JOB CA0401

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	1	338
				(2)	HWY. 71B-HWY.412 (WIDENING) (S)			

Crafton, Tull & Associates Inc.

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 71B-HWY. 412

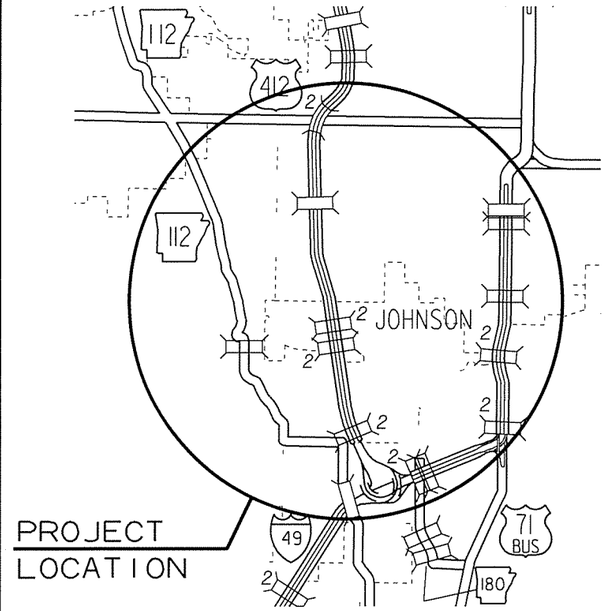
(WIDENING) (S)

WASHINGTON COUNTY

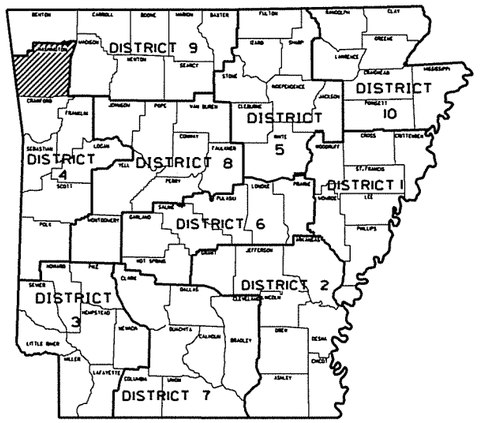
ROUTE 49 SECTION 28

FED. AID PROJ. BIM-B49-0(218) & ACNHPP-0072(45)

JOB CA0401

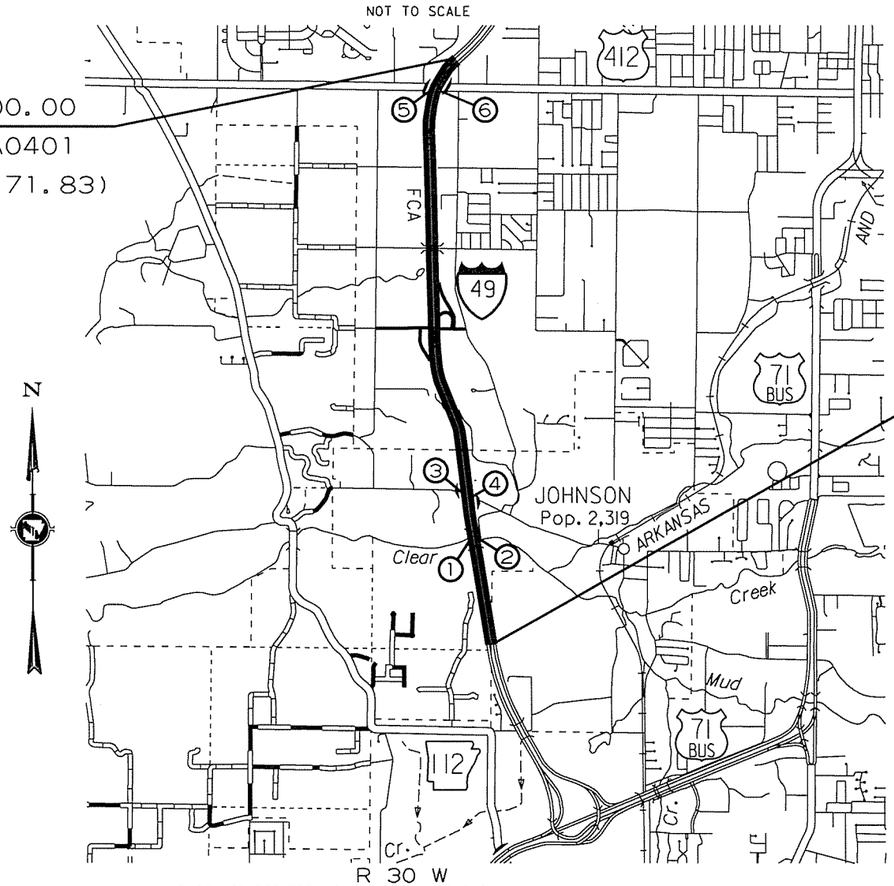


VICINITY MAP



ARK. HWY. DIST. NO. 4

NOT TO SCALE



STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

DESIGN TRAFFIC DATA

DESIGN YEAR	2035
2015 ADT	69,000
2035 ADT	108,000
2035 DHV	11,550
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	11%
DESIGN SPEED	70 MPH

BRIDGE DATA

① STA.624+14.17 - BRIDGE END
BRIDGE NO. A5919
355'-0" COMPOSITE PRESTRESSED CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
70'-0" CLEAR ROADWAY
357'-0⅜" BRIDGE LENGTH
STA.627+71.22 - BRIDGE END

② STA.623+95.12 - BRIDGE END
BRIDGE NO. B5919
355'-0" COMPOSITE PRESTRESSED CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
62'-0" CLEAR ROADWAY
357'-0⅜" BRIDGE LENGTH
STA.627+52.17 - BRIDGE END

③ STA.638+77.96 - BRIDGE END
BRIDGE NO. A5920
194'-0" CONT. COMPOSITE W-BEAM UNIT (49'- 86'- 59')
62'-0" CLEAR ROADWAY
196'-5⅝" BRIDGE LENGTH
STA.640+74.45 - BRIDGE END

④ STA.638+41.25 - BRIDGE END
BRIDGE NO. B5920
194'-0" CONT. COMPOSITE W-BEAM UNIT (49'- 86'- 59')
62'-0" CLEAR ROADWAY
196'-5⅝" BRIDGE LENGTH
STA.640+37.74 - BRIDGE END

* ⑤ STA.774+18.44 - BRIDGE END
BRIDGE NO. A5922
208'-0" CONT. COMPOSITE PLATE GIRDER UNIT (52'- 104'- 52')
62'-0" CLEAR ROADWAY
210'-4¼" BRIDGE LENGTH
STA.776+25.61 - BRIDGE END

* ⑥ STA.774+52.63 - BRIDGE END
BRIDGE NO. B5922
208'-0" CONT. COMPOSITE PLATE GIRDER UNIT (52'- 104'- 52')
62'-0" CLEAR ROADWAY
210'-4¼" BRIDGE LENGTH
STA.776+66.27 - BRIDGE END

* MEASURED ALONG CENTERLINE OF EXISTING BRIDGE

LENGTH OF PROJECT CALCULATED ALONG C.L.					
GROSS LENGTH OF PROJECT	20,300.00	FEET	OR	3.845	MILES
NET " " ROADWAY	19,536.05	"	"	3.700	"
NET " " BRIDGES	763.95	"	"	0.145	"
NET " " PROJECT	20,300.00	"	"	3.845	"

P.E. CA0401 NON-PART.

BEGINNING OF PROJECT	MID-POINT OF PROJECT	END OF PROJECT
LAT. = N 36°07'26"	LAT. = N 36°09'06"	LAT. = N 36°10'43"
LONG. = W 94°10'49"	LONG. = W 94°11'11"	LONG. = W 94°10'58"

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
4/29/15
HUBERT BURNS

USER: dd5109
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USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\misc\CA0401Index and Govern Spec.dgn
PLOTTED: 4/17/2015 13:39 SCALE: 2:1

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4-17-15

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIV.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		2	338

JOB NO. CA0401

INDEX OF SHEETS

INDEX OF SHEETS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	3	338

(2) GOVERNING SPECIFICATIONS & GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
5-06-15

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB CA0401
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
108-1	LIQUIDATED DAMAGES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER
JOB CA0401	AIRPORT CLEARANCE REQUIREMENTS
JOB CA0401	AUTOMATED WORK ZONE INFORMATION SYSTEM
JOB CA0401	BIDDING REQUIREMENTS AND CONDITIONS
JOB CA0401	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB CA0401	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB CA0401	CONCRETE DITCH PAVING
JOB CA0401	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB CA0401	COORDINATION OF WORK
JOB CA0401	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB CA0401	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB CA0401	EMPLOYMENT REPORTING
JOB CA0401	EXTENSION FOR PIPE CULVERTS
JOB CA0401	FURNISH AND OPERATION OF MOBILE SPEED NOTIFICATION SYSTEM
JOB CA0401	GOALS FOR ARKANSAS OWNED MINORITY BUSINESS ENTERPRISE
JOB CA0401	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB CA0401	HIGH PERFORMANCE PAVEMENT MARKING
JOB CA0401	MAINTENANCE OF TRAFFIC
JOB CA0401	MANDATORY ELECTRONIC CONTRACT
JOB CA0401	NESTING SITES OF MIGRATORY BIRDS
JOB CA0401	OVERHEAD SIGN STRUCTURE FOUNDATION
JOB CA0401	PARTNERING REQUIREMENTS
JOB CA0401	PERCENT WITHIN LIMITS / PAVEMENT SMOOTHNESS
JOB CA0401	PIPE CULVERTS
JOB CA0401	PROSECUTION AND PROGRESS - CONNECTING ARKANSAS PROGRAM
JOB CA0401	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB CA0401	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER
JOB CA0401	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE
JOB CA0401	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB CA0401	SEQUENCE OF CONSTRUCTION
JOB CA0401	SHORING
JOB CA0401	SHORING FOR CULVERTS
JOB CA0401	SITE USE (A+C METHOD)
JOB CA0401	SOIL STABILIZATION
JOB CA0401	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB CA0401	STEEL PILING FOR CONCRETE BARRIER WALL (HP 12x53)
JOB CA0401	STORM WATER POLLUTION PREVENTION PLAN
JOB CA0401	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE RESULTS
JOB CA0401	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB CA0401	UTILITY ADJUSTMENTS
JOB CA0401	VALUE ENGINEERING
JOB CA0401	WARM MIX ASPHALT
JOB CA0401	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 ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

GOVERNING SPECIFICATIONS & GENERAL NOTES

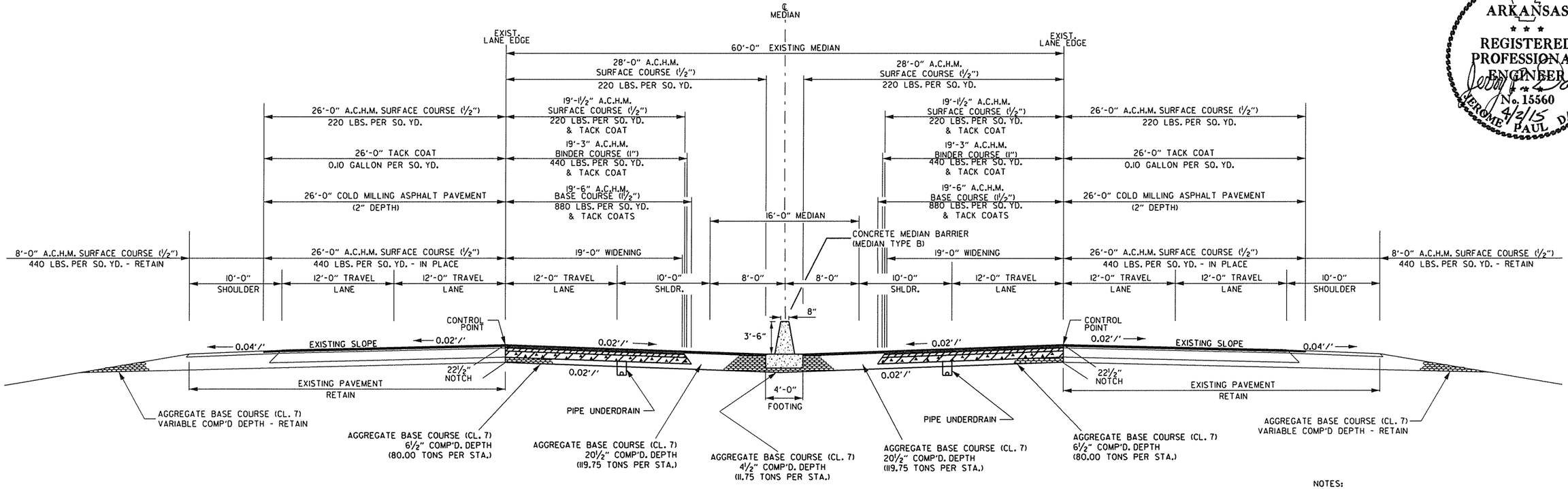
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	4	338

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jeffrey Paul Davis
No. 15560
4/2/15
JEFFREY PAUL DAVIS



TYPICAL SECTION OF IMPROVEMENT - I-49
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY OF EXISTING

STA. 588+00.00 TO STA. 656+35.00
STA. 667+75.00 TO STA. 672+00.00
STA. 689+90.00 TO STA. 761+20.00
STA. 789+50.00 TO STA. 791+00.00

NOTES:

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

THE 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.

