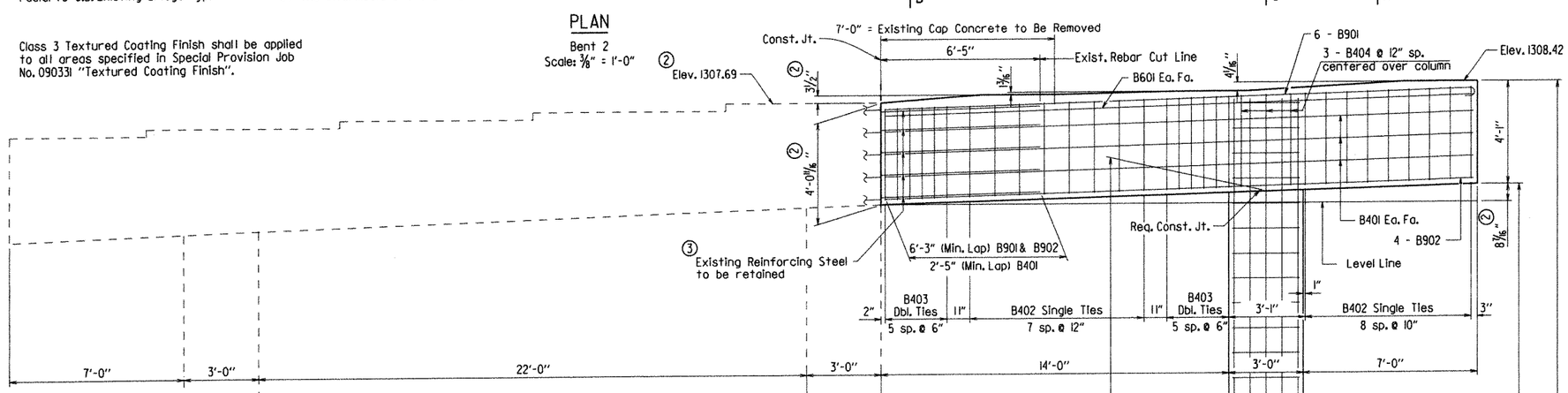
Note: Angles shown are to a line radial to C.L. Existing Bridge-typ.

① Beam 6 is to be temporarily removed for Stage I Const. of the intermediate and End Bents.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".

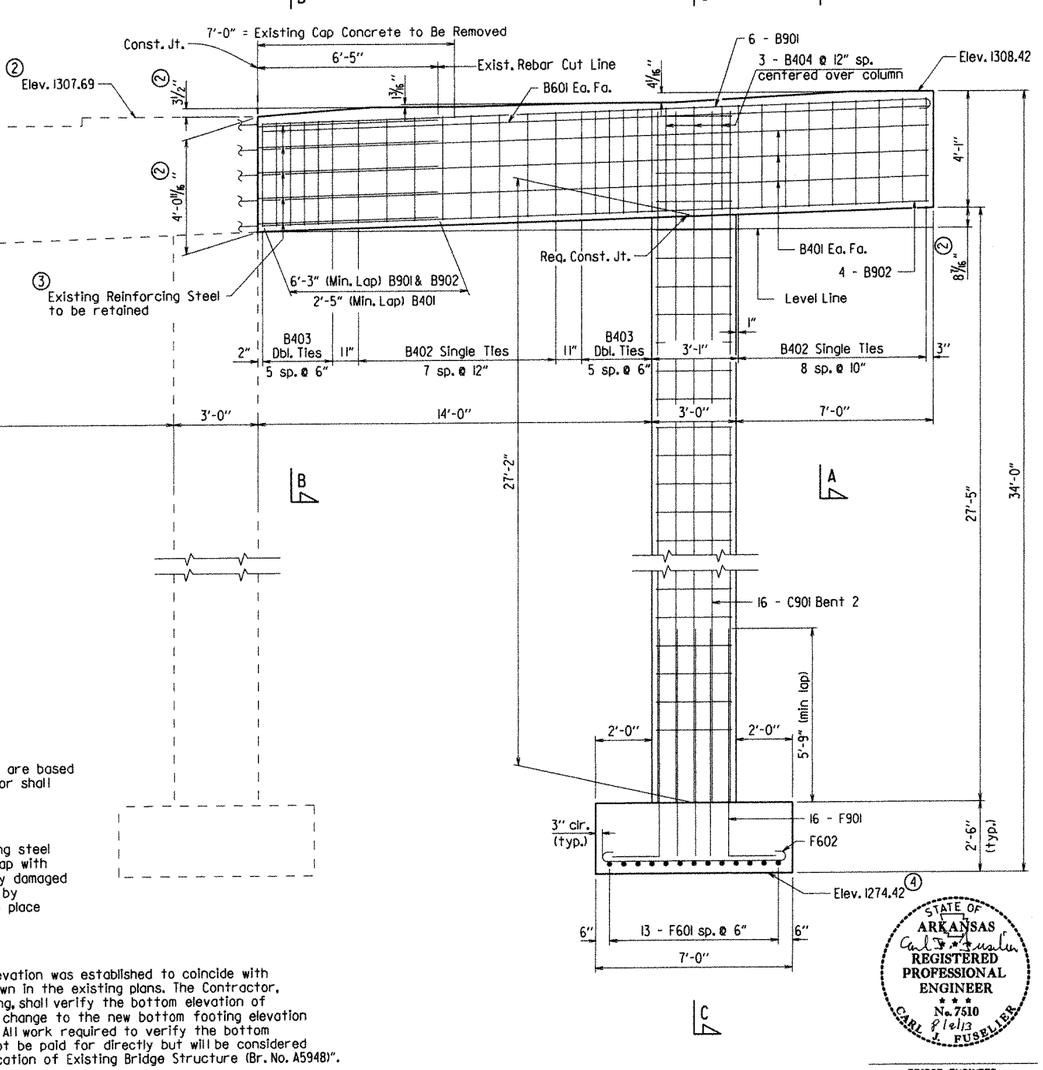
PLAN

Bent 2
Scale: 3/8" = 1'-0"



ELEVATION

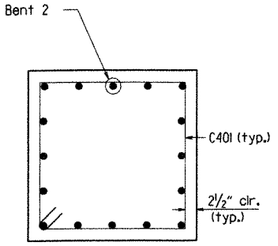
Bent 2
Looking Ahead
Scale: 3/8" = 1'-0"



② These dimensions and this elevation are based on the original plans. The contractor shall verify these in the field.

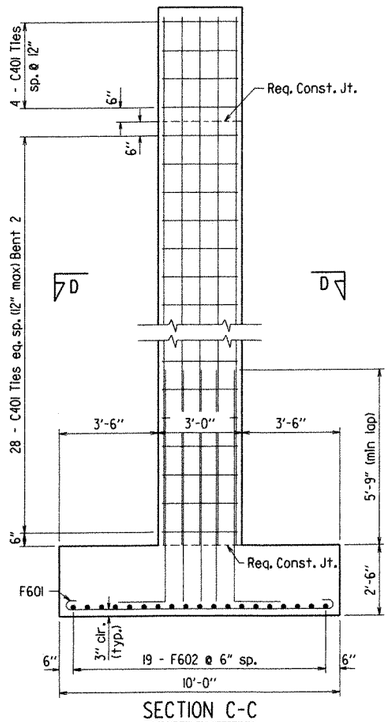
③ Retain and clean existing reinforcing steel extending from existing bent and lap with new reinforcing steel, as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

④ The bottom of the new footing elevation was established to coincide with the existing footing elevations shown in the existing plans. The Contractor, prior to excavating the new footing, shall verify the bottom elevation of the adjacent existing footing. Any change to the new bottom footing elevation shall be approved by the Engineer. All work required to verify the bottom of existing footing elevation will not be paid for directly but will be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5948)".



SECTION D-D

Scale: 3/4" = 1'-0"



SECTION C-C

Scale: 3/8" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/6/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENTS 2 & 3- BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

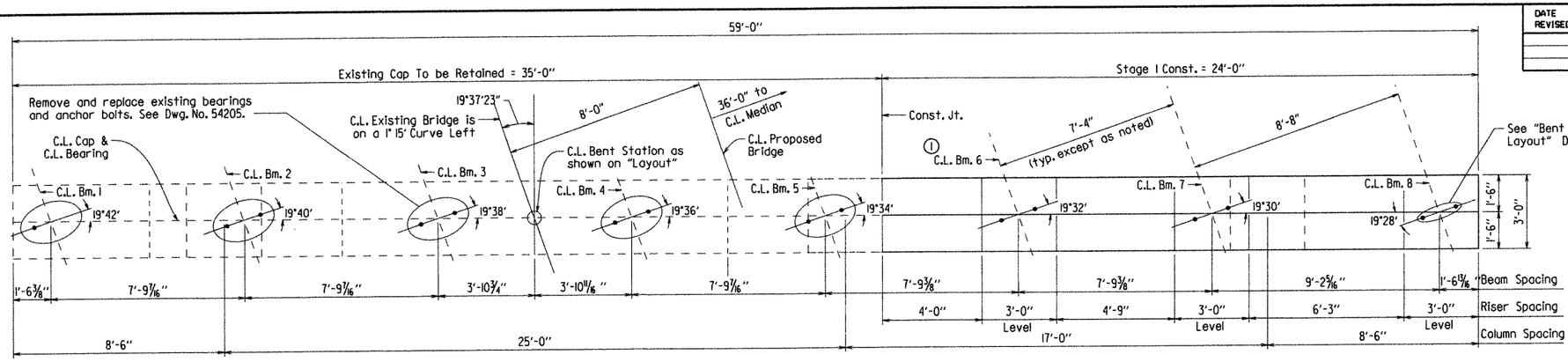
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADN DATE: 5/13

FILENAME: b090331a_b2.dgn
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BRIDGE NO. A5948 DRAWING NO. 54194

PRINT DATE: 8/9/2013

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.		090331	69	218
				①	A5948 - Int. Bent - BR. A - 54195			



Note: Angles shown are to a line radial to C.L. Existing Bridge-typ.

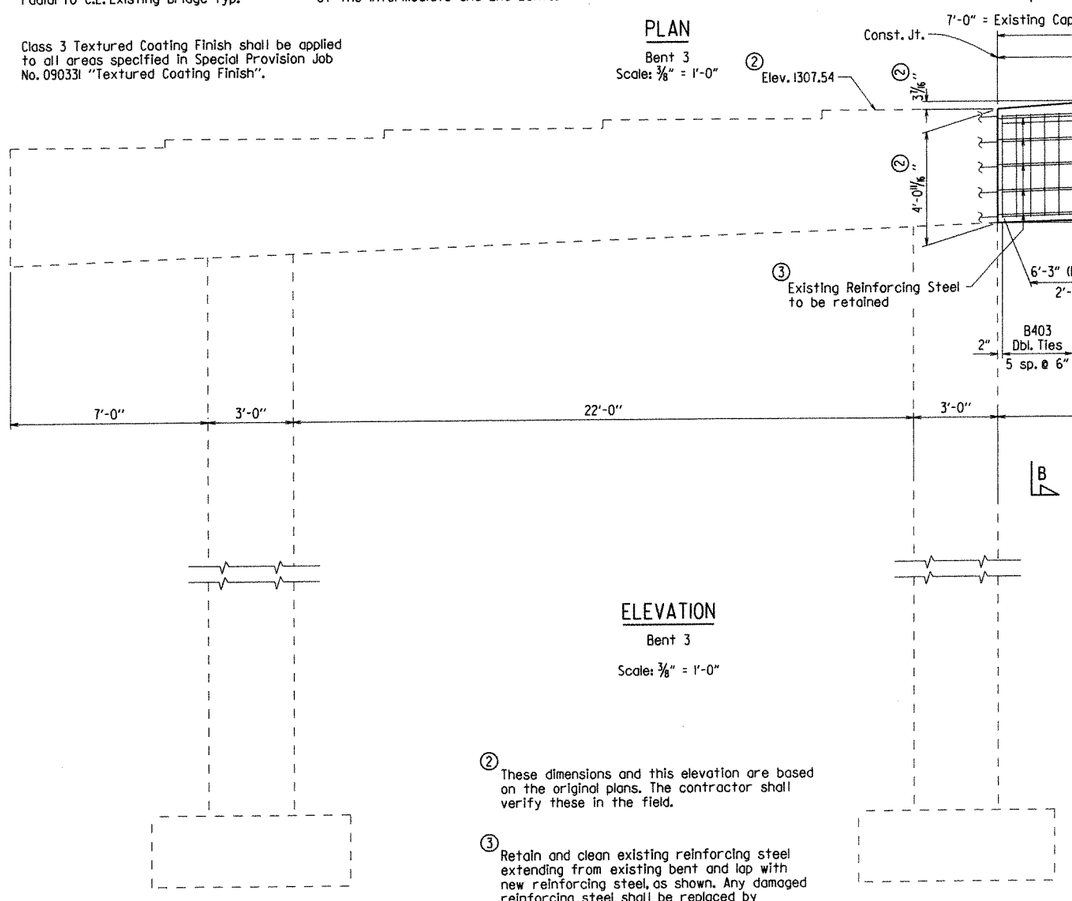
① Beam 6 is to be temporarily removed for Stage I Const. of the Intermediate and End Bents.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".

PLAN

Bent 3

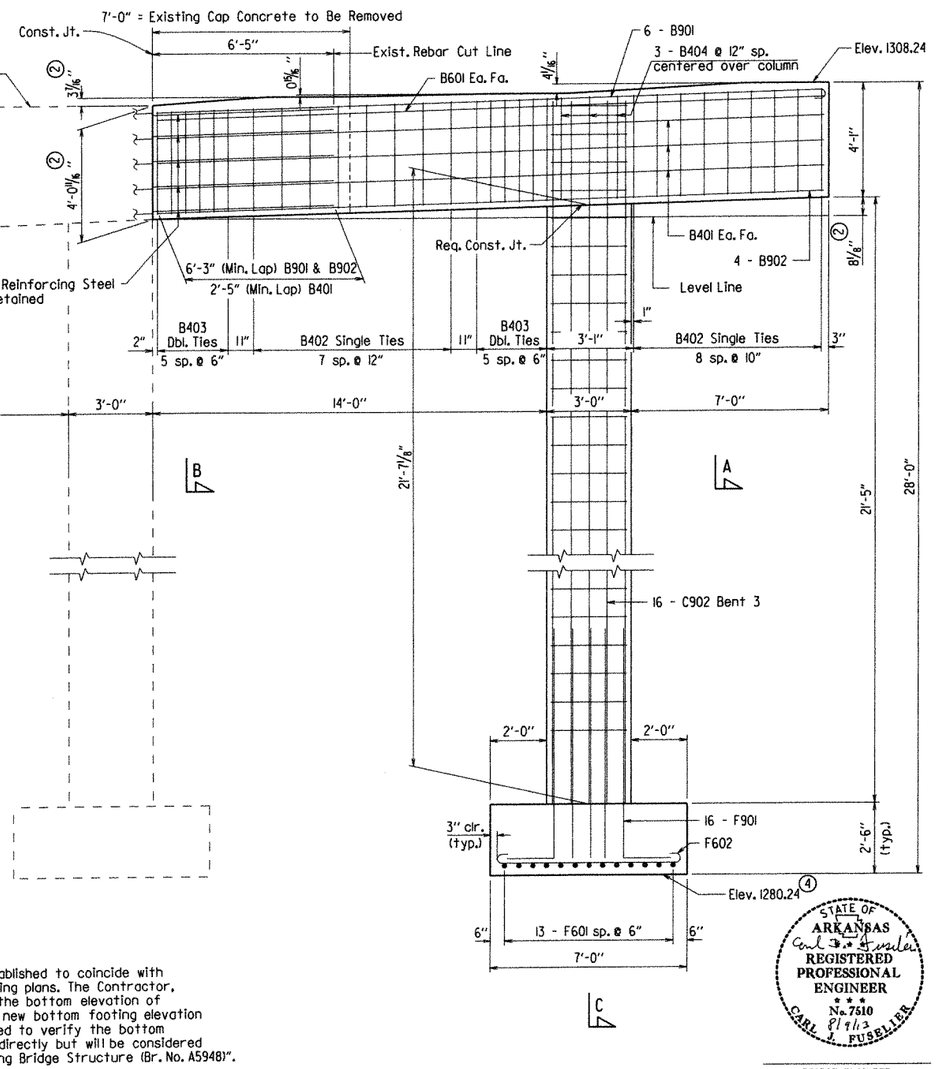
Scale: 3/8" = 1'-0"



ELEVATION

Bent 3

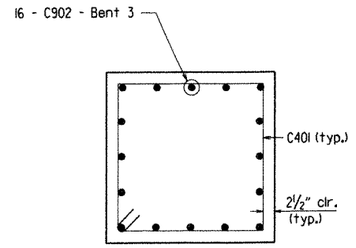
Scale: 3/8" = 1'-0"



② These dimensions and this elevation are based on the original plans. The contractor shall verify these in the field.

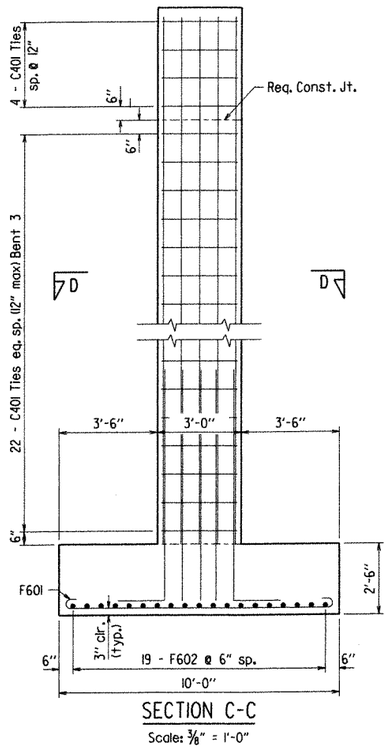
③ Retain and clean existing reinforcing steel extending from existing bent and lap with new reinforcing steel, as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

④ The bottom of the new footing elevation was established to coincide with the existing footing elevations shown in the existing plans. The Contractor, prior to excavating the new footing, shall verify the bottom elevation of the adjacent existing footing. Any change to the new bottom footing elevation shall be approved by the Engineer. All work required to verify the bottom of existing footing elevation will not be paid for directly but will be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5948)".



SECTION D-D

Scale: 3/4" = 1'-0"



SECTION C-C

Scale: 3/8" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENTS 2 & 3- BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 6-4-13 FILENAME: b090331a_b2.dgn

CHECKED BY: BEF DATE: 8/1/13 SCALE: 3/8"=1'-0"

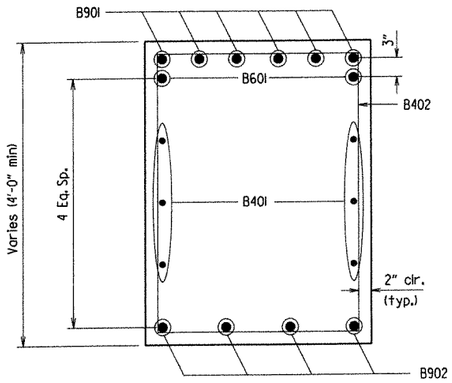
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BRIDGE NO. A5948 DRAWING NO. 54195

PRINT DATE: 8/9/2013

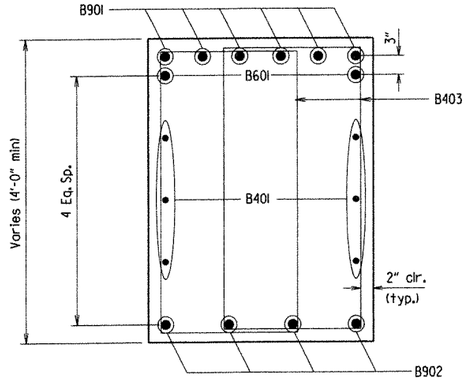
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		090331	70	218
(1)	A5948 - Int. Bent - BR. A - 54196			



SECTION A-A

Scale: 1" = 1'-0"



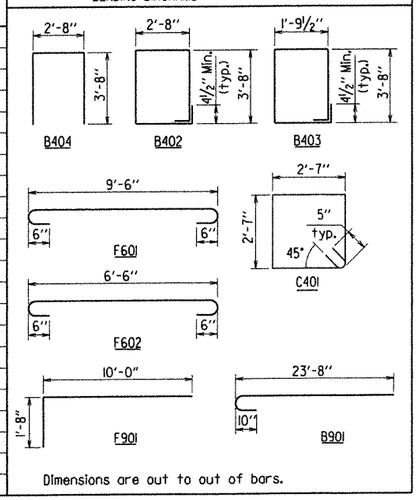
SECTION B-B

Scale: 1" = 1'-0"

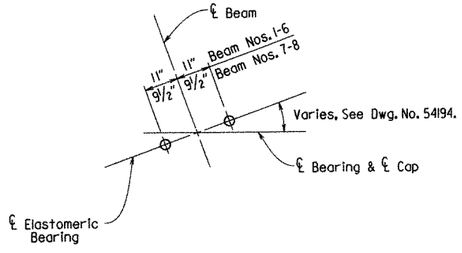
BAR LIST - PER BENT

MARK	NUMBER REQ'D Bent 2	NUMBER REQ'D Bent 3	LENGTH	P.D.
B401	6	6	23'-8"	Str.
B402	17	17	13'-0"	2"
B403	24	24	11'-3"	2"
B404	3	3	9'-10"	2"
B601	2	2	23'-8"	Str.
B901	6	6	24'-11"	9"
B902	4	4	23'-8"	Str.
C401	32	26	10'-10"	3"
C901	16	--	30'-8"	Str.
C902	--	16	24'-9"	Str.
F601	13	13	10'-10"	4½"
F602	19	19	7'-10"	4½"
F901	16	16	11'-5"	9"

BENDING DIAGRAMS



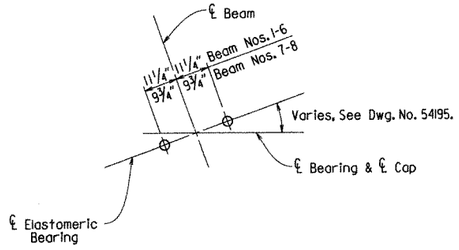
Dimensions are out to out of bars.



BENT 2 - ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54205.



BENT 3 - ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54205.

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

Remove existing anchor bolts 1½" below the top of cap and fill the holes with an approved non-shrink grout.

All concrete shall be Class "S" with a minimum 28 day compressive strength of f'c = 3500 psi. Concrete shall be poured in the dry and 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.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid interference with anchor bolts. For Stage 2 Construction, the Contractor shall verify the location of the existing anchor bolts and cap reinforcing steel. New anchor bolts have been positioned to provide a 1" clearance between the new and existing anchor bolts. This verification shall be done prior to elastomeric bearing fabrication. Modifications to the proposed anchor bolt layout may be required to fit the scope of work.

For additional information, See Layout.

STATE OF ARKANSAS
Carl J. Fusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELLIER

SHEET 3 OF 3

DETAILS OF BENTS 2 & 3- BRIDGE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 6-4-13 FILENAME: b090331a_b2.dgn

CHECKED BY: BEF DATE: 8/1/13 SCALE: As Noted

DESIGNED BY: ADN DATE: 5/13

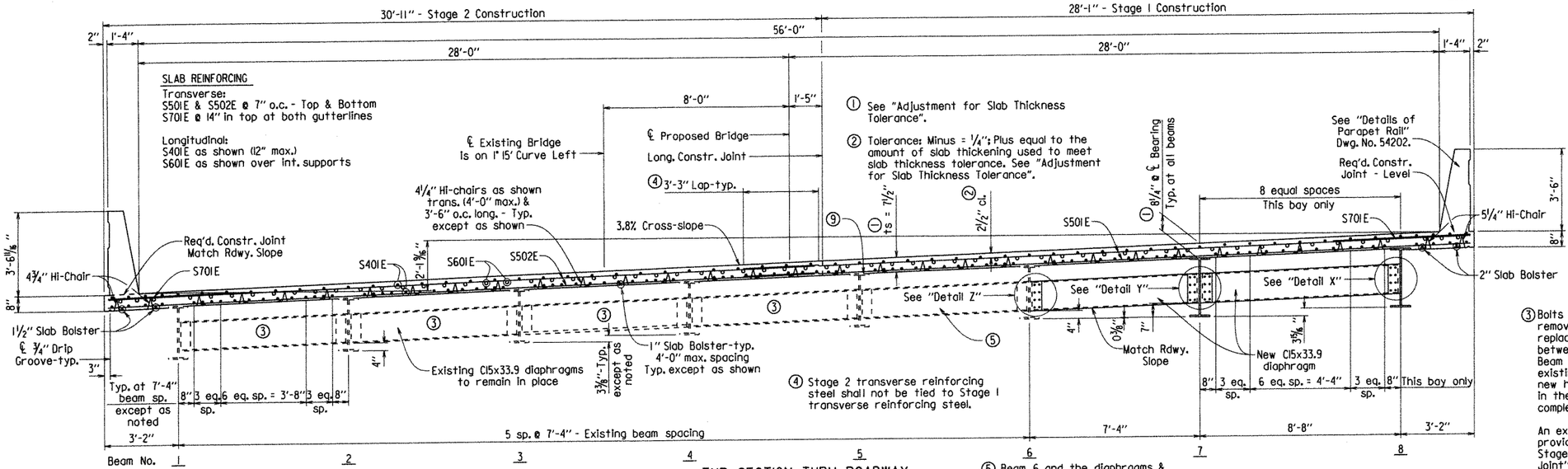
BRIDGE NO. A5948 DRAWING NO. 54196

PRINT DATE: 8/9/2013

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.		090331	71	218
				①	A5948 - 149' UNIT-BR. A - 54197			

NOTE: Class 2 Protective Surface Treatment shall be applied to the Roadway Surface.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".

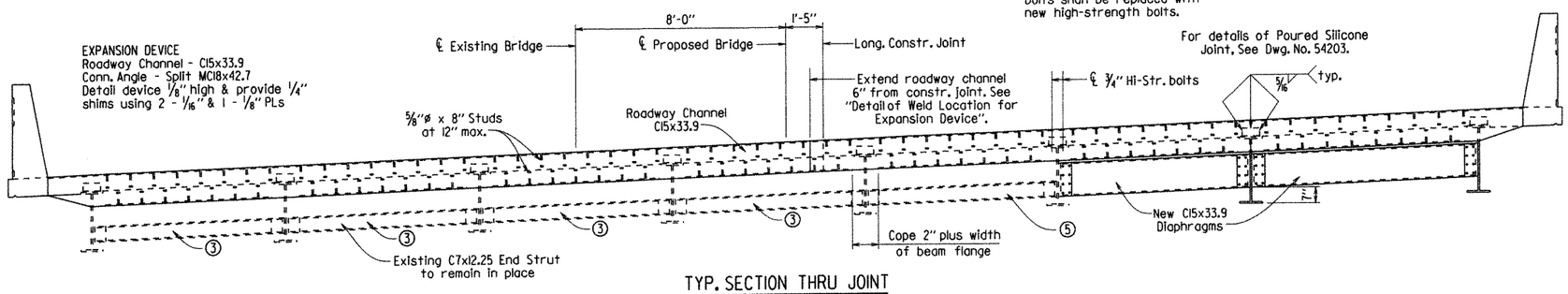


④ Stage 2 transverse reinforcing steel shall not be tied to Stage 1 transverse reinforcing steel.

⑤ Beam 6 and the diaphragms & end struts in this bay shall be temporarily removed for Stage 1 Construction of bents. Existing bolts shall be replaced with new high-strength bolts.

TYP. SECTION THRU ROADWAY

Looking Ahead
Scale: ⅜" = 1'-0"



For details of Poured Silicone Joint, See Dwg. No. 54203.

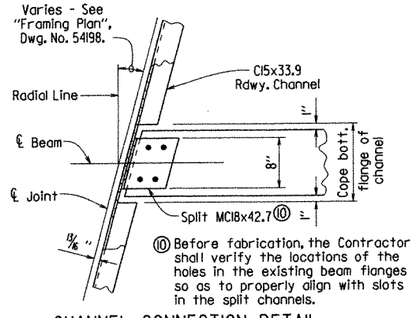
TYP. SECTION THRU JOINT

Looking Ahead - Bent 1
Bent 4 Similar
Scale: ⅜" = 1'-0"

③ Bolts in the existing diaphragm and end struts may be loosened or removed to the satisfaction of the Engineer to facilitate bearing replacements. Diaphragm and end strut bolts located in the bay between Beam Nos. 4 & 5 shall be loosened or removed to allow Beam No. 5 bearing replacements during Stage 1 Construction. Any existing bolt that is loosened or removed shall be replaced with a new high-strength bolt. The diaphragm and end strut bolts located in the bay between Beam Nos. 4 & 5 shall be tightened after the completion of the Stage 2 Construction deck pour.

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. 54203.

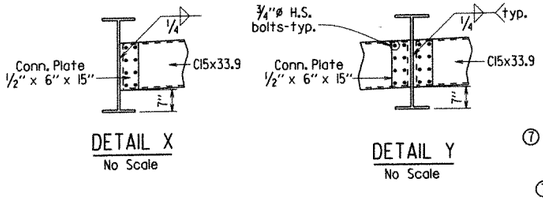
⑨ After deck removal and prior to installation of new shear connectors, the existing top of beams and shear connectors shall be cleaned. Any damaged shear connectors shall be replaced as directed by the Engineer. Payment will not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".



⑩ Before fabrication, the Contractor shall verify the locations of the holes in the existing beam flanges so as to properly align with slots in the split channels.

CHANNEL CONNECTION DETAIL

No Scale

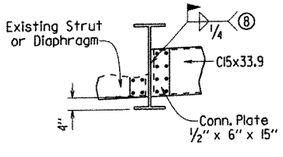


DETAIL X

No Scale

DETAIL Y

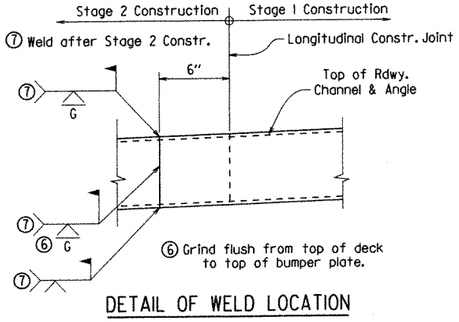
No Scale



DETAIL Z

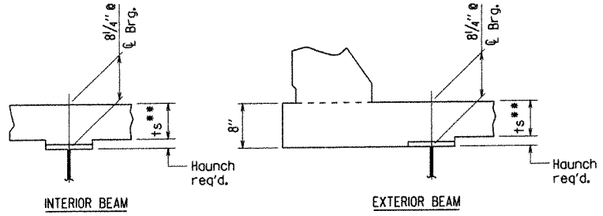
No Scale

⑧ Remove paint from existing beam prior to welding.



DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale



** 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 on superstructure detail drawings.

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

STATE OF ARKANSAS
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No. 7510
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BRIDGE ENGINEER

For "General Notes", see Dwg. No. 54204.

SHEET 1 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

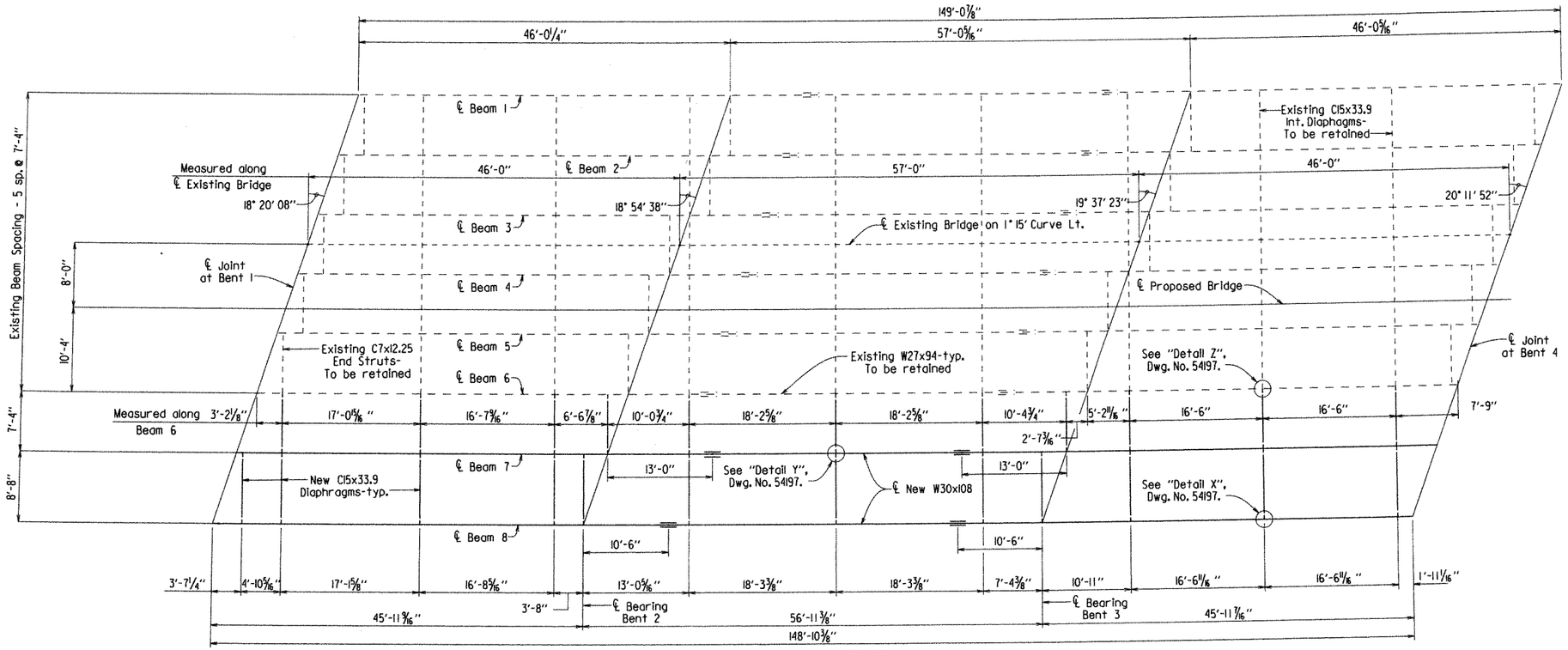
DRAWN BY: kdh DATE: 5-3-13
CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: BEF DATE: 4/13

FILENAME: b090331al_sl.dgn
SCALE:

BRIDGE NO. A5948 DRAWING NO. 54197

PRINT DATE: 8/9/2013

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.		090331	72	218
				(1) A5948 - 149' UNIT-BR. A - 54198				



FRAMING PLAN - BRIDGE A

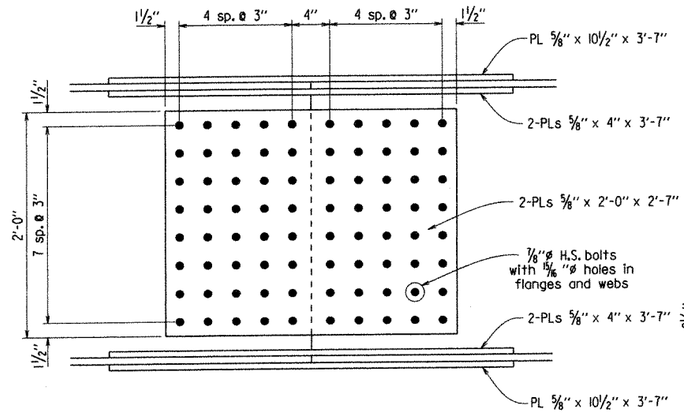
Scale: ⅛" = 1'-0"

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.

TABLE FOR WELD

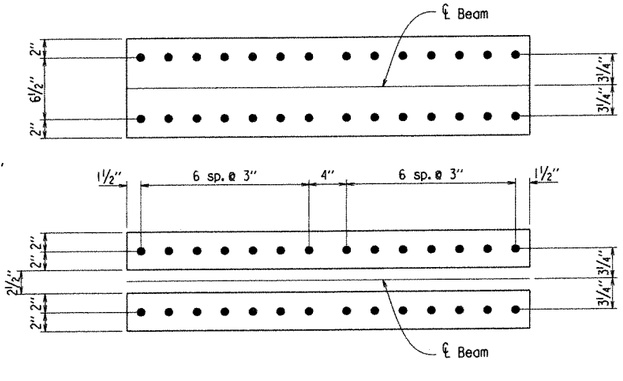
Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	⅝"	

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



WEB SPLCE

Note: All field splice plates shall be AASHTO M270, Gr. 50.



FLANGE SPLICE

FIELD SPLICE DETAILS - BEAMS 7 & 8

Scale: 1½" = 1'-0"

STATE OF ARKANSAS
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BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

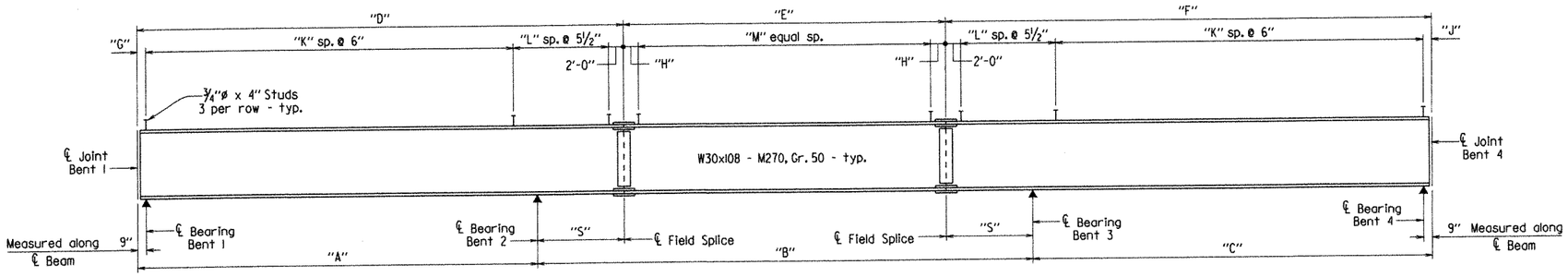
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CHECKED BY: BEF DATE: 8/14/13
DESIGNED BY: BEF DATE: 4/13

FILENAME: b090331al_sl.dgn
SCALE: AS NOTED

BRIDGE NO. A5948 DRAWING NO. 54198

PRINT DATE: 8/9/2013

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.		090331	73	218
				(1) A5948 - 149' UNIT-BR. A - 54199				



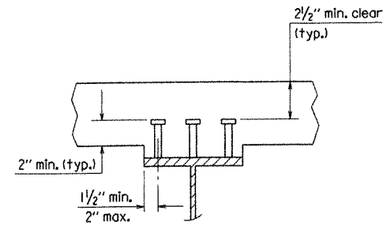
BEAM ELEVATION - BEAMS 7 & 8

No Scale

Note: See "Field Splice Details - Beams 7 & 8", Dwg. No. 54198.

TABLE OF VARIABLES - BEAMS 7 & 8

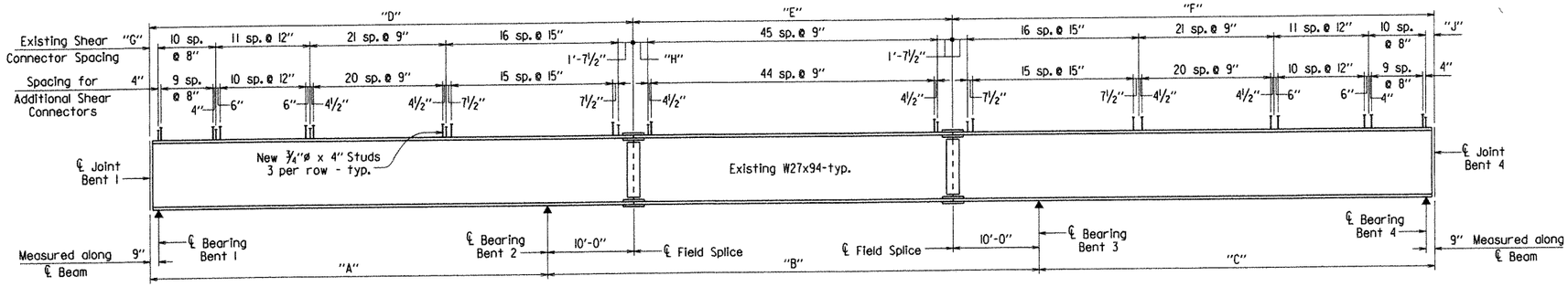
Beam No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"S"
7	45'-11 5/8"	56'-11 3/16"	45'-11 5/8"	58'-11 5/8"	30'-11 3/16"	58'-11 5/8"	11 5/8"	2'-1"	11 5/8"	90	24	59	13'-0"
8	45'-11 9/16"	56'-11 3/8"	45'-11 7/16"	56'-5 9/16"	35'-11 3/8"	56'-5 7/16"	11 9/16"	2'-1"	11 7/16"	85	24	70	10'-6"



Stud Shear Connectors shown shall be ¾"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

No Scale



BEAM ELEVATION - BEAMS 1 - 6

No Scale

After deck removal and prior to installation of new shear connectors, the existing top of beams and shear connectors shall be cleaned. Any damaged shear connectors shall be replaced as directed by the Engineer. Payment will not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5948)".

TABLE OF VARIABLES - BEAMS 1 - 6

Beam No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
1	46'-0 1/4"	57'-0 5/16"	46'-0 5/16"	56'-0 1/4"	37'-0 5/16"	56'-0 5/16"	11 3/4"	1'-7 13/16"	11 13/16"
2	46'-0 1/8"	57'-0 3/16"	46'-0 3/16"	56'-0 1/8"	37'-0 3/16"	56'-0 3/16"	11 5/8"	1'-7 11/16"	11 11/16"
3	46'-0 1/16"	57'-0 1/16"	46'-0 1/16"	56'-0 1/16"	37'-0 1/16"	56'-0 1/16"	11 9/16"	1'-7 9/16"	11 9/16"
4	45'-11 15/16"	56'-11 15/16"	45'-11 15/16"	55'-11 15/16"	36'-11 15/16"	55'-11 15/16"	11 7/16"	1'-7 7/16"	11 7/16"
5	45'-11 7/8"	56'-11 13/16"	45'-11 13/16"	55'-11 7/8"	36'-11 13/16"	55'-11 13/16"	11 3/8"	1'-7 5/16"	11 5/16"
6	45'-11 3/4"	56'-11 11/16"	45'-11 11/16"	55'-11 3/4"	36'-11 11/16"	55'-11 11/16"	11 1/4"	1'-7 3/16"	11 3/16"

Note: All variables in this table are based on existing plans.

STATE OF ARKANSAS
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BRIDGE ENGINEER

SHEET 3 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-6-13 FILENAME: b090331al_sl.dgn

CHECKED BY: BEF DATE: 8/1/13 SCALE: AS NOTED

DESIGNED BY: BEF DATE: 4/13

BRIDGE NO. A5948 DRAWING NO. 54199

PRINT DATE: 8/9/2013

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.		090331	74	218
				(1)	A5948 - 149' UNIT-BR. A - 54200			

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

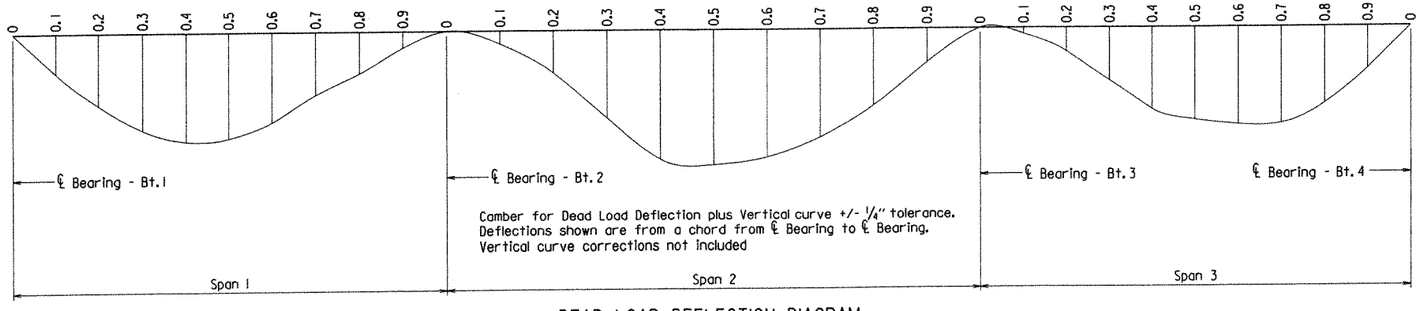
Span	Point of Deflection	Beam No. 1			Beam Nos. 2-6			Beam No. 7			Beam No. 8		
		Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet
1	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.1	0.012	0.087	0.099	0.016	0.108	0.113	0.012	0.081	0.086	0.010	0.068	0.077
	0.2	0.022	0.155	0.177	0.028	0.196	0.205	0.022	0.146	0.155	0.018	0.124	0.141
	0.3	0.029	0.206	0.237	0.038	0.262	0.275	0.028	0.188	0.200	0.024	0.166	0.191
	0.4	0.034	0.240	0.279	0.042	0.292	0.307	0.031	0.210	0.224	0.029	0.195	0.226
	0.5	0.034	0.243	0.284	0.041	0.285	0.299	0.031	0.210	0.225	0.029	0.194	0.225
	0.6	0.030	0.214	0.250	0.035	0.243	0.255	0.028	0.186	0.199	0.025	0.169	0.196
	0.7	0.022	0.157	0.183	0.025	0.170	0.178	0.021	0.139	0.149	0.018	0.121	0.141
	0.8	0.010	0.074	0.086	0.016	0.113	0.118	0.010	0.070	0.075	0.009	0.064	0.075
	0.9	0.005	0.034	0.040	0.006	0.044	0.046	0.003	0.021	0.022	0.005	0.032	0.037
2	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.1	0.007	0.049	0.058	0.005	0.034	0.037	0.007	0.048	0.052	0.006	0.040	0.047
	0.2	0.018	0.130	0.154	0.016	0.111	0.120	0.020	0.136	0.147	0.015	0.104	0.123
	0.3	0.030	0.212	0.253	0.033	0.231	0.249	0.030	0.206	0.223	0.025	0.170	0.201
	0.4	0.043	0.305	0.364	0.049	0.341	0.367	0.040	0.268	0.290	0.036	0.245	0.289
	0.5	0.051	0.361	0.432	0.052	0.356	0.383	0.048	0.321	0.349	0.042	0.288	0.340
	0.6	0.048	0.336	0.402	0.049	0.337	0.362	0.045	0.302	0.328	0.040	0.269	0.317
	0.7	0.038	0.267	0.320	0.041	0.285	0.306	0.036	0.242	0.263	0.032	0.217	0.255
	0.8	0.024	0.171	0.206	0.029	0.203	0.218	0.021	0.143	0.156	0.021	0.140	0.163
	0.9	0.013	0.091	0.110	0.013	0.089	0.096	0.009	0.059	0.064	0.008	0.052	0.061
3	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.1	0.002	0.016	0.017	0.002	0.017	0.017	0.002	0.010	0.010	0.000	0.002	0.002
	0.2	0.008	0.053	0.060	0.009	0.065	0.068	0.007	0.044	0.046	0.004	0.026	0.030
	0.3	0.015	0.106	0.122	0.021	0.144	0.151	0.013	0.086	0.091	0.011	0.072	0.084
	0.4	0.025	0.175	0.203	0.032	0.221	0.233	0.021	0.142	0.151	0.020	0.139	0.163
	0.5	0.034	0.240	0.280	0.036	0.250	0.263	0.030	0.201	0.215	0.024	0.166	0.194
	0.6	0.034	0.241	0.280	0.038	0.263	0.277	0.030	0.201	0.215	0.025	0.169	0.197
	0.7	0.031	0.219	0.254	0.038	0.260	0.274	0.027	0.181	0.193	0.023	0.159	0.184
	0.8	0.025	0.174	0.200	0.030	0.207	0.218	0.021	0.141	0.150	0.020	0.135	0.155
	0.9	0.014	0.101	0.115	0.016	0.114	0.120	0.012	0.080	0.085	0.011	0.076	0.087
	0	0	0	0	0	0	0	0	0	0	0	0	0

Note:

Dead load deflections shown are based on removable deck forms.

If the corrugations of the permanent steel deck forms do not match the reinforcing spacing shown on the plans, the corrugations shall be filled with styrofoam.

Revision to the "Table of Dead Load Deflections" may be necessary upon review of the Contractor's submitted forming details.



DEAD LOAD DEFLECTION DIAGRAM

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-3-13
CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: BEF DATE: 4/13

FILENAME: b090331al_sl.dgn
SCALE: AS NOTED

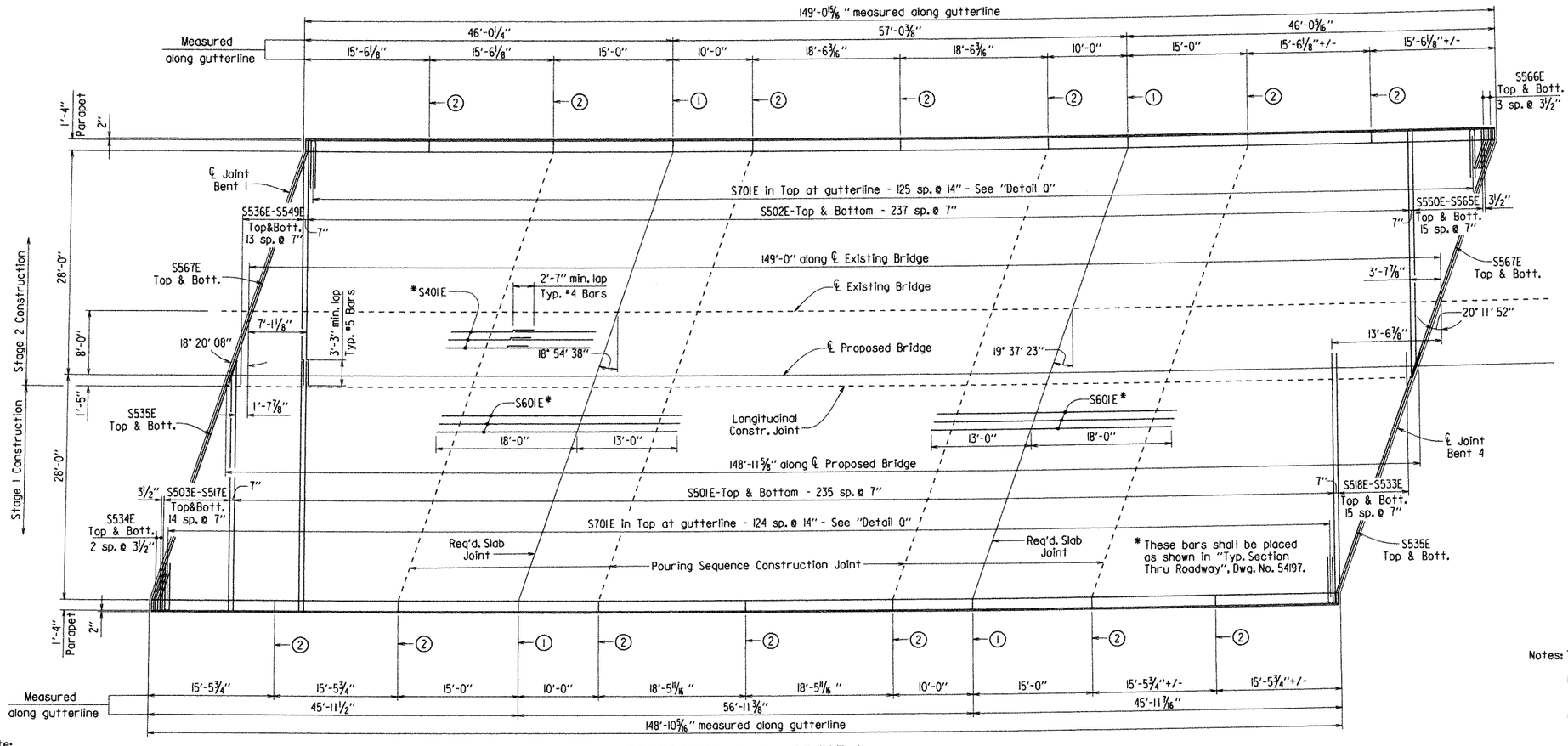
BRIDGE NO. A5948 DRAWING NO. 54200

PRINT DATE: 8/9/2013

REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	75	218
				(1)	A5948 - 149' UNIT-BR. A - 54201			

(1) ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 54202.

(2) ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab. See Dwg. No. 54202.



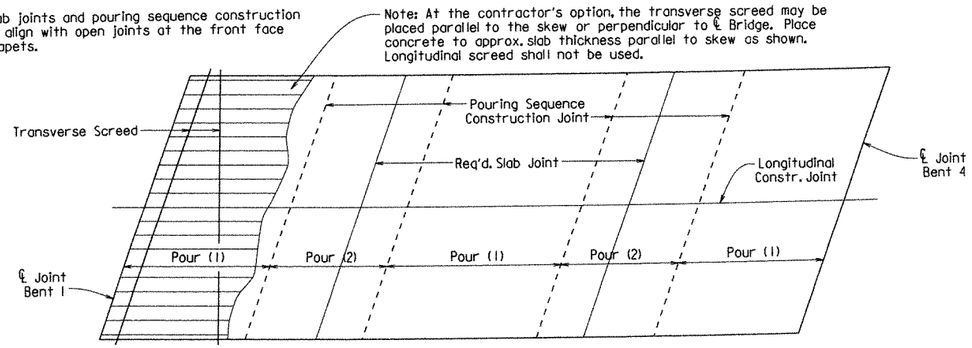
REINFORCING PLAN - BRIDGE A

Scale: 1/8" = 1'-0"

Note:
All transverse reinforcing steel is placed on radial lines and measures along ℄ Existing Bridge.

All longitudinal lines and reinforcing steel shall be placed on curve concentric with ℄ Existing Bridge.

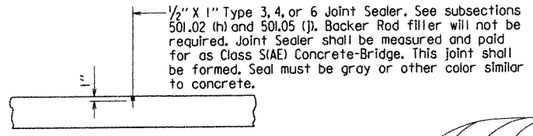
Required slab joints and pouring sequence construction joints shall align with open joints at the front face of the parapets.



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. Any railing pours made before the entire slab unit for each stage has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

CONCRETE POURING SEQUENCE & PLACEMENT PROCEDURE

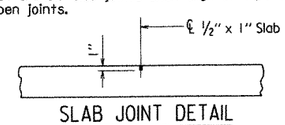
No Scale



LONGITUDINAL CONSTRUCTION JOINT

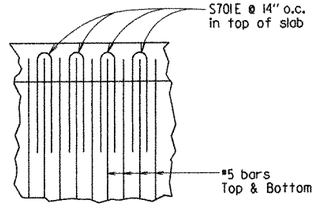
No Scale

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 parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). Slab joints shall align with parapet open joints.



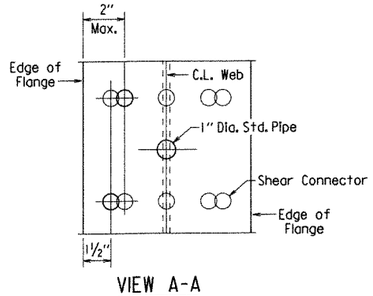
SLAB JOINT DETAIL

No Scale



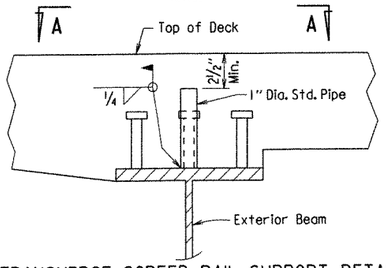
DETAIL 0

No Scale



VIEW A-A

N.T.S.



TRANSVERSE SCREED RAIL SUPPORT DETAIL

N.T.S.

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

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

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

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

All welding shall be performed by a certified welder and in accordance with subsections 802.13 and 807.26.

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL L. FUSELIER
BRIDGE ENGINEER

SHEET 5 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

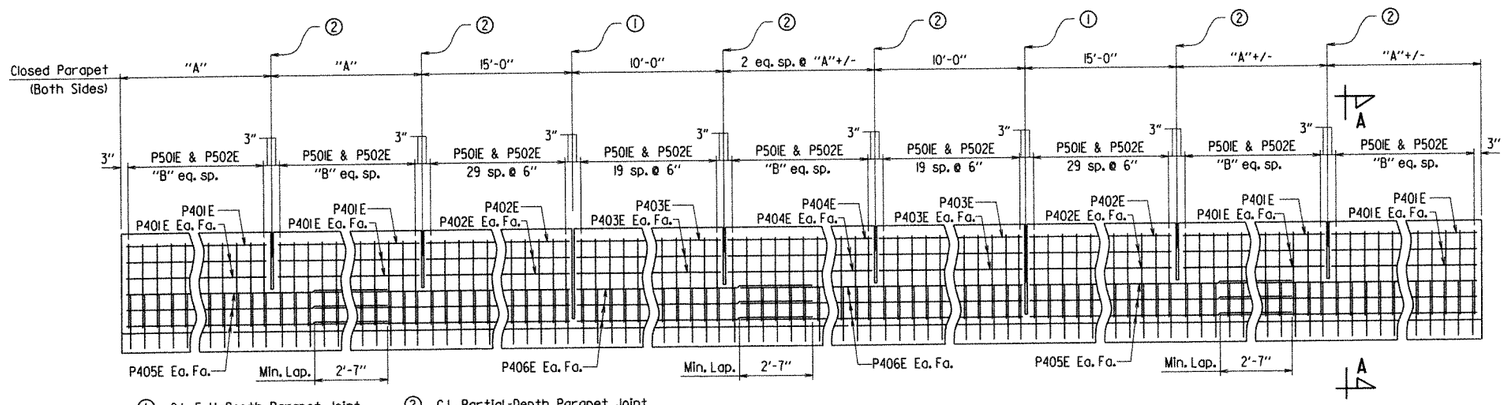
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-7-13 FILENAME: b090331al_sl.dgn
CHECKED BY: BEF DATE: 6/1/13 SCALE: AS NOTED
DESIGNED BY: BEF DATE: 4/13

BRIDGE NO. A5948 DRAWING NO. 54201

9/19/2013

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.		090331	76	218
				①	A5948 - 149' UNIT-BR. A - 54202			



① C.L. Full-Depth Parapet Joint (1/4" to 1" Max.) as shown in "Reinforcing Plan" Dwg. No. 54201. Stop 4" from top of slab.

② C.L. Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown in "Reinforcing Plan" Dwg. No. 54201. Stop 1'-6" from top of slab.

DETAILS OF PARAPET RAIL

Scale: 3/8" = 1'-0"

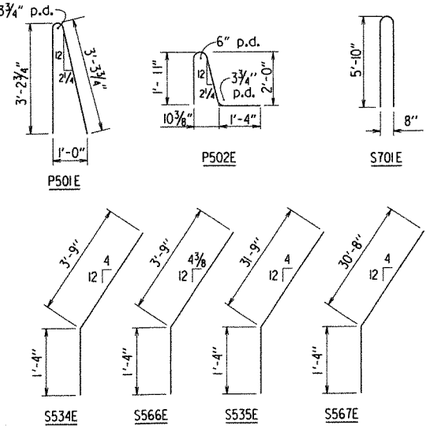
TABLE OF VARIABLES

"A"	"B"
15'-6 1/8"+/-	31
18'-6 3/16"+/-	37
15'-5 3/4"+/-	30
18'-5 11/16"	36

BAR LIST

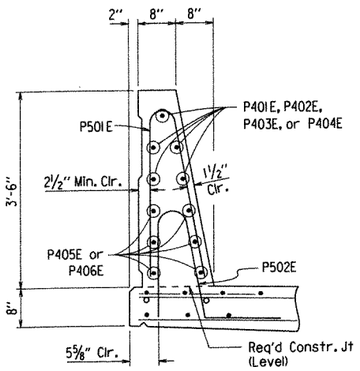
MARK	NO. REQ'D	LENGTH	P.D.
S401E	632	39'-3"	Str.
P401E	40	15'-1"	Str.
P402E	20	14'-8"	Str.
P403E	20	9'-8"	Str.
P404E	20	18'-1"	Str.
P405E	48	24'-2"	Str.
P406E	24	29'-8"	Str.
S501E	472	31'-3"	Str.
S502E	476	30'-8"	Str.
S503E-S517E	2 each	Var. 4'-10" to 29'-8"	Str.
S518E-S533E	2 each	Var. 4'-8" to 28'-9"	Str.
S534E	6	5'-1"	3 3/4"
S535E	4	33'-1"	3 3/4"
S536E-S549E	2 each	Var. 5'-3" to 28'-0"	Str.
S550E-S565E	2 each	Var. 5'-1" to 29'-0"	Str.
S566E	8	5'-1"	3 3/4"
S567E	4	32'-0"	3 3/4"
P501E	602	6'-8"	3 3/4"
P502E	602	5'-4"	3 3/4"
S601E	124	31'-0"	Str.
S701E	251	11'-5"	6 1/4"

BENDING DIAGRAMS



Dimensions are out to out of bars.

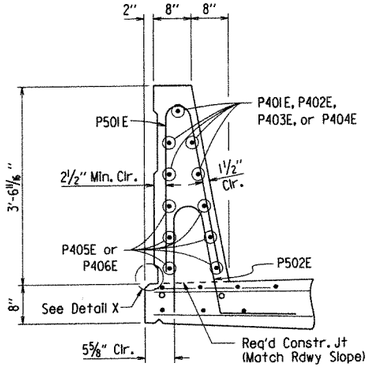
NOTE: Bars designated with an "E" suffix shall be epoxy coated.



SECTION A-A

High Side

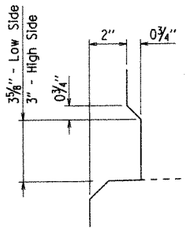
Scale: 3/4" = 1'-0"



SECTION A-A

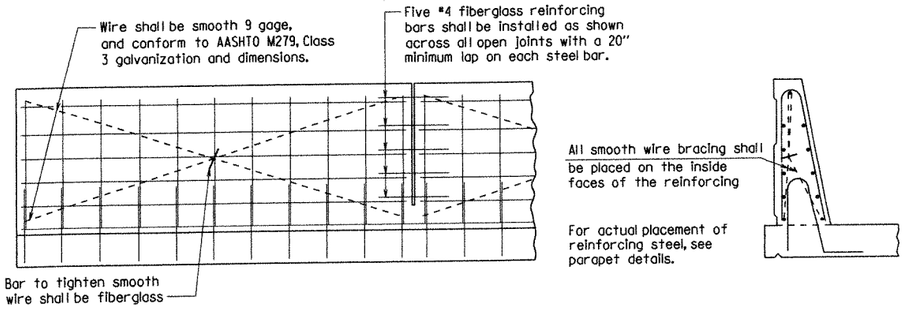
Low Side

Scale: 3/4" = 1'-0"



DETAIL X

Scale: 1 1/2" = 1'-0"

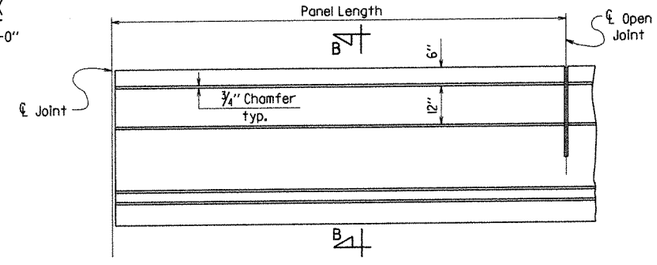


All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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.

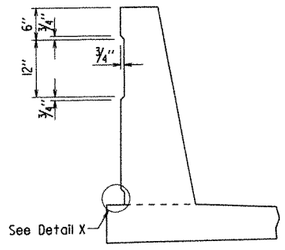
DETAILS OF OPTIONAL SLIP FORMING OF CONCRETE PARAPET RAIL

No Scale



DETAILS OF PARAPET ENHANCEMENT

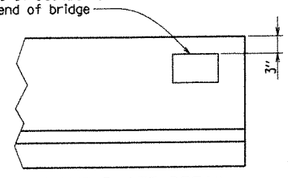
No Scale



SECTION B-B

No Scale

Place Type D Bridge Name Plate on front face of span rail approx. 2'-0" from front face of backwall on left side end of bridge



NAME PLATE DETAIL

No Scale

DETAIL TITLE

STATE OF ARKANSAS
Carl F. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL F. FUSSELIER

BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

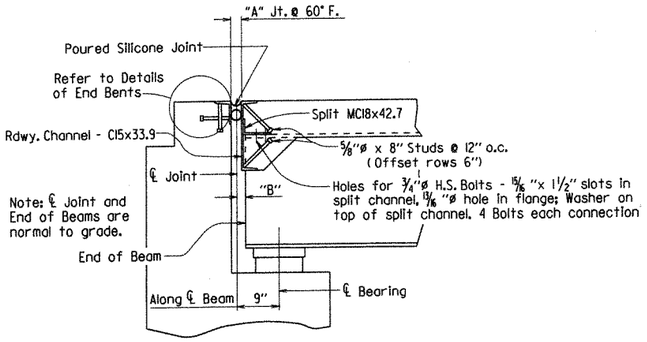
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-8-13 FILENAME: b09033lal_sl.dgn
CHECKED BY: BEF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: BEF DATE: 4/13

BRIDGE NO. A5948 DRAWING NO. 54202

PRINT DATE: 8/9/2013

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.		090331	77	218
				①	A5948 - 149' UNIT-BR. A - 54203			



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	1 3/4"	1 5/8"	1 1/2"	2 1/8"+/-	1" x 7/8"	5"
4	1 11/16"	1 5/8"	1 9/16"	2 1/8"+/-	1" x 7/8"	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.

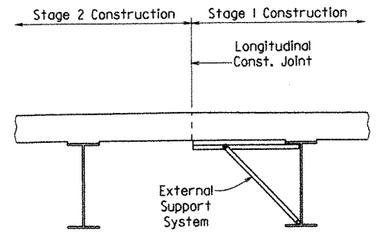
The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

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.

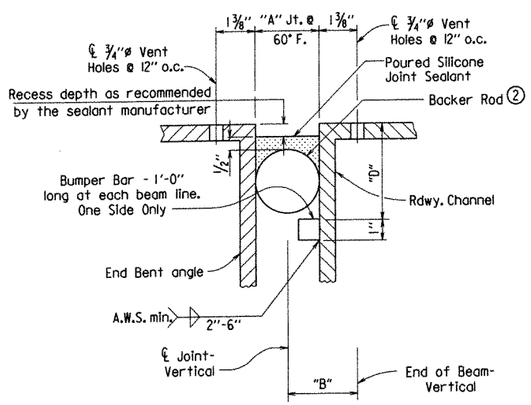
The contractor shall verify separation of the backer rod from the joint material after the joint material has set.



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.

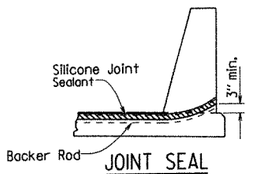
DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



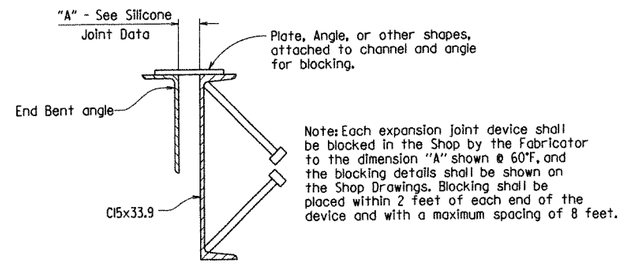
DETAIL OF POURED SILICONE JOINT SEAL

No Scale



JOINT SEAL PLACEMENT AT CURB

No Scale



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

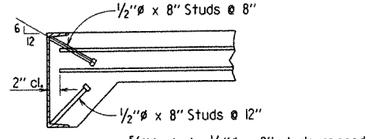
No Scale

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 portion of Stage I Construction 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. The concrete span pour adjacent to joint shall be placed prior to pouring the remainder of the backwall. 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.



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

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13

BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-8-13
CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: BEF DATE: 4/13
FILENAME: b09033lal_sl.dgn
SCALE: AS NOTED

BRIDGE NO. A5948 DRAWING NO. 54203

PRINT DATE: 8/9/2013

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.		090331	78	218
				(1) A&B5948 -		GENERAL NOTES	- 54204	

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (17th Edition, 2002) with interim Specifications.

MATERIALS 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. 50)	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. See Dwg. Nos. 54200 & 54224 for additional information.

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 shall be given a tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface 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.

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 "Reinforcing Steel-Bridge (Grade 60)" or "Epoxy Coated Reinforcing Steel (Grade 60)".

NEW STRUCTURAL STEEL:

All new structural steel shall be AASHTO M 270, Grade 50 unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50)". All exposed surfaces shall be cleaned in accordance with subsection 807.84. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36 unless otherwise noted.

All new structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 20108, Dark Brown.

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

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

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 (M 270, Gr. 50)".

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 and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Flange field splice plates and diaphragm connection 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 falsework support devices to the structural steel that do not exceed the limitations of subsection 802.13 will not require approval prior to construction. Field welding of new diaphragm connection plates to the exiting beams shall be as shown in the plans. 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. Holes for ¾" bolts shall be ⅞", bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges. Any existing bolts that are removed or loosened during construction shall be replaced with new bolts, nuts and washers.

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 unless otherwise noted.

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

EXISTING STRUCTURAL STEEL:
The paint system used on the existing beams consists of a lead based paint system. The Contractor shall take all necessary steps to protect the workers modifying the existing beams. The existing structural steel shall be cleaned and painted in accordance with Special Provision Job No. 090331 "Cleaning and Painting Existing Structural Steel".

The area of the webs and bottom flanges of the existing beams where new diaphragm connection plates, and new elastomeric bearings will be field welded shall be cleaned and painted in accordance with Section 807.

Any existing bolt that is loosened or removed shall be replaced by a new high-strength bolt.

REMOVAL OF EXISTING DECK:

The existing concrete deck shall be completely removed to the top flange of the existing beams. Care shall be excercised during the removal of the existing deck to ensure that the exisiting shear connectors are not damaged. Any existing shear connectors damaged during the removal of the deck shall be replaced as directed by the Engineer, at the Contractor's expense. The portions of the top flange that will be embedded in new concrete shall be cleaned and free of laitance and protected until the new deck is placed for the respective Stage of Construction. This work will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. Nos. A&B5948)".

METHOD OF WORK:

The Contractor shall remove a portion of the existing deck as shown in "Details of Stage Construction" Dwg. No. 54185. The Contractor shall then disassemble and remove Beam No. 6, including diaphragms and end struts, to facilitate Stage I Construction of all bents, as shown in the plans. After Stage I Construction of all bents has been performed to the satisfaction of the Engineer, the Contractor shall loosen the diaphragm and end strut bolts adjacent to Beam No. 4, as shown in the plans, to facilitate the installation of the new elastomeric bearings for Beam No. 5. After all new bearings for Beam No. 5 have been installed, Beam No. 6 shall be re-erected and reassembled using the existing diaphragms and end struts, with new bolts, nuts and washers and shall be seated on the new elastomeric bearings. Upon completion of all the above, the Contractor shall remove the remaining portion of the existing deck and raise the remaining existing beams to facilitate installation of the new elastomeric bearings. This work will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. Nos. A&B5948)".

The existing structural steel, except top of beam flanges embedded in concrete, shall be cleaned and painted upon completion of all required modifications and deferred until the adjoining concrete work has been placed and finished. The existing structural steel shall be cleaned and painted in accordance with Special Provision Job No. 090331 "Cleaning and Painting Existing Structural Steel" and "Calcium Sulfonate Paint".

All applicable provisions of Section 807, as determined by the Engineer, shall be followed. See Special Provision Job No. 090331 "Special Safety Requirements for Bridges" for additional information.

The Contractor may submit an alternate Method of Work. The plan shall be submitted to the Engineer for information and record keeping purposes at least three weeks prior to any work being performed. The submittal shall be prepared and/or approved by an Arkansas Professional Engineer and shall include sufficent details and information to the Engineeer's satisfaction. The Contractor shall be responsible for the results obtained by the use of the alternate Method of Work. All work, materials, and labor required for the Contractor to develop and execute the plan will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. Nos. A&B5948)".

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

GENERAL NOTES
GOAD SPRINGS ROAD
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

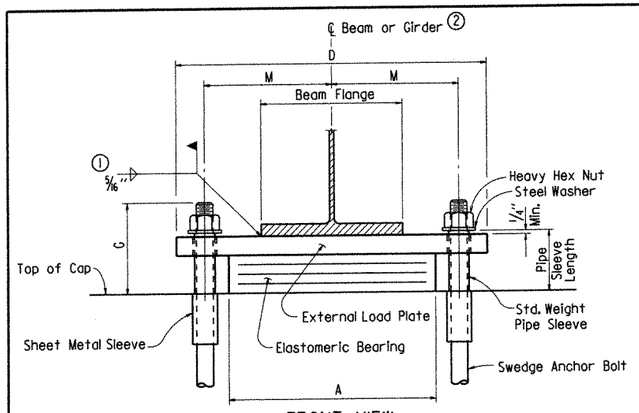
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CHECKED BY: ADK DATE: 8/1/13
DESIGNED BY: BEF DATE: 4/13

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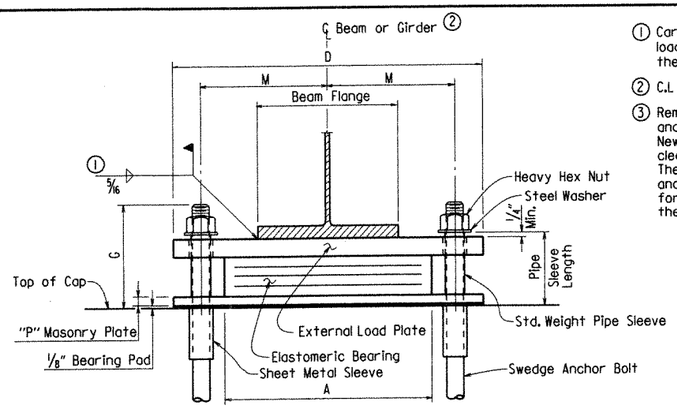
BRIDGE NO. A&B5948 DRAWING NO. 54204

PRINT DATE: 8/9/2013

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.		090331	79	218
				(1)	A5948 - ELASTO. BRGS. BR. A - 54205			



FRONT VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8

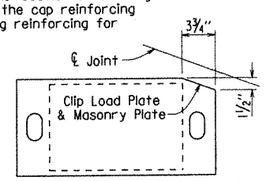


FRONT VIEW
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6

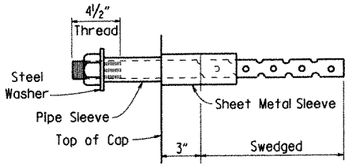
(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

(2) C.L Elastomeric pad shall be aligned with C.L. Beam.

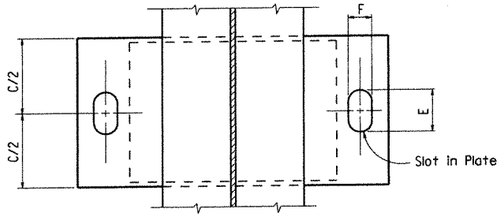
(3) Remove existing anchor bolts 1½" below the top of cap and fill holes with approved non-shrink grout. New anchor bolts have been positioned to provide 1" clearance between new and existing anchor bolts. The Contractor shall verify the location of existing anchor bolts at all bents and the cap reinforcing for the int. bents. The existing reinforcing for the end bents may be drilled.



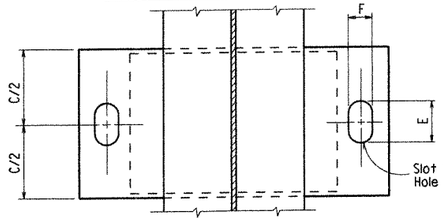
SKETCH OF CLIP FOR EXTERNAL LOAD AND MASONRY PLATES AT BENT NOS. 1 & 4



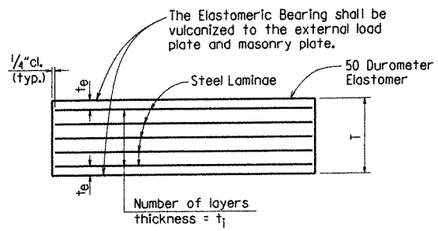
ANCHOR BOLT DETAIL



PLAN VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8

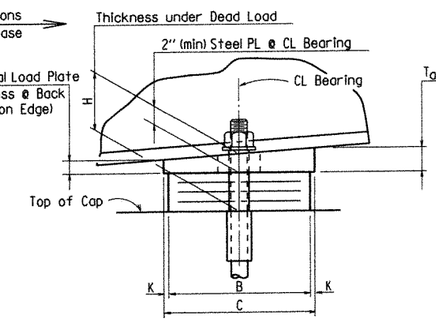


PLAN VIEW - AT BENT NOS. 1 & 4
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6



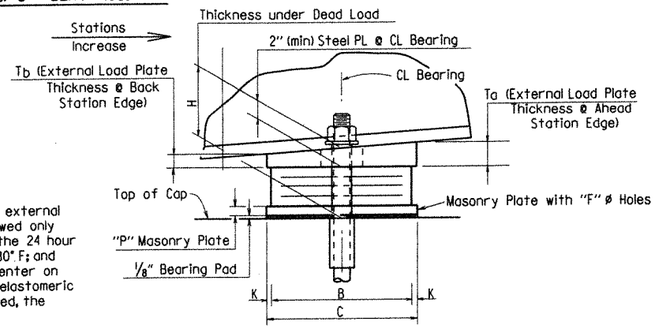
t_e = thickness of elastomer cover on top and bottom of pad
t_i = thickness of elastomer between steel laminae
N = number of elastomer layers of thickness t_i

ELASTOMERIC BEARING



SIDE VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8

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.



SIDE VIEW
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6

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 QPL 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, (M270, Gr. 50)"

GENERAL NOTES

Elastomeric Bearings shall conform to Special Provision Job 090331 "Elastomeric Bearings" and Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings." Long-duration testing of random lot samples specified in subsection 808.05 is not required.

External load plates and masonry plates shall conform to AASHTO M 270, Grade 50. 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 and masonry plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. Surfaces 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 painted in accordance with subsection 807.75. The color of the paint shall conform to Federal Standard 595B, Color Chip No. 20118, Dark Brown. Painting will not be paid for directly, but shall be considered subsidiary to "Elastomeric Bearings".

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. 50)". External load plates, masonry plates and 1/8" bearing pads will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

Bearings with masonry plates shall be seated in accordance with subsection 807.66. Bearings without masonry plates 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

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	(3) M	P	T_a	T_b	ANCHOR BOLT: (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
A5948	1	1-6	Exp.	6	61.13	8⅝"	6⅛"	14"	9"	4	½"	¼"	5 @ 12 Gauge	3"	10"	24½"	3⅝"	2"	½"	9¾"	1"	1.985"	2.015"	1¼"ø x 24"	55	1¼"ø x 6⅜"	3"ø x 6"	2½"ø
	1	7-8	Exp.	2	70.95	9¼"	6 11/16"	14"	10"	5	½"	¼"	6 @ 12 Gauge	3⅝"	11"	23"	3⅝"	2"	½"	9"	⅞"	1.984"	2.016"	1¼"ø x 24"	55	1¼"ø x 7"	3"ø x 6"	2½"ø
	2	1-6	Exp.	6	112.71	9"	6"	14"	12"	4	7/16"	¼"	5 @ 12 Gauge	2¾"	13"	28"	3½"	2⅝"	½"	11"	1⅛"	1.981"	2.019"	1¾"ø x 30"	55	2"ø x 6¼"	4"ø x 6"	3⅜"ø
	2	7-8	Exp.	2	132.82	8¼"	5¼"	14"	13"	5	7/16"	¼"	6 @ 12 Gauge	3⅝"	14"	25"	3½"	2⅝"	½"	9½"	-	1.979"	2.021"	1¾"ø x 30"	55	2"ø x 5½"	4"ø x 6"	3⅜"ø
	3	1-6	Fix	6	111.82	9¼"	5¾"	14"	12"	4	7/16"	¼"	5 @ 12 Gauge	2¾"	13"	29"	3⅛"	3⅛"	½"	11¼"	⅞"	1.981"	2.019"	2¼"ø x 36"	55	2½"ø x 6"	4"ø x 6"	4"ø
	3	7-8	Fix	2	133.16	8¾"	5¼"	14"	13"	5	7/16"	¼"	6 @ 12 Gauge	3⅜"	14"	26"	3⅛"	3⅛"	½"	9¾"	-	1.979"	2.021"	2¼"ø x 36"	55	2½"ø x 5½"	4"ø x 6"	4"ø
	4	1-6	Exp.	6	61.13	8⅝"	6⅛"	14"	9"	4	½"	¼"	5 @ 12 Gauge	3"	10"	24½"	3⅝"	2"	½"	9¾"	1"	1.977"	2.023"	1¼"ø x 24"	55	1¼"ø x 6⅜"	3"ø x 6"	2½"ø
	4	7-8	Exp.	2	70.95	9¼"	6 11/16"	14"	10"	5	½"	¼"	6 @ 12 Gauge	3⅝"	11"	23"	3⅝"	2"	½"	9"	⅞"	1.976"	2.024"	1¼"ø x 24"	55	1¼"ø x 7"	3"ø x 6"	2½"ø

* Maximum Design Load = Service Load

** The dimension "E" does not apply to masonry plates - See "PLAN VIEW"

Tabular Data by : KDH Date: 5/13
Checked by : BEF Date: 8/1/13
Designed by : BEF Date: 4/13

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
8/9/13

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

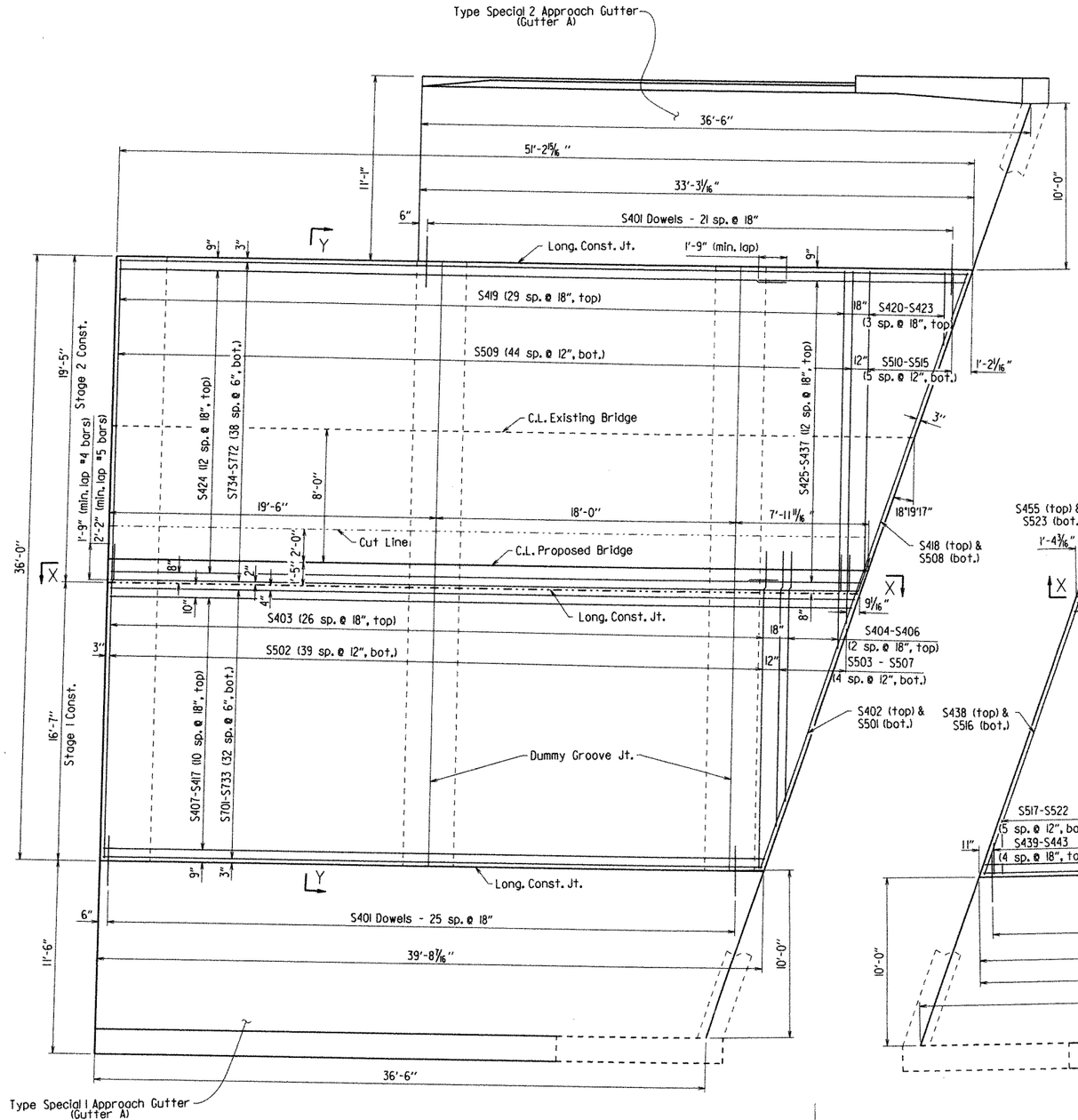
LITTLE ROCK, ARK.

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CHECKED BY: AMS DATE: Jul. 7-05 SCALE: NONE
DESIGNED BY: Std. DATE: ——

BRIDGE NO. A5948 DRAWING NO. 54205

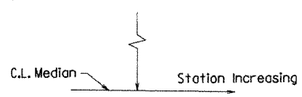
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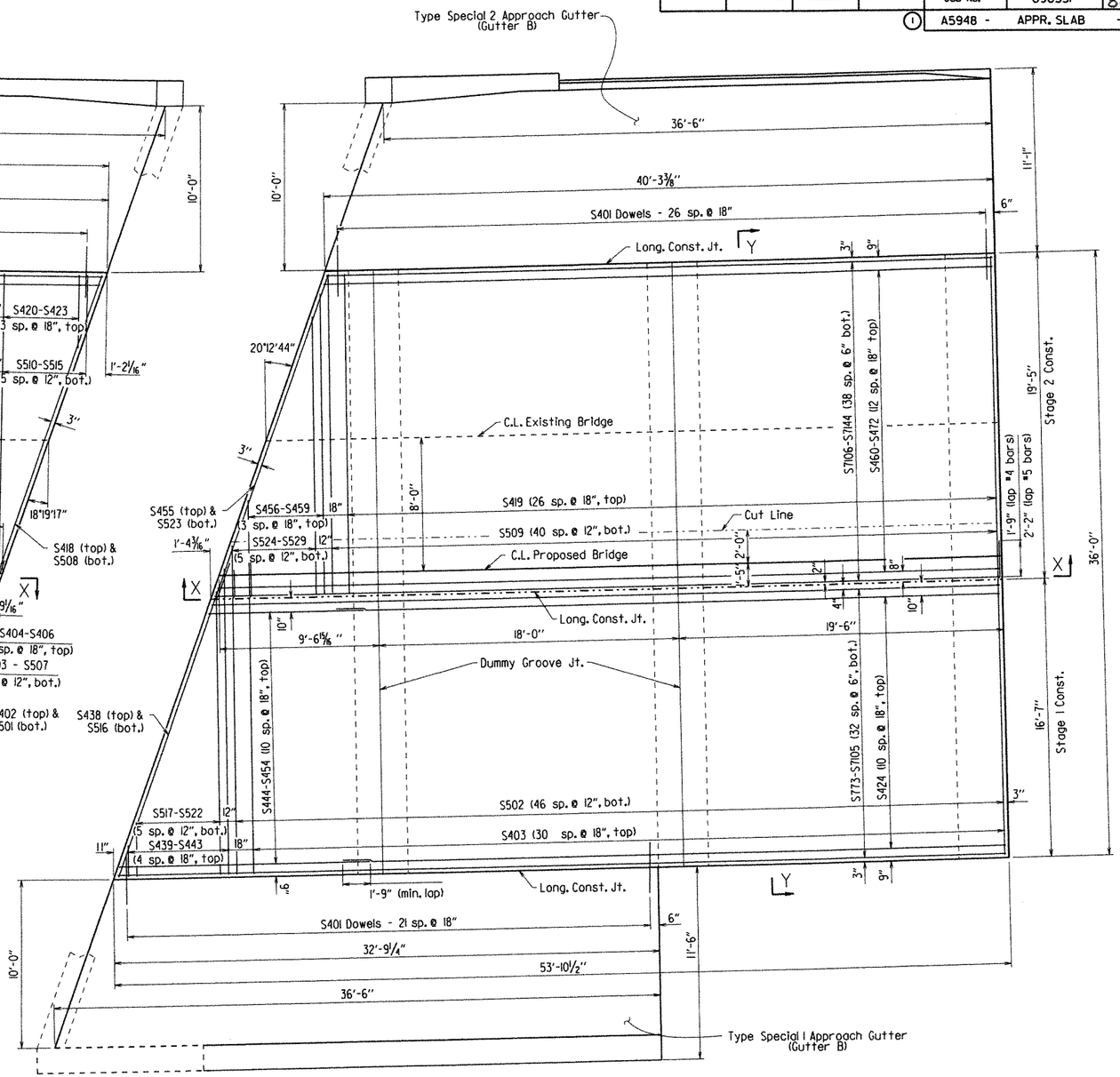
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	80	218
				(1) A5948 -		APPR. SLAB	- 54206	



PLAN - APPROACH SLAB
(BEG. BRIDGE A)

Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along C.L. Proposed Bridge.





PLAN - APPROACH SLAB
(END BRIDGE A)

Note: Surface finish for Approach Slabs shall match that used on the bridge deck.

Note: For General Notes, Sections, Bar List, and additional details, see Dwg. No. 54207.

For details of Type Special 1 & Type Special 2 Approach Gutters, See Dwg. Nos. 54208 & 54209.

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/4/13
CARL L. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF TYPE SPECIAL 1 APPROACH SLABS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

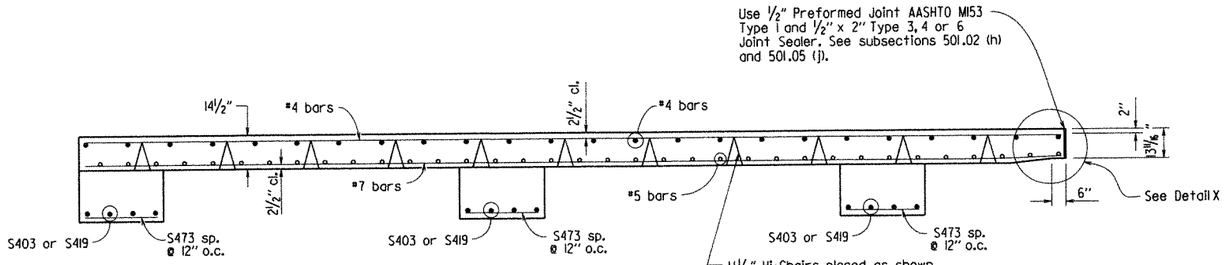
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CHECKED BY: MCB DATE: 7/24/13 SCALE: 1/4" = 1'-0"
DESIGNED BY: STD DATE: --

BRIDGE NO. A5948 DRAWING NO. 54206

PRINT DATE: 9/19/2013

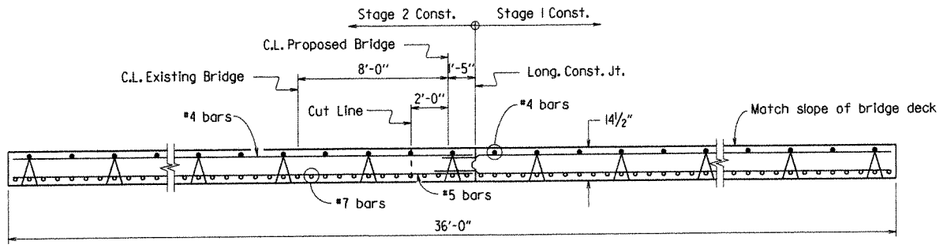
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		090331	81	218
(1)	A5948 -	APPR. SLAB	- 54207	



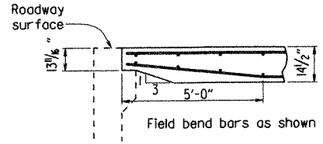
SECTION X - X

N.T.S.



SECTION Y - Y

N.T.S.



DETAIL X

N.T.S.