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.

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UNDERDRAINS TO BE CONNECTED TO DROP INLETS.

RETAIN EXISTING ACCEL. / DECEL. LANE SURFACE
R.M.L. STA. 692+50.90 TO STA. 702+85.91
R.M.L. STA. 711+42.68 TO STA. 737+71.62
L.M.L. STA. 701+26.41 TO STA. 690+91.33

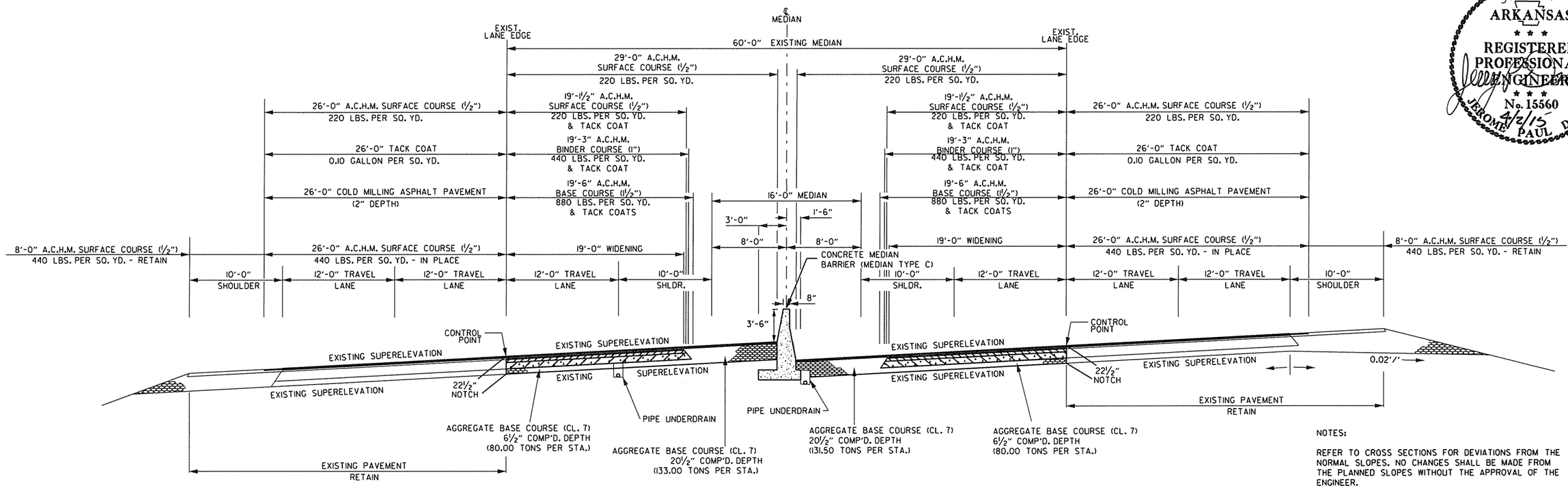
TYPICAL SECTIONS OF IMPROVEMENT

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	5	338

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



TYPICAL SECTION OF IMPROVEMENT - I-49
SUPERELEVATION
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY OF EXISTING

STA. 656+35.00 TO STA. 667+75.00
STA. 680+00.00 TO STA. 689+90.00
STA. 761+20.00 TO STA. 789+50.00

NOTES:

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UNDERDRAINS TO BE CONNECTED TO DROP INLETS.

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TYPICAL SECTIONS OF IMPROVEMENT

Crafton, Tull & Associates Inc.

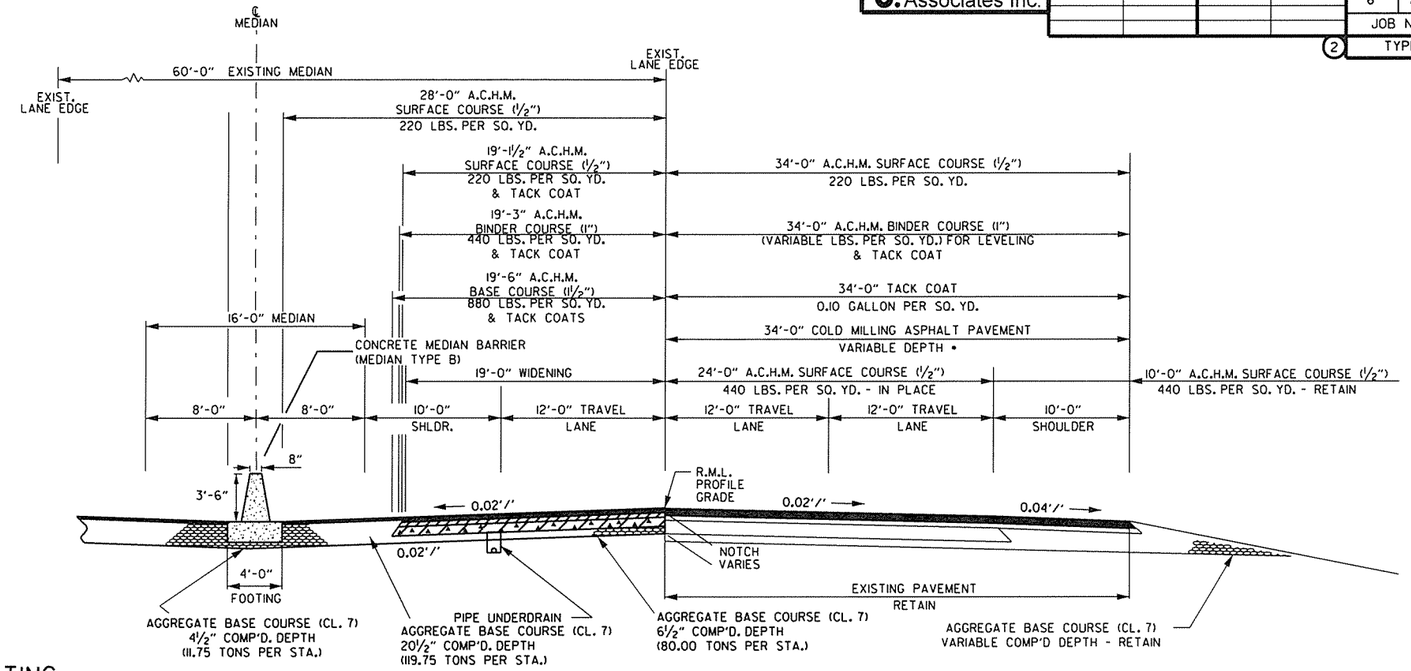
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) TYPICAL SECTIONS OF IMPROVEMENT

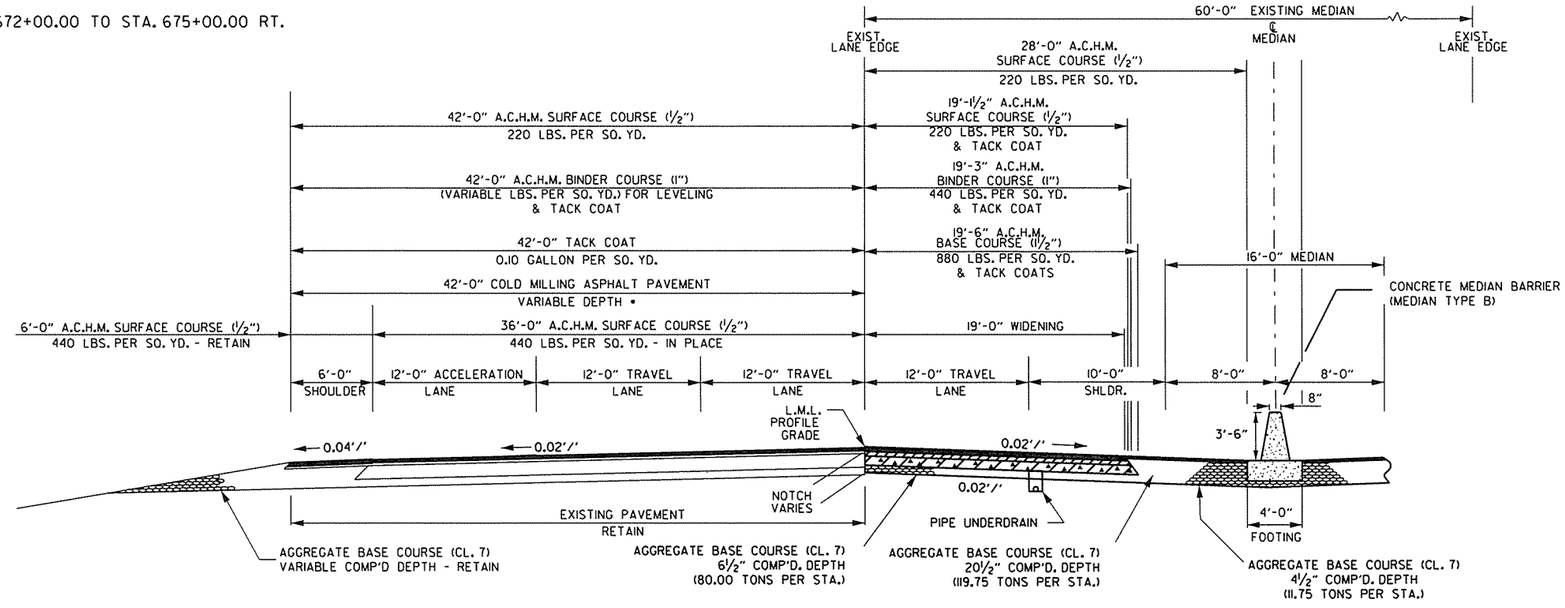
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS

- COLD MILLING MIN. DEPTH 2" BELOW PROFILE GRADE. COLD MILLING SHALL NOT BE PERFORMED IN AREAS WHERE EXISTING SURFACE IS MORE THAN 2" BELOW DESIGN PROFILE.



TYPICAL SECTION OF IMPROVEMENT - I-49
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY WITH PROFILE CORRECTION OF EXISTING

STA. 672+00.00 TO STA. 675+00.00 RT.



TYPICAL SECTION OF IMPROVEMENT - I-49
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY WITH PROFILE CORRECTION OF EXISTING

STA. 673+42.00 TO STA. 675+00.00 LT.
STA. 672+00.00 TO STA. 673+42.00 LT. - (TRANSITION ACCELERATION LANE FROM 7' TO 12')

NOTES:

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UNDERDRAINS TO BE CONNECTED TO DROP INLETS.

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

TYPICAL SECTIONS OF IMPROVEMENT

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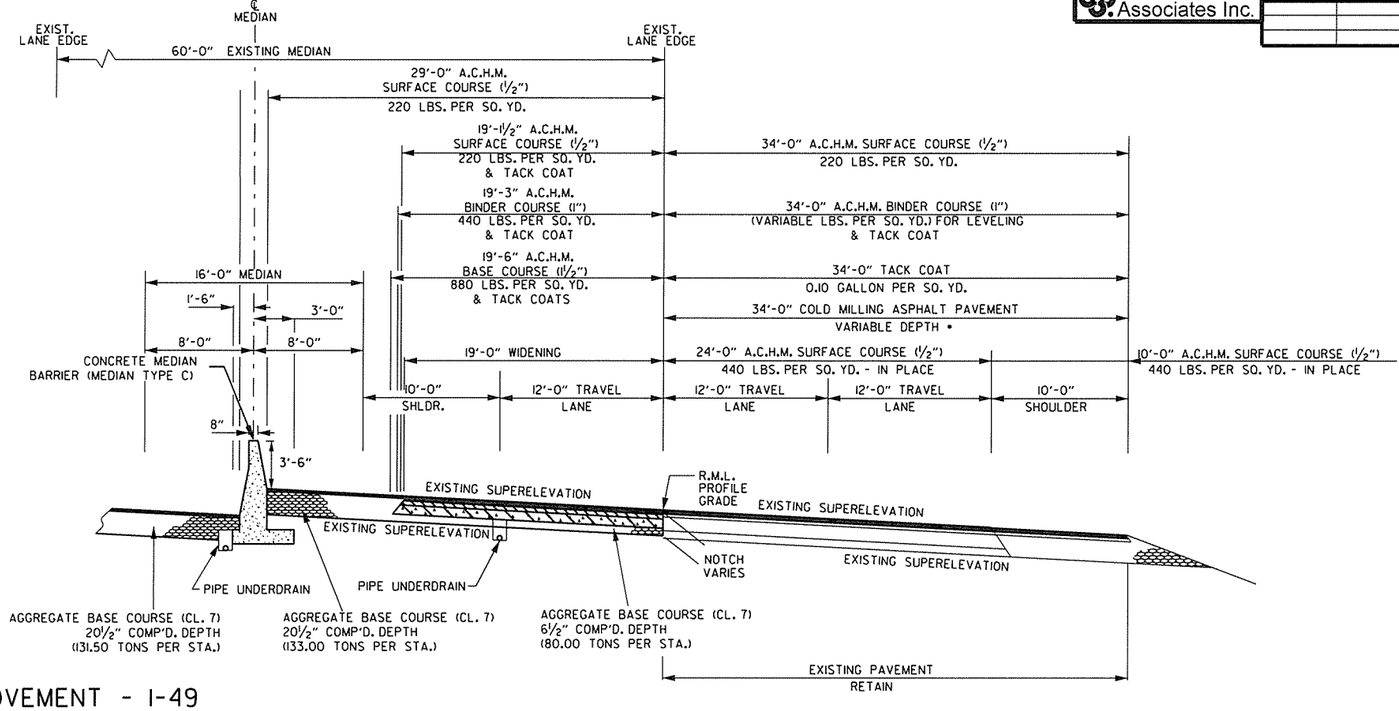
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	7	338

(2) TYPICAL SECTIONS OF IMPROVEMENT

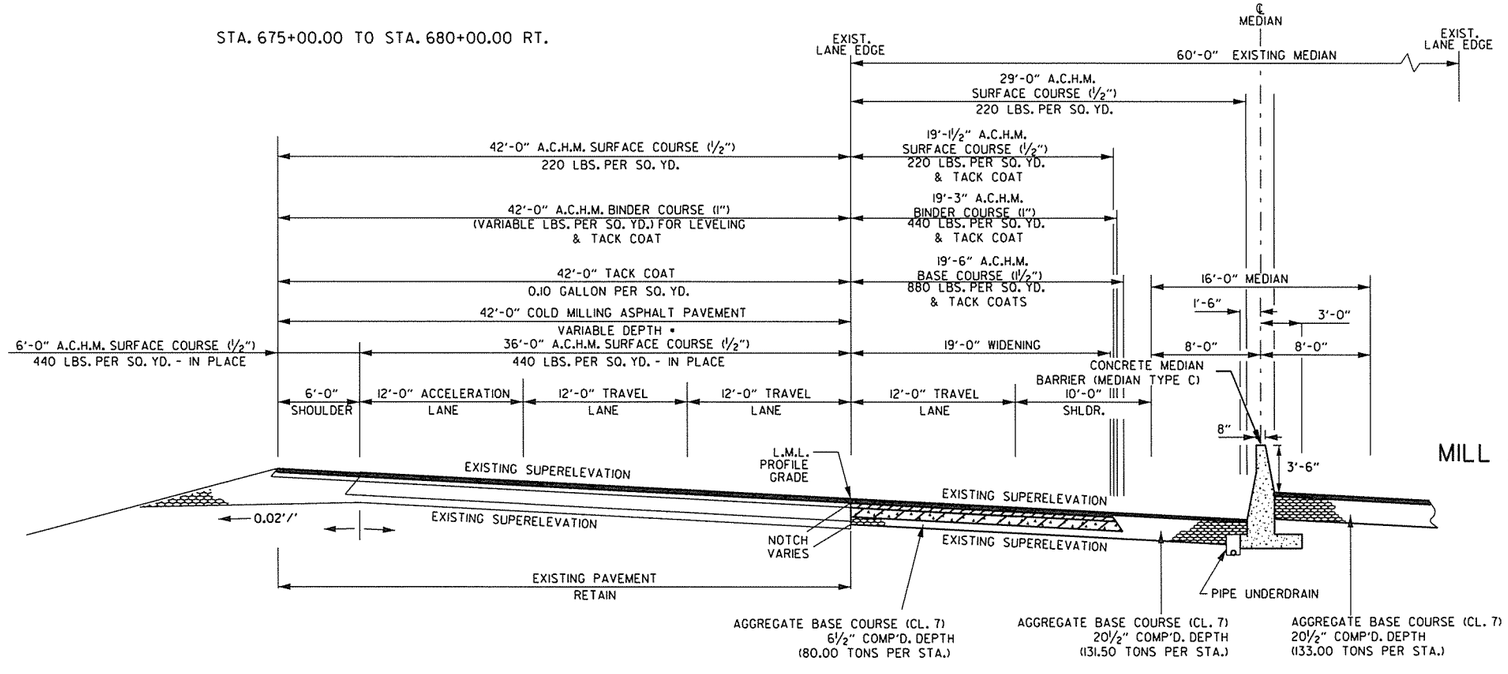
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
NO. 13560
4/2/15

- COLD MILLING MIN. DEPTH 2" BELOW PROFILE GRADE. COLD MILLING SHALL NOT BE PERFORMED IN AREAS WHERE EXISTING SURFACE IS MORE THAN 2" BELOW DESIGN PROFILE.



TYPICAL SECTION OF IMPROVEMENT - I-49
SUPERELEVATION
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY WITH PROFILE CORRECTION OF EXISTING

STA. 675+00.00 TO STA. 680+00.00 RT.



NOTES:

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UNDERDRAINS TO BE CONNECTED TO DROP INLETS.

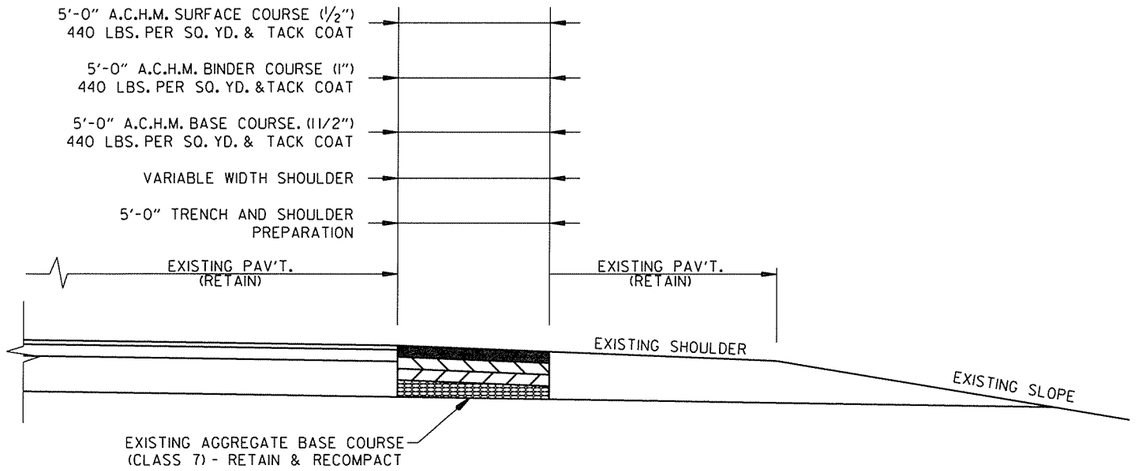
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TYPICAL SECTION OF IMPROVEMENT - I-49
SUPERELEVATION
NOTCH AND WIDEN INTO MEDIAN
MILL AND INLAY WITH PROFILE CORRECTION OF EXISTING

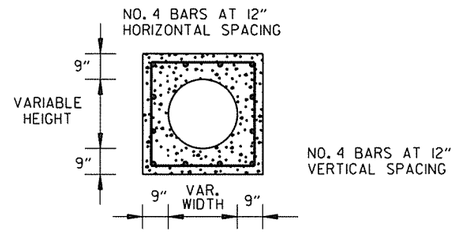
STA. 675+00.00 TO STA. 677+98.06 LT.
STA. 677+98.06 TO STA. 680+00.00 LT. - (TRANSITION ACCERATION LANE FROM 12' TO 17')

TYPICAL SECTIONS OF IMPROVEMENT

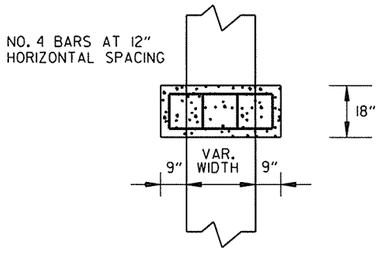
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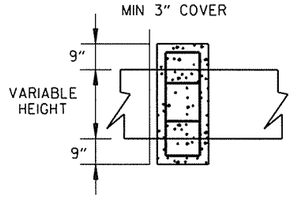
SHOULDER TRENCHING AND PREPARATION
OUTSIDE SHOULDER
(SHOWN IN DIRECTION OF TRAFFIC)



FRONT VIEW

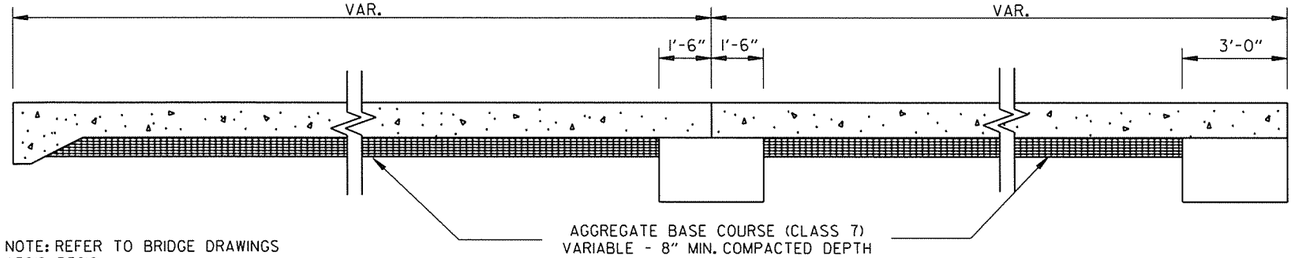


TOP VIEW



SIDE VIEW

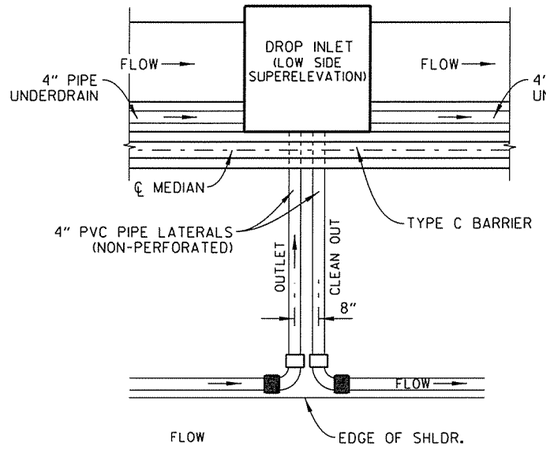
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



NOTE: REFER TO BRIDGE DRAWINGS
A5919, B5919
A5920, B5920
A5922, B5922
FOR ADDITIONAL INFORMATION.