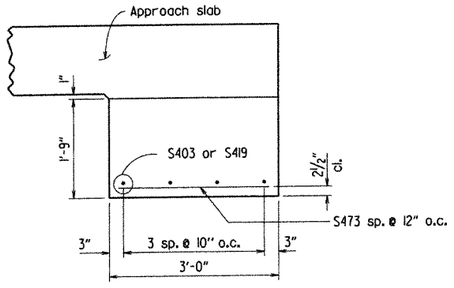
BAR LIST

Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length
S401	48	49	3'-0"
S402	1	--	19'-3"
S403	39	43	18'-4"
S404-S406	1 Each	--	14'-4" to 5'-2"
S407-S417	1 Each	--	39'-7" to 44'-4"
S418	1	--	20'-1"
S419	30	27	19'-1"
S420-S423	1 Each	--	17'-11" to 4'-4"
S424	13	11	40'-0"
S425-S437	1 Each	--	6'-8" to 12'-5"
S438	--	1	19'-5"
S439-S443	--	1 Each	1'-10" to 18'-3"
S444-S454	--	1 Each	9'-4" to 15'-1"
S455	--	1	20'-4"
S456-S459	--	1 Each	5'-9" to 17'-11"
S460-S472	--	1 Each	40'-2" to 47'-0"
S473	108	108	2'-8"
S501	1	--	19'-7"
S502	40	47	18'-9"
S503-S507	1 Each	--	16'-3" to 4'-1"
S508	1	--	20'-1"
S509	45	41	19'-1"
S510-S515	1 Each	--	17'-11" to 2'-9"
S516	--	1	19'-10"
S517-S522	--	1 Each	3'-2" to 16'-10"
S523	--	1	20'-4"
S524-S529	--	1 Each	3'-0" to 16'-7"
S701-S733	1 Each	--	39'-5"" to 44'-6"
S734-S772	1 Each	--	44'-8"" to 50'-9"
S773-S7105	--	1 Each	47'-4" to 53'-5"
S7106-S7144	--	1 Each	40'-0" to 47'-2"

TABLE OF QUANTITIES FOR TYPE SPECIAL 1 APPROACH SLABS

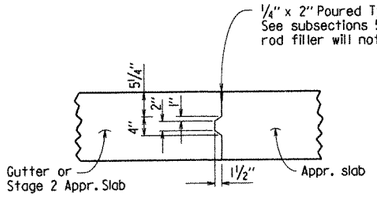
(for information only)

	Slab Width	Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)
Beg. of Bridge	36'-0"	10433	95.30
End of Bridge	36'-0"	10788	97.80



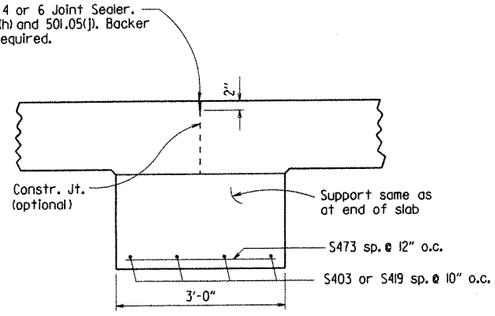
DETAILS OF SUPPORT AT END OF SLAB

N.T.S.



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

N.T.S.



DETAILS OF DUMMY GROOVED JOINT

N.T.S.

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4,000 psi).

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

Approach Slabs will be measured and paid for in accordance with Section 504.

Preformed joint and joint sealer included in the pay item "Approach Slabs".

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/8/13

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF TYPE SPECIAL 1 APPROACH SLABS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 4-17-13 FILENAME: b09033la_as.dgn
CHECKED BY: MCS DATE: 7/24/13 SCALE: As Shown
DESIGNED BY: STD DATE: --

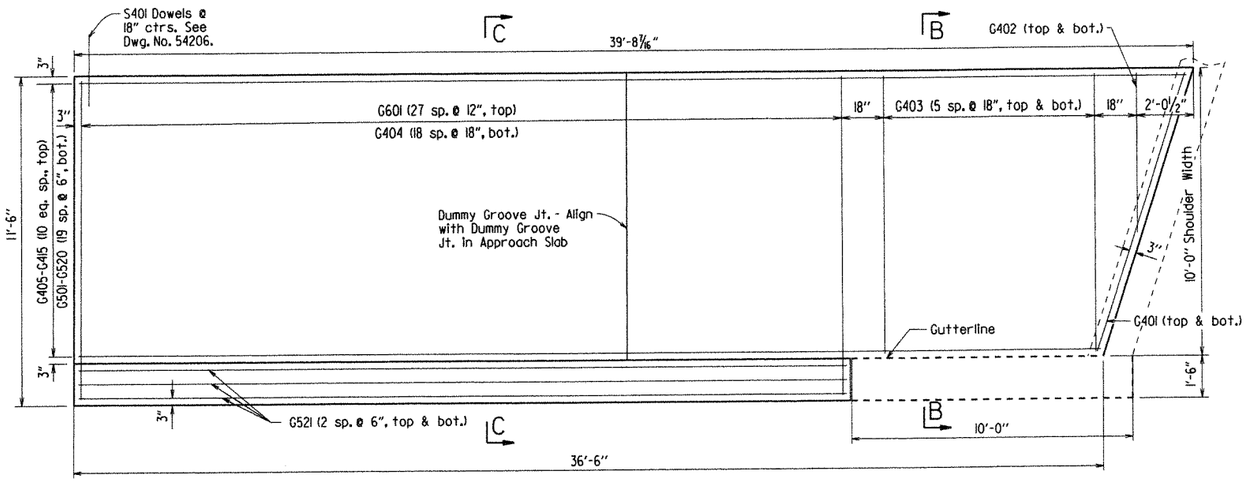
BRIDGE NO. A5948 DRAWING NO. 54207

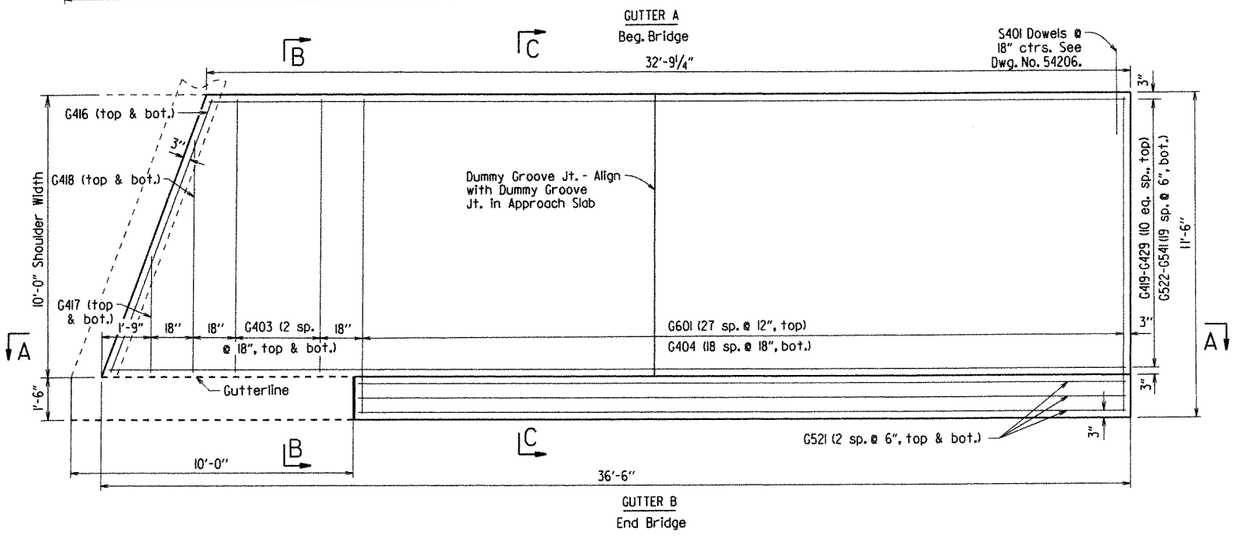
PRINT DATE: 8/9/2013

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.		090331	82	218

(1) A5948 - APPR. GUTTERS - 54208

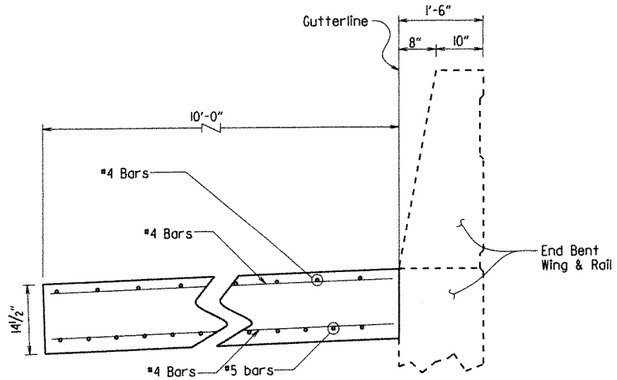




Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Gutterline.

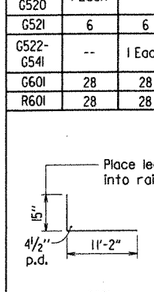
BAR LIST

Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length	Bending Diagram
G401	2	--	10'-2"	
G402	2	--	5'-5"	
G403	12	6	9'-8"	
G404	19	19	11'-1"	
G405-G415	1 Each	--	36'-2" to 39'-3"	
G416	--	2	10'-3"	
G417	--	2	4'-1"	
G418	--	2	8'-2"	
G419-G429	--	1 Each	32'-6" to 36'-0"	
R401	8	8	27'-2"	
G501-G520	1 Each	--	36'-2" to 39'-3"	
G521	6	6	27'-2"	
G522-G541	--	1 Each	32'-6" to 36'-0"	
G601	28	28	12'-3"	
R601	28	28	9'-6"	



SECTION B-B

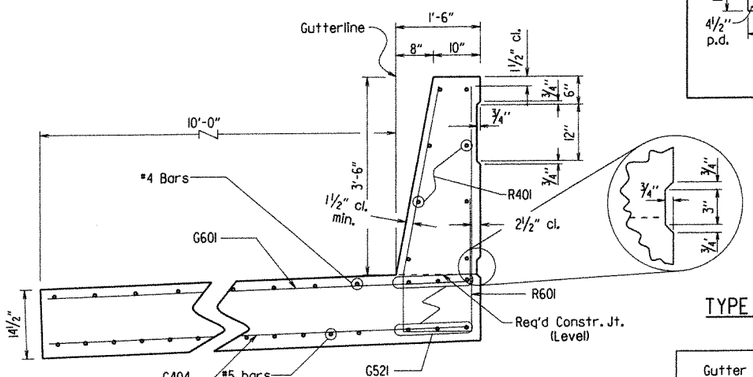
Scale: N.T.S.



R601

G601

Dimensions are out to out of bar.



SECTION C-C

Scale: N.T.S.

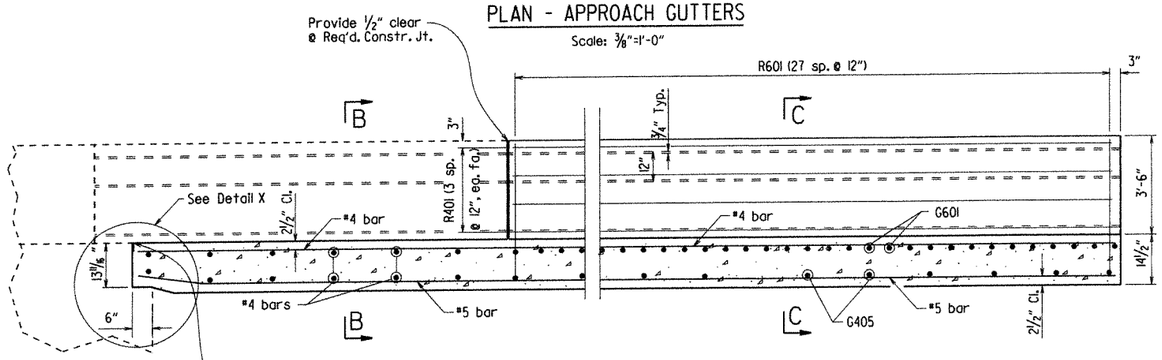
QUANTITIES FOR TYPE SPECIAL I APPROACH GUTTERS

(for information only)

Gutter	Reinforcing Steel (lbs.)	Concrete (cu. yds.)	Textured Coating Finish (sq. yds.)
Gutter A	2533	23.10	27.9
Gutter B	2406	21.50	27.9

PLAN - APPROACH GUTTERS

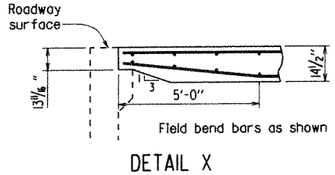
Scale: ⅜"=1'-0"



SECTION A-A

Scale: N.T.S.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



DETAIL X

Scale: N.T.S.

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4000 psi).

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

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

STATE OF ARKANSAS
Carl J. Puseliier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. PUSELIER

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 4/19/13 FILENAME: b090331a_ag.dgn

CHECKED BY: MCB DATE: 7/24/13 SCALE: As Shown

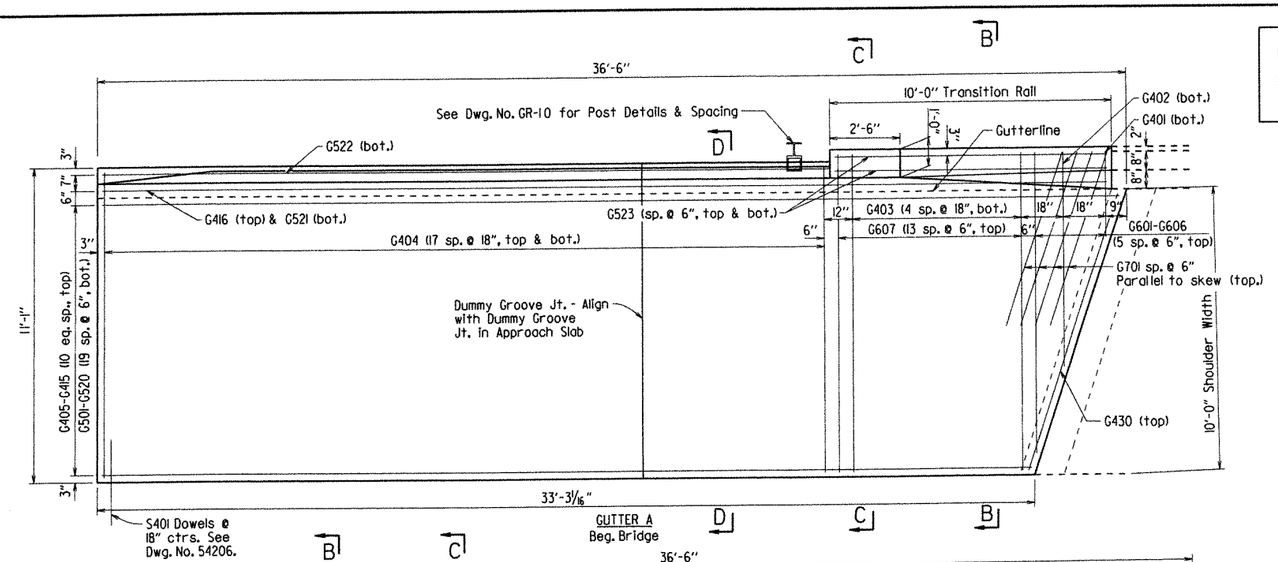
DESIGNED BY: STD DATE: --

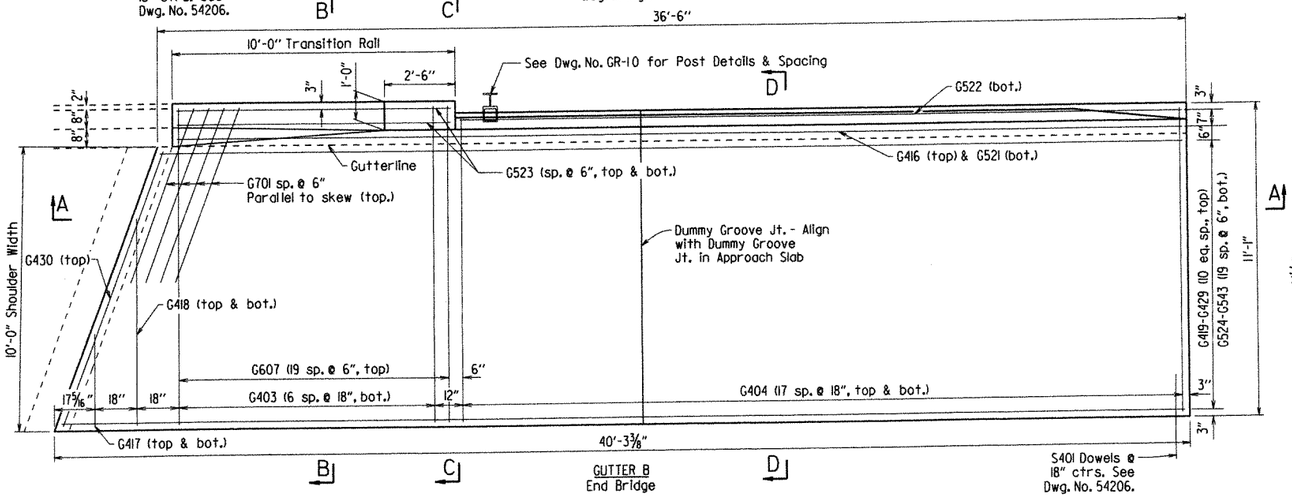
BRIDGE NO. A5948 DRAWING NO. 54208

PRINT DATE: 8/9/2013

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.		090331	83	218
				①	A5948 - APPR. GUTTERS - 54209			

Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Gutterline.





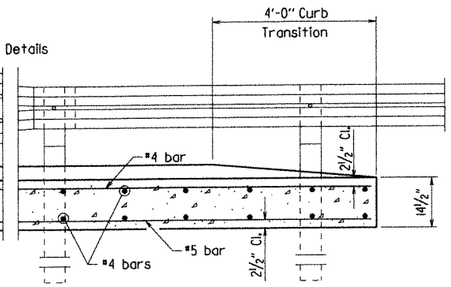
* See Roadway Plans for Guardrail Locations

PLAN - APPROACH GUTTERS

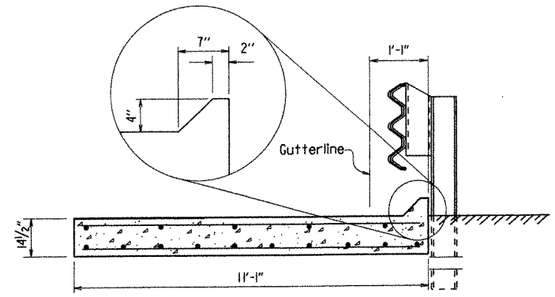
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SECTION A-A

Scale: N.T.S.

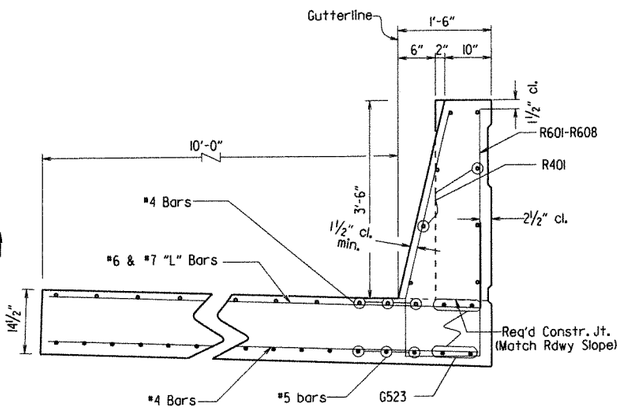


Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



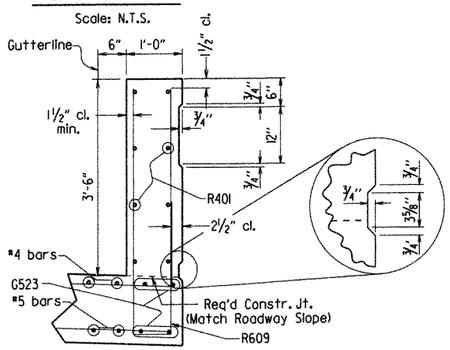
SECTION D-D

Scale: N.T.S.



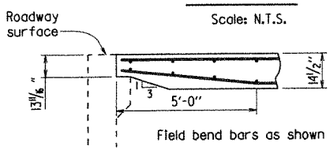
SECTION B-B

Scale: N.T.S.



SECTION C-C

Scale: N.T.S.

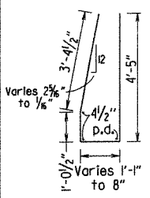


DETAIL X

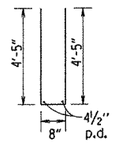
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BAR LIST

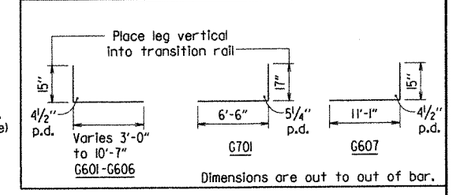
Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length	Bending Diagram
G401	1	--	3'-0"	
G402	1	--	7'-6"	
G403	5	7	11'-1"	
G404	36	36	10'-9"	
G405-G415	1 Each	--	32'-11" to 36'-0"	
G416	1	1	35'-7"	
G417	--	2	3'-3"	
G418	--	2	7'-3"	
G419-G429	--	1 Each	36'-3" to 39'-10"	
G430	1	1	10'-2"	
R401	8	8	9'-8"	
G501-G520	1 Each	--	32'-11" to 36'-0"	
G521	1	1	35'-7"	
G522	1	1	25'-7"	
G523	4	4	9'-8"	
G524-G543	--	1 Each	36'-3" to 39'-10"	
G601-G606	1 Each	--	4'-2" to 11'-8"	
G607	14	20	12'-3"	
R601-R608	1 Each	1 Each	9'-7" to 9'-2"	
R609	3	3	9'-2"	
G701	4	4	7'-9"	



R601-R608



R609



QUANTITIES FOR TYPE SPECIAL 2 APPROACH GUTTERS

(for information only)

Gutter	Reinforcing Steel (lbs.)	Concrete (cu. yds.)	Textured Coating Finish (sq. yds.)
Gutter A	2007	19.50	10.3
Gutter B	2169	21.10	10.3

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4000 psi).

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

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

STATE OF ARKANSAS
Carl T. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL T. FUSELIER

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 2 APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

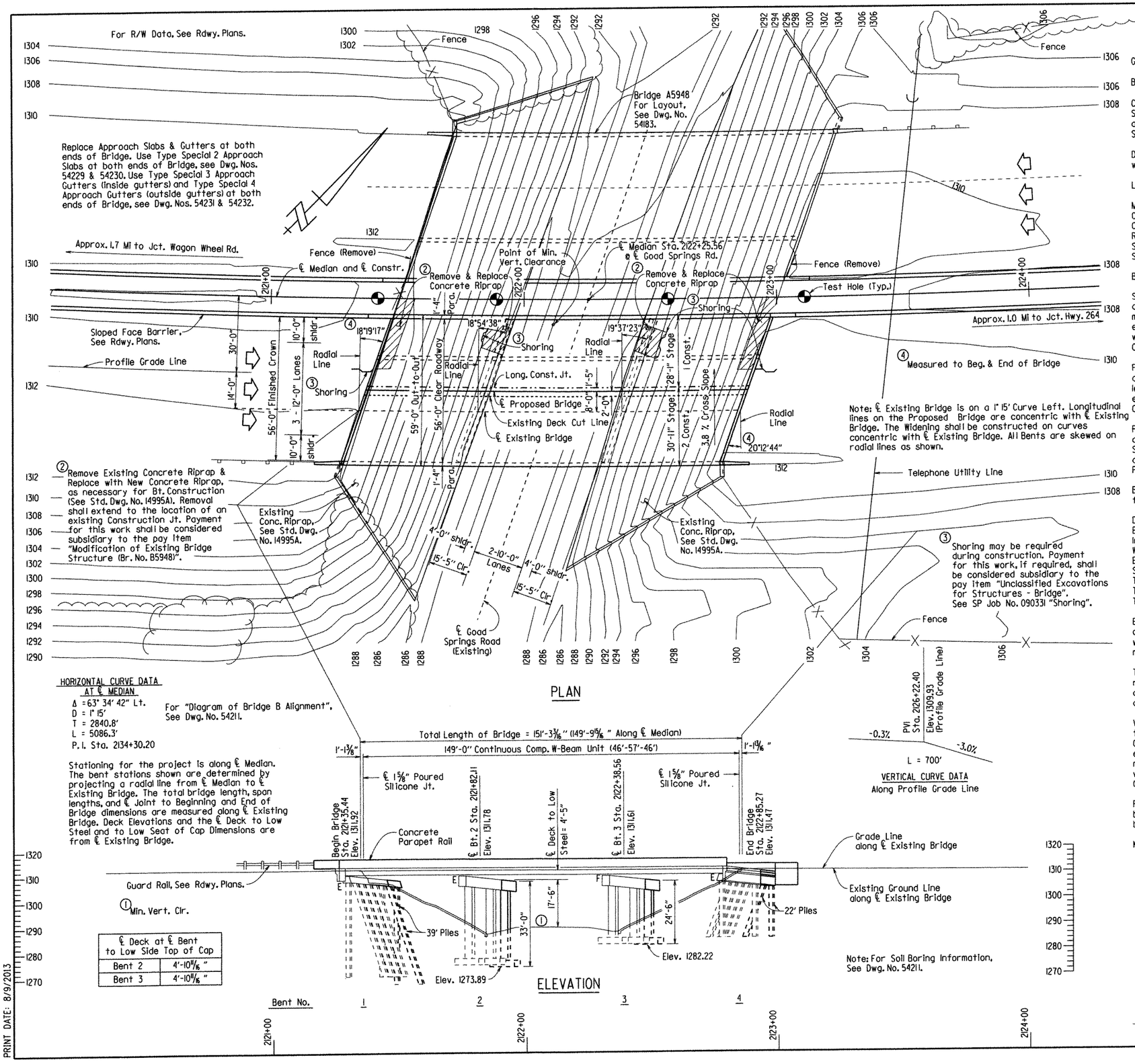
LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 4/19/13 FILENAME: b090331a_gg.dgn
CHECKED BY: mcG DATE: 7/24/13 SCALE: As Shown
DESIGNED BY: STD DATE: --

BRIDGE NO. A5948 DRAWING NO. 54209

PRINT DATE: 8/9/2013

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.		090331	84	218
				(1) B5948 -		LAYOUT	- 54210	



GENERAL NOTES

BENCH MARK: 908, 52.0' Lt. of ℄ Median Sta. 2121+89.17, Elev. 1310.07.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Section and Subsection refer to the Standard Construction Specification unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (17th Edition, 2002) with Interim Specifications.

LIVE LOADING: HS20 DESIGN METHOD: LOAD FACTOR

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. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M270, Gr. 50)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division upon request.

STEEL PILING: Piling for Bents 1 & 4 shall be HP 12 x 53 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 hard gray limestone on the boring legend. Lengths of piling shown are for estimating quantities and for use in determing payment for cut-off and build up in accordance with Standard Specifications. Piles to be driven after embankment at bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile Driving points.

FOOTINGS: Footings at Bents 2 & 3 shall have a minimum cover above top of footings of 2'-0" and shall be set a minimum of 1.5' into material designated as hard gray limestone on the boring legend. Foundations for footings shall be prepared in accordance with Section 801.04. Rock excavations shall be made to neat lines of the concrete footings. Blasting will not be allowed. Concrete in footings shall be poured directly against excavated surfaces of rock.

PAINT: All new Structural Steel execpt galvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection 807.75. The Existing Structural Steel shall be cleaned and painted in accordance with Special Provision Job No. 090331 "Cleaning and Painting Existing Structural Steel". The color of paint shall be Dark Brown and shall match Fed. Std. 595B, Color Chip No. 20108.

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

DETAIL DRAWINGS:

	DRAWING NO.
End Bents	54212-54217
Int. Bents	54218-54220
Widening Details	54204; 54221-54227
Elastomeric Bearings	54228
Steel Piling	14995A
Type Special 2 Approach Slabs	54229-54230
Type Special 3 Approach Gutters	54231
Type Special 4 Approach Gutters	54232

EXISTING BRIDGE: The Existing Bridge No. B5948 is 42'-10" wide and 151'-3 3/8" long and consists of a 149'-0" Cont. Comp. W-Beam unit supported by two column concrete intermediate bents with spread footings and steel H-Pile trestle end bents. Plans of the existing structure may be obtained upon request to the Programs and Contracts Division.

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, modifying the existing bents, removing and replacing the concrete deck, replacing bearing devices which will require raising existing beams, cleaning and painting exsiting beams and diaphrams (see "Method of Work" Dwg. No. 54204 for additional details) and replacing the joint seals. For additional requirements in conducting the work, see Section 821.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to the proposed work. Information and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to the requirements for verification of the geometry of the existing bridge and its relationship to the proposed work described in subsection 821.02 and make necessary adjustments to fit the proposed work to the existing structure. Payement for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5948)".

REMOVAL AND SALVAGE: All material removed from the existing bridge under Item 821 shall be disposed of according to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

SHEET 1 OF 2
LAYOUT OF BRIDGE OVER GOAD SPRINGS RD. (BRIDGE B) WAGON WHEEL RD. - HWY. 264 (WIDENING) (S) BENTON COUNTY

ROUTE 540 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS Carl J. Fusselier REGISTERED PROFESSIONAL ENGINEER No. 7510 8/9/13 CARL J. FUSSELIER

BRIDGE ENGINEER

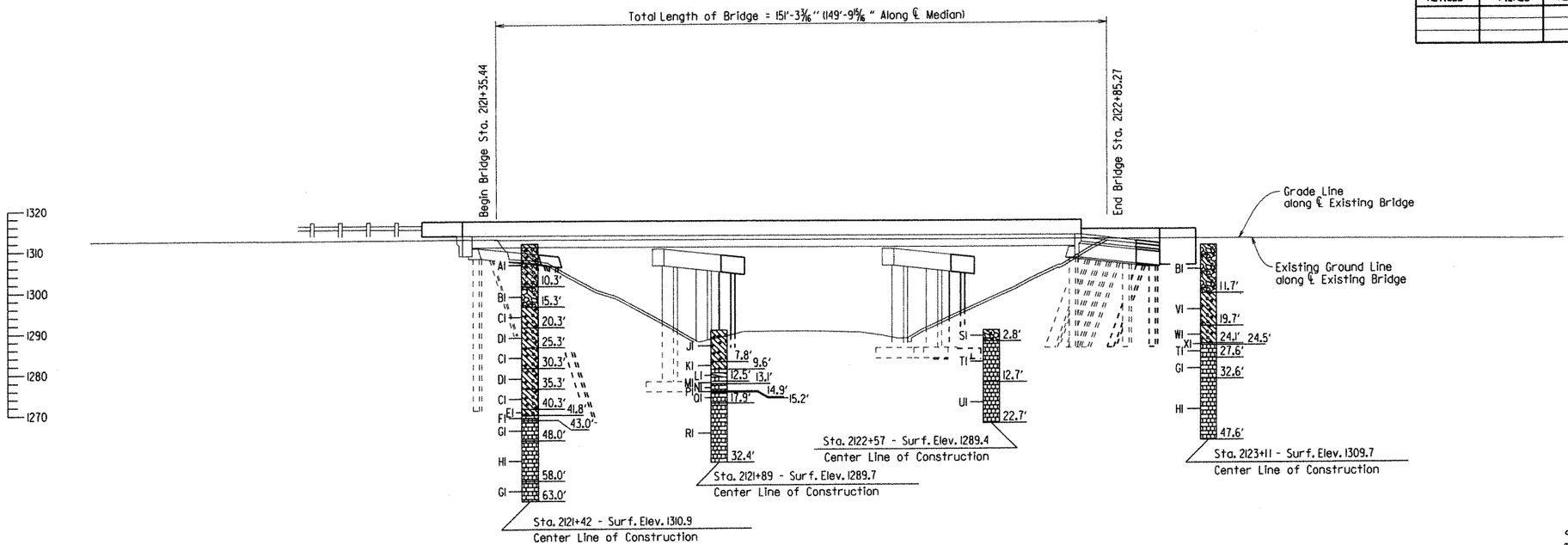
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CHECKED BY: BEF DATE: 8/1/13 SCALE: 1" = 20'

DESIGNED BY: BEF DATE: 3/2-3

BRIDGE NO. B5948 DRAWING NO. 54210

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.		090331	85	218
				① B5948 -		LAYOUT		- 54211



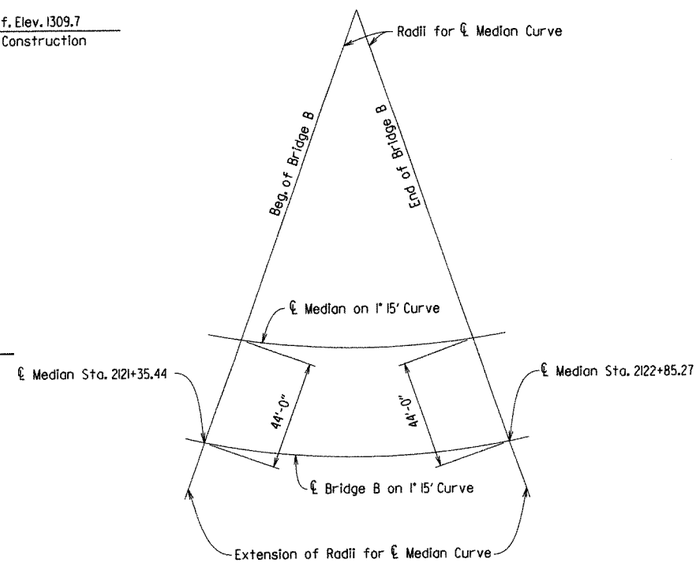


DIAGRAM OF BRIDGE B ALIGNMENT

BORING LEGEND

A1-Moist, Stiff, Reddish Brown Sandy Clay with White Gravel (Chert Fragments)
B1-Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments) and Cobbles
C1-Moist, Very Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
D1-Moist, Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
E1-Moist, Very Stiff to Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
F1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
G1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Hard, with Slight Dip
H1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Hard, with Slight Dip
J1-Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
K1-Moist, Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments)
L1-LIMESTONE WITH REDDISH BROWN CLAY SEAMS - Light Gray, Moderately Hard
M1-Cavity (12.5' to 13.1')
N1-LIMESTONE WITH OCCASIONAL CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
P1-Cavity (14.9' to 15.2')
Q1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Hard, with Slight Dip
R1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Hard, with Slight Dip
S1-Moist, Hard, Reddish Brown Clay with White Gravel (Cherty Limestone Fragments) and Cobbles
T1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Medium Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
U1-LIMESTONE WITH FREQUENT CHERT LAYERS AND SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Moderately Hard, with Slight Dip
V1-Moist, Hard, Reddish Brown Clay with White Gravel (Chert Fragments)
W1-Moist, Medium Stiff, Reddish Brown Clay with White Gravel (Chert Fragments)
X1-LIMESTONE - Light Gray, Moderately Hard

"N" VALUES

Sta. 2121+42 - Center Line of Construction
5.8- 6.8, N=11
10.8- 11.8, N=10
15.8- 16.8, N=18
20.8- 21.8, N=11
25.8- 26.8, N=17
30.8- 31.8, N=10
35.8- 36.8, N=23
40.8- 41.2, N=29(11")
41.8- 41.8, N=60(.01")

Sta. 2121+89 - Center Line of Construction
5.3- 6.3, N=8
8.3- 9.3, N=48
9.8- 10.0, N=60(2")

Sta. 2122+57 - Center Line of Construction
2.8- 2.9, N=60(1")

Sta. 2123+11 - Center Line of Construction
15.2- 16.2, N=39
20.2- 21.2, N=6
24.5- 24.5, N=60(.01")

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE OVER GOAD SPRINGS RD. (BRIDGE B) WAGON WHEEL RD. - HWY. 264 (WIDENING) (S) BENTON COUNTY

ROUTE 540 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 07/26/13 FILENAME: b09033b_ll.dgn
CHECKED BY: BEF DATE: 8/1/13 SCALE: NO SCALE
DESIGNED BY: BEF DATE: 5/13

BRIDGE NO. B5948 DRAWING NO. 54211

PRINT DATE: 8/9/2013

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.		090331	86	218
				① B5948 - BENT 1 - BR. B - 54212				

Stage 2 Construction | Stage 1 Construction

3⅝" | 20'-8 13/16" | 17'-7 1/16" | 20'-4 1/4"

29'-1 13/16" - Remove this portion of backwall above paving bracket during Stage 2 Constr.

3'-1 13/16" - Replace this portion of backwall above paving bracket during Stage 2 Construction. See "Section B-B", Dwg. No. 54213.

9'-6" - Remove this portion of backwall above paving bracket during Stage 1 Constr.

7'-6" - Replace this portion of backwall above paving bracket during Stage 1 Constr. See "Section B-B", Dwg. No. 54213.

Note: Angles shown are to a line radial to ℄ Existing Bridge-typ.

NOTE:
Class 2 Protective Surface Treatment shall be applied to the top of the backwall.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".

See "Wing Detail", Dwg. No. 54214.

② Wingwall, rail and end post shall be constructed on curves concentric with ℄ Existing Bridge.

℄ Existing Bridge is on a 1°15' Curve Left

8'-0" | 8'-5 1/8" | 3'-8" | 3'-8" | 36'-0" to ℄ Median

Beginning of Bridge as shown on "Layout". Elev. 1311.92

℄ Proposed Bridge

Construction Joint at top of backwall

Construction Joint See Detail on Dwg. No. 54213.

Existing HP 10x42 Steel Pile to remain in place

7'-4"-Typ. except as noted

Remove and replace existing bearings & anchor bolts. See Dwg. No. 54228.

Elev. 1312.70

See "Typ. Anchor Bolt Layout"

1'-6" | 18°15" | 1'-6 5/8"

18°16" | 18°18" | 18°20" | 18°22" | 18°19'17" | 18°23" | 18°25" | 18°27" | 18°29" | 18°22"

1'-3 1/8" | 9"-Typ. along each beam | 7 1/16"

Elev. 1311.92

6" | 12" | 1'-7" | 10"

℄ Beam 1 | ℄ Beam 2 | ℄ Beam 3 | ℄ Beam 4 | ℄ Beam 5 | ① ℄ Beam 6 | ℄ Beam 7 | ℄ Beam 8

℄ Joint | ℄ Bearing | Radial Line-typ.

8'-8" | See "Detail A", Dwg. No. 54214. | See "Typ. Anchor Bolt Layout" | Elev. 1310.52 | 3⅝" | 10'-0" | 1'-6"

1'-8 1/4"	7'-8 1/16"	7'-8 11/16"	3'-3 5/16"	4'-5 3/8"	7'-8 3/4"	5'-4 15/16"	2'-3 13/16"	7'-8 3/4"	9'-1 5/8"	2'-11 1/8"	Beam Spacing
							10'-3"	9'-3"	2'-7 5/16"		Pile Sp. - HP12x53-New
							3'-10"-Level	4'-8"	3'-1"-Level	6'-1"	4'-5 5/16"-Level	Riser Spacing

38'-0" - Existing Cap Retained

22'-1 5/16"

① Beam 6 is to be temporarily removed for Stage 1 Constr. of the end and intermediate bents.

PLAN

Scale: ⅜" = 1'-0"

Note: For additional details of stage construction, see Dwg. No. 54187.

See "End Post Details", Dwg. No. 54213

29 - B409 @ 12"-Ea. Fa. - Drilled and grouted into existing backwall

12" | 8 - B409 @ 12"-Ea. Fa. Drilled & grouted into existing backwall

1'-9" min. lap for B404 & B408

B408-Ea. Fa.

** Existing Reinforcing Steel to be retained full length

3" | B401 in backwall - 27 sp. @ 9"

B402 in paving bracket - 24 sp. @ 9"

Construction Joint See Detail on Dwg. No. 54213.

B404-Ea. Fa.

**B403-Ea. Fa. - Lap with reinforcing steel in existing backwall

Req'd. Constr. Joint

*Elev. 1307.83

6-B601

Elev. 1306.91

See "Detail of Weld for Expansion Device", Dwg. No. 54213.

Existing Steel Piles

Level Line

B406 @ 4" Typ. over each pile

B602 Ea. Fa. | B407 Ea. Fa.

Batter 4:12

B405 Tie Sp. - 3¾"	3 sp. @ 6"	15¾"	3 sp. @ 5"	4 sp. @ 12"	3 sp. @ 5"	15½"	4 sp. @ 5"	5 sp. @ 11"	4 sp. @ 5"	15¾"	4 sp. @ 5"	3⅜"

2'-6" | 5'-9" | 10⅛"

** Retain and clean existing reinforcing steel extending from existing end bent and lap with new reinforcing steel as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

* These dimensions and elevation are based on the original plans. The contractor shall verify these in the field.

ELEVATION

Looking Back
Scale: ⅜" = 1'-0"

℄ Joint | ℄ Bearing | Varies | 9" along Beam | 9¾" | 9¾" | 9" | 9" | Beams 1 - 6 | Beams 7 & 8 | ℄ Beam

TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, see Dwg. No. 54228.

STATE OF ARKANSAS
Carl J. Fusilier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSILIER
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 1 - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

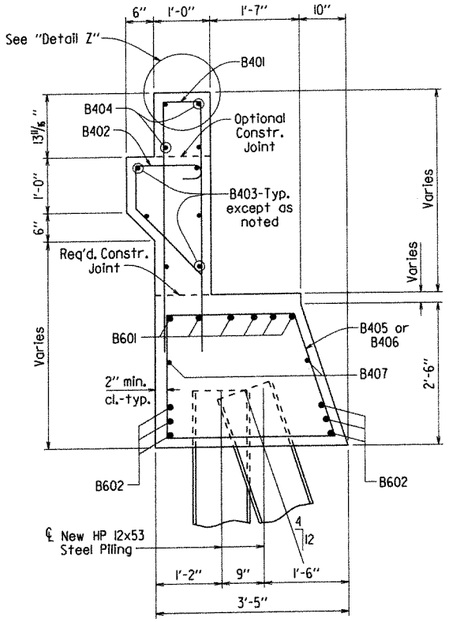
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADM DATE: 6/13

FILENAME: b09033lbl_bl.dgn
SCALE: AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54212

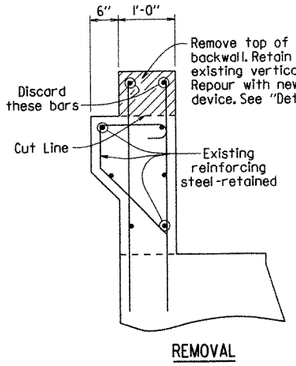
PRINT DATE: 8/9/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
					ARK.			
				JOB NO.		090331	87	218
				①	B5948 - BENT 1 - BR. B - 54213			

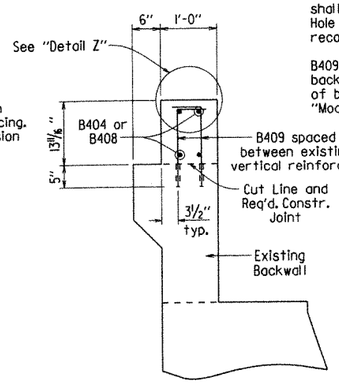


SECTION A-A

Scale: ¾" = 1'-0"



REMOVAL



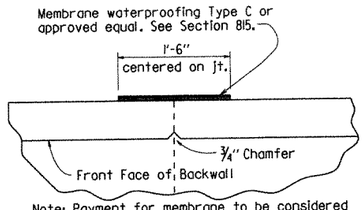
CONSTRUCTION

Grout B409 bars into 5" min. 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.

B409 bars shall be located to avoid damaging the existing backwall reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5948)".

SECTION B-B

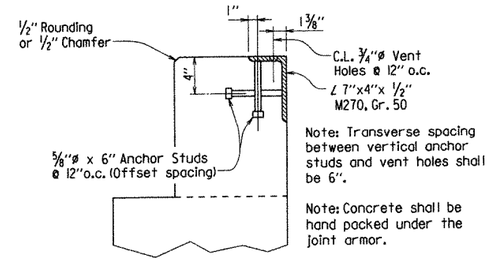
Scale: ¾" = 1'-0"



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

CONSTRUCTION JOINT DETAIL

No Scale



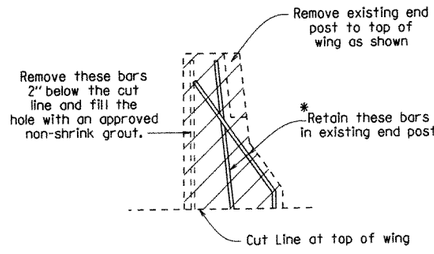
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54227.

DETAIL Z

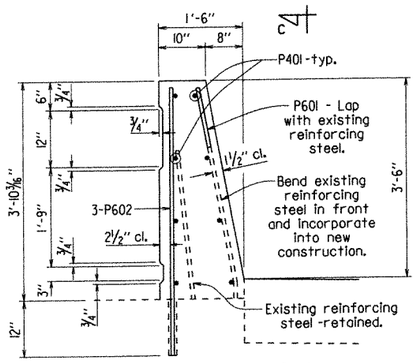
No Scale



END POST REMOVAL DETAILS

Scale: ¾" = 1'-0"

*Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

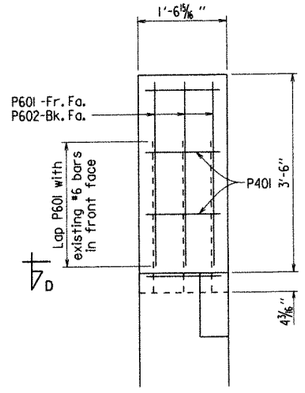


Grout P602 bars into 12" min. deep drilled holes. Grout used shall be an approved non-shrink or epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer.

P602 bars shall be located to avoid damaging the existing wing reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

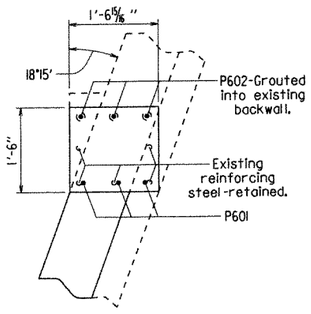
END POST DETAILS

Scale: ¾" = 1'-0"



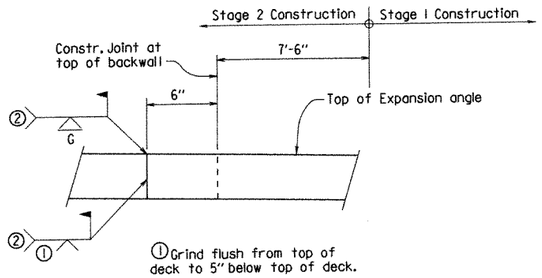
VIEW C-C

Scale: ¾" = 1'-0"



SECTION D-D

Scale: ¾" = 1'-0"



①Grind flush from top of deck to 5" below top of deck.

② Weld after Stage 2 Const.

DETAIL OF WELD FOR EXPANSION DEVICE

Looking Back - Bent 1
No Scale

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
8/6/13
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BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 1 - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

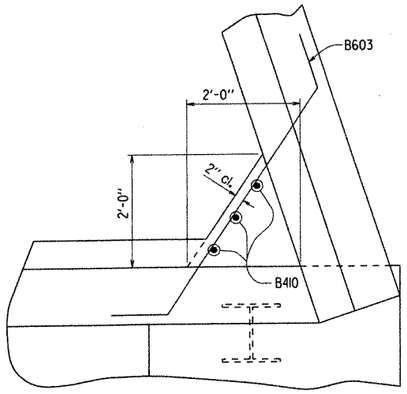
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADM DATE: 6/13

FILENAME: b090331bl_bl.dgn
AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54213

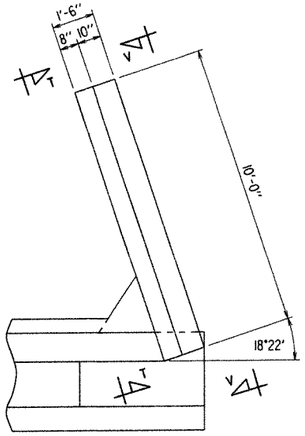
PRINT DATE: 8/9/2013

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.		090331	88	218
				(1)	B5948 - BENT 1 - BR. B - 54214			



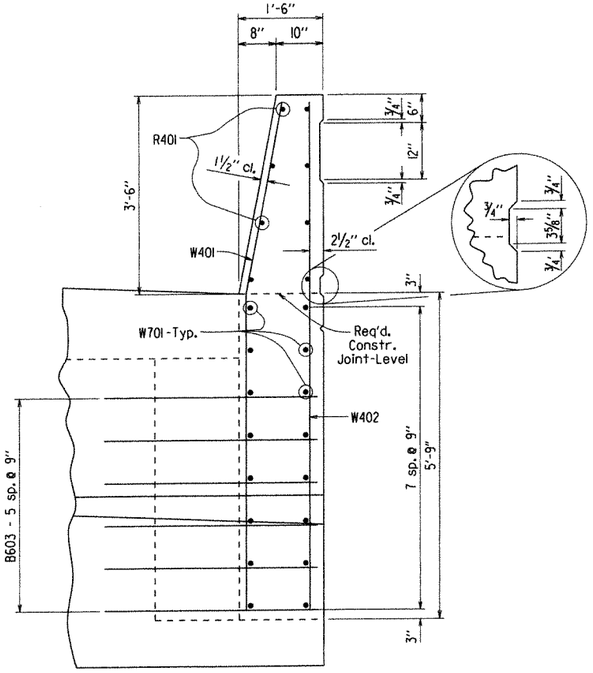
DETAIL A

Scale: 3/4" = 1'-0"



WING DETAIL

Scale: 3/8" = 1'-0"



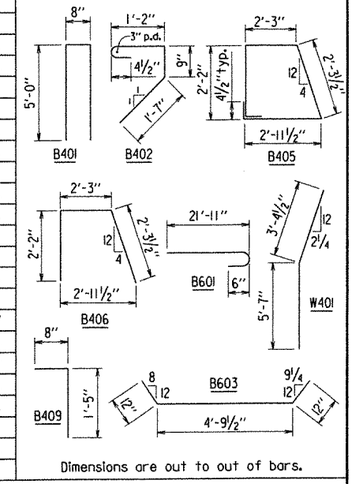
VIEW W-W

Scale: 3/4" = 1'-0"

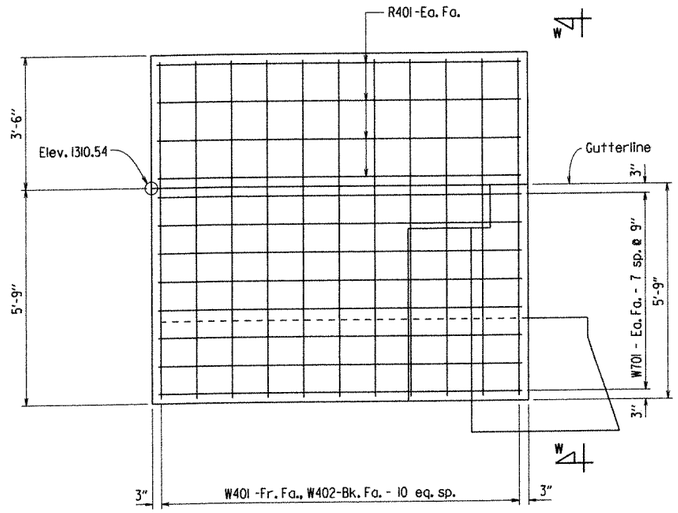
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	28	10'-6"	2"
B402	25	3'-11"	2"
B403	6	20'-4"	Str.
B404	4	29'-5"	Str.
B405	34	10'-0"	2"
B406	9	6'-6"	2"
B407	2	21'-10"	Str.
B408	4	30'-11"	Str.
B409	74	2'-0"	2"
B410	3	4'-3"	Str.
R401	8	9'-8"	Str.
W401	11	9'-0"	2"
W402	11	9'-0"	Str.
P401	8	1'-2"	Str.
B601	6	22'-6"	4½"
B602	6	21'-11"	Str.
B603	6	6'-8"	4½"
P601	3	3'-6"	Str.
P602	3	4'-8"	Str.
W701	16	9'-8"	Str.

BENDING DIAGRAMS

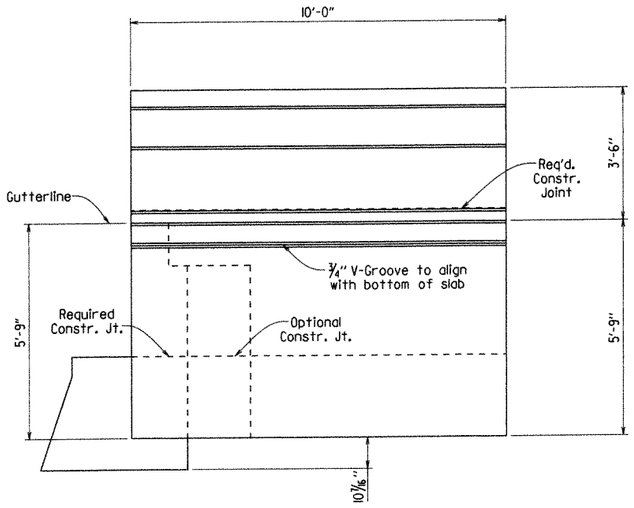


Dimensions are out to out of bars.



VIEW T-T

Scale: 1/2"= 1'-0"



VIEW V-V

Scale: 1/2"= 1'-0"

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

Remove existing anchor bolts 1½" below the top of cap and fill the holes with an approved non-shrink grout.

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

All reinforcing steel shall conform to Grade 60, AASHTO M31 or M322, Type A.

No portion of the backwall for Stage I Construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving bracket shall not be placed until the adjacent deck pour has been made.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50)".

All new structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 20108, Dark Brown.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid damage. The existing reinforcing steel in top of cap may be drilled during placement of anchor bolts for Stage 2 Construction.

For additional information, See Layout.

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT I - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

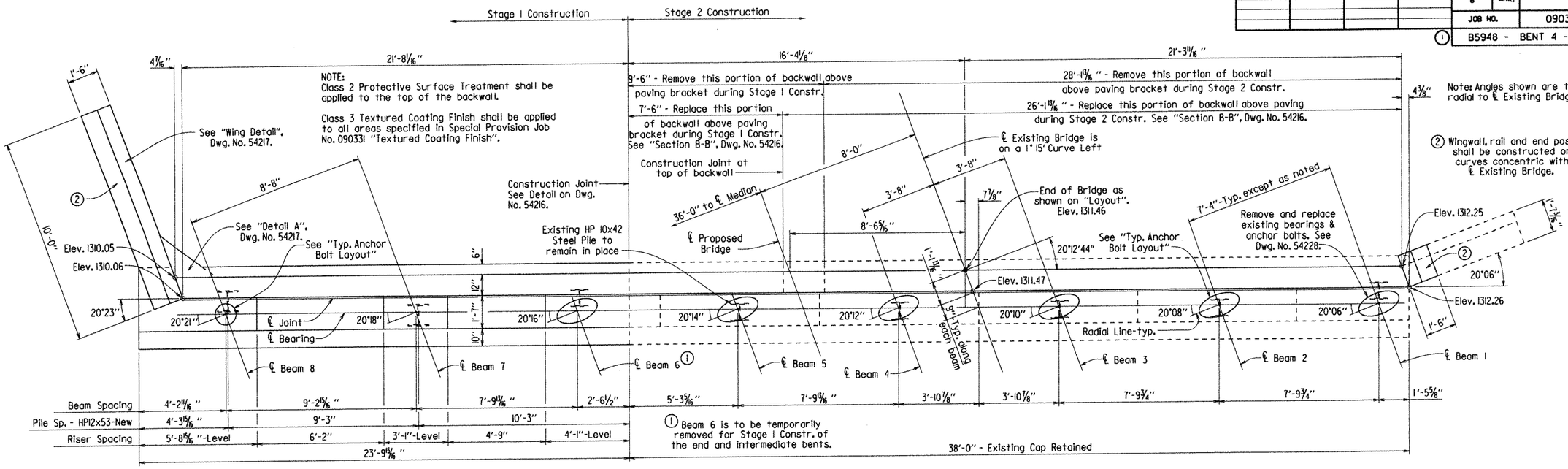
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADM DATE: 7/13

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SCALE: AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54214

PRINT DATE: 8/9/2013

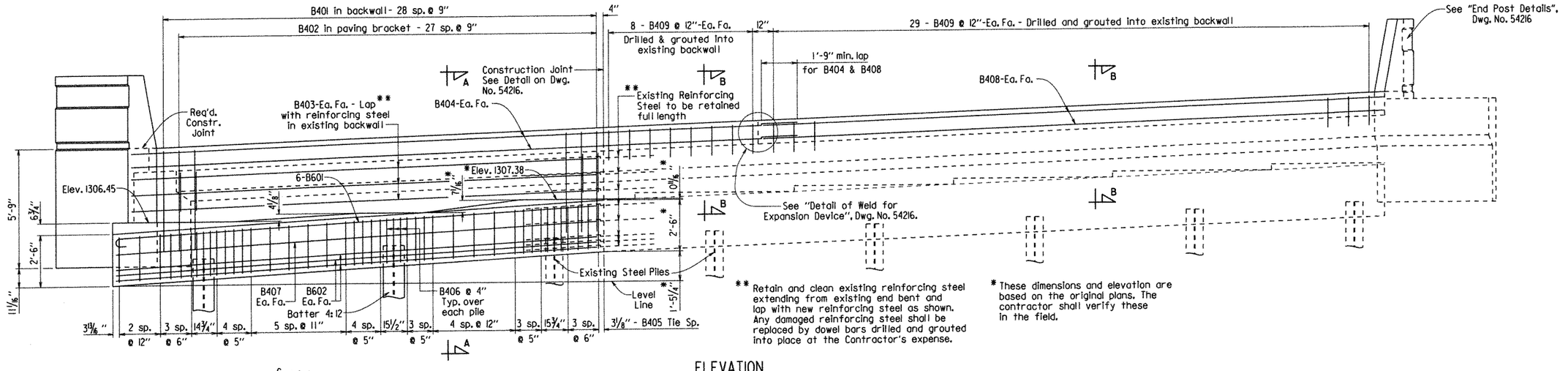
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				6	ARK.			
				JOB NO.		090331	89	218
				(1) B5948 - BENT 4 - BR. B - 54215				



Note: For additional details of stage construction, see Dwg. No. 54187.

PLAN

Scale: 3/8" = 1'-0"

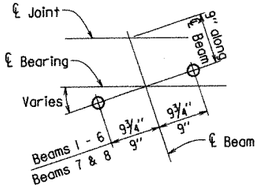


** Retain and clean existing reinforcing steel extending from existing end bent and lap with new reinforcing steel as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

* These dimensions and elevation are based on the original plans. The contractor shall verify these in the field.

ELEVATION

Looking Ahead
Scale: 3/8" = 1'-0"



TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, see Dwg. No. 54228.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 4 - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

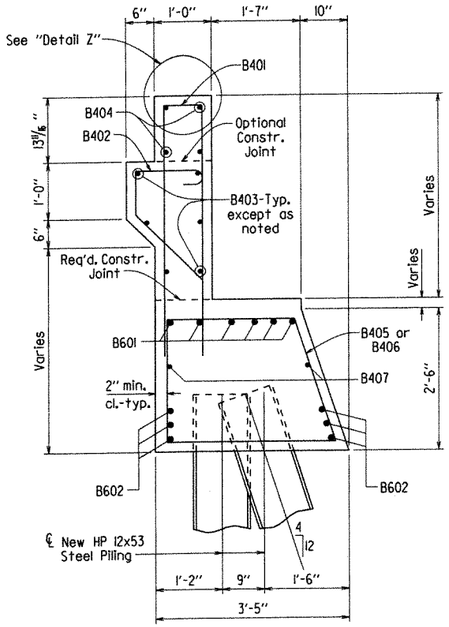
LITTLE ROCK, ARK.

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DESIGNED BY: ADR DATE: 6/17/13

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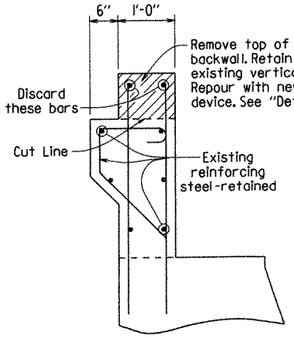
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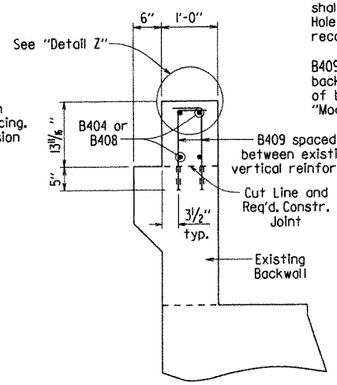


SECTION A-A

Scale: ¾" = 1'-0"



REMOVAL



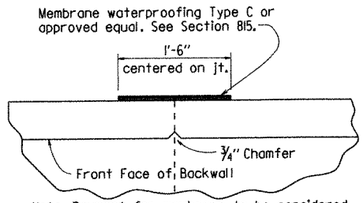
CONSTRUCTION

SECTION B-B

Scale: ¾" = 1'-0"

Grout B409 bars into 5" min. 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.

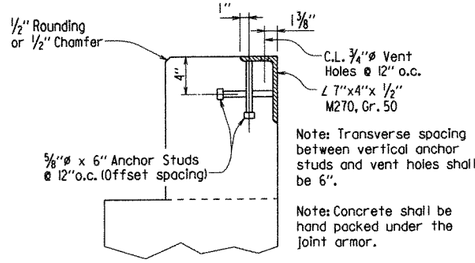
B409 bars shall be located to avoid damaging the existing backwall reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5948)".



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

CONSTRUCTION JOINT DETAIL

No Scale



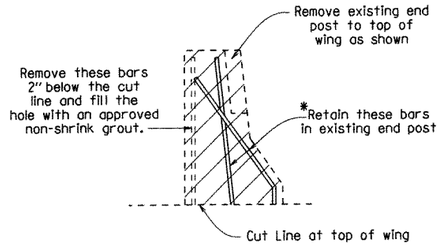
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 54227.

DETAIL Z

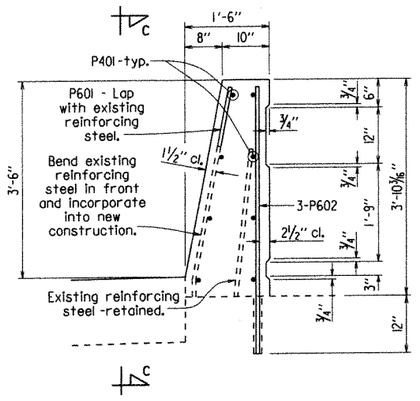
No Scale



END POST REMOVAL DETAILS

Scale: ¾" = 1'-0"

*Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

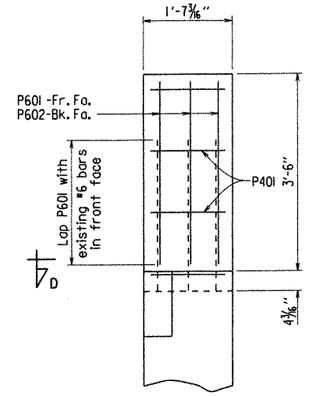


Grout P602 bars into 12" min. deep drilled holes. Grout used shall be an approved non-shrink or epoxy grout listed on the QPL. Hole diameter and installation procedure shall be as recommended by the grout manufacturer.

P602 bars shall be located to avoid damaging the existing wing reinforcing steel. Payment for grouting and placement of bars shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

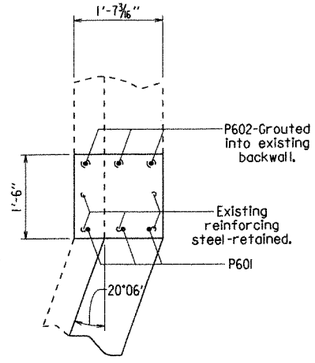
END POST DETAILS

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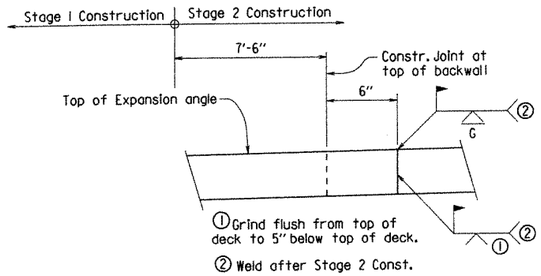
VIEW C-C

Scale: ¾" = 1'-0"



SECTION D-D

Scale: ¾" = 1'-0"



DETAIL OF WELD FOR EXPANSION DEVICE

Looking Back - Bent 1

No Scale

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 4 - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 6-18-13

CHECKED BY: BEF DATE: 8/1/13

DESIGNED BY: ADH DATE: 6/13

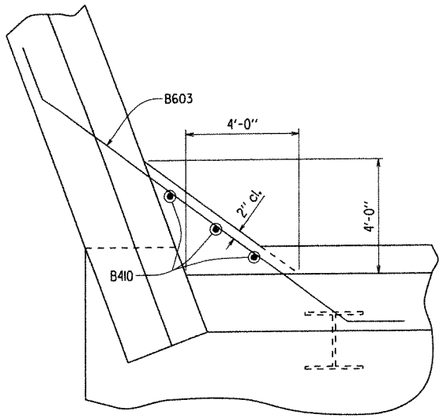
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AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54216

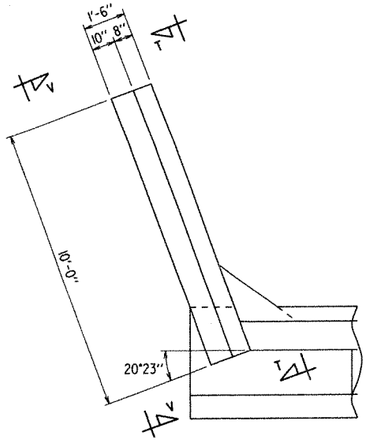
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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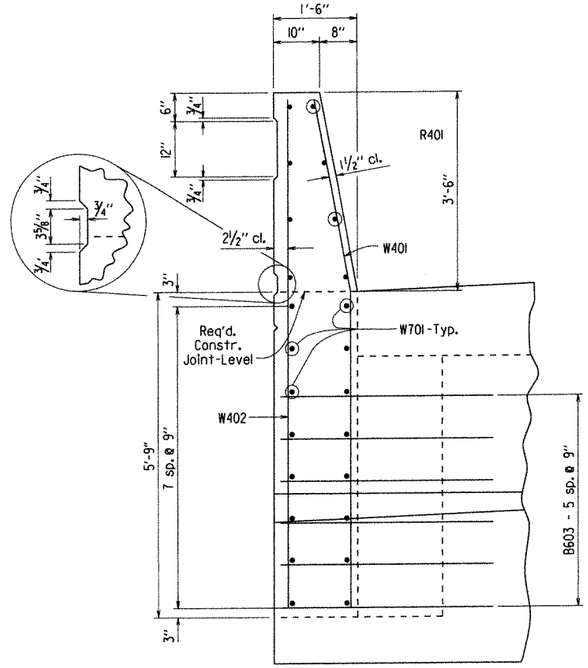
DETAIL A

Scale: 3/4" = 1'-0"



WING DETAIL

Scale: 3/8" = 1'-0"



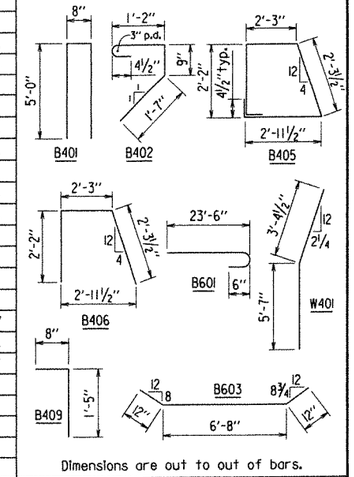
VIEW W-W

Scale: 3/4" = 1'-0"

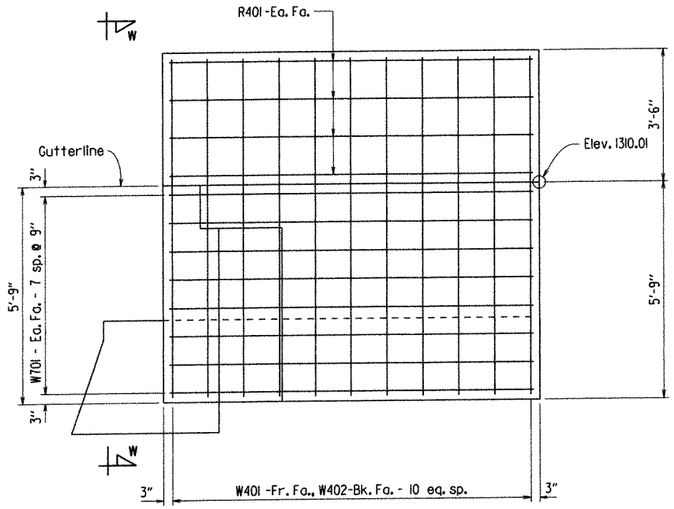
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	29	10'-6"	2"
B402	28	3'-11"	2"
B403	6	22'-0"	Str.
B404	4	31'-5"	Str.
B405	35	10'-0"	2"
B406	9	6'-6"	2"
B407	2	23'-6"	Str.
B408	4	30'-0"	Str.
B409	74	2'-0"	2"
B410	3	4'-3"	Str.
R401	8	9'-8"	Str.
W401	11	9'-0"	2"
W402	11	9'-0"	Str.
P401	8	1'-3"	Str.
B601	6	24'-2"	4 1/2"
B602	6	23'-6"	Str.
B603	6	8'-6"	4 1/2"
P601	3	3'-6"	Str.
P602	3	4'-8"	Str.
W701	16	9'-8"	Str.

BENDING DIAGRAMS

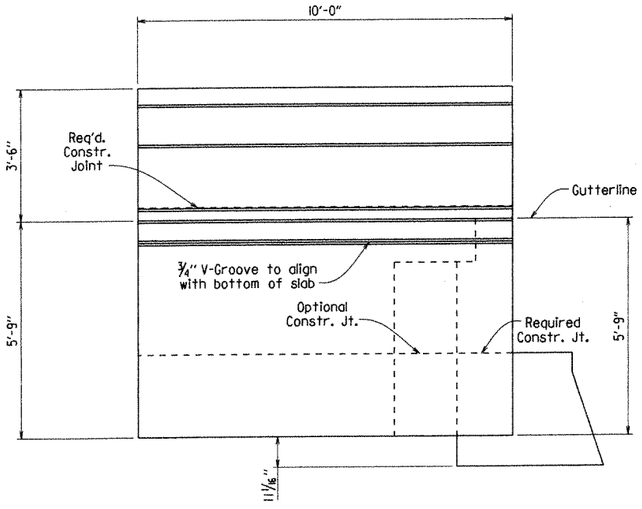


Dimensions are out to out of bars.



VIEW T-T

Scale: 1/2"= 1'-0"



VIEW V-V

Scale: 1/2"= 1'-0"

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

Remove existing anchor bolts 1 1/2" below the top of cap and fill the holes with an approved non-shrink grout.

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

All reinforcing steel shall conform to Grade 60, AASHTO M31 or M322, Type A.

No portion of the backwall for Stage I Construction shall be poured until the beams are in place. The portion of the backwall above the optional construction joint or paving bracket shall not be placed until the adjacent deck pour has been made.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50)".

All new structural steel except galvanized steel and steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 20108, Dark Brown.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid damage. The existing reinforcing steel in top of cap may be drilled during placement of anchor bolts for Stage 2 Construction.

For additional information, See Layout.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 4 - BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 6-20-13 FILENAME: b090331bl_b4.dgn

CHECKED BY: BEF DATE: 8/1/13 SCALE: AS NOTED

DESIGNED BY: ADH DATE: 8/13

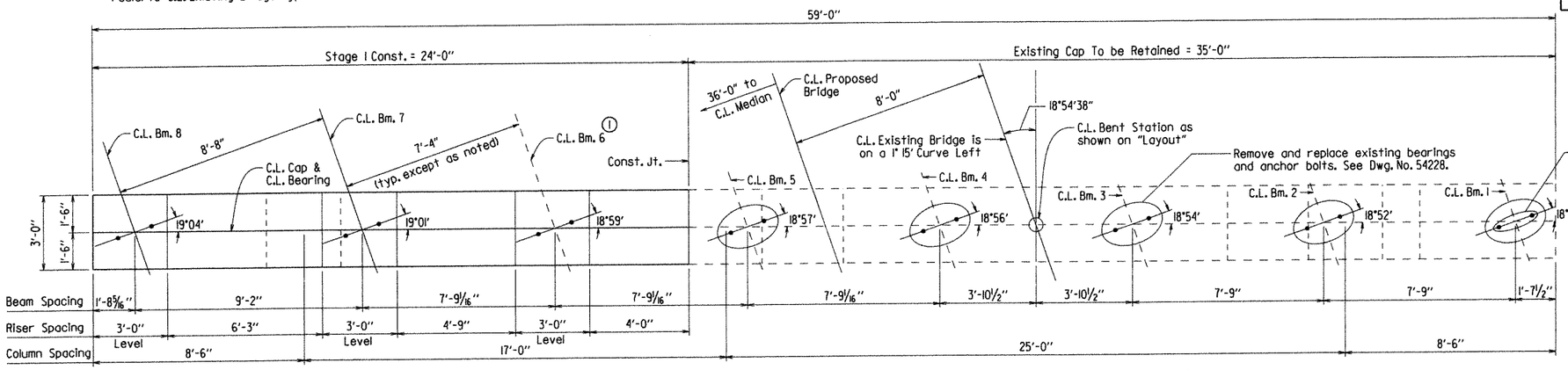
BRIDGE NO. B5948 DRAWING NO. 54217

PRINT DATE: 8/9/2013

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.		090331	92	218

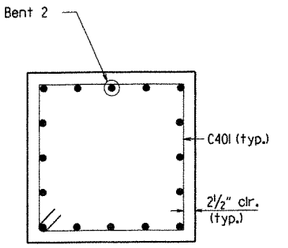
(1) B5948 - Int. Bent - BR. B - 54218

Note: Angles shown are to a line radial to C.L. Existing Bridge-typ.

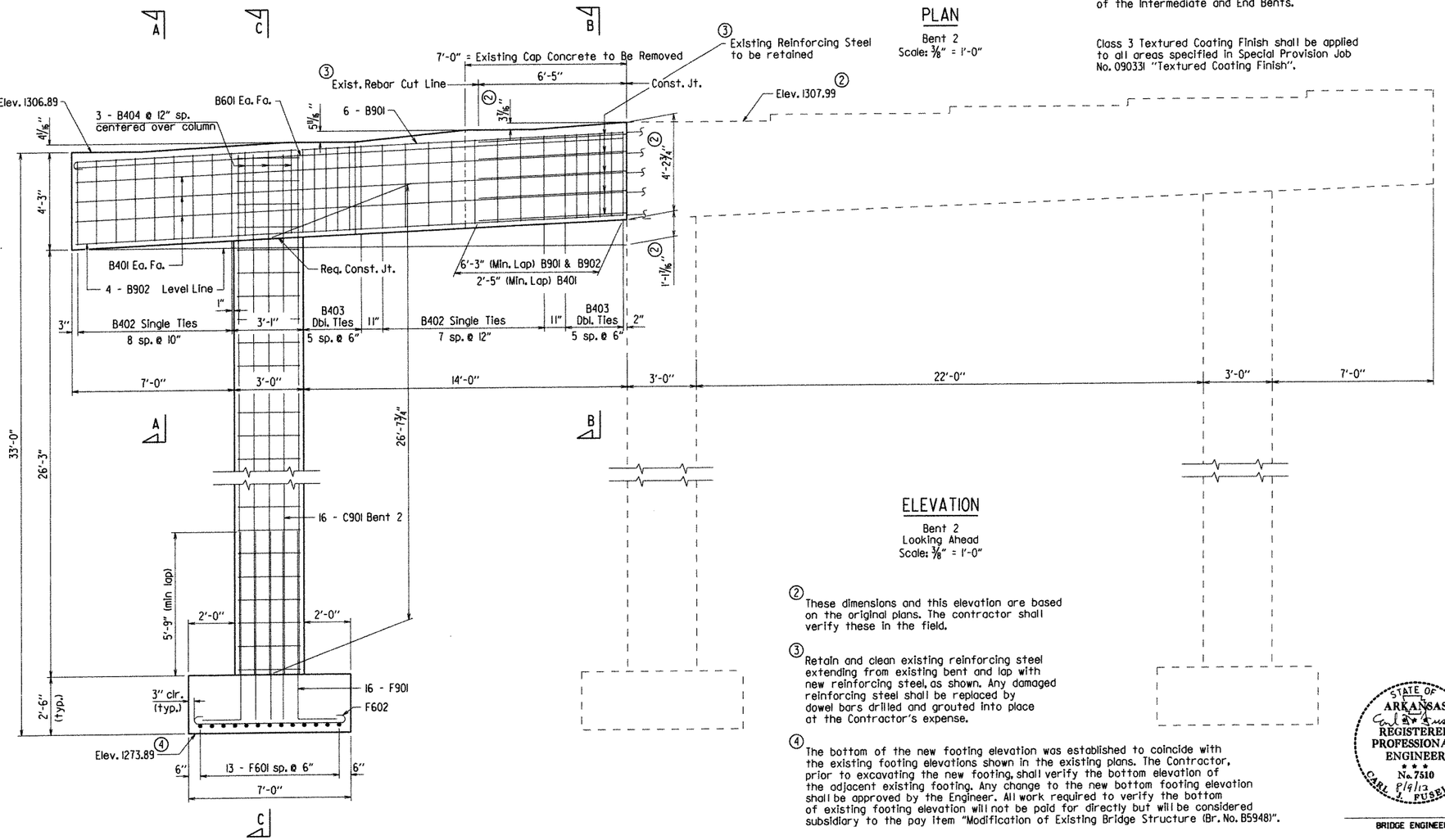


(1) Beam 6 is to be temporarily removed for Stage I Const. of the Intermediate and End Bents.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



SECTION D-D
Scale: 3/4" = 1'-0"



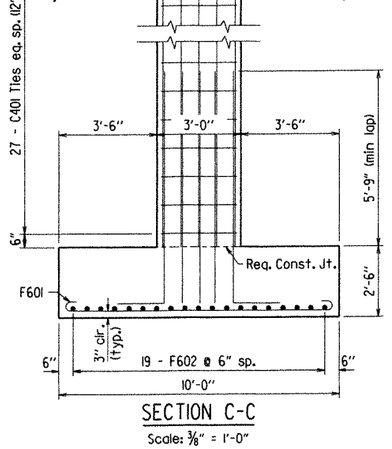
PLAN
Bent 2
Scale: 3/8" = 1'-0"

ELEVATION
Bent 2
Looking Ahead
Scale: 3/8" = 1'-0"

(2) These dimensions and this elevation are based on the original plans. The contractor shall verify these in the field.

(3) Retain and clean existing reinforcing steel extending from existing bent and lap with new reinforcing steel, as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

(4) The bottom of the new footing elevation was established to coincide with the existing footing elevations shown in the existing plans. The Contractor, prior to excavating the new footing, shall verify the bottom elevation of the adjacent existing footing. Any change to the new bottom footing elevation shall be approved by the Engineer. All work required to verify the bottom of existing footing elevation will not be paid for directly but will be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5948)".



SECTION C-C
Scale: 3/8" = 1'-0"

STATE OF ARKANSAS
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REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. PUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENTS 2 & 3- BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

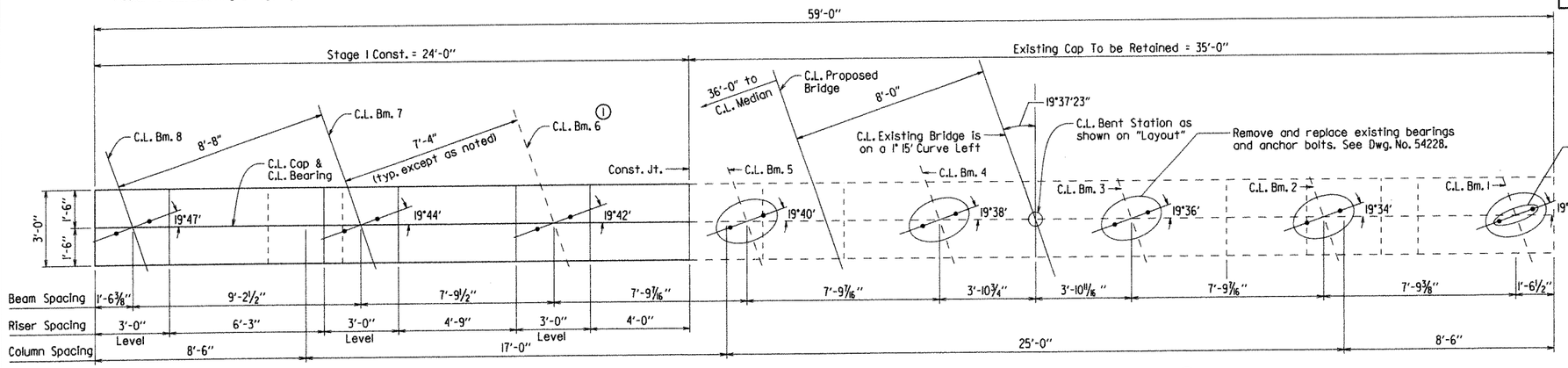
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CHECKED BY: BEF DATE: 8/1/13 SCALE: As Noted
DESIGNED BY: ADN DATE: 5/13

BRIDGE NO. B5948 DRAWING NO. 54218

PRINT DATE: 8/9/2013

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.		090331	93	218
				①	B5948 - Int. Bent - BR. B - 54219			

Note: Angles shown are to a line radial to C.L. Existing Bridge-typ.

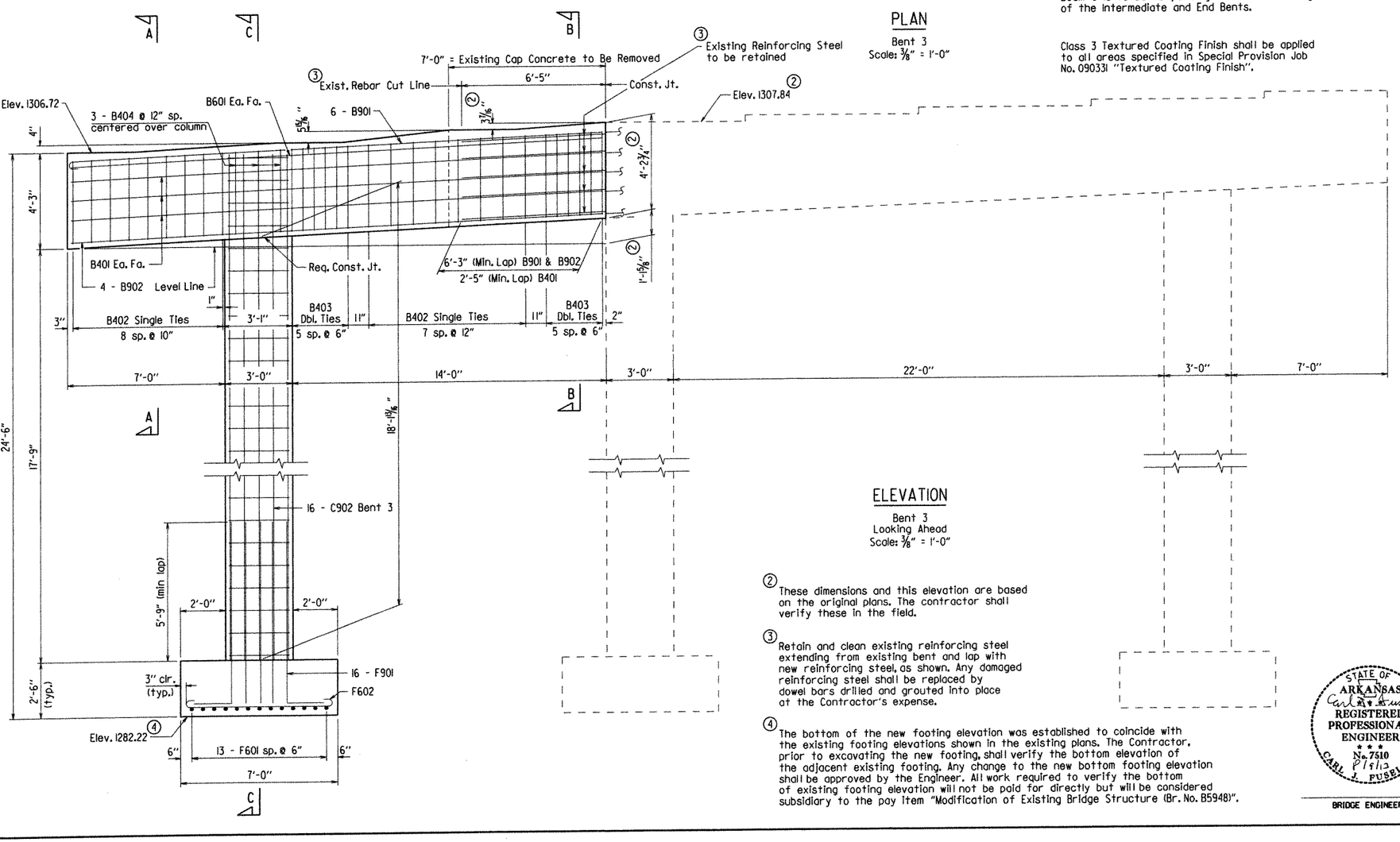


① Beam 6 is to be temporarily removed for Stage I Const. of the intermediate and End Bents.

PLAN

Bent 3
Scale: 3/8" = 1'-0"

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



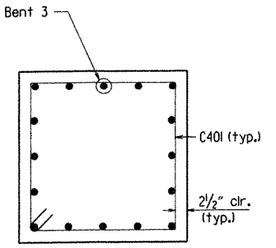
ELEVATION

Bent 3
Looking Ahead
Scale: 3/8" = 1'-0"

② These dimensions and this elevation are based on the original plans. The contractor shall verify these in the field.

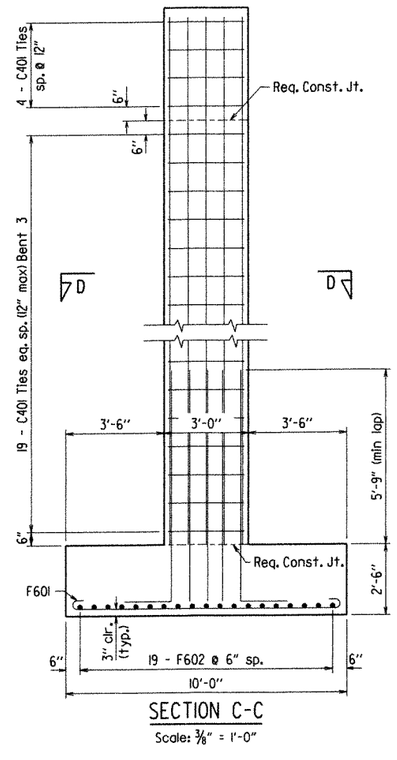
③ Retain and clean existing reinforcing steel extending from existing bent and lap with new reinforcing steel, as shown. Any damaged reinforcing steel shall be replaced by dowel bars drilled and grouted into place at the Contractor's expense.

④ The bottom of the new footing elevation was established to coincide with the existing footing elevations shown in the existing plans. The Contractor, prior to excavating the new footing, shall verify the bottom elevation of the adjacent existing footing. Any change to the new bottom footing elevation shall be approved by the Engineer. All work required to verify the bottom of existing footing elevation will not be paid for directly but will be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5948)".



SECTION D-D

Scale: 3/4" = 1'-0"



SECTION C-C

Scale: 3/8" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/1/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENTS 2 & 3- BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

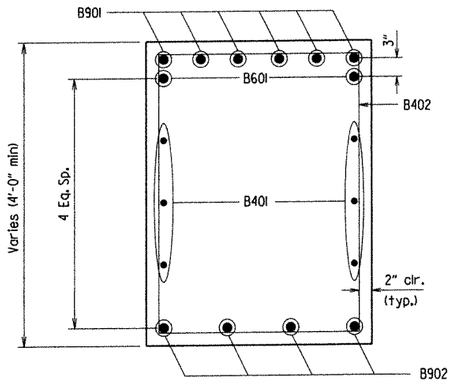
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: ADN DATE: 5/13

FILENAME: b090331b_b2.dgn
SCALE: As Noted

BRIDGE NO. B5948 DRAWING NO. 54219

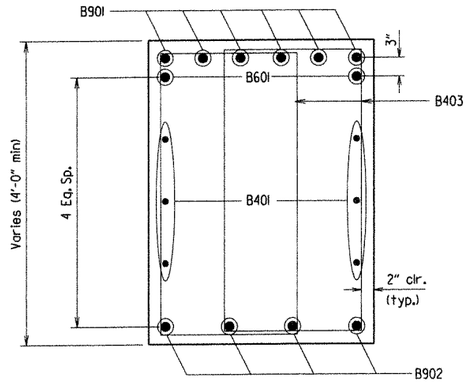
PRINT DATE: 8/9/2013

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.		090331	94	218
				(1)	B5948 - Int. Bent - BR. B - 54220			



SECTION A-A

Scale: 1" = 1'-0"



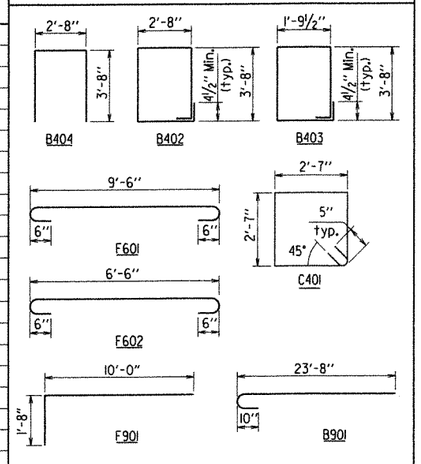
SECTION B-B

Scale: 1" = 1'-0"

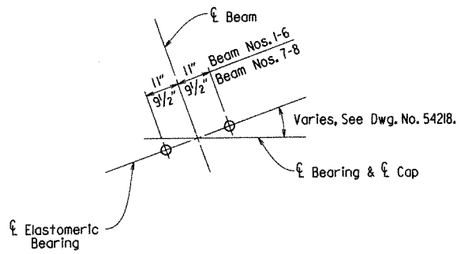
BAR LIST - PER BENT

MARK	NUMBER REQ'D Bent 2	NUMBER REQ'D Bent 3	LENGTH	P.D.
B401	6	6	23'-8"	Str.
B402	17	17	13'-0"	2"
B403	24	24	11'-3"	2"
B404	3	3	9'-10"	2"
B601	2	2	23'-8"	Str.
B901	6	6	24'-11"	9"
B902	4	4	23'-8"	Str.
C401	31	23	10'-10"	3"
C901	16	--	30'-2"	Str.
C902	--	16	21'-8"	Str.
F601	13	13	10'-10"	4½"
F602	19	19	7'-10"	4½"
F901	16	16	11'-5"	9"

BENDING DIAGRAMS



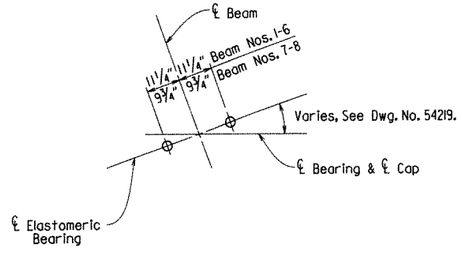
Dimensions are out to out of bars.



BENT 2 - ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54228.



BENT 3 - ANCHOR BOLT LAYOUT

Not to Scale

For Details of Elastomeric Bearings, See Dwg. No. 54228.

GENERAL NOTES

Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

Remove existing anchor bolts 1½" below the top of cap and fill the holes with an approved non-shrink grout.

All concrete shall be Class "S" with a minimum 28 day compressive strength of f'c = 3500 psi. Concrete shall be poured in the dry and 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.

If anchor bolts for Stage I Construction are drilled into cap, top reinforcing bars shall be placed to avoid intereference with anchor bolts. For Stage 2 Construction, the Contractor shall verify the location of the existing anchor bolts and cap reinforcing steel. New anchor bolts have been positioned to provide a 1" clearance between the new and existing anchor bolts. This verification shall be done prior to elastomeric bearing fabrication. Modifications to the proposed anchor bolt layout may be required to fit the scope of work.