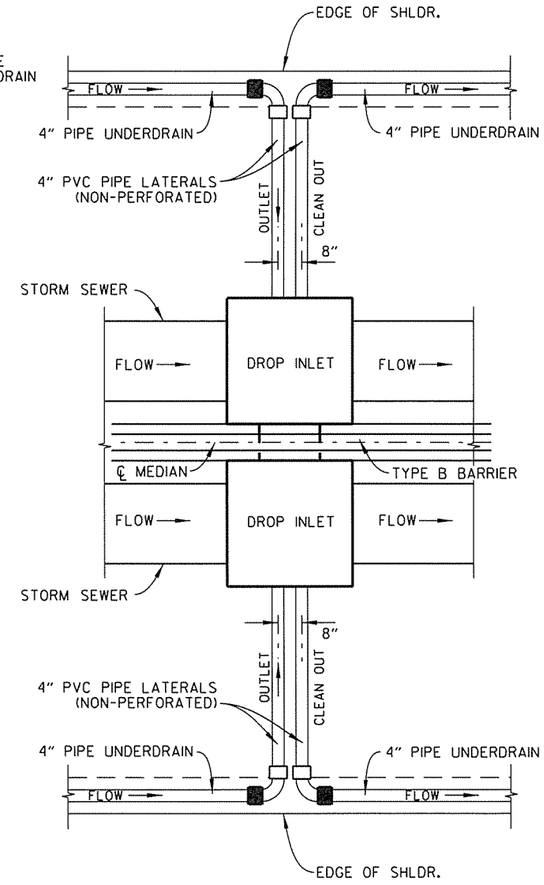
DETAIL OF APPROACH SLAB

(NOT TO SCALE)



NOTES:

1. FOR MATERIAL REQUIREMENTS REFER TO STD. DWG. PU-1
2. TYPICAL SHOWN FOR INLETS AND DRAIN ON GRADE. FOR INLETS IN SAG, BOTH LATERALS FLOW INTO INLET.
3. ANY LATERAL CROSSING ℄ MEDIAN MUST BE BELOW MEDIAN BARRIER.



PLAN DETAIL OF PIPE UNDERDRAIN LATERALS

Crafton, Tull & Associates Inc.

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JOB NO.		CA0401	8	338

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS

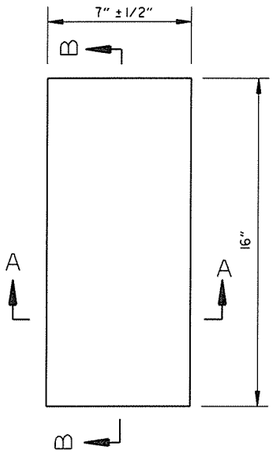
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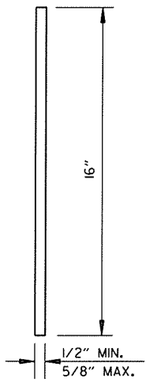
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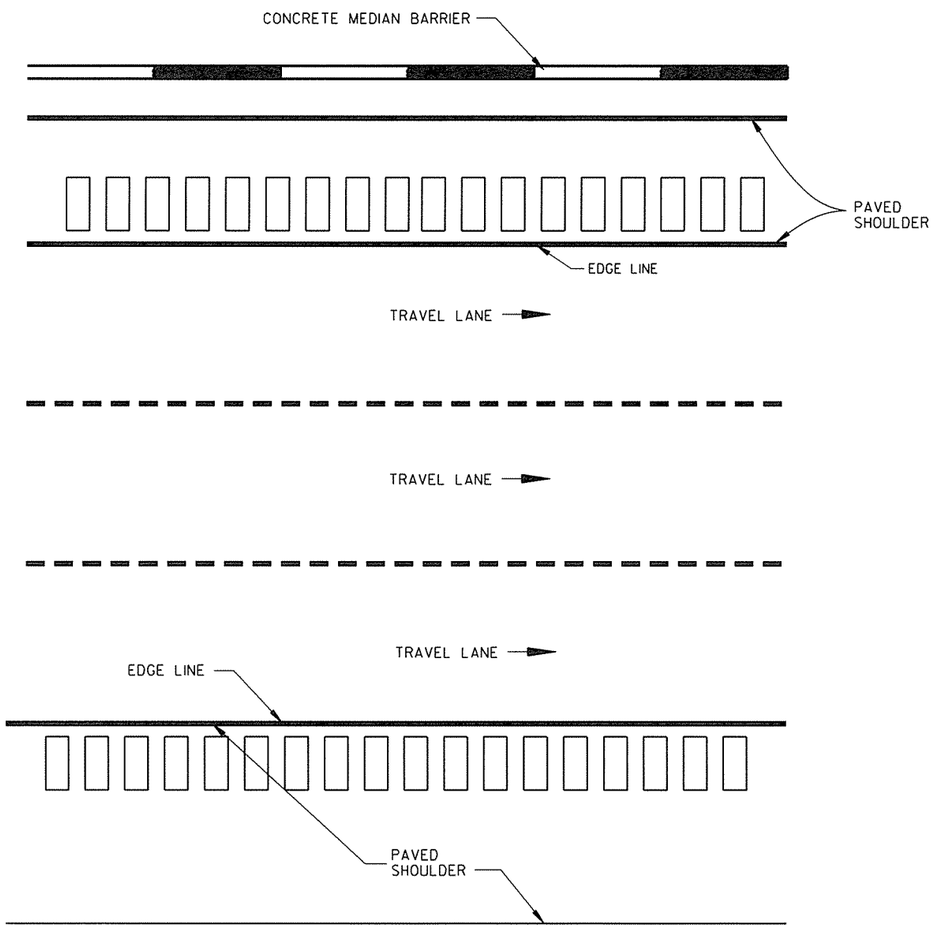
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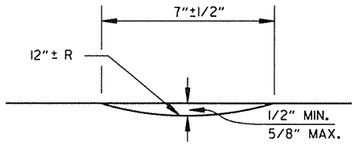
PLAN



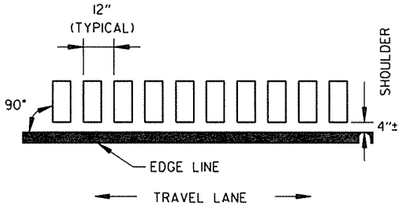
SECTION B-B



PLAN VIEW



SECTION A-A



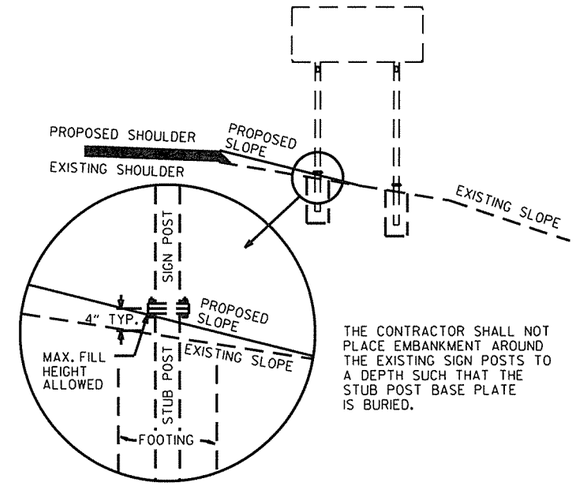
LOCATION PLAN OF RUMBLE STRIPS
LEFT SHOULDER

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

(NOT TO SCALE)



THE CONTRACTOR SHALL NOT PLACE EMBANKMENT AROUND THE EXISTING SIGN POSTS TO A DEPTH SUCH THAT THE STUB POST BASE PLATE IS BURIED.

DETAIL FOR THE MAINTENANCE OF
EXISTING BREAKAWAY SIGN STRUCTURES

SPECIAL DETAILS

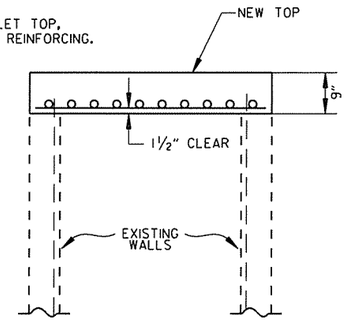
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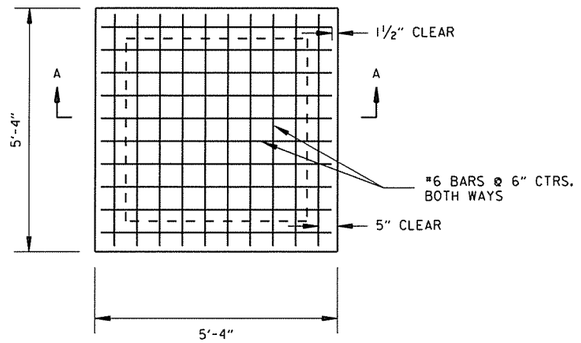
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REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

REMOVE EXISTING DROP INLET TOP,
RETAIN EXISTING VERTICAL REINFORCING.

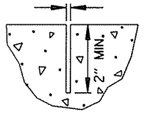


SECTION A-A

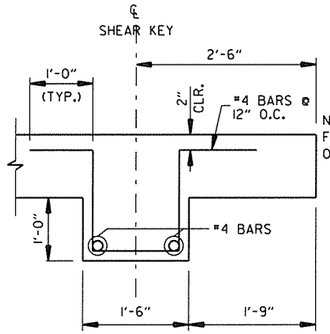


TOP VIEW

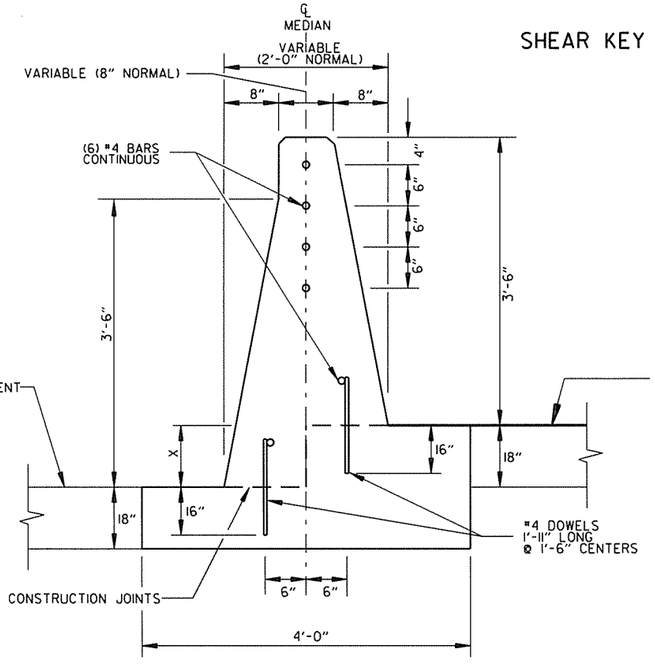
DETAILS OF MODIFIED DROP INLET



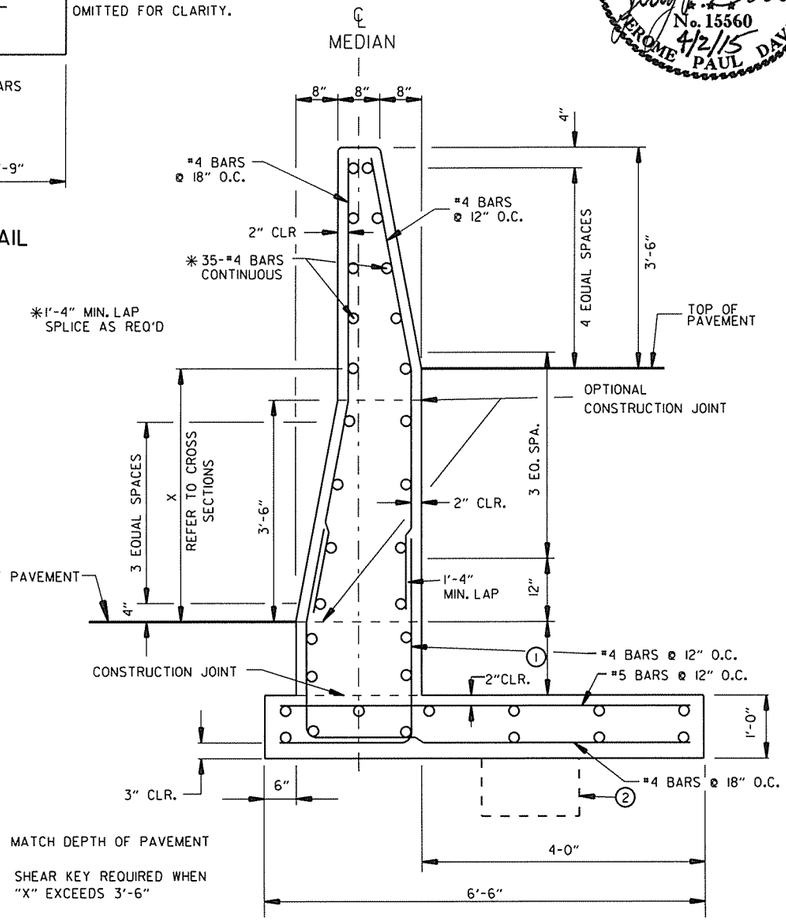
CONTRACTION JOINT DETAIL



SHEAR KEY DETAIL



CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX



1 MATCH DEPTH OF PAVEMENT

2 SHEAR KEY REQUIRED WHEN "X" EXCEEDS 3'-6"

CONCRETE BARRIER WALL
(MEDIAN TYPE C)
X = 1'-0" TO 5'-0" MAX.

GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 30'-0" MAXIMUM SPACING IS REQUIRED FOR MEDIAN TYPE C.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. DOWEL BARS FOR BARRIER MEDIAN TYPE B WILL NOT BE REQUIRED IF BARRIER AND MINIMUM 4' WIDE BASE ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.
6. THE DESIGN OF BARRIER WALL MEDIAN TYPE 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 AS DIRECTED BY THE ENGINEER.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIER MEDIAN TYPE B OR 120 FT. FOR BARRIER MEDIAN TYPE C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
8. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.

(NOT TO SCALE)

SPECIAL DETAILS

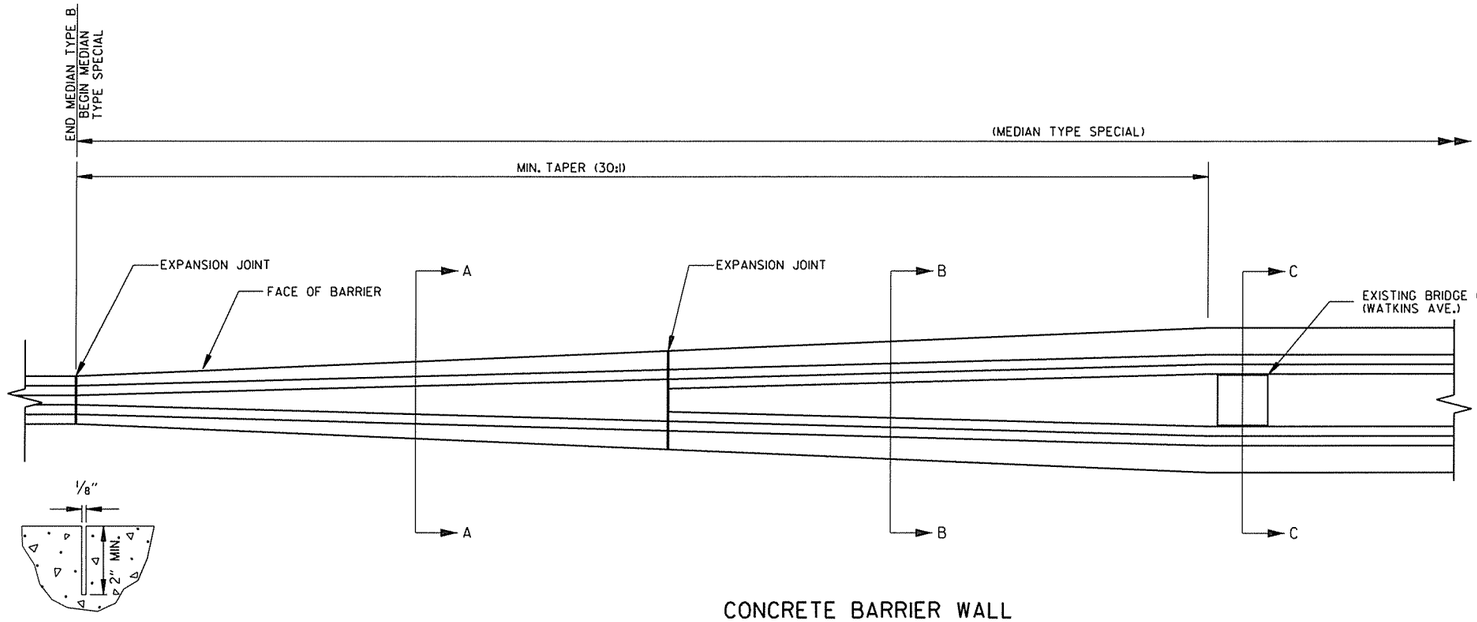
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				JOB NO.		CA0401	11	338

2 SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS



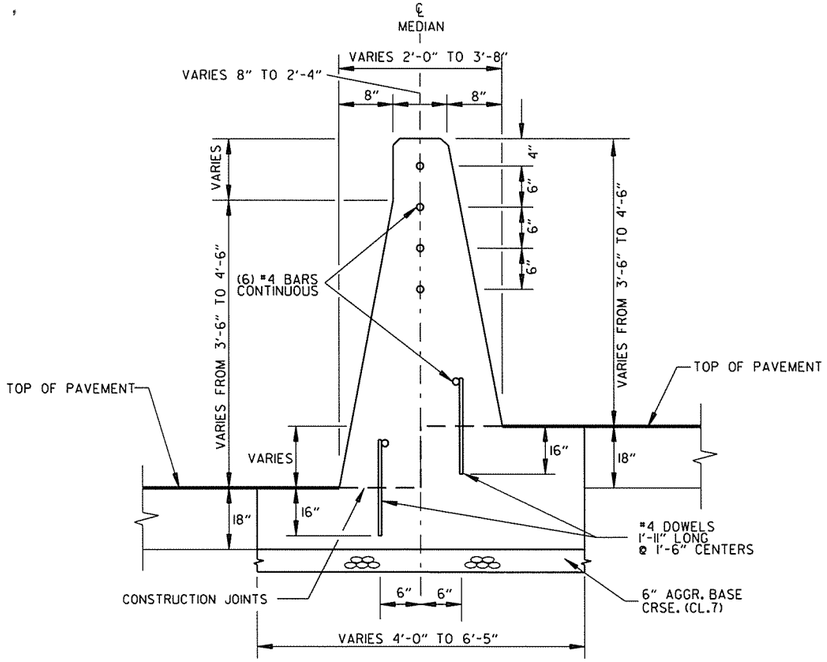
CONTRACTION JOINT DETAIL

CONCRETE BARRIER WALL

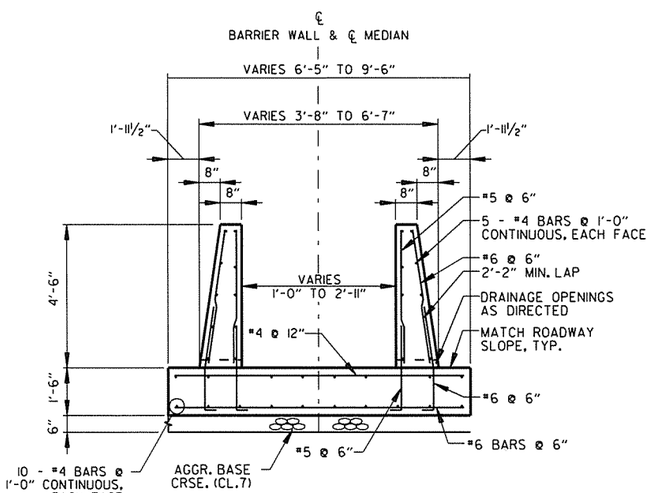
NOTE: TRANSITION FOR SOUTH SIDE SHOWN. NORTH SIDE TRANSITION IS IDENTICAL.

GENERAL NOTES FOR CONCRETE BARRIER WALLS

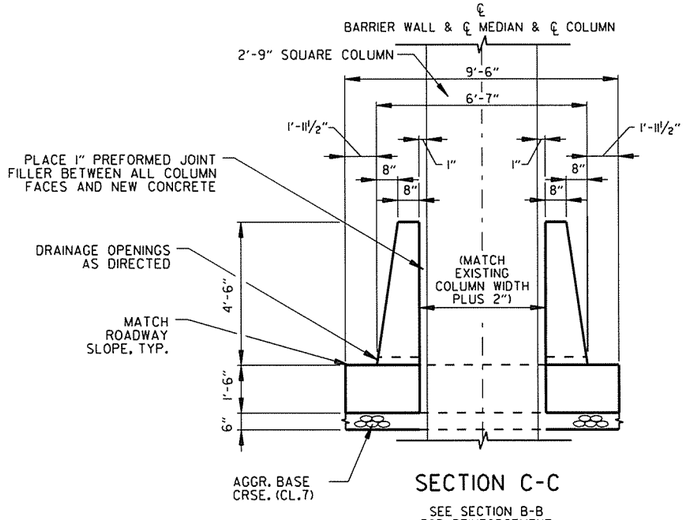
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. THE DESIGN OF BARRIER WALL MEDIAN TYPE SPECIAL IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIER. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.
8. FOR BARRIER SECTION C-C, SHIFT #6 BARS IN FOOTING EQUALLY TO EACH SIDE OF OPENINGS AT COLUMNS. MAINTAIN AT LEAST 3" O.C. SPACING. TRIM #4 BARS TO MAINTAIN 2" CLEARANCE.
9. CLASS 7 AGGREGATE BASE UNDER CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL) SHALL BE INSTALLED ACCORDING TO SECTION 303 OF THE STANDARD SPECIFICATIONS. SEPARATE PAYMENT WILL NOT BE MADE BUT WILL BE CONSIDERED SUBSIDIARY TO PAY ITEM "CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)".



SECTION A-A



SECTION B-B



SECTION C-C

SEE SECTION B-B FOR REINFORCEMENT

DETAILS OF CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)

(STA: 721+72 TO STA: 723+44)

(NOT TO SCALE)

SPECIAL DETAILS

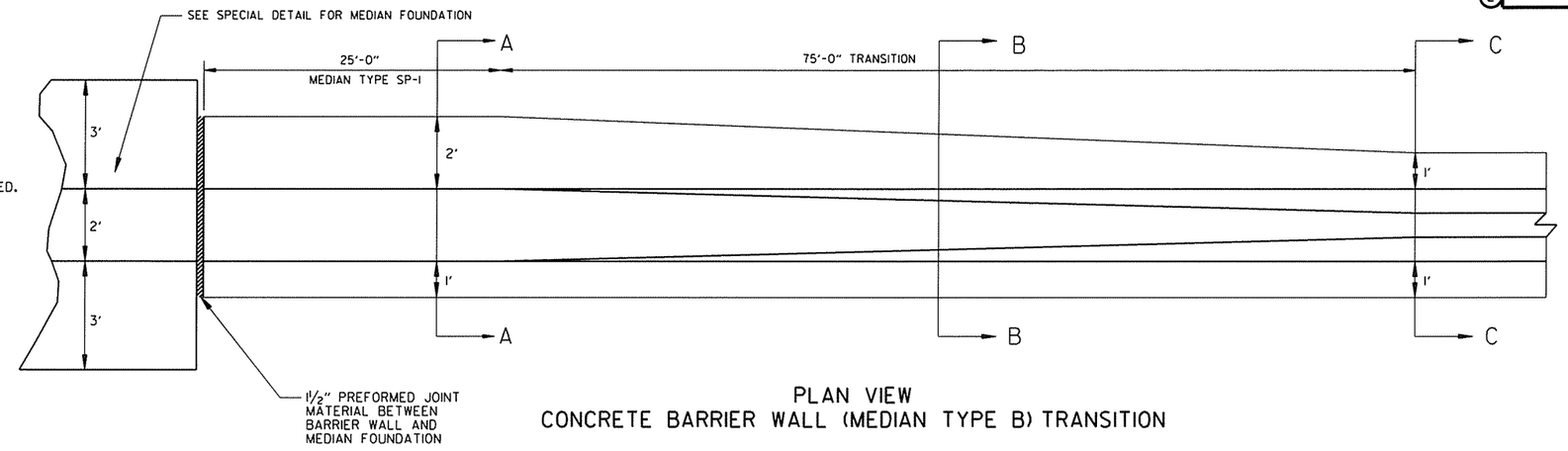
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GENERAL NOTES FOR CONCRETE BARRIER WALLS

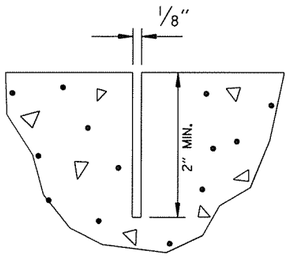
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
3. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
4. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
5. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.
6. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.