For additional information, See Layout.

STATE OF ARKANSAS
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REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL I. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

DETAILS OF BENTS 2 & 3- BRIDGE B

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 6-4-13 FILENAME: b090331b_b2.dgn

CHECKED BY: BEF DATE: 8/1/13 SCALE: As Noted

DESIGNED BY: ADN DATE: 5/13

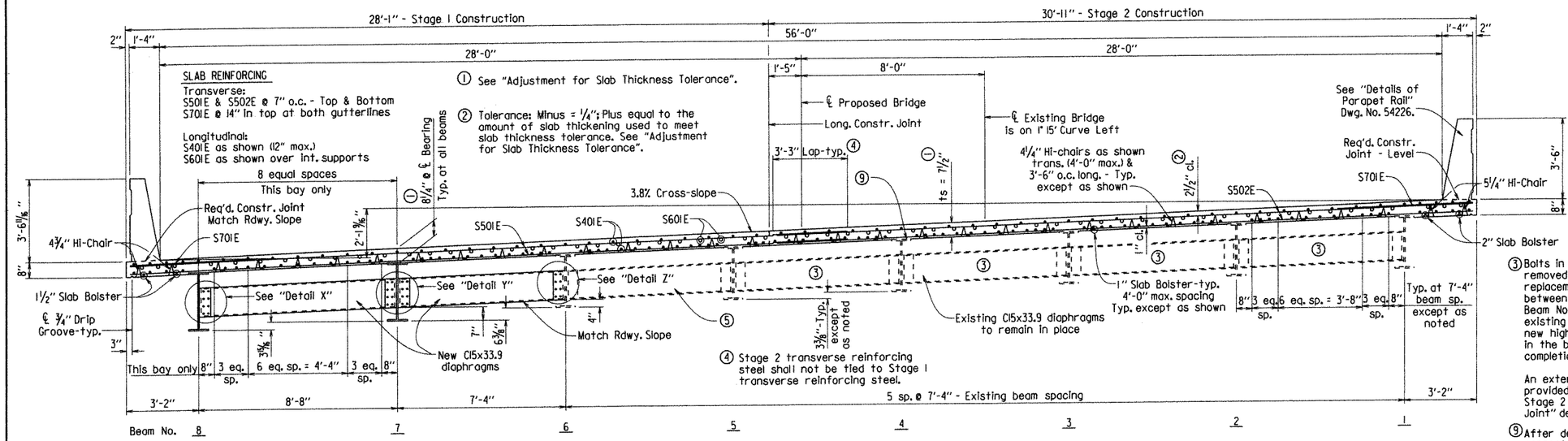
BRIDGE NO. B5948 DRAWING NO. 54220

PRINT DATE: 8/9/2013

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.		090331	95	218
				①	B5948 - 149' UNIT-BR. B - 54221			

NOTE: Class 2 Protective Surface Treatment shall be applied to the Roadway Surface.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



⑤ Beam 6 and the diaphragms & end struts in this bay shall be temporarily removed for Stage 1 Construction of bents. Existing bolts shall be replaced with new high-strength bolts.

④ Stage 2 transverse reinforcing steel shall not be tied to Stage 1 transverse reinforcing steel.

TYP. SECTION THRU ROADWAY

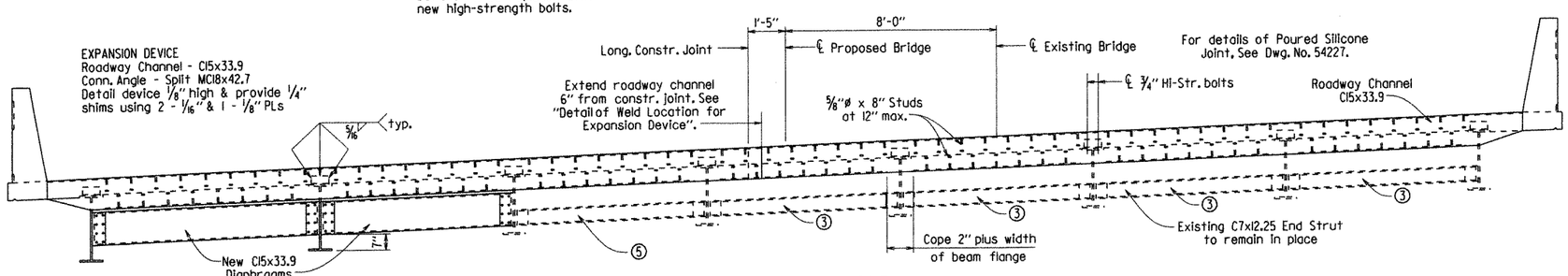
Looking Ahead
Scale: 3/8" = 1'-0"

For "General Notes", see Dwg. No. 54204.

③ Bolts in the existing diaphragm and end struts may be loosened or removed to the satisfaction of the Engineer to facilitate bearing replacements. Diaphragm and end strut bolts located in the bay between Beam Nos. 4 & 5 shall be loosened or removed to allow Beam No. 5 bearing replacements during Stage 1 Construction. Any existing bolt that is loosened or removed shall be replaced with a new high-strength bolt. The diaphragm and end strut bolts located in the bay between Beam Nos. 4 & 5 shall be tightened after the completion of the Stage 2 Construction deck pour.

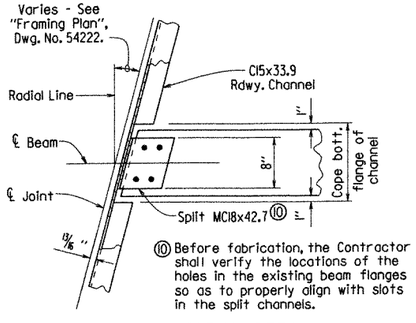
An external means of supporting the Stage 1 overhang shall be provided and shall remain in place until after completion of the Stage 2 deck pour. See "Deck Support at Longitudinal Construction Joint" detail, Dwg. No. 54227.

⑨ After deck removal and prior to installation of new shear connectors, the existing top of beams and shear connectors shall be cleaned. Any damaged shear connectors shall be replaced as directed by the Engineer. Payment will not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".



TYP. SECTION THRU JOINT

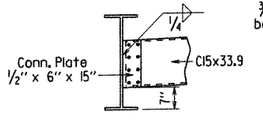
Looking Ahead - Bent 1
Bent 4 Similar
Scale: 3/8" = 1'-0"



⑩ Before fabrication, the Contractor shall verify the locations of the holes in the existing beam flanges so as to properly align with slots in the split channels.

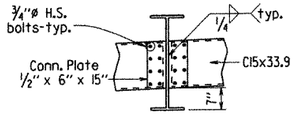
CHANNEL CONNECTION DETAIL

No Scale



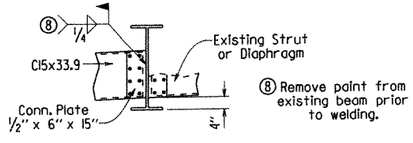
DETAIL X

No Scale



DETAIL Y

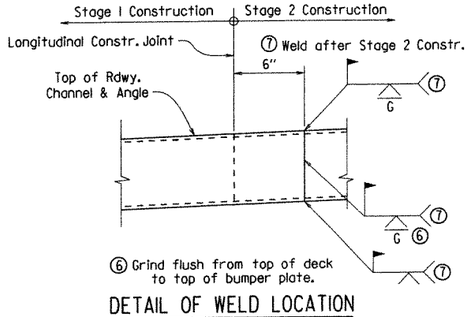
No Scale



⑧ Remove paint from existing beam prior to welding.

DETAIL Z

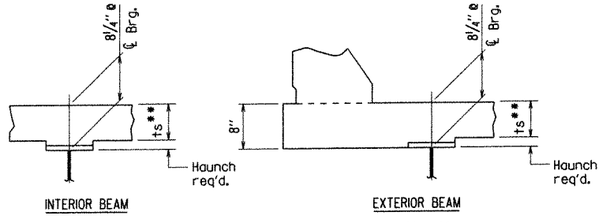
No Scale



⑥ Grind flush from top of deck to top of bumper plate.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale



** 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 on superstructure detail drawings.

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

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

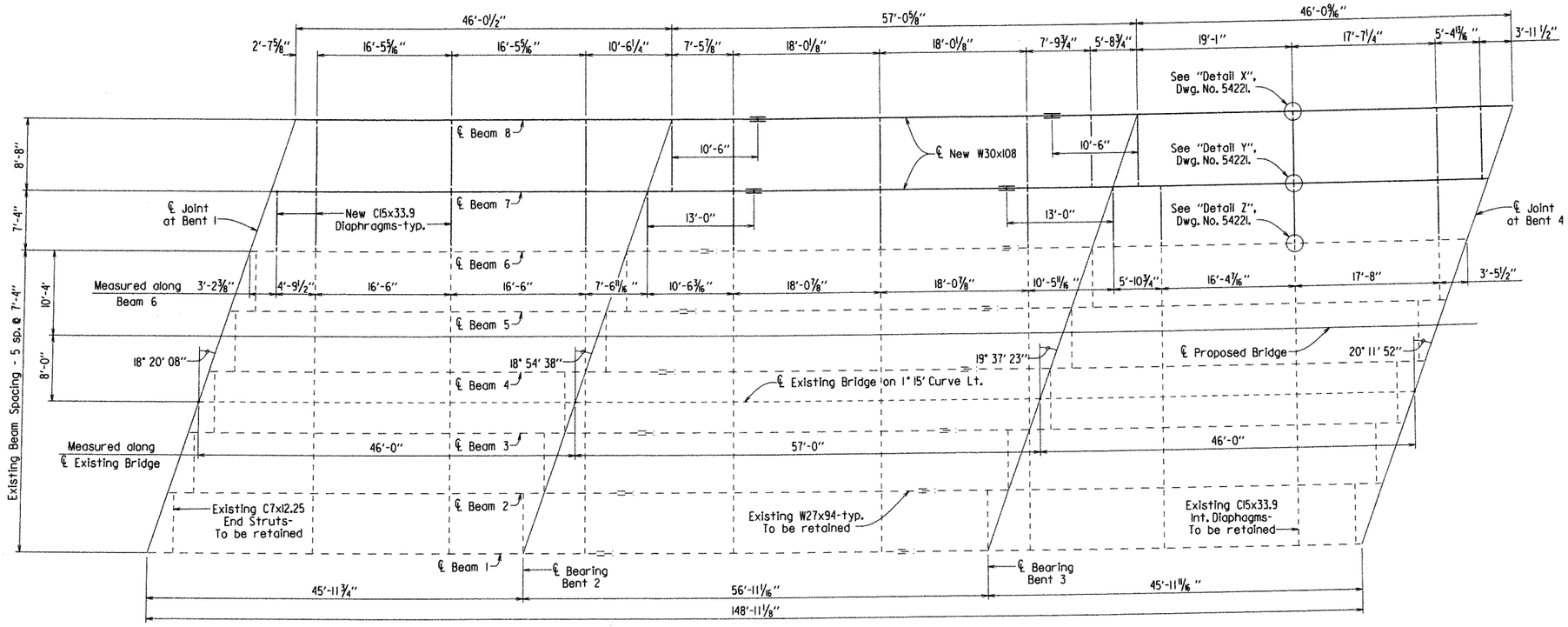
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CHECKED BY: BEF DATE: 8/1/13
DESIGNED BY: BEF DATE: 4/13

FILENAME: b090331bl_sl.dgn
SCALE: AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54221

PRINT DATE: 8/9/2013

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.		090331	96	218
				(1)		B5948 - 149' UNIT-BR. B - 54222		



FRAMING PLAN - BRIDGE B

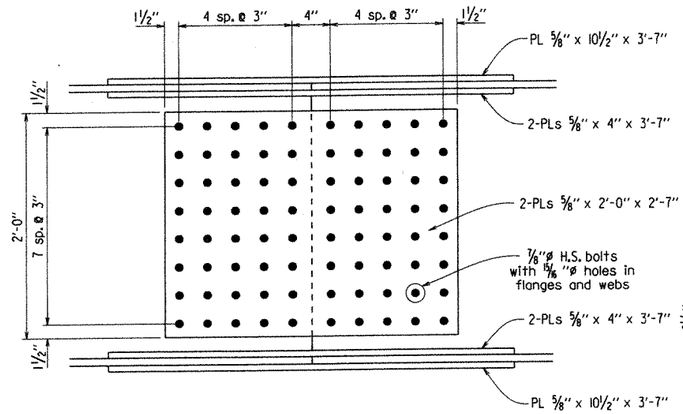
Scale: ⅛" = 1'-0"

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.

TABLE FOR WELD

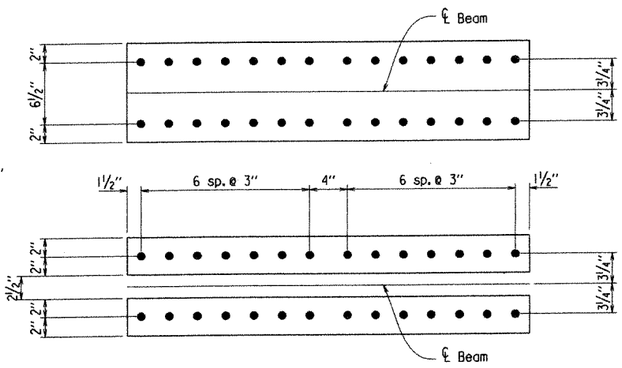
Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" inclusive	¼"	
Over ¾"	5⁄16"	

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.



WEB SPLCE

Note: All field splice plates shall be AASHTO M270, Gr. 50.



FLANGE SPLICE

FIELD SPLICE DETAILS - BEAMS 7 & 8

Scale: 1½" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

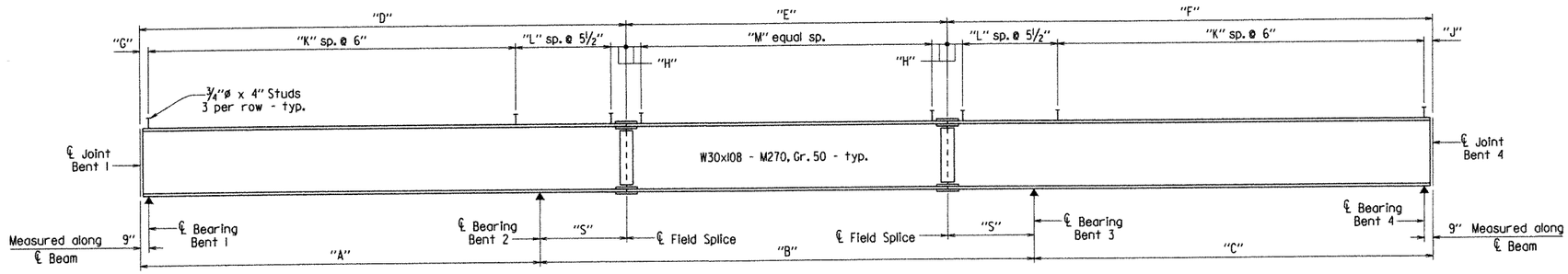
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-30-13 FILENAME: b09033ibl_si.dgn
CHECKED BY: BCF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: BCF DATE: 4/13

BRIDGE NO. B5948 DRAWING NO. 54222

PRINT DATE: 8/9/2013

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.		090331	97	218
				(1)	B5948 - 149' UNIT-BR. B - 54223			



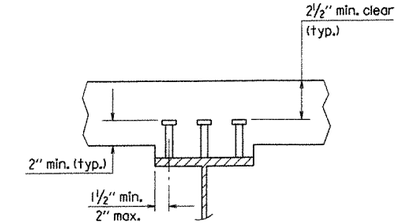
BEAM ELEVATION - BEAMS 7 & 8

No Scale

Note: See "Field Splice Details - Beams 7 & 8", Dwg. No. 54222.

TABLE OF VARIABLES - BEAMS 7 & 8

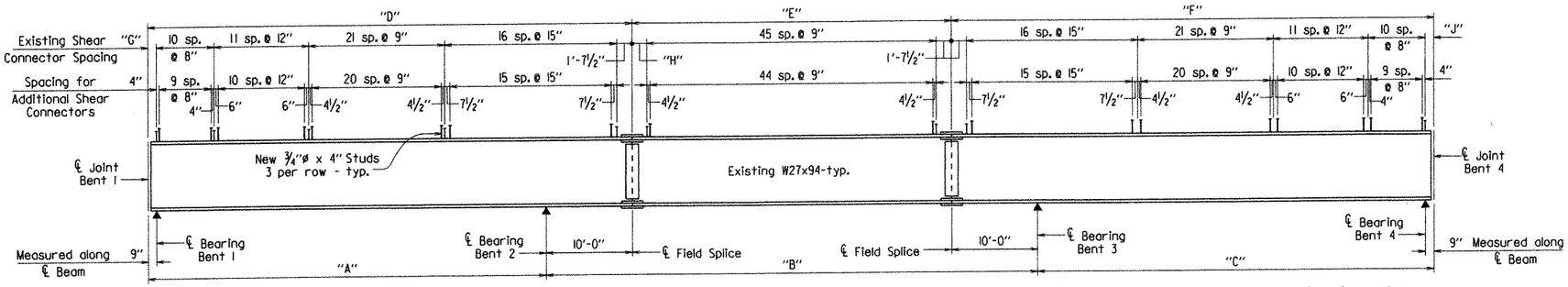
Beam No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	"L"	"M"	"S"
7	46'-0 3/8"	57'-0 1/2"	46'-0 7/16"	59'-0 3/8"	31'-0 1/2"	59'-0 7/16"	11 3/8"	2'-1"	11 7/16"	90	24	59	13'-0"
8	46'-0 1/2"	57'-0 5/8"	46'-0 9/16"	56'-6 1/2"	36'-0 5/8"	56'-6 9/16"	11 1/2"	2'-1"	11 9/16"	85	24	70	10'-6"



Stud Shear Connectors shown shall be ¾"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

No Scale



BEAM ELEVATION - BEAMS 1 - 6

No Scale

After deck removal and prior to installation of new shear connectors, the existing top of beams and shear connectors shall be cleaned. Any damaged shear connectors shall be replaced as directed by the Engineer. Payment will not be paid for directly but shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. B5948)".

TABLE OF VARIABLES - BEAMS 1 - 6

Beam No.	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"
1	45'-11 3/4"	56'-11 11/16"	45'-11 11/16"	55'-11 3/4"	36'-11 11/16"	55'-11 11/16"	11 1/4"	1'-7 3/16"	11 3/16"
2	45'-11 7/8"	56'-11 13/16"	45'-11 13/16"	55'-11 7/8"	36'-11 13/16"	55'-11 13/16"	11 3/8"	1'-7 5/16"	11 5/16"
3	45'-11 15/16"	56'-11 15/16"	45'-11 15/16"	55'-11 15/16"	36'-11 15/16"	55'-11 15/16"	11 7/16"	1'-7 7/16"	11 7/16"
4	46'-0 1/16"	57'-0 1/16"	46'-0 1/16"	56'-0 1/16"	37'-0 1/16"	56'-0 1/16"	11 9/16"	1'-7 9/16"	11 9/16"
5	46'-0 1/8"	57'-0 3/16"	46'-0 3/16"	56'-0 1/8"	37'-0 3/16"	56'-0 3/16"	11 5/8"	1'-7 11/16"	11 11/16"
6	46'-0 1/4"	57'-0 5/16"	46'-0 5/16"	56'-0 1/4"	37'-0 5/16"	56'-0 5/16"	11 3/4"	1'-7 13/16"	11 13/16"

Note: All variables in this table are based on existing plans.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-3-13 FILENAME: b090331bl_sl.dgn
CHECKED BY: BEF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: BEF DATE: 4/13

BRIDGE NO. B5948 DRAWING NO. 54223

PRINT DATE: 8/9/2013

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.		090331	98	218
				(1)	B5948 - 149' UNIT-BR. B - 54224			

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

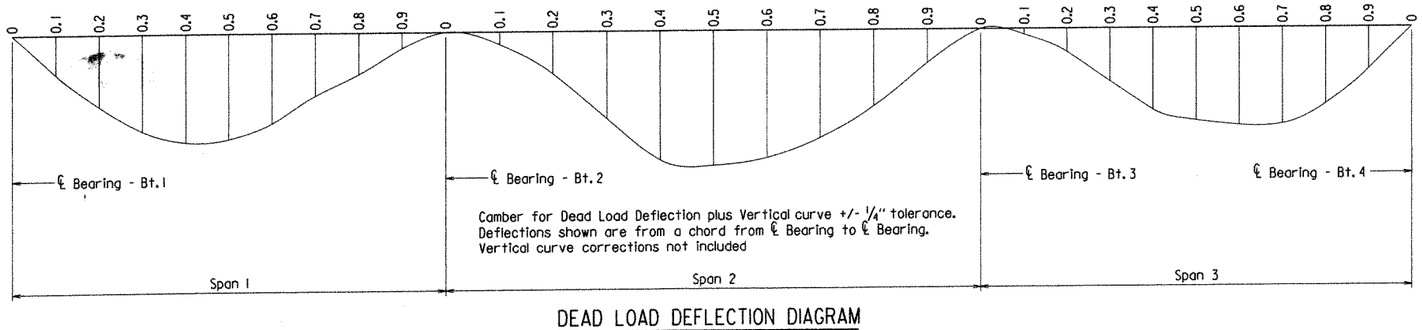
Span	Point of Deflection	Beam No. 1			Beam Nos. 2-6			Beam No. 7			Beam No. 8		
		Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet	Structural Steel	Structural Steel + Slab	Str. Steel + Slab + Parapet
1	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.1	0.012	0.087	0.099	0.016	0.108	0.113	0.012	0.081	0.086	0.010	0.068	0.077
	0.2	0.022	0.155	0.177	0.028	0.196	0.205	0.022	0.146	0.155	0.018	0.124	0.141
	0.3	0.029	0.206	0.237	0.038	0.262	0.275	0.028	0.188	0.200	0.024	0.166	0.191
	0.4	0.034	0.240	0.279	0.042	0.292	0.307	0.031	0.210	0.224	0.029	0.195	0.226
	0.5	0.034	0.243	0.284	0.041	0.285	0.299	0.031	0.210	0.225	0.029	0.194	0.225
	0.6	0.030	0.214	0.250	0.035	0.243	0.255	0.028	0.186	0.199	0.025	0.169	0.196
	0.7	0.022	0.157	0.183	0.025	0.170	0.178	0.021	0.139	0.149	0.018	0.121	0.141
	0.8	0.010	0.074	0.086	0.016	0.113	0.118	0.010	0.070	0.075	0.009	0.064	0.075
	0.9	0.005	0.034	0.040	0.006	0.044	0.046	0.003	0.021	0.022	0.005	0.032	0.037
	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0.1	0.007	0.049	0.058	0.005	0.034	0.037	0.007	0.048	0.052	0.006	0.040	0.047
	0.2	0.018	0.130	0.154	0.016	0.111	0.120	0.020	0.136	0.147	0.015	0.104	0.123
	0.3	0.030	0.212	0.253	0.033	0.231	0.249	0.030	0.206	0.223	0.025	0.170	0.201
	0.4	0.043	0.305	0.364	0.049	0.341	0.367	0.040	0.268	0.290	0.036	0.245	0.289
	0.5	0.051	0.361	0.432	0.052	0.356	0.383	0.048	0.321	0.349	0.042	0.288	0.340
	0.6	0.048	0.336	0.402	0.049	0.337	0.362	0.045	0.302	0.328	0.040	0.269	0.317
	0.7	0.038	0.267	0.320	0.041	0.285	0.306	0.036	0.242	0.263	0.032	0.217	0.255
	0.8	0.024	0.171	0.206	0.029	0.203	0.218	0.021	0.143	0.156	0.021	0.140	0.163
	0.9	0.013	0.091	0.110	0.013	0.089	0.096	0.009	0.059	0.064	0.008	0.052	0.061
	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0.1	0.002	0.016	0.017	0.002	0.017	0.017	0.002	0.010	0.010	0.000	0.002	0.002
	0.2	0.008	0.053	0.060	0.009	0.065	0.068	0.007	0.044	0.046	0.004	0.026	0.030
	0.3	0.015	0.106	0.122	0.021	0.144	0.151	0.013	0.086	0.091	0.011	0.072	0.084
	0.4	0.025	0.175	0.203	0.032	0.221	0.233	0.021	0.142	0.151	0.020	0.139	0.163
	0.5	0.034	0.240	0.280	0.036	0.250	0.263	0.030	0.201	0.215	0.024	0.166	0.194
	0.6	0.034	0.241	0.280	0.038	0.263	0.277	0.030	0.201	0.215	0.025	0.169	0.197
	0.7	0.031	0.219	0.254	0.038	0.260	0.274	0.027	0.181	0.193	0.023	0.159	0.184
	0.8	0.025	0.174	0.200	0.030	0.207	0.218	0.021	0.141	0.150	0.020	0.135	0.155
	0.9	0.014	0.101	0.115	0.016	0.114	0.120	0.012	0.080	0.085	0.011	0.076	0.087
	0	0	0	0	0	0	0	0	0	0	0	0	0

Note:

Dead load deflections shown are based on removable deck forms.

If the corrugations of the permanent steel deck forms do not match the reinforcing spacing shown on the plans, the corrugations shall be filled with styrofoam.

Revision to the "Table of Dead Load Deflections" may be necessary upon review of the Contractor's submitted forming details.



DEAD LOAD DEFLECTION DIAGRAM

STATE OF ARKANSAS
CARL F. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13

BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-3-13 FILENAME: b09033lbl_sl.dgn
CHECKED BY: BCF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: BCF DATE: 4/13

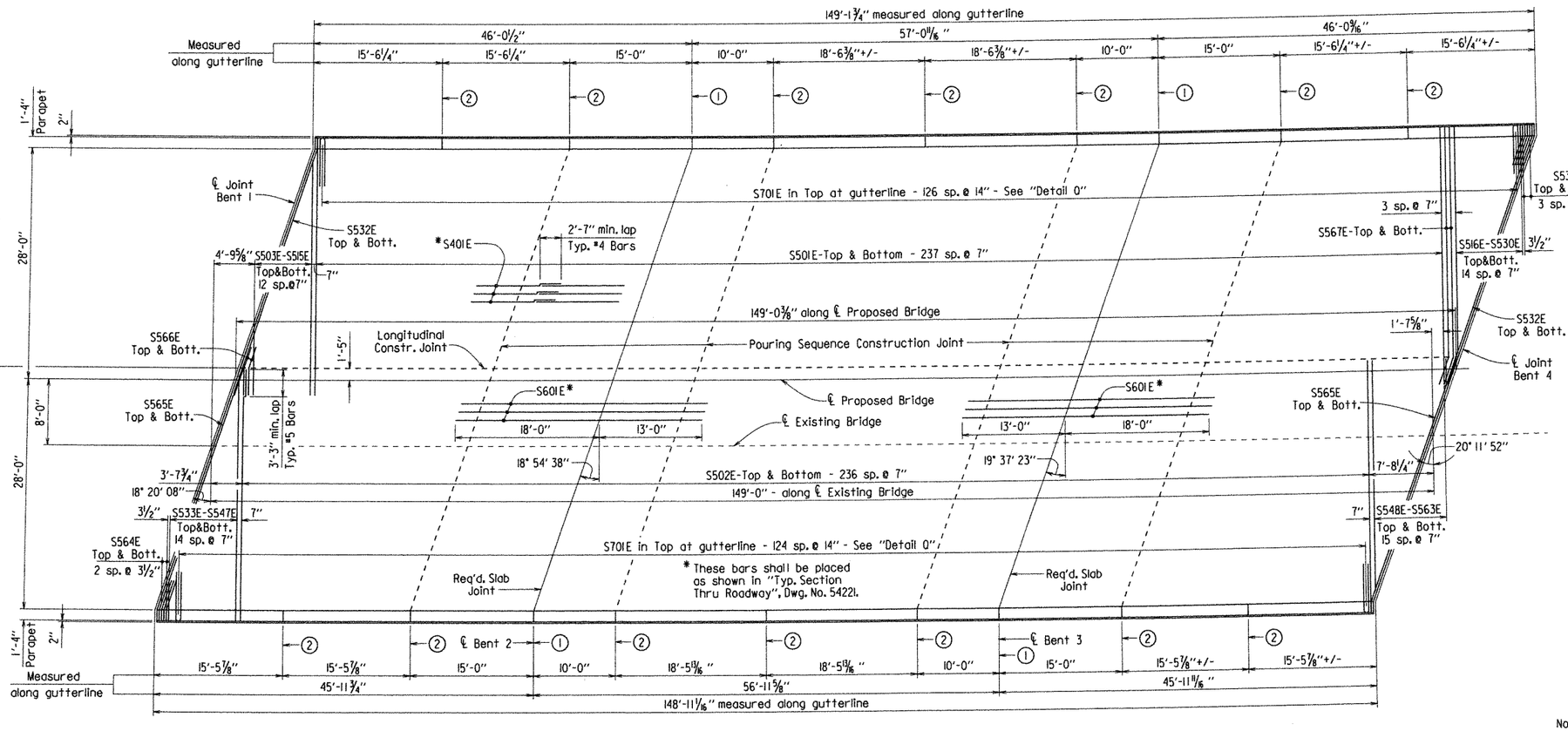
BRIDGE NO. B5948 DRAWING NO. 54224

PRINT DATE: 8/9/2013

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.		090331	99	218
				(1) B5948 - 149' UNIT-BR. B - 54225				

① ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 54226.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-2" from top of slab. See Dwg. No. 54226.



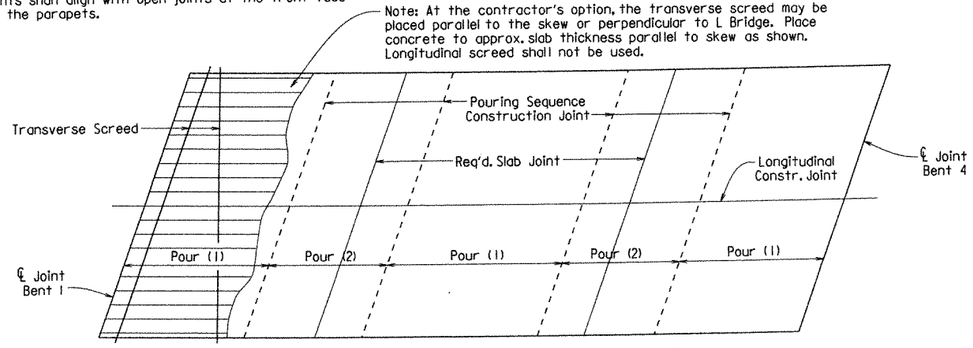
REINFORCING PLAN - BRIDGE B

Scale: 1/8" = 1'-0"

Note:
All transverse reinforcing steel is placed on radial lines and measures along ℄ Existing Bridge.

All longitudinal lines and reinforcing steel shall be placed on curve concentric with ℄ Existing Bridge.

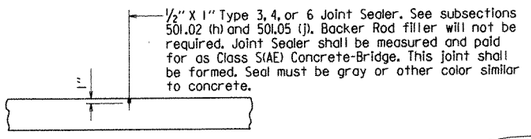
Required slab joints and pouring sequence construction joints shall align with open joints at the front face of the parapets.



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. Any railing pours made before the entire slab unit for each stage has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

CONCRETE POURING SEQUENCE & PLACEMENT PROCEDURE

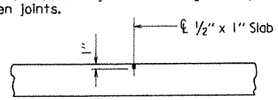
No Scale



LONGITUDINAL CONSTRUCTION JOINT

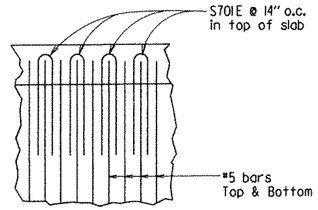
No Scale

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 parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). Slab joints shall align with parapet open joints.



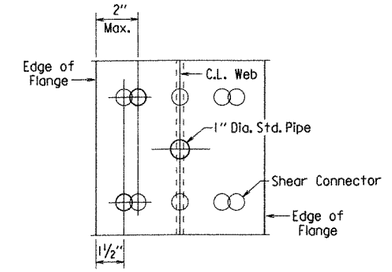
SLAB JOINT DETAIL

No Scale



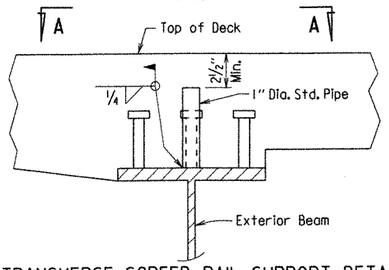
DETAIL Q

No Scale



VIEW A-A

N.T.S.



TRANSVERSE SCREED RAIL SUPPORT DETAIL

N.T.S.

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

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

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

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

All welding shall be performed by a certified welder and in accordance with subsections 802.13 and 807.26.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
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BRIDGE ENGINEER

SHEET 5 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT
GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

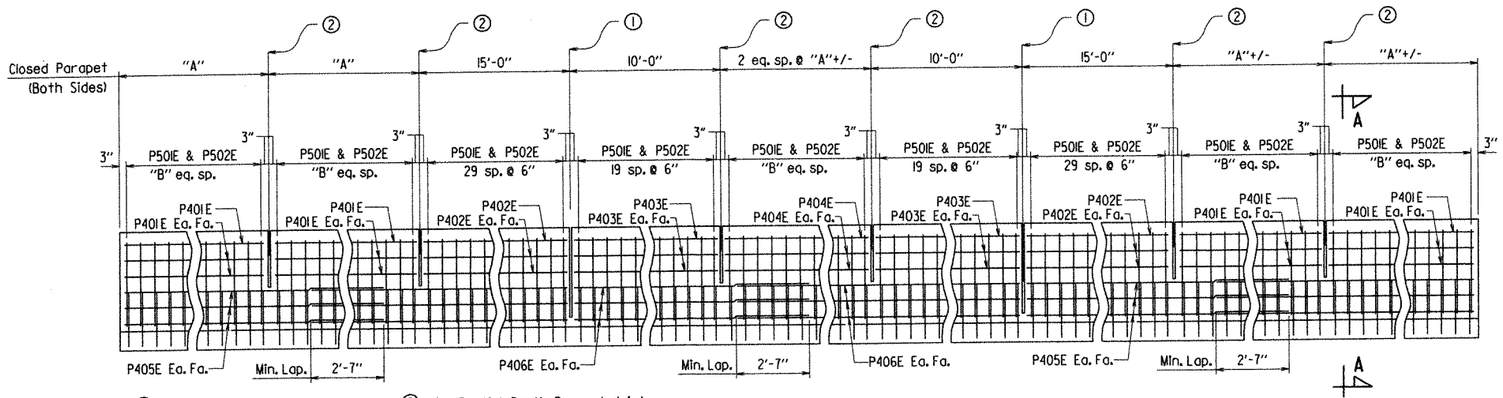
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-1-13 FILENAME: b090331bi_si.dgn
CHECKED BY: JCF DATE: 8/1/13 SCALE: AS NOTED
DESIGNED BY: JCF DATE: 4/13

BRIDGE NO. B5948 DRAWING NO. 54225

PRINT DATE: 9/19/2013

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.		090331	100	218
				① B5948 - 149' UNIT-BR. B - 54226				



① C.L. Full-Depth Parapet Joint (1/4" to 1" Max.) as shown in "Reinforcing Plan" Dwg. No. 54225. Stop 4" from top of slab.

② C.L. Partial-Depth Parapet Joint (1/4" to 1" Max.) as shown in "Reinforcing Plan" Dwg. No. 54225. Stop 1'-6" from top of slab.

DETAILS OF PARAPET RAIL

Scale: 3/8" = 1'-0"

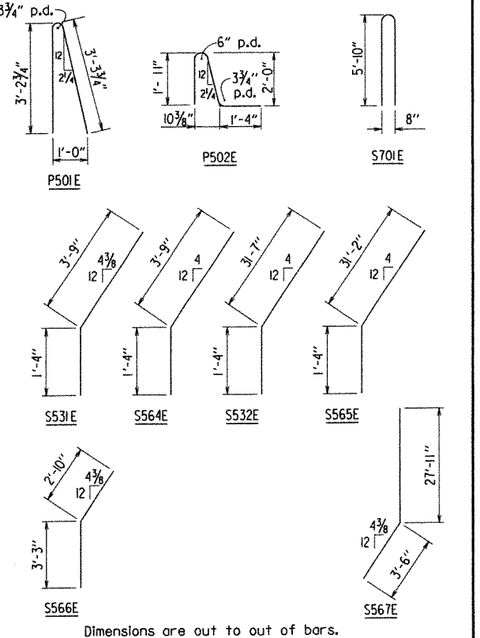
TABLE OF VARIABLES

"A"	"B"
15'-6 1/4"+/-	31
18'-6 3/8"+/-	37
15'-5 7/8"+/-	30
18'-5 13/16"	36

BAR LIST

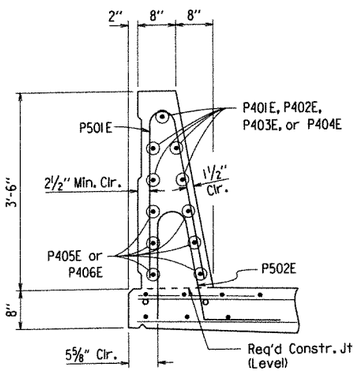
MARK	NO. REQ'D	LENGTH	P.D.
S401E	632	39'-3"	Str.
P401E	40	15'-1"	Str.
P402E	20	14'-8"	Str.
P403E	20	9'-8"	Str.
P404E	20	18'-1"	Str.
P405E	48	24'-2"	Str.
P406E	24	29'-8"	Str.
S501E	476	31'-3"	Str.
S502E	474	30'-8"	Str.
S503E-S515E	2 each	Var. 7'-6" to 28'-5"	Str.
S516E-S530E	2 each	Var. 5'-5" to 27'-5"	Str.
S531E	8	5'-1"	3 3/4"
S532E	4	32'-11"	3 3/4"
S533E-S547E	2 each	Var. 5'-1" to 29'-8"	Str.
S548E-S563E	2 each	Var. 4'-1" to 27'-11"	Str.
S564E	6	5'-1"	3 3/4"
S565E	4	32'-6"	3 3/4"
S566E	4	6'-1"	3 3/4"
S567E	4	31'-5"	3 3/4"
P501E	602	6'-8"	3 3/4"
P502E	602	5'-4"	3 3/4"
S601E	124	31'-0"	Str.
S701E	252	11'-5"	6 1/4"

BENDING DIAGRAMS



Dimensions are out to out of bars.

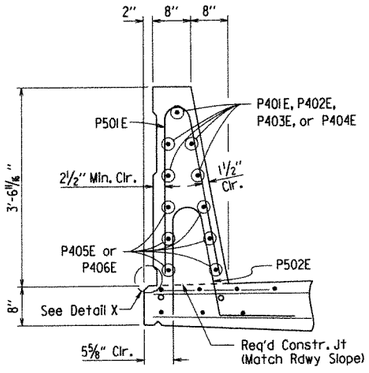
NOTE: Bars designated with an "E" suffix shall be epoxy coated.



SECTION A-A

High Side

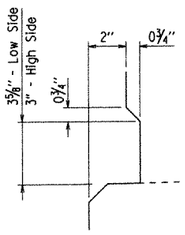
Scale: 3/4" = 1'-0"



SECTION A-A

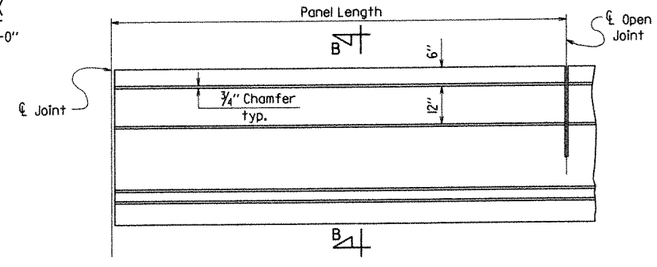
Low Side

Scale: 3/4" = 1'-0"



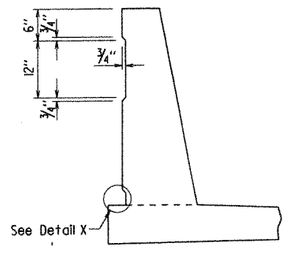
DETAIL X

Scale: 1 1/2" = 1'-0"



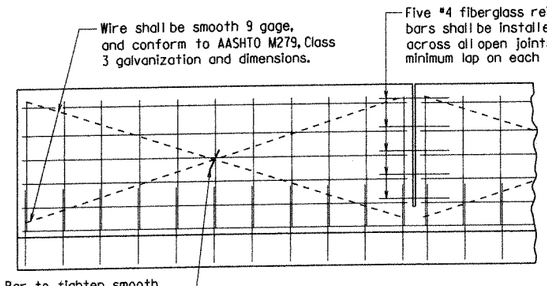
DETAILS OF PARAPET ENHANCEMENT

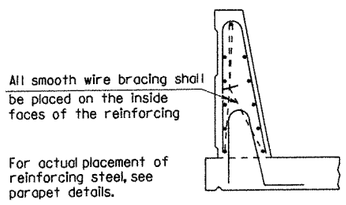
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SECTION B-B

No Scale



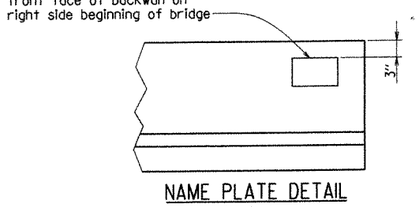


All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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.

DETAILS OF OPTIONAL SLIP FORMING OF CONCRETE PARAPET RAIL

No Scale



NAME PLATE DETAIL

No Scale

DETAIL TITLE

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
7/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

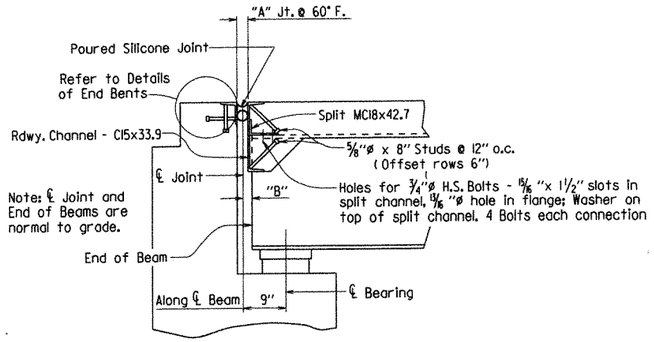
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-2-13
CHECKED BY: BEF DATE: 6/1/13
DESIGNED BY: BEF DATE: 4/13
FILENAME: b09033lbl_sl.dgn
SCALE: AS NOTED

BRIDGE NO. B5948 DRAWING NO. 54226

PRINT DATE: 8/9/2013

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.		090331	101	218
				(1) B5948 - 149' UNIT-BR. B - 54227				



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	1 3/4"	1 5/8"	1 1/2"	2 1/8"+/-	1" x 7/8"	5"
4	1 11/16"	1 5/8"	1 9/16"	2 1/8"+/-	1" x 7/8"	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.

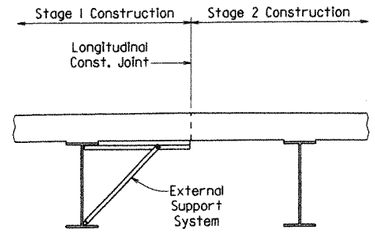
The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

(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.

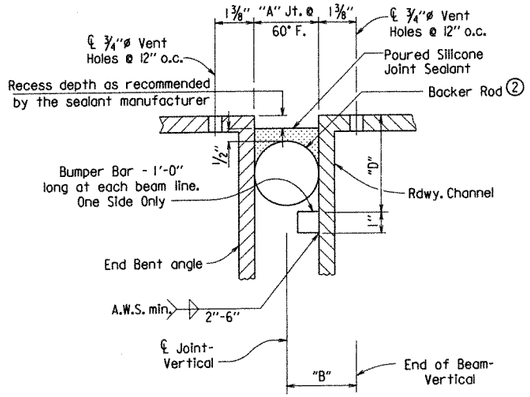
The contractor shall verify separation of the backer rod from the joint material after the joint material has set.



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.

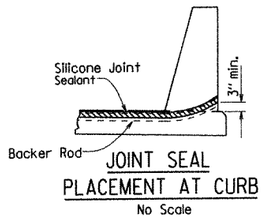
DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



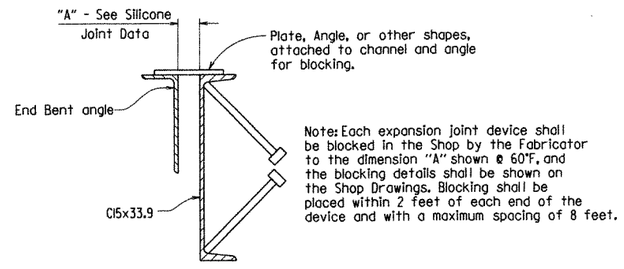
DETAIL OF POURED SILICONE JOINT SEAL

No Scale



JOINT SEAL PLACEMENT AT CURB

No Scale



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

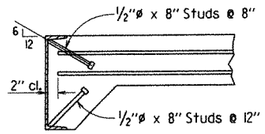
No Scale

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 portion of Stage 1 Construction 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. The concrete span pour adjacent to joint shall be placed prior to pouring the remainder of the backwall. 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.**



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

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF 149 FT. CONTINUOUS COMPOSITE W-BEAM UNIT GOAD SPRINGS RD. (BRIDGE B)

ROUTE SEC.

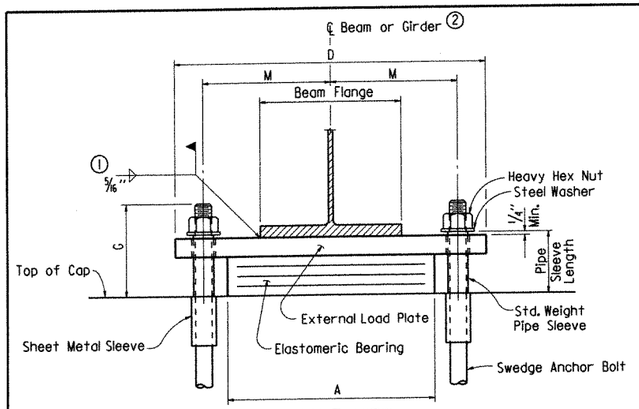
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 5-3-13
CHECKED BY: BCF DATE: 8/1/13
DESIGNED BY: BCF DATE: 4/13
FILENAME: b090331bl_sl.dgn
SCALE: AS NOTED

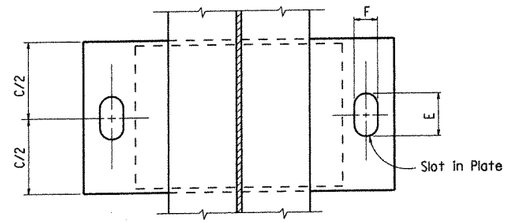
BRIDGE NO. B5948 DRAWING NO. 54227

PRINT DATE: 8/9/2013

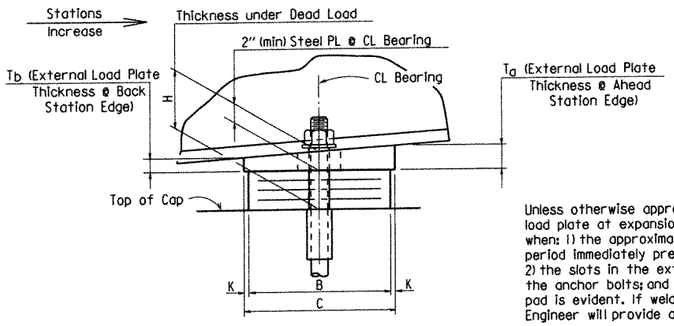
DATE	DATE FILMED	DATE	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	102	218
				(1) B5948 - ELASTO. BRGS. BR. B - 54228				



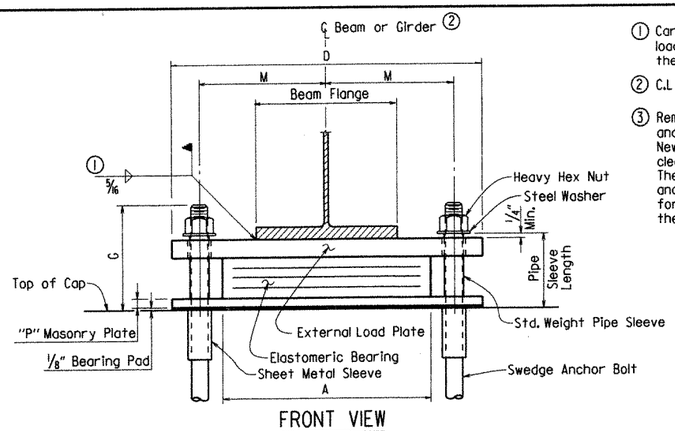
FRONT VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8



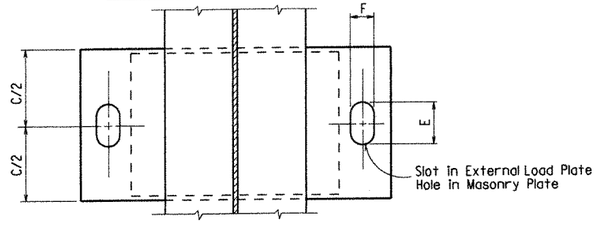
PLAN VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8



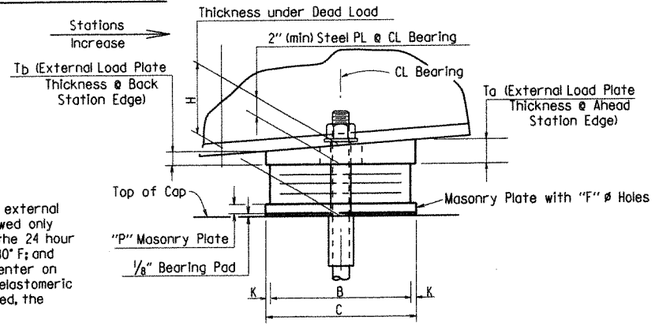
SIDE VIEW
BENT NOS. 2 & 3 - BEAM NOS. 7 & 8



FRONT VIEW
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6



PLAN VIEW - AT BENT NOS. 1 & 4
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6

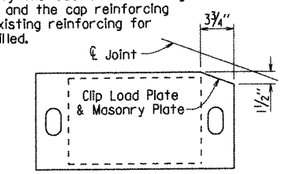


SIDE VIEW
BENT NOS. 1 & 4 - BEAM NOS. 1 - 8
BENT NOS. 2 & 3 - BEAM NOS. 1 - 6

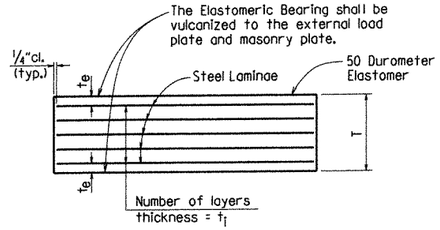
(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

(2) C.L Elastomeric pad shall be aligned with C.L. Beam.

(3) Remove existing anchor bolts 1½" below the top of cap and fill holes with approved non-shrink grout. New anchor bolts have been positioned to provide 1" clearance between new and existing anchor bolts. The Contractor shall verify the location of existing anchor bolts at all bents and the cap reinforcing for the int. bents. The existing reinforcing for the end bents may be drilled.

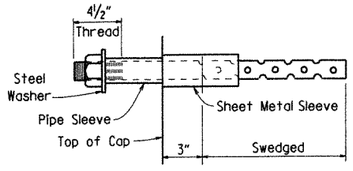


SKETCH OF CLIP FOR EXTERNAL LOAD AND MASONRY PLATES AT BENT NOS. 1 & 4



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, (M270, Gr. 50)"

GENERAL NOTES

Elastomeric Bearings shall conform to Special Provision Job 090331 "Elastomeric Bearings" and Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings." Long-duration testing of random lot samples specified in subsection 808.05 is not required.

External load plates and masonry plates shall conform to AASHTO M 270, Grade 50. 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 and masonry plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. Surfaces 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 painted in accordance with subsection 807.75. The color of the paint shall conform to Federal Standard 595B, Color Chip No. 2018, Dark Brown. Painting will not be paid for directly, but shall be considered subsidiary to "Elastomeric Bearings".

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. 50)". External load plates, masonry plates and 1/8" bearing pads will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

Bearings with masonry plates shall be seated in accordance with subsection 807.66. Bearings without masonry plates 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.

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.

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	ELASTOMERIC PAD: G	H	A	B	N	t_i	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	K	(3) M	P	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.)
B5948	1	1-6	Exp.	6	61.13	8⅝"	6⅛"	14"	9"	4	½"	¼"	5 @ 12 Gauge	3"	10"	24½"	3⅜"	2"	½"	9¾"	1"	1.985"	2.015"	1¼"øx24"	55	1¼"øx6⅜"	3"øx6"	2½"ø
	1	7-8	Exp.	2	70.95	9¼"	6⅛"	14"	10"	5	½"	¼"	6 @ 12 Gauge	3⅝"	11"	23"	3⅜"	2"	½"	9"	1"	1.984"	2.016"	1¼"øx24"	55	1¼"øx7"	3"øx6"	2½"ø
	2	1-6	Exp.	6	112.71	9"	6"	14"	12"	4	7/16"	¼"	5 @ 12 Gauge	2¾"	13"	28"	3½"	2⅝"	½"	11"	1⅛"	1.981"	2.019"	1¾"øx30"	55	2"øx6¼"	4"øx6"	3⅜"ø
	2	7-8	Exp.	2	132.82	8¼"	5¼"	14"	13"	5	7/16"	¼"	6 @ 12 Gauge	3⅝"	14"	25"	3½"	2⅝"	½"	9½"	-	1.979"	2.021"	1¾"øx30"	55	2"øx5½"	4"øx6"	3⅜"ø
	3	1-6	Fix	6	111.82	9¼"	5¾"	14"	12"	4	7/16"	¼"	5 @ 12 Gauge	2¾"	13"	29"	3⅛"	3⅛"	½"	11¼"	⅛"	1.981"	2.019"	2¼"øx36"	55	2½"øx6"	4"øx6"	4"ø
	3	7-8	Fix	2	133.16	8¾"	5¼"	14"	13"	5	7/16"	¼"	6 @ 12 Gauge	3⅝"	14"	26"	3⅛"	3⅛"	½"	9¾"	-	1.979"	2.021"	2¼"øx36"	55	2½"øx5½"	4"øx6"	4"ø
	4	1-6	Exp.	6	61.13	8⅝"	6⅛"	14"	9"	4	½"	¼"	5 @ 12 Gauge	3"	10"	24½"	3⅜"	2"	½"	9¾"	1"	1.983"	2.017"	1¼"øx24"	55	1¼"øx6⅜"	3"øx6"	2½"ø
	4	7-8	Exp.	2	70.95	9¼"	6⅛"	14"	10"	5	½"	¼"	6 @ 12 Gauge	3⅝"	11"	23"	3⅜"	2"	½"	9"	1"	1.978"	2.022"	1¼"øx24"	55	1¼"øx7"	3"øx6"	2½"ø

* Maximum Design Load = Service Load

** The dimension "E" does not apply to masonry plates - See "PLAN VIEW"

Tabular Data by : KDH Date: 5/13
Checked by : BEF Date: 8/1/13
Designed by : BEF Date: 4/13

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS WITH MASONRY PLATE

ROUTE SEC.

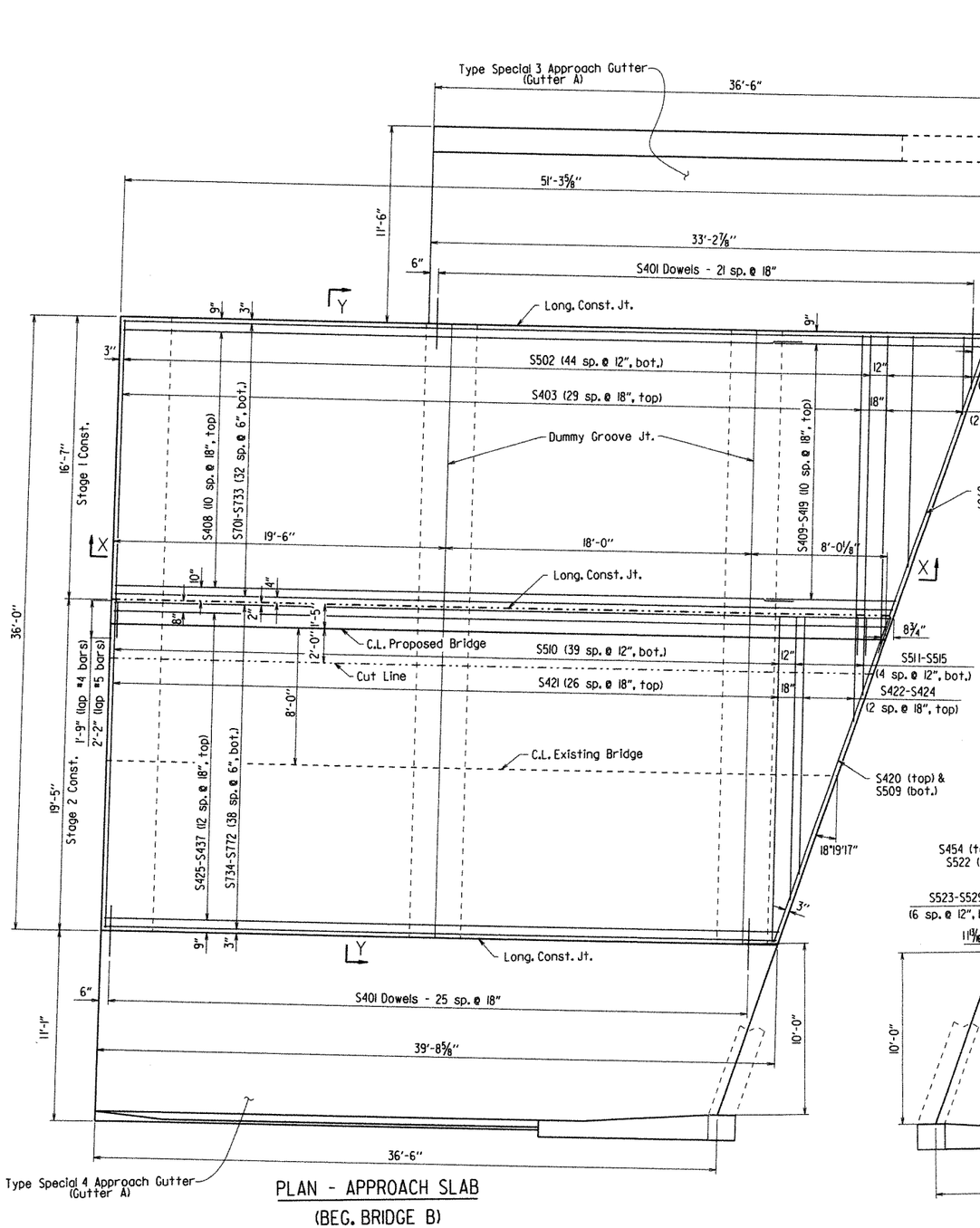
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: AMS DATE: Jul. 7-05 SCALE: NONE
DESIGNED BY: Std. DATE: ——

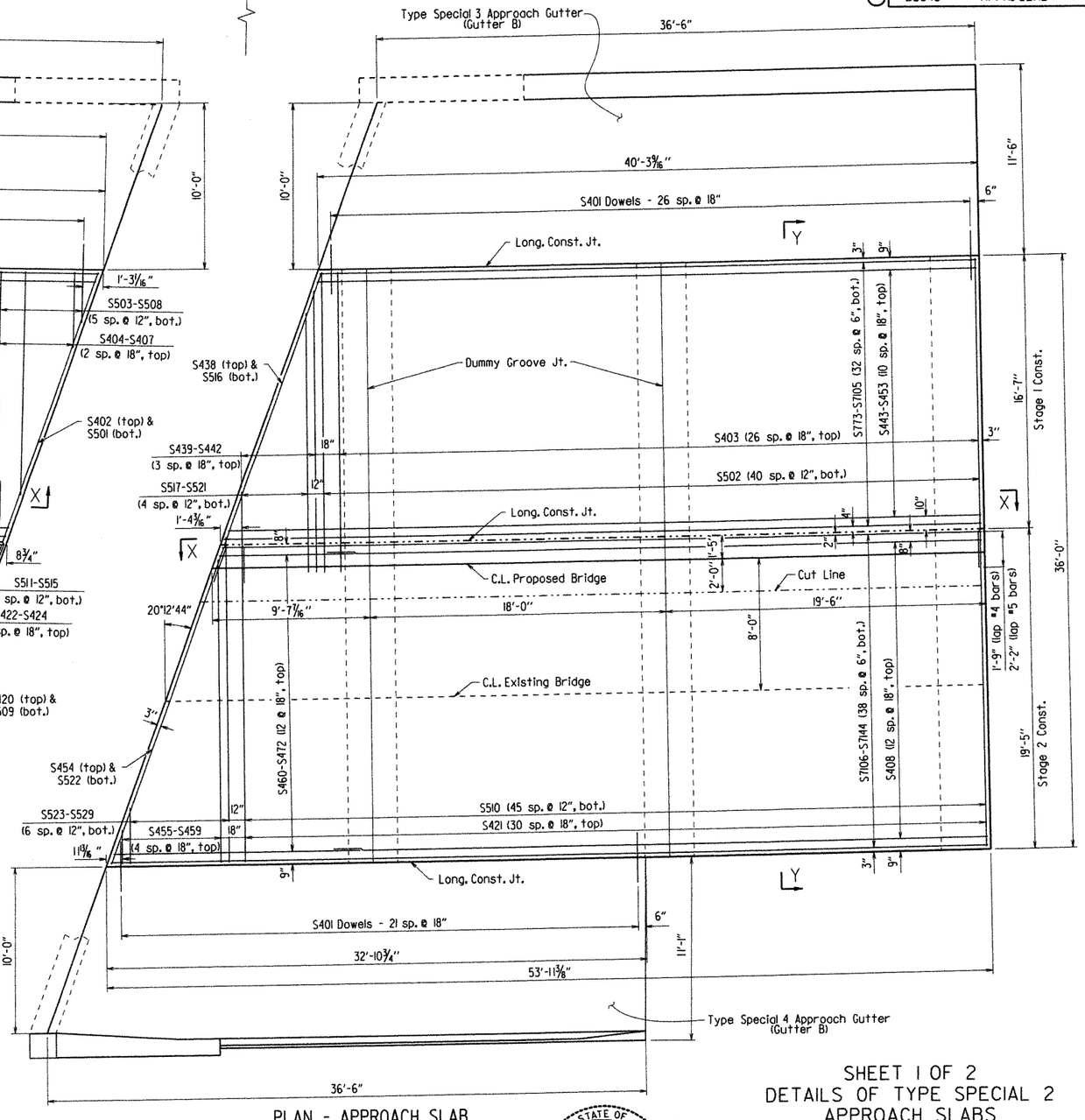
BRIDGE NO. B5948 DRAWING NO. 54228

PRINT DATE: 8/9/2013

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.		090331	103	218
				(1) B5948 -		APPR. SLAB	- 54229	



PLAN - APPROACH SLAB
(BEG. BRIDGE B)



PLAN - APPROACH SLAB
(END BRIDGE B)

Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along C.L. Proposed Bridge.

Note: Surface finish for Approach Slabs shall match that used on the bridge deck.

Note: For General Notes, Sections, Bar List, and additional details, see Dwg. No. 54230.

For details of Type Special 3 & Type Special 4 Approach Gutters, See Dwg. Nos. 54231 & 54232.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/14/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF TYPE SPECIAL 2 APPROACH SLABS

ROUTE SEC.

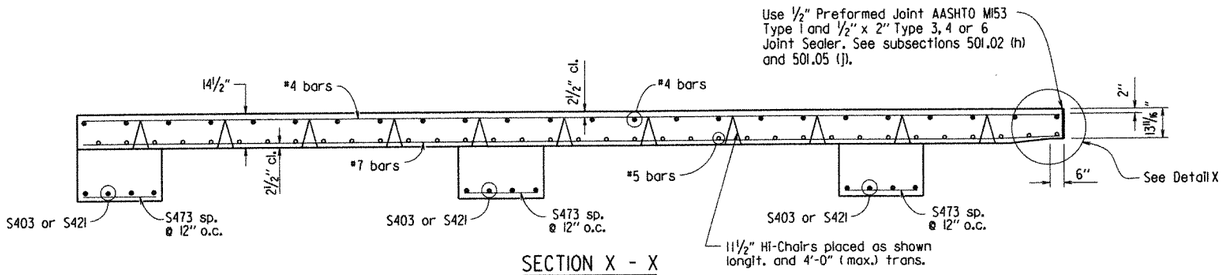
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ADN DATE: 4-17-13 FILENAME: b090331lb_as.dgn
CHECKED BY: MCB DATE: 7/24/13 SCALE: 1/4" = 1'-0"
DESIGNED BY: STD DATE: --

BRIDGE NO. B5948 DRAWING NO. 54229

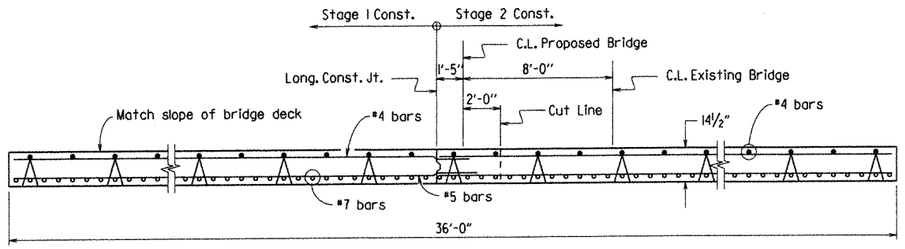
PRINT DATE: 8/9/2013

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.		090331	104	218
				(1)	B5948 -	APPR. SLAB	- 54230	



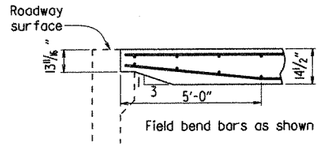
SECTION X - X

N.T.S.



SECTION Y - Y

N.T.S.



DETAIL X

N.T.S.

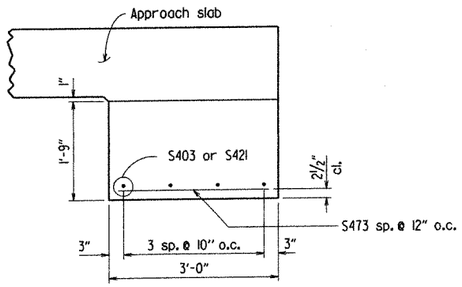
BAR LIST

Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length
S401	48	49	3'-0"
S402	1	--	19'-3"
S403	42	39	18'-4"
S404-S407	1 Each	--	18'-1" to 4'-6"
S408	11	13	40'-0"
S409-S419	1 Each	--	7'-8" to 12'-6"
S420	1	--	20'-1"
S421	27	31	19'-1"
S422-S424	1 Each	--	15'-1" to 6'-0"
S425-S437	1 Each	--	39'-7" to 45'-4"
S438	--	1	19'-5"
S439-S442	--	1 Each	5'-1" to 17'-3"
S443-S453	--	1 Each	40'-2" to 45'-11"
S454	--	1	20'-4"
S455-S459	--	1 Each	2'-0" to 18'-4"
S460-S472	--	1 Each	8'-3" to 15'-1"
S473	108	108	2'-8"
S501	1	--	19'-8"
S502	45	41	18'-9"
S503-S508	1 Each	--	18'-1" to 3'-0"
S509	1	--	20'-1"
S510	40	46	19'-1"
S511-S515	1 Each	--	16'-7" to 4'-6"
S516	--	1	19'-10"
S517-S521	--	1 Each	5'-6" to 16'-4"
S522	--	1	20'-4"
S523-S529	--	1 Each	3'-4" to 19'-8"
S701-S733	1 Each	--	45'-8" to 50'-10"
S734-S772	1 Each	--	39'-5" to 45'-6"
S773-S7105	--	1 Each	40'-0" to 46'-1"
S7106-S7144	--	1 Each	46'-3" to 53'-6"

TABLE OF QUANTITIES FOR TYPE SPECIAL 2 APPROACH SLABS

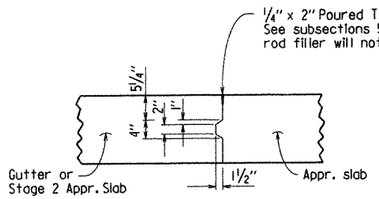
(for information only)

	Slab Width	Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)
Beg. of Bridge	36'-0"	10439	95.30
End of Bridge	36'-0"	10798	97.90



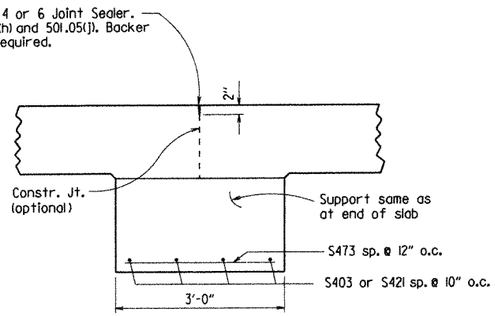
DETAILS OF SUPPORT AT END OF SLAB

N.T.S.



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

N.T.S.



DETAILS OF DUMMY GROOVED JOINT

N.T.S.

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4,000 psi).

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

Approach Slabs will be measured and paid for in accordance with Section 504.

Preformed joint and joint sealer included in the pay item "Approach Slabs".

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/1/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF TYPE SPECIAL 2 APPROACH SLABS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: MCB DATE: 7/24/13 SCALE: As Shown

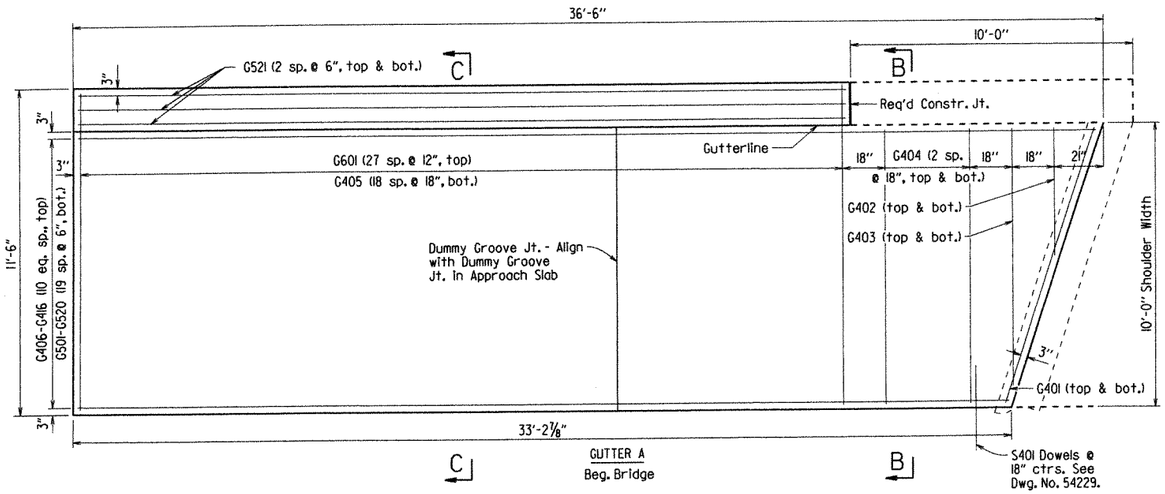
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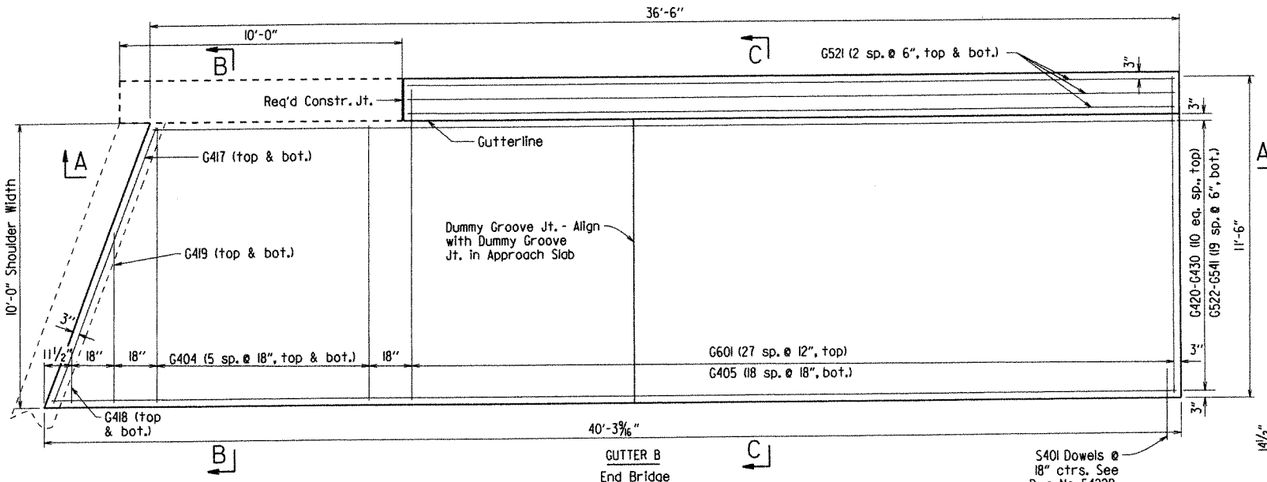
BRIDGE NO. B5948 DRAWING NO. 54230

PRINT DATE: 8/9/2013

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.		090331	105	218
				(1)		B5948 - APPR. GUTTERS - 54231		

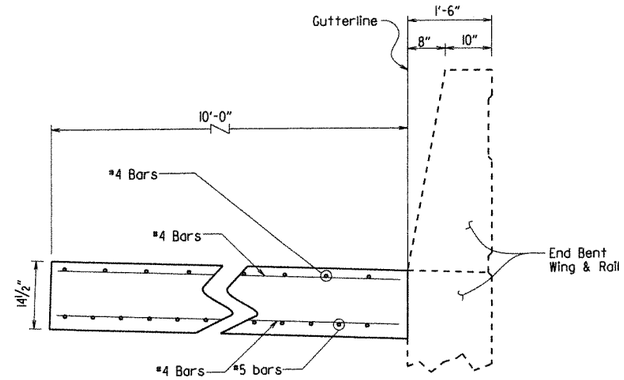
Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Gutterline.





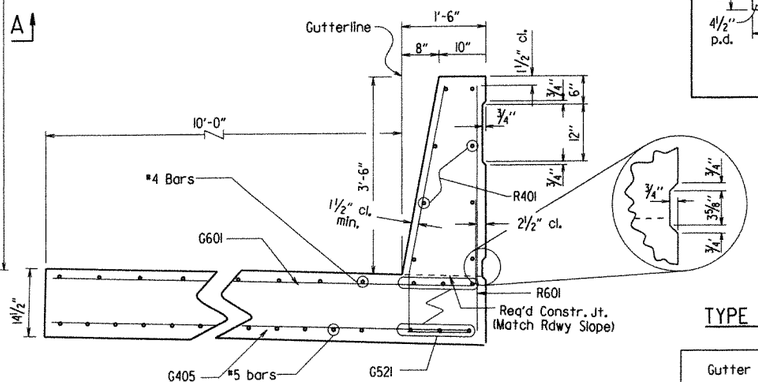
PLAN - APPROACH GUTTERS

Scale: ⅜"=1'-0"



SECTION B-B

Scale: N.T.S.

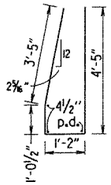


SECTION C-C

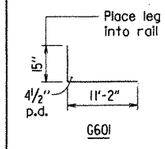
Scale: N.T.S.

BAR LIST

Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length	Bending Diagram
G401	2	--	10'-2"	
G402	2	--	4'-6"	
G403	2	--	9'-0"	
G404	6	12	9'-8"	
G405	19	19	11'-2"	
G406-G416	1 Each	--	32'-11" to 36'-0"	
G417	--	2	10'-3"	
G418	--	2	1'-11"	
G419	--	2	5'-11"	
G420-G430	--	1 Each	36'-3" to 39'-10"	
R401	8	8	27'-2"	
G501-G520	1 Each	--	32'-11" to 36'-0"	
G521	6	6	27'-2"	
G522-G541	--	1 Each	36'-3" to 39'-10"	
G601	28	28	12'-3"	
R601	28	28	9'-6"	



R601



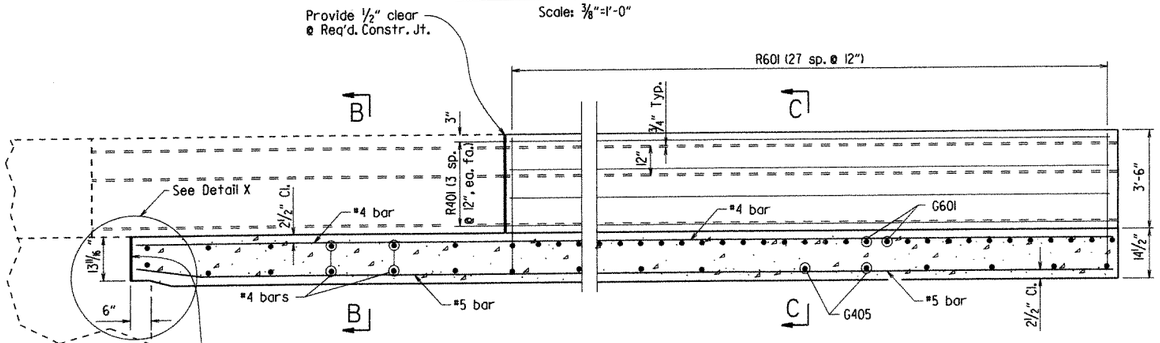
G601

Dimensions are out to out of bar.

QUANTITIES FOR TYPE SPECIAL 3 APPROACH GUTTERS

(for information only)

Gutter	Reinforcing Steel (lbs.)	Concrete (cu. yds.)	Textured Coating Finish (sq. yds.)
Gutter A	2414	21.60	28.0
Gutter B	2546	23.20	28.1

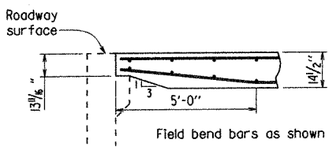


Use ½" Preformed Joint AASHTO M153 Type I and ½" x 2" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j). Preformed joint and joint sealer included in the pay item "Approach Gutters".

SECTION A-A

Scale: N.T.S.

Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



Field bend bars as shown

DETAIL X

Scale: N.T.S.

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4000 psi).

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

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

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 3 APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: MCB DATE: 7/24/13 SCALE: As Shown

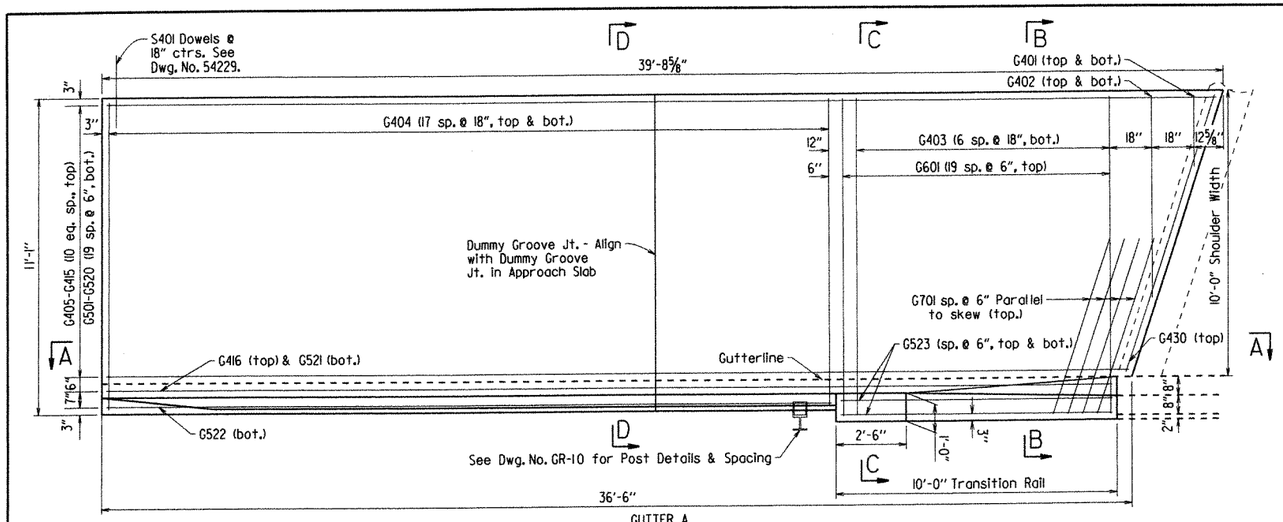
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BRIDGE NO. B5948 DRAWING NO. 54231

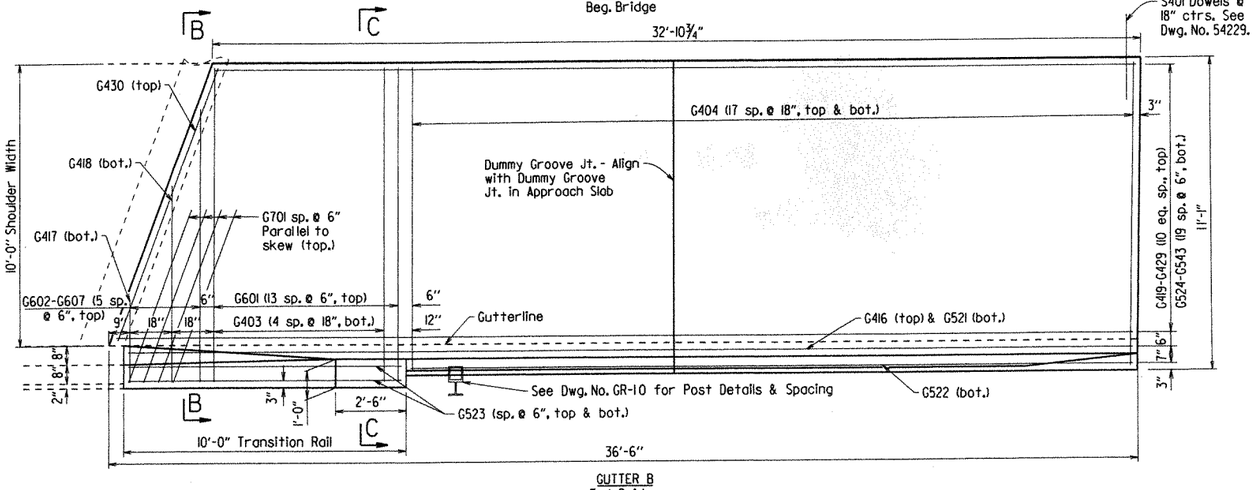
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				6	ARK.			
				JOB NO.		090331	106	218
				(1)	B5948 - APPR. GUTTERS - 54232			

Note: All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Gutterline.



GUTTER A
Beg. Bridge

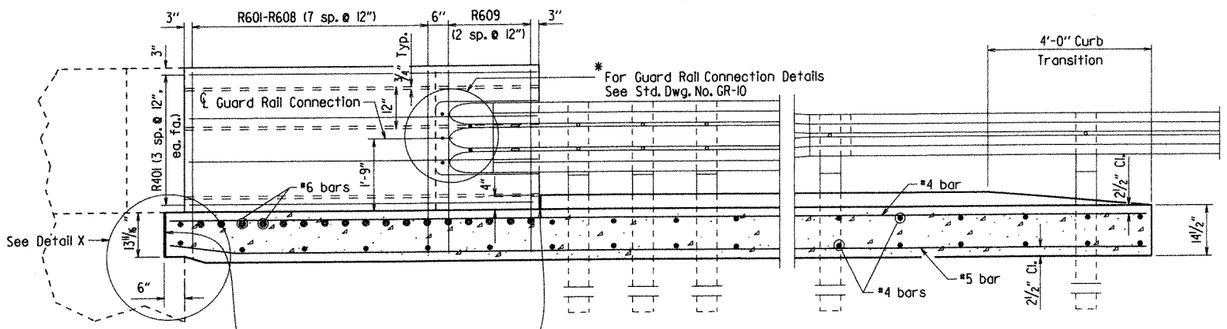


GUTTER B
End Bridge

* See Roadway Plans for Guardrail Locations

PLAN - APPROACH GUTTERS

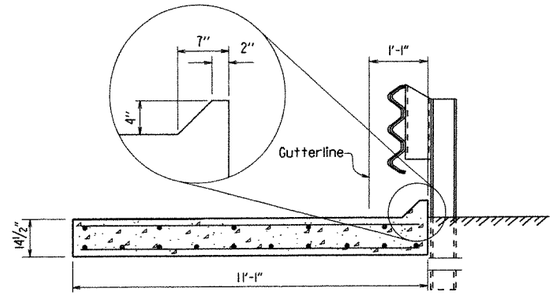
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SECTION A-A

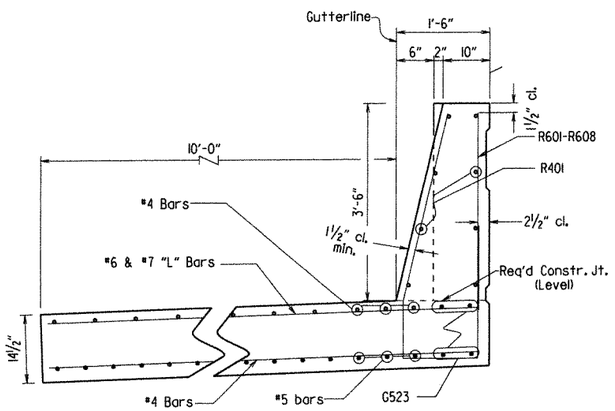
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Class 3 Textured Coating Finish shall be applied to all areas specified in Special Provision Job No. 090331 "Textured Coating Finish".



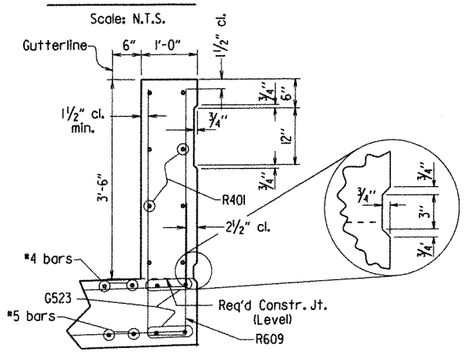
SECTION D-D

Scale: N.T.S.



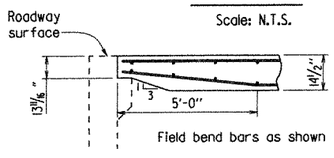
SECTION B-B

Scale: N.T.S.



SECTION C-C

Scale: N.T.S.



DETAIL X

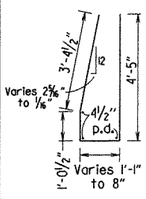
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STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
8/9/13
CARL J. FUSELIER

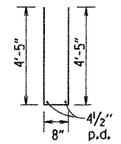
BRIDGE ENGINEER

BAR LIST

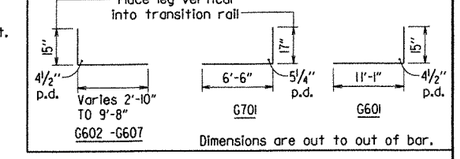
Mark	No. Req'd. Beg. Br.	No. Req'd. End Br.	Length	Bending Diagram
G401	2	--	2'-5"	
G402	2	--	7'-0"	
G403	7	5	11'-1"	
G404	36	36	10'-9"	
G405-G415	1 Each	--	36'-2" to 39'-3"	
G416	1	1	35'-7"	
G417	--	1	2'-10"	
G418	--	1	6'-11"	
G419-G429	--	1 Each	32'-7" to 36'-0"	
G430	1	1	10'-2"	
R401	8	8	9'-8"	
G501-G520	1 Each	--	36'-2" to 39'-3"	
G521	1	1	35'-7"	
G522	1	1	25'-7"	
G523	4	4	9'-8"	
G524-G543	--	1 Each	32'-7" to 36'-0"	
G601	20	14	12'-3"	
G602-G607	1 Each	--	3'-11" to 10'-9"	
R601-R608	1 Each	1 Each	9'-7" to 9'-2"	
R609	3	3	9'-2"	
G701	4	4	7'-9"	



R601-G608



R609



Dimensions are out to out of bar.

QUANTITIES FOR TYPE SPECIAL 4 APPROACH GUTTERS

(for information only)

Gutter	Reinforcing Steel (lbs.)	Concrete (cu. yds.)	Textured Coating Finish (sq. yds.)
Gutter A	2215	21.0	10.2
Gutter B	1930	19.5	10.2

GENERAL NOTES

Concrete shall be Class S(AE) (f'c = 4000 psi).

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

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

DETAILS OF TYPE SPECIAL 4 APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

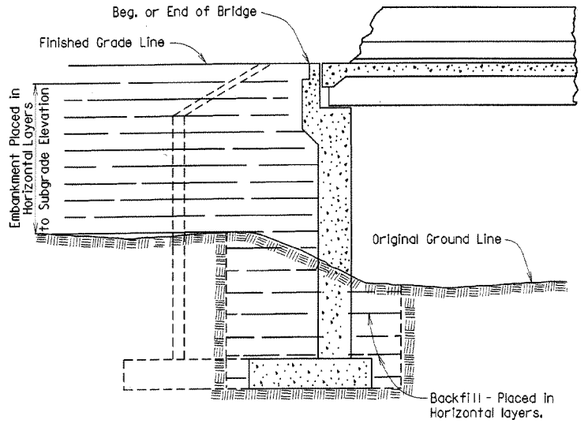
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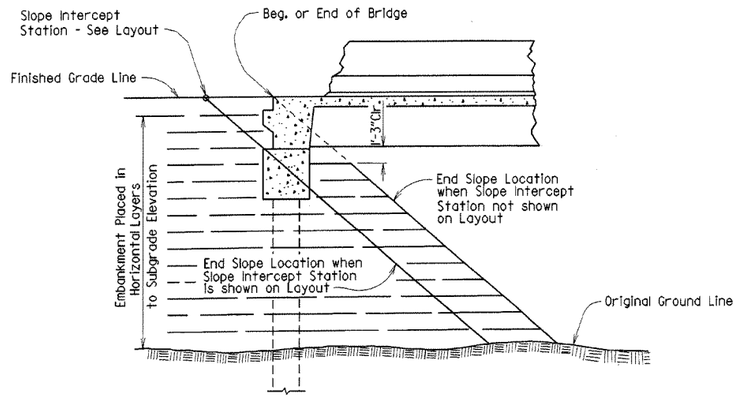
BRIDGE NO. B5948 DRAWING NO. 54232

PRINT DATE: 8/9/2013

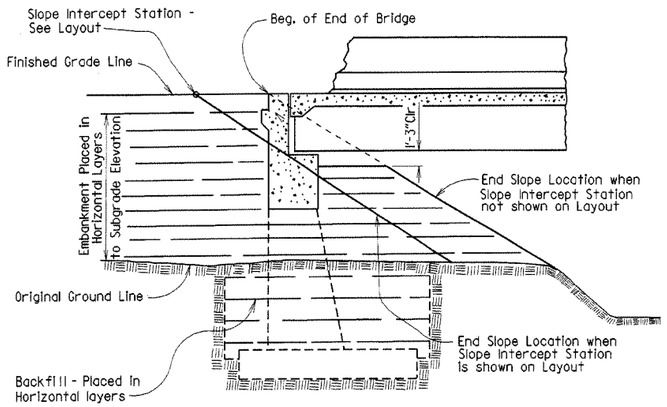
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04-10-2003				6	ARK.		107	
				JOB NO.				
				①	EMBANKMENT & BACKFILL			1888A



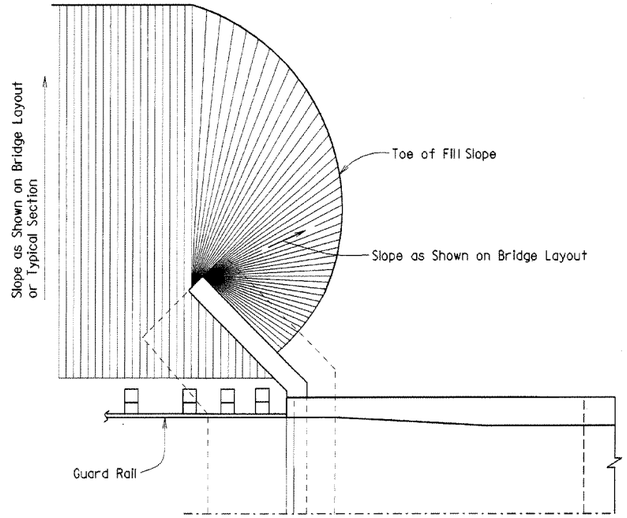
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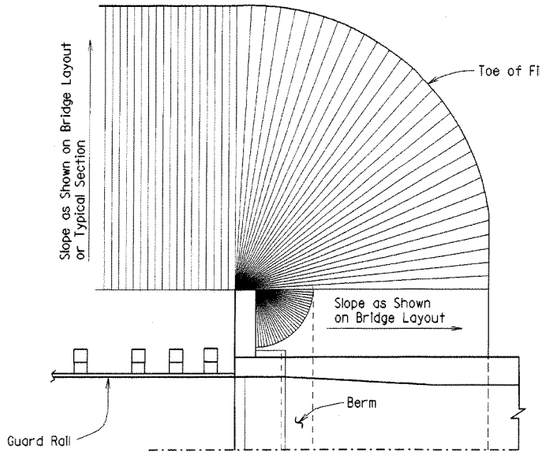
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



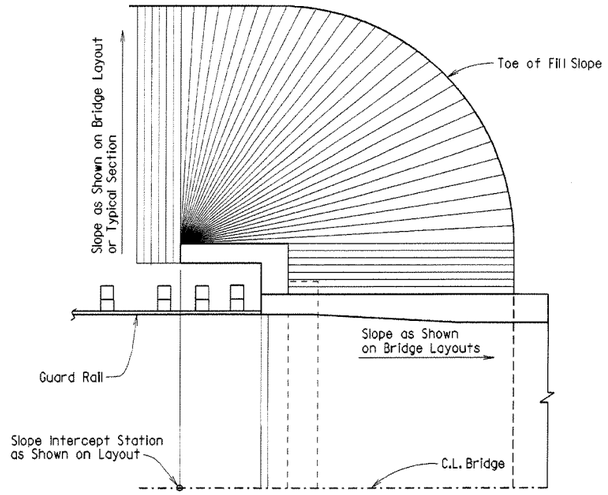
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



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. 4537
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

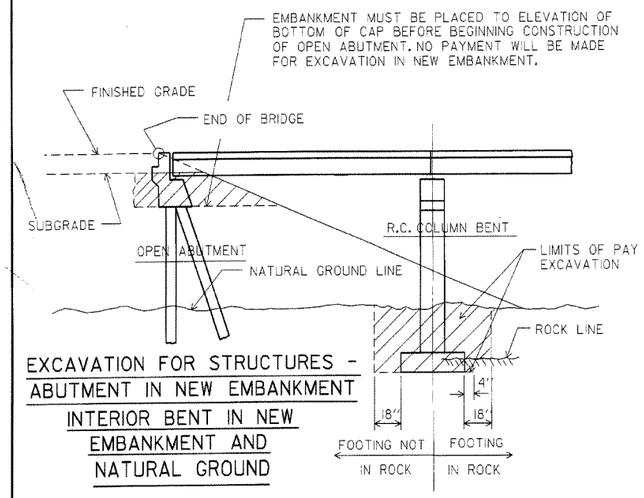
LITTLE ROCK, ARK.