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					JOB NO.		CA0401	12	338
					(2)	SPECIAL DETAILS			

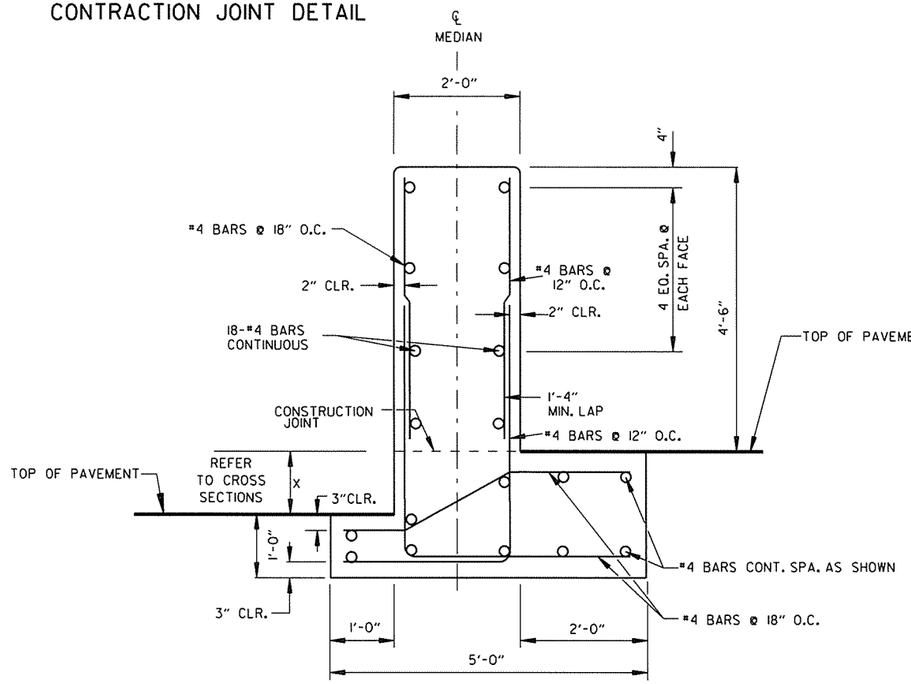
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



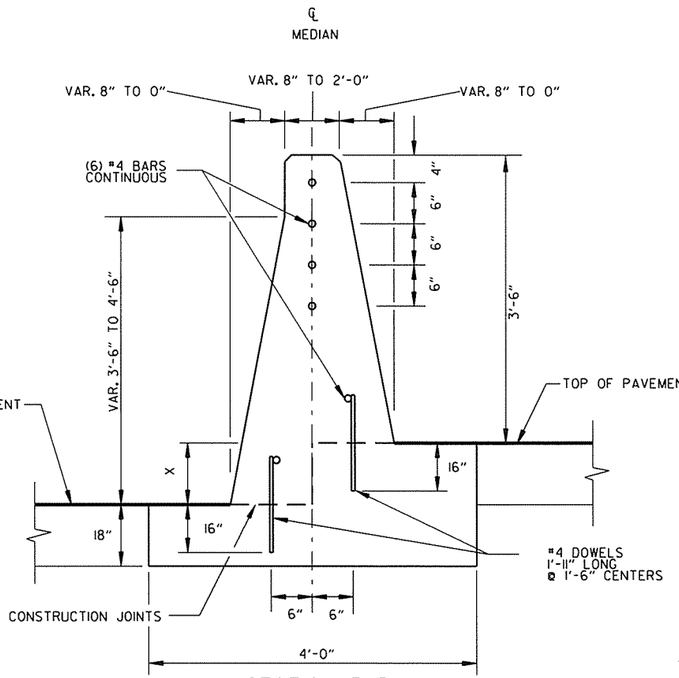
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE B) TRANSITION



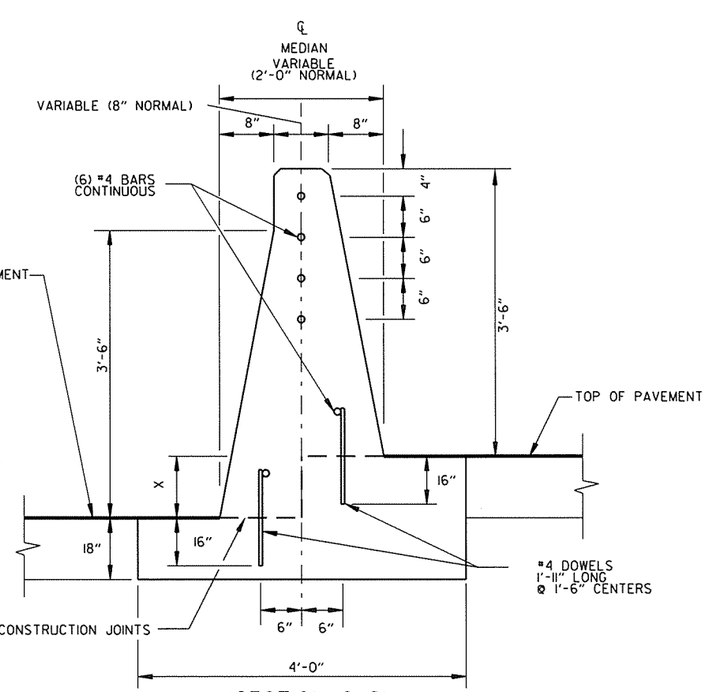
CONTRACTION JOINT DETAIL



(SECTION A-A)
CONCRETE BARRIER WALL (MEDIAN TYPE SP-1)
X = 0'-0" TO 1'-0" MAX.



(SECTION B-B)
CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX



(SECTION C-C)
CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX

TRANSITION FROM CONCRETE BARRIER WALL (MEDIAN TYPE B) TO CONCRETE BARRIER WALL (MEDIAN TYPE SP-1) TO MEDIAN FOUNDATION

(NOT TO SCALE)

SPECIAL DETAILS

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GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
3. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
4. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
5. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.

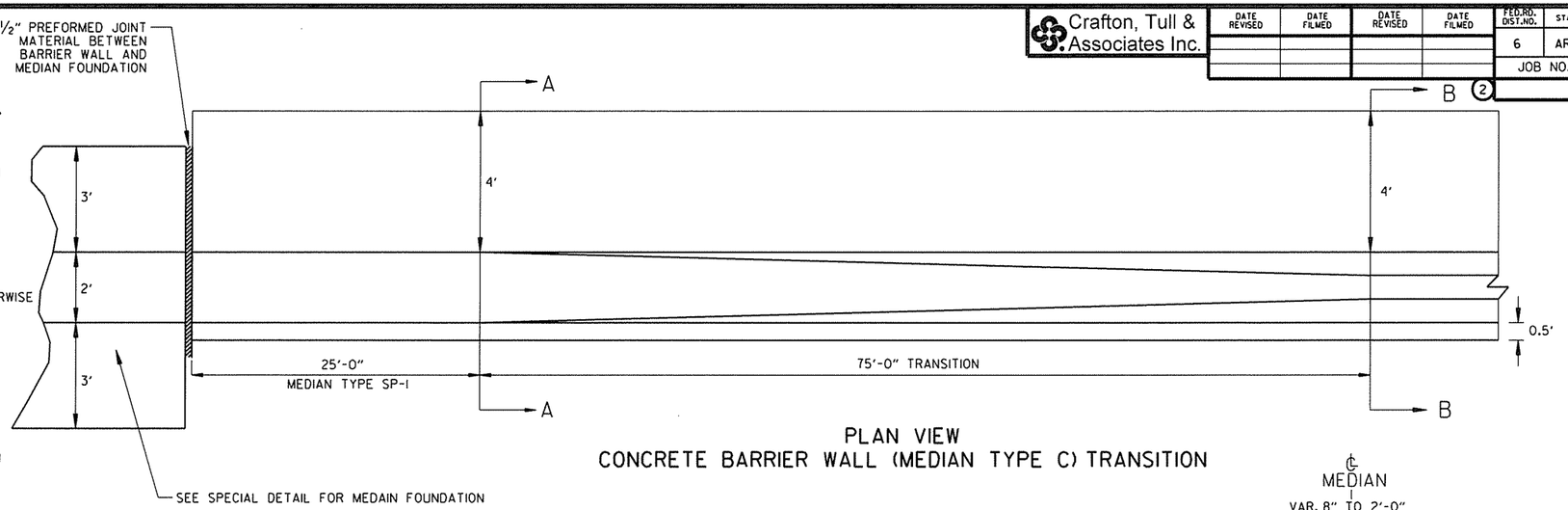
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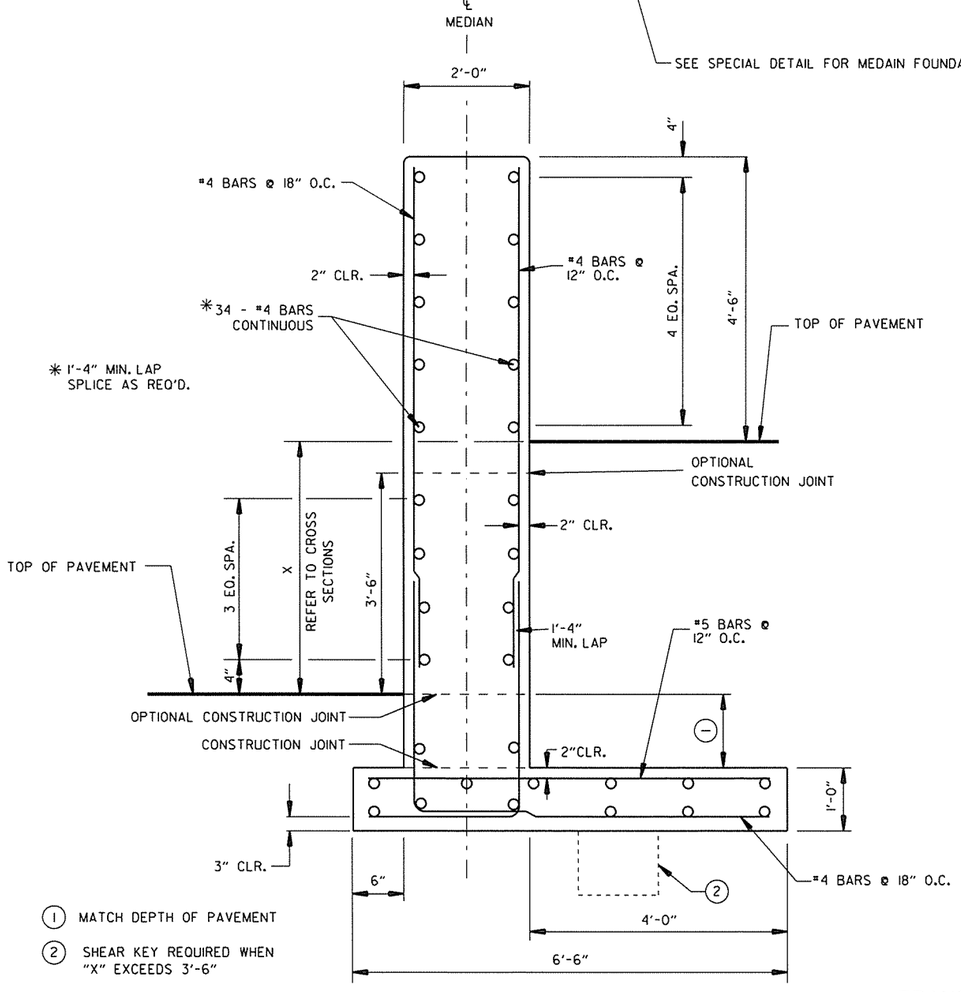
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(2) SPECIAL DETAILS

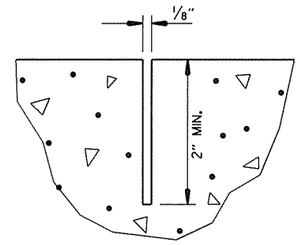
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



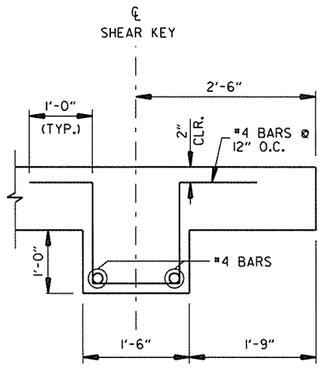
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE C) TRANSITION



(SECTION A-A)
CONCRETE BARRIER WALL (MEDIAN TYPE SP-I)
X = 1'-0" TO 5'-0" MAX.