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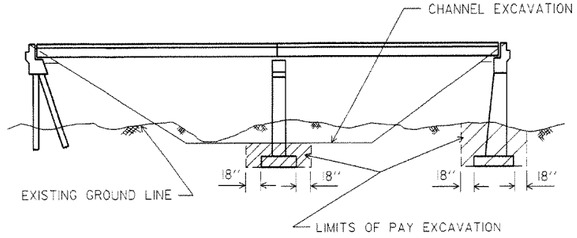
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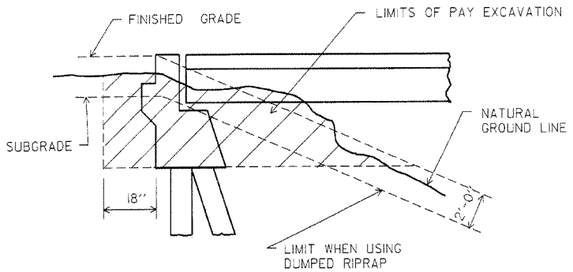
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				JOB NO.				
				①		RIP. & EXCAV.		1891F



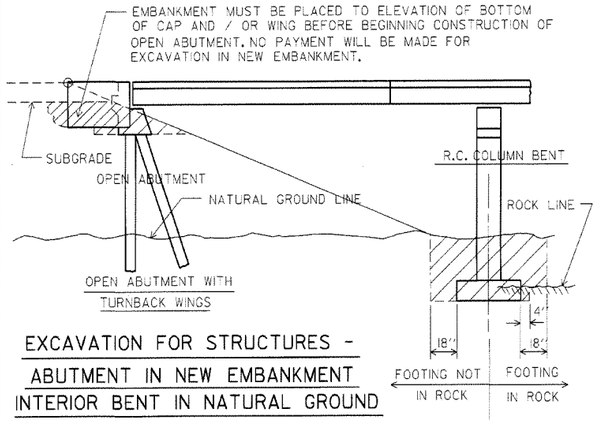
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



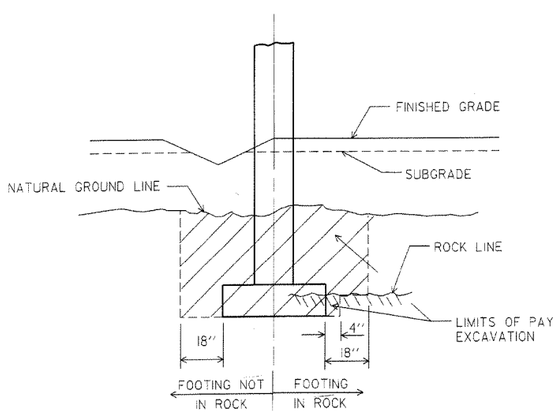
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



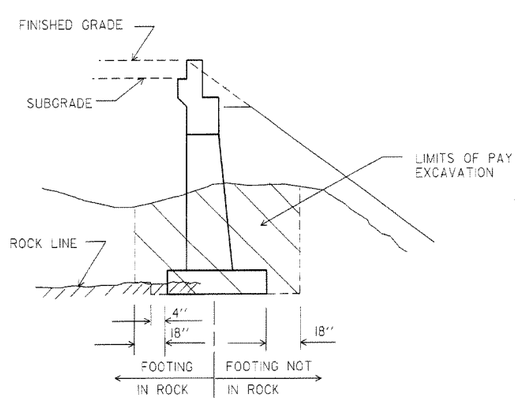
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



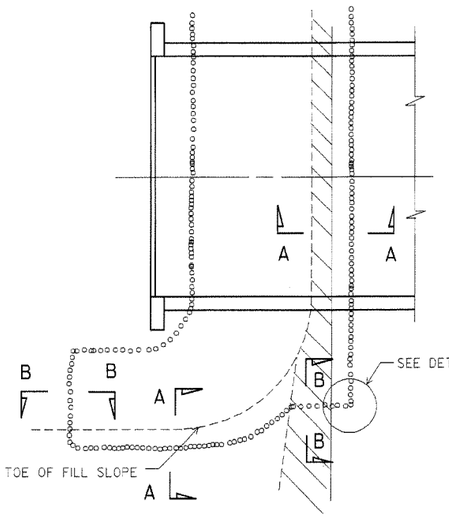
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



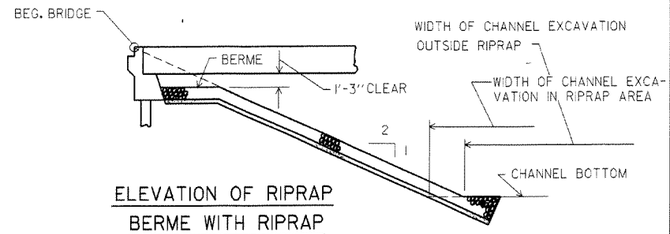
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



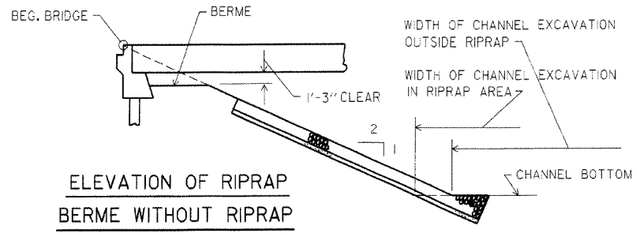
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



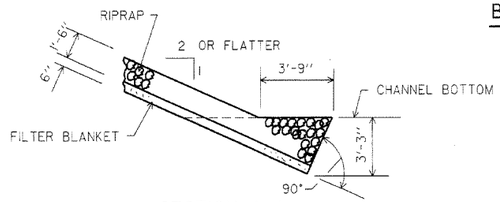
PLAN OF DUMPED RIPRAP



ELEVATION OF RIPRAP BERME WITH RIPRAP



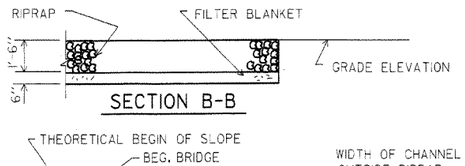
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



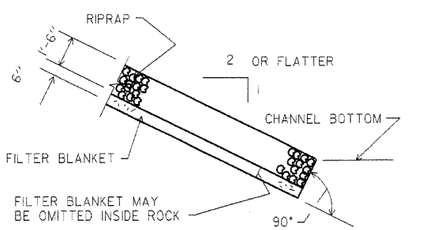
SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM

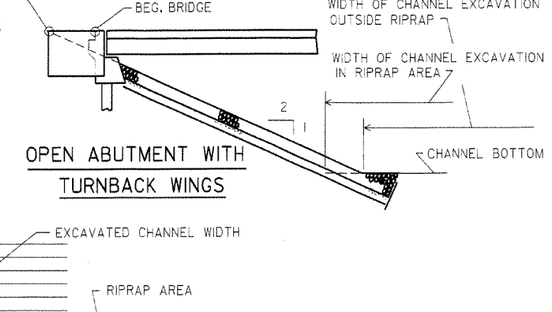


SECTION B-B

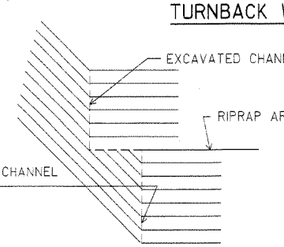


SECTION A-A

(TOE EXCAVATION IN ROCK)



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
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: ——

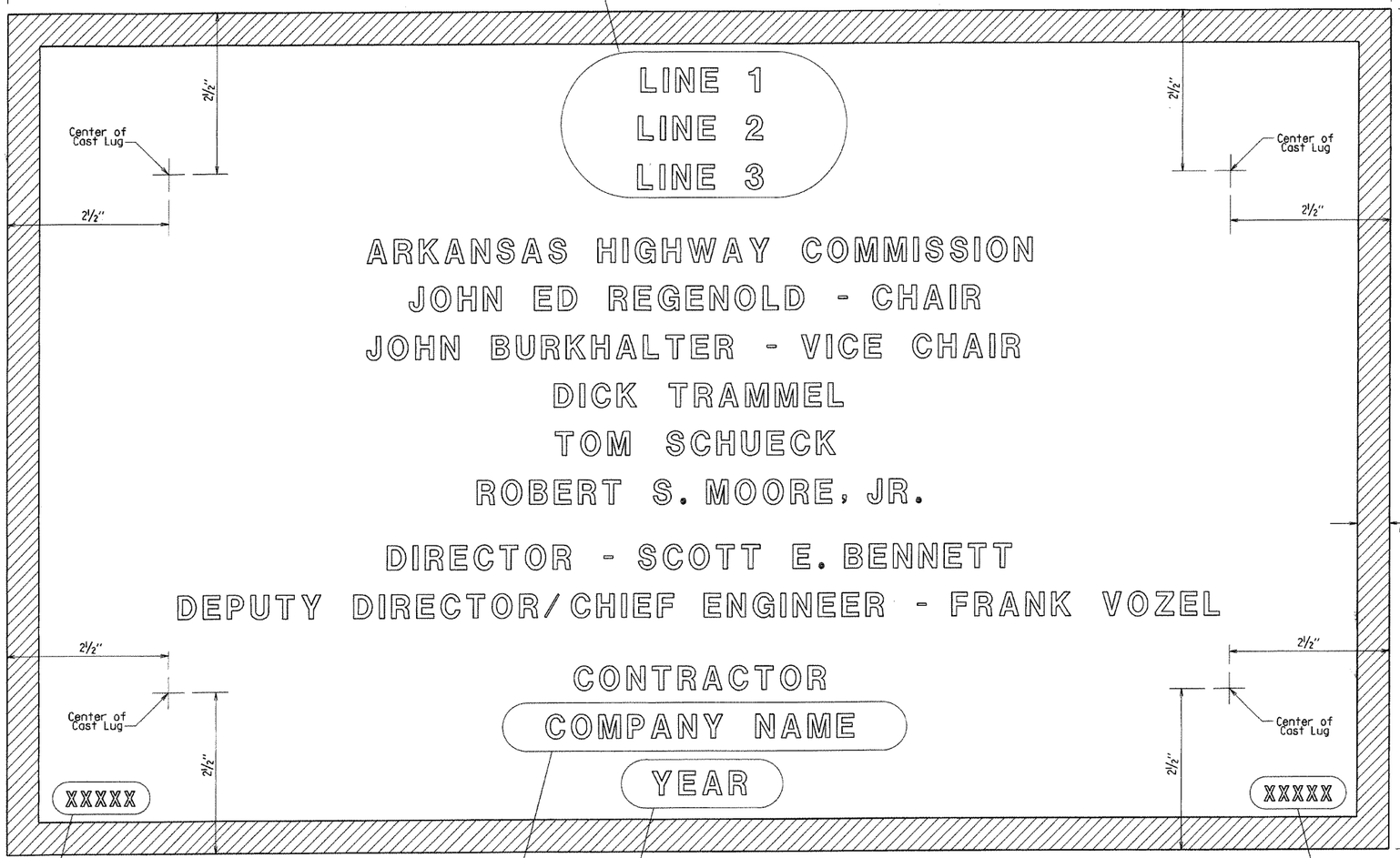
BRIDGE NO. DRAWING NO. 1891F

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-8-11				6	ARK.		109	
1-3-13				JOB NO.				
1-10-13								

(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	



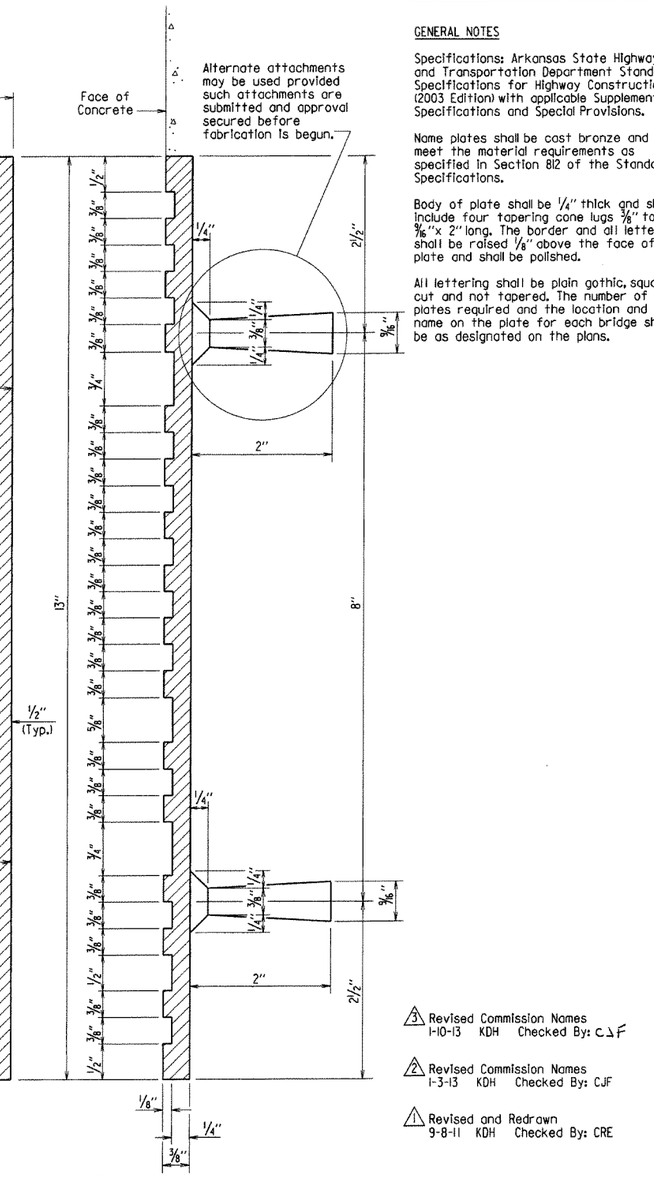
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20 HL-93

Place the 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 Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

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 3/8" to 7/16" 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. FUSELIER
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 FILENAME: b2387_std.dgn

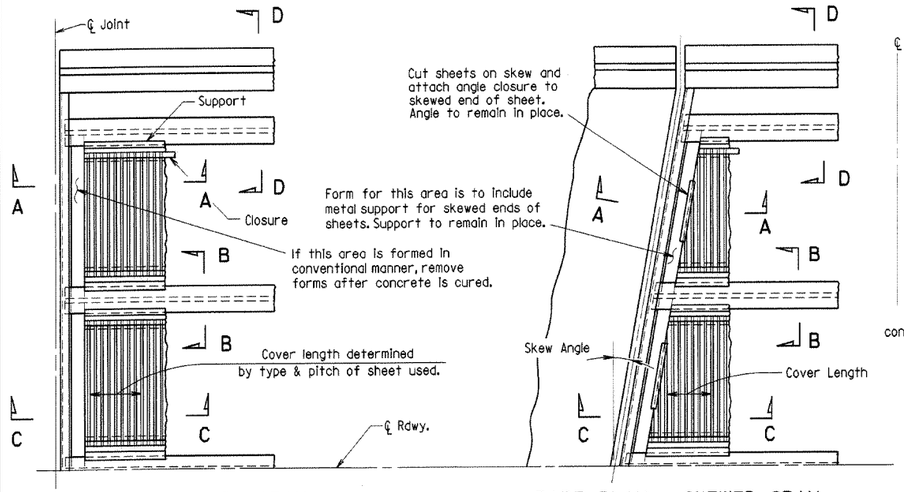
CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0"

DESIGNED BY: STD. DATE: — 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	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		110	
04-10-2003						JOB NO.				
						①	BR. DECK FORMS		14991	

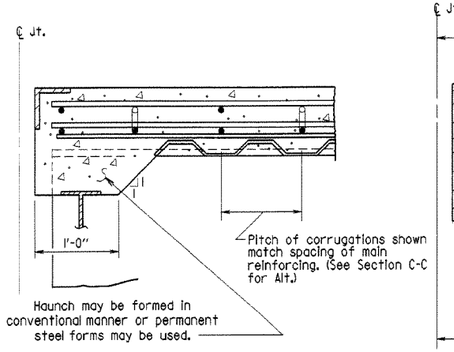


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

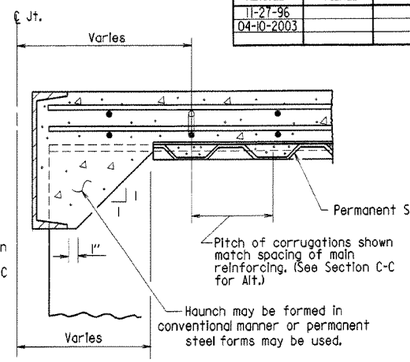
3/8" = 1'-0"



SECTION A-A

N.T.S.

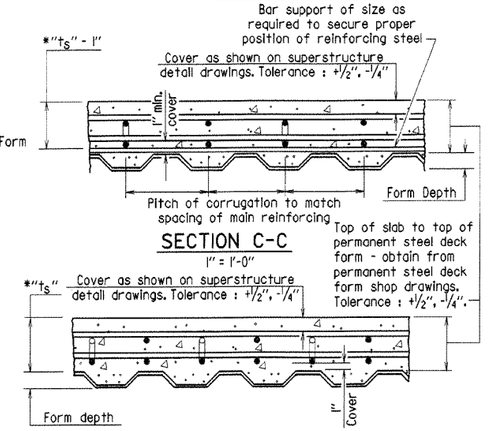
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



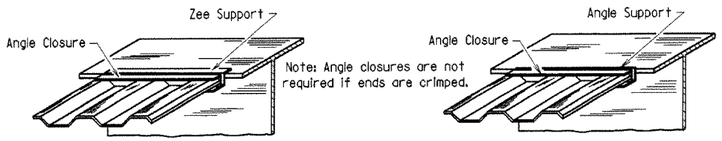
SECTION C-C

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.

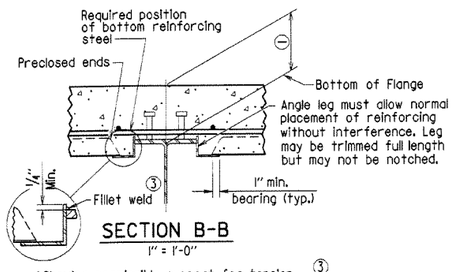
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

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.

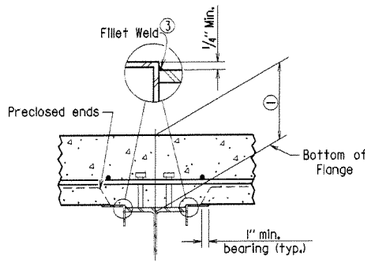


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

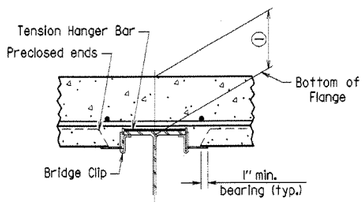
③ Minimum weld: 1/8" x 1" ℄ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

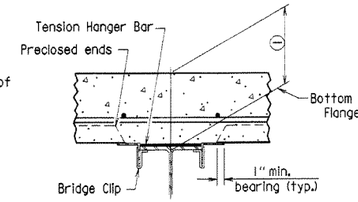
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

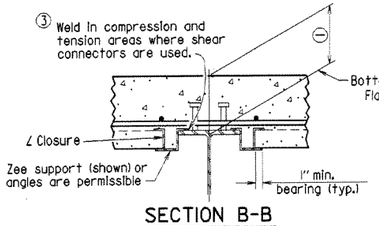
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

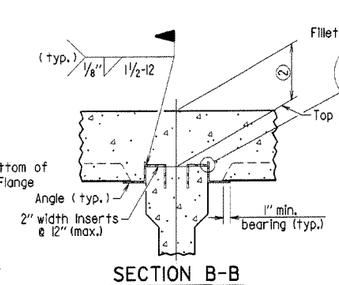
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

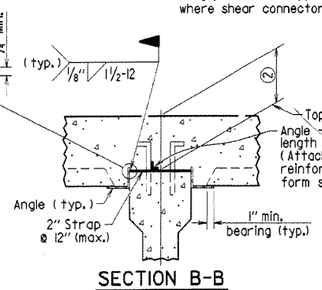


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

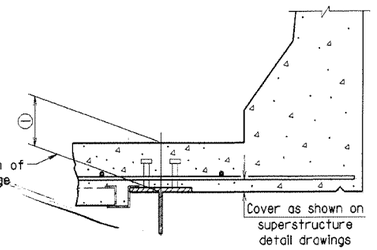


SECTION B-B

(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.

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

⚠1 Redrawn and revised 11/27/96; MJT

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.

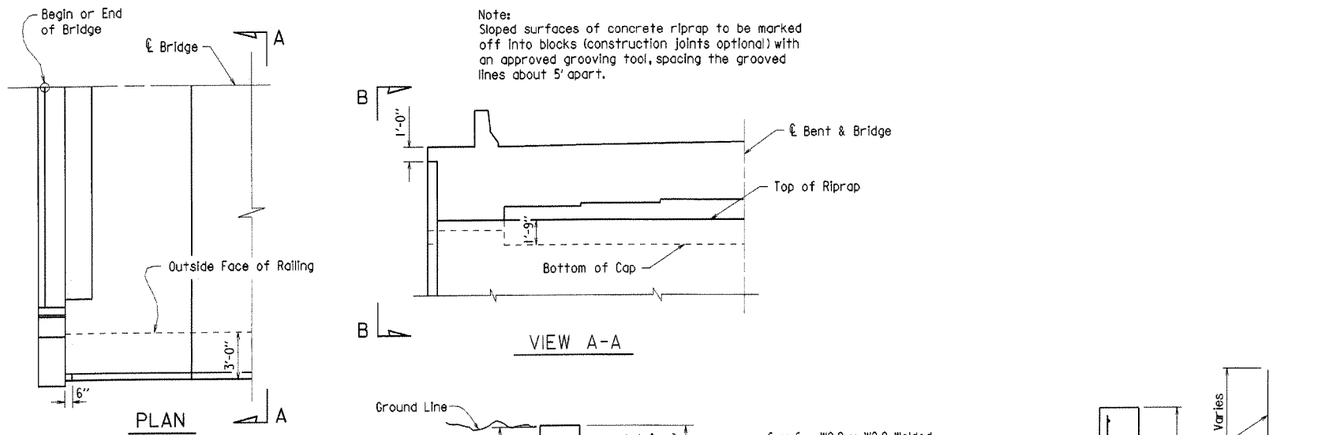
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96
DESIGNED BY: STD. DATE: —
SCALE: as noted

BRIDGE NO. DRAWING NO. 14991

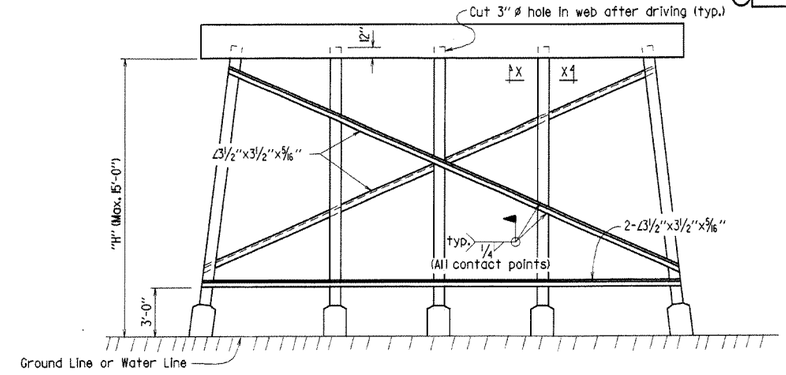
BI499I.STD

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.		111	
				JOB NO.				

1 RIPRAP & PILE - 14995A



DETAILS OF CONCRETE RIPRAP



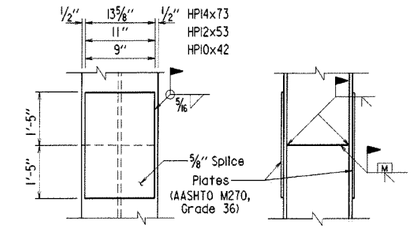
Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

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.

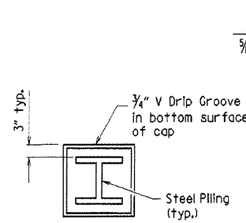
TYPICAL BRACING FOR INT. STEEL PILE BENTS



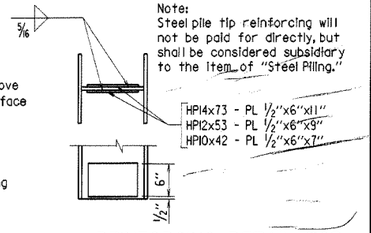
Note:
The contractor may for his own convenience and at this own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 ft.

PILE SPLICE DETAIL

Scale : 1" = 1'-0"



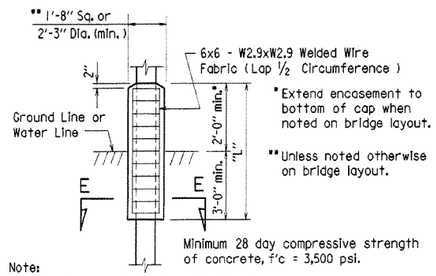
VIEW X-X



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

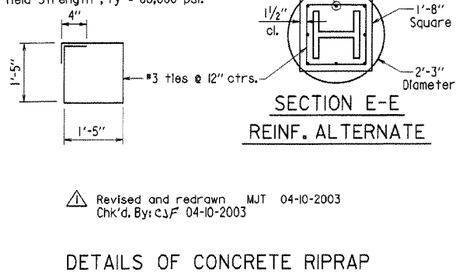
Scale : 1" = 1'-0"



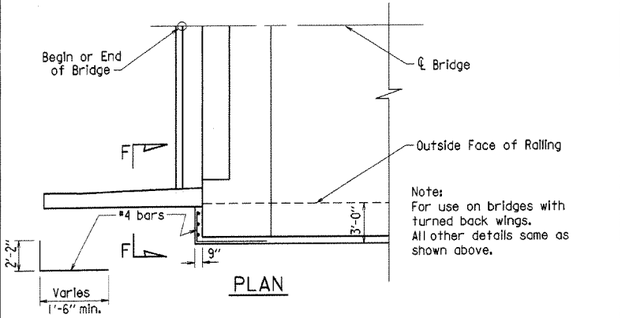
Note:
If concrete cannot be placed in the dry, seal concrete may be deposited under water. Concrete & welded wire fabric or reinforcing in encasements shall be paid for at the contract unit price per linear foot bid for "Pile Encasement."

PILE ENCASEMENT DETAIL

Reinforcing Alternate
#3 Vertical - 8 per encasement
#3 ties @ 12" ctrs.
Yield Strength , fy = 60,000 psi.

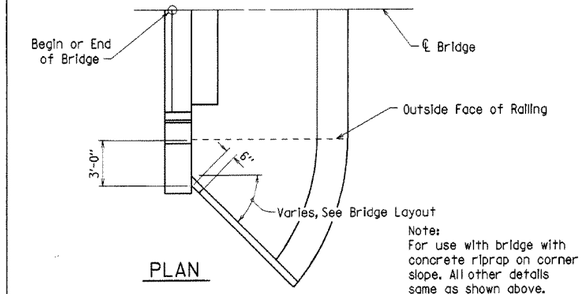


SECTION E-E
REINF. ALTERNATE



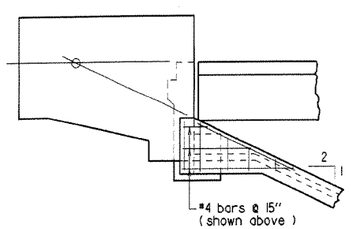
PLAN

Note:
For use on bridges with turned back wings. All other details same as shown above.

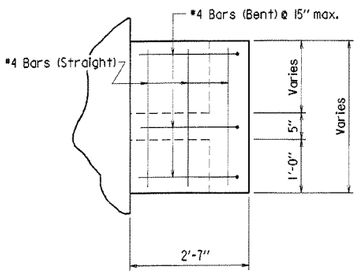


PLAN

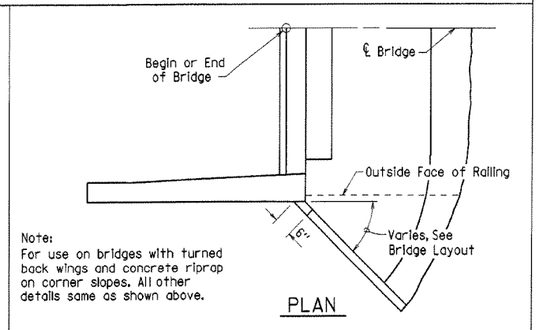
Note:
For use with bridge with concrete riprap on corner slope. All other details same as shown above.



ELEVATION



SECTION F-F



Note:
For use on bridges with turned back wings and concrete riprap on corner slopes. All other details same as shown above.

PLAN

⚠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

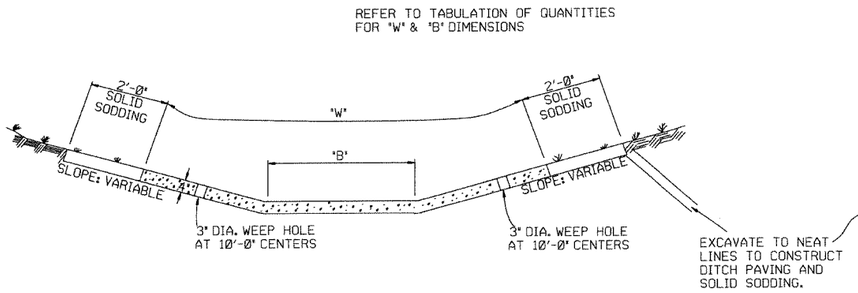
LITTLE ROCK, ARK.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

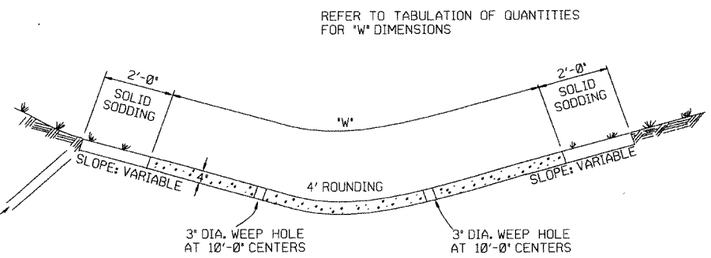
BRIDGE ENGINEER

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

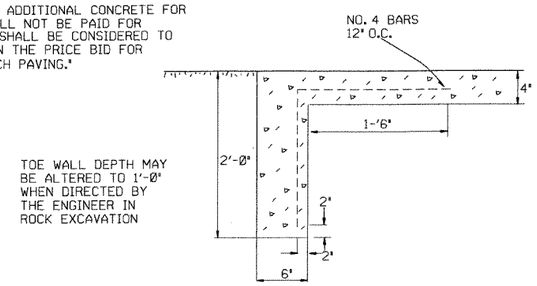


TYPE A



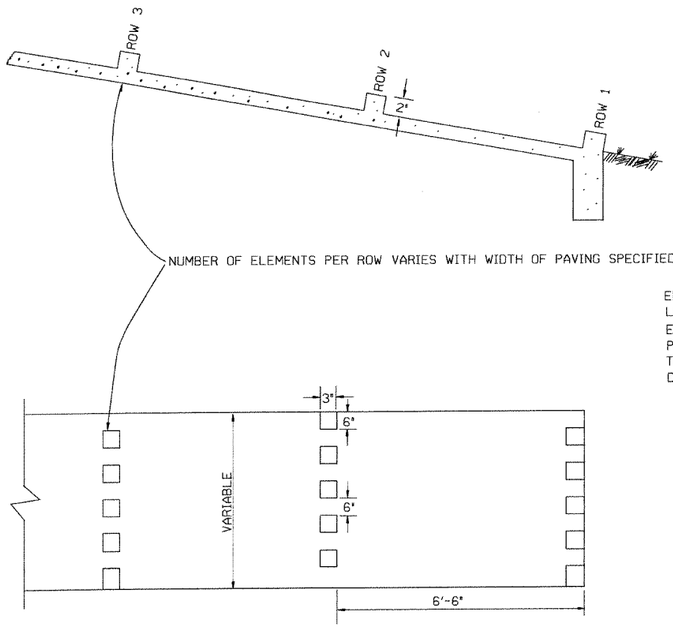
TYPE B

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



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

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

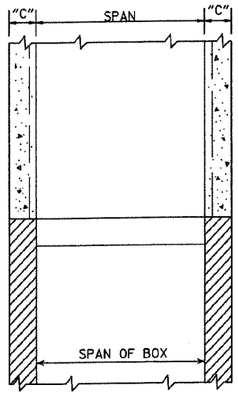
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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
DATE	REVISION	DATE FILM'D

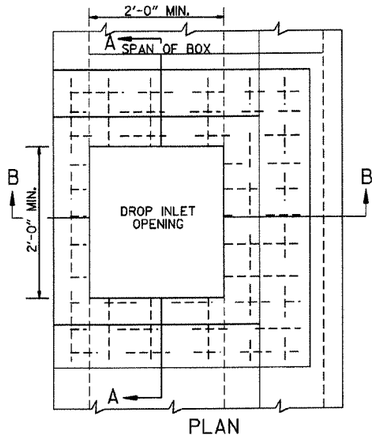
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

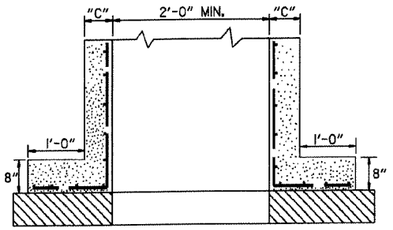
STANDARD DRAWING CDP-1



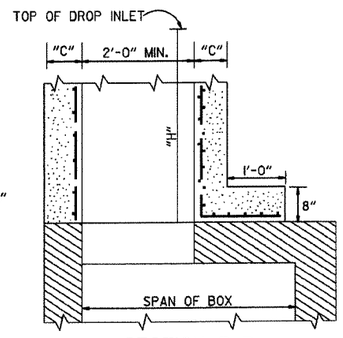
SECTION B-B



PLAN

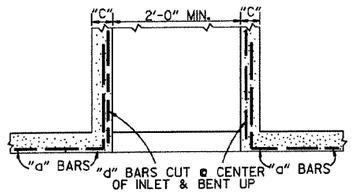


SECTION A-A

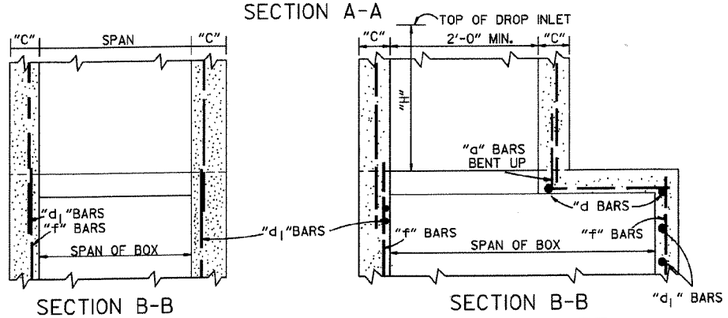


SECTION B-B

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



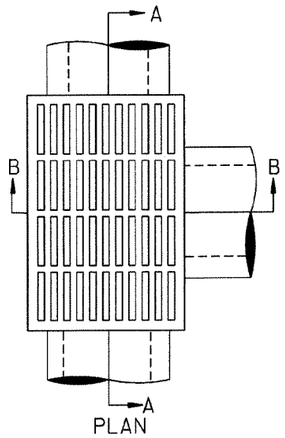
SECTION A-A



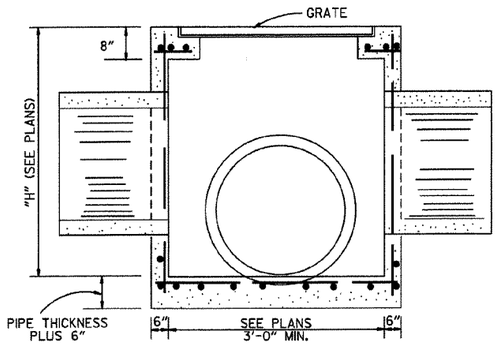
SECTION B-B SECTION B-B

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

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

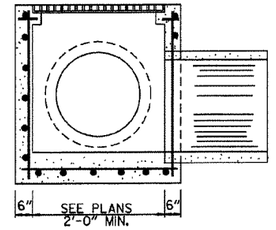


PLAN



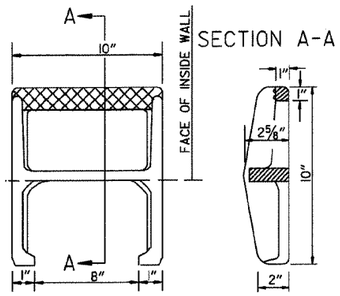
SECTION A-A

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



SECTION B-B

DROP INLET (TYPE E)

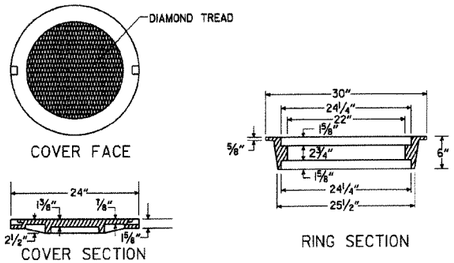


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

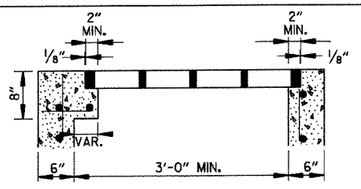
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF
STEP FOR DROP INLET

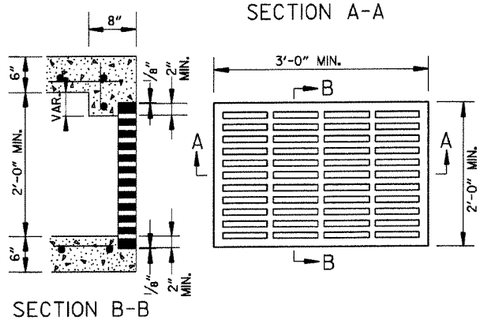


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



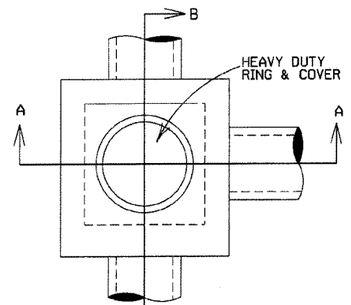
SECTION A-A



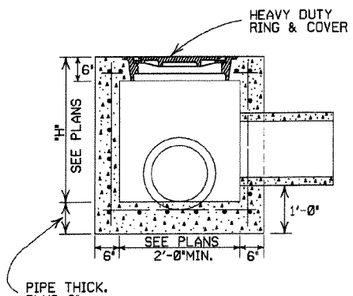
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

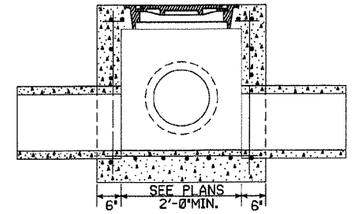


PLAN



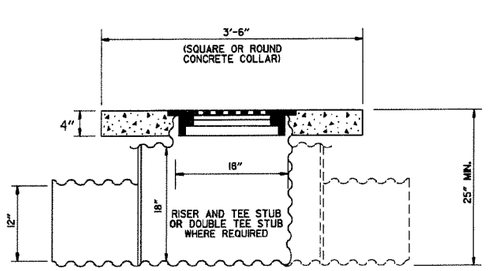
SECTION A-A

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

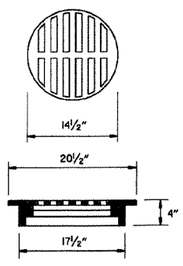


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

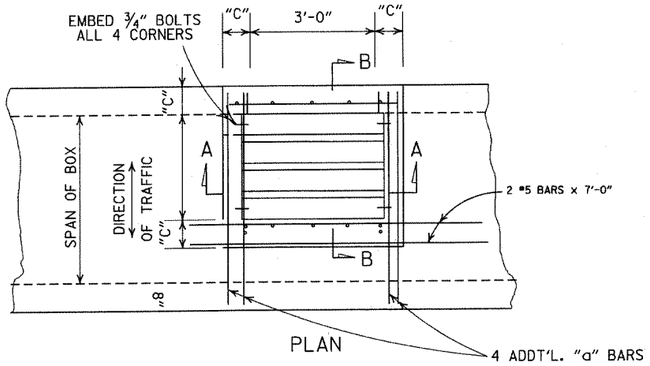
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS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

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

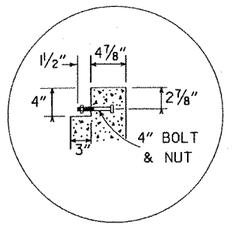
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS
& JUNCTION BOXES

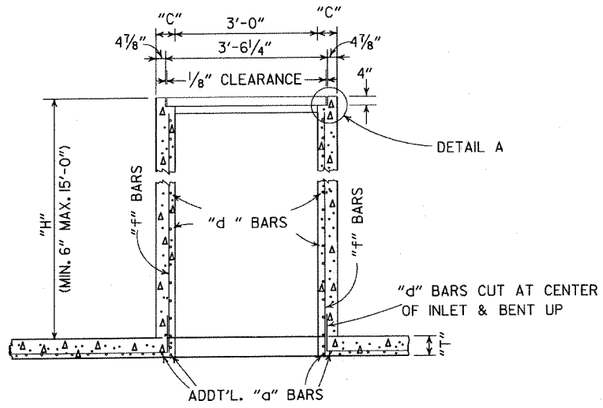
STANDARD DRAWING FPC-9



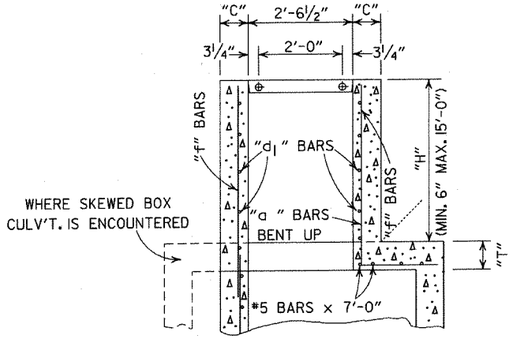
PLAN



DETAIL A



SECTION A-A

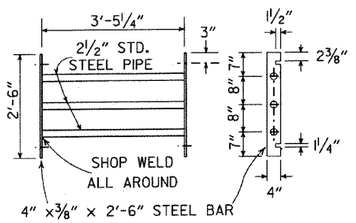


SECTION B-B

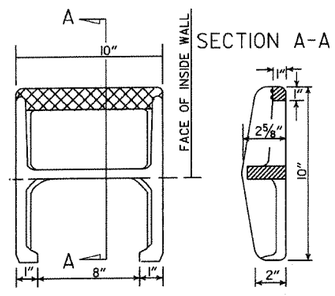
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



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

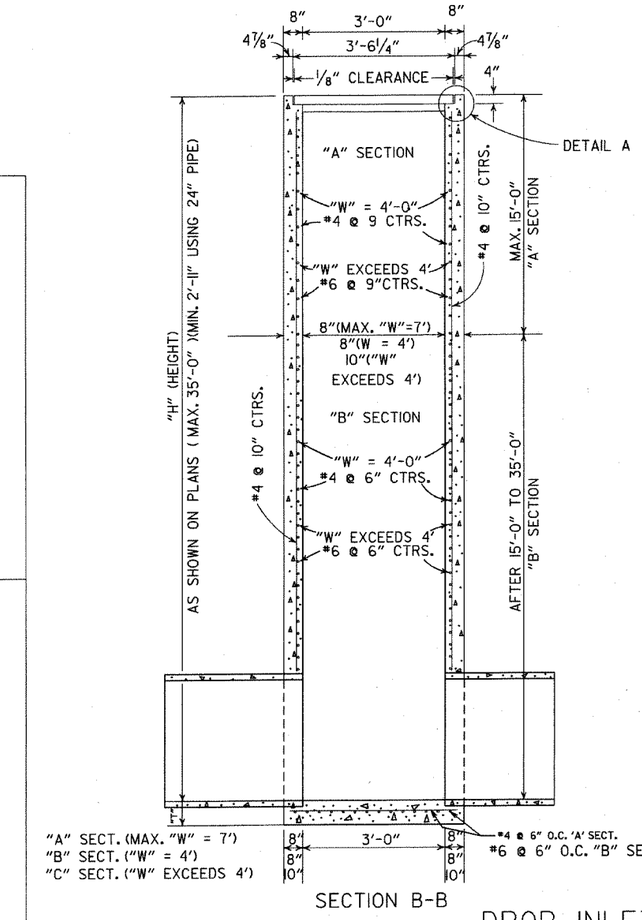
GENERAL NOTES:

1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

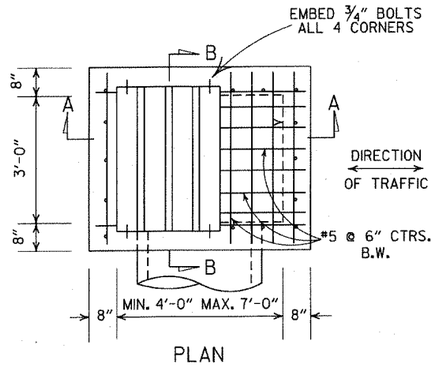
TABLE OF "W" DIMENSIONS

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

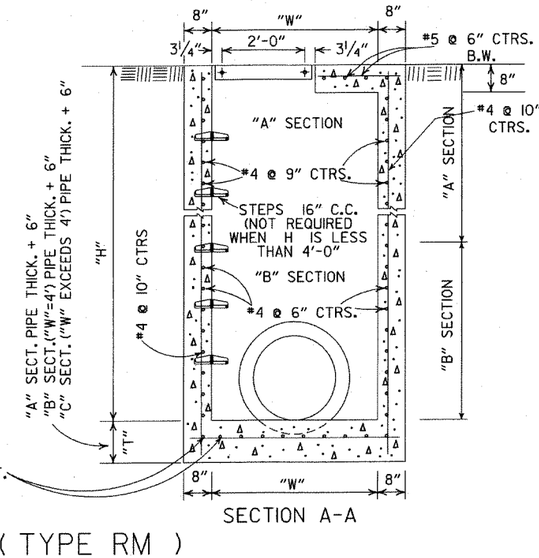
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

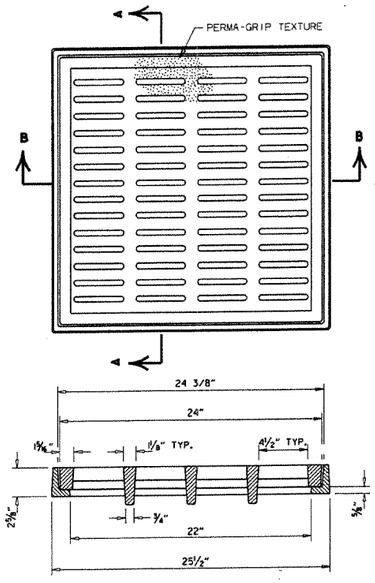
DROP INLET(TYPE RM)

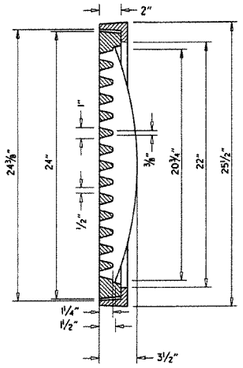
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72
REVISED		DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D





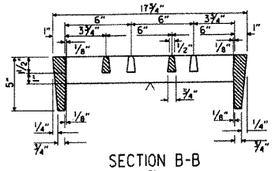
SECTION A-A

SECTION B-B

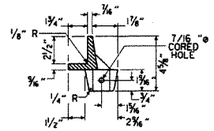
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

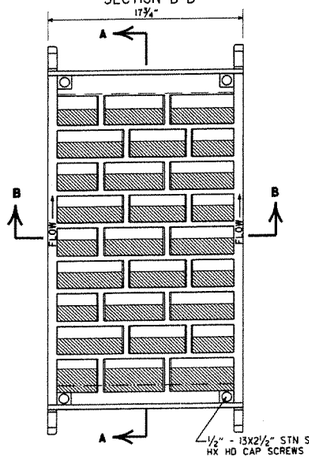
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS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

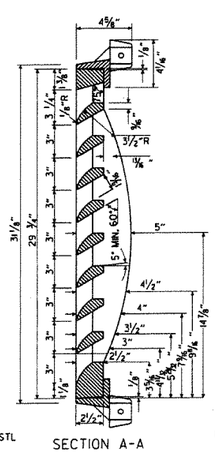


SECTION B-B



SECTION THRU FRAME



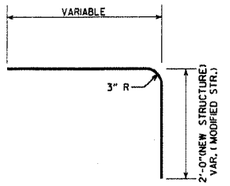


SECTION A-A

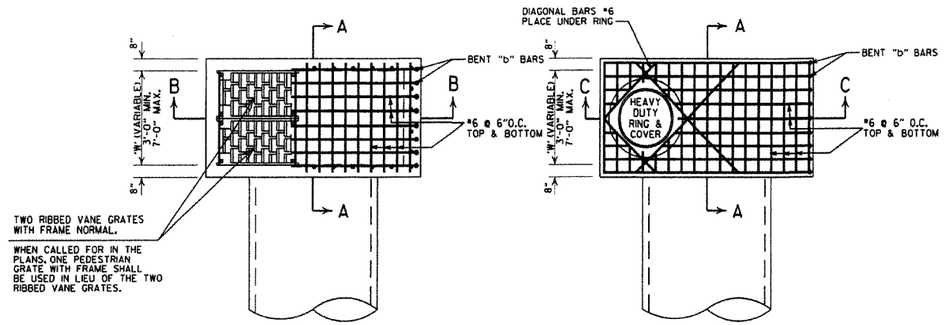
DETAILS OF RIBBED VANE GRATE AND FRAME

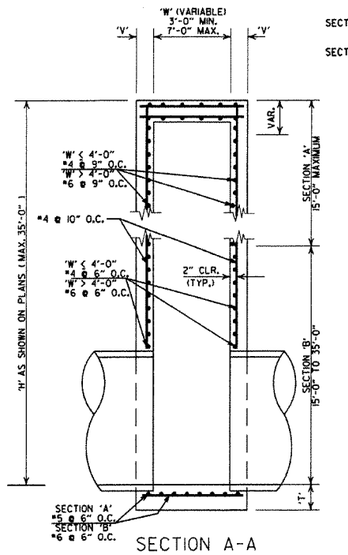
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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



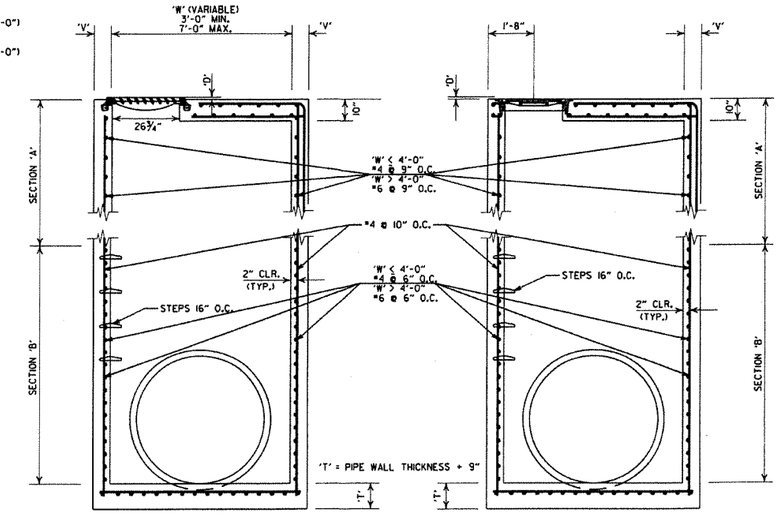
DETAIL OF BENT "b" BAR





SECTION A-A

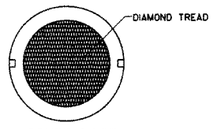
SECTION 'A' 'V' = 8"
SECTION 'B' (W≤4'-0") 'V' = 8"
SECTION 'B' (W>4'-0") 'V' = 10"



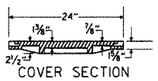
SECTION B-B

SECTION C-C

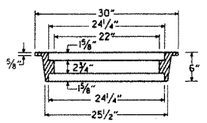
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

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

GENERAL NOTES (HEAVY DUTY RING & COVER):

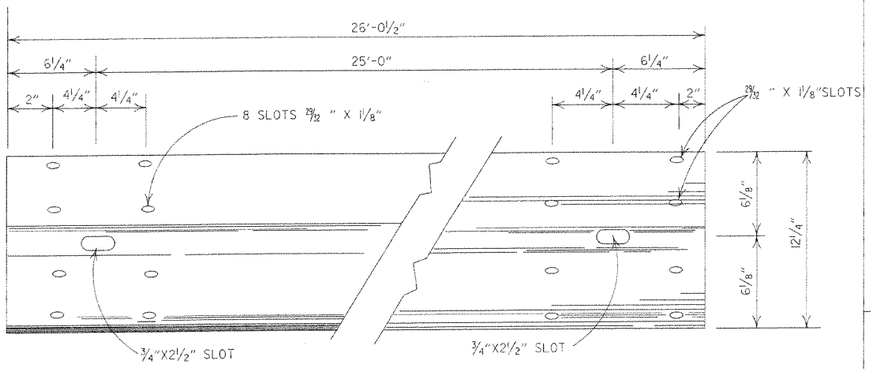
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE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

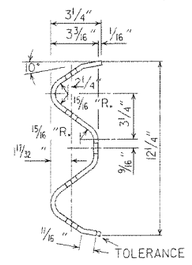
DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

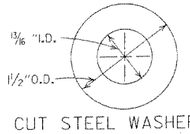




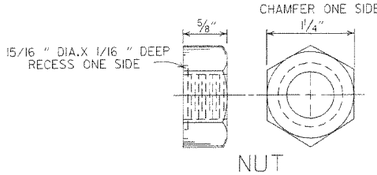
DETAILS OF W-BEAM GUARD RAIL

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

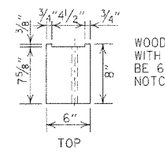
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

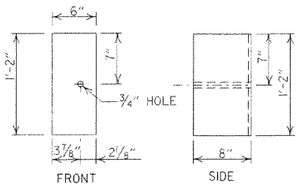


NUT



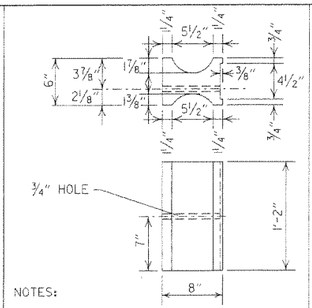
TOP

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



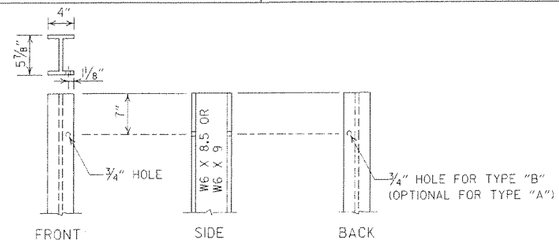
FRONT SIDE

WOOD BLOCKOUT (W-BEAM)

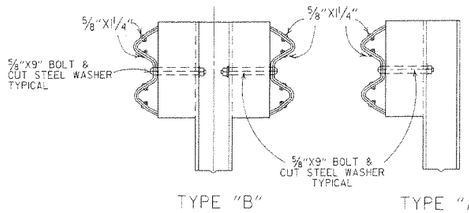


NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

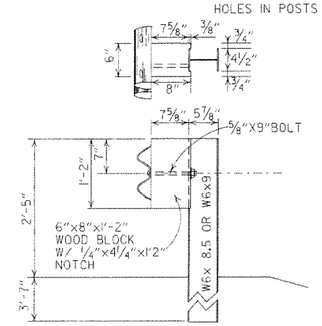
USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

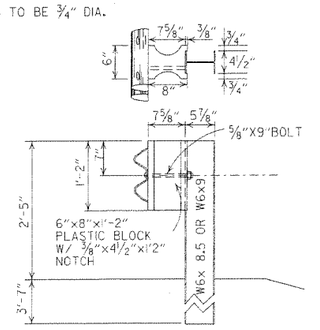
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



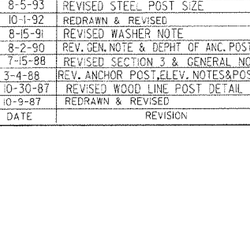
WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

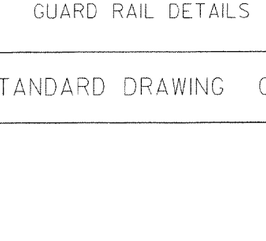
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

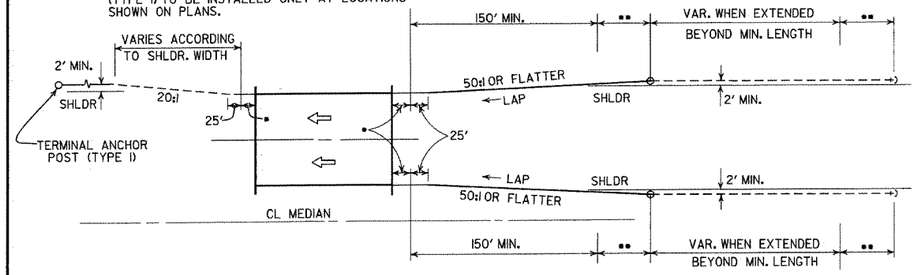
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED A.T. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

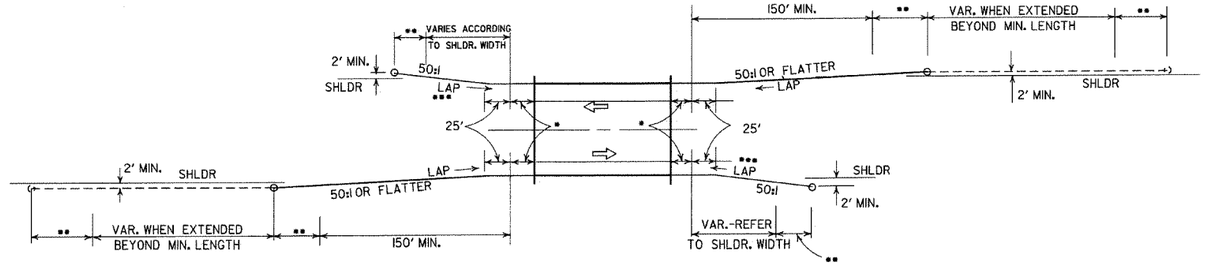
STANDARD DRAWING GR-8

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

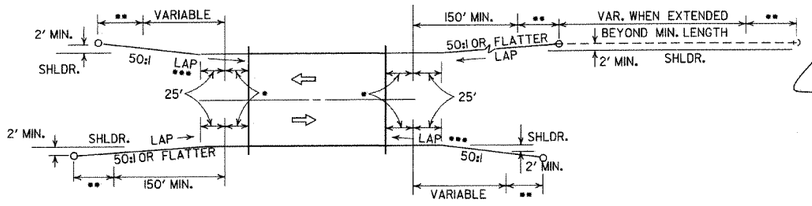
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

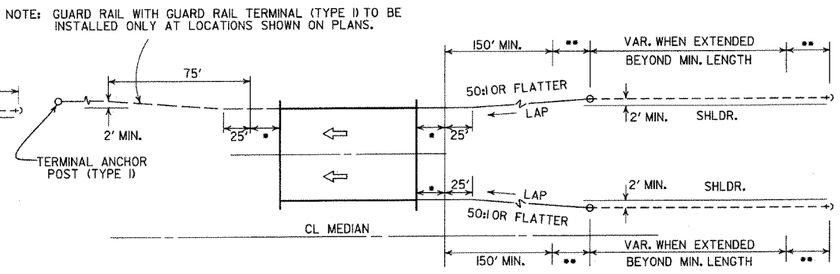
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

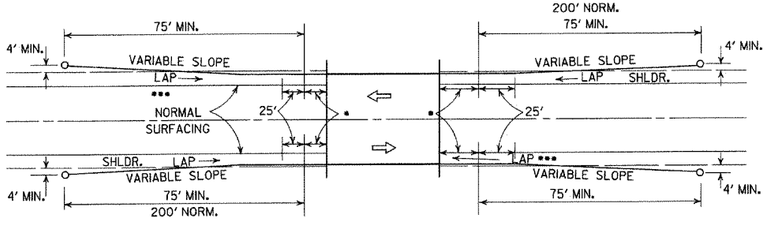
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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



LEGEND

- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

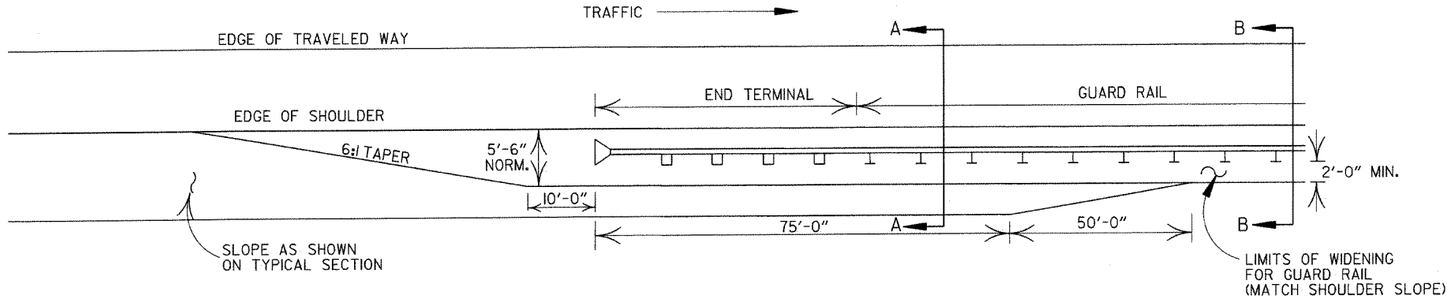
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

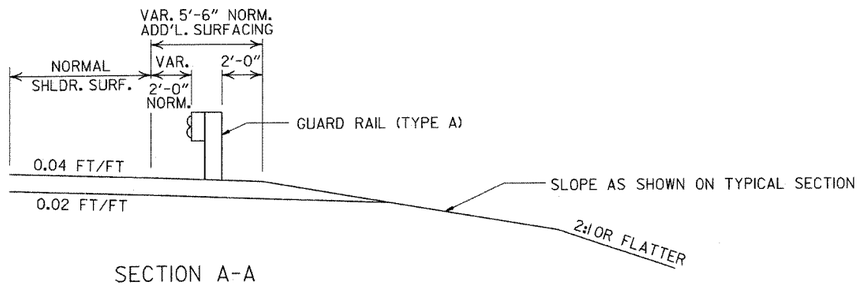
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87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

ARKANSAS STATE HIGHWAY COMMISSION

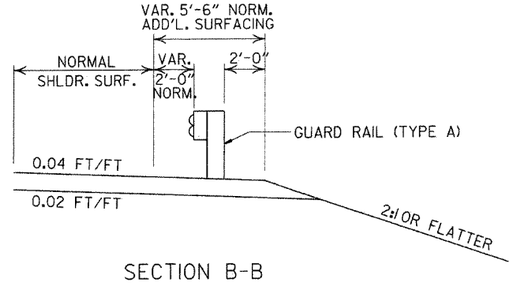
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





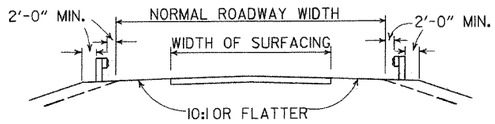
SECTION A-A



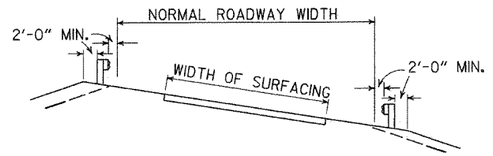
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

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

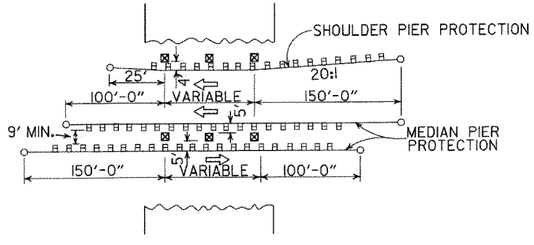


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



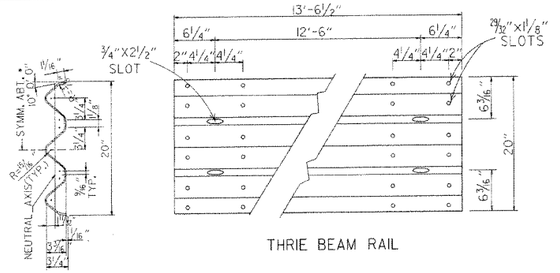
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

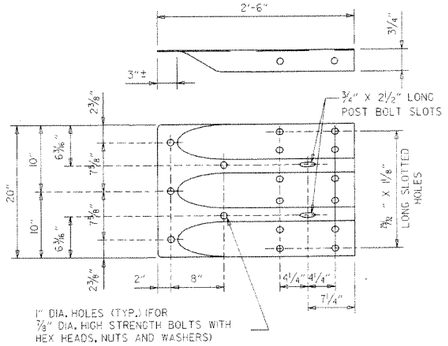
DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
8-10-05	DRAWN	

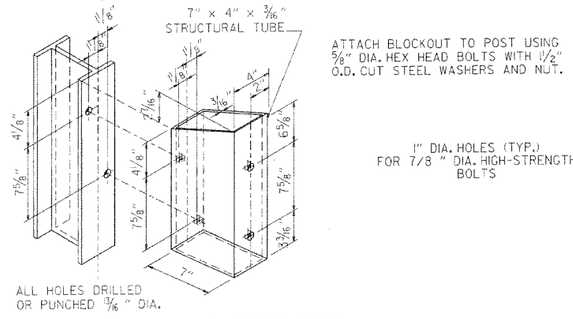
ARKANSAS STATE HIGHWAY COMMISSION

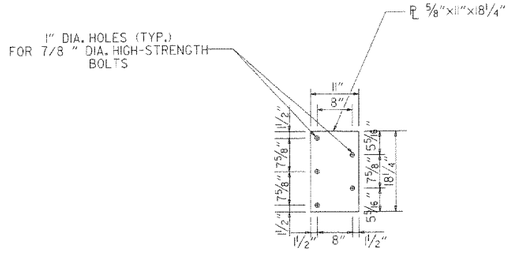
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

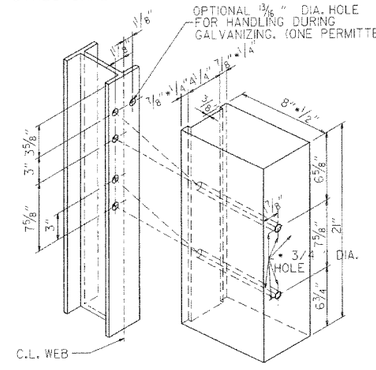








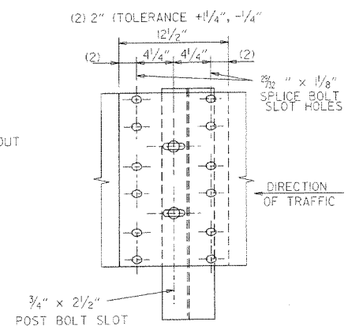
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 7/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



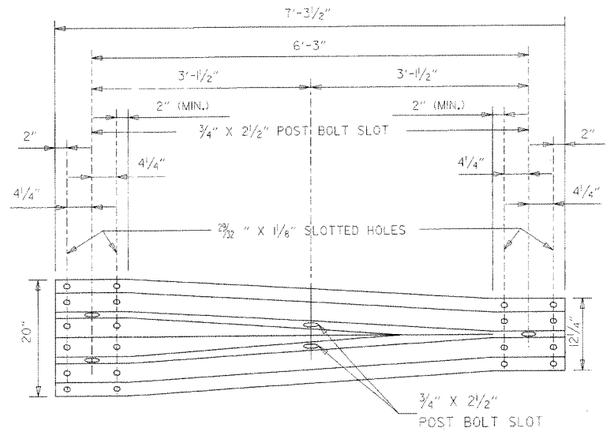
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD
OR PLASTIC BLOCKOUTS

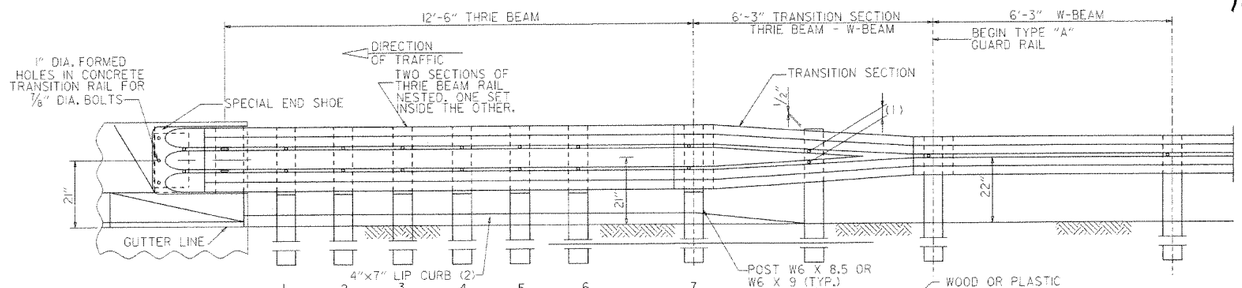
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.

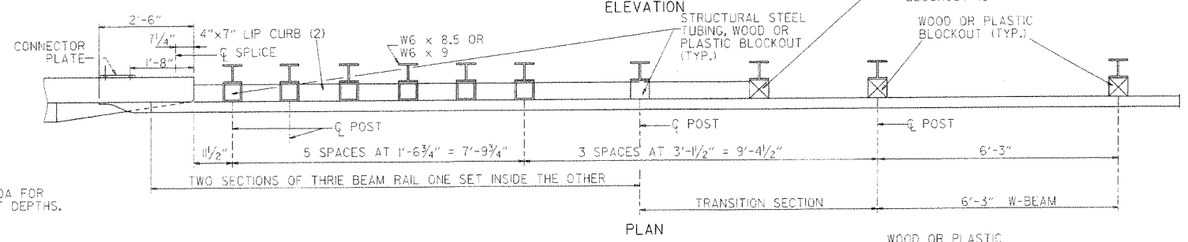


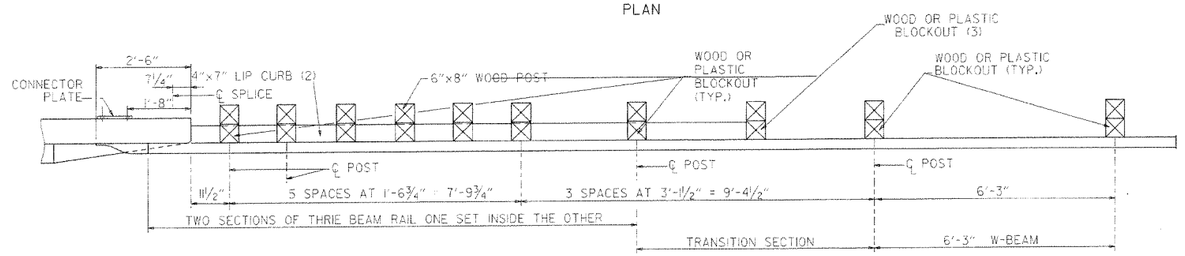
THRIE BEAM RAIL
SPLICE AT POST



TRANSITION SECTION







(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE, ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

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

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

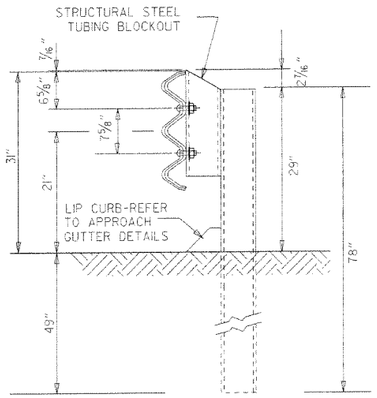
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

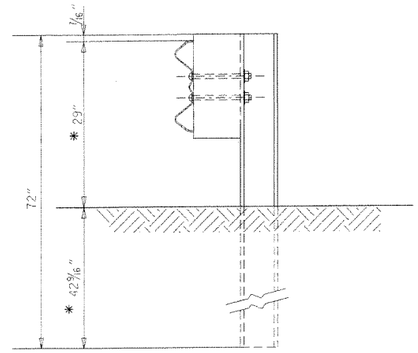
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

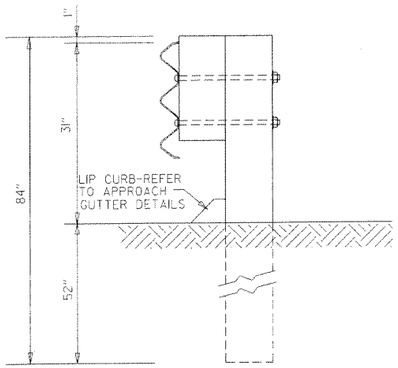


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

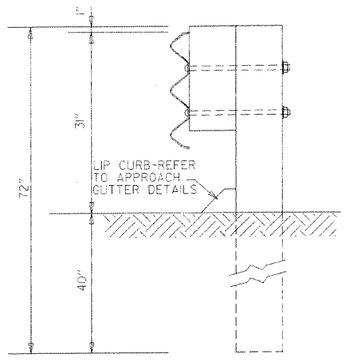


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

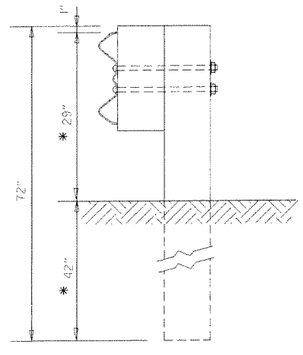
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



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

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

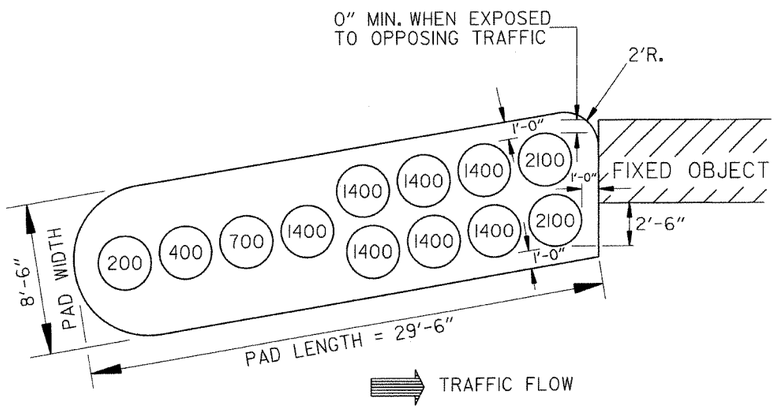
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 (1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

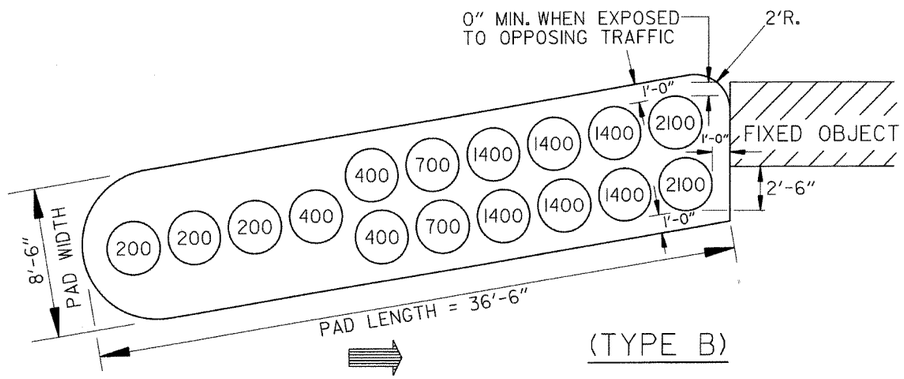
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A



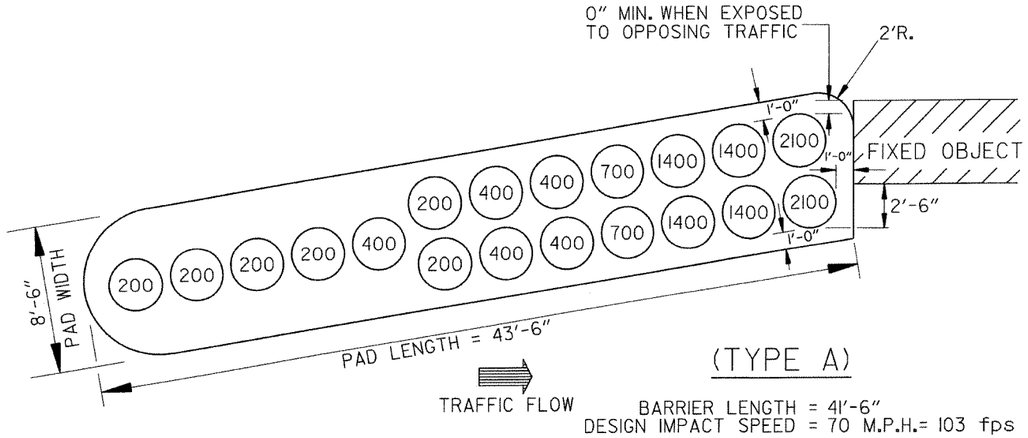
(TYPE C)

BARRIER LENGTH = 27'-6"
DESIGN IMPACT SPEED = 50 M.P.H.= 73.3 fps



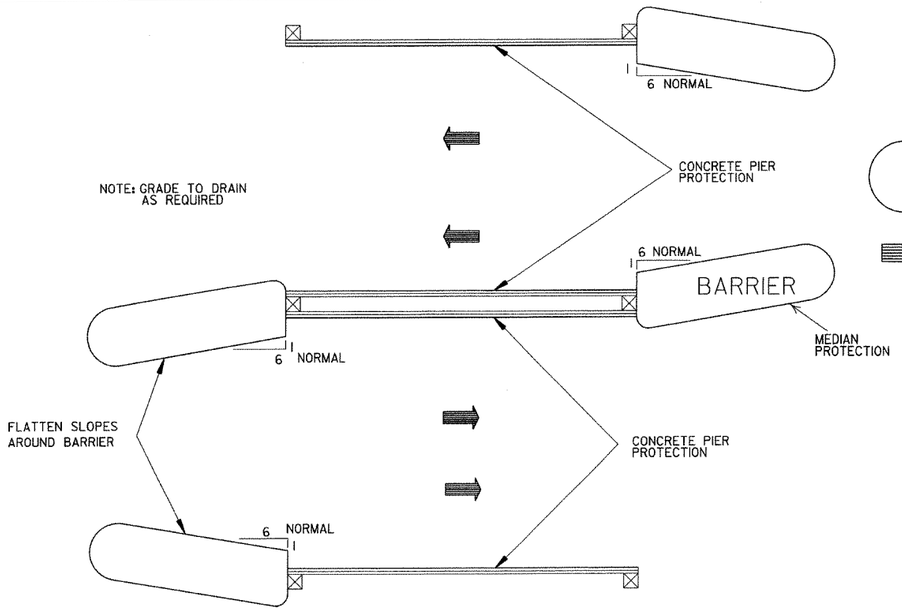
(TYPE B)

BARRIER LENGTH = 34'-6"
DESIGN IMPACT SPEED = 60 M.P.H.= 88 fps

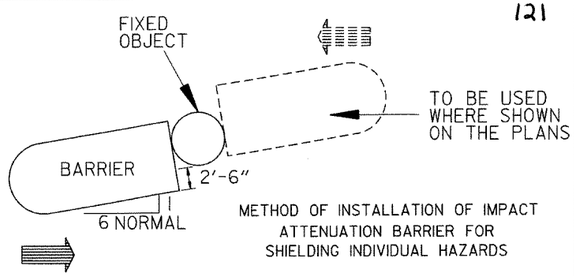


(TYPE A)

BARRIER LENGTH = 41'-6"
DESIGN IMPACT SPEED = 70 M.P.H.= 103 fps



METHOD OF INSTALLATION OF
IMPACT ATTENUATION BARRIER
FOR PIER PROTECTION



METHOD OF INSTALLATION OF IMPACT
ATTENUATION BARRIER FOR
SHIELDING INDIVIDUAL HAZARDS

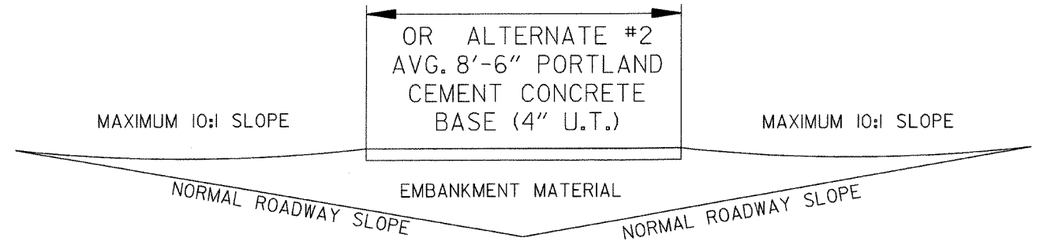
GENERAL NOTES

1. DIMENSIONS SHOWN ARE TO TOP OF PLASTIC MODULES.
2. SPACING BETWEEN PLASTIC MODULES SHALL NOT EXCEED 6" AT THE TOP.
3. PLASTIC MODULES SHALL MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

APPROXIMATE QUANTITIES PER PAD

TYPE	ALTERNATE #1		ALTERNATE #2
	AGGR. BASE COURSE	A.C.H.M. SURFACE COURSE	P.C.CONC. BASE (4"U.T.)
	TONS	TONS	SQ.YDS.
A	9.7	4.6	41.6
B	8.1	3.8	34.9
C	6.6	3.1	28.3

NOTE: APPROXIMATE QUANTITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. PAYMENT TO BE INCLUDED IN UNIT PRICE BID FOR IMPACT ATTENUATION BARRIER.



DETAIL OF BARRIER PAD

NOTE: BARRIER PAD TO BE SKEWED TOWARD ONCOMING TRAFFIC
A MAXIMUM OF 6:1 WITH 6:1 BEING NORMAL

DATE	REVISION	DATE FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-29-07	REVISED TY. A & TY. C ARRAYS	
11-19-98	REVISED FIXED OBJECT	
11-18-98	REV. NOTES & TYPE A MOD. WTS.	
10-18-96	REDRAWN	
7-15-88	CONFORMED TO 1988 SPECS	
7-29-87	REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

IMPACT ATTENUATION BARRIER

STANDARD DRAWING IB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

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

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

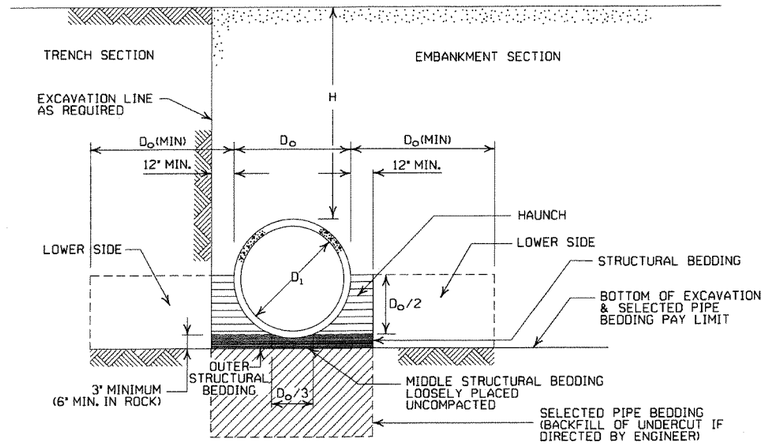
- LEGEND -

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

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

*SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

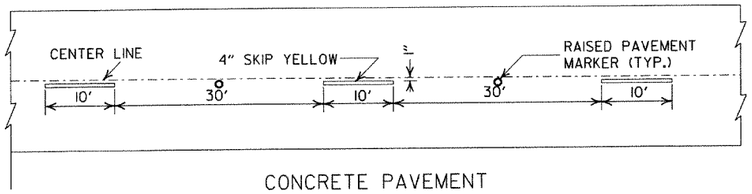
NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

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

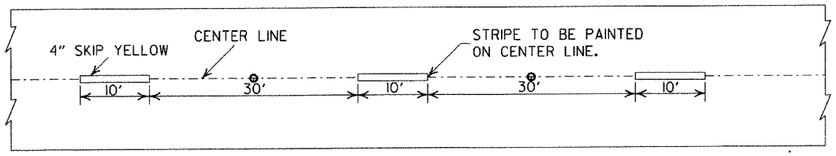
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

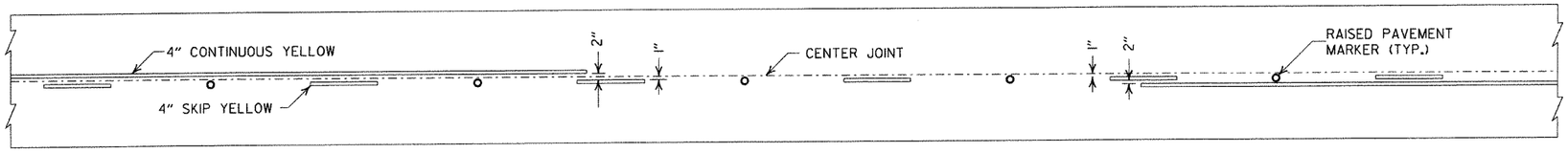


CONCRETE PAVEMENT

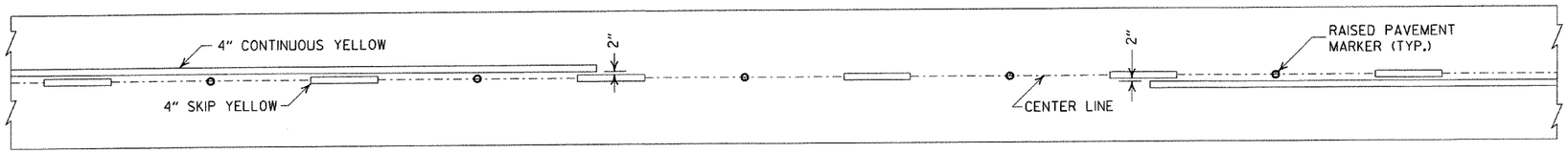


ASPHALT PAVEMENT

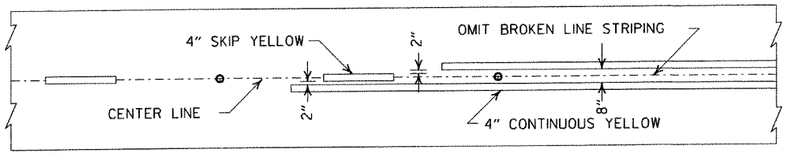
BROKEN LINE STRIPING



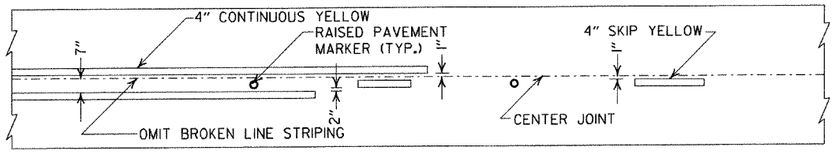
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT



CONCRETE PAVEMENT

GENERAL NOTES:

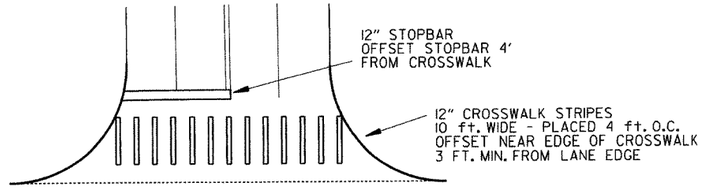
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

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.

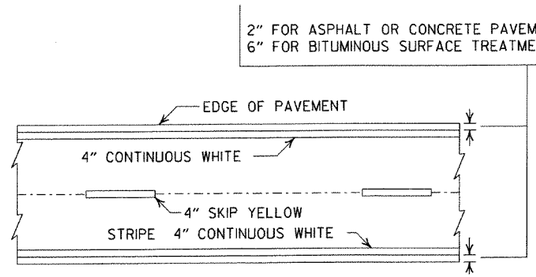
STRIPING AT ADJACENT NO PASSING LANES



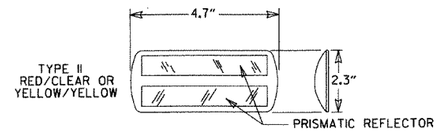
CROSSWALK AND STOPBAR DETAILS

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

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

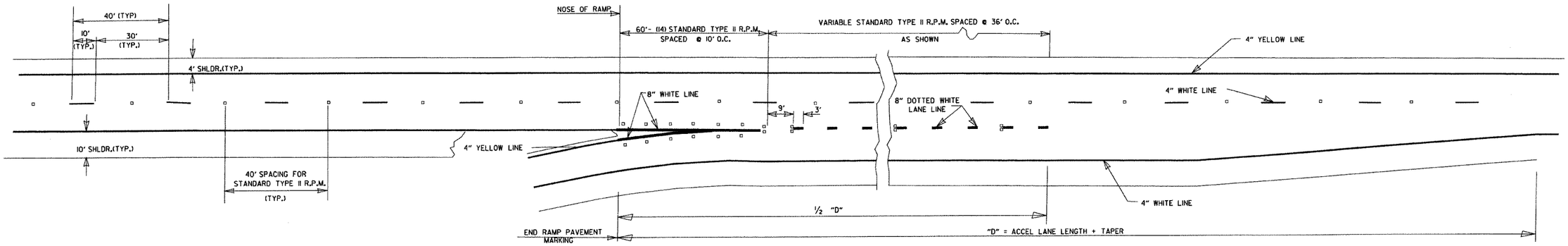
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

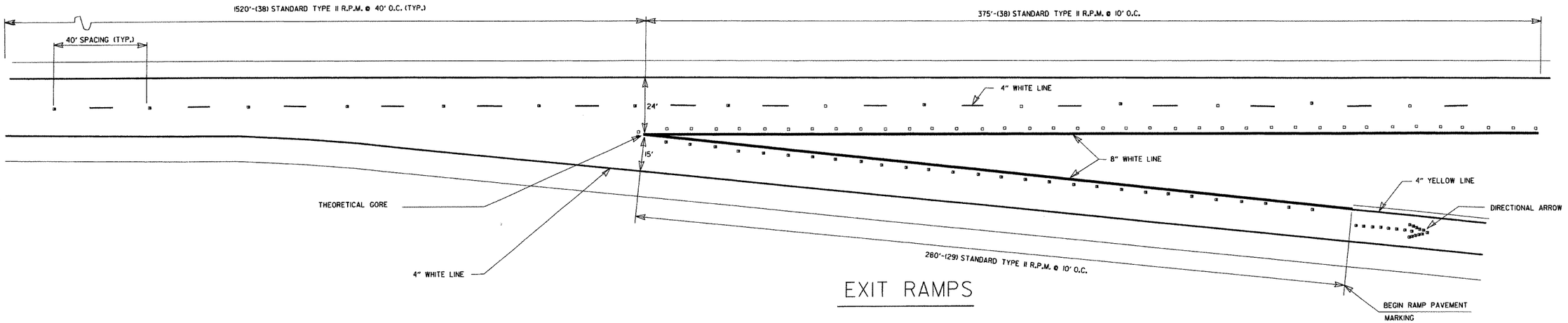
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

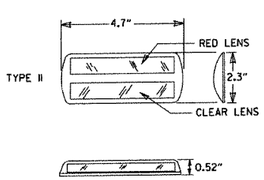
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

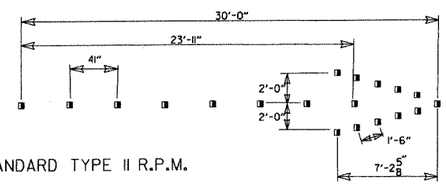


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



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

DIRECTIONAL ARROWS

GENERAL NOTES:

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

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

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

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

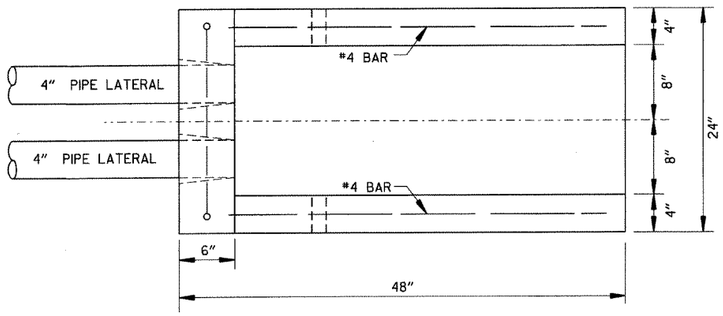
PERMANENT PAVEMENT MARKING
ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

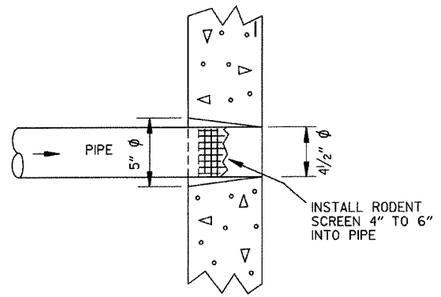
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

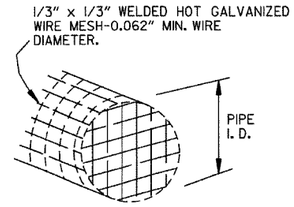
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



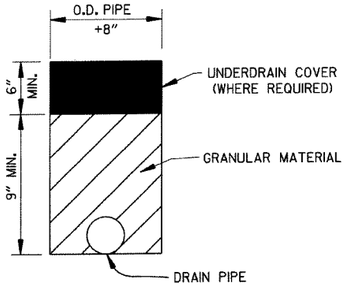
PLAN VIEW

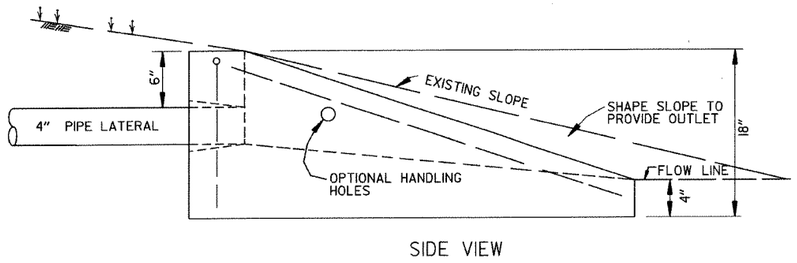


DETAIL OF HOLE FOR 4" PIPE

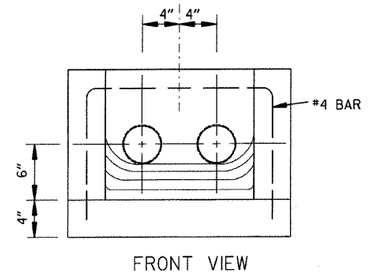


DETAIL OF RODENT SCREEN

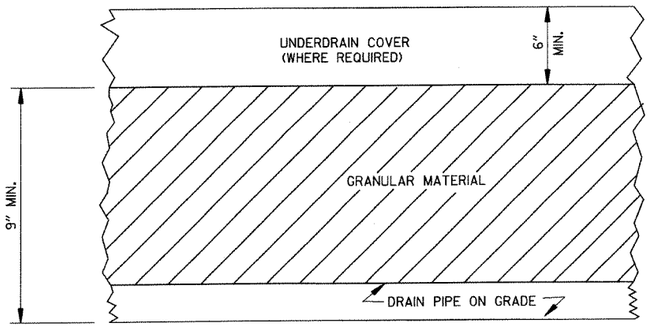




SIDE VIEW

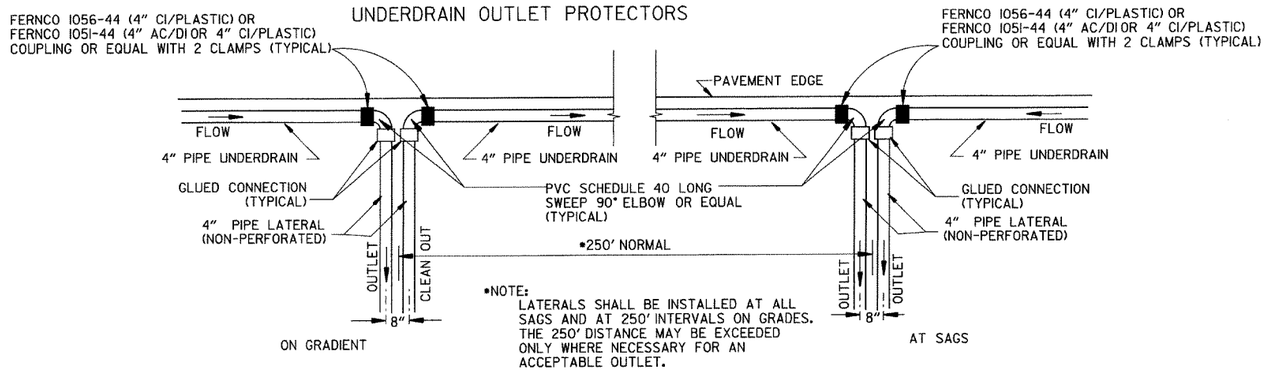


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

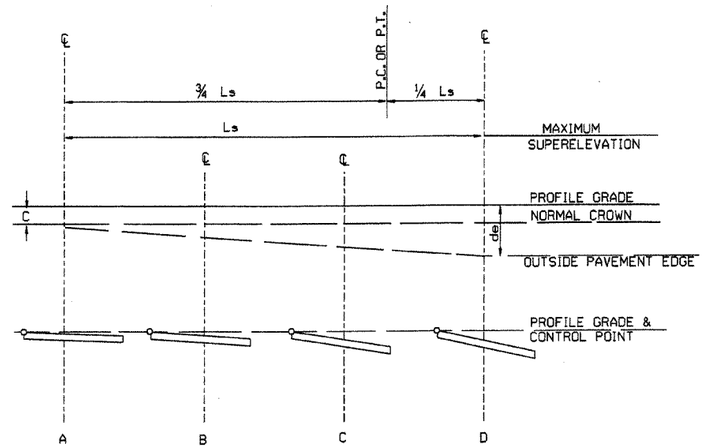
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

SUPERELEVATION TABLE FOR ONE - 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	65 MPH e	65 MPH Ls (FT) MINIMUM	65 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.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			R. C.			R. C.			R. C.			R. C.			R. C.		
1° 00′	N. C.			N. C.			0.021			0.022			0.023			0.025			0.028		
1° 15′	N. C.			R. C.			0.026			0.026			0.030			0.033	250	350	0.037	275	350
1° 30′	N. C.			0.021			0.031	200		0.032			0.037	250		0.041			0.046		
1° 45′	N. C.			0.025			0.036			0.037	225		0.043			0.048			0.054		
2° 00′	R. C.			0.028	175		0.040			0.043		350	0.049			0.055			0.062		
2° 15′	R. C.			0.031			0.045		300	0.048			0.055			0.062			0.070		
2° 30′	0.021			0.034			0.049			0.053			0.061			0.069	265		0.078	300	
2° 45′	0.023			0.037			0.053			0.058			0.067			0.075	280	400	0.085	315	400
3° 00′	0.025	150		0.040		250	0.057			0.063			0.072			0.081	300		0.091	335	
3° 15′	0.027			0.043			0.061			0.068	230		0.077	260		0.087	315		0.096	350	
3° 30′	0.029			0.046			0.065	205		0.072	245		0.082	275		0.090	325		0.098	360	450
3° 45′	0.031			0.049			0.069	215		0.078	255		0.086	285		0.095	340	400	0.100	360	
4° 00′	0.033			0.051			0.072	225		0.080	265		0.090	295	400	0.097	345				
4° 30′	0.037			0.056			0.078	240		0.083	270		0.093	305		0.099	350				
5° 00′	0.040			0.061			0.083	250		0.087	280		0.096	315							
5° 30′	0.043			0.066	185		0.088	260		0.091	295		0.098	320							
6° 00′	0.046			0.070	190		0.092	270		0.094	300	400									
6° 30′	0.050			0.074	200		0.095	280	350	0.096	305										
7° 00′	0.053			0.078	210		0.098	285		0.100	315										
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	300															
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	300																		
20° 00′	0.097	215																			
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 = 4° 15′ | D MAX = 3° 30′



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

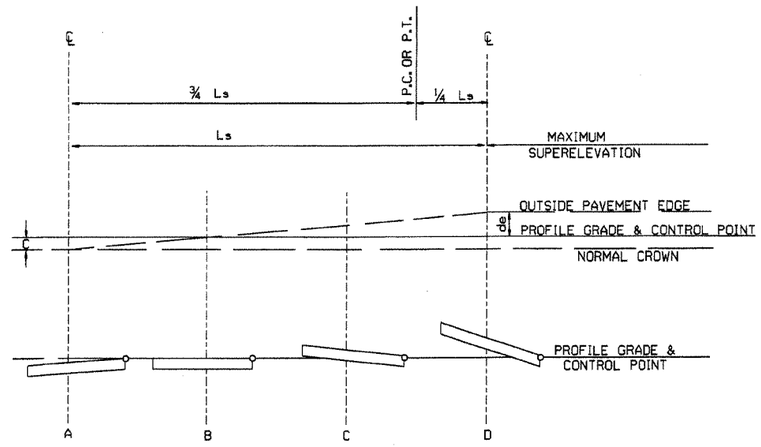
ABBREVIATIONS

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

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

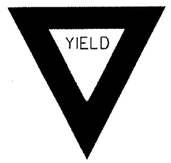
STANDARD DRAWING SE-1

R1-1



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

R1-2



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

R2-1



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

R2-5A



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

R2-5C



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

R4-1



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

R4-2



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

R5-1



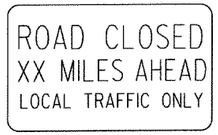
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



48"X30"

R11-3A



60"X30"

R11-4



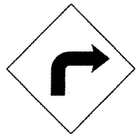
60"X30"

RSP-1



48"X30"

W1-1



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

W1-2



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

W1-3



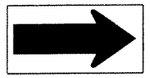
STD. 48"X48"

W1-4



STD. 48"X48"

W1-6



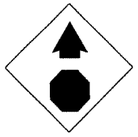
STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

W3-1



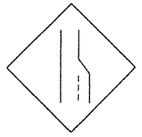
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



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

W9-2



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

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



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

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



STD. 18"X18"

W8-11



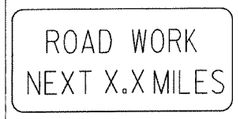
STD. 36"X36"
FWY. 48"X48"

W8-9



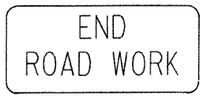
STD. 36"X36"
FWY. 48"X48"

G20-1



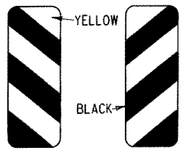
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

M4-9



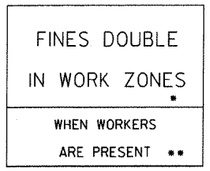
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

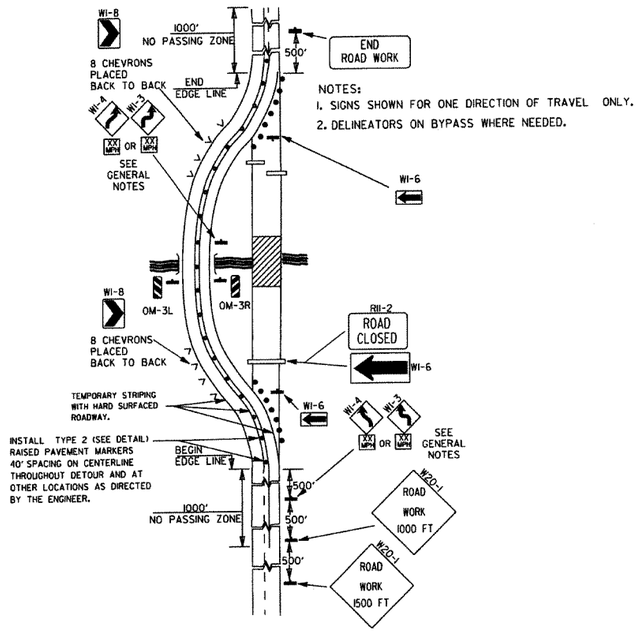
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

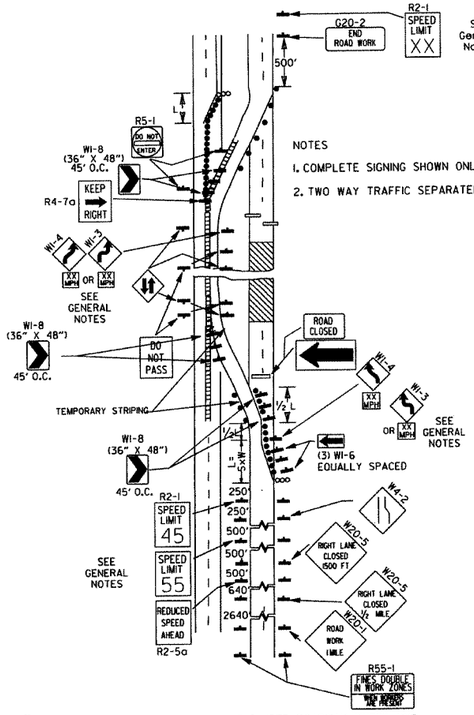
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



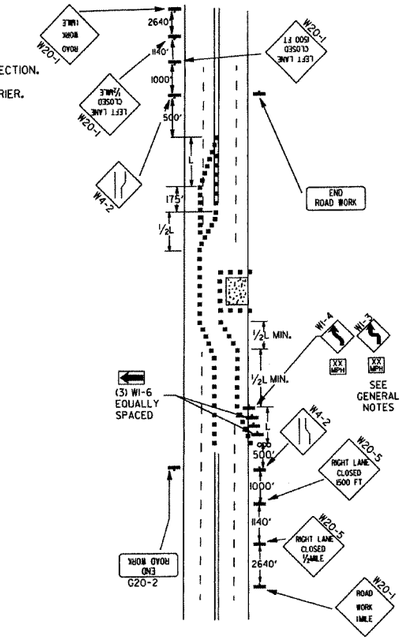
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

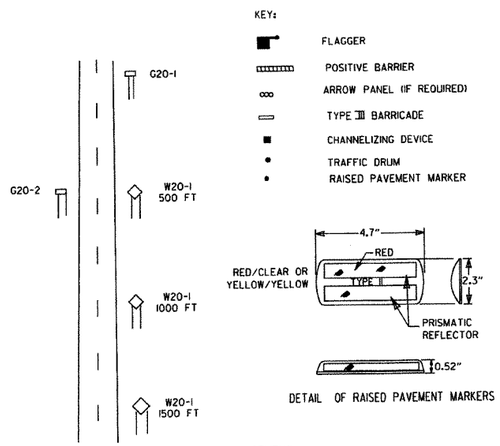


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.

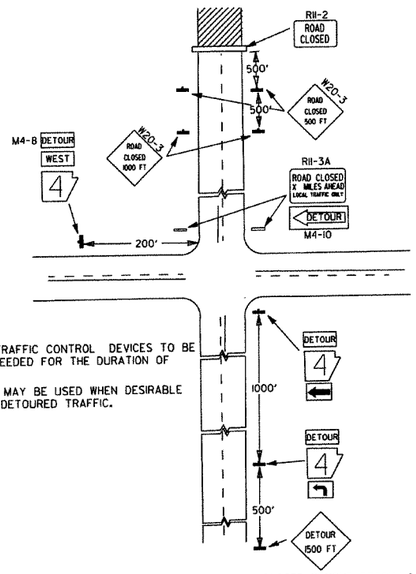


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



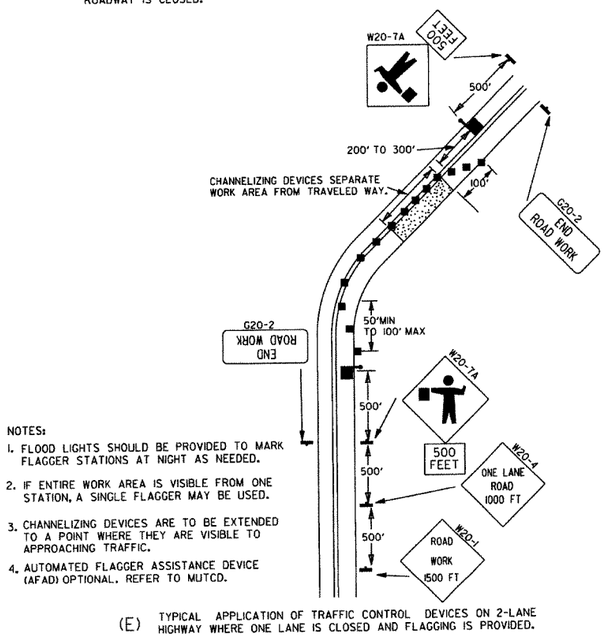
DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT



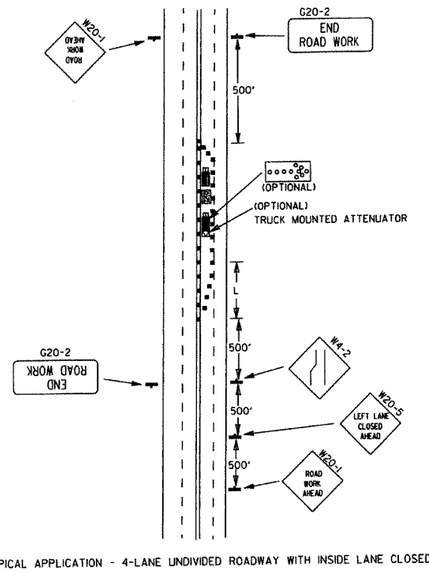
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

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

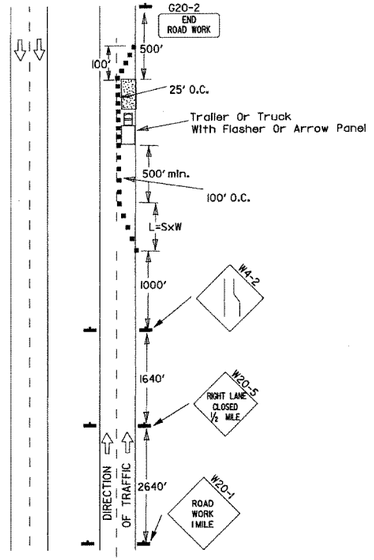
GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A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

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

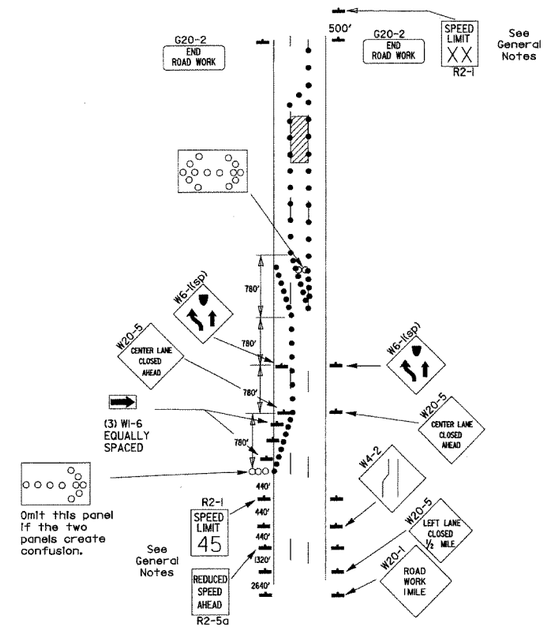
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

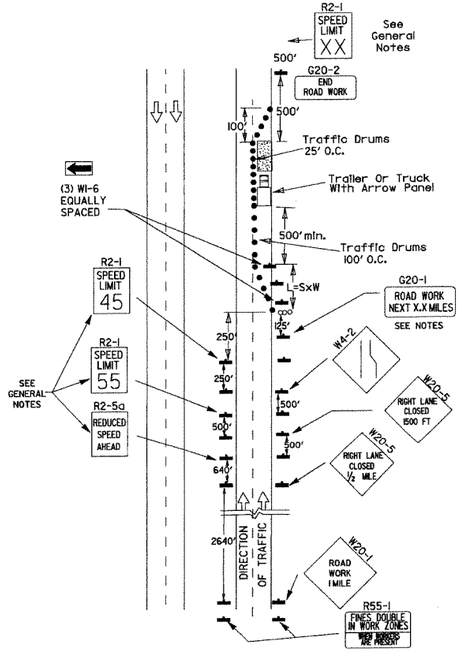
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

○○○ Arrow Panel (If Required)

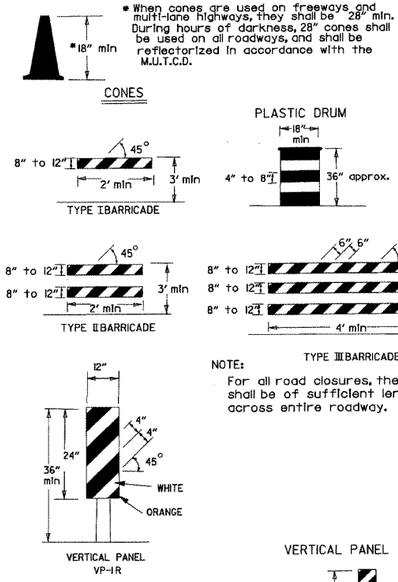
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



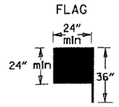
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

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

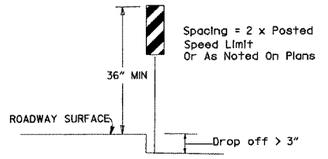
* When shown on the plans concrete barrier will be used.
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

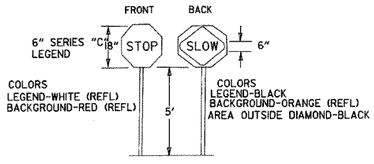


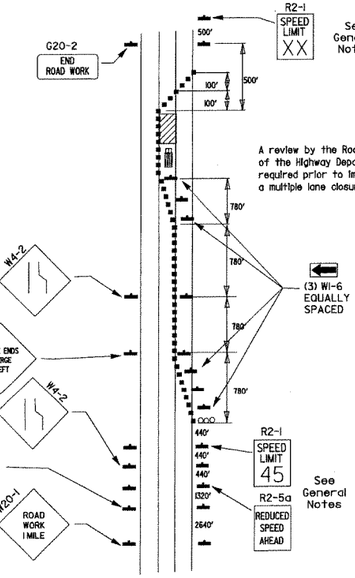
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



STOP SLOW PADDLE





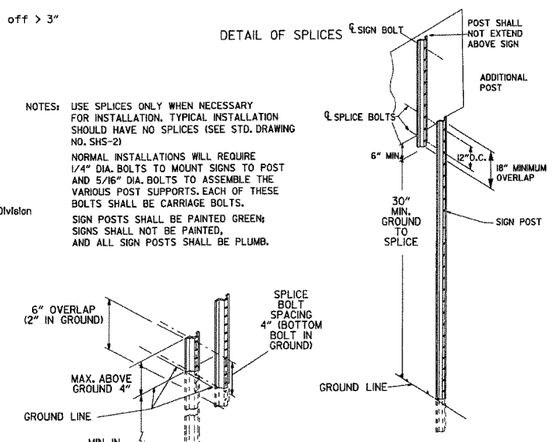
(D) Typical application - closing multiple lanes of a multilane highway.

NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

DETAIL OF SPLICES



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	

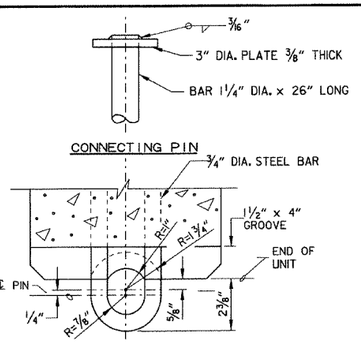
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

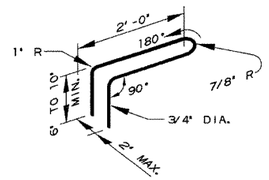
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

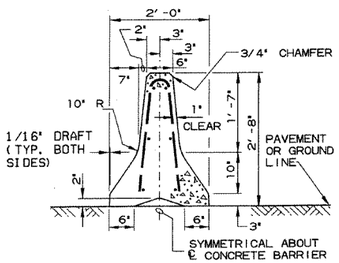
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. 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°; 2'-1 3/8"; 4 3/8"; ±9 1/2"



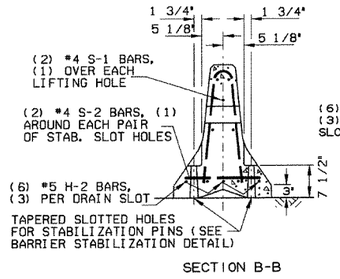
CONNECTION DETAILS



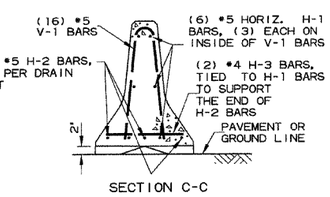
CONNECTION LOOP



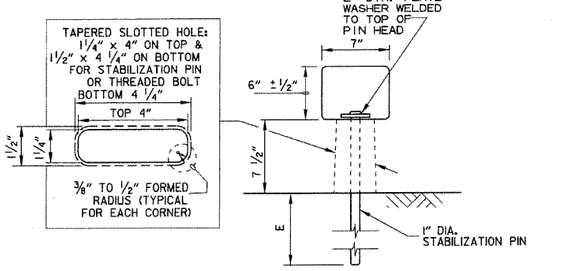
SECTION A-A



SECTION B-B



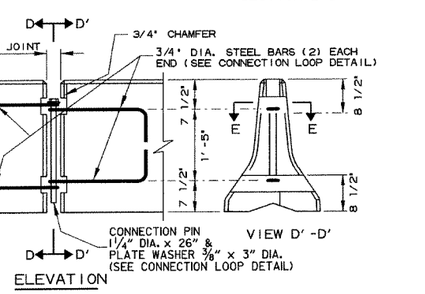
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

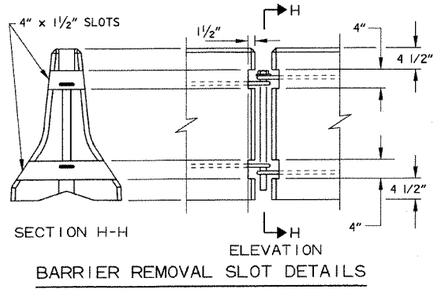
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



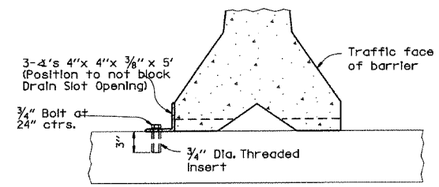
VIEW D-D

VIEW D'-D'

ELEVATION



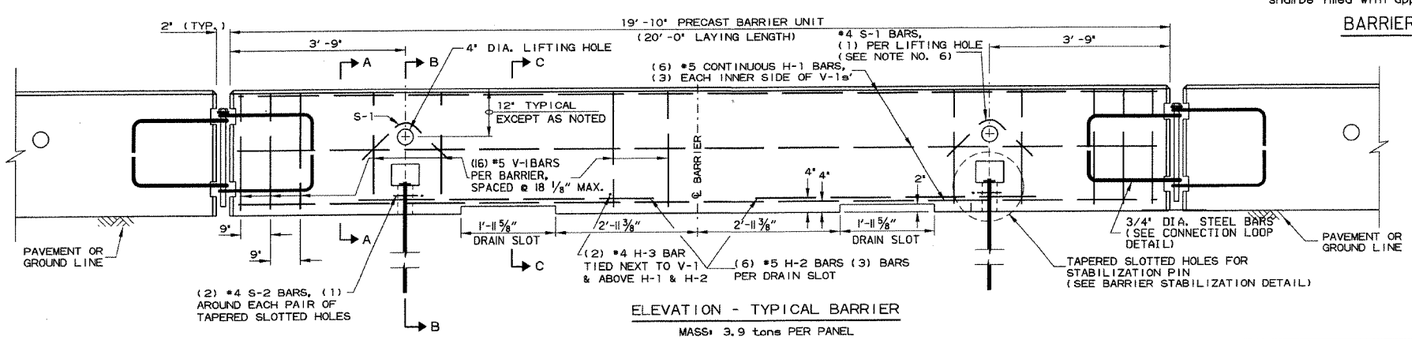
BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

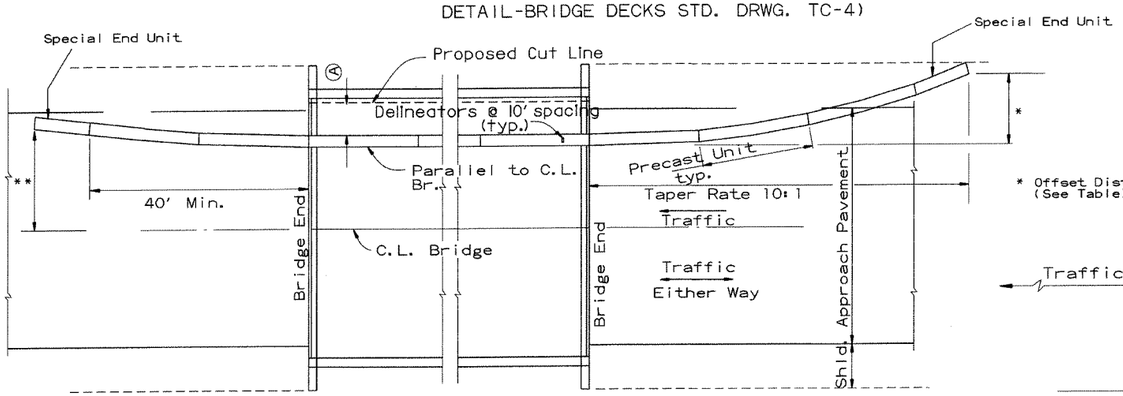
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

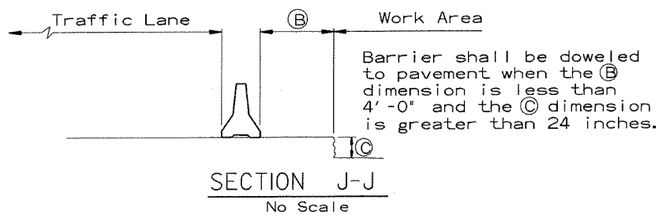
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

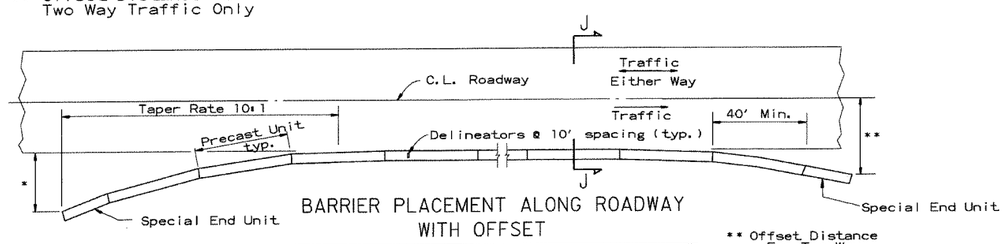


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

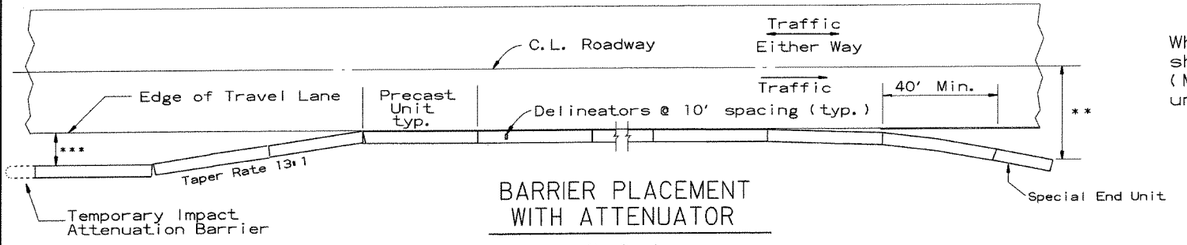
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

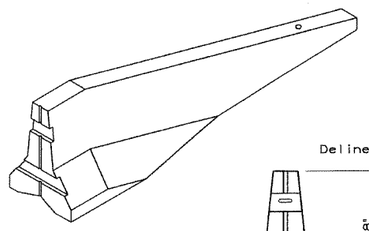


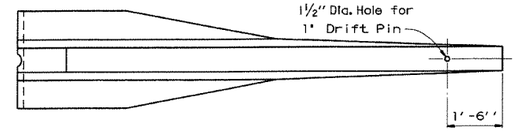
BARRIER PLACEMENT WITH ATTENUATOR

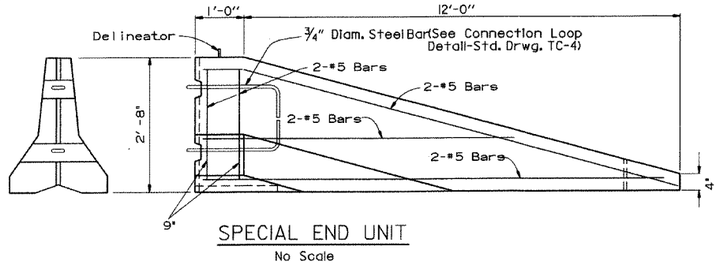
No Scale

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

** Offset Distance For Two Way Traffic Only







SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

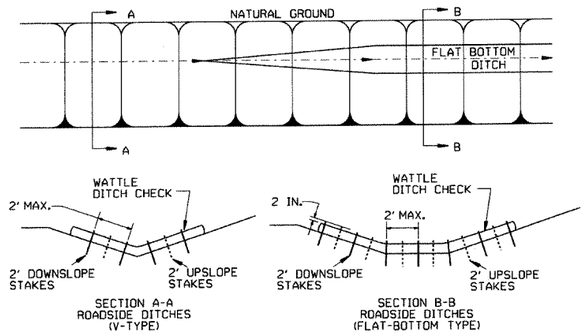
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

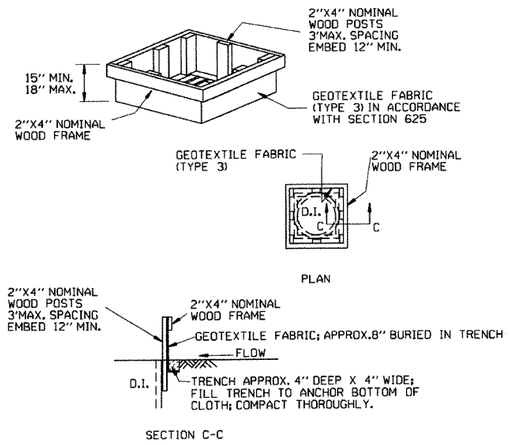
STANDARD DRAWING TC-5

GENERAL NOTES

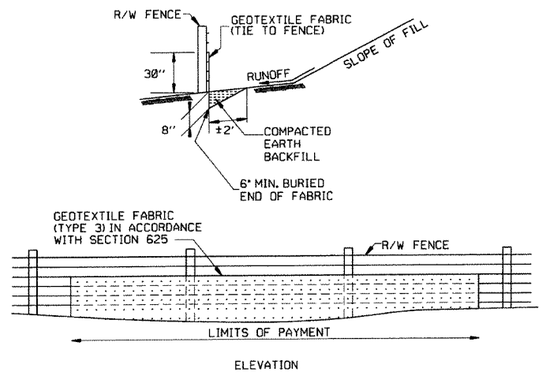
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

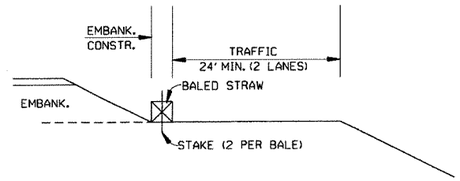
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

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

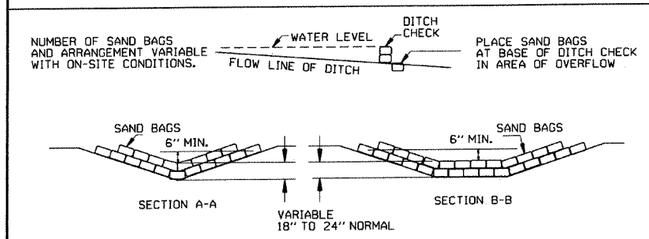
2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

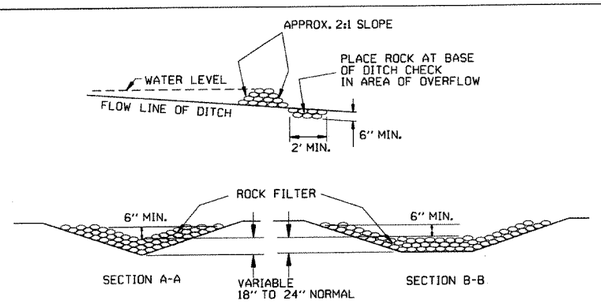


BALED STRAW FILTER BARRIER (E-2)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

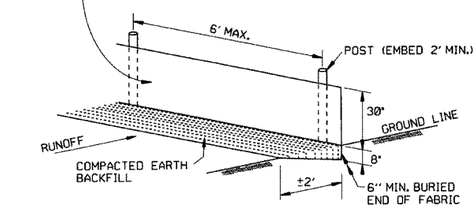


SAND BAG DITCH CHECK (E-5)



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

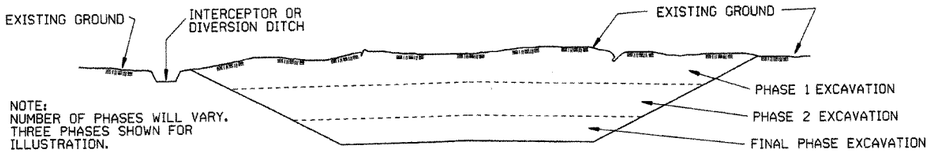
STANDARD DRAWING TEC-1

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



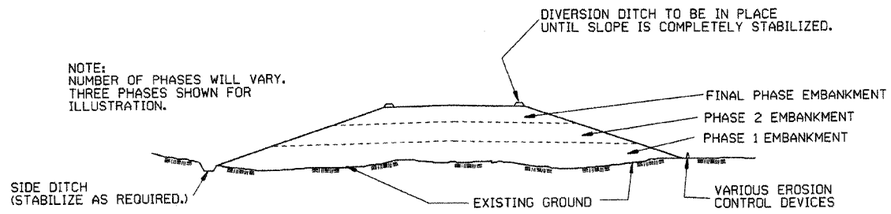
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

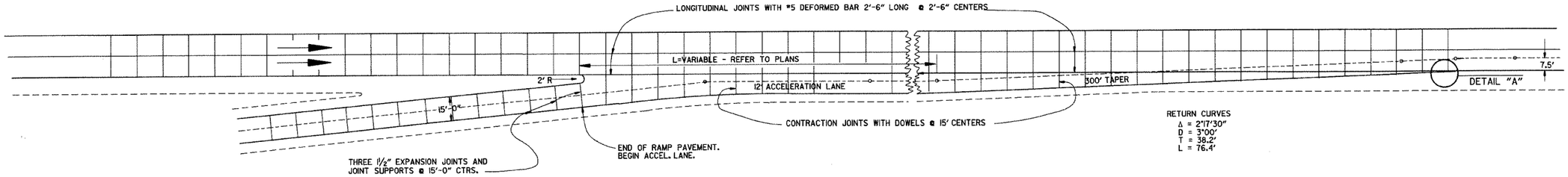
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

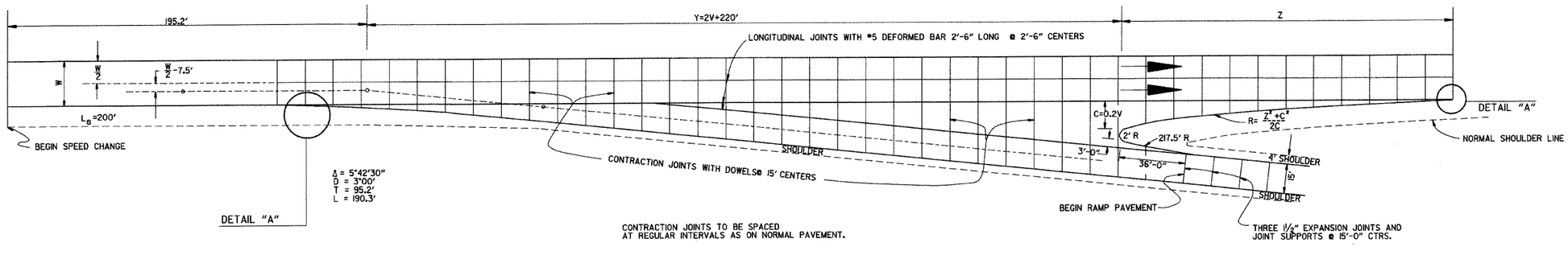
STANDARD DRAWING TEC-3

stdtec3.dgn



ENTRANCE RAMP

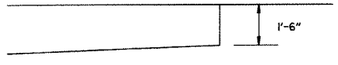
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



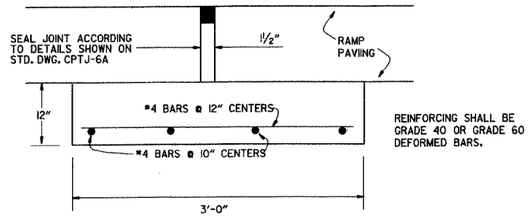
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED. THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72

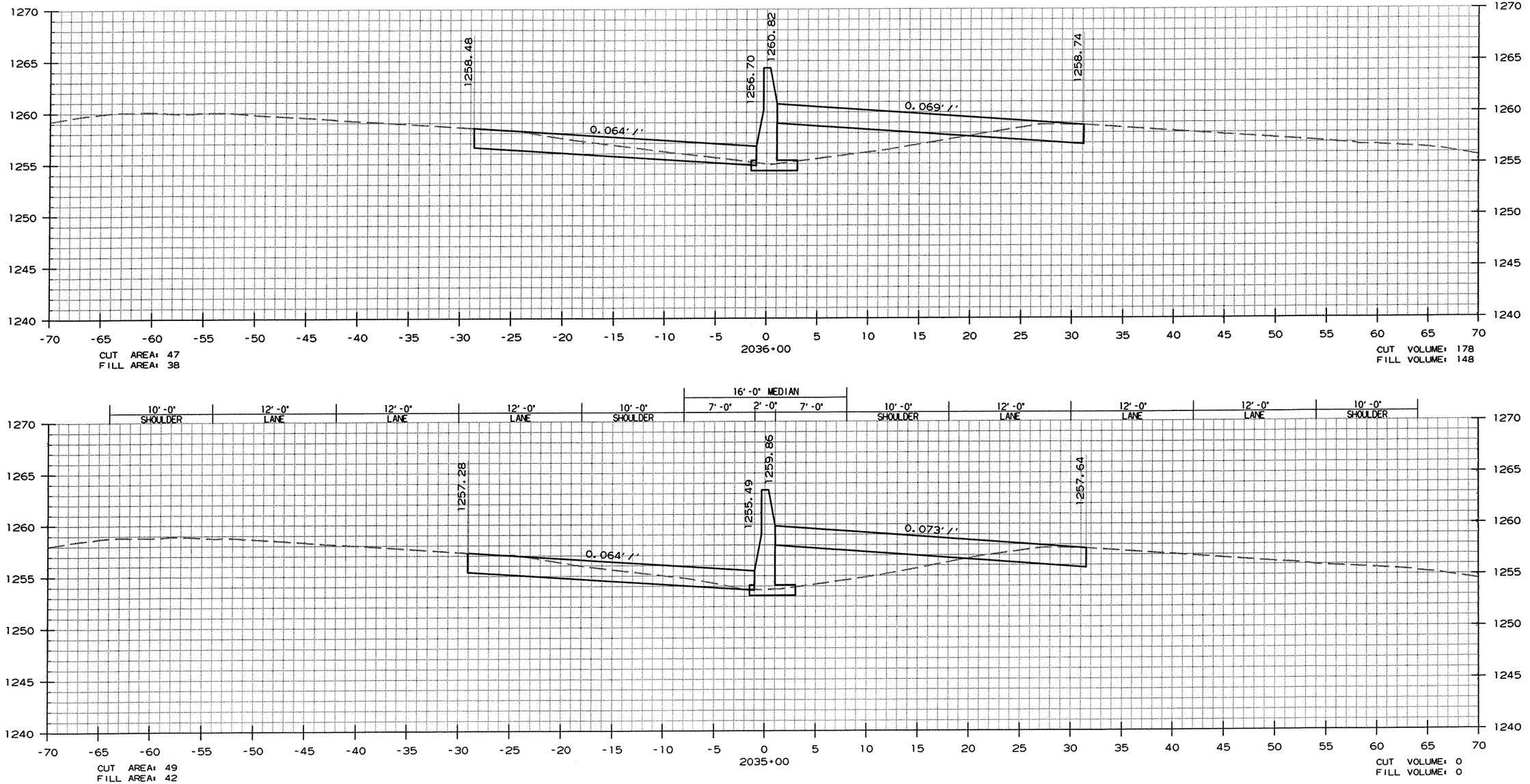
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	135	218

(2) CROSS SECTIONS



STA. 2035+00.00 - BEGIN JOB 090331

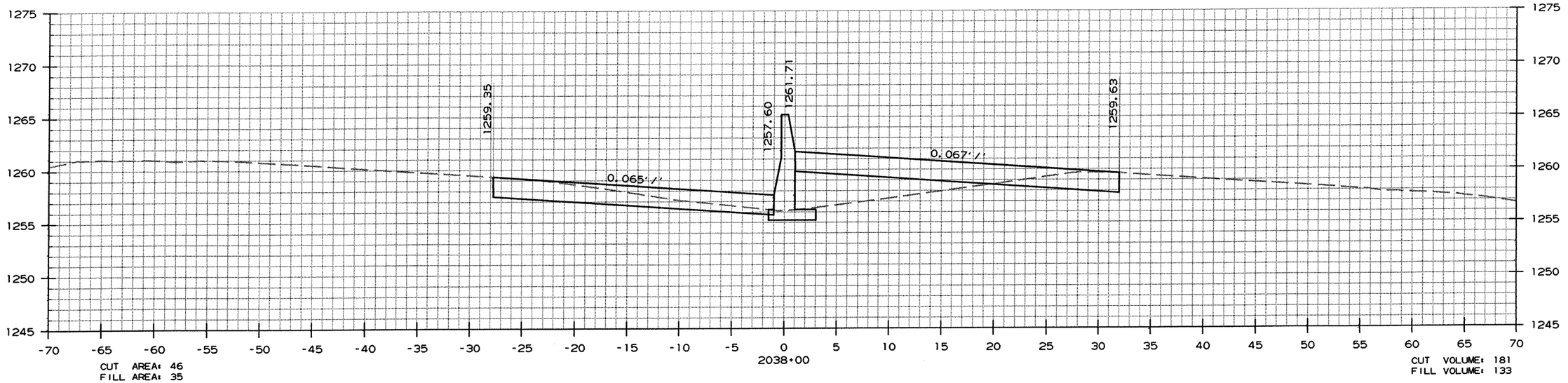
CROSS SECTION STA. 2035+00 TO STA. 2036+00

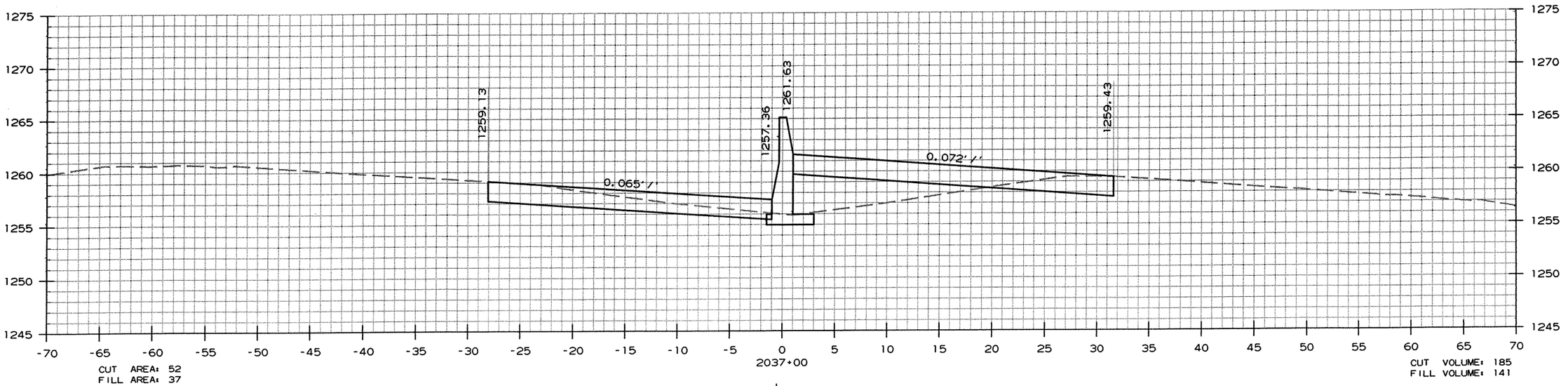
5/31/2013

R090331.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.		090331	136	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2037+00 TO STA. 2038+00

5/31/2013

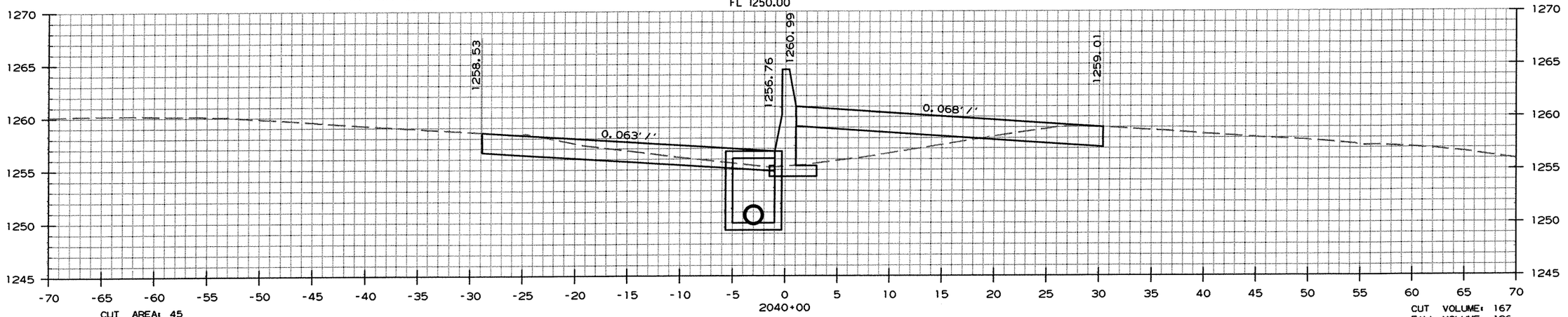
R090331.DGN

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.		090331	137	218

(2) CROSS SECTIONS

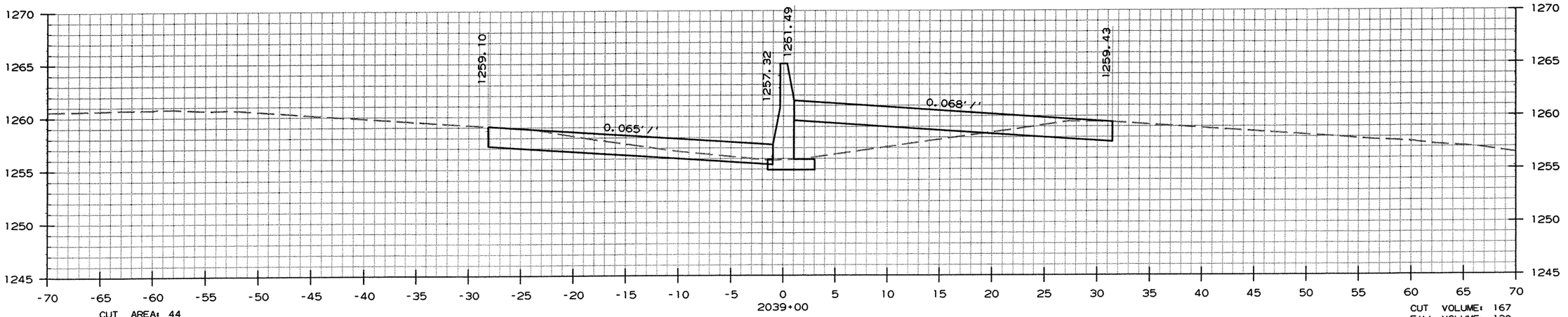
STA. 2040+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-9"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2043+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2040+00
TOP 1256.76
FL 1250.00



CUT AREA: 45
FILL AREA: 34

CUT VOLUME: 167
FILL VOLUME: 126



CUT AREA: 44
FILL AREA: 34

CUT VOLUME: 167
FILL VOLUME: 130

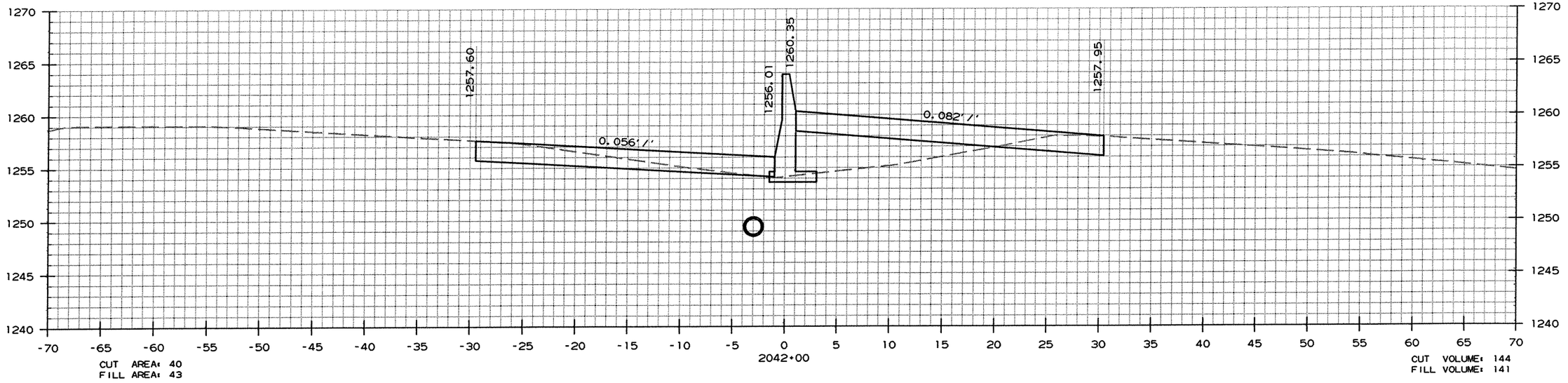
CROSS SECTION STA. 2039+00 TO STA. 2040+00

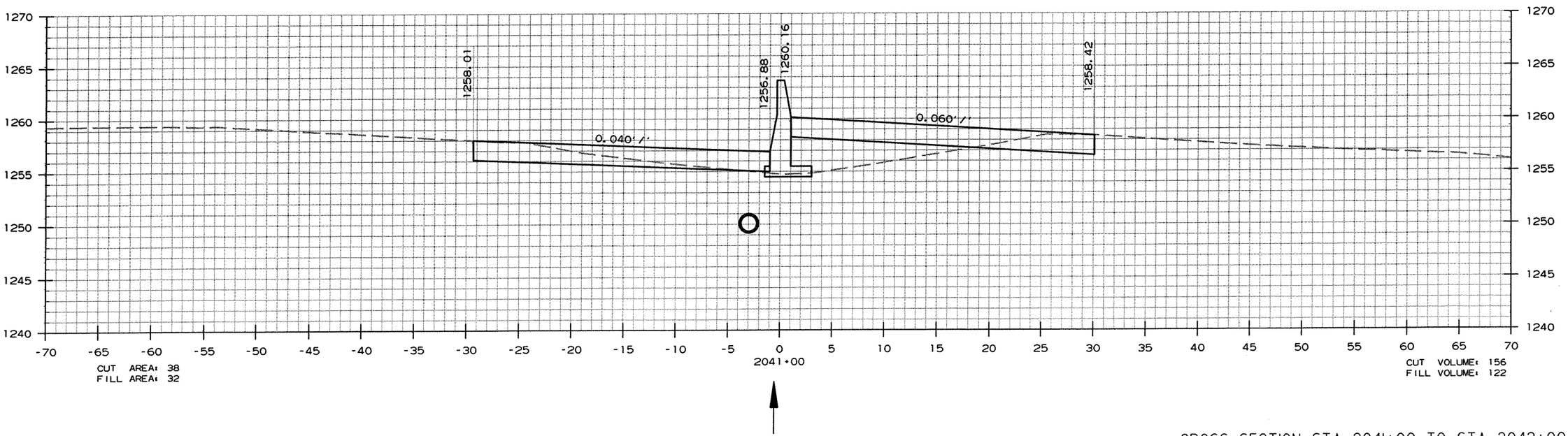
5/31/2013

R090331.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.		090331	138	218

(2) CROSS SECTIONS





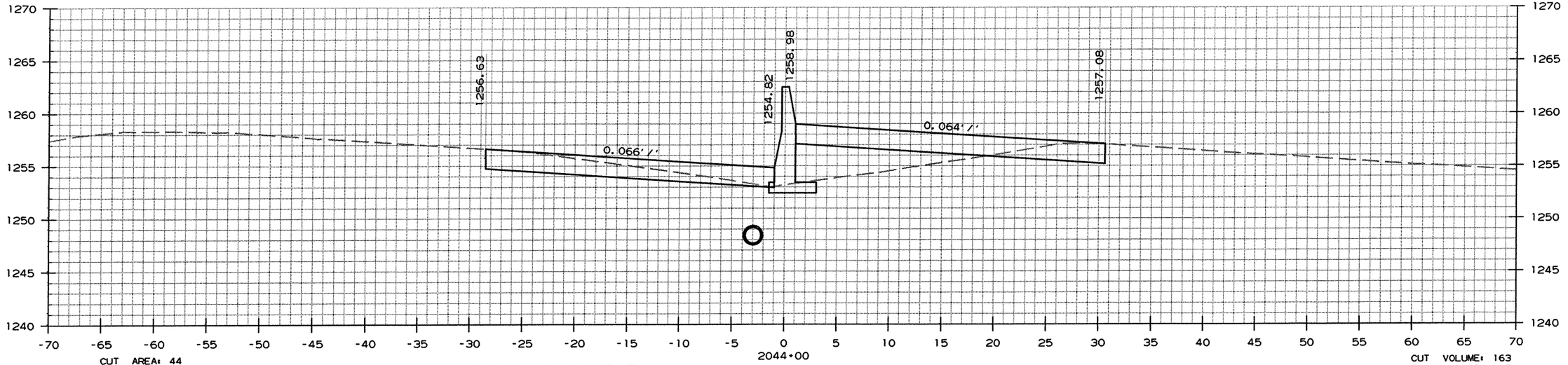
CROSS SECTION STA. 2041+00 TO STA. 2042+00

5/31/2013

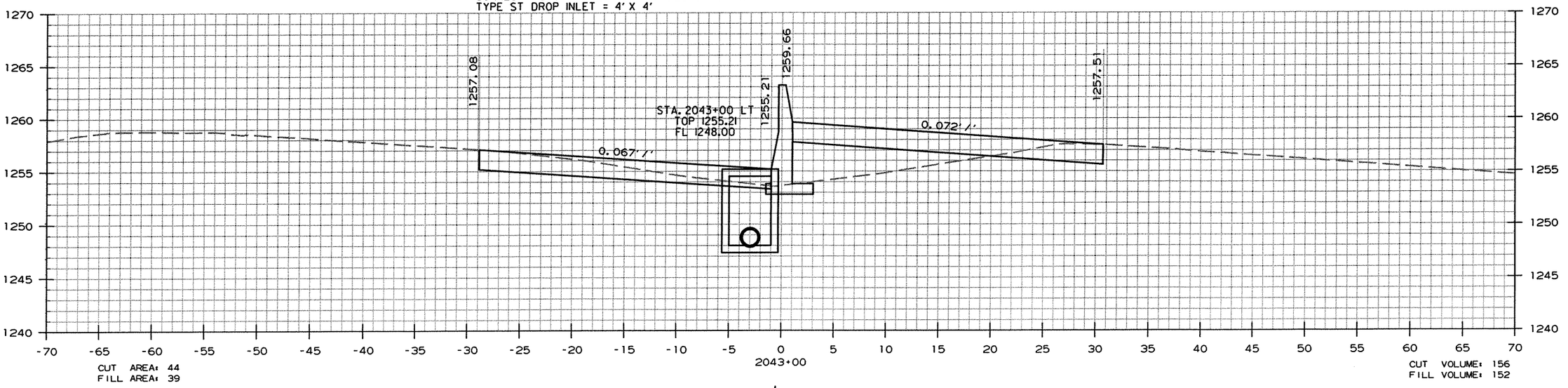
R090331.DGN

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.		090331	139	218

(2) CROSS SECTIONS



STA. 2043+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-3"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2046+00 LT.
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 2043+00 TO STA. 2044+00

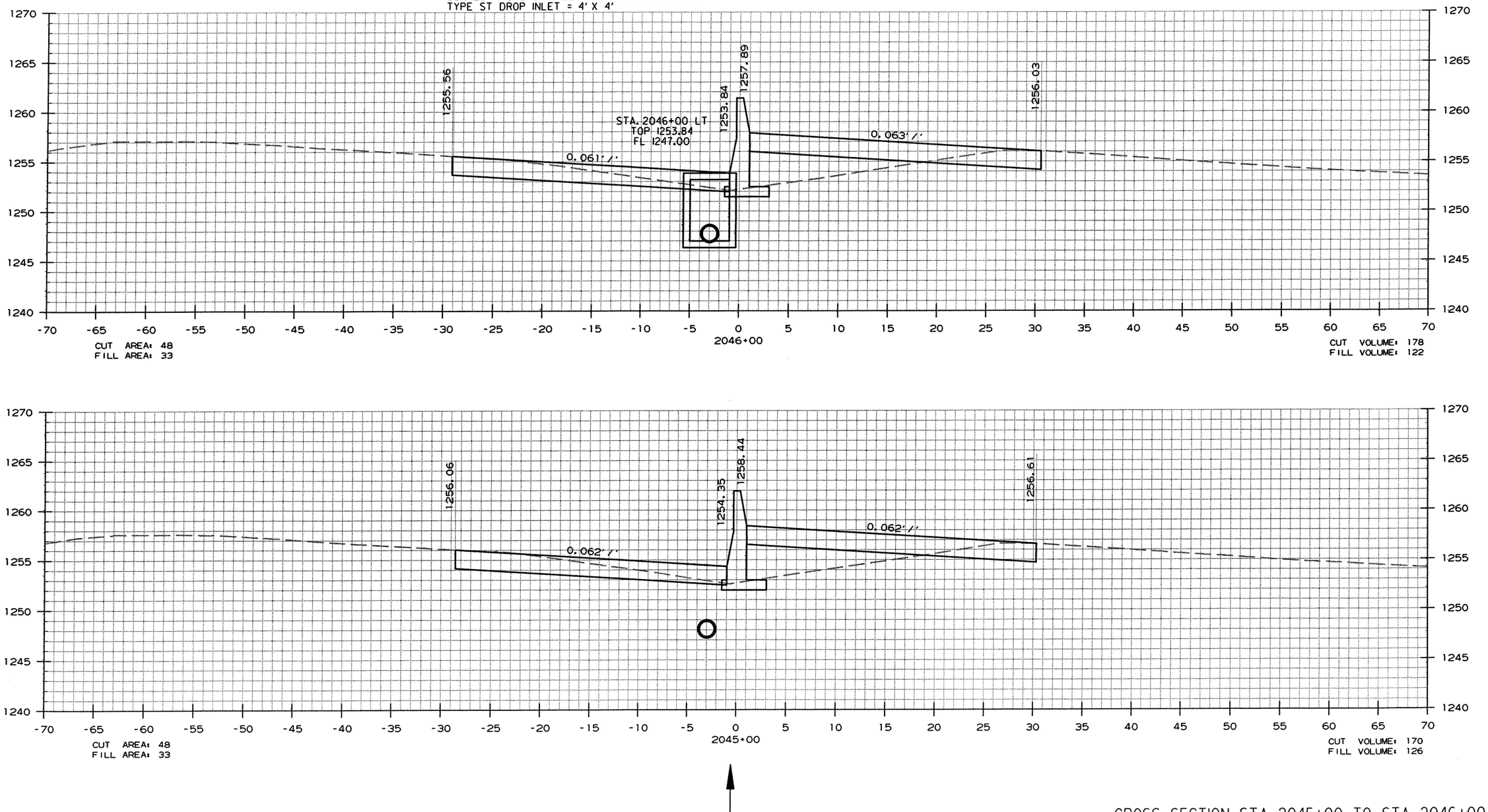
5/31/2013

R090331.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.		090331	140	218

(2) CROSS SECTIONS

STA. 2046+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-10"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2049+00 LT.
TYPE ST DROP INLET = 4' X 4'



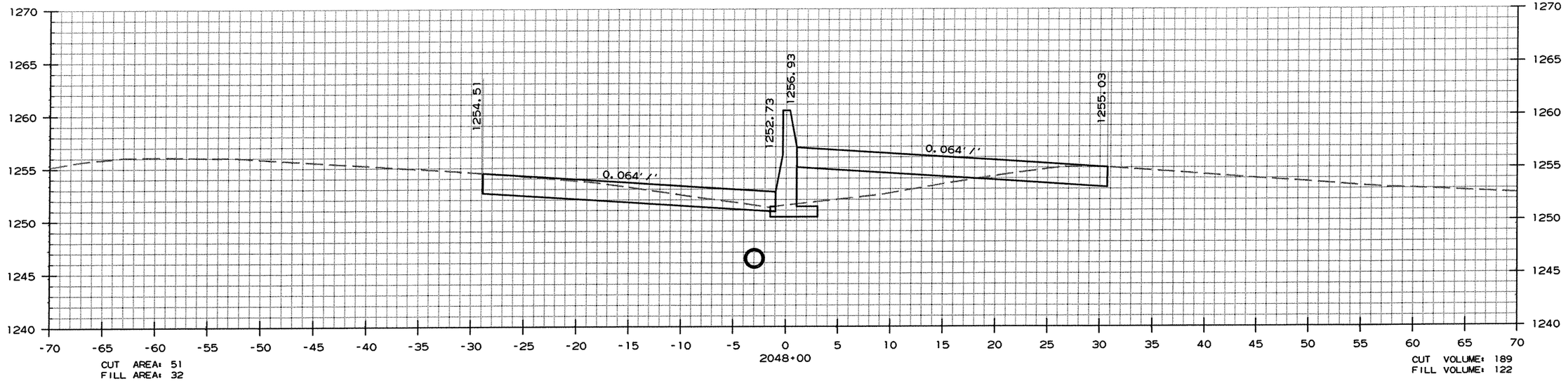
CROSS SECTION STA. 2045+00 TO STA. 2046+00

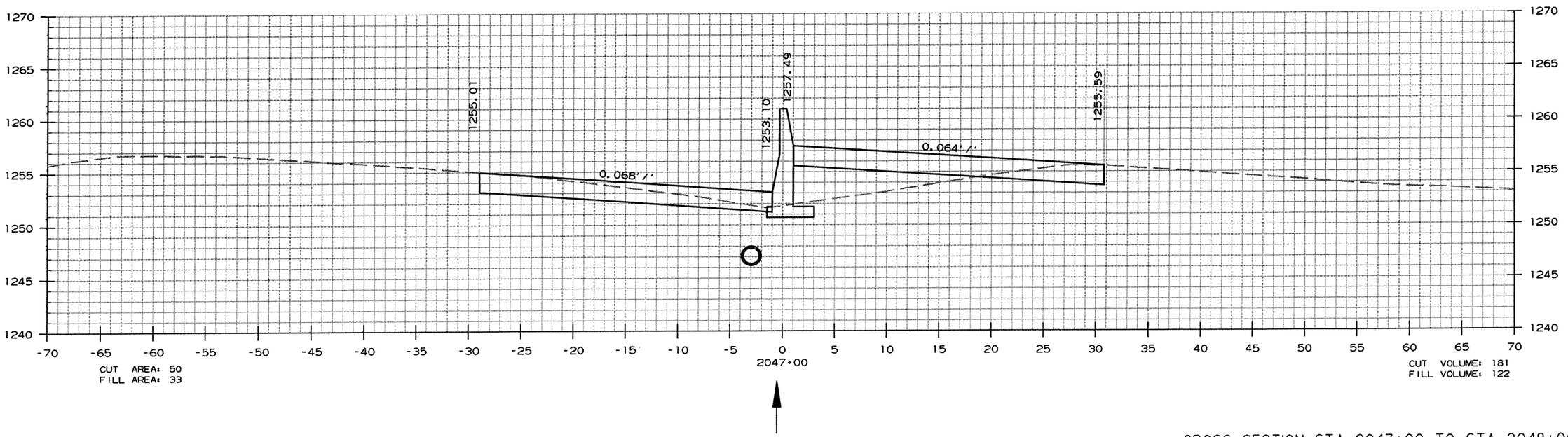
5/31/2013

R090331.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.		090331	141	218

(2) CROSS SECTIONS





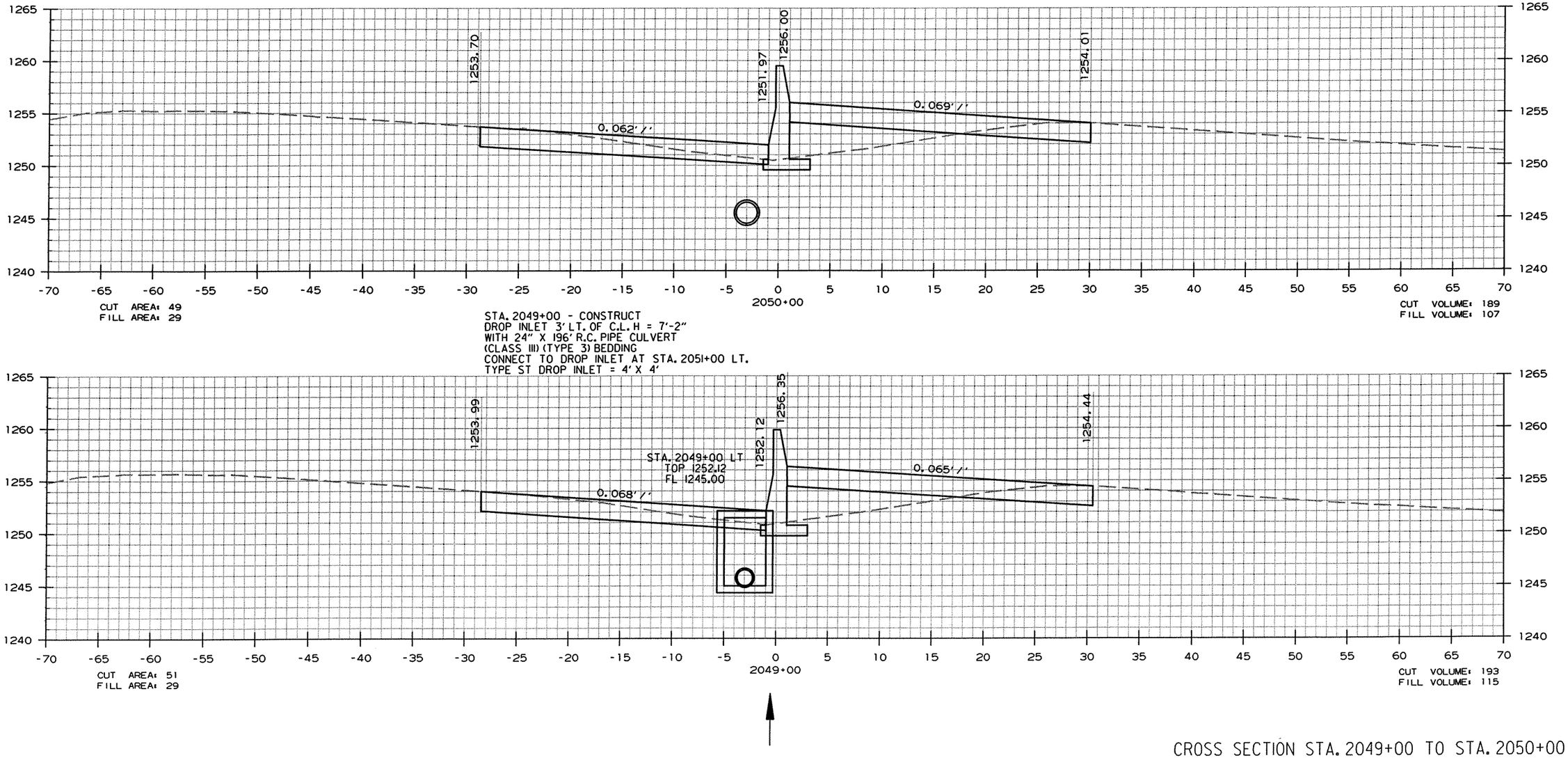
CROSS SECTION STA. 2047+00 TO STA. 2048+00

5/31/2013

R090331.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.		090331	142	218

(2) CROSS SECTIONS



CROSS SECTION STA. 2049+00 TO STA. 2050+00

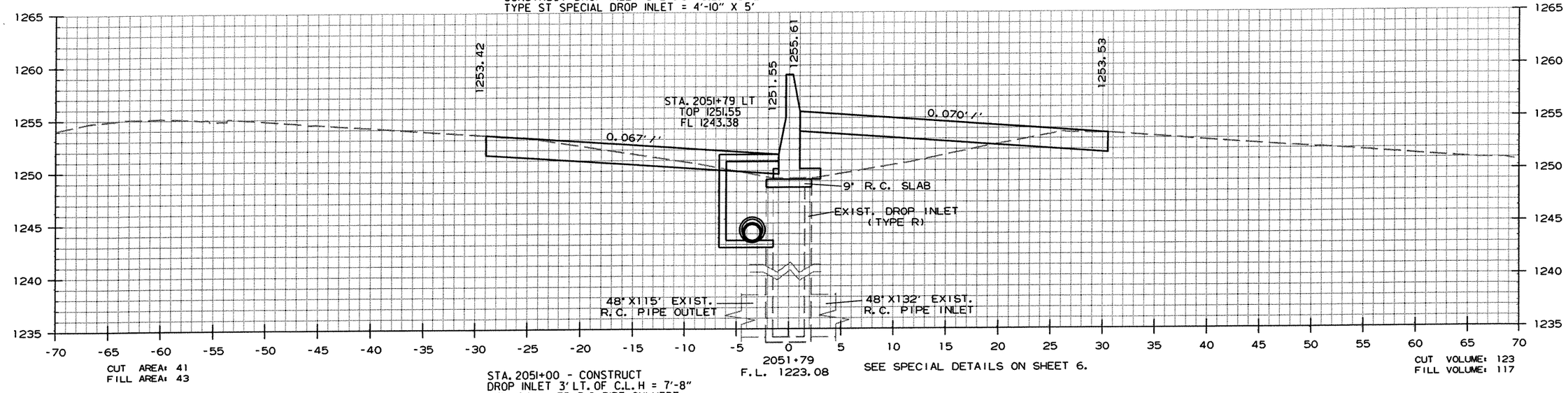
5/31/2013

R090331.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.		090331	143	218

(2) CROSS SECTIONS

STA. 2051+79 - IN PLACE
TYPE R DROP INLET
WITH 48" x 132' R.C. PIPE CULVERT
& 48" x 115' R.C. PIPE CULVERT
RETAIN & MODIFY EXIST. DROP INLET
CONSTRUCT DROP INLET 3' LT. OF C.L. H=8'-2"
TYPE ST SPECIAL DROP INLET = 4'-10" X 5'

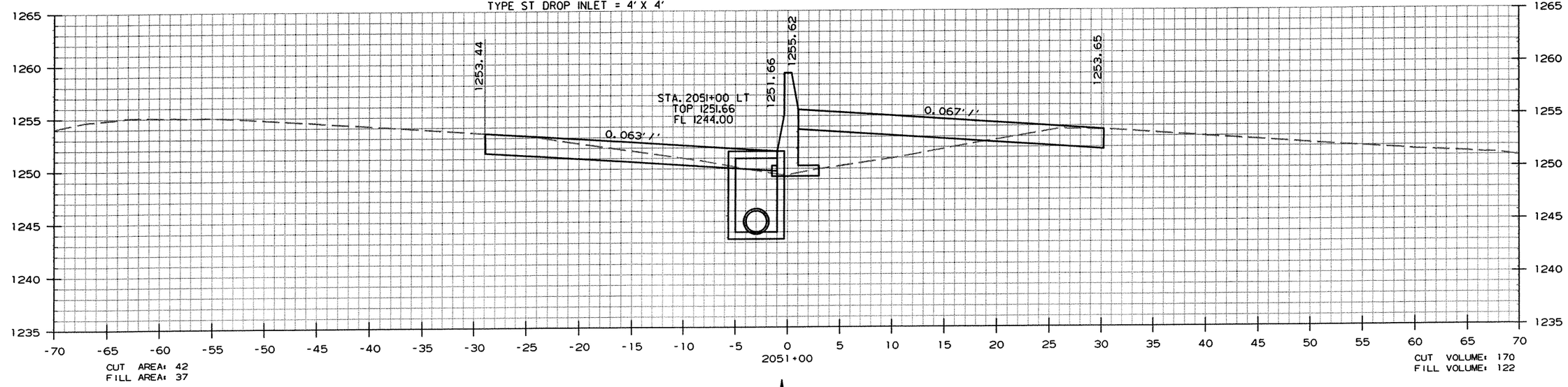


CUT AREA: 41
FILL AREA: 43

CUT VOLUME: 123
FILL VOLUME: 117

SEE SPECIAL DETAILS ON SHEET 6.