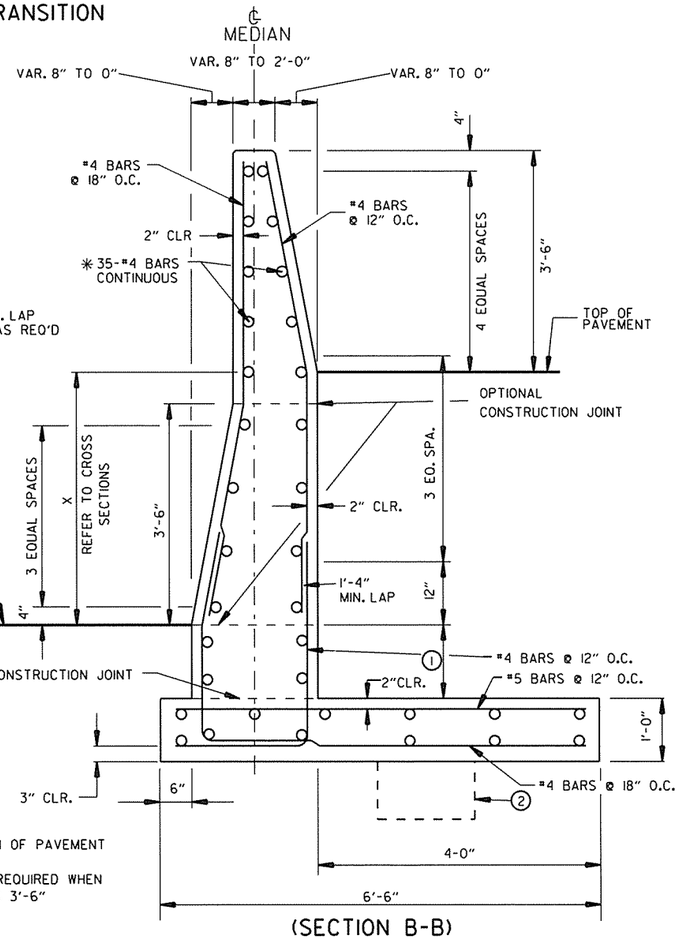


CONTRACTION JOINT DETAIL



NOTE:
FOOTING REINFORCEMENT OMITTED FOR CLARITY.

SHEAR KEY DETAIL



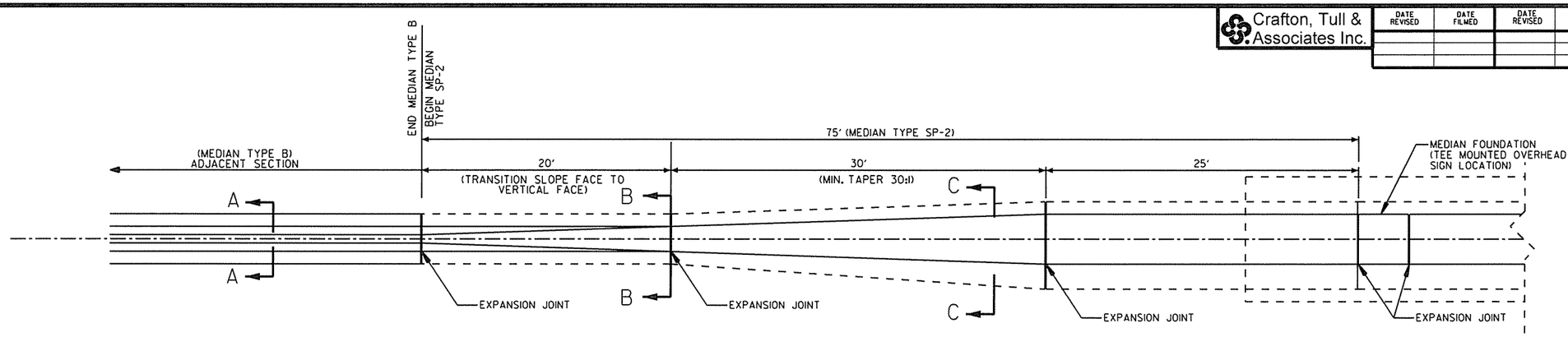
(SECTION B-B)
CONCRETE BARRIER WALL
TRANSITION (MEDIAN TYPE C)
X = 1'-0" TO 5'-0" MAX.

TRANSITION FROM CONCRETE BARRIER WALL (MEDIAN TYPE C) TO CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) TO MEDIAN FOUNDATION

(NOT TO SCALE)

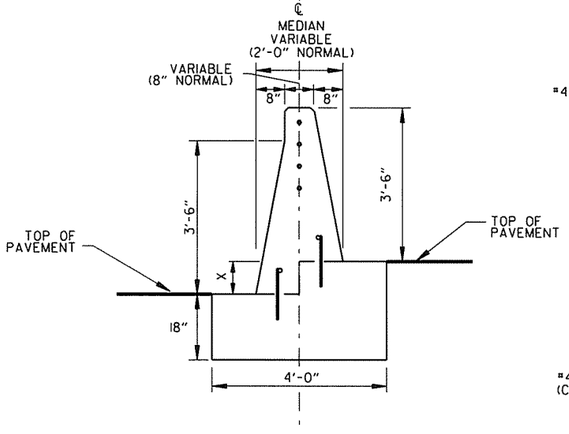
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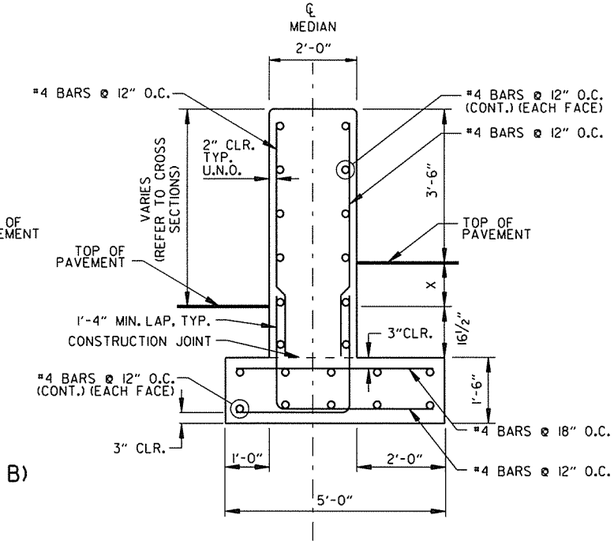
CONCRETE BARRIER WALL

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

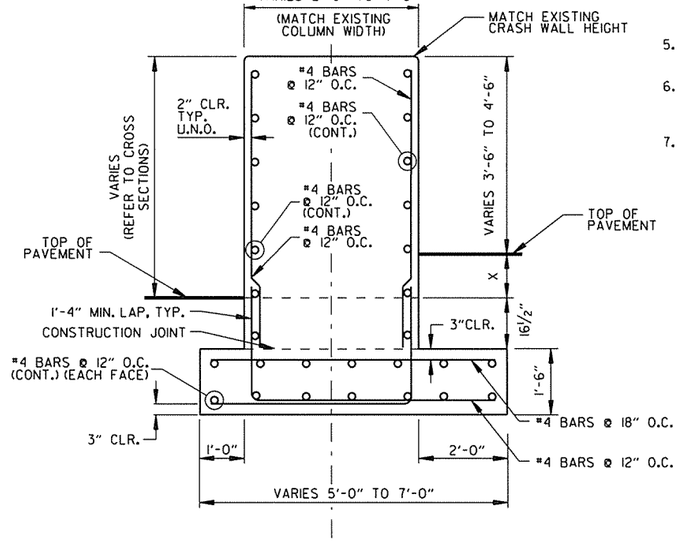


SECTION A-A
CONCRETE BARRIER WALL (MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX
(NOT TO SCALE)

REFER TO SPECIAL DETAIL (CONCRETE BARRIER WALL TYPE B) FOR REINFORCEMENT DETAILS.



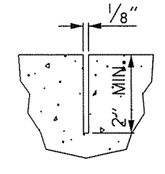
SECTION B-B
CONCRETE BARRIER WALL (MEDIAN TYPE SP-2)
X = 0'-0" TO 1'-0" MAX.



SECTION C-C
CONCRETE BARRIER WALL (MEDIAN TYPE SP-2)
X = 0'-0" TO 1'-0" MAX.

GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. THE DESIGN OF BARRIER WALL MEDIAN TYPE SP-2 IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
6. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.



CONTRACTION JOINT DETAIL

TRANSITION FROM CONCRETE BARRIER WALL (MEDIAN TYPE B) TO CONCRETE BARRIER WALL (MEDIAN TYPE SP-2) TO MEDIAN FOUNDATION FOR TEE MOUNTED OVERHEAD SIGN STRUCTURE

(NOT TO SCALE)

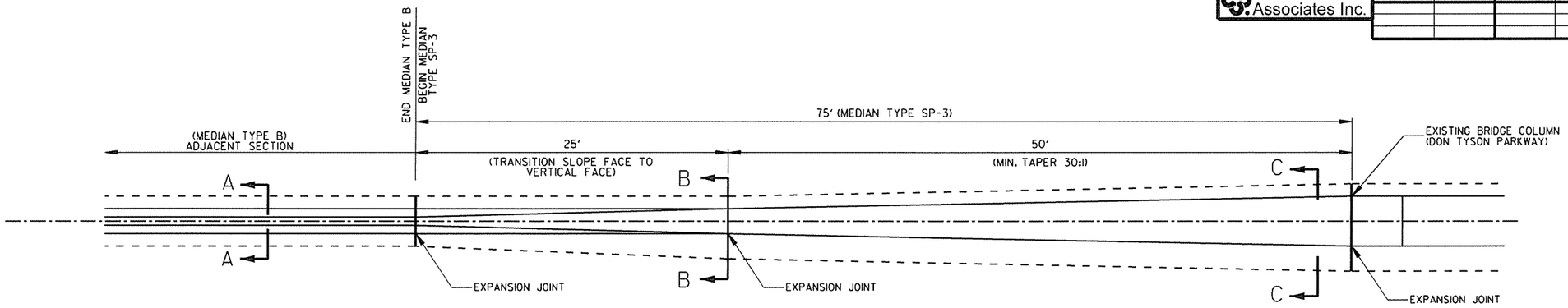
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				JOB NO.		CA0401	15	338