STA. 2051+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-8"
WITH 24" X 75' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2051+79 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 42
FILL AREA: 37

CUT VOLUME: 170
FILL VOLUME: 122

CROSS SECTION STA. 2051+00 TO STA. 2051+79

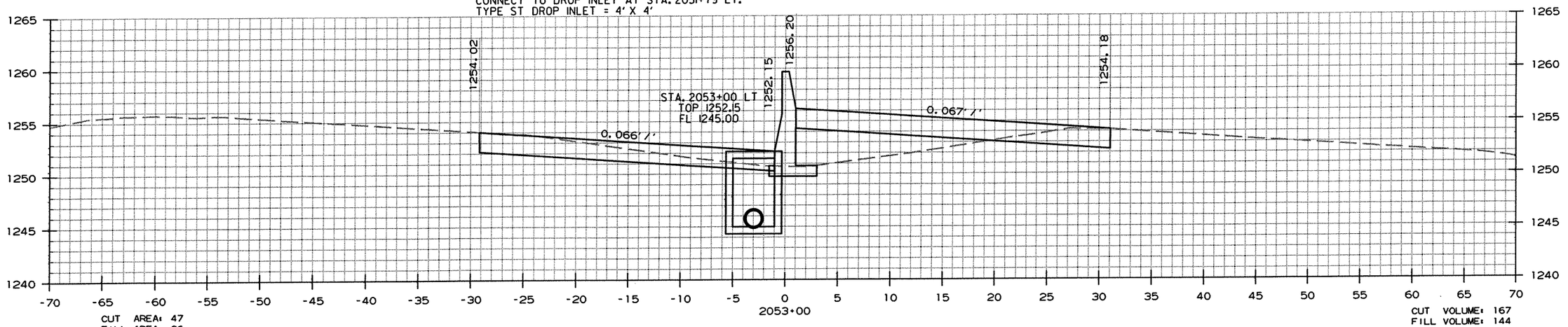
5/31/2013

R090331.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.		090331	144	218

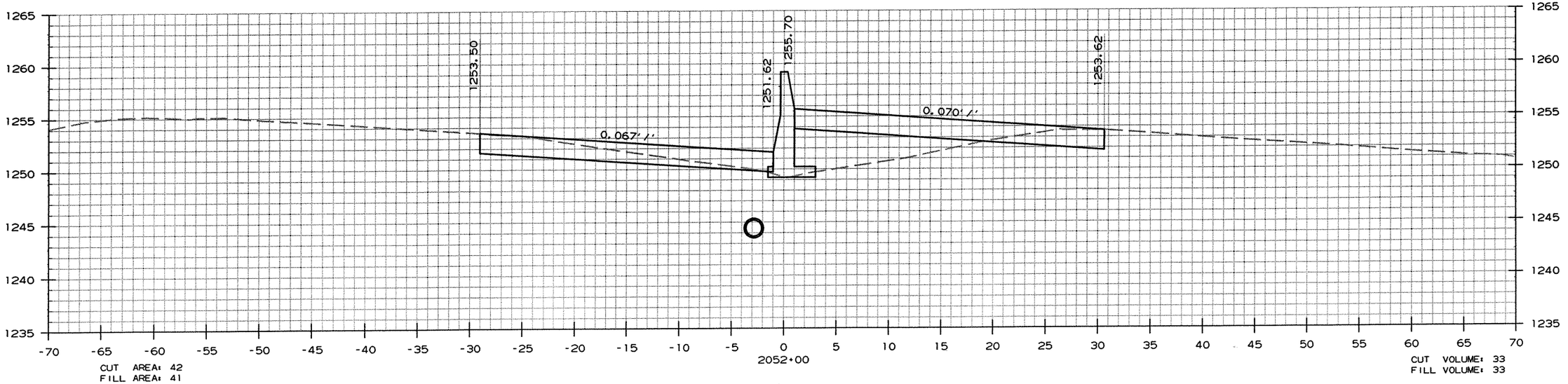
(2) CROSS SECTIONS

STA. 2053+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-2"
WITH 18" X 117' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2051+79 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 47
FILL AREA: 36

CUT VOLUME: 167
FILL VOLUME: 144



CUT AREA: 42
FILL AREA: 41

CUT VOLUME: 33
FILL VOLUME: 33

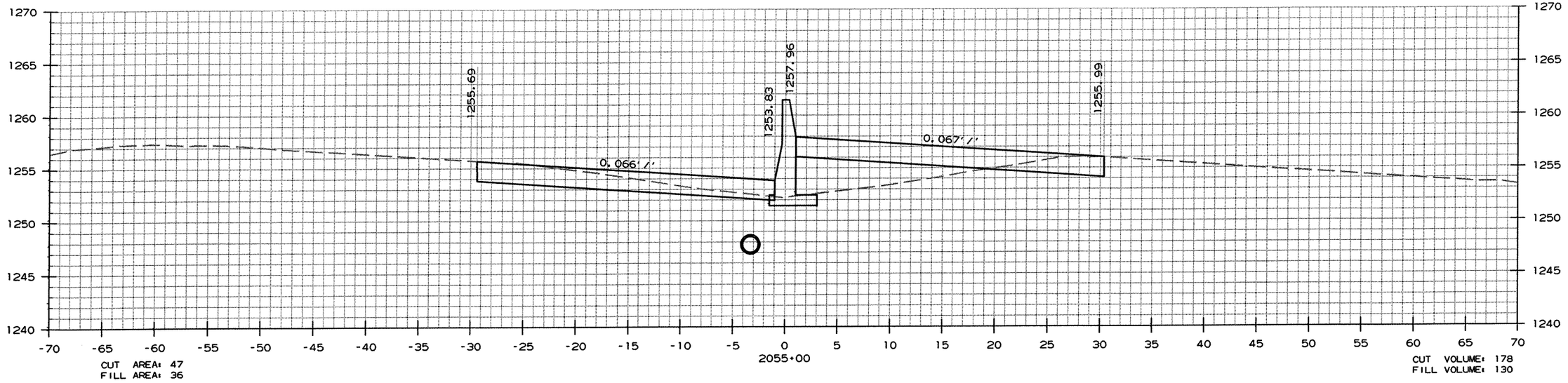
CROSS SECTION STA. 2052+00 TO STA. 2053+00

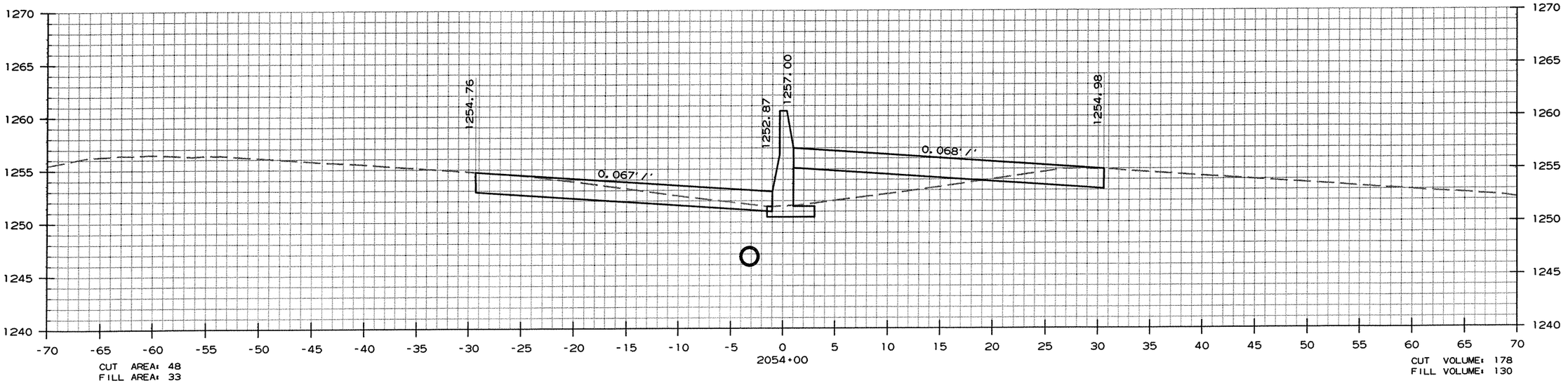
5/31/2013

R090331.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.		090331	145	218

(2) CROSS SECTIONS





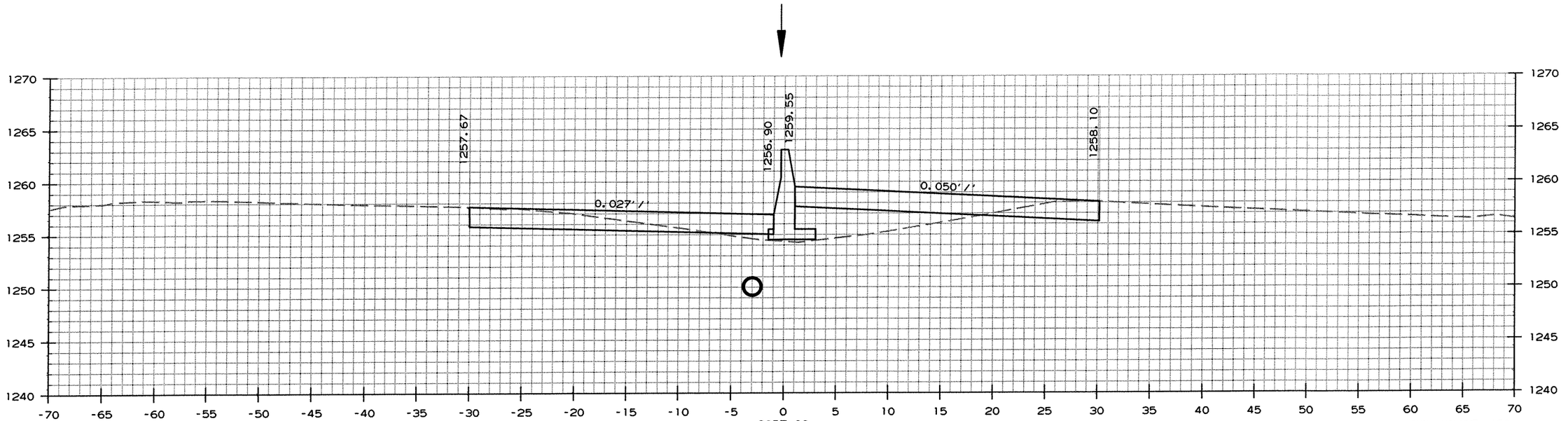
CROSS SECTION STA. 2054+00 TO STA. 2055+00

5/31/2013

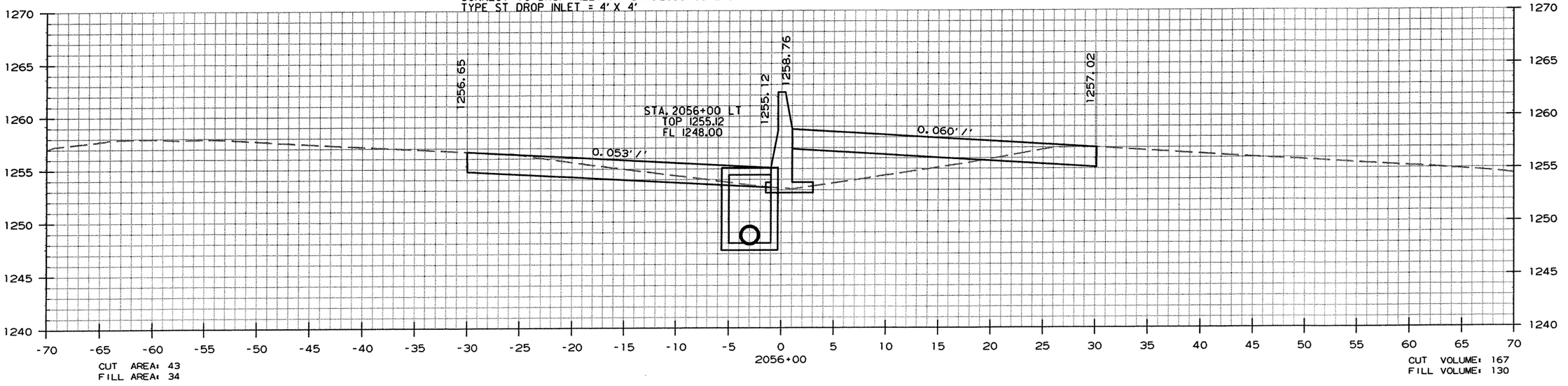
R090331.DGN

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.		090331	146	218

(2) CROSS SECTIONS



STA. 2056+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-2"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2053+00 LT.
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 2056+00 TO STA. 2057+00

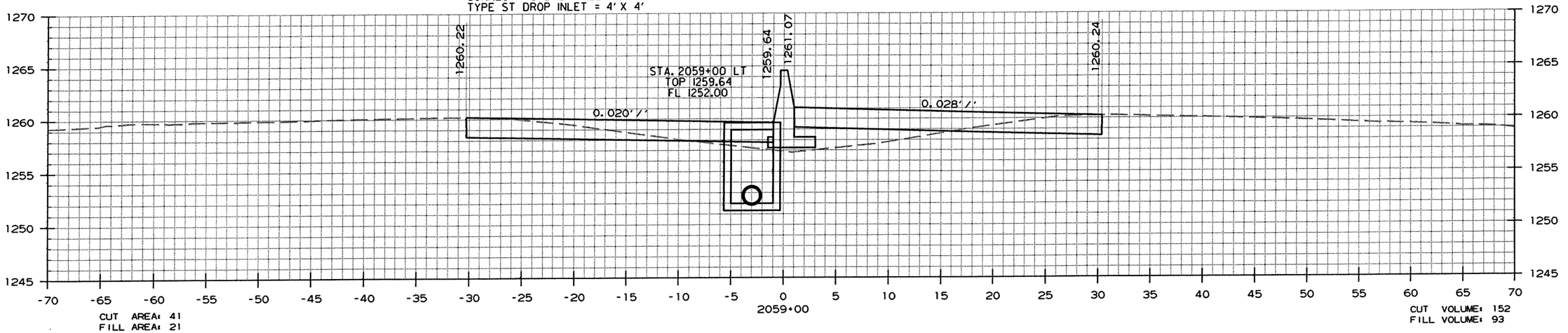
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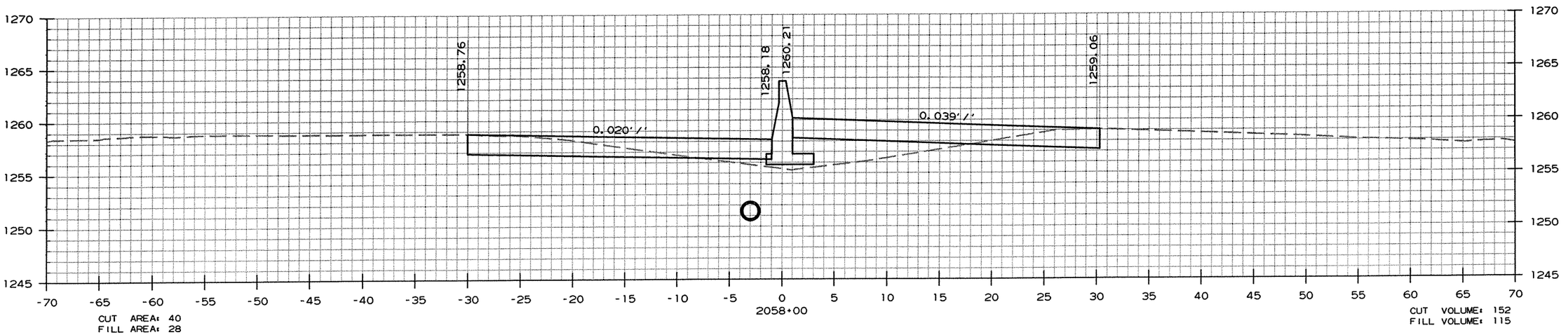
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	147	218

(2) CROSS SECTIONS

STA. 2059+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-8"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2056+00 LT.
TYPE ST DROP INLET = 4' X 4'





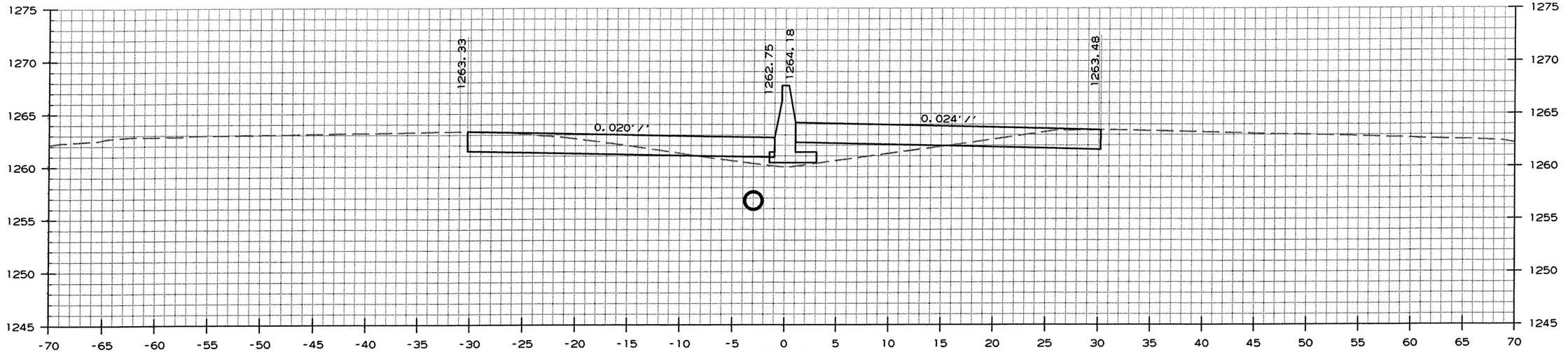
CROSS SECTION STA. 2058+00 TO STA. 2059+00

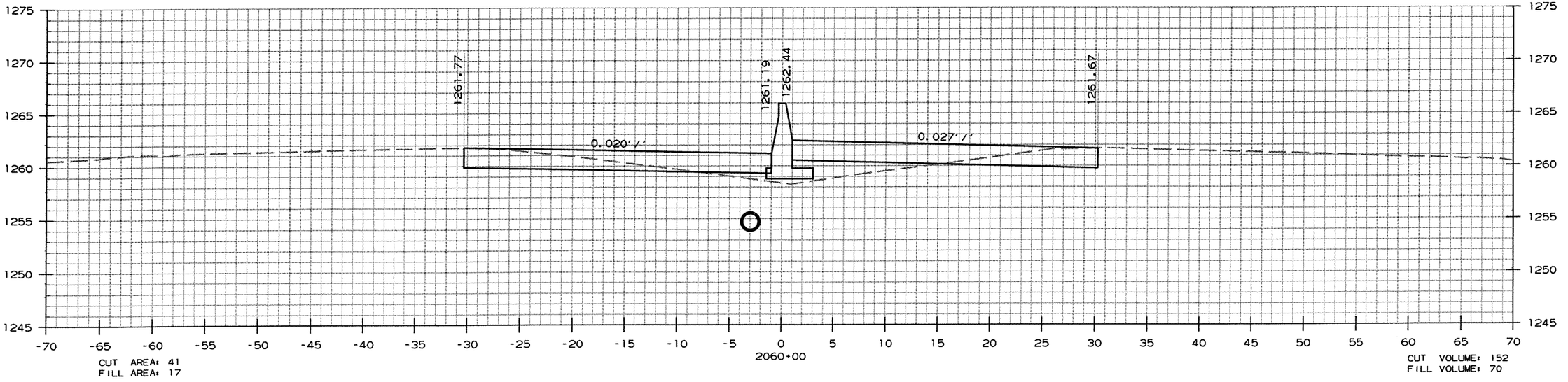
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R090331.DGN

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.		090331	148	218

(2) CROSS SECTIONS





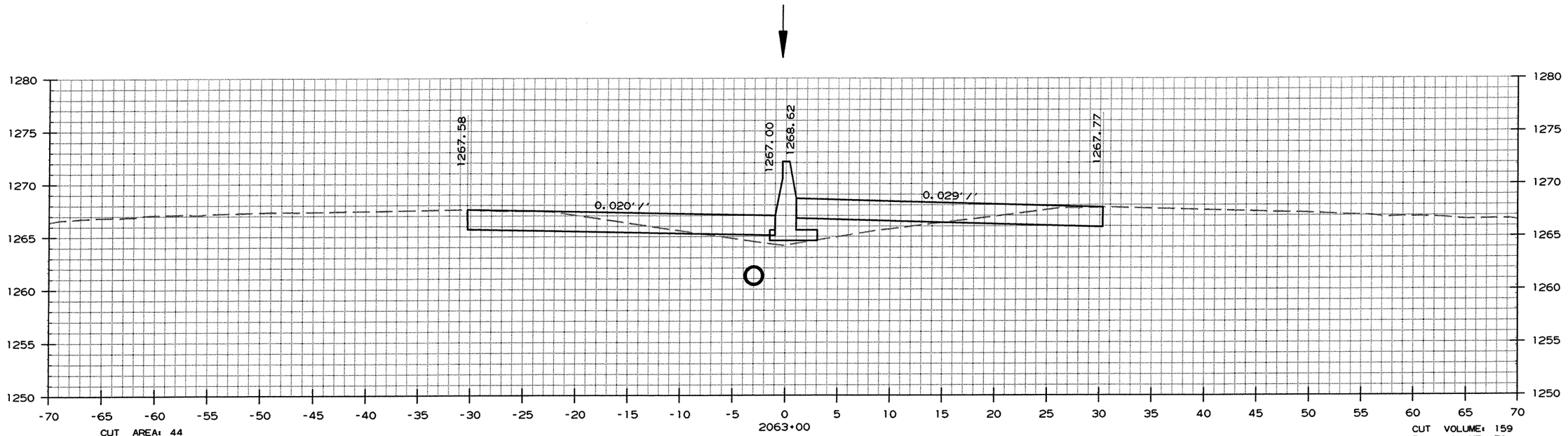
CROSS SECTION STA. 2060+00 TO STA. 2061+00

5/31/2013

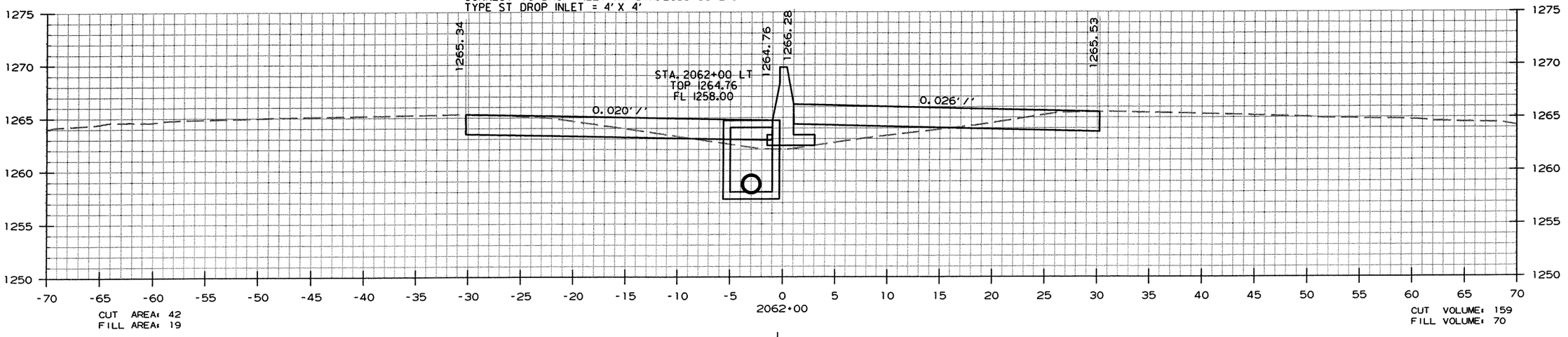
R090331.DGN

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.		090331	149	218

(2) CROSS SECTIONS



STA. 2062+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-9"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2059+00 LT.
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 2062+00 TO STA. 2063+00

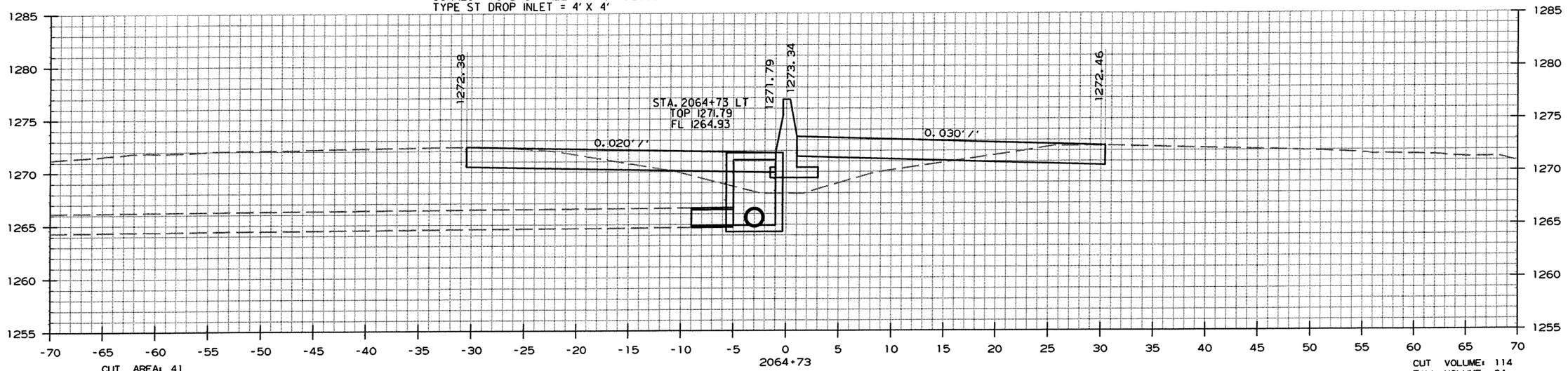
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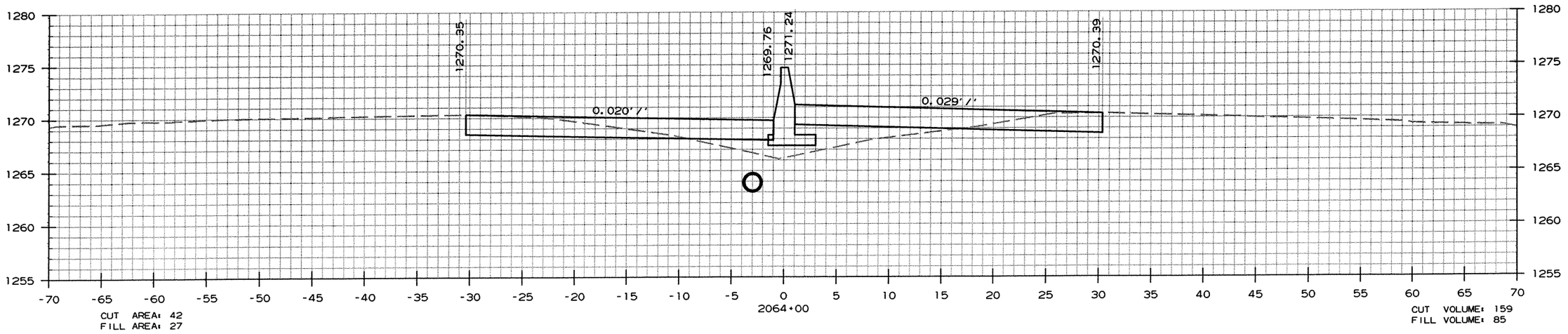
R090331.DGN

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.		090331	150	218

(2) CROSS SECTIONS

STA. 2064+73 - IN PLACE
TYPE SPECIAL JUNCTION BOX IN MEDIAN
WITH 18" X 86' R.C. PIPE CULVERT
REMOVE JUNCTION BOX & CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-10"
WITH CONCRETE COLLAR
& 18" X 4' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2062+00 LT.
TYPE ST DROP INLET = 4' X 4'





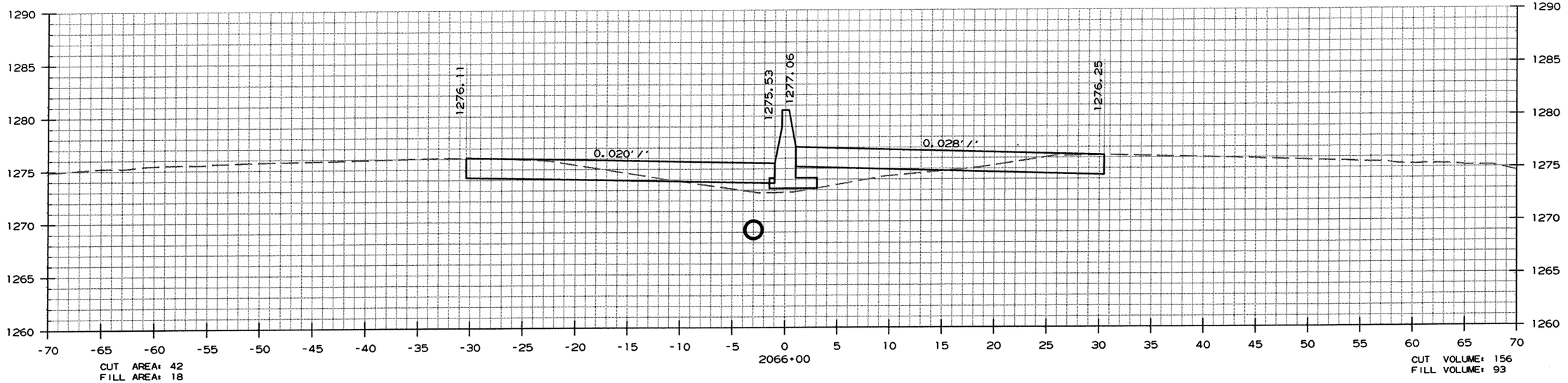
CROSS SECTION STA. 2064+00 TO STA. 2064+73

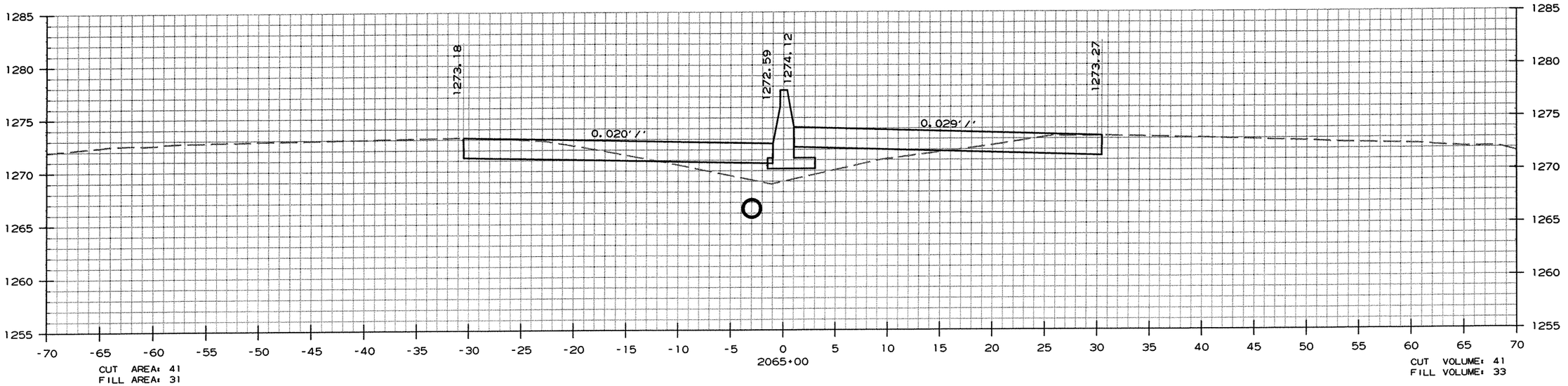
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R090331.DGN

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.		090331	151	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2065+00 TO STA. 2066+00

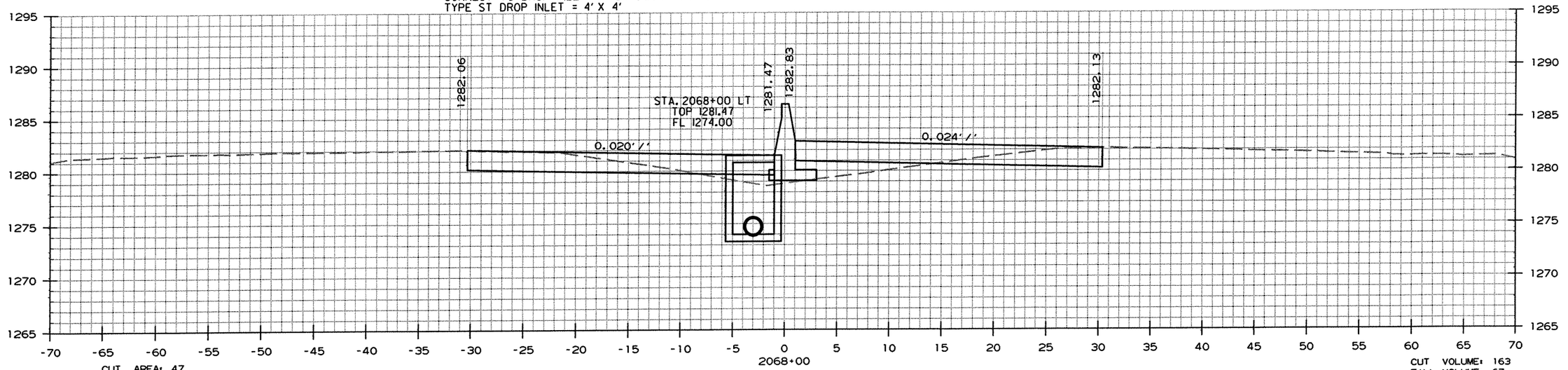
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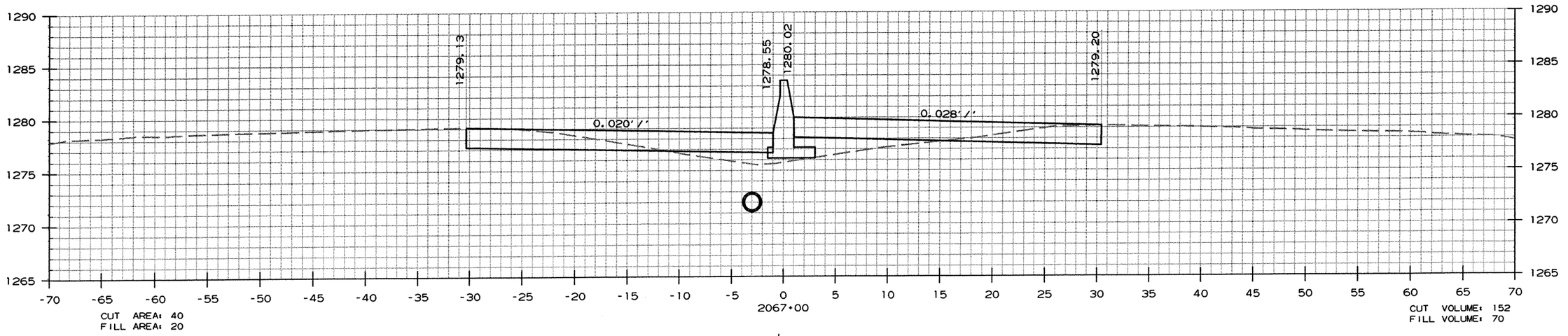
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	152	218

(2) CROSS SECTIONS

STA. 2068+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 18" X 323' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2064+73 LT.
TYPE ST DROP INLET = 4' X 4'





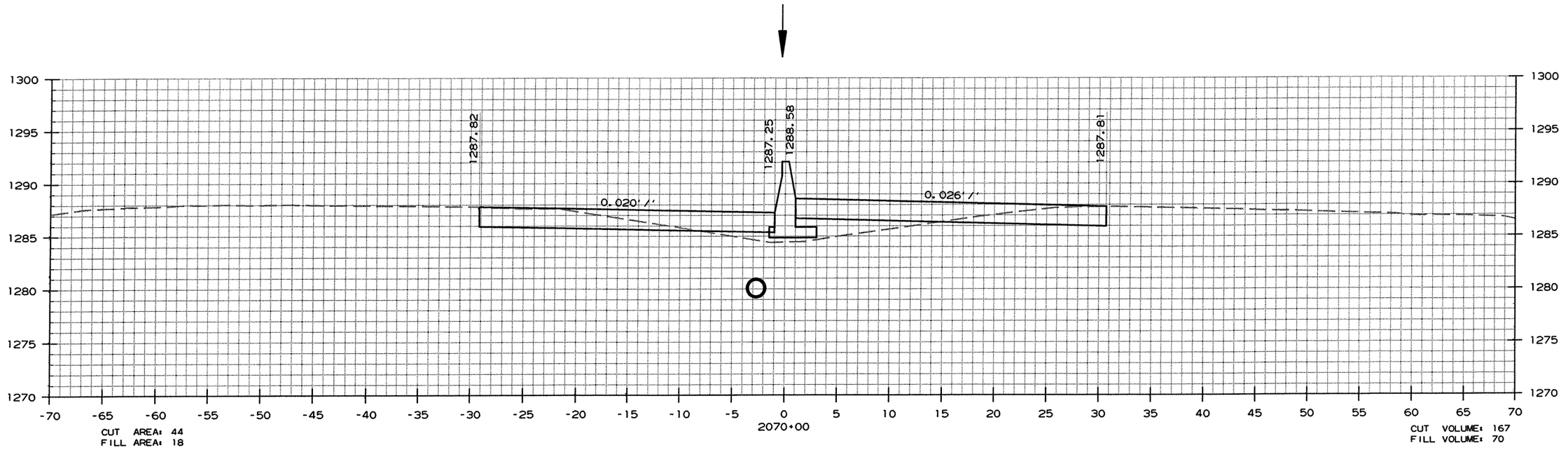
CROSS SECTION STA. 2067+00 TO STA. 2068+00

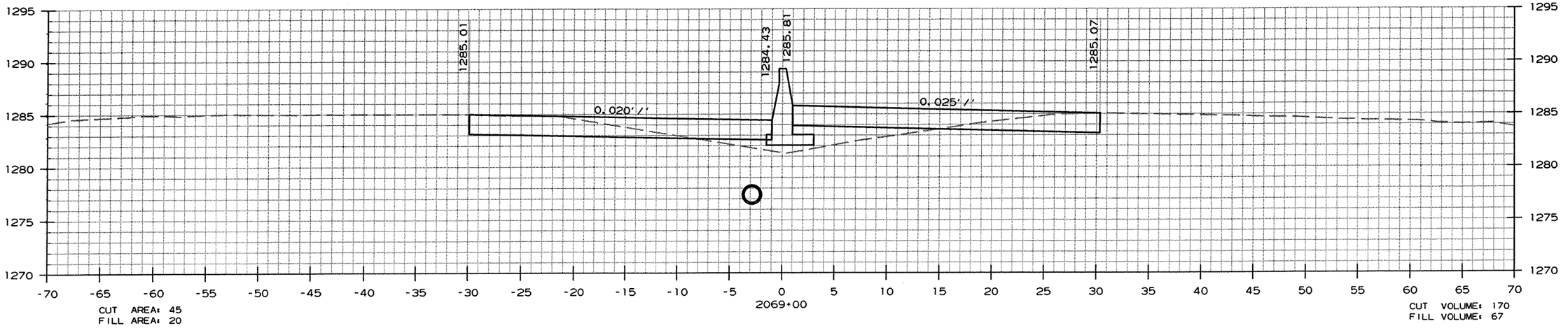
5/31/2013

R090331.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.		090331	153	218

(2) CROSS SECTIONS





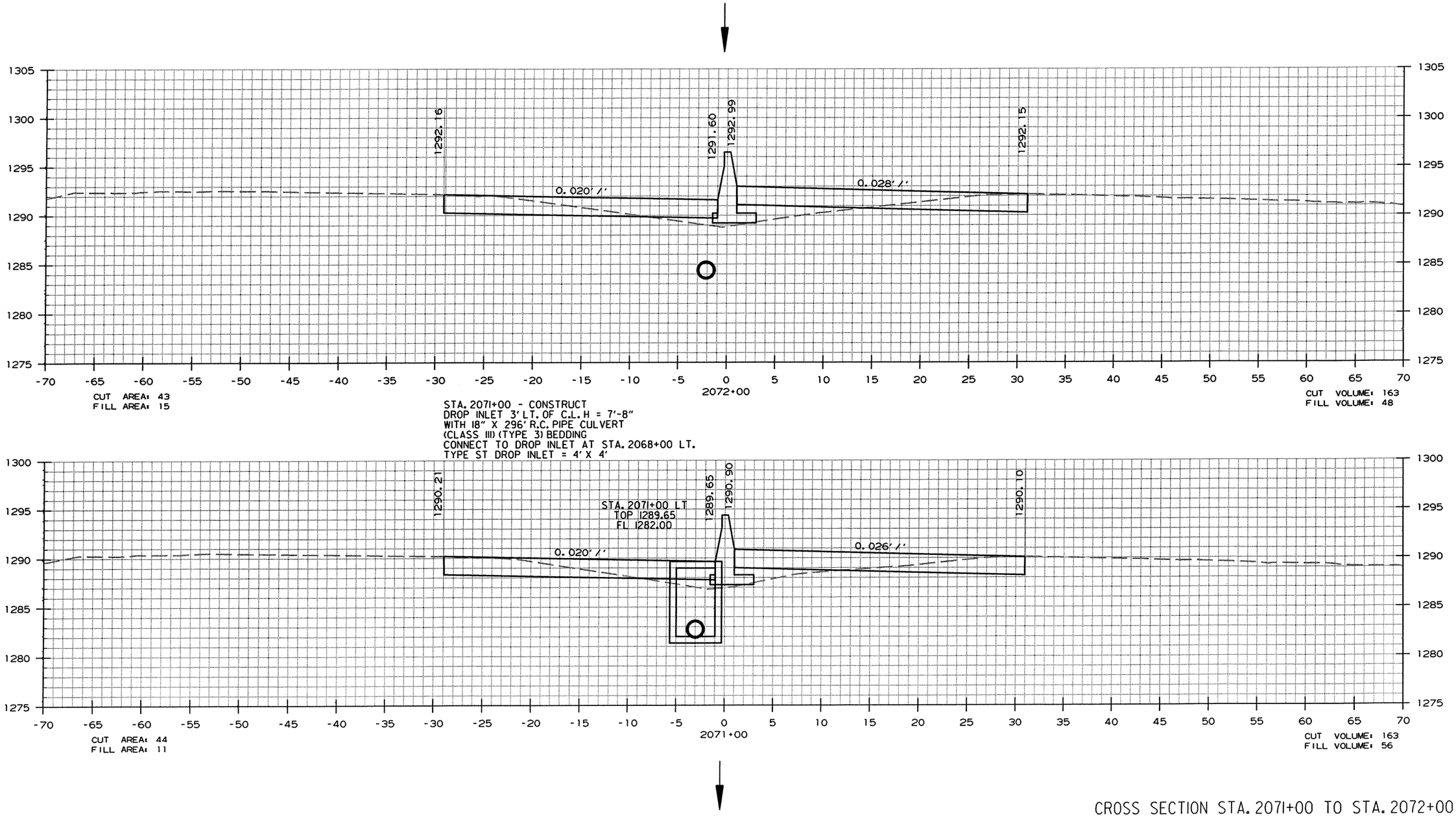
CROSS SECTION STA. 2069+00 TO STA. 2070+00

5/31/2013

R090331.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.		090331	154	218

(2) CROSS SECTIONS



CROSS SECTION STA. 2071+00 TO STA. 2072+00

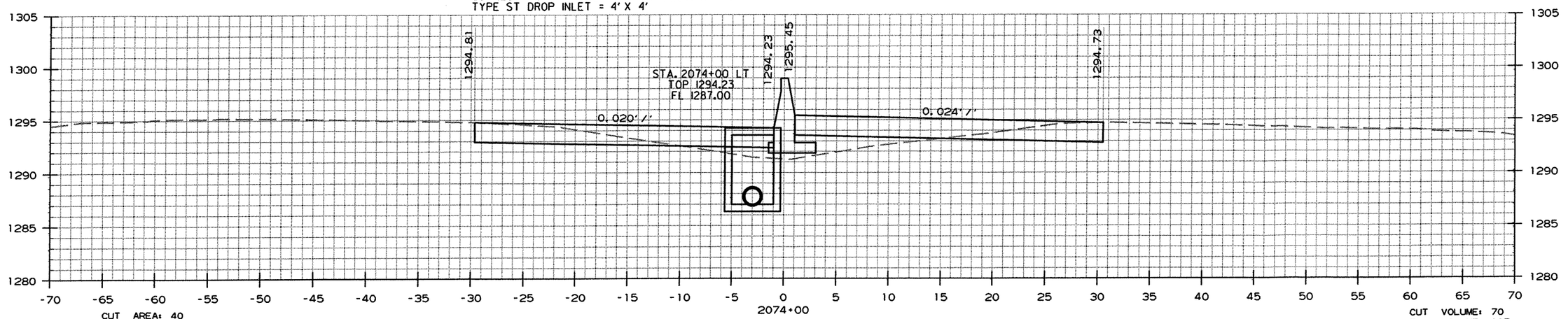
5/31/2013

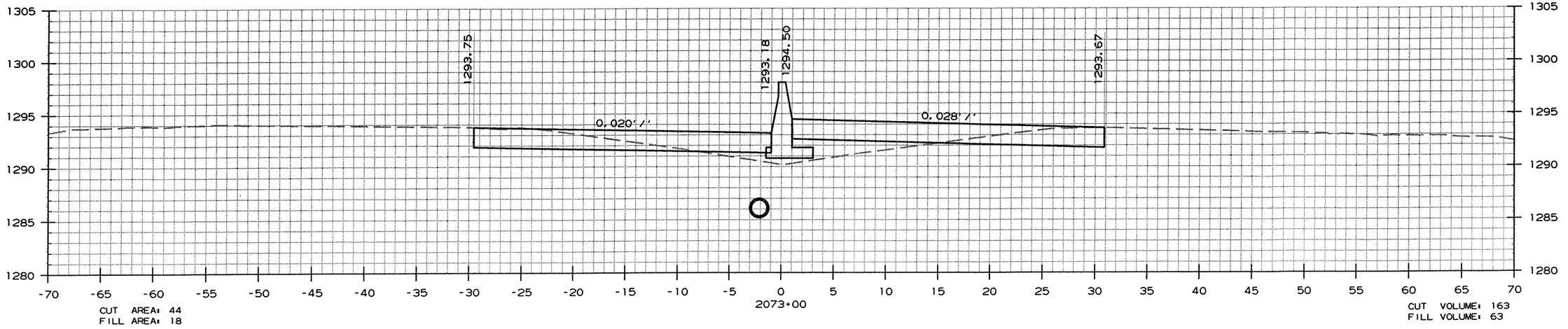
R090331.DGN

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.		090331	155	218

(2) CROSS SECTIONS

STA. 2074+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-3"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2071+00 LT.
TYPE ST DROP INLET = 4' X 4'





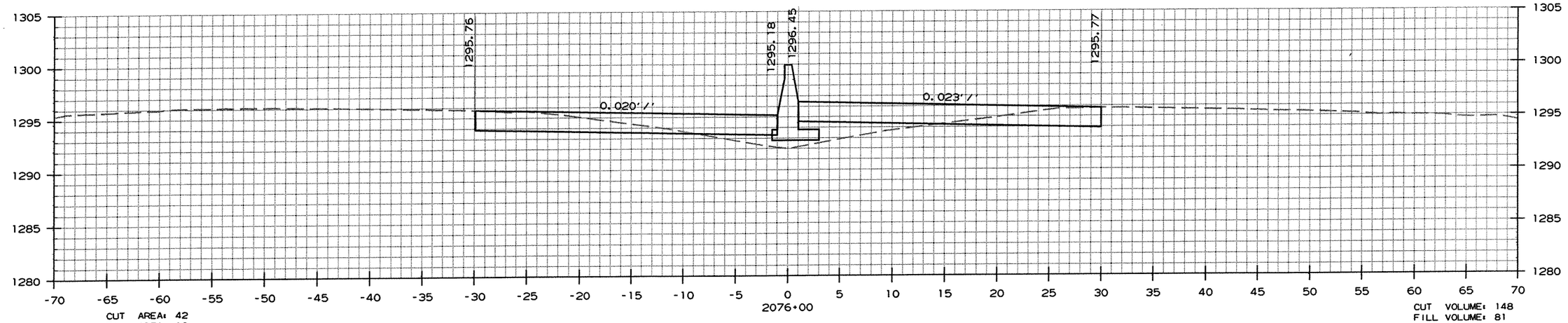
CROSS SECTION STA. 2073+00 TO STA. 2074+00

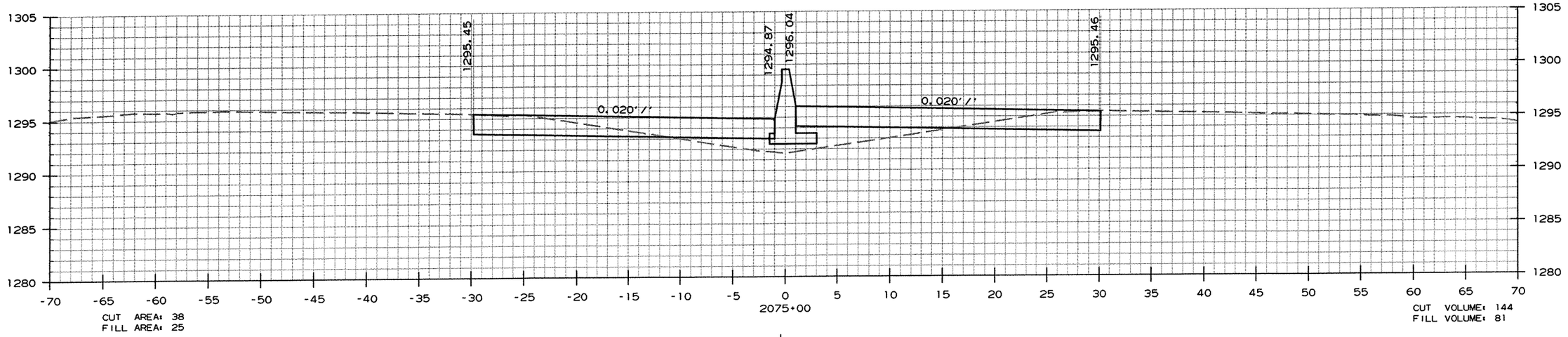
5/31/2013

R090331.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.		090331	156	218

(2) CROSS SECTIONS





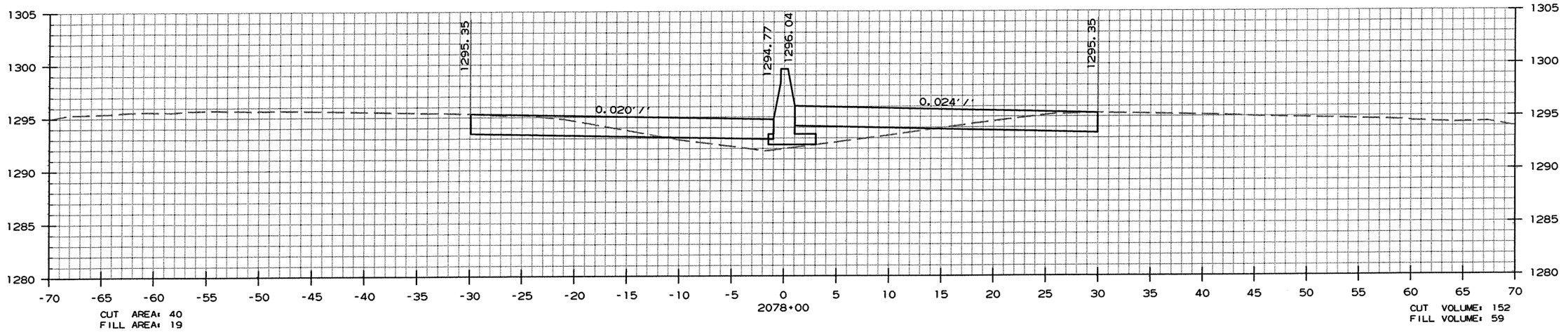
CROSS SECTION STA. 2075+00 TO STA. 2076+00

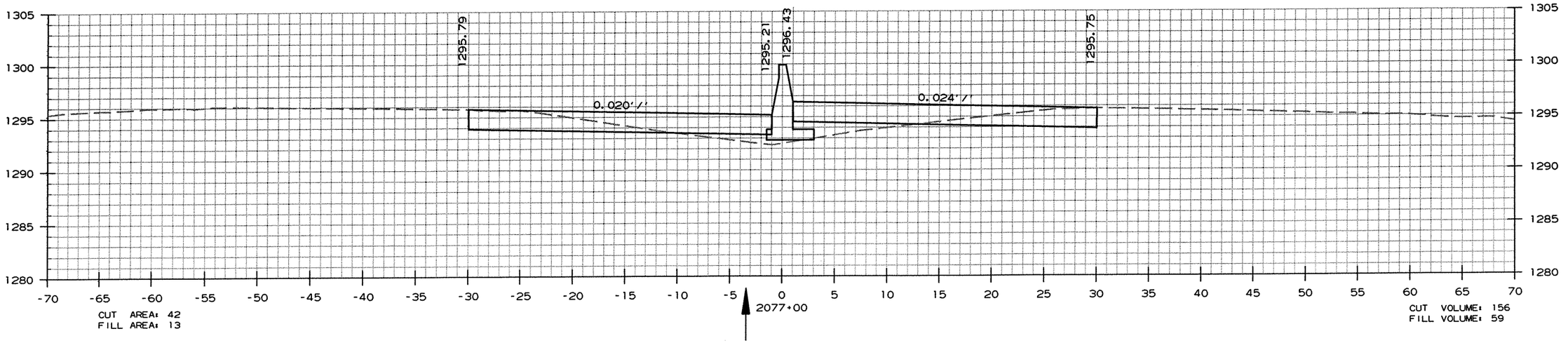
5/31/2013

R090331.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.	090331		157	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2077+00 TO STA. 2078+00

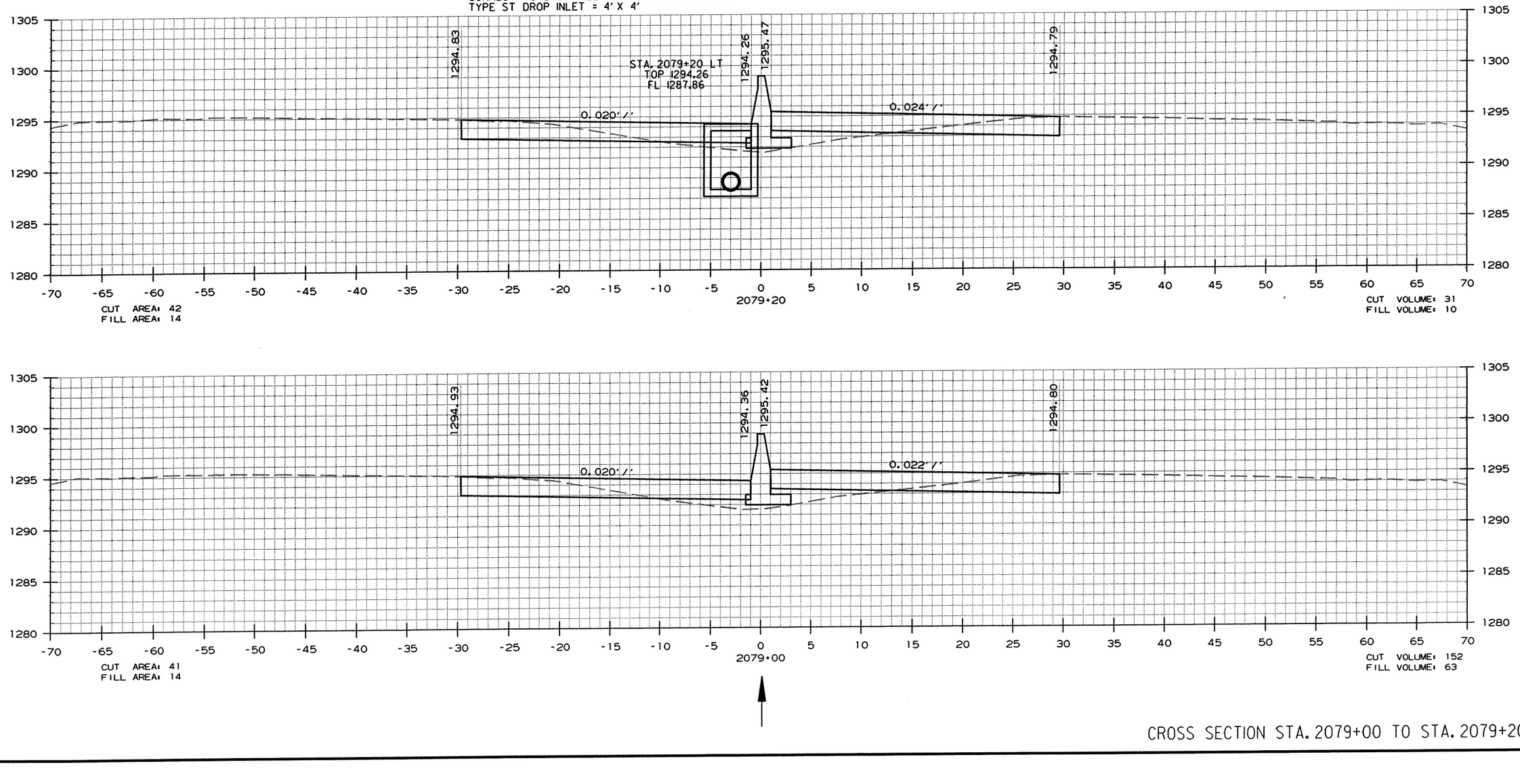
5/31/2013

R090331.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.		090331	158	218

(2) CROSS SECTIONS

STA. 2079+20 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-5"
WITH 18" X 98' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2080+22 LT.
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 2079+00 TO STA. 2079+20

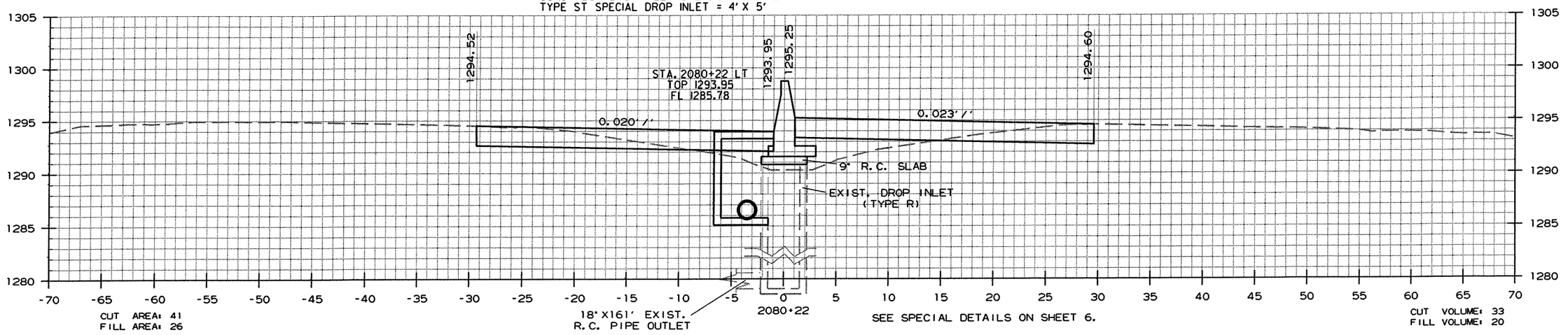
5/31/2013

R090331.DGN

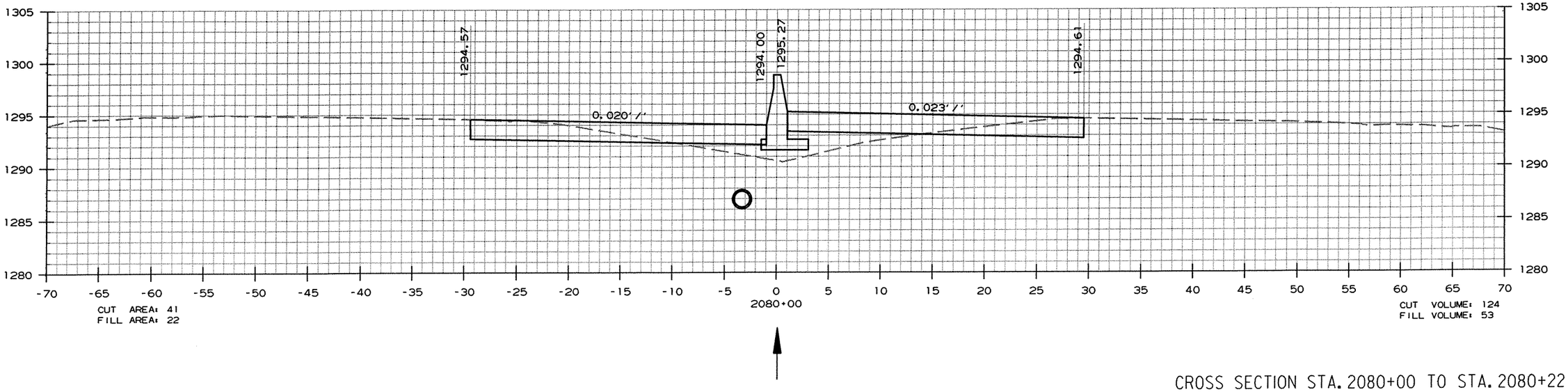
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	159	218

(2) CROSS SECTIONS

STA. 2080+22 - IN PLACE
TYPE R DROP INLET
WITH 18" x 161' R.C. PIPE CULVERT
RETAIN & MODIFY EXIST. DROP INLET
CONSTRUCT DROP INLET 3' LT. OF C.L. H=8'-2"
TYPE ST SPECIAL DROP INLET = 4' X 5'



SEE SPECIAL DETAILS ON SHEET 6.



CROSS SECTION STA. 2080+00 TO STA. 2080+22

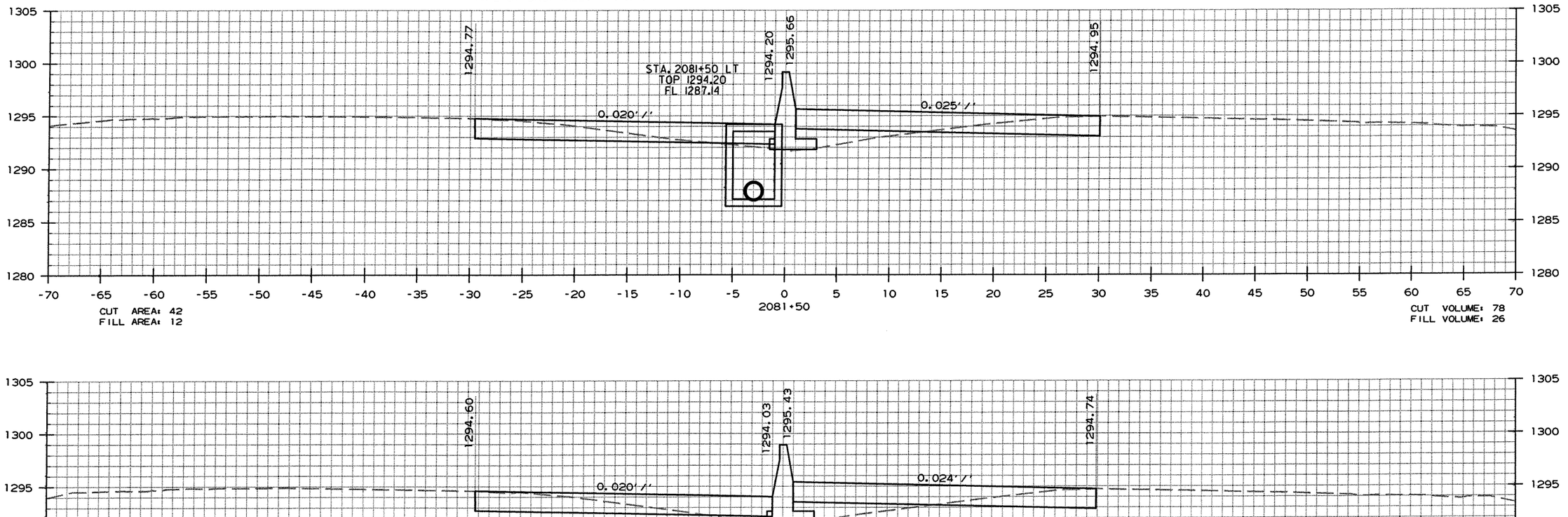
5/31/2013

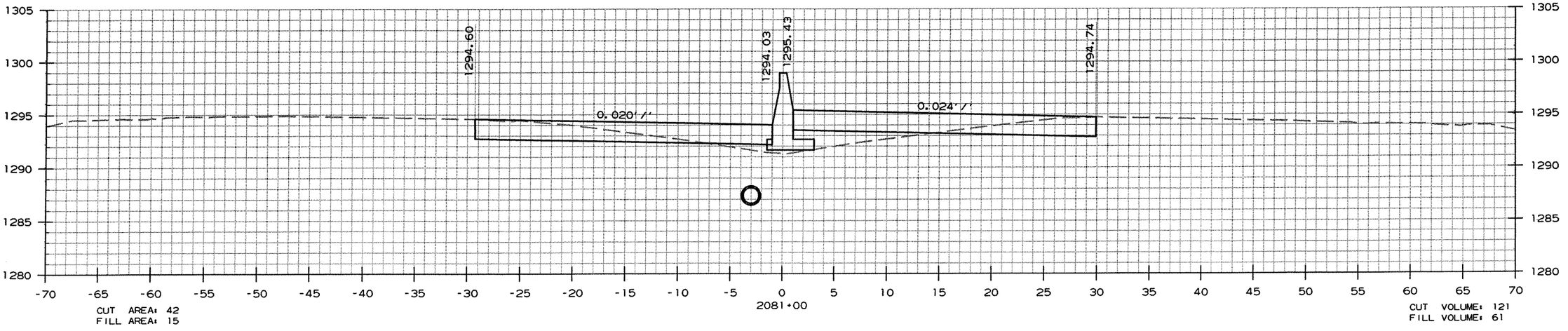
R090331.DGN

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.		090331	160	218

(2) CROSS SECTIONS

STA. 2081+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-1"
WITH 18" X 124' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2080+22 LT.
TYPE ST DROP INLET = 4' X 4'





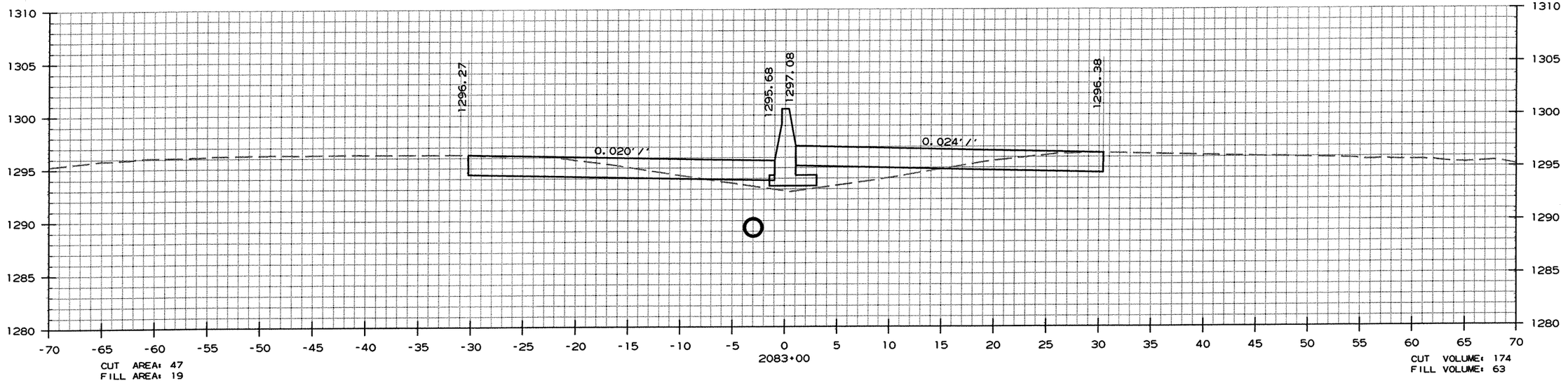
CROSS SECTION STA. 2081+00 TO STA. 2081+50

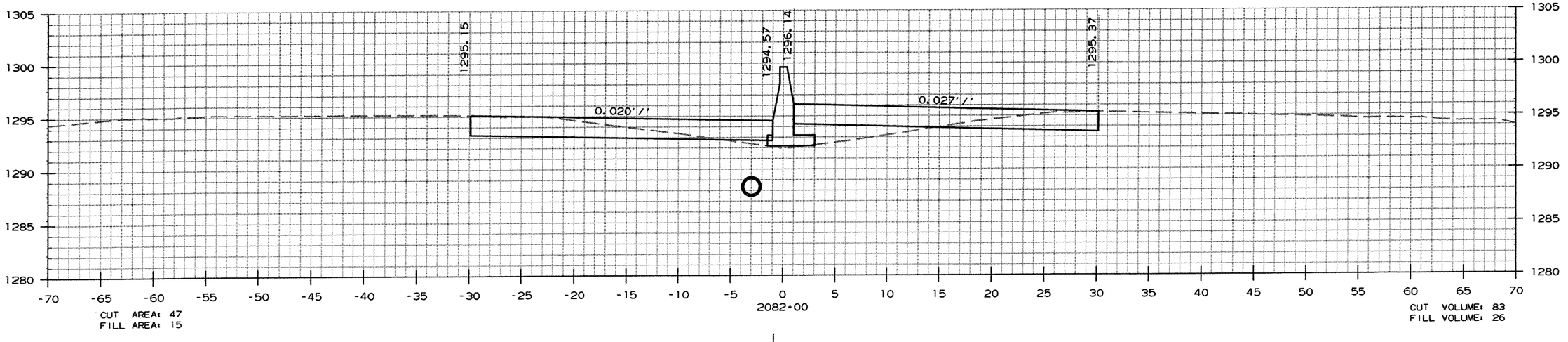
5/31/2013

R090331.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.		090331	161	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2082+00 TO STA. 2083+00

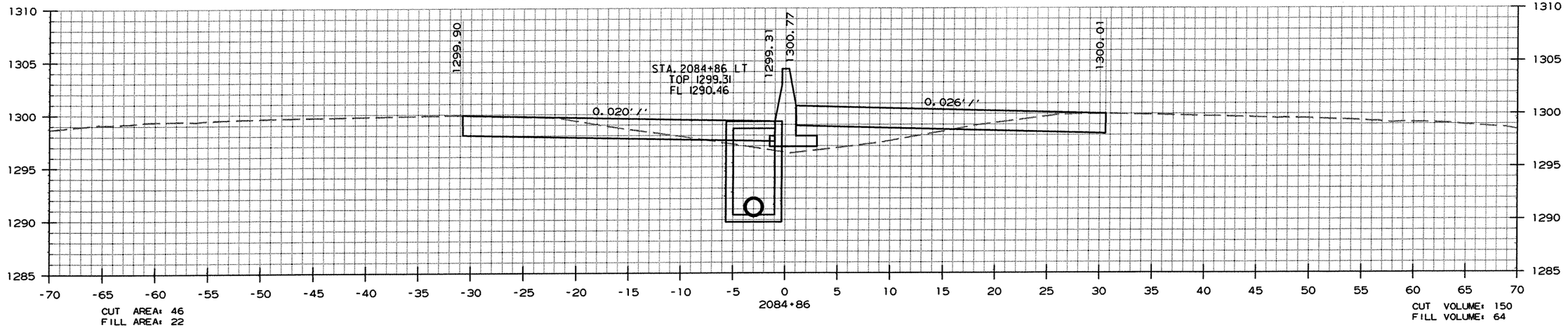
5/31/2013

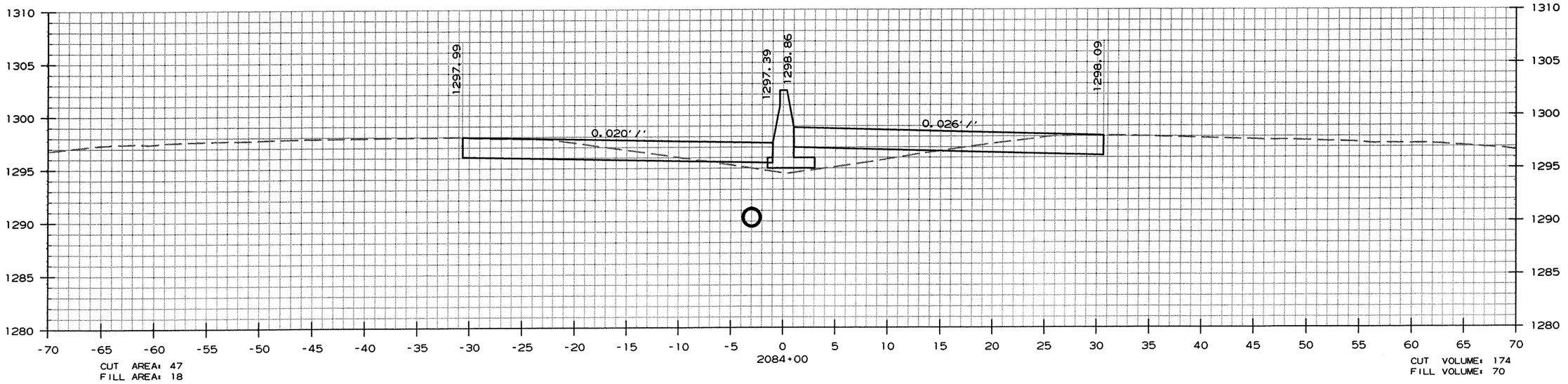
R090331.DGN

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.		090331	162	218

(2) CROSS SECTIONS

STA. 2084+86 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-10"
WITH 18" X 332' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2081+50 LT.
TYPE ST DROP INLET = 4' X 4'





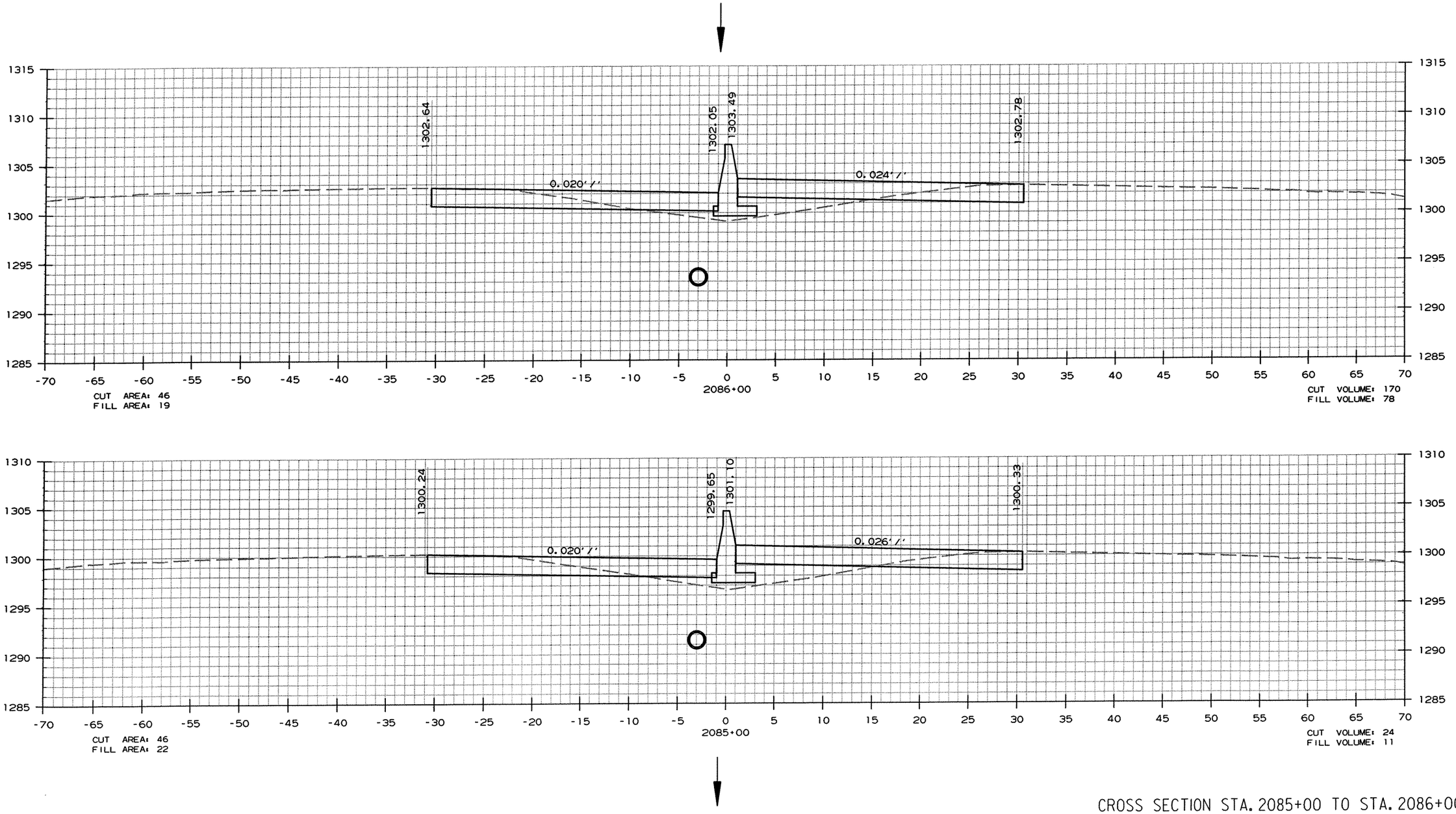
CROSS SECTION STA. 2084+00 TO STA. 2084+86

5/31/2013

R090331.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.		090331	163	218

(2) CROSS SECTIONS



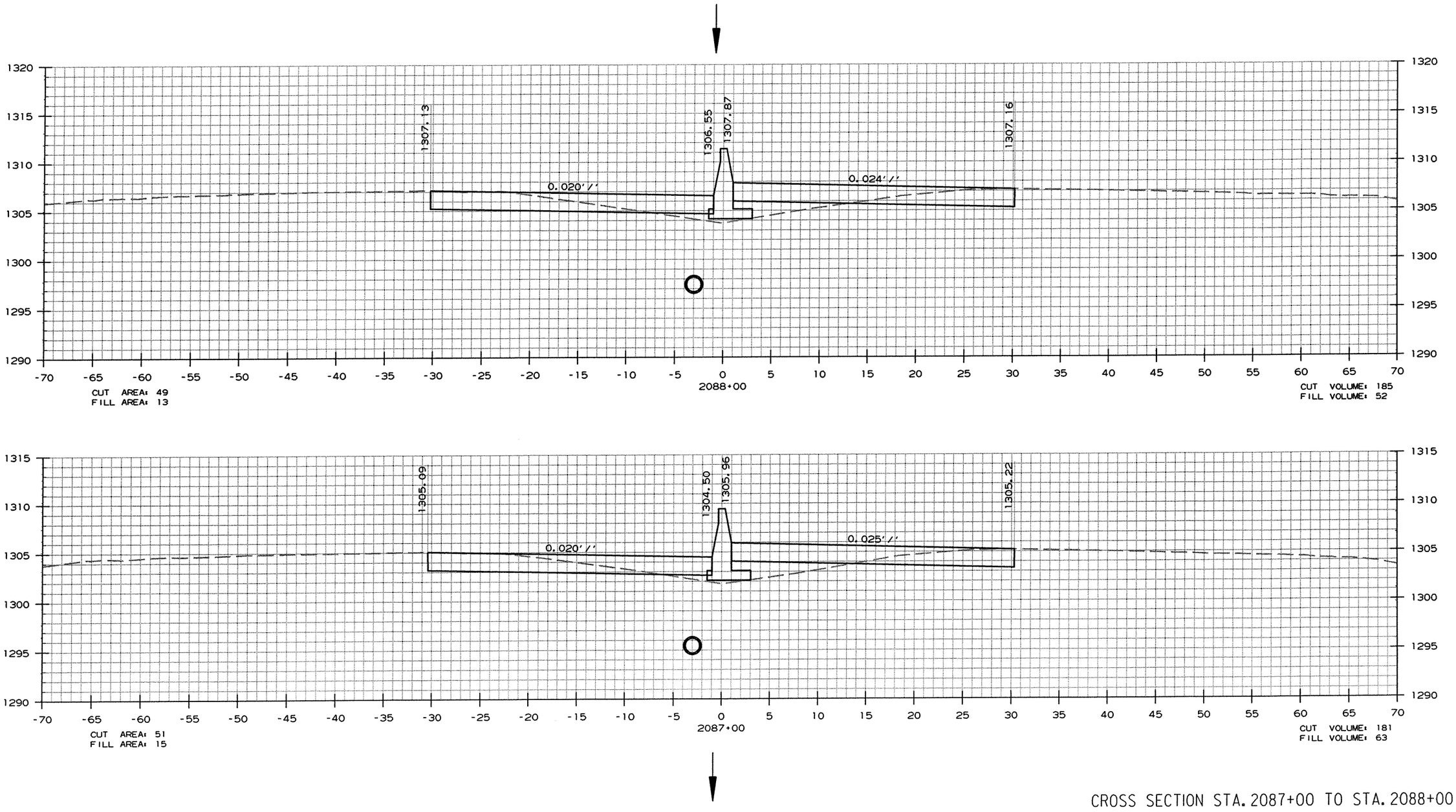
CROSS SECTION STA. 2085+00 TO STA. 2086+00

5/31/2013

R090331.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.		090331	164	218

(2) CROSS SECTIONS



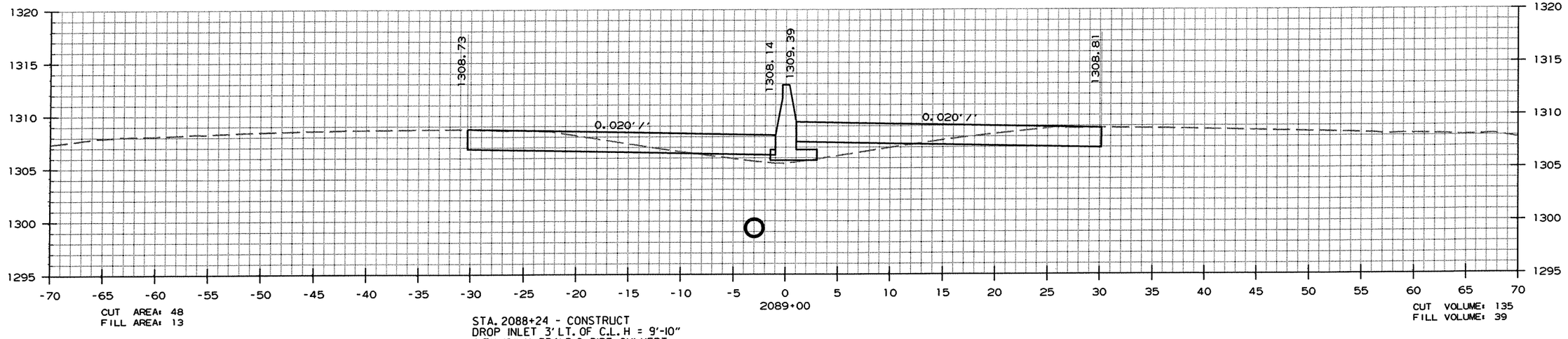
CROSS SECTION STA. 2087+00 TO STA. 2088+00

5/31/2013

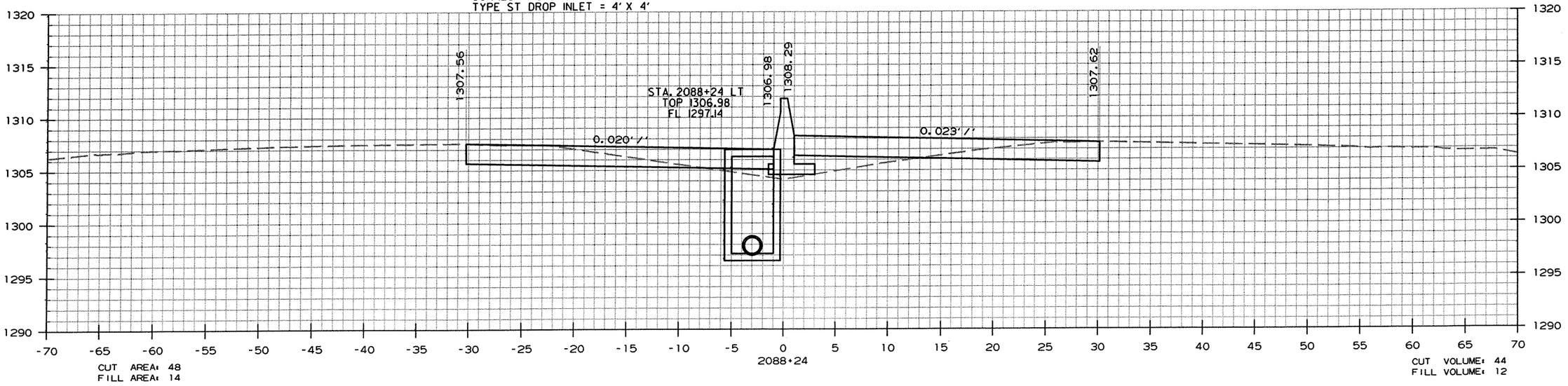
R090331.DGN

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.		090331	165	218

(2) CROSS SECTIONS



STA. 2088+24 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 9'-10"
WITH 18" X 334' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2084+86 LT.
TYPE ST DROP INLET = 4' X 4'



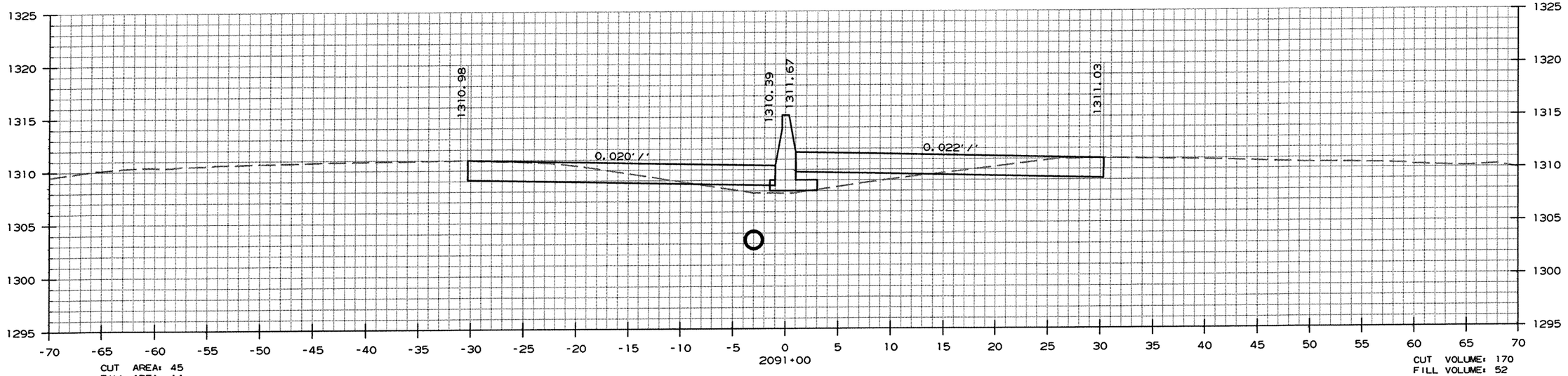
CROSS SECTION STA. 2088+24 TO STA. 2089+00

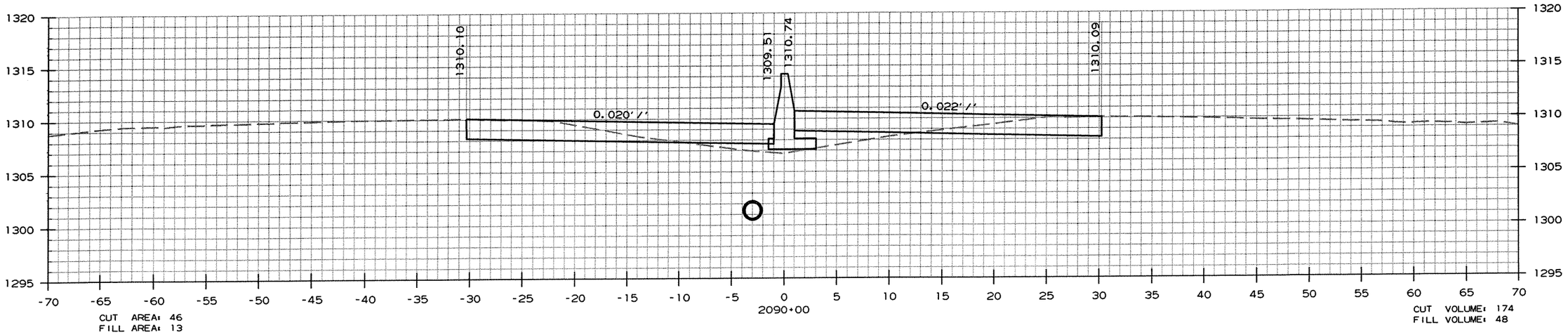
5/31/2013

R090331.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.		090331	166	218

(2) CROSS SECTIONS





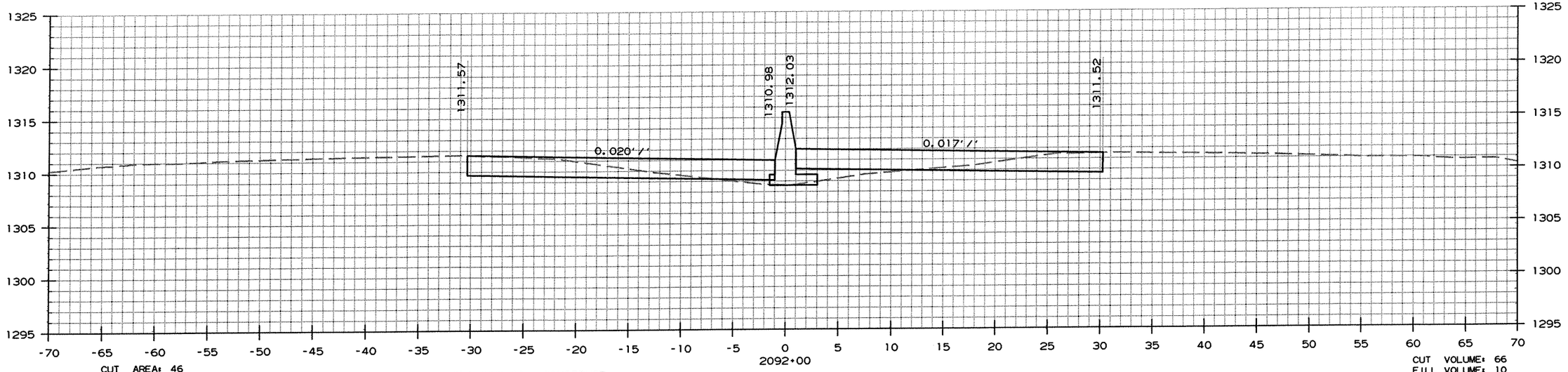
CROSS SECTION STA. 2090+00 TO STA. 2091+00

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R090331.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.		090331	167	218

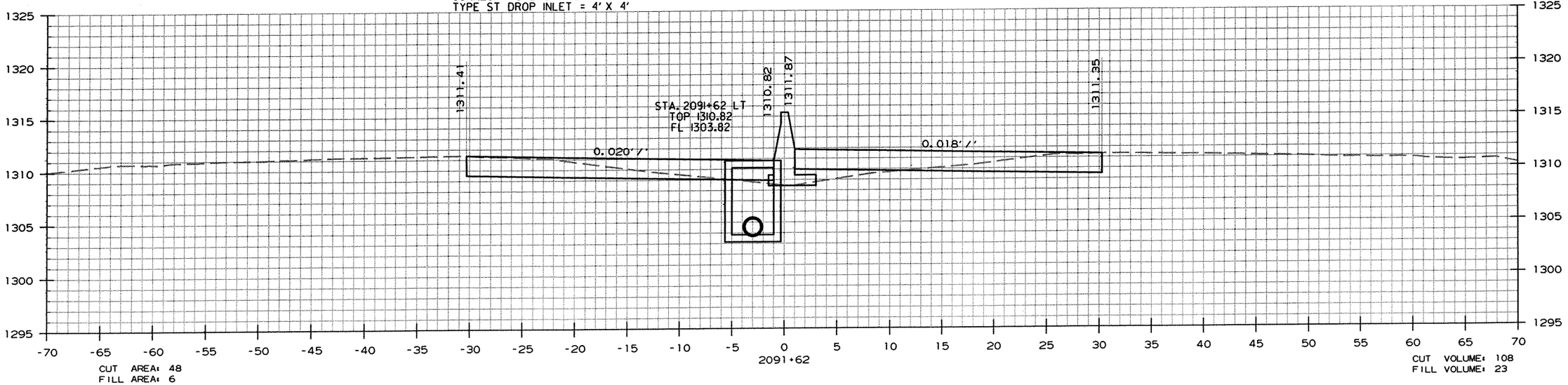
(2) CROSS SECTIONS



CUT AREA: 46
FILL AREA: 7

CUT VOLUME: 66
FILL VOLUME: 10

STA. 2091+62 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-0"
WITH 18" X 334' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2088+24 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 48
FILL AREA: 6

CUT VOLUME: 108
FILL VOLUME: 23

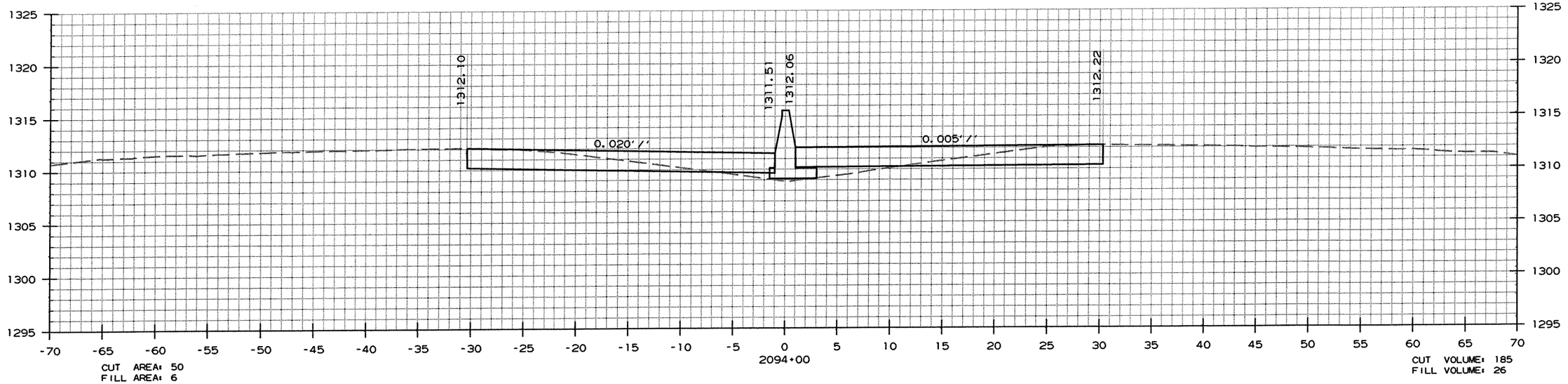
CROSS SECTION STA. 2091+62 TO STA. 2092+00

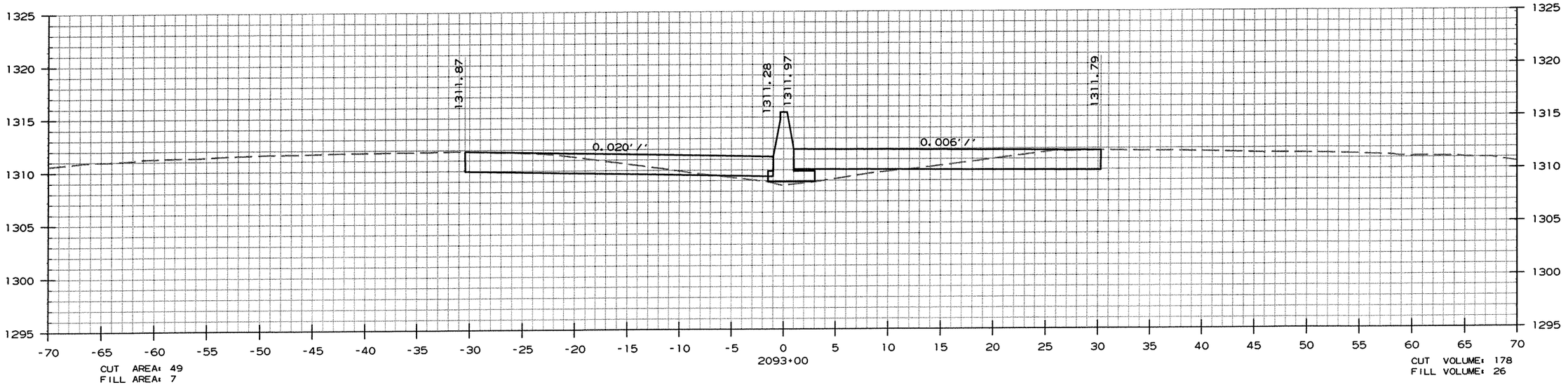
5/31/2013

R090331.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.		090331	168	218

(2) CROSS SECTIONS





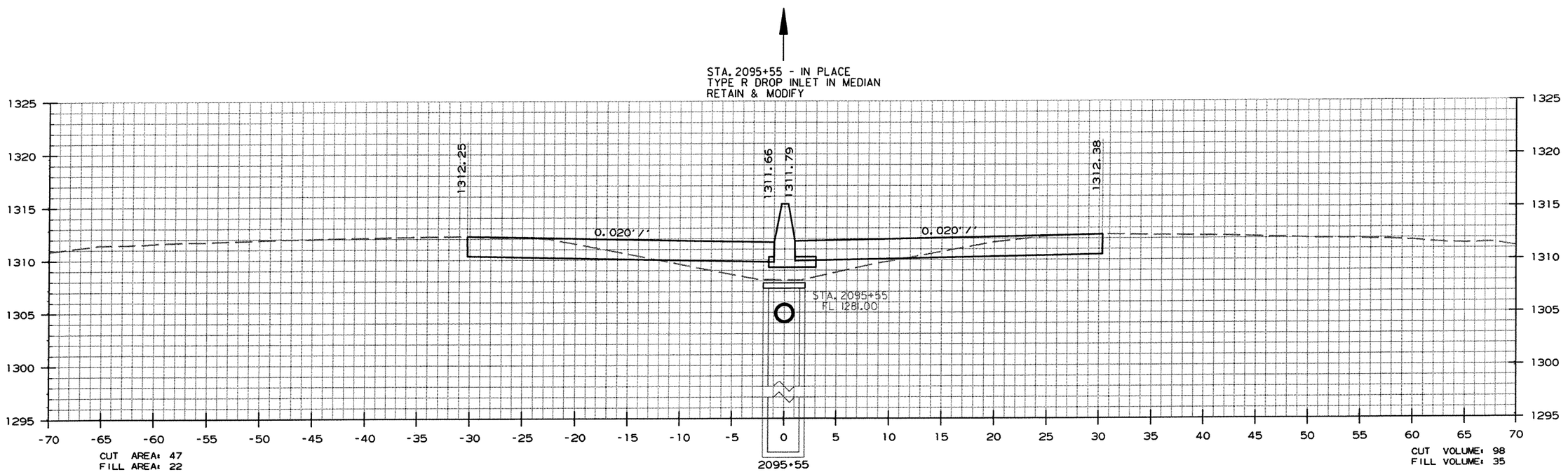
CROSS SECTION STA. 2093+00 TO STA. 2094+00

5/31/2013

R090331.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.		090331	169	218

(2) CROSS SECTIONS



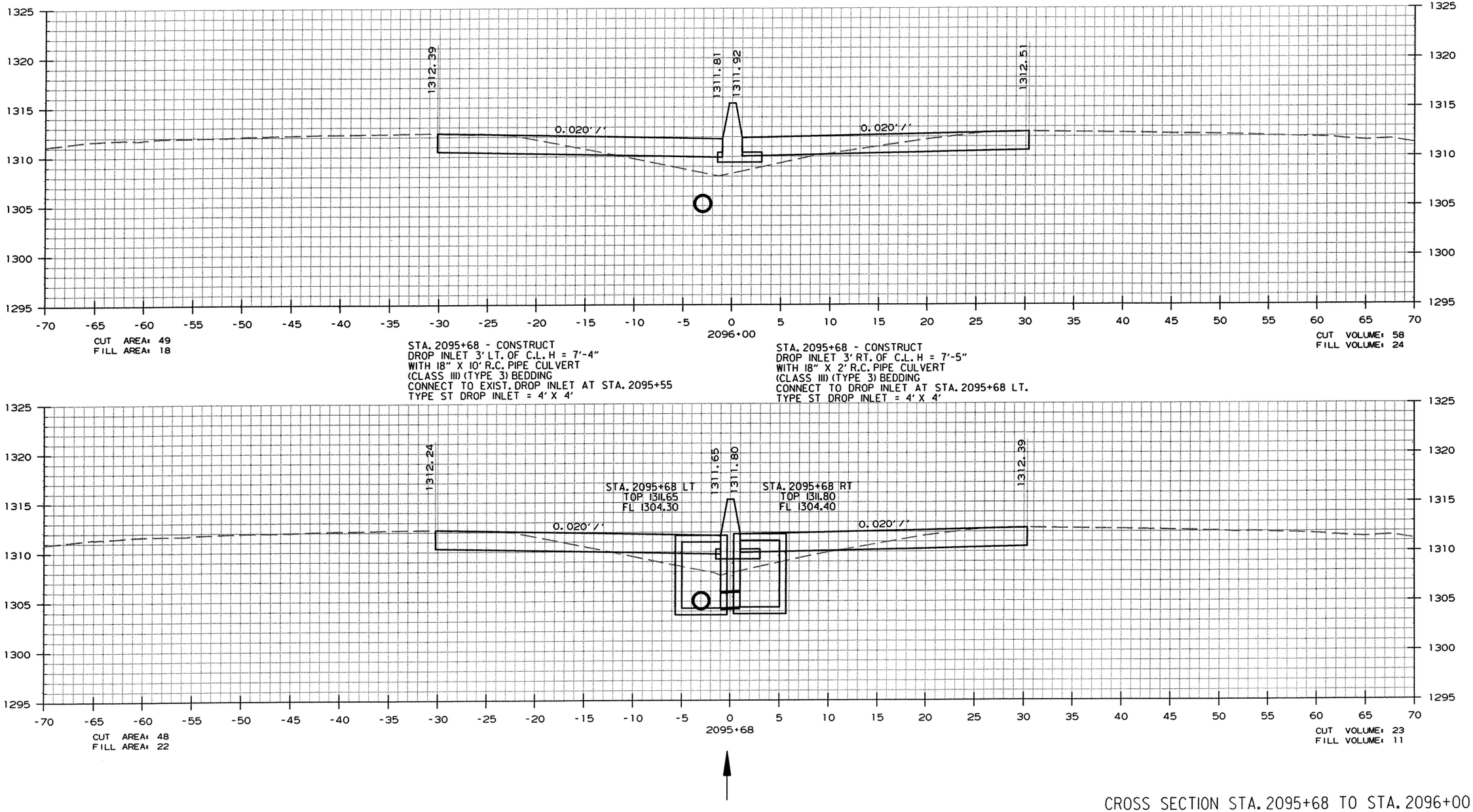
CROSS SECTION STA. 2095+00 TO STA. 2095+55

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R090331.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.		090331	170	218

(2) CROSS SECTIONS



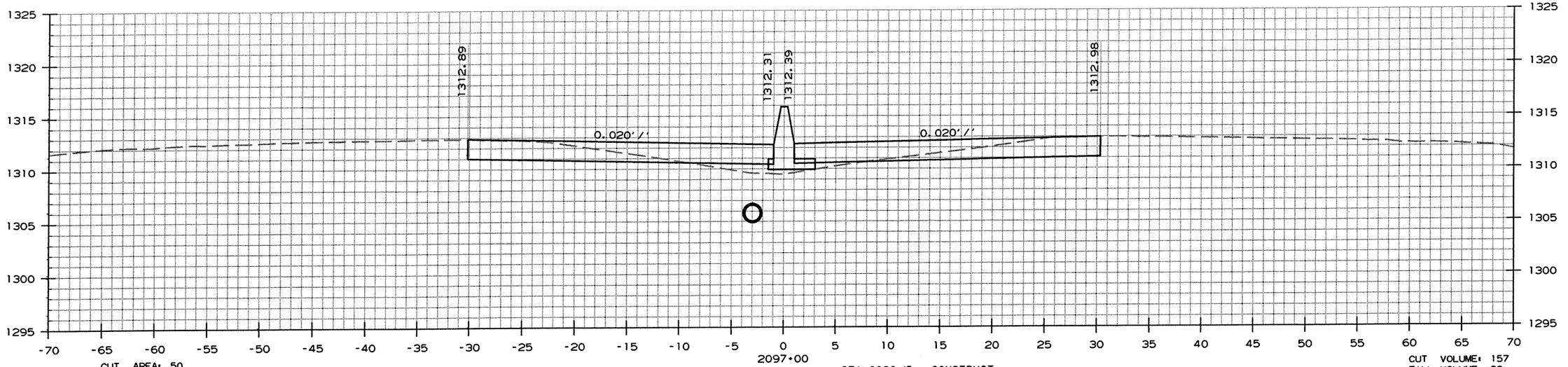
CROSS SECTION STA. 2095+68 TO STA. 2096+00

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R090331.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.		090331	171	218

(2) CROSS SECTIONS

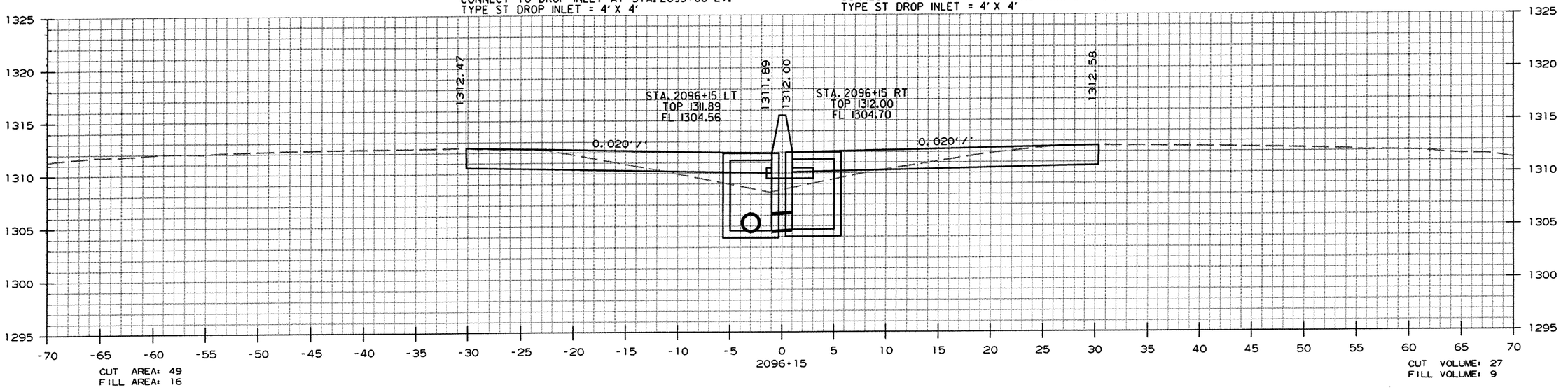


CUT AREA: 50
FILL AREA: 7

CUT VOLUME: 157
FILL VOLUME: 38

STA. 2096+15 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-4"
WITH 18" X 43' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2095+68 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2096+15 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2096+15 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 49
FILL AREA: 16

CUT VOLUME: 27
FILL VOLUME: 9

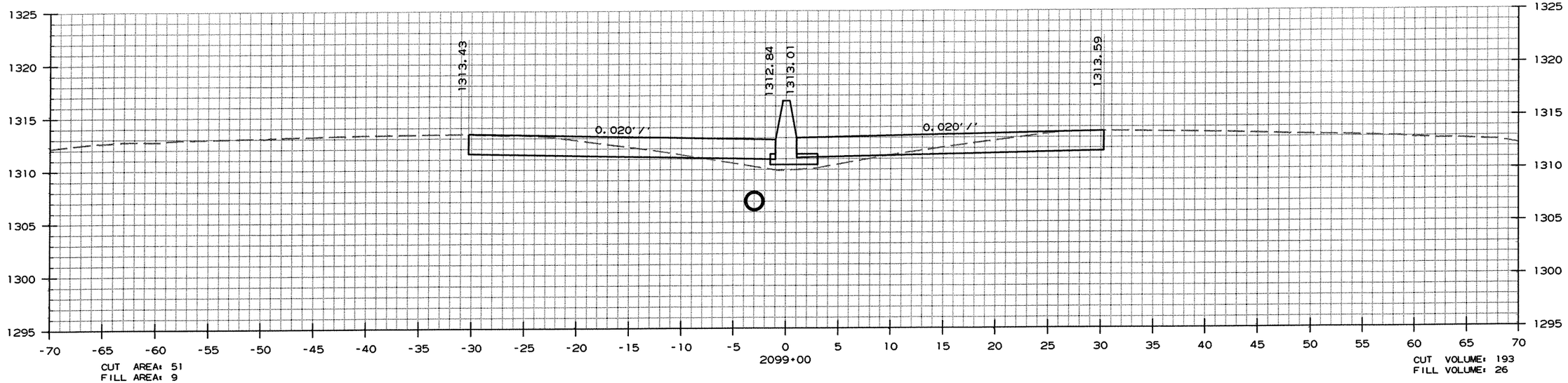
CROSS SECTION STA. 2096+15 TO STA. 2097+00

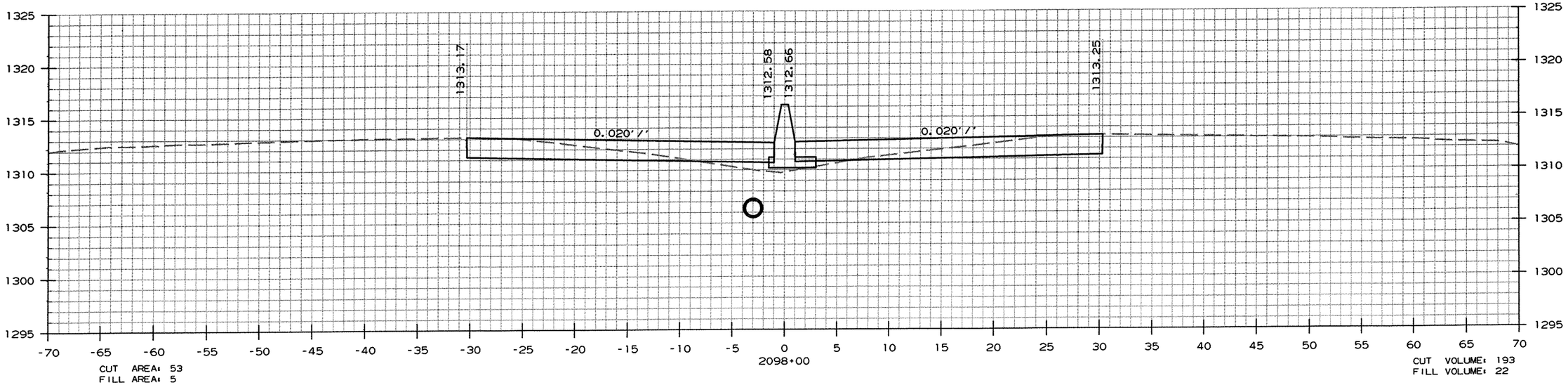
5/31/2013

R090331.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.		090331	172	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2098+00 TO STA. 2099+00

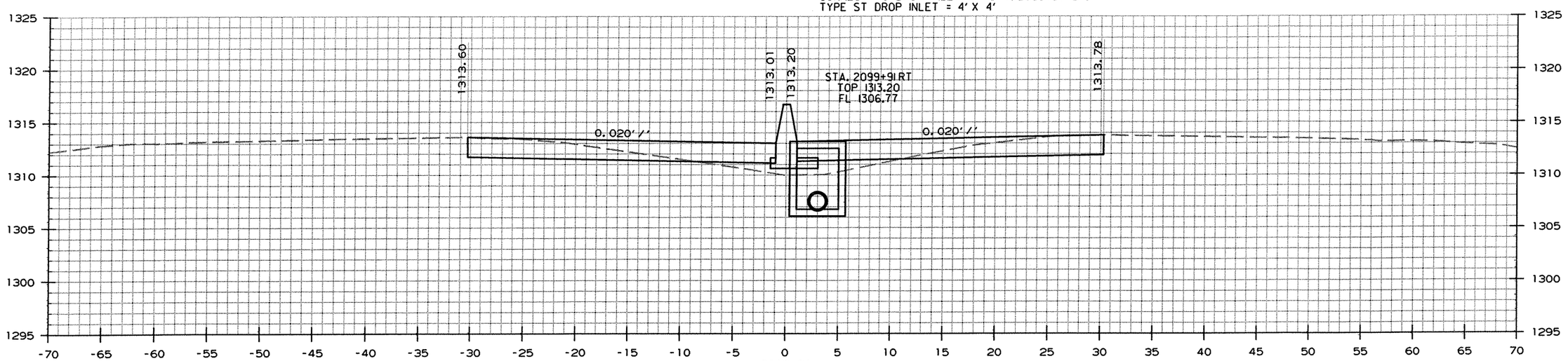
5/31/2013

R090331.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.		090331	173	218

(2) CROSS SECTIONS

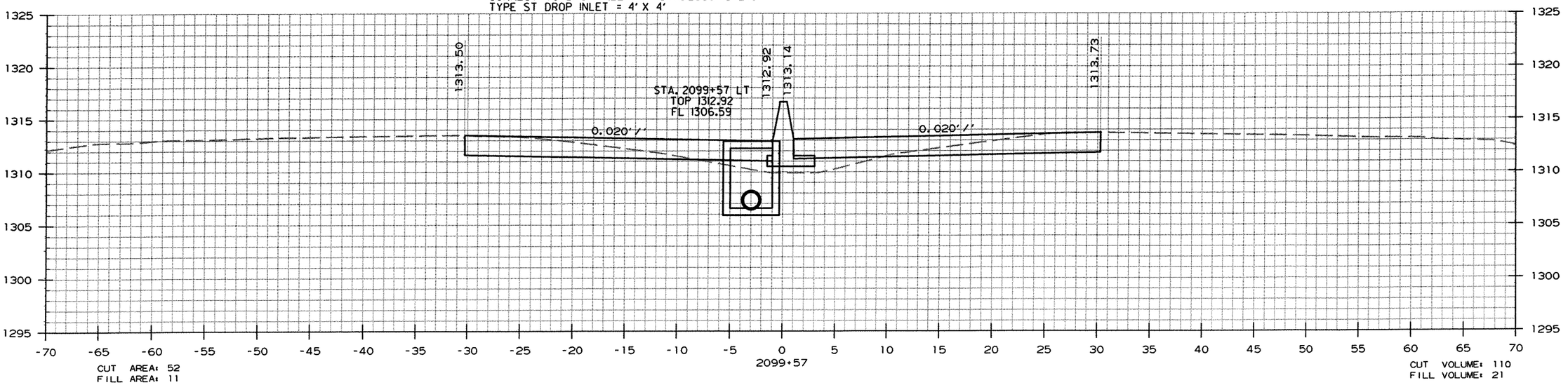
STA. 2099+91 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-5"
WITH 18" X 30' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2099+57 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 50
FILL AREA: 12

CUT VOLUME: 64
FILL VOLUME: 15

STA. 2099+57 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-4"
WITH 18" X 338' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2096+15 LT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 52
FILL AREA: 11

CUT VOLUME: 110
FILL VOLUME: 21

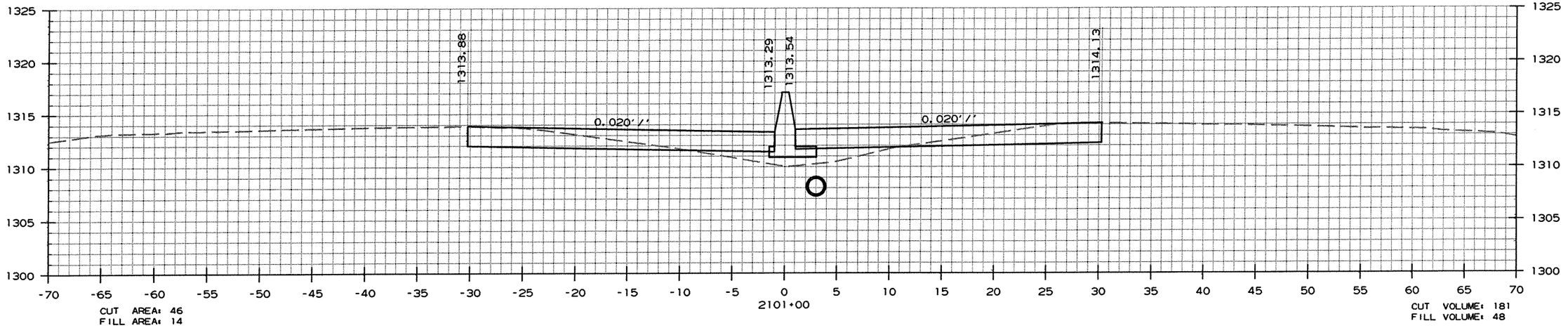
CROSS SECTION STA. 2099+57 TO STA. 2099+91

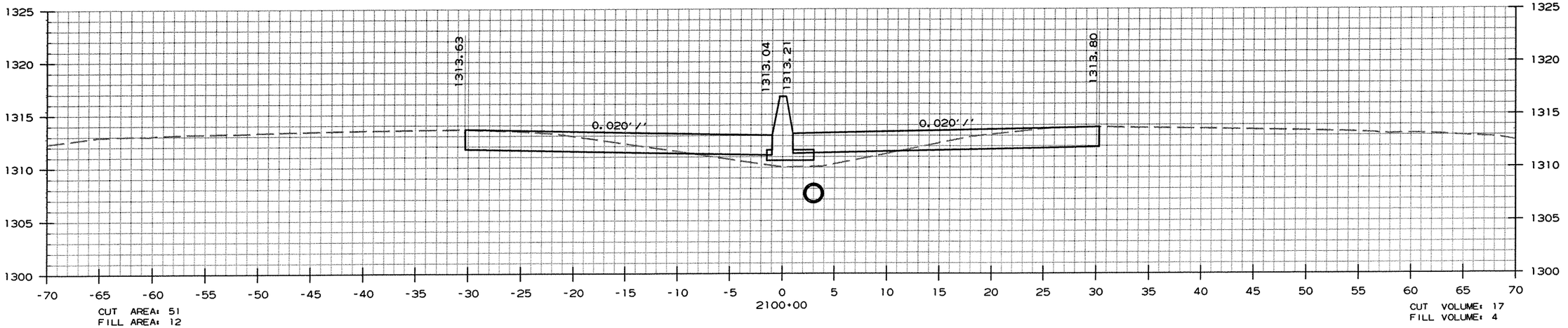
5/31/2013

R090331.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.		090331	174	218

(2) CROSS SECTIONS





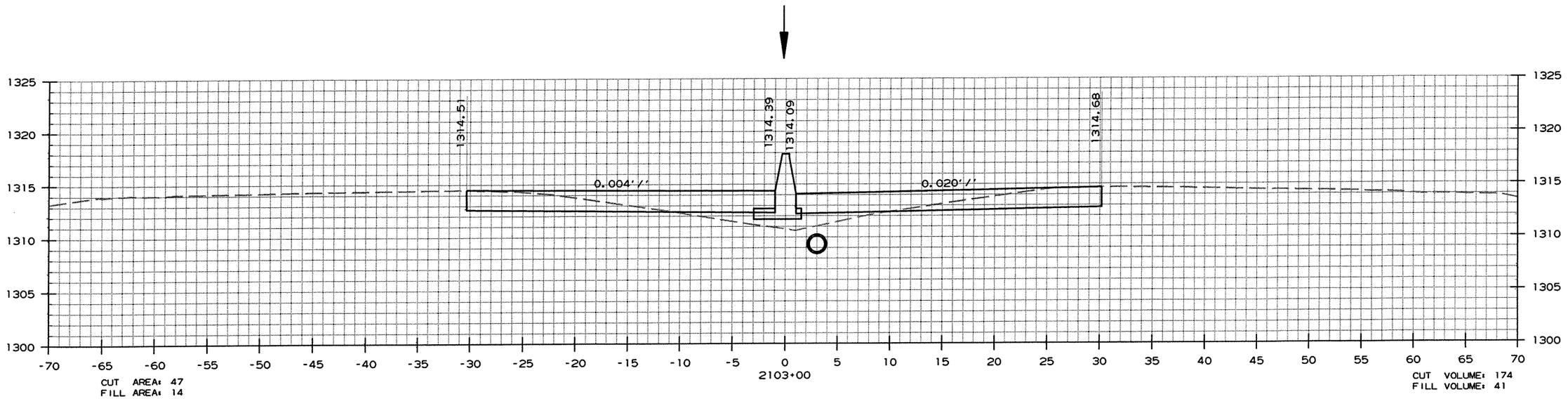
CROSS SECTION STA. 2100+00 TO STA. 2101+00

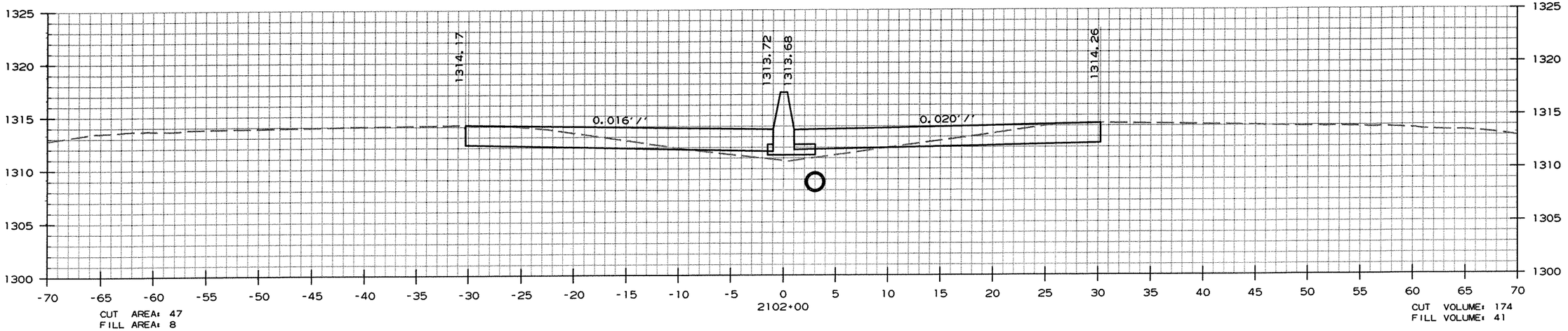
5/31/2013

R090331.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.		090331	175	218

(2) CROSS SECTIONS





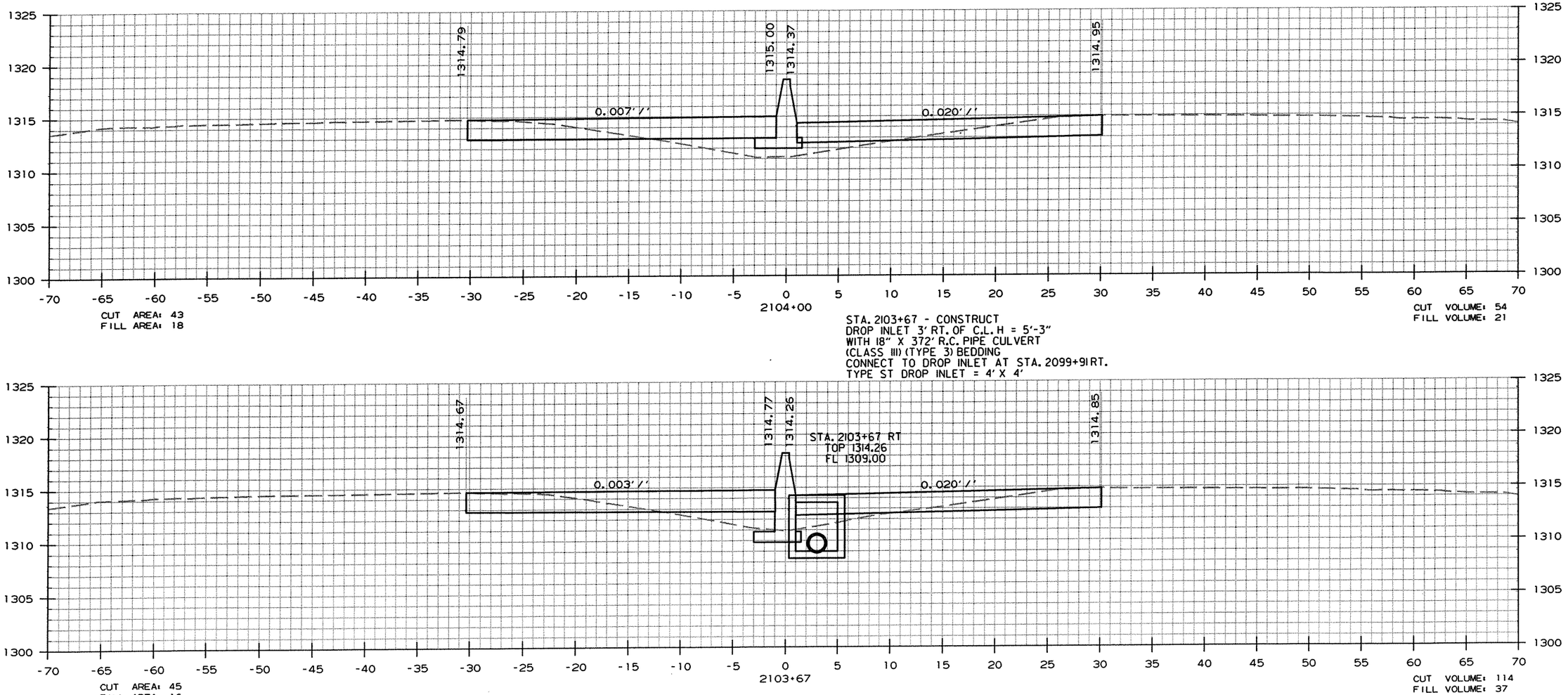
CROSS SECTION STA. 2102+00 TO STA. 2103+00

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R090331.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.		090331	176	218

(2) CROSS SECTIONS



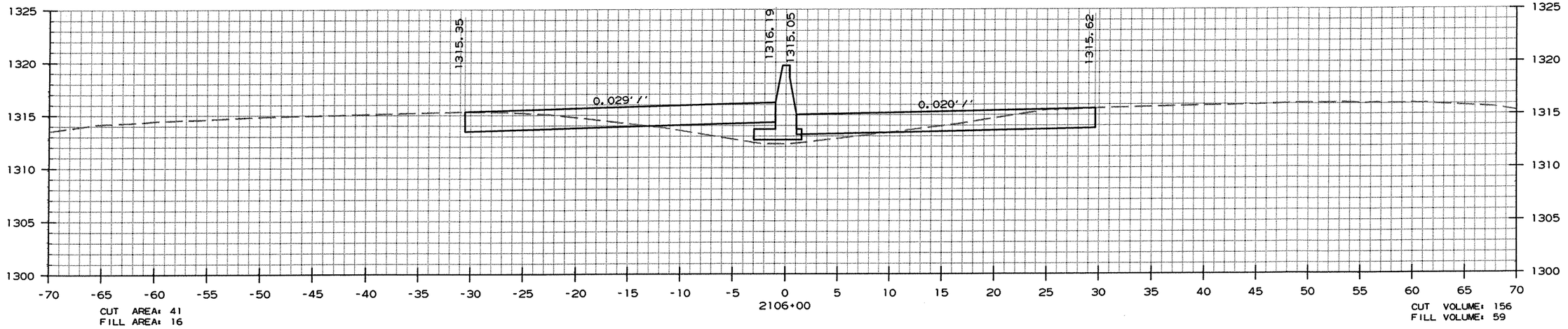
CROSS SECTION STA. 2103+67 TO STA. 2104+00

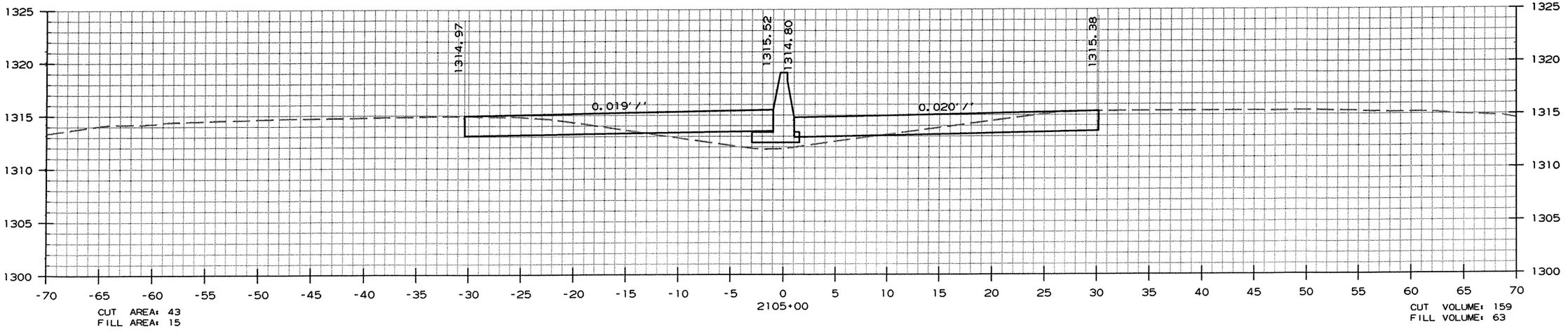
5/31/2013

R090331.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.		090331	177	218

(2) CROSS SECTIONS





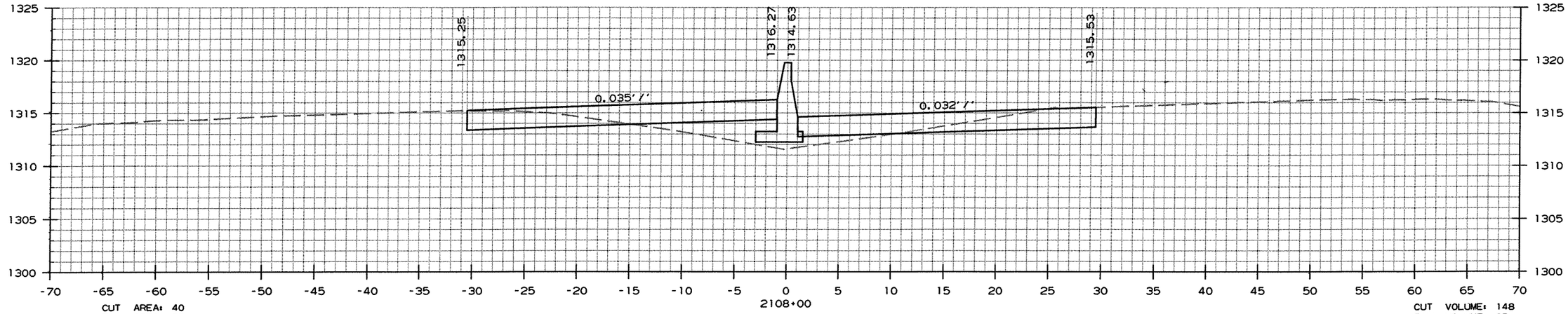
CROSS SECTION STA. 2105+00 TO STA. 2106+00

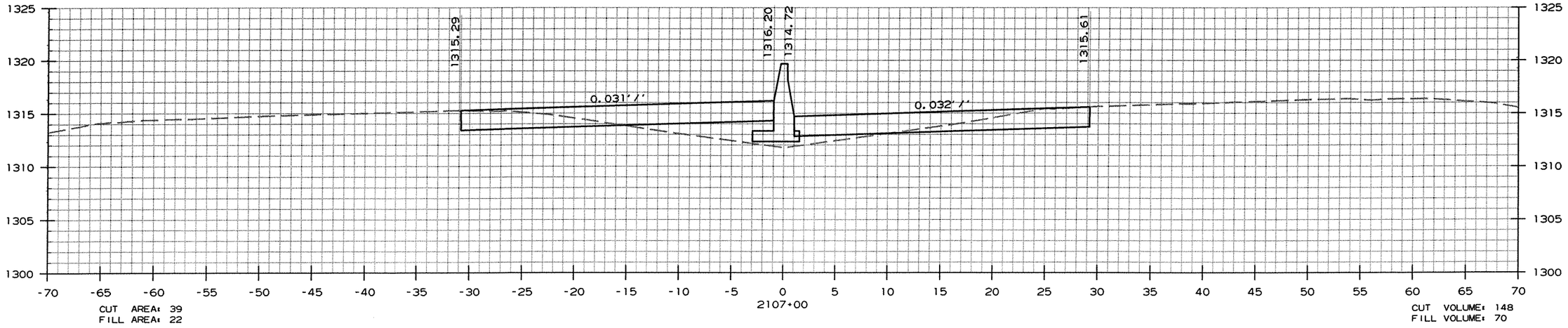
5/31/2013

R090331.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.		090331	178	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2107+00 TO STA. 2108+00

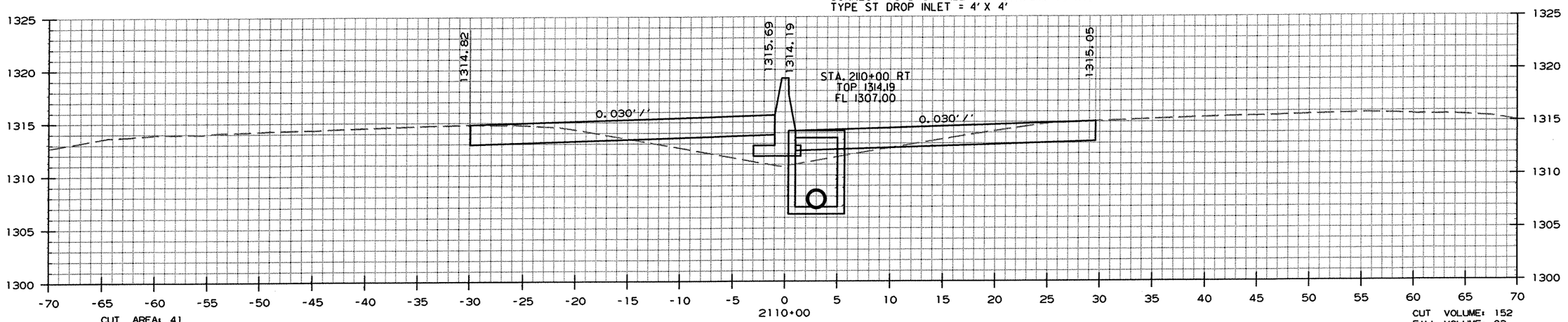
5/31/2013

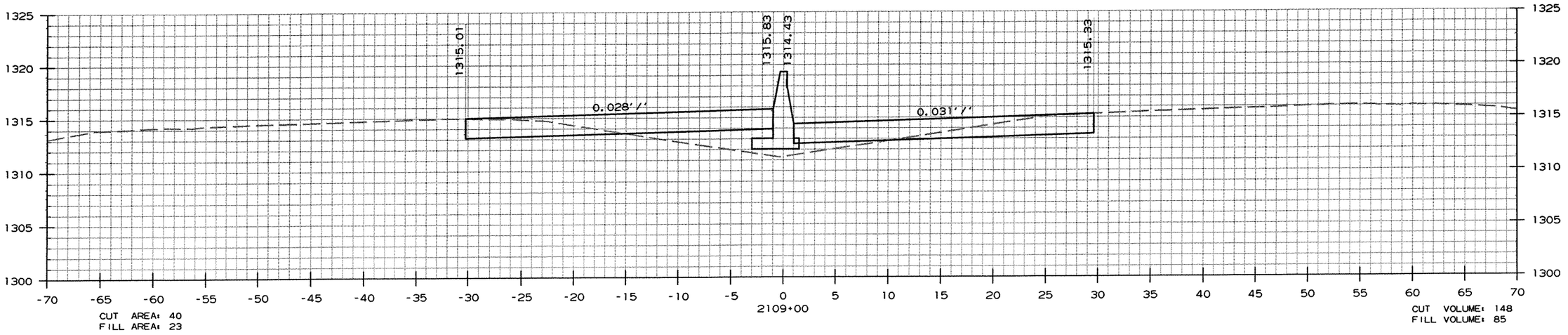
R090331.DGN

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.		090331	179	218

(2) CROSS SECTIONS

STA. 2110+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-3"
WITH 18" X 27I' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2112+75 RT.
TYPE ST DROP INLET = 4' X 4'





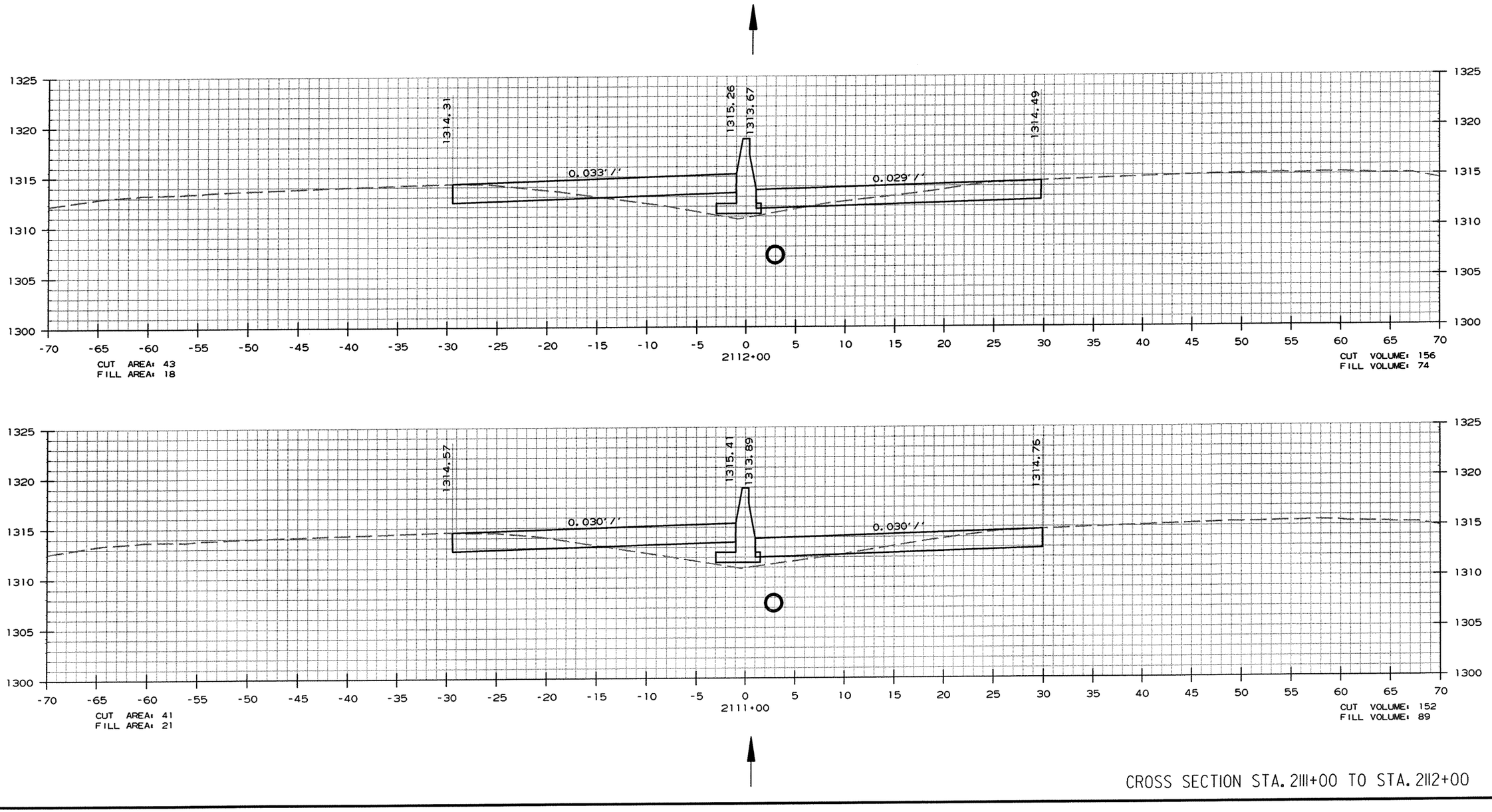
CROSS SECTION STA. 2109+00 TO STA. 2110+00

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R090331.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.		090331	180	218

(2) CROSS SECTIONS



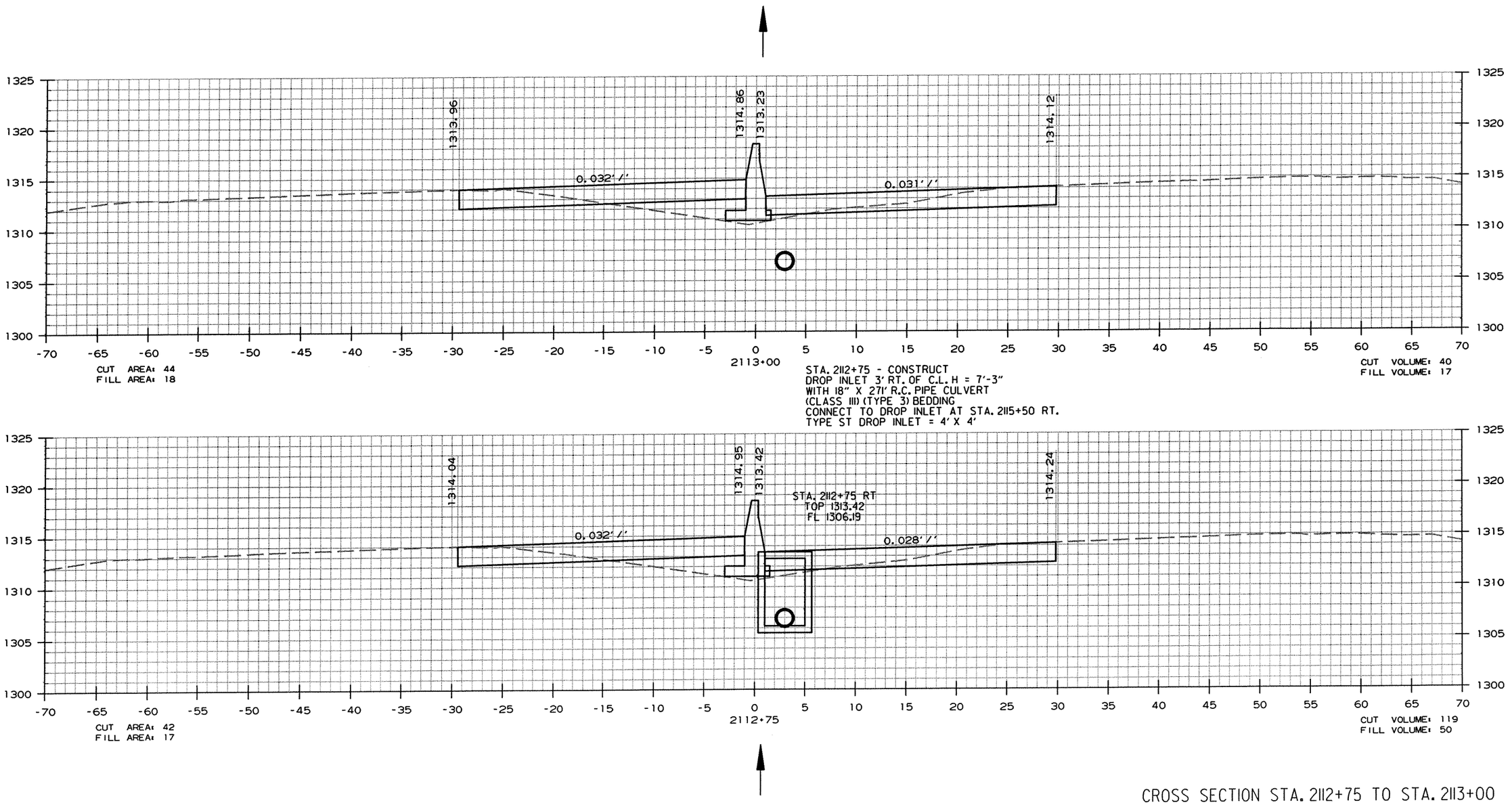
CROSS SECTION STA. 2111+00 TO STA. 2112+00

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R090331.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.		090331	181	218

(2) CROSS SECTIONS



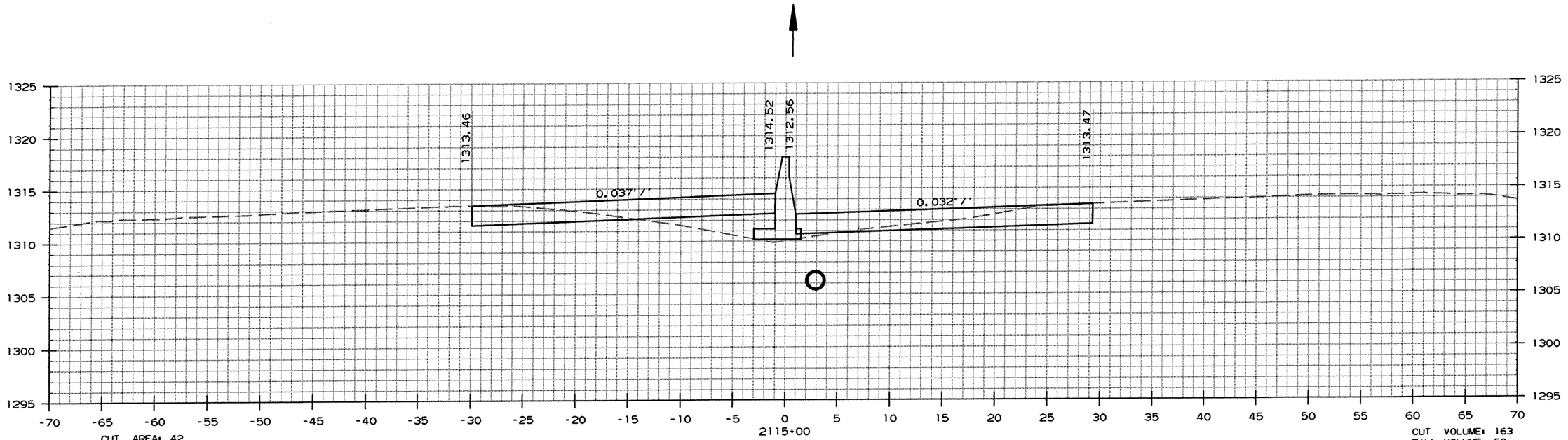
CROSS SECTION STA. 2112+75 TO STA. 2113+00

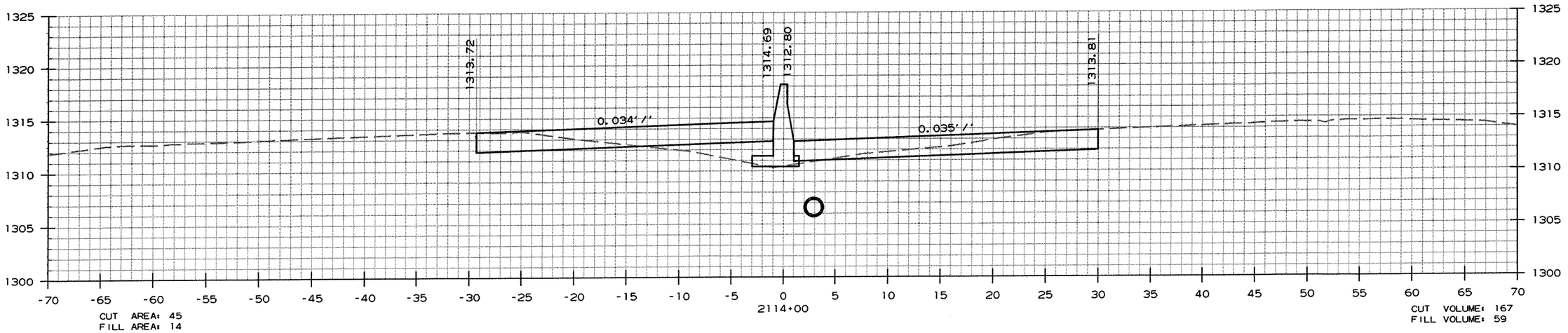
5/31/2013

R090331.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.		090331	182	218

(2) CROSS SECTIONS





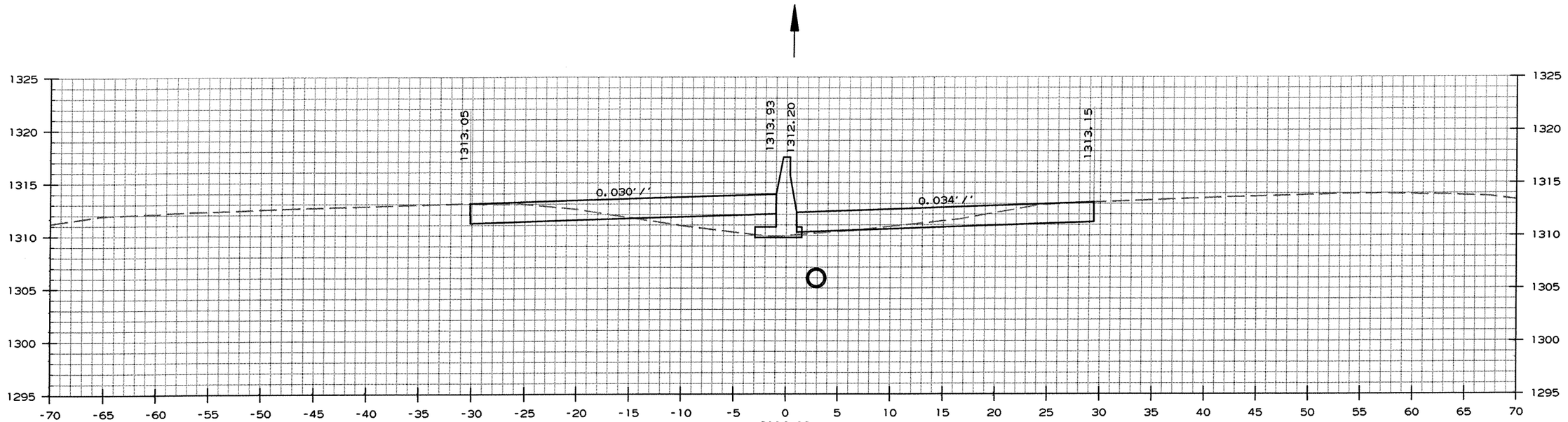
CROSS SECTION STA. 2114+00 TO STA. 2115+00

5/31/2013

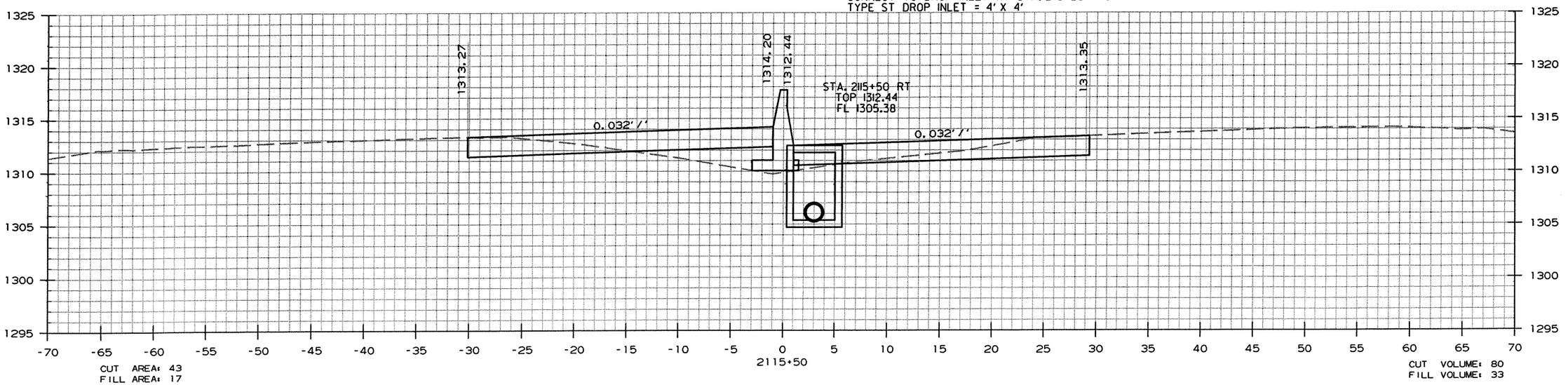
R090331.DGN

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.		090331	183	218

(2) CROSS SECTIONS



STA. 2115+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-1"
WITH 18" X 266' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2118+20 RT.
TYPE ST DROP INLET = 4' X 4'



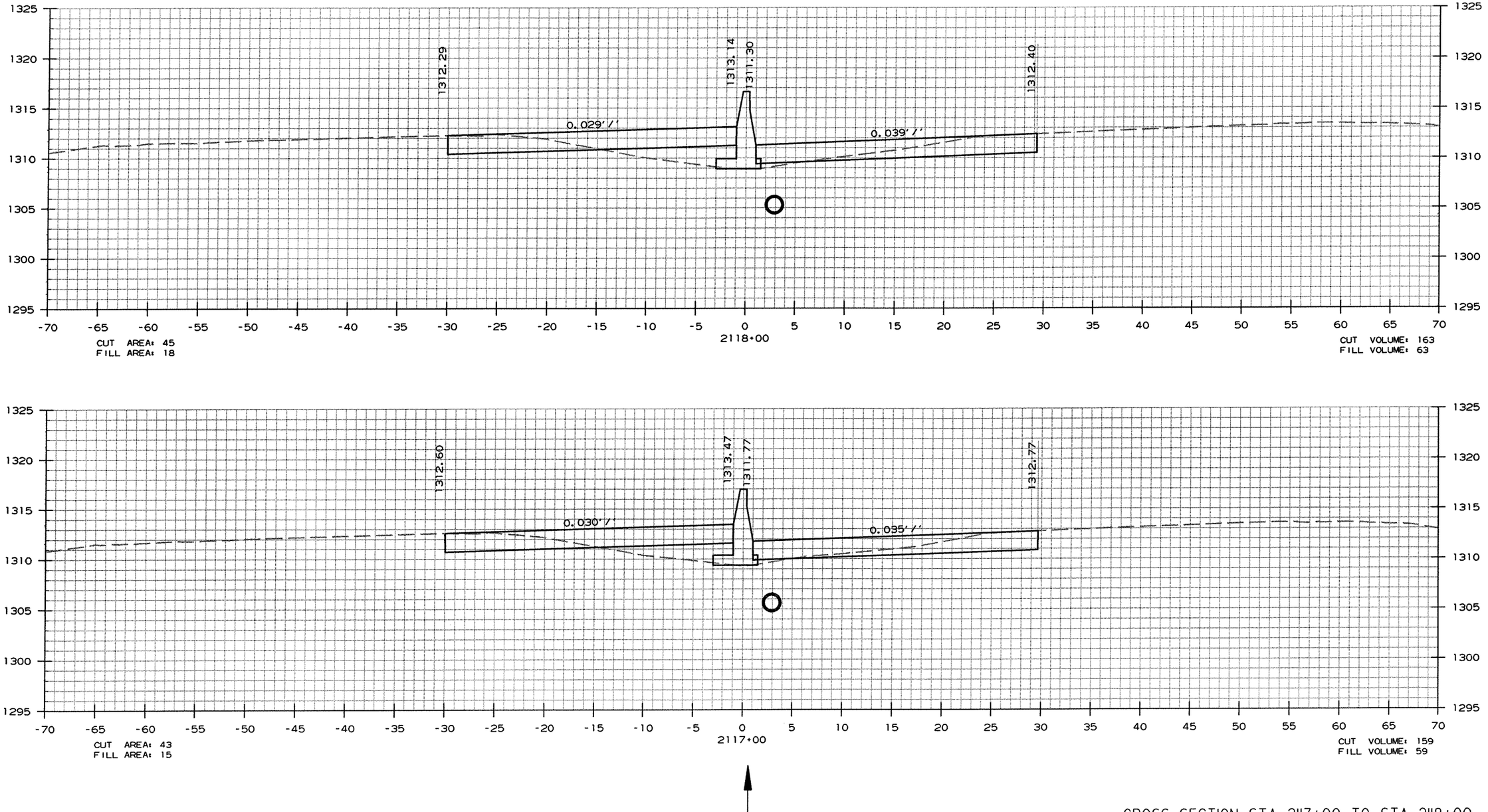
CROSS SECTION STA. 2115+50 TO STA. 2116+00

5/31/2013

R090331.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.		090331	184	218

(2) CROSS SECTIONS



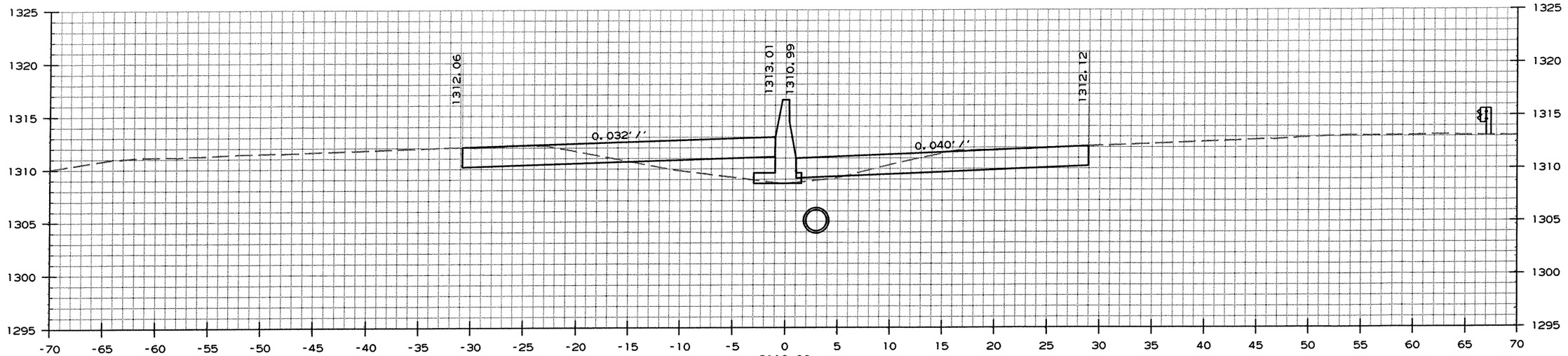
CROSS SECTION STA. 2117+00 TO STA. 2118+00

5/31/2013

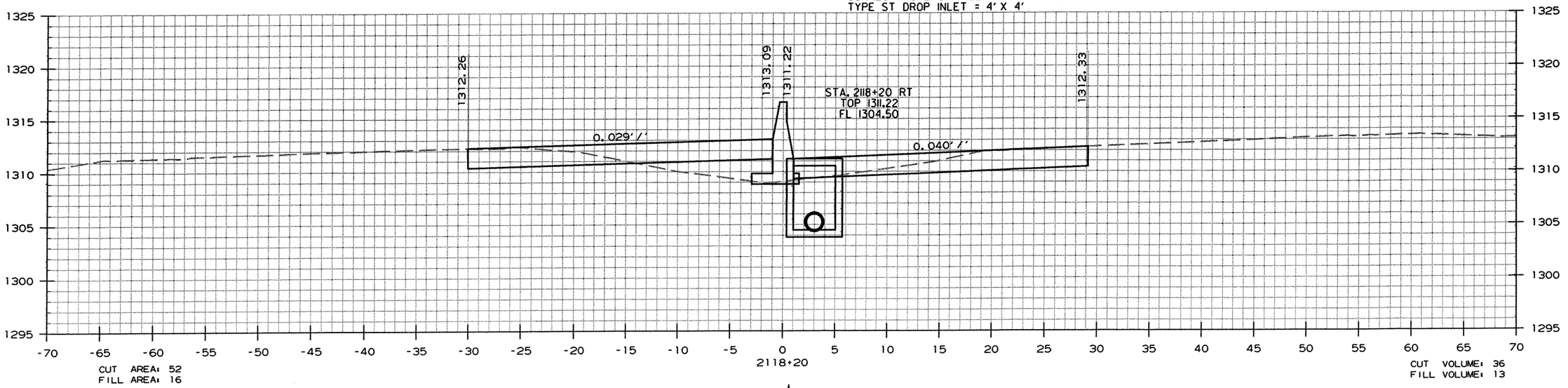
R090331.DGN

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.		090331	185	218

(2) CROSS SECTIONS



STA. 2118+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-9"
WITH 24" X 265' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2120+80 RT.
TYPE ST DROP INLET = 4' X 4'



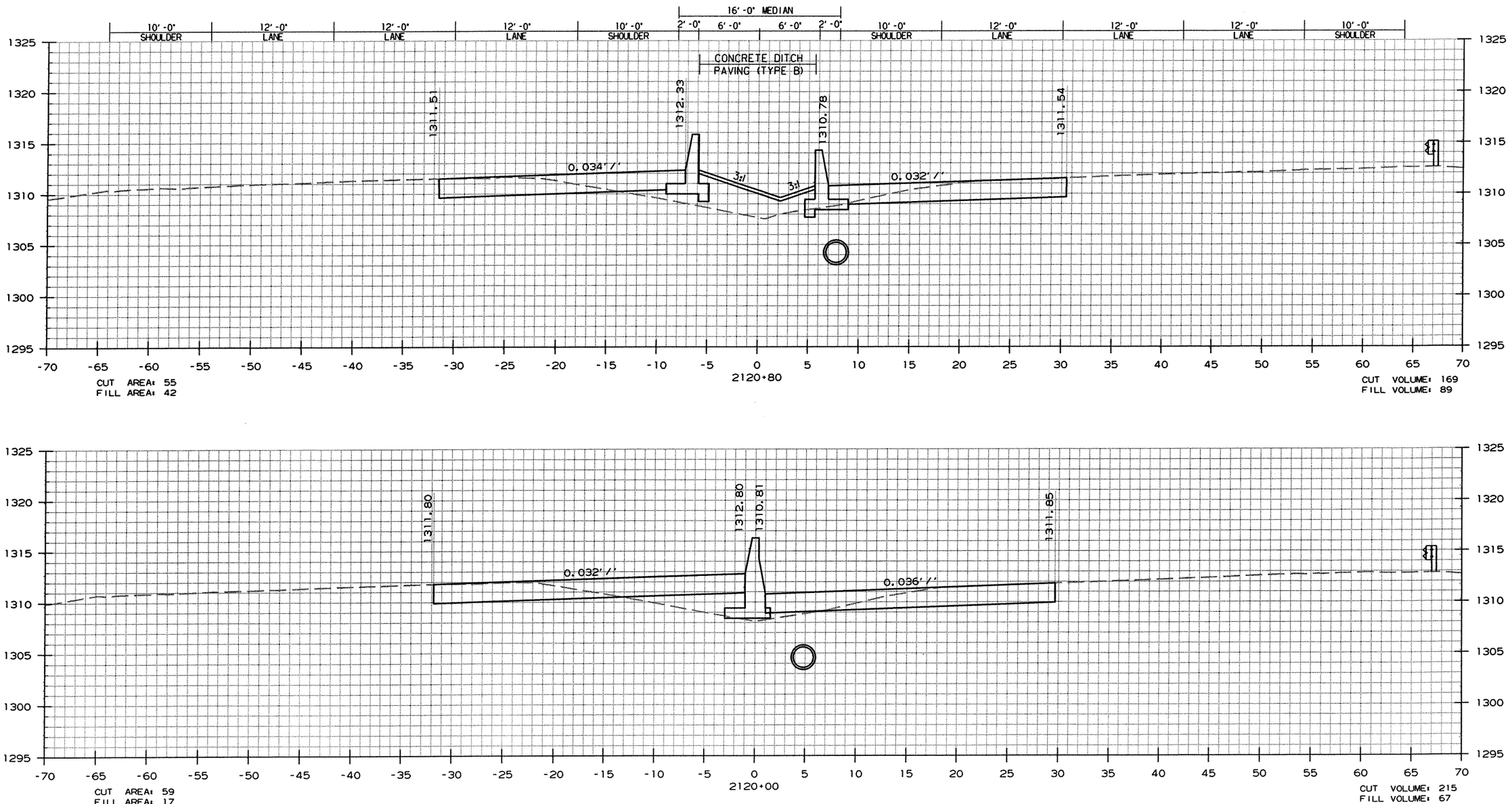
CROSS SECTION STA. 2118+20 TO STA. 2119+00

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R090331.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.		090331	186	218

(2) CROSS SECTIONS



STA. 2119+92.91 - BEGIN CONC. BARRIER WALL TRANSITION (REFER TO SPECIAL DETAILS)

CROSS SECTION STA. 2120+00 TO STA. 2120+80

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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.		090331	187	218

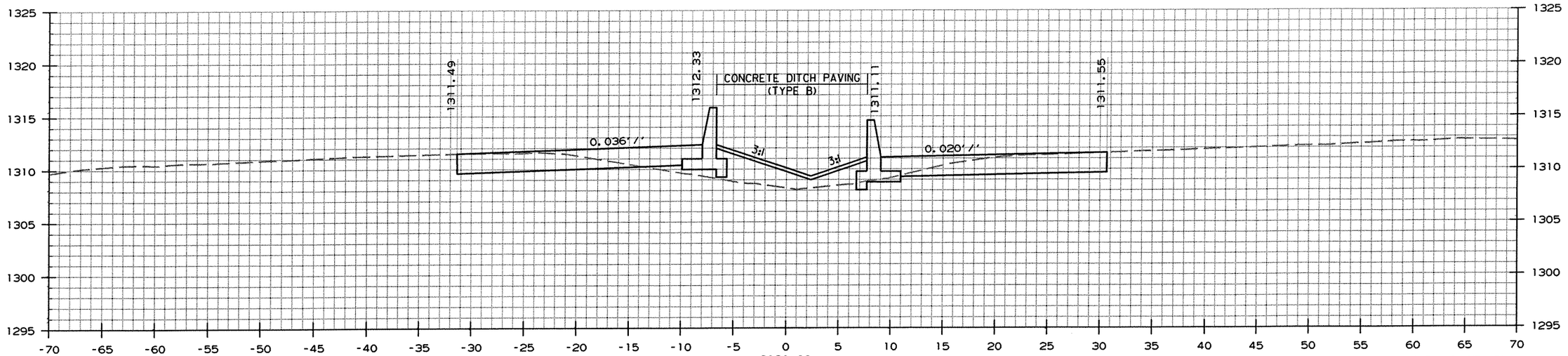
(2) CROSS SECTIONS

BEGIN BRIDGE STA. 2121+64.75 - LML
BEGIN BRIDGE STA. 2121+35.44 - RML

2121+50

CUT AREA: 51
FILL AREA: 47

CUT VOLUME: 94
FILL VOLUME: 87



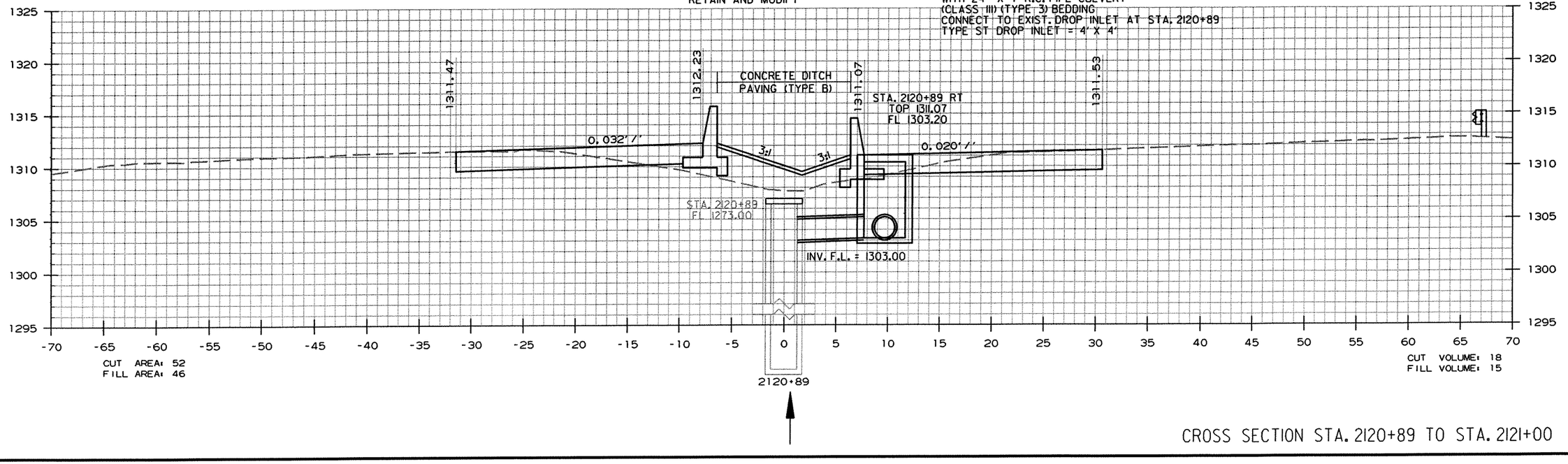
CUT AREA: 51
FILL AREA: 47

CUT VOLUME: 21
FILL VOLUME: 19

STA. 2120+92.91 - END CONC. BARRIER WALL TRANSITION (REFER TO SPECIAL DETAILS)

STA. 2120+89 - IN PLACE
TYPE R DROP INLET IN MEDIAN
RETAIN AND MODIFY

STA. 2120+89 - CONSTRUCT
DROP INLET 7'-8" RT. OF C.L. H = 7'-10"
WITH 24" X 7' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2120+89
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 52
FILL AREA: 46

CUT VOLUME: 18
FILL VOLUME: 15

CROSS SECTION STA. 2120+89 TO STA. 2121+00

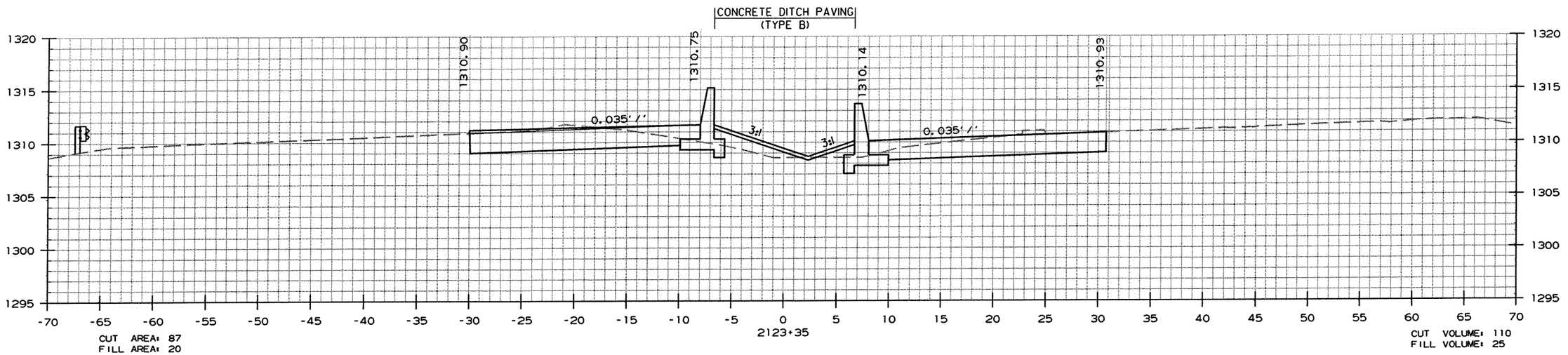
5/31/2013

R090331.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.		090331	188	218

(2) CROSS SECTIONS

STA. 2123+61.97 - END CONC. BARRIER WALL TRANSITION (REFER TO SPECIAL DETAILS)



CUT AREA: 87
FILL AREA: 20

CUT VOLUME: 110
FILL VOLUME: 25

2123+01

CUT AREA: 87
FILL AREA: 20

CUT VOLUME: 0
FILL VOLUME: 0

END BRIDGE STA. 2123+17.48 - LML

END BRIDGE STA. 2122+85.27 - RML

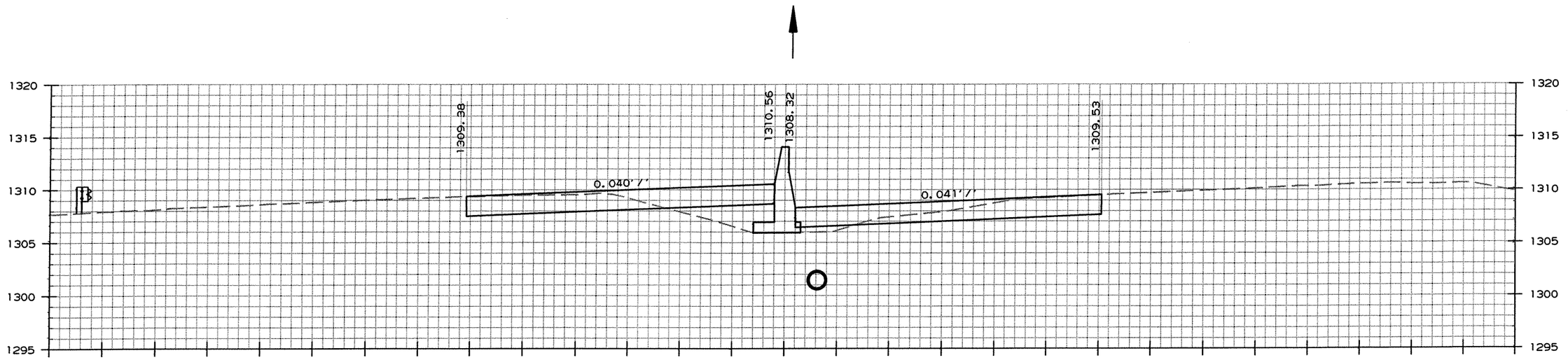
CROSS SECTION STA. 2123+01 TO STA. 2123+35

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R090331.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.		090331	189	218

(2) CROSS SECTIONS



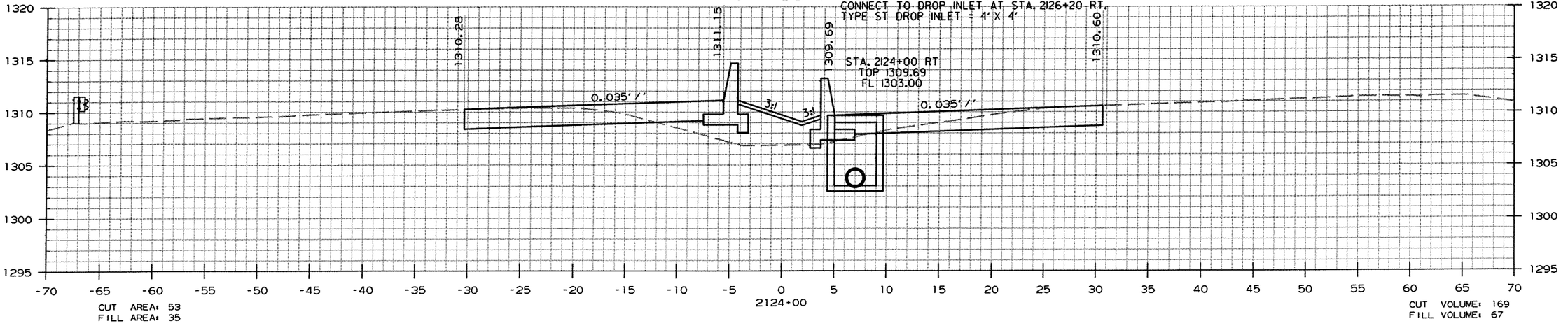
CUT AREA: 57
FILL AREA: 17

CUT VOLUME: 204
FILL VOLUME: 96

STA. 2124+61.97 - BEGIN CONC. BARRIER WALL TRANSITION (REFER TO SPECIAL DETAILS)

CONCRETE DITCH PAVING (TYPE B)

STA. 2124+00 - CONSTRUCT DROP INLET 5' RT. OF C.L. H = 6'-8" WITH 18" X 216' R.C. PIPE CULVERT (CLASS III) (TYPE 3) BEDDING CONNECT TO DROP INLET AT STA. 2126+20 RT. TYPE ST DROP INLET = 4' X 4'



CUT AREA: 53
FILL AREA: 35

CUT VOLUME: 169
FILL VOLUME: 67

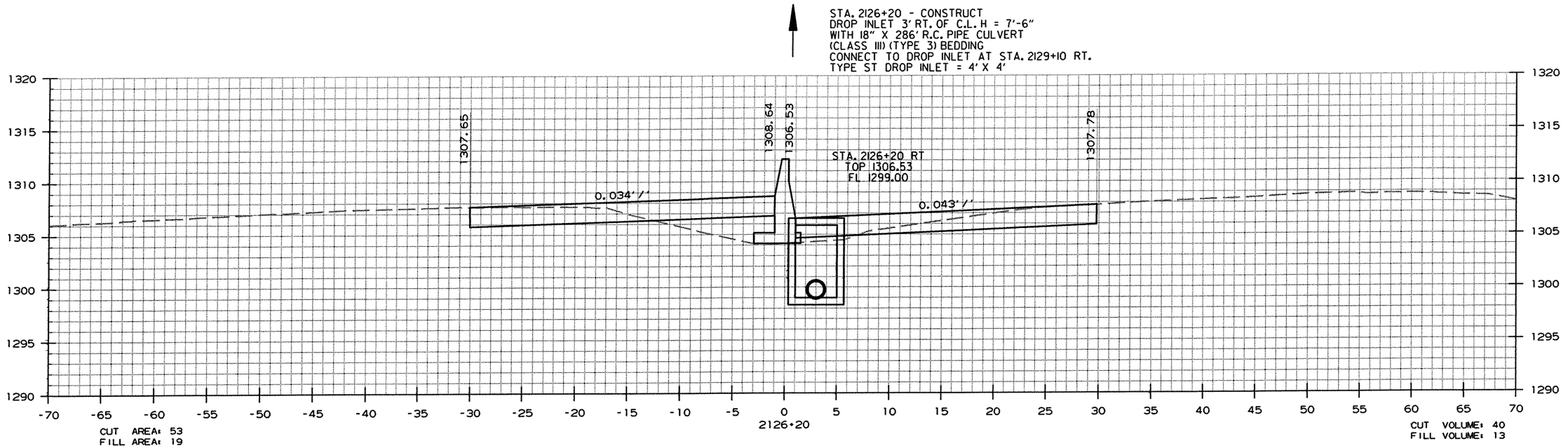
CROSS SECTION STA. 2124+00 TO STA. 2125+00

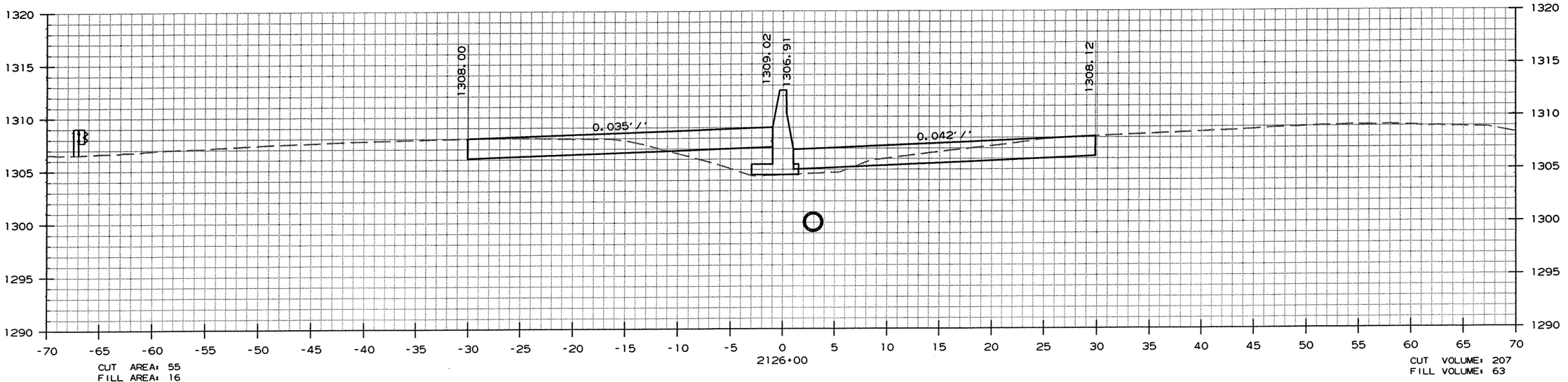
5/31/2013

R090331.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.	090331		190	218

(2) CROSS SECTIONS





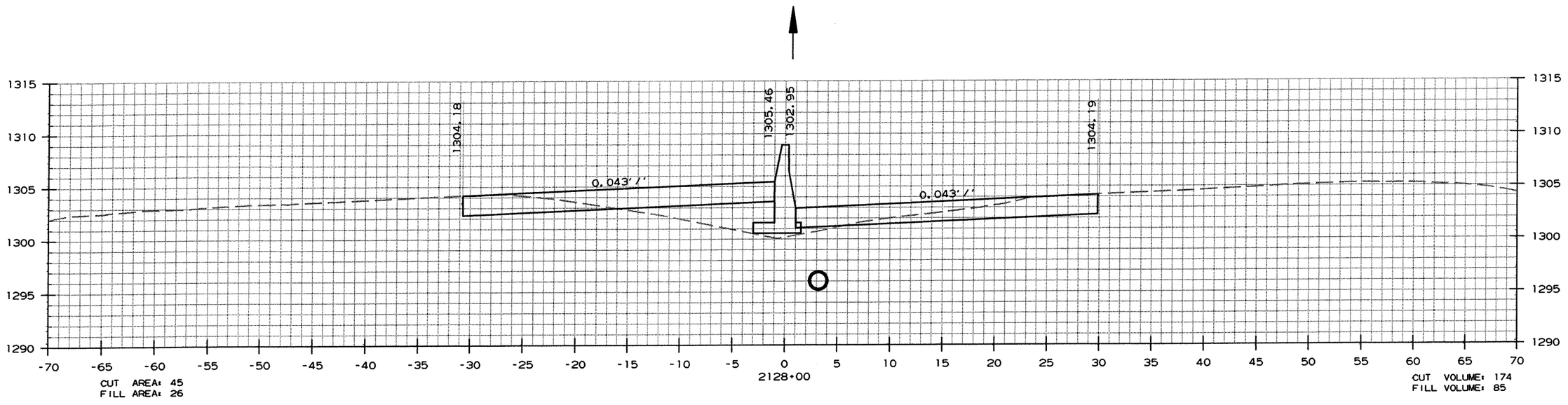
CROSS SECTION STA. 2126+00 TO STA. 2126+20

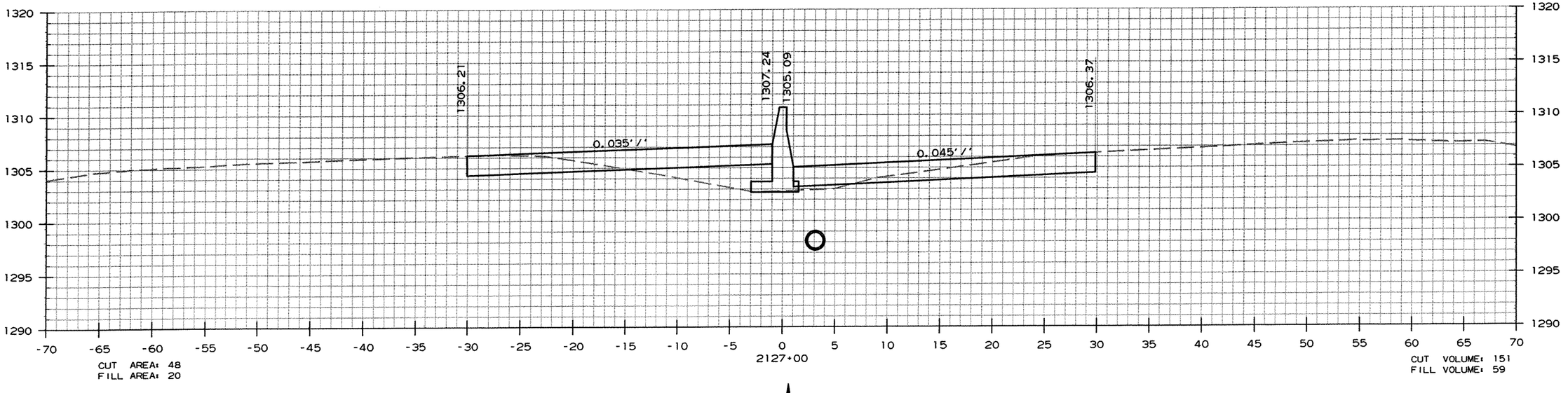
5/31/2013

R090331.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.		090331	191	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2127+00 TO STA. 2128+00

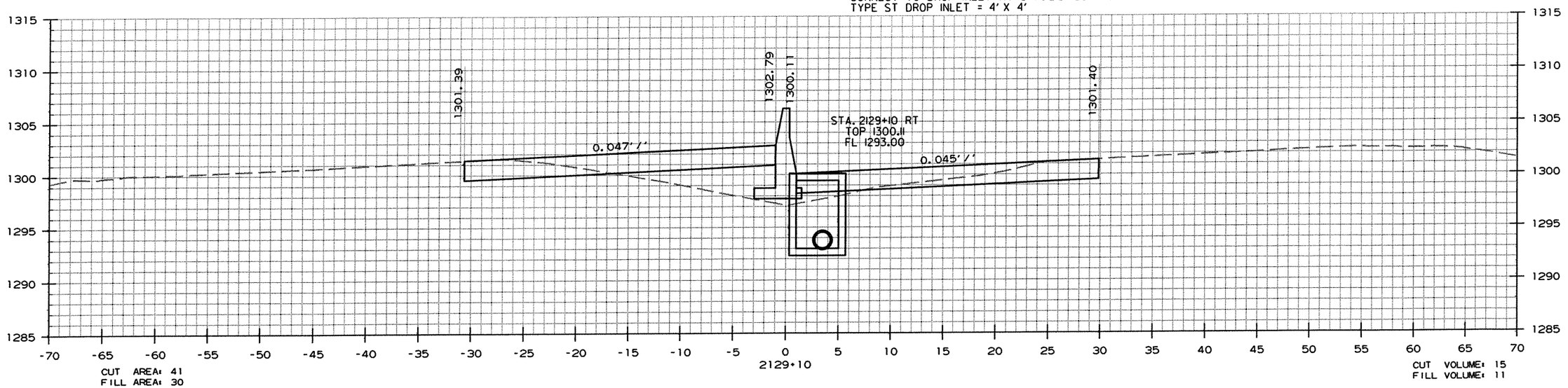
5/31/2013

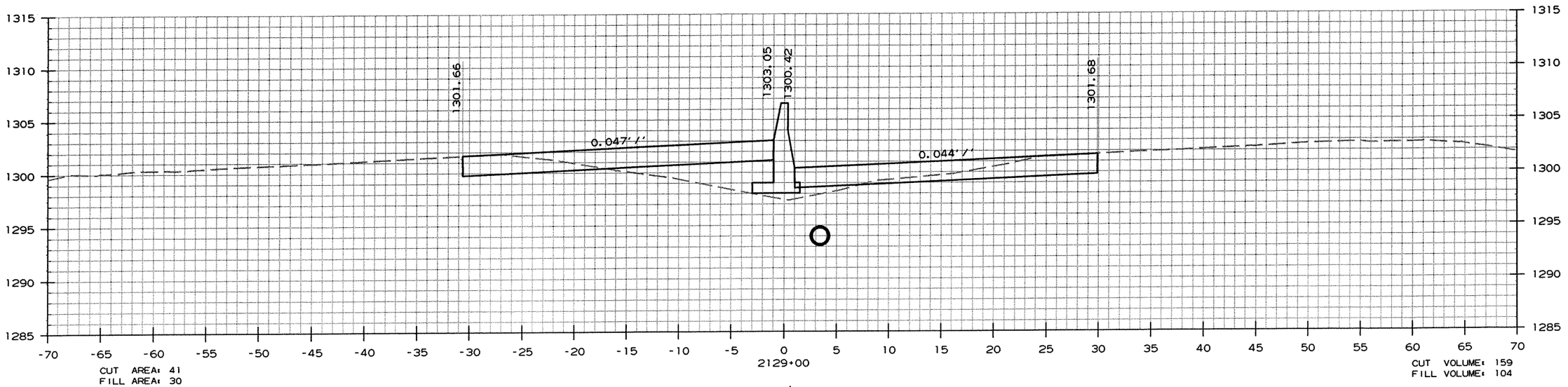
R090331.DGN

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.	090331		192	218

(2) CROSS SECTIONS

STA. 2129+10 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-1"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2131+90 RT.
TYPE ST DROP INLET = 4' X 4'





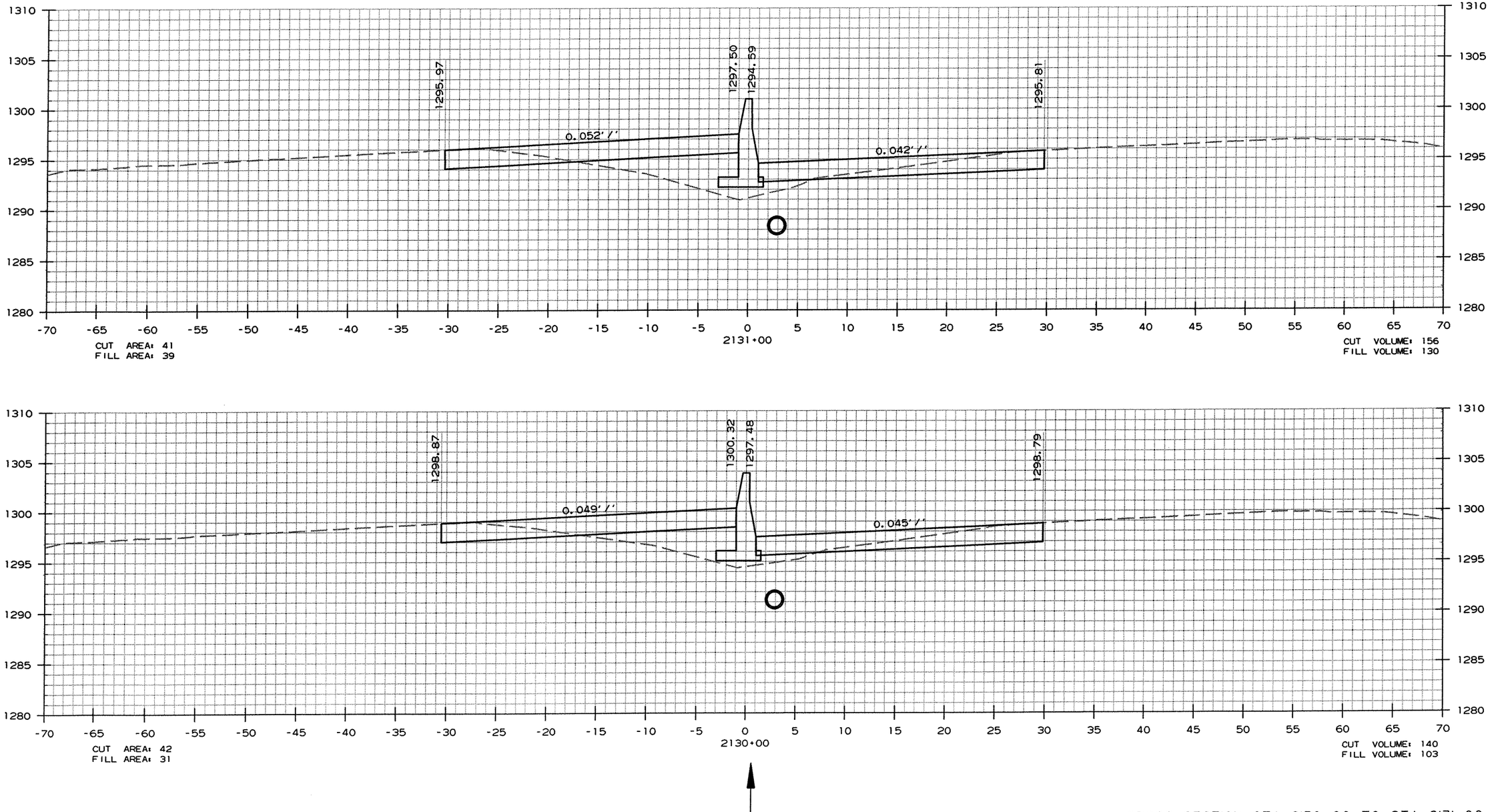
CROSS SECTION STA. 2129+00 TO STA. 2129+10

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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.		090331	193	218

(2) CROSS SECTIONS



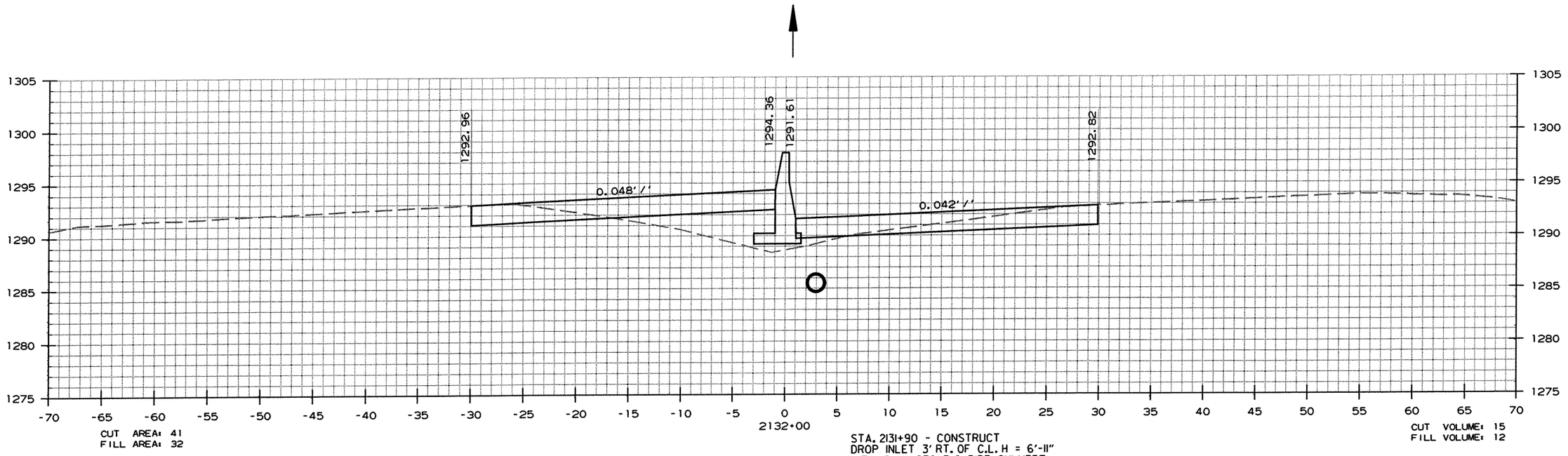
CROSS SECTION STA. 2130+00 TO STA. 2131+00

5/31/2013

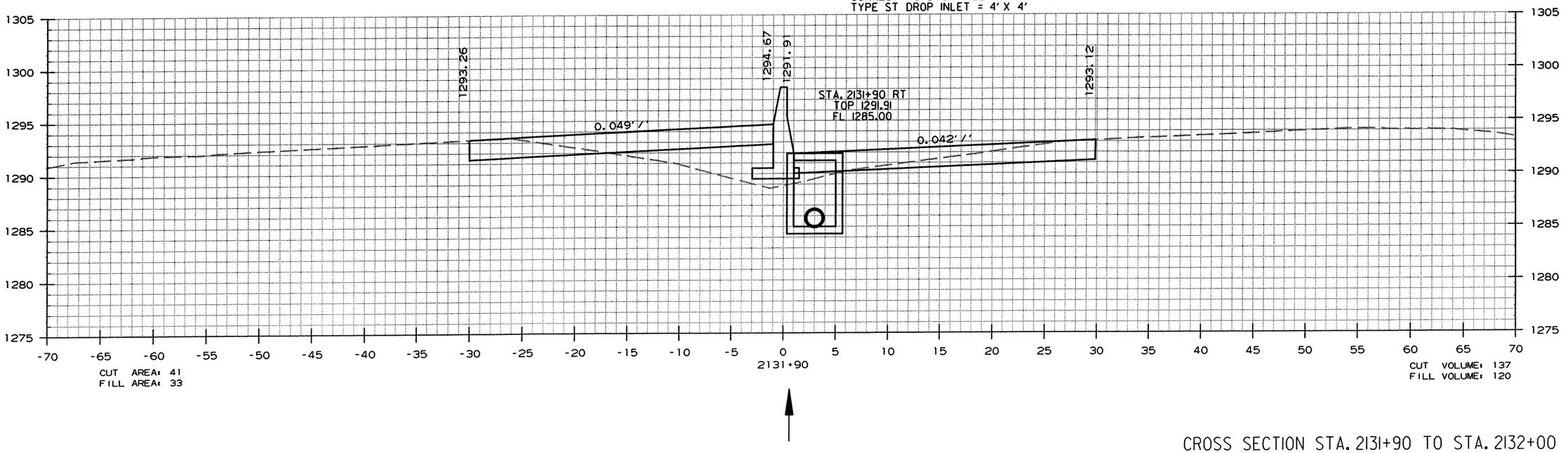
R090331.DGN

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.		090331	194	218

(2) CROSS SECTIONS



STA. 2131+90 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-11"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2134+70 RT.
TYPE ST DROP INLET = 4' X 4'



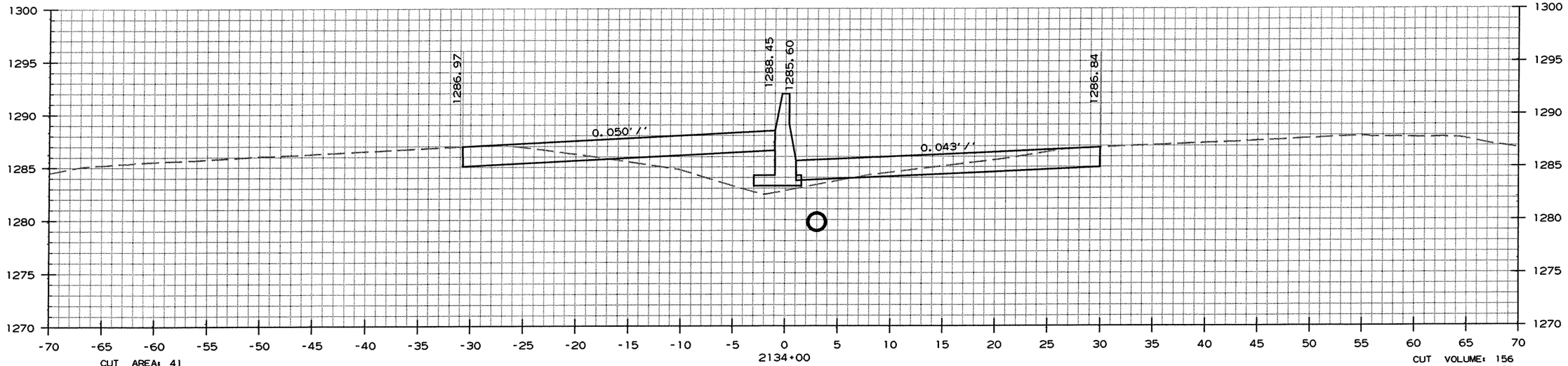
CROSS SECTION STA. 2131+90 TO STA. 2132+00

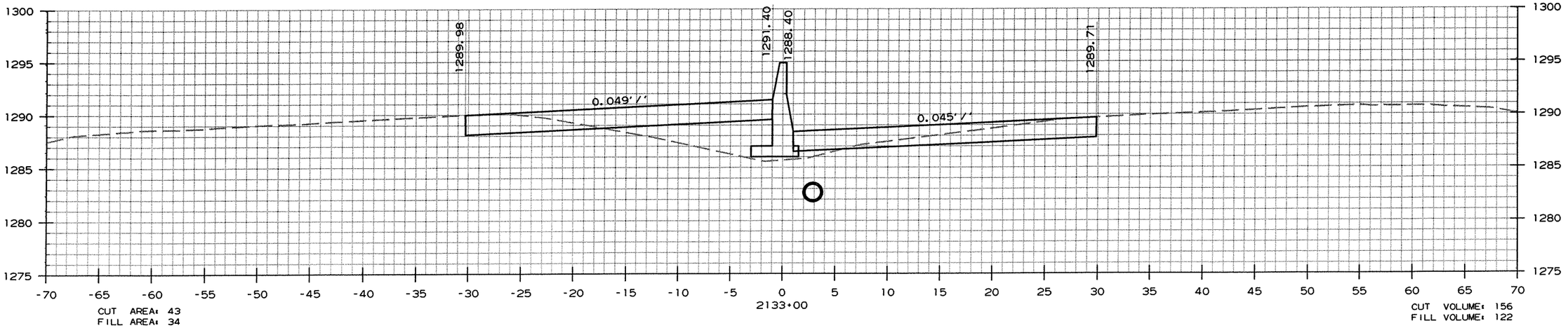
5/31/2013

R090331.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.		090331	195	218

(2) CROSS SECTIONS





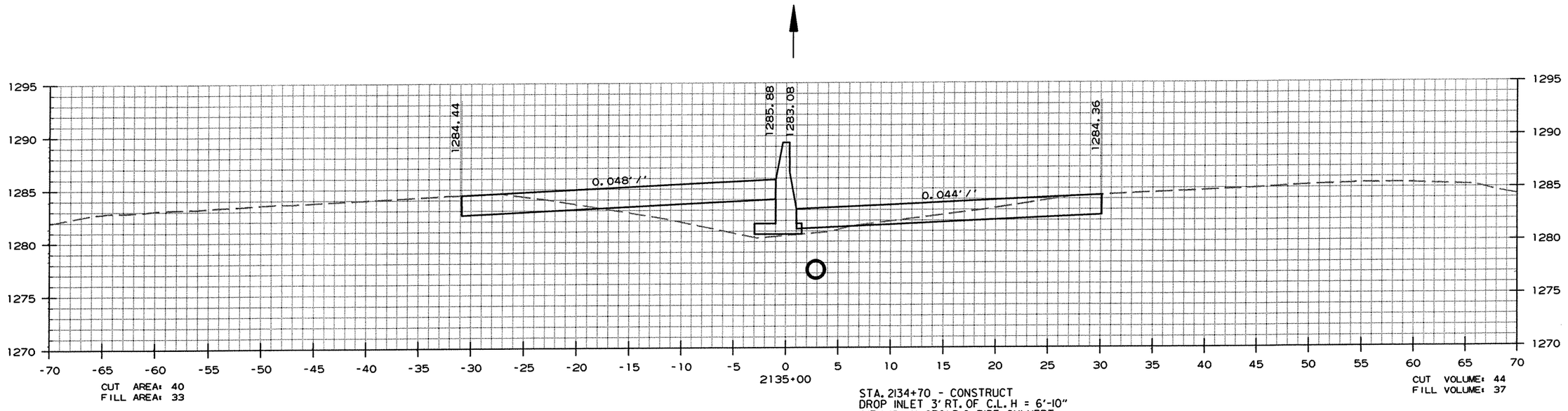
CROSS SECTION STA. 2133+00 TO STA. 2134+00

5/31/2013

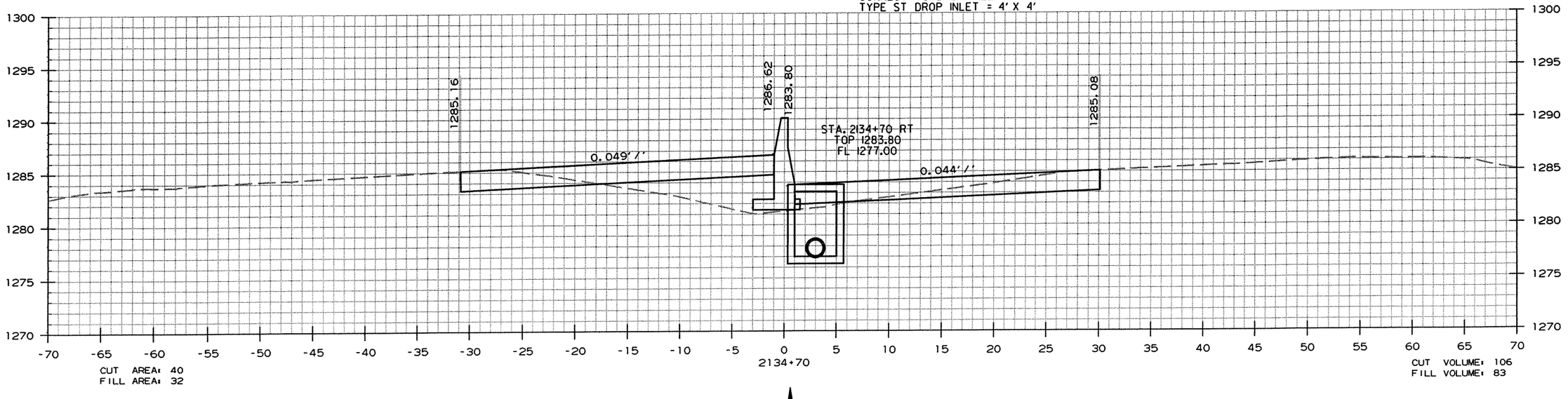
R090331.DGN

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.		090331	196	218

(2) CROSS SECTIONS



STA. 2134+70 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 18" X 276' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2137+50 RT.
TYPE ST DROP INLET = 4' X 4'



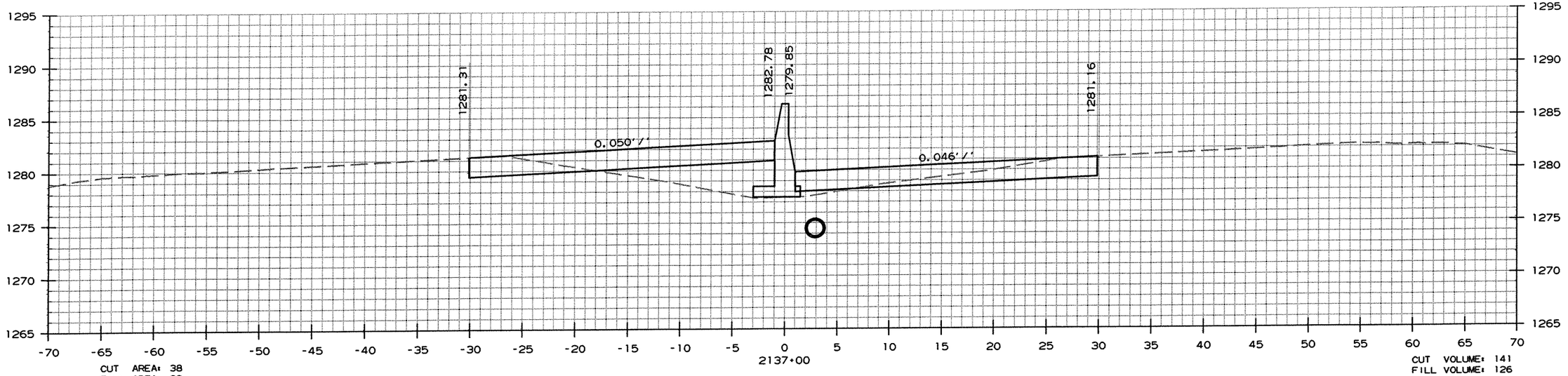
CROSS SECTION STA. 2134+70 TO STA. 2135+00

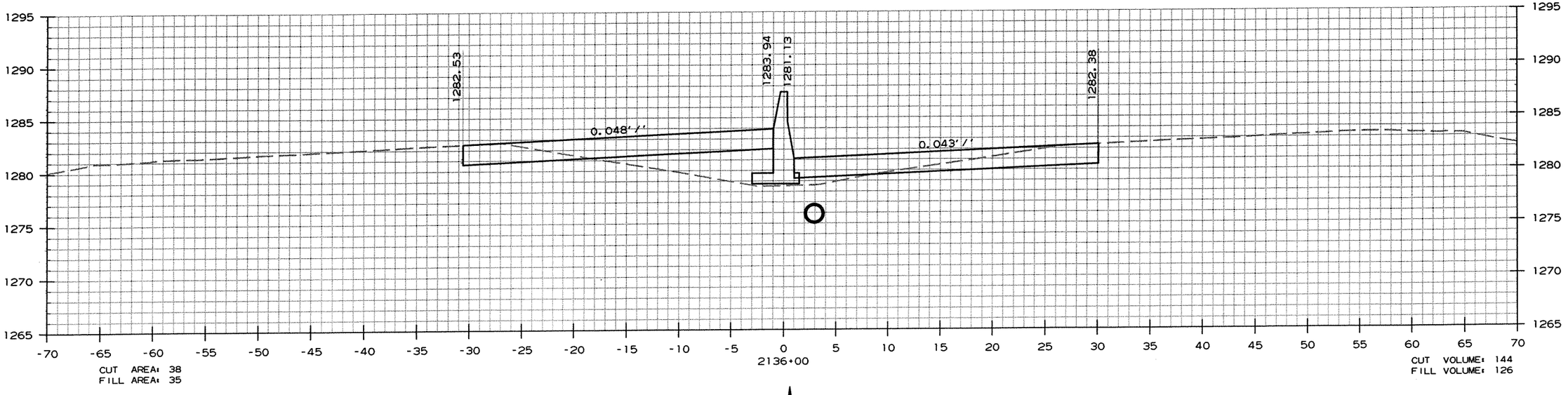
5/31/2013

R090331.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.		090331	197	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2136+00 TO STA. 2137+00

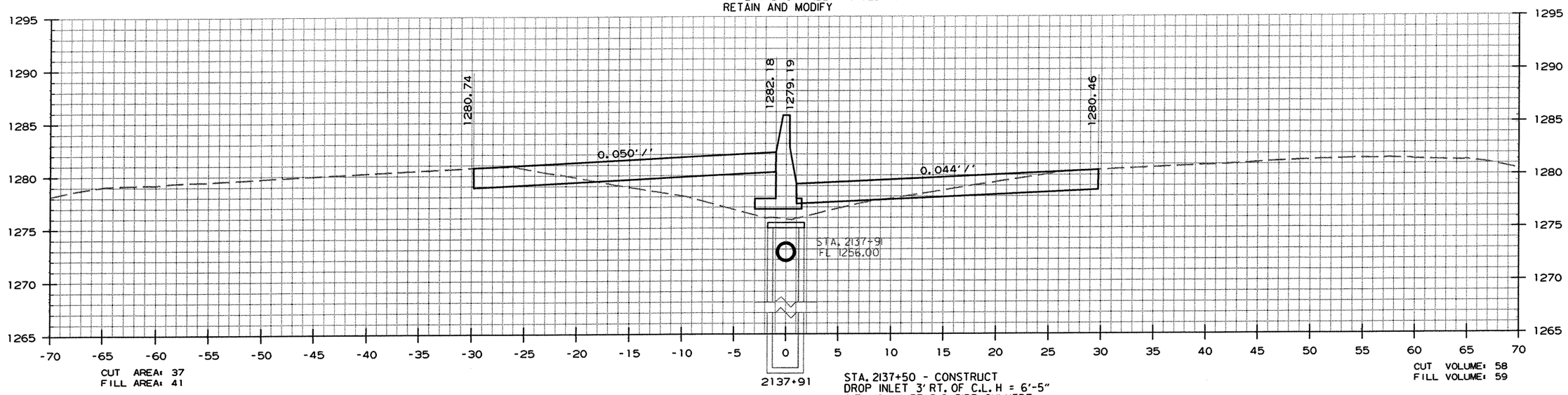
5/31/2013

R090331.DGN

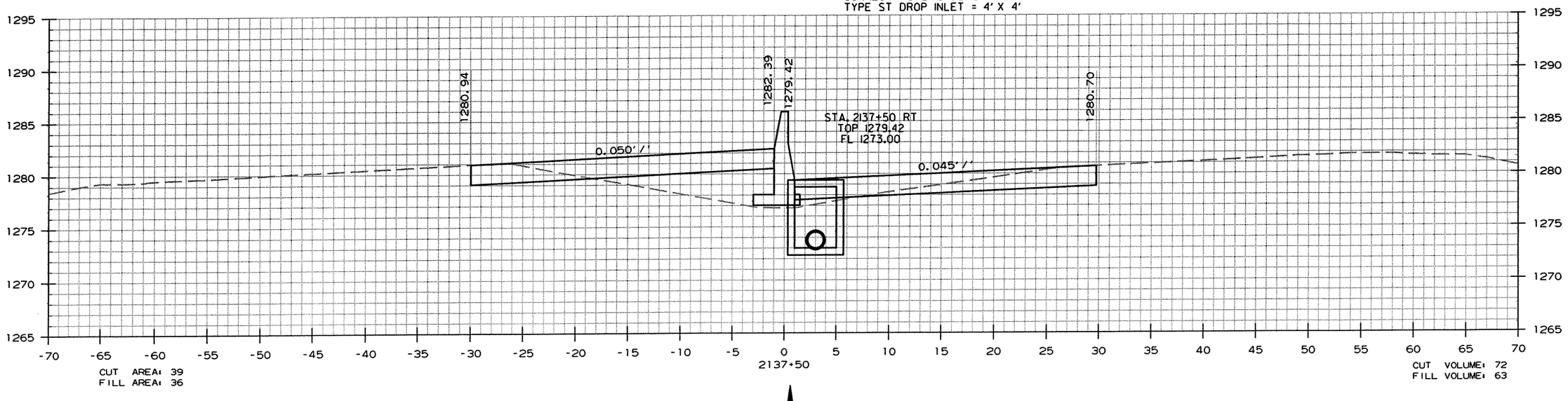
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	198	218

(2) CROSS SECTIONS

STA. 2137+91 - IN PLACE
TYPE T DROP INLET IN MEDIAN
RETAIN AND MODIFY



STA. 2137+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-5"
WITH 18" X 37' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO EXIST. DROP INLET AT STA. 2137+91
TYPE ST DROP INLET = 4' X 4'



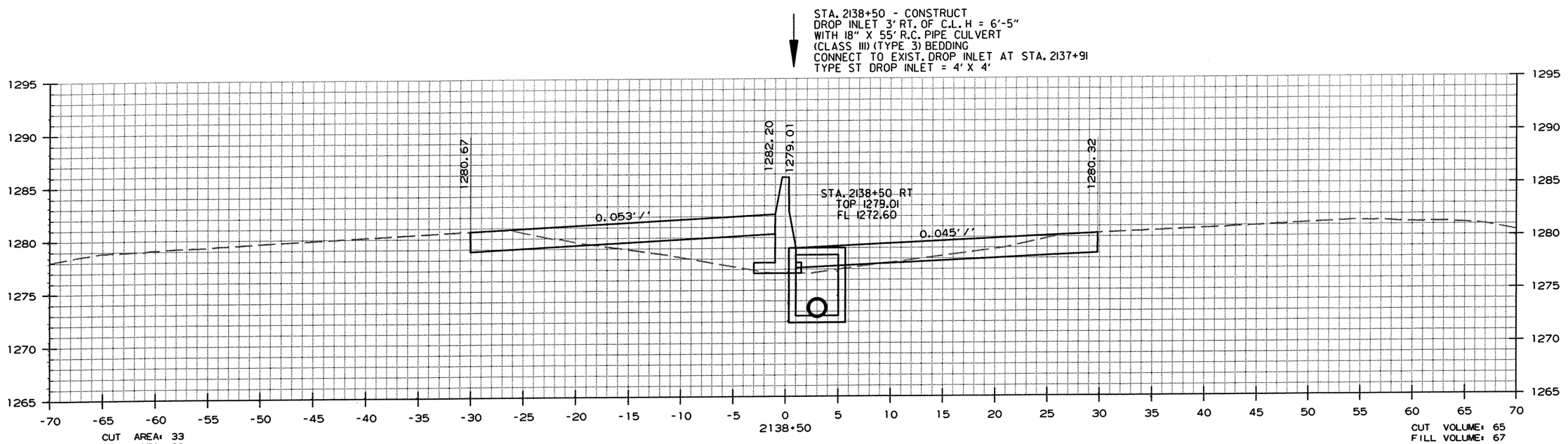
CROSS SECTION STA. 2137+50 TO STA. 2137+91

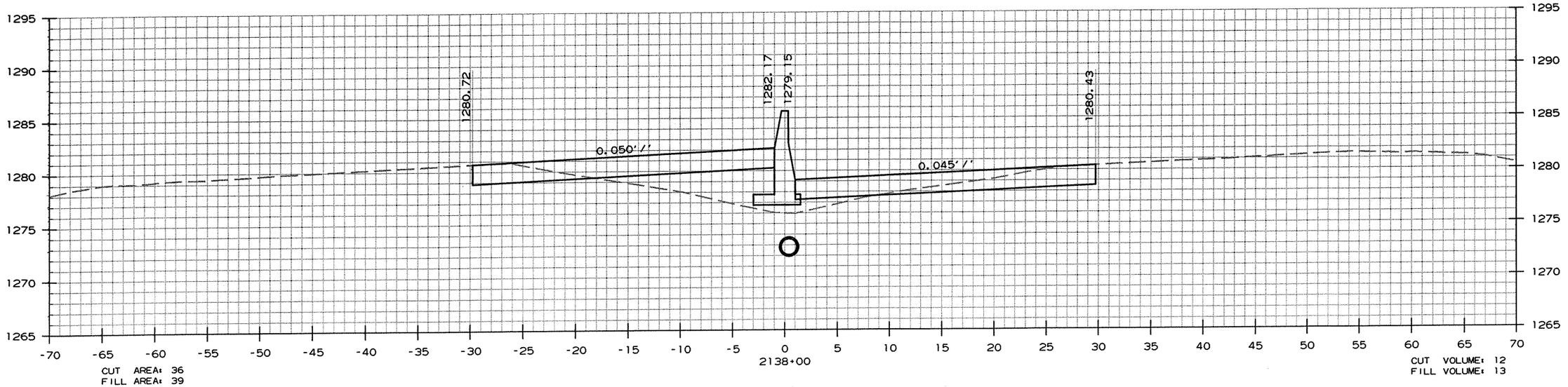
5/31/2013

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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.		090331	199	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2138+00 TO STA. 2138+50

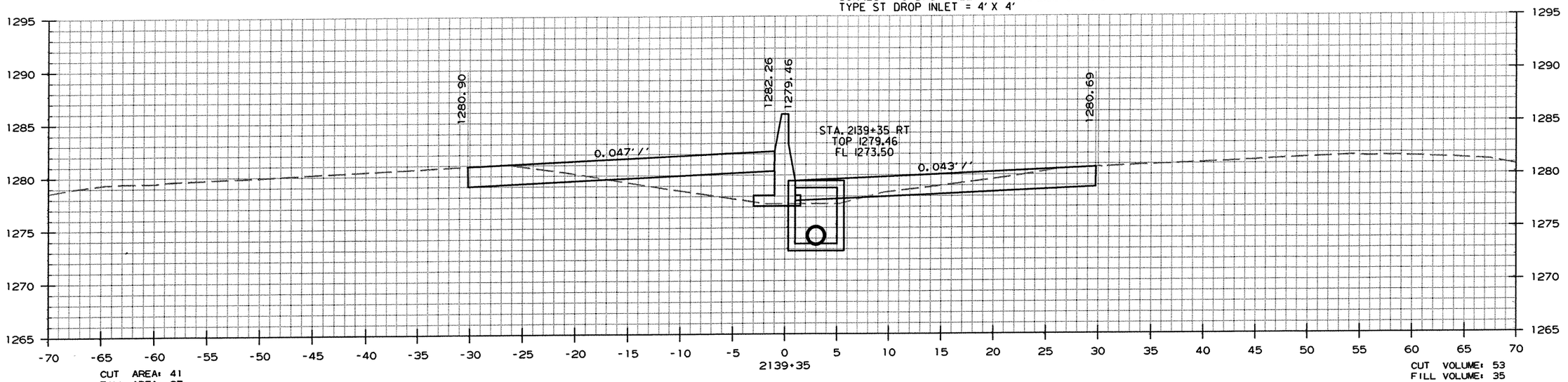
5/31/2013

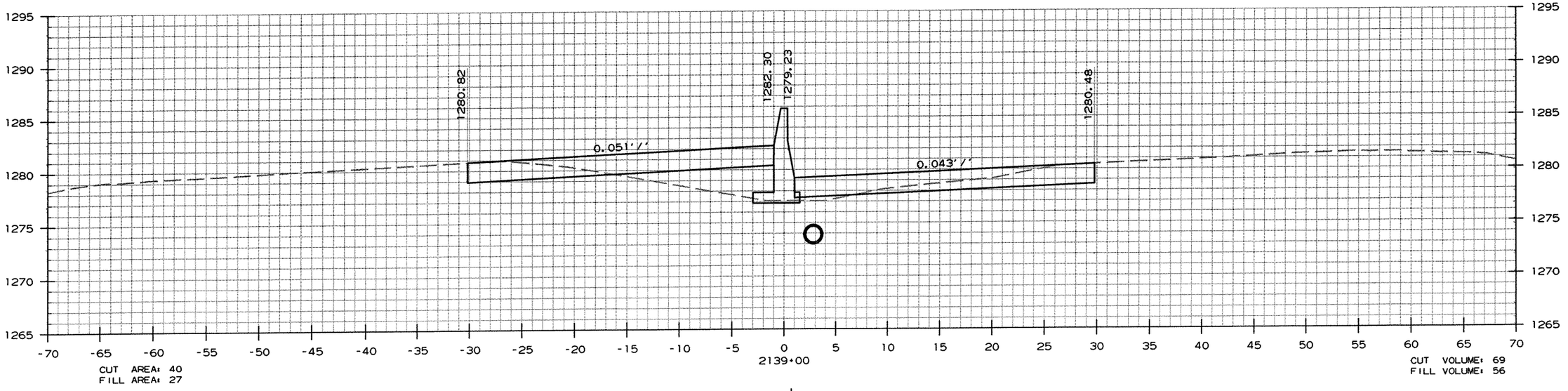
R090331.DGN

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.		090331	200	218

(2) CROSS SECTIONS

STA. 2139+35 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 18" X 81' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2138+50 RT.
TYPE ST DROP INLET = 4' X 4'





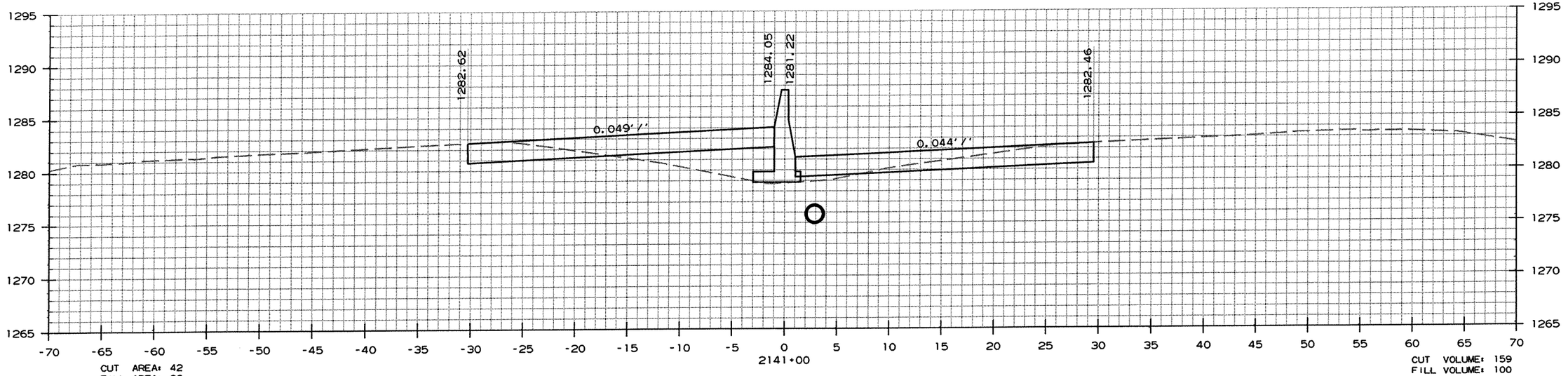
CROSS SECTION STA. 2139+00 TO STA. 2139+35

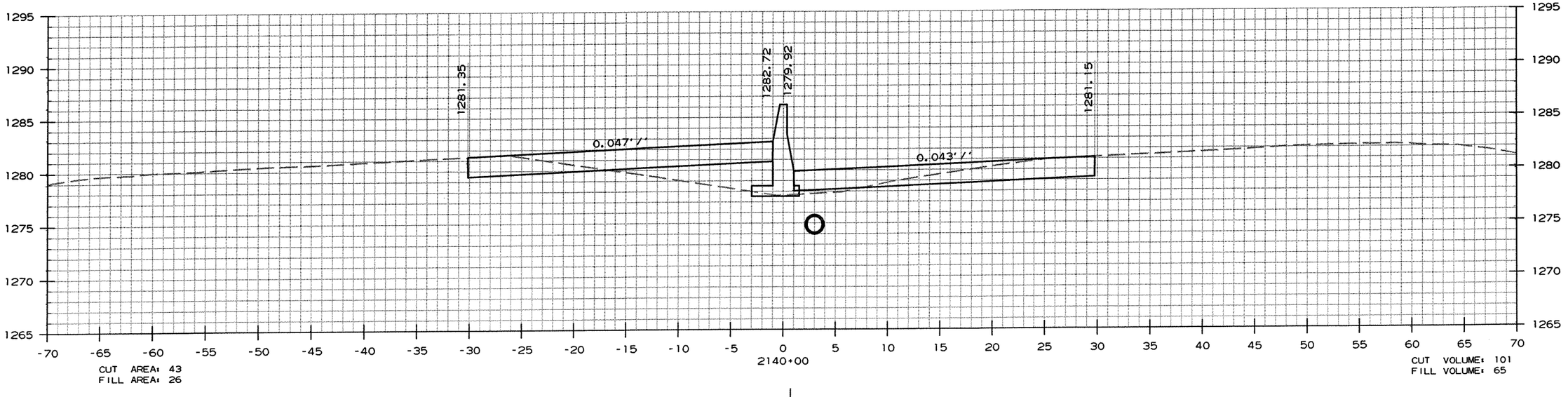
5/31/2013

R090331.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.		090331	201	218

(2) CROSS SECTIONS





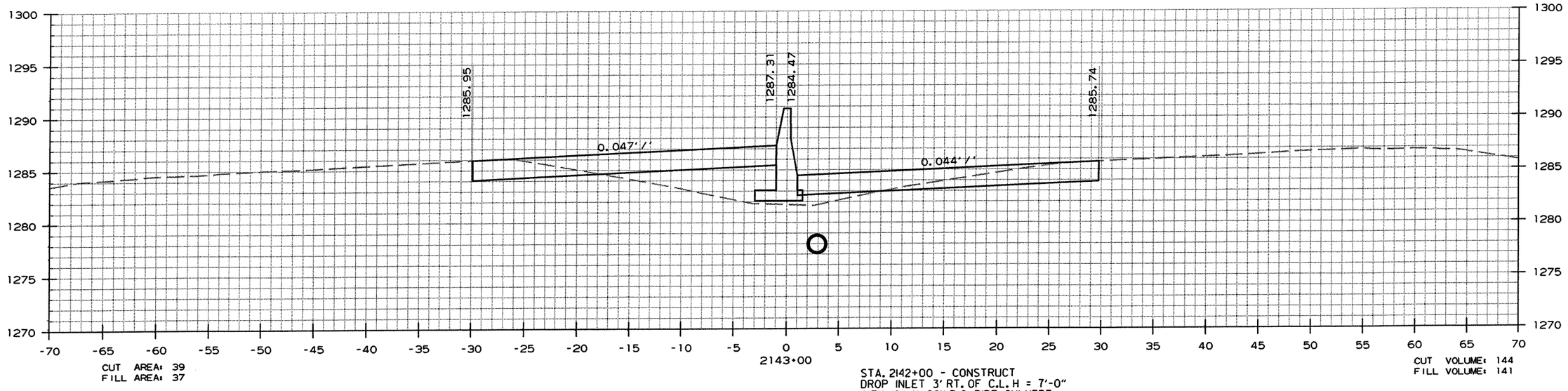
CROSS SECTION STA. 2140+00 TO STA. 2141+00

5/31/2013

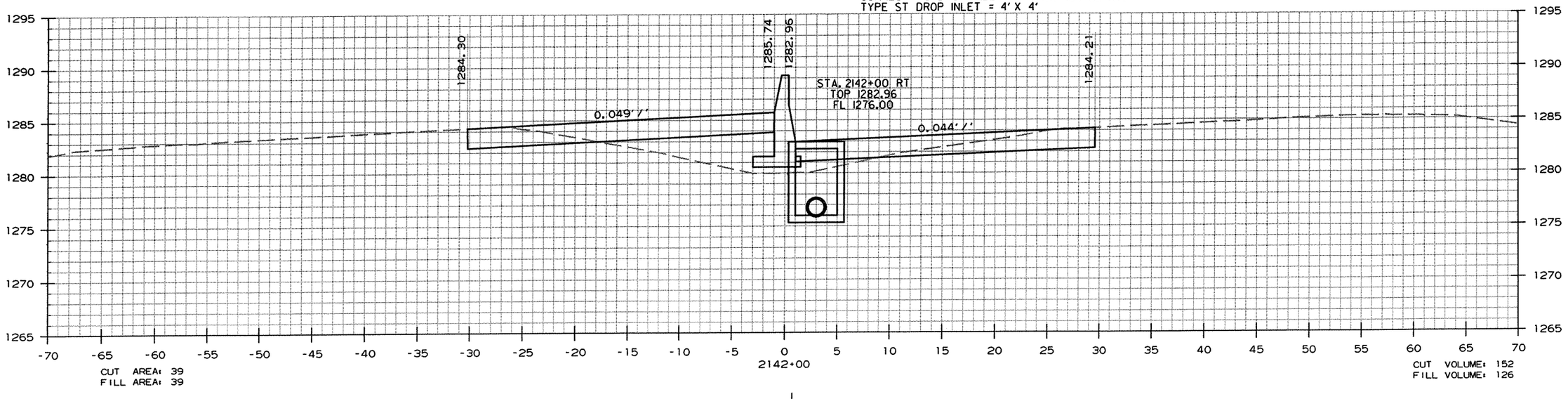
R090331.DGN

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.		090331	202	218

(2) CROSS SECTIONS



STA. 2142+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-0"
WITH 18" X 26I' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2139+35 RT.
TYPE ST DROP INLET = 4' X 4'



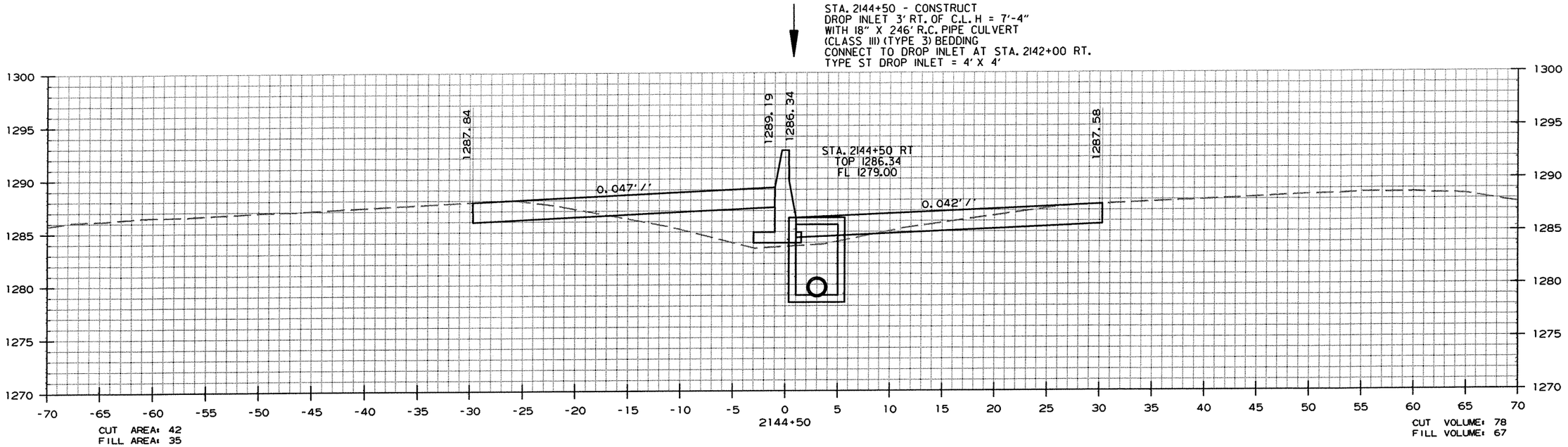
CROSS SECTION STA. 2142+00 TO STA. 2143+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	203	218

(2) CROSS SECTIONS



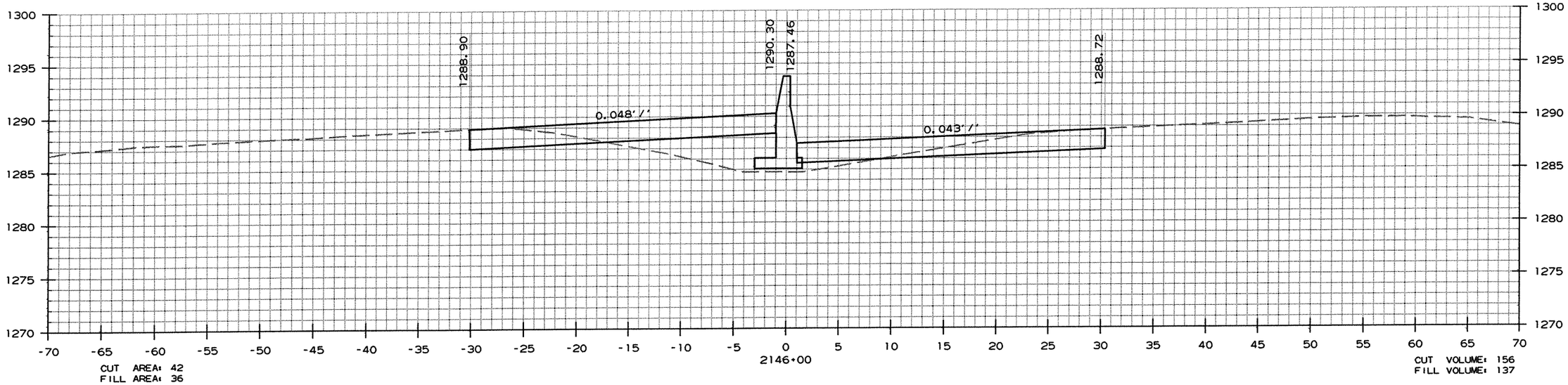
CROSS SECTION STA. 2144+00 TO STA. 2144+50

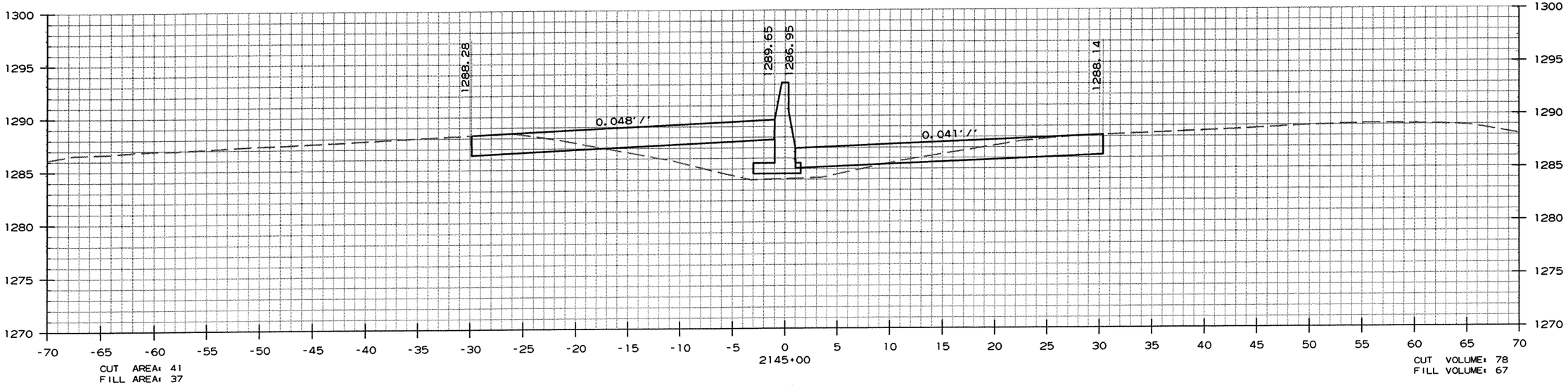
5/31/2013

R090331.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.		090331	204	218

(2) CROSS SECTIONS





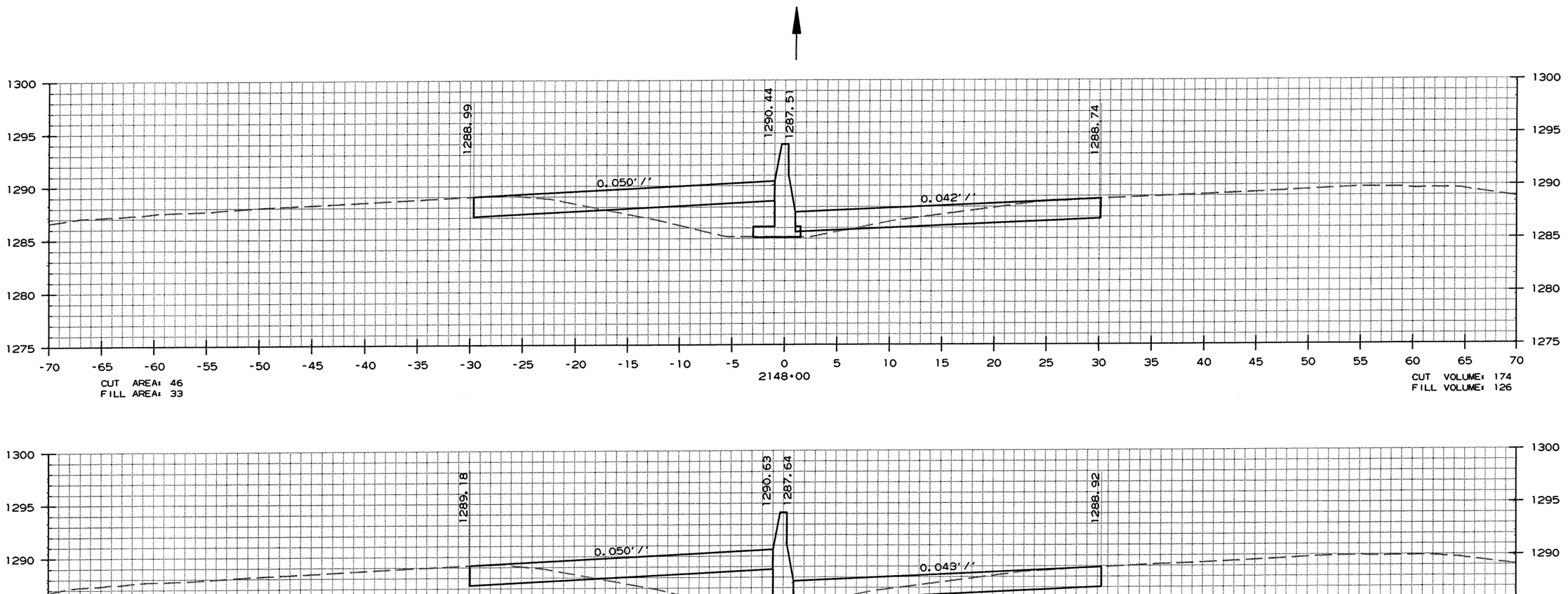
CROSS SECTION STA. 2145+00 TO STA. 2146+00

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R090331.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.		090331	205	218

(2) CROSS SECTIONS



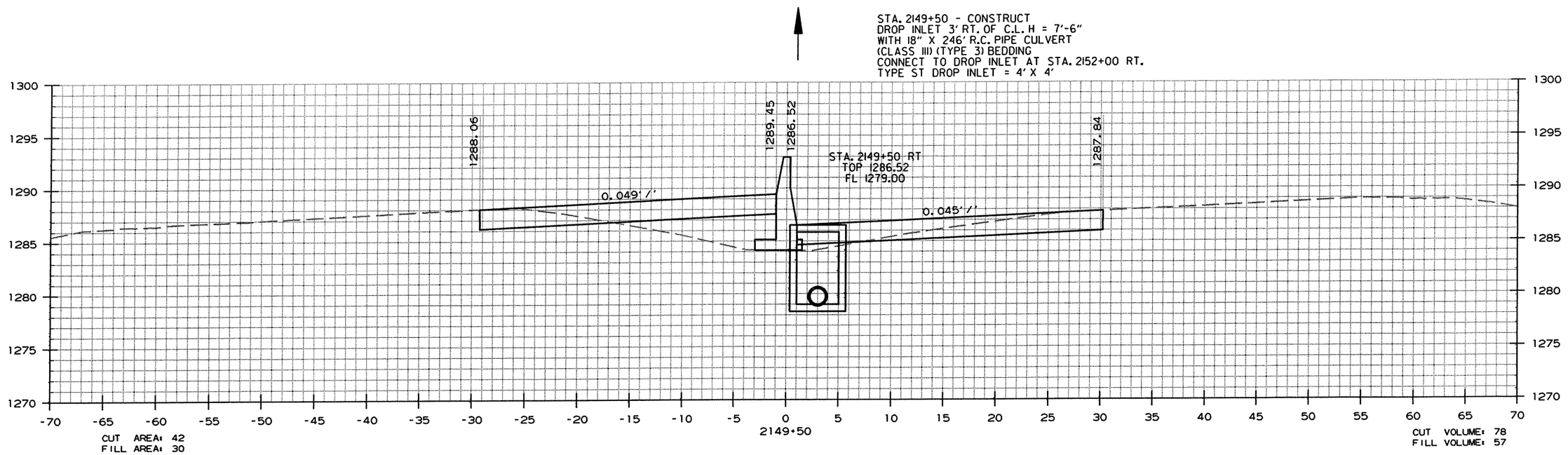
CROSS SECTION STA. 2147+00 TO STA. 2148+00

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R090331.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.		090331	206	218

(2) CROSS SECTIONS



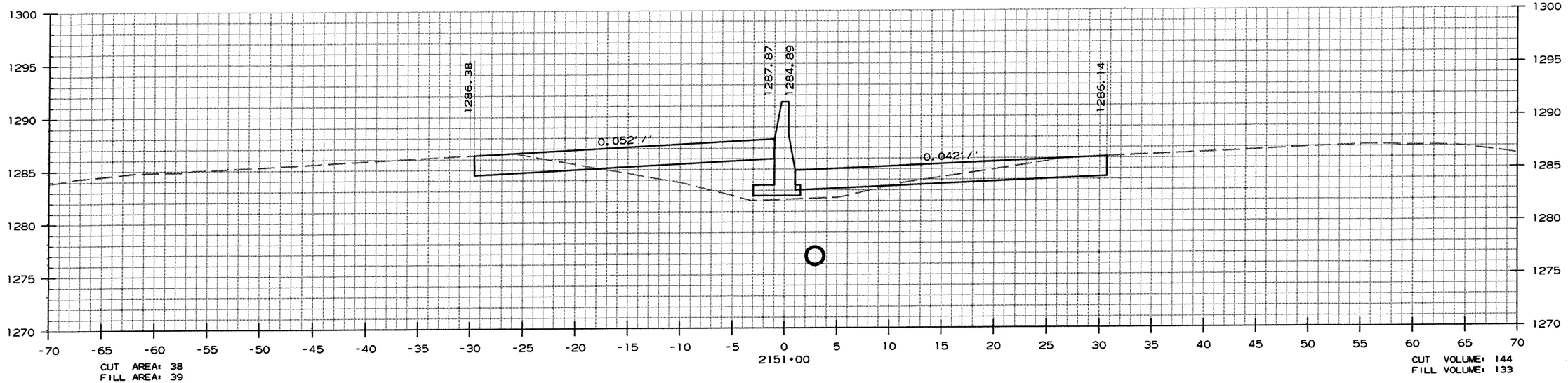
CROSS SECTION STA. 2149+00 TO STA. 2149+50

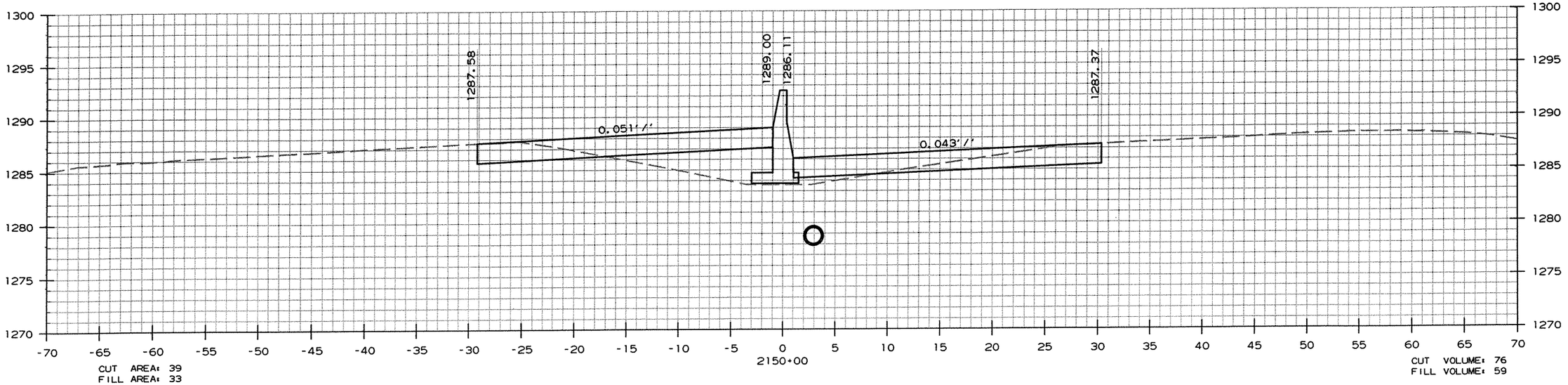
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R090331.DGN

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.		090331	207	218

2 CROSS SECTIONS





CROSS SECTION STA. 2150+00 TO STA. 2151+00

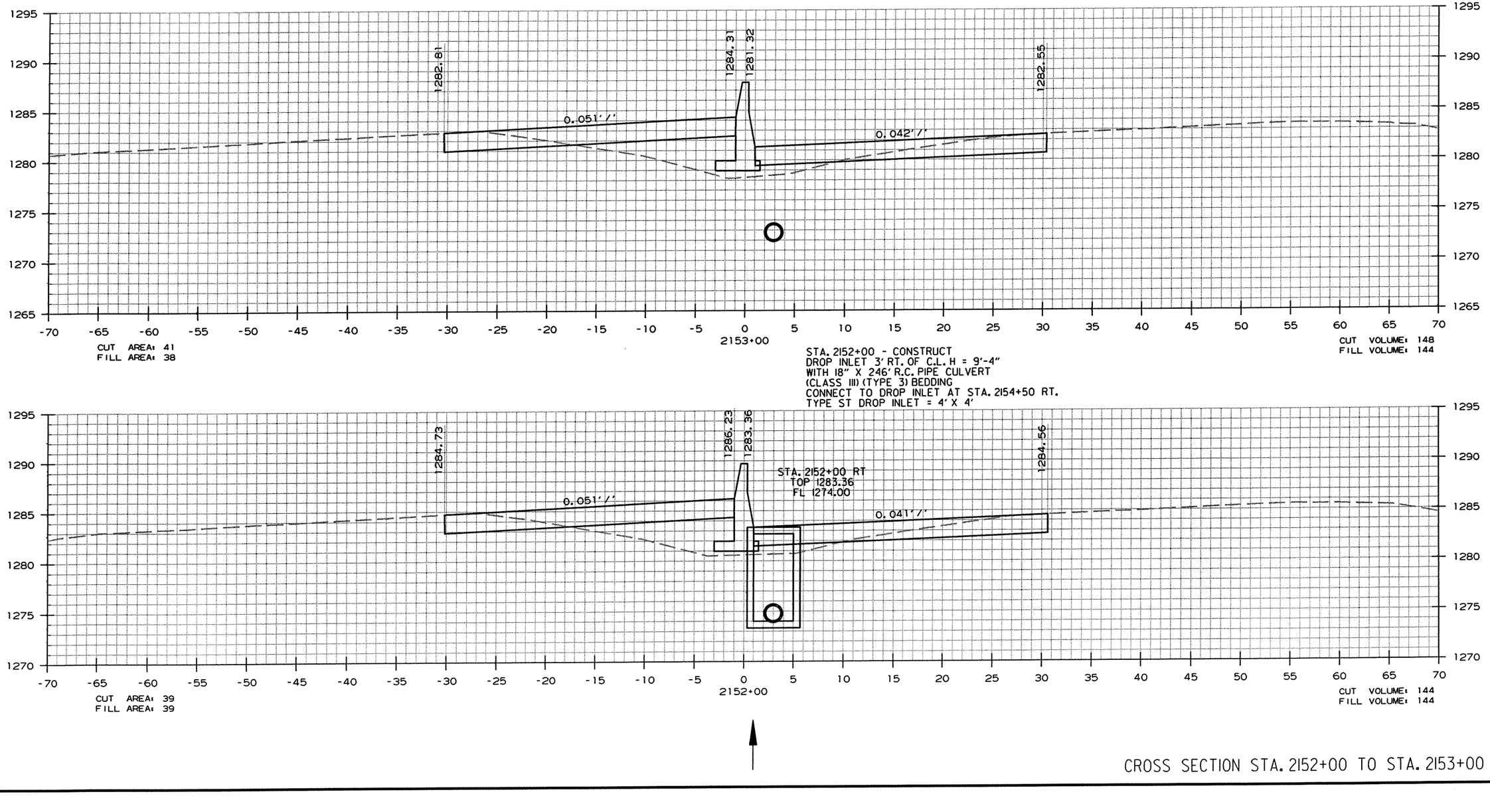
5/31/2013

R090331.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.		090331	208	218

(2) CROSS SECTIONS



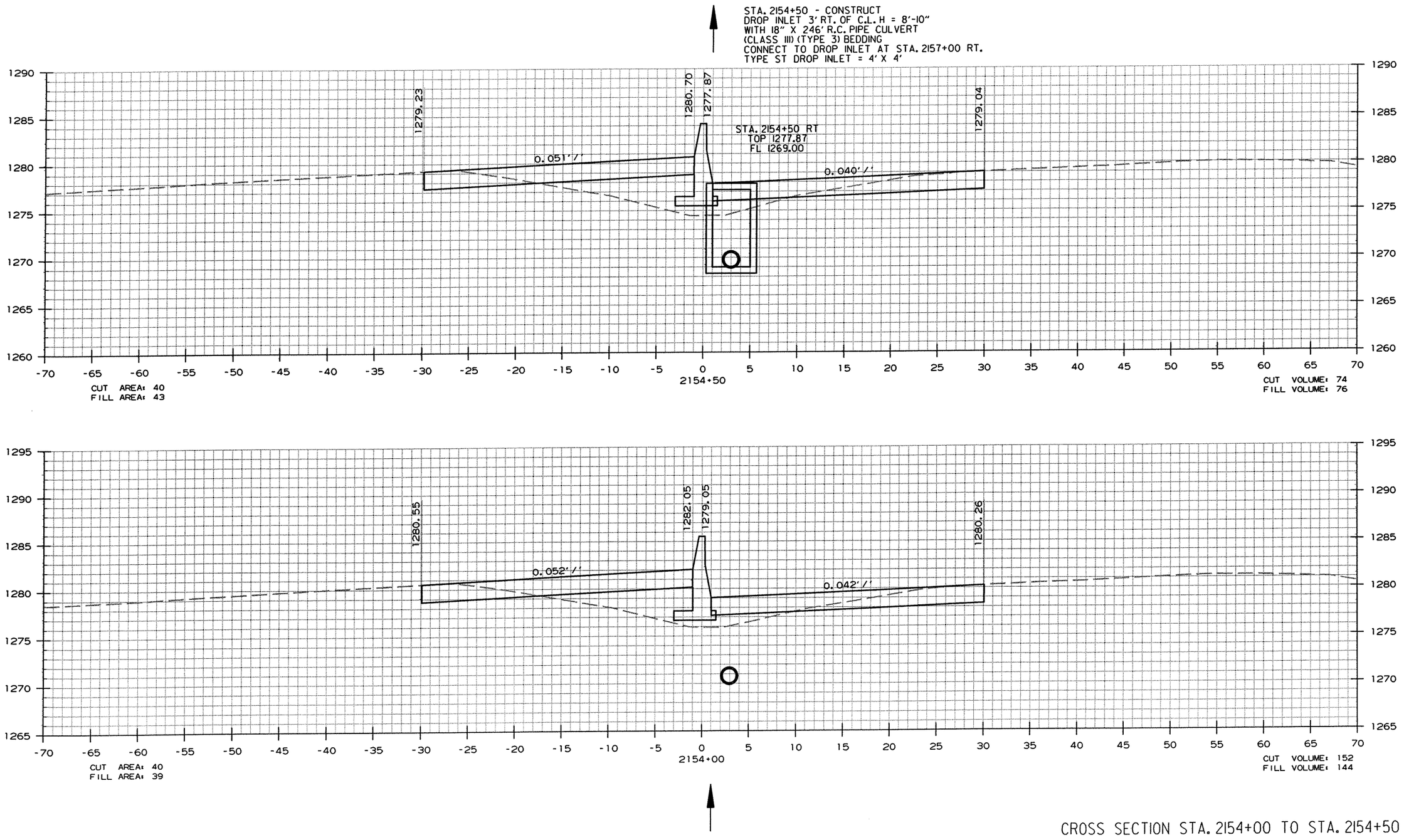
CROSS SECTION STA. 2152+00 TO STA. 2153+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	209	218

(2) CROSS SECTIONS



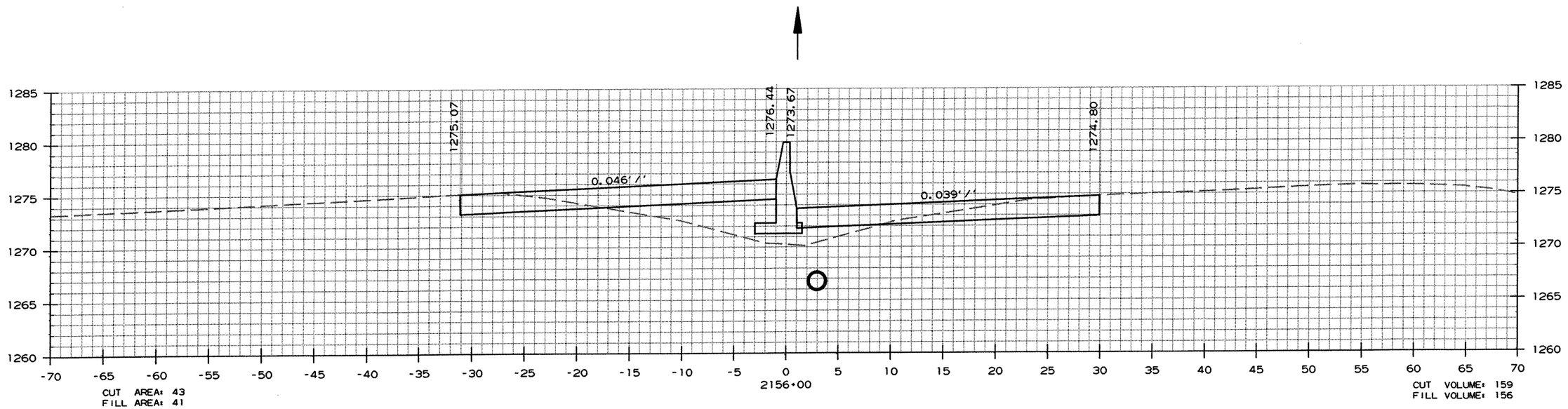
CROSS SECTION STA. 2154+00 TO STA. 2154+50

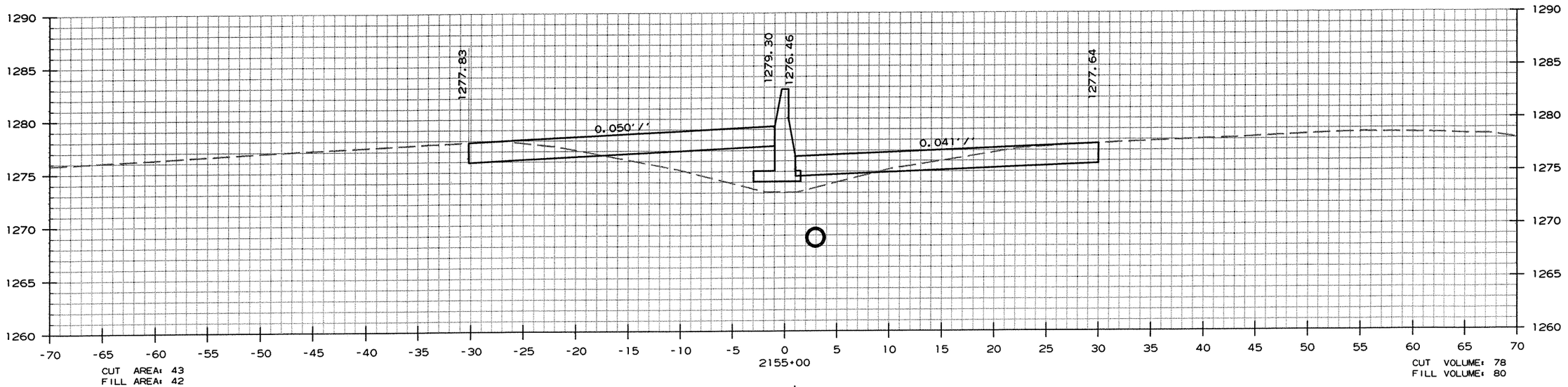
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	210	218

(2) CROSS SECTIONS





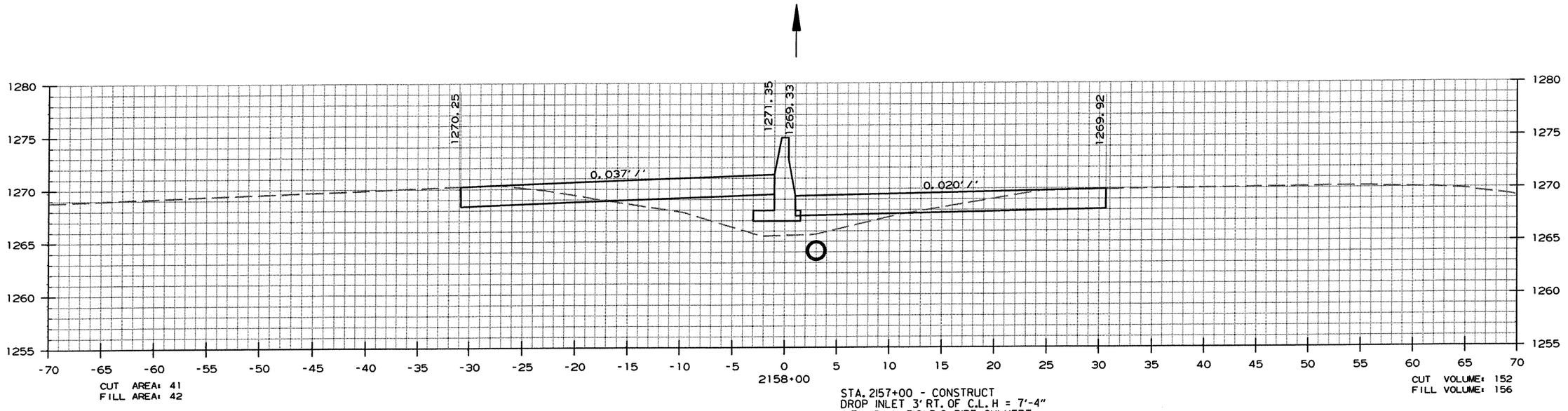
CROSS SECTION STA. 2155+00 TO STA. 2156+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	211	218

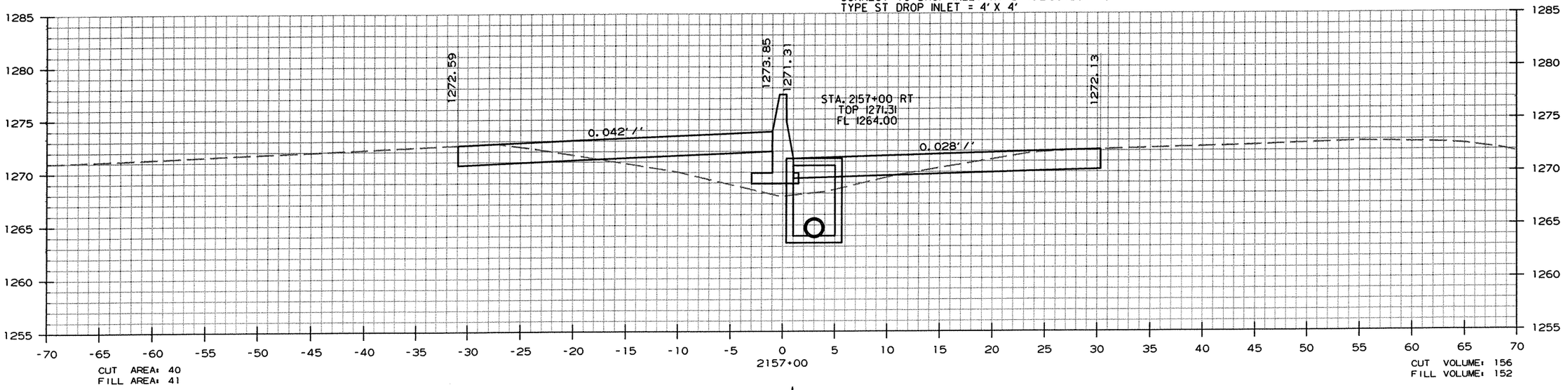
(2) CROSS SECTIONS



CUT AREA: 41
FILL AREA: 42

STA. 2157+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 316' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2160+20 RT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME: 152
FILL VOLUME: 156



CUT AREA: 40
FILL AREA: 41

CUT VOLUME: 156
FILL VOLUME: 152

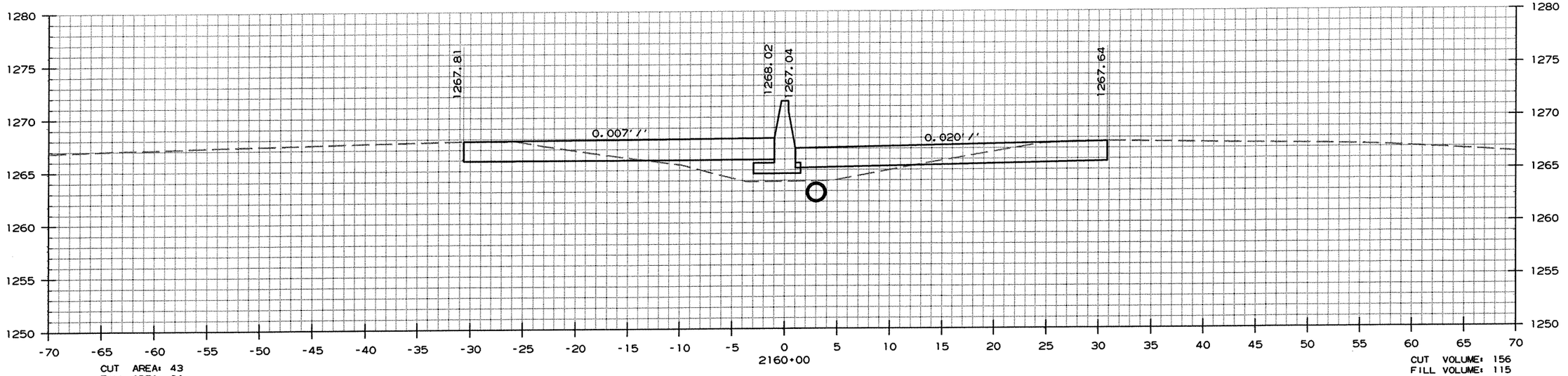
CROSS SECTION STA. 2157+00 TO STA. 2158+00

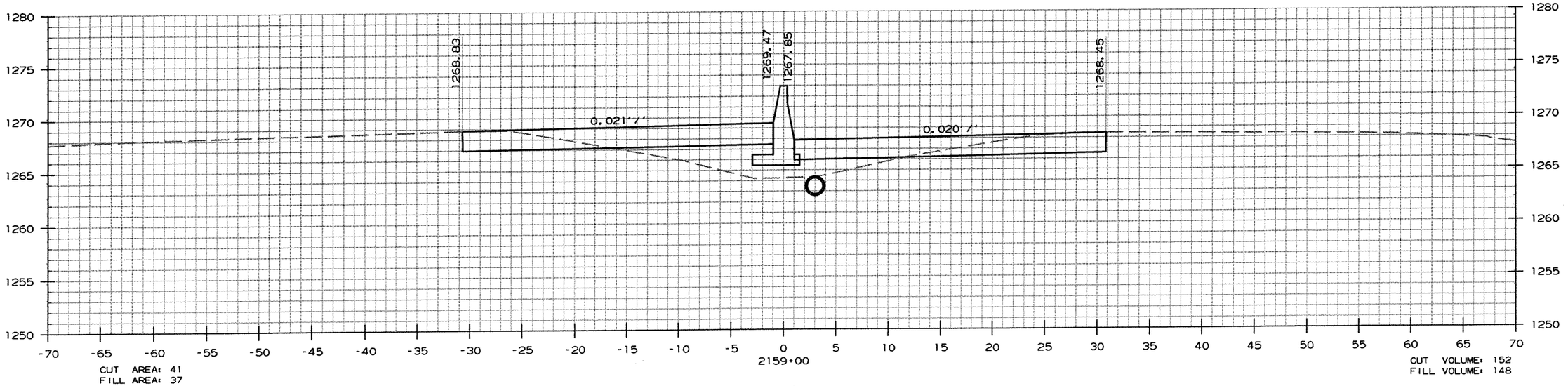
5/31/2013

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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.		090331	212	218

(2) CROSS SECTIONS





CROSS SECTION STA. 2159+00 TO STA. 2160+00

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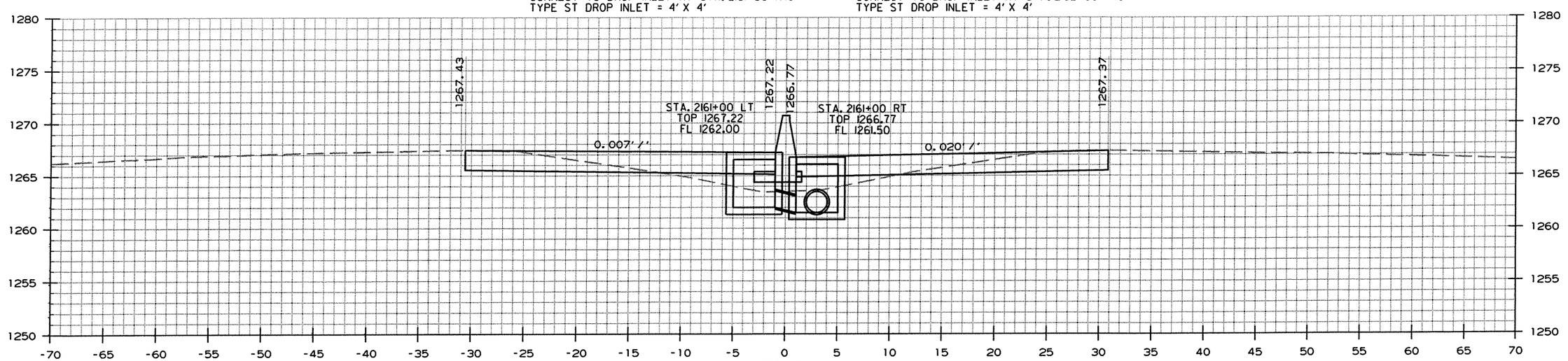
R090331.DGN

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.		090331	213	218

(2) CROSS SECTIONS

STA. 2161+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-3"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2161+00 RT.
TYPE ST DROP INLET = 4' X 4'

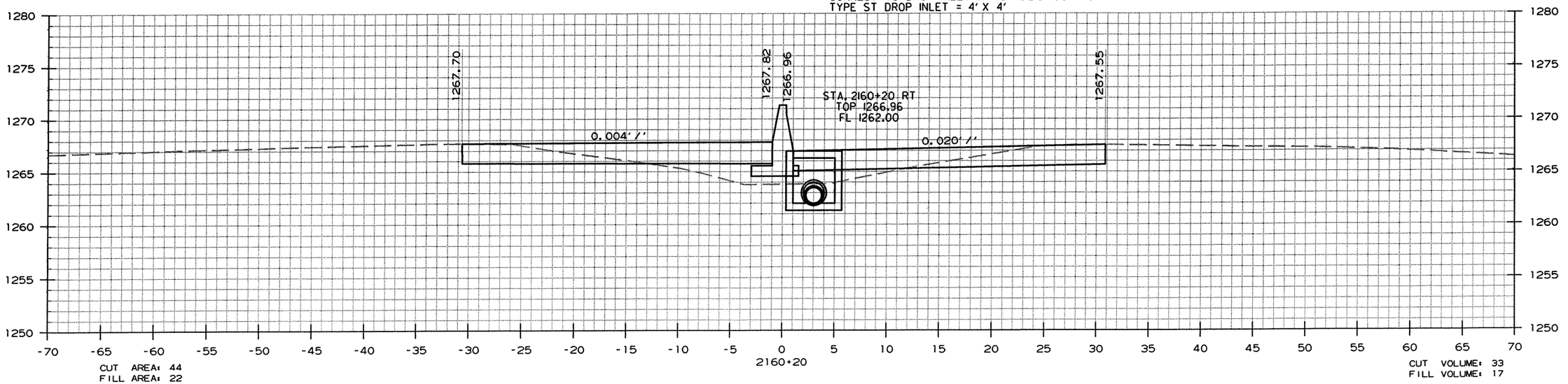
STA. 2161+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 24" X 96' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2162+00 RT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 47
FILL AREA: 19

CUT VOLUME: 136
FILL VOLUME: 62

STA. 2160+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 76' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2161+00 RT.
TYPE ST DROP INLET = 4' X 4'



CUT AREA: 44
FILL AREA: 22

CUT VOLUME: 33
FILL VOLUME: 17

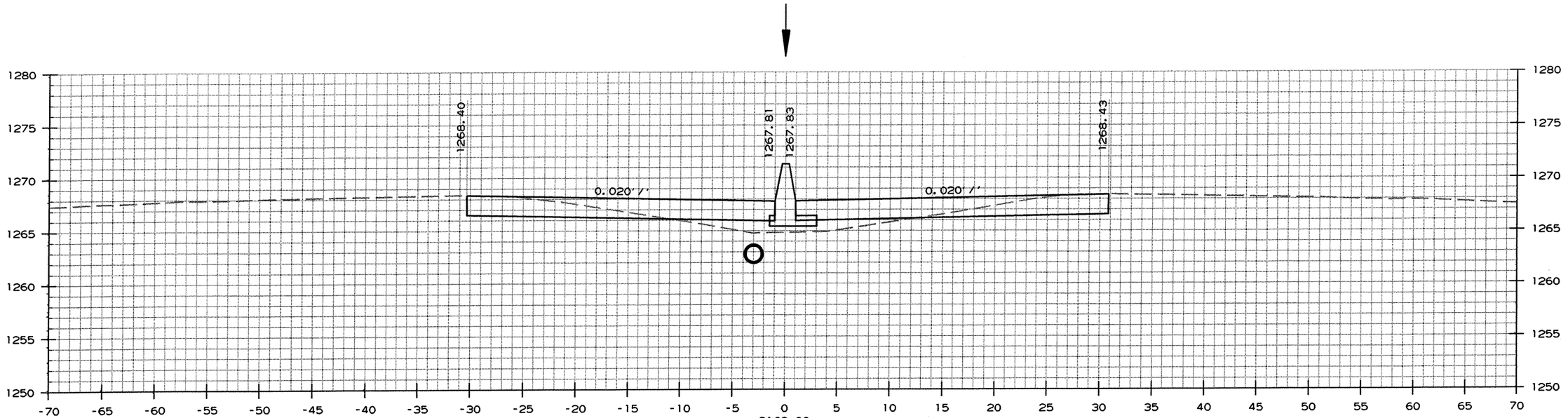
CROSS SECTION STA. 2160+20 TO STA. 2161+00

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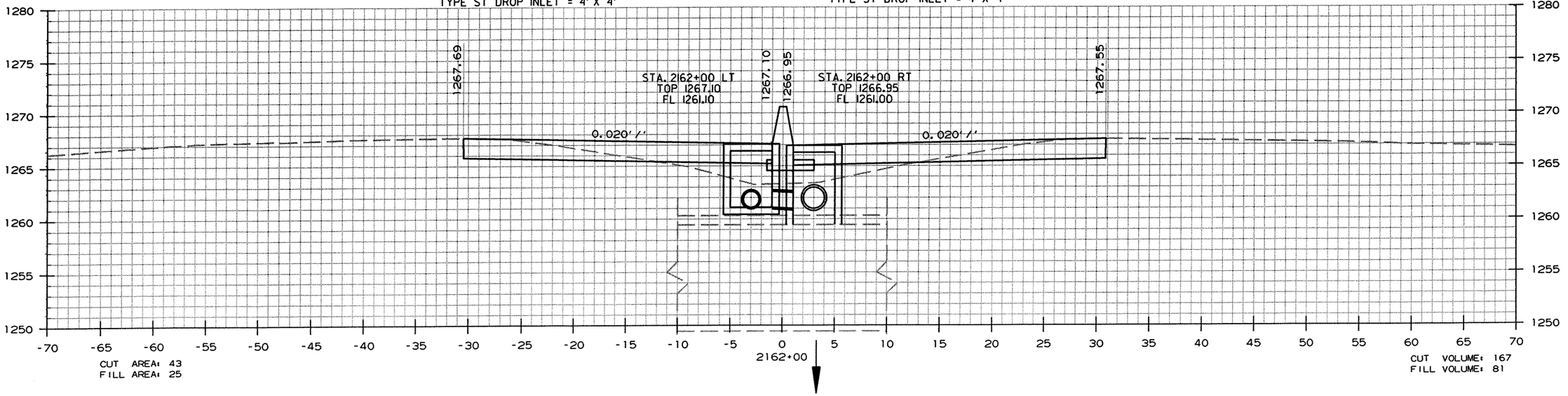
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	214	218

(2) CROSS SECTIONS



STA. 2162+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-0"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2162+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 2162+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-1"
ON EXIST. R.C. BOX CULVERT
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 2162+00 TO STA. 2163+00

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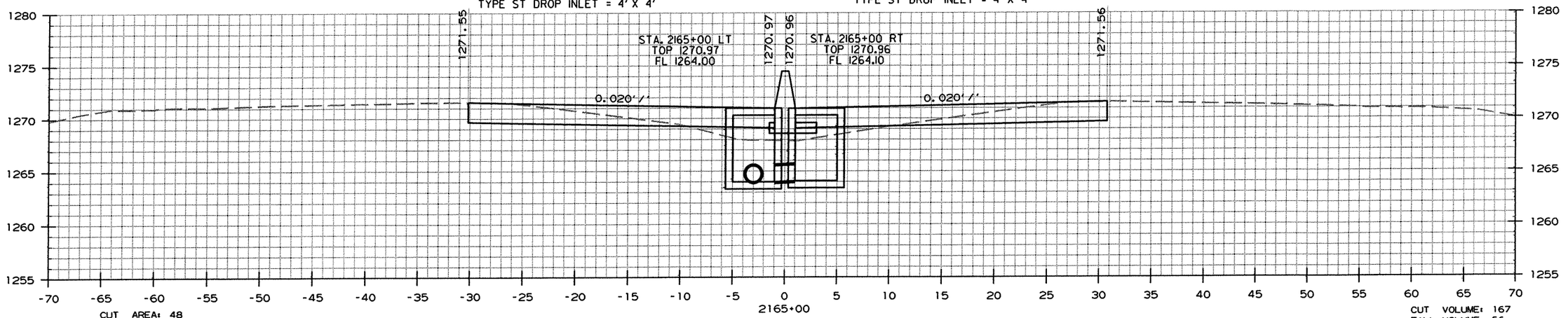
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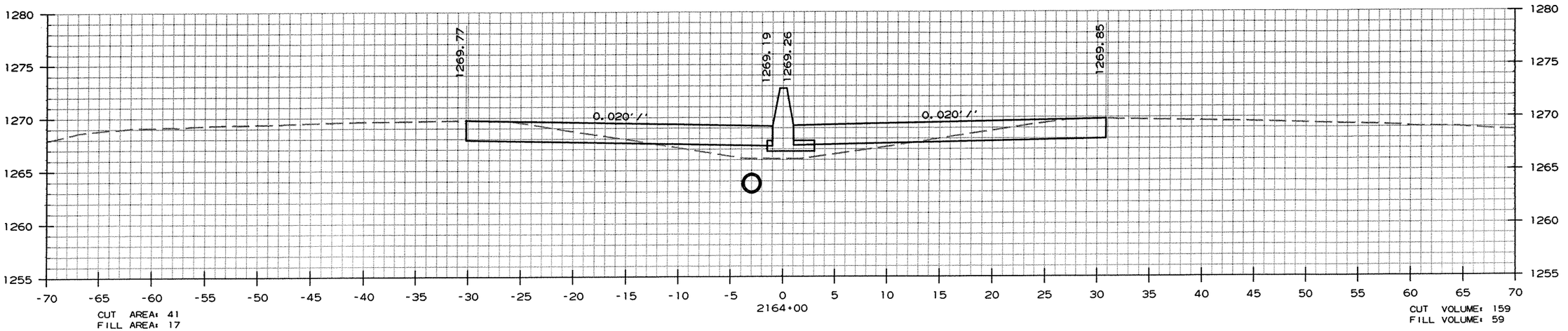
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	215	218

(2) CROSS SECTIONS

STA. 2165+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-0"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2162+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2165+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2165+00 LT.
TYPE ST DROP INLET = 4' X 4'





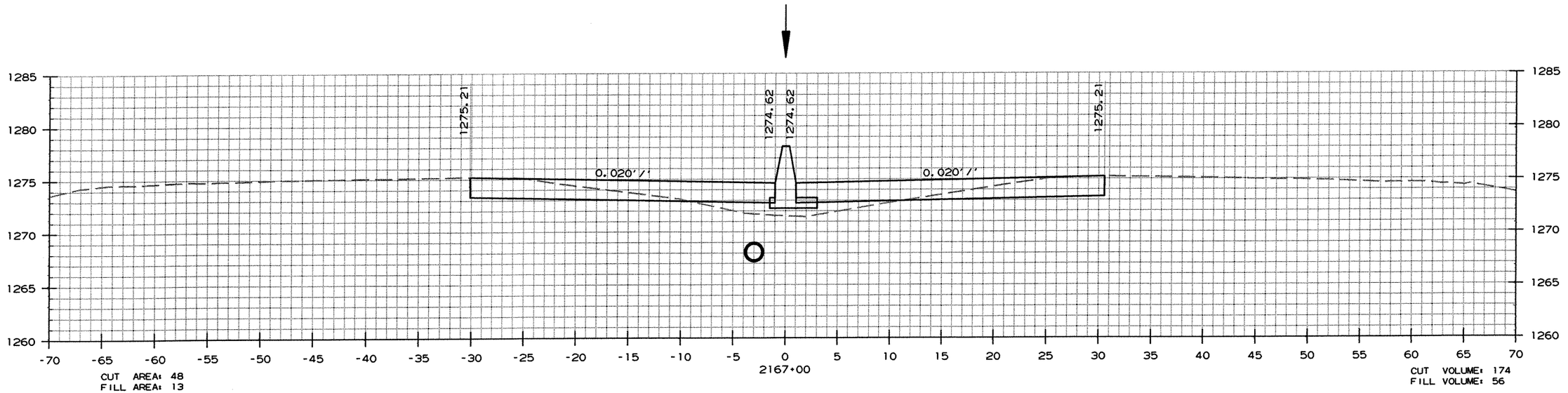
CROSS SECTION STA. 2164+00 TO STA. 2165+00

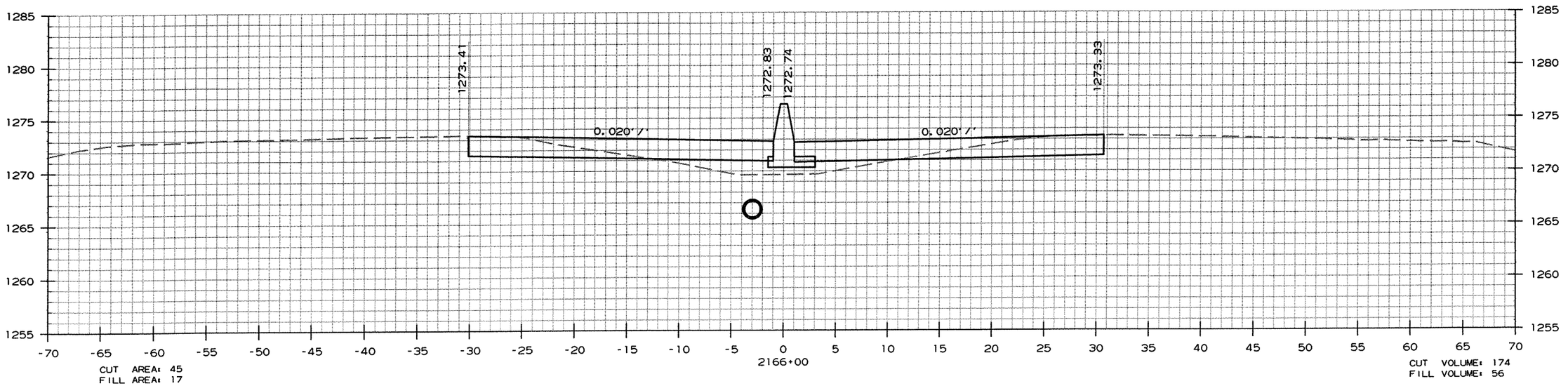
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	216	218

(2) CROSS SECTIONS





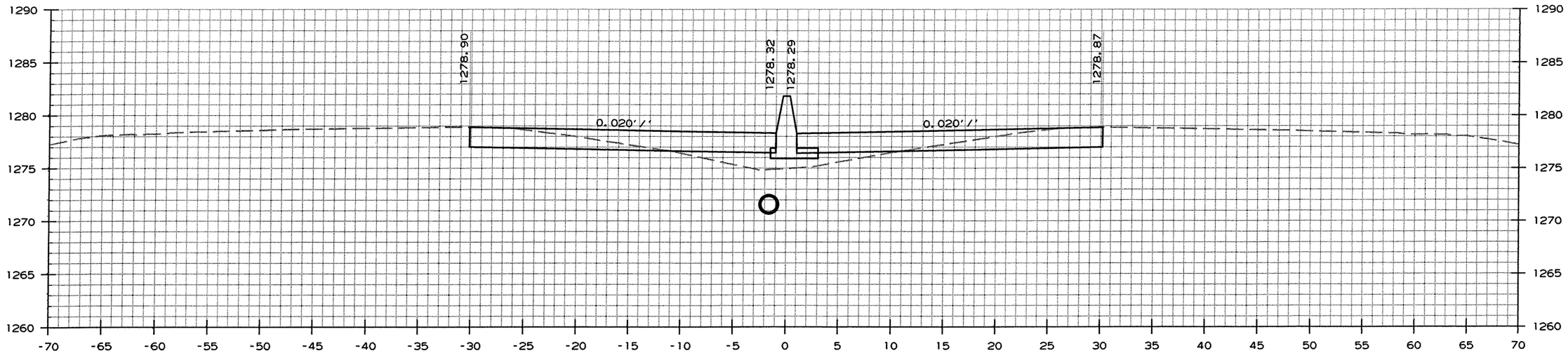
CROSS SECTION STA. 2166+00 TO STA. 2167+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090331	217	218

(2) CROSS SECTIONS

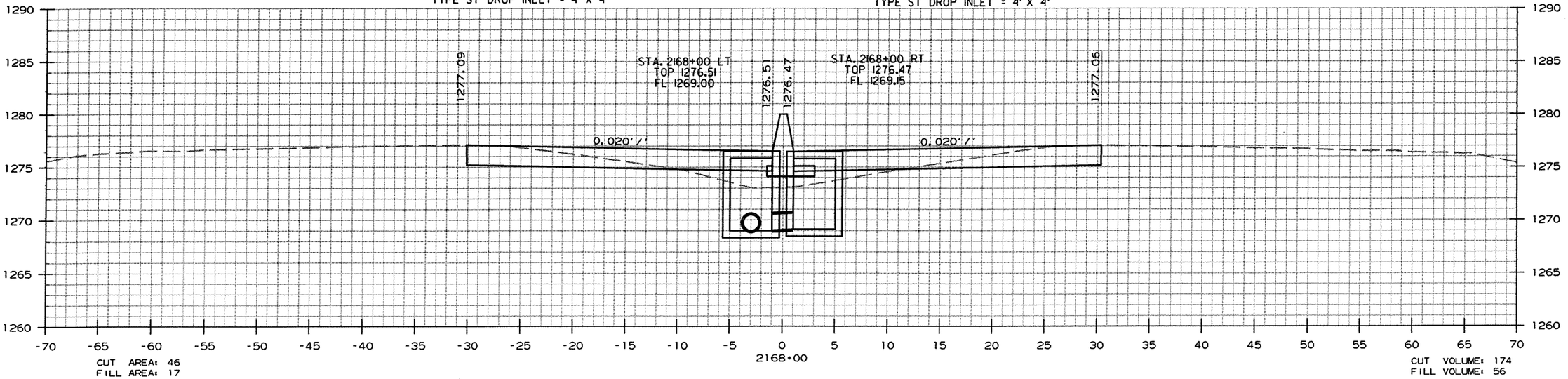


CUT AREA: 45
FILL AREA: 18

STA. 2168+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 18" X 296' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2165+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 2168+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 7'-4"
WITH 18" X 2' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2168+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME: 170
FILL VOLUME: 67



CUT AREA: 46
FILL AREA: 17

CUT VOLUME: 174
FILL VOLUME: 56

CROSS SECTION STA. 2168+00 TO STA. 2169+00

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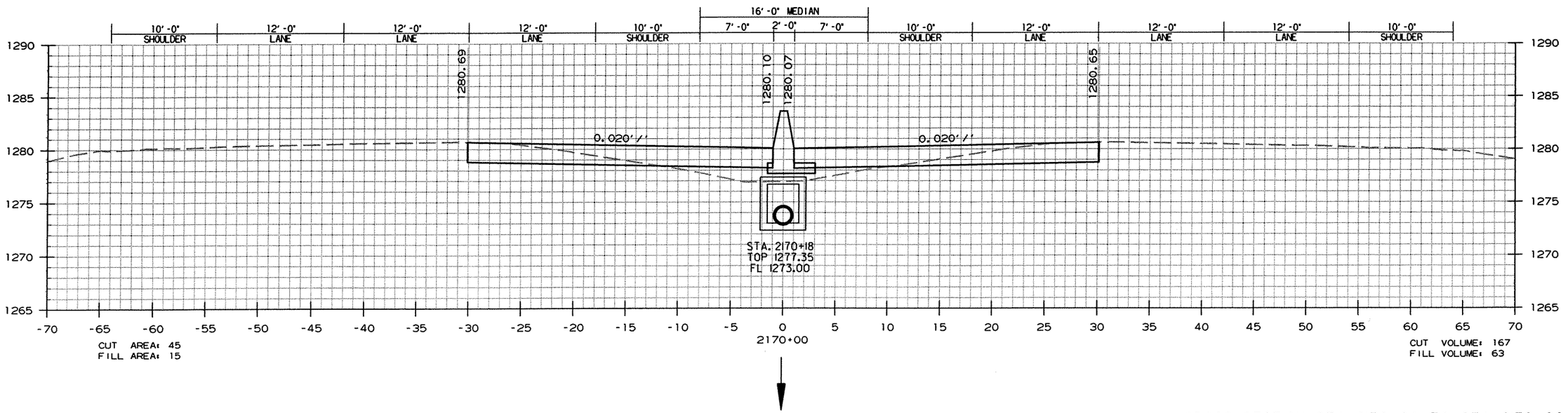
R090331.DGN

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.		090331	218	218

(2) CROSS SECTIONS

STA. 2170+00.00 - END JOB 090331

STA. 2170+18 - CONSTRUCT
DROP INLET IN MEDIAN H = 4'-4"
WITH 18" X 214' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING
CONNECT TO DROP INLET AT STA. 2168+00 LT.
TYPE RM DROP INLET = 4' X 3'



CROSS SECTION STA. 2170+00 TO STA. 2170+00

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