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

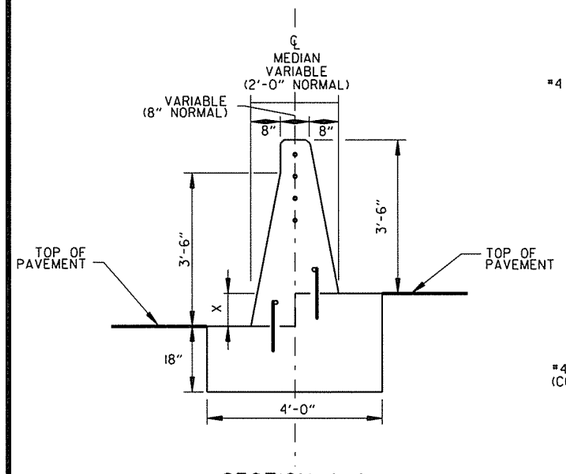


CONCRETE BARRIER WALL

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

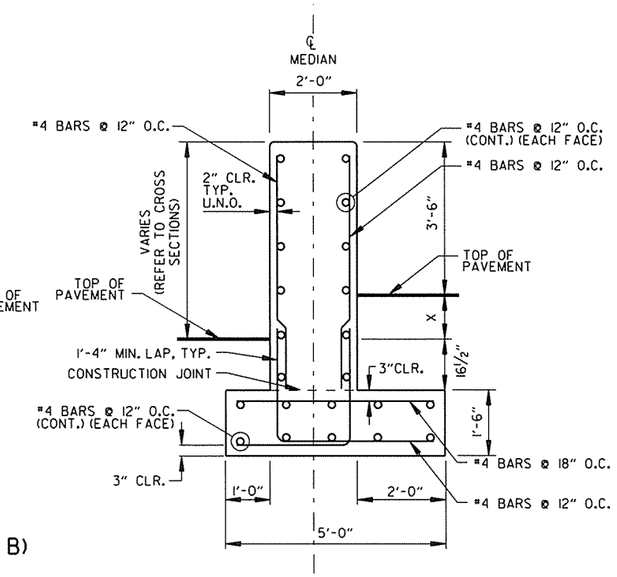
GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. THE DESIGN OF BARRIER WALL MEDIAN TYPE SP-3 IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
6. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.

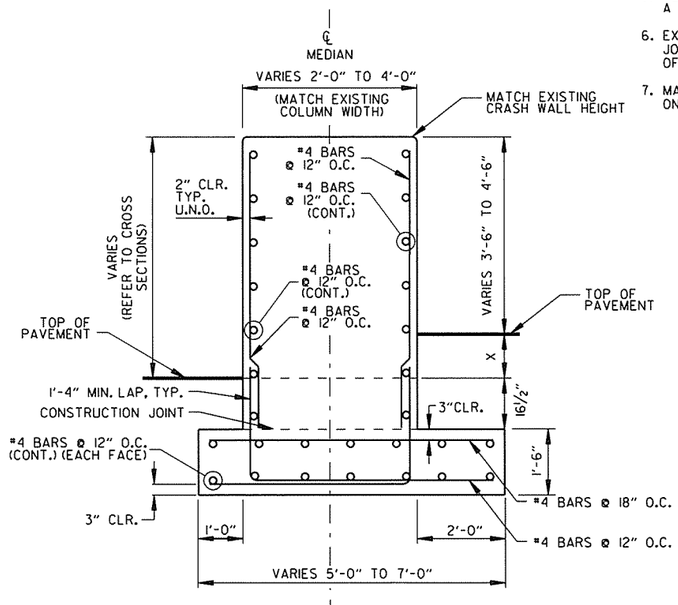


SECTION A-A
CONCRETE BARRIER WALL (MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX
(NOT TO SCALE)

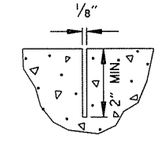
REFER TO SPECIAL DETAIL (CONCRETE BARRIER WALL TYPE B) FOR REINFORCEMENT DETAILS.



SECTION B-B
CONCRETE BARRIER WALL (MEDIAN TYPE SP-3)
X = 0'-0" TO 1'-0" MAX.



SECTION C-C
CONCRETE BARRIER WALL (MEDIAN TYPE SP-3)
X = 0'-0" TO 1'-0" MAX.

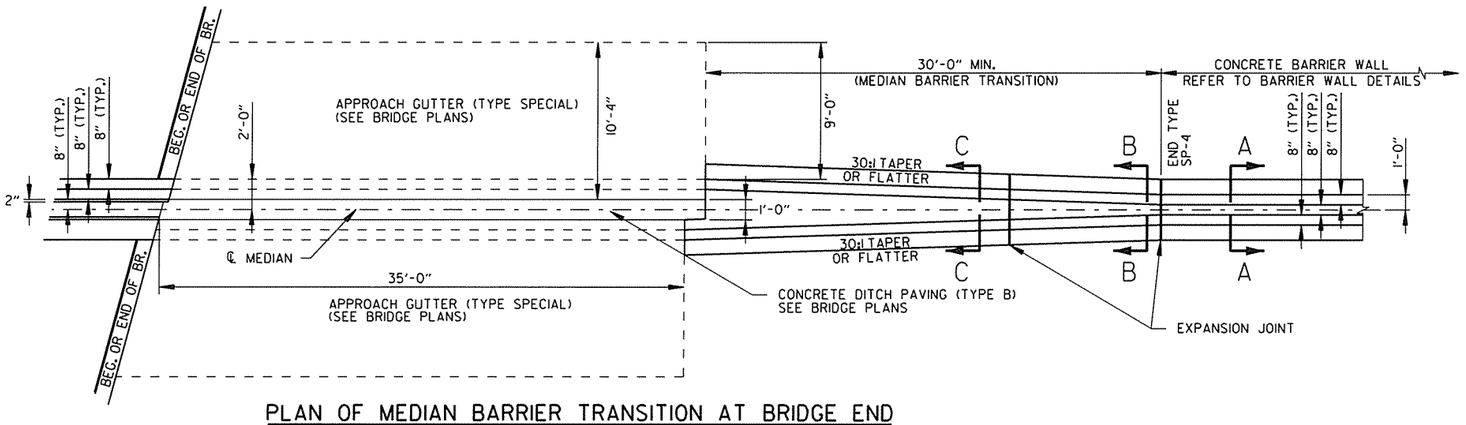


CONTRACTION JOINT DETAIL

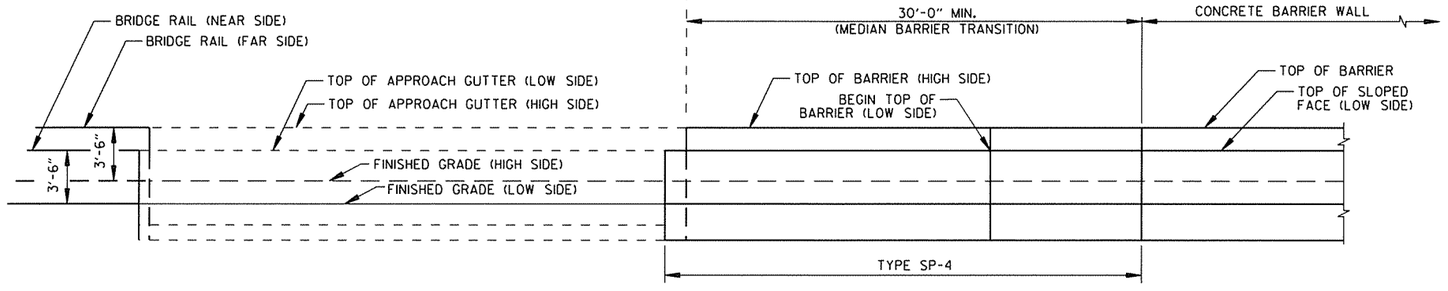
DETAILS OF CONCRETE BARRIER WALL (MEDIAN TYPE SP-3)
(NOT TO SCALE)

SPECIAL DETAILS

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PLAN OF MEDIAN BARRIER TRANSITION AT BRIDGE END

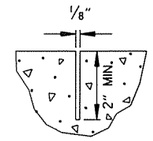


ELEVATION OF MEDIAN BARRIER TRANSITION AT BRIDGE END

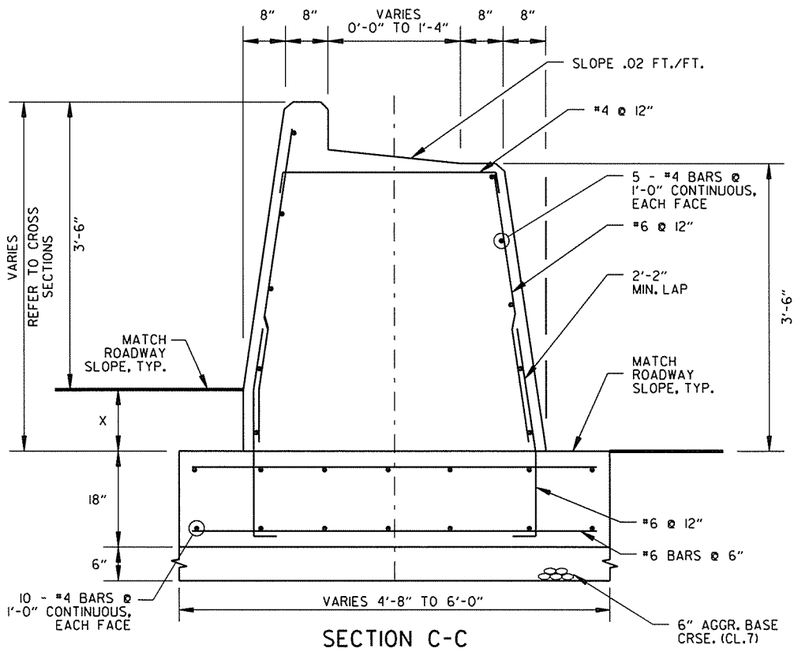
GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. THE DESIGN OF BARRIER WALL MEDIAN TYPE SP-4 IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF 1500 POUNDS PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
6. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIER. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
7. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.
8. FOR BARRIER SECTION C-C, SHIFT #6 BARS IN FOOTING EQUALLY TO EACH SIDE OF OPENINGS AT COLUMNS. MAINTAIN AT LEAST 3" MINIMUM SPACING. TRIM #4 BARS TO MAINTAIN 2" CLEARANCE.
9. CLASS 7 AGGREGATE BASE UNDER CONCRETE BARRIER WALL (SP-4) SHALL BE INSTALLED ACCORDING TO SECTION 303 OF THE STANDARD SPECIFICATIONS. SEPARATE PAYMENT WILL NOT BE MADE BUT WILL BE CONSIDERED SUBSIDIARY TO PAY ITEM "CONCRETE BARRIER WALL (SP-4)".

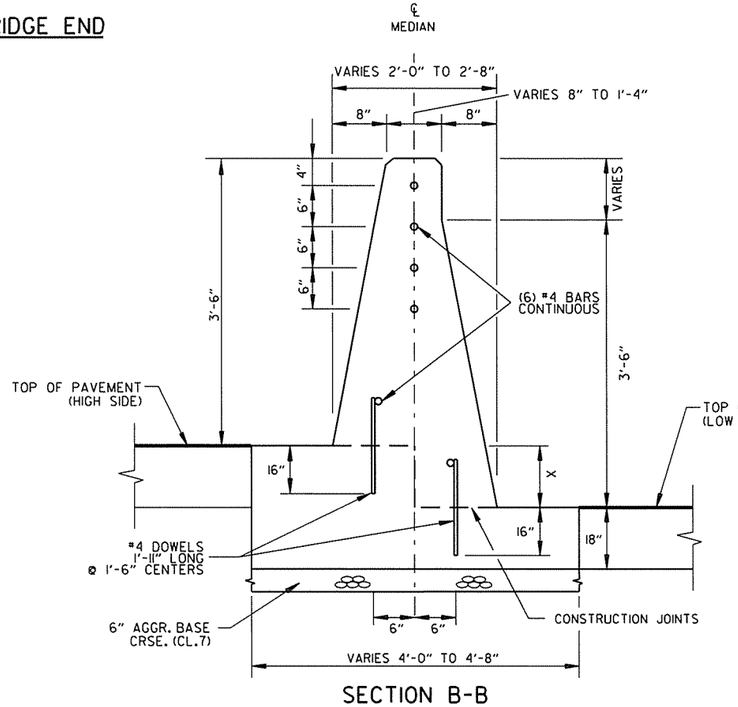
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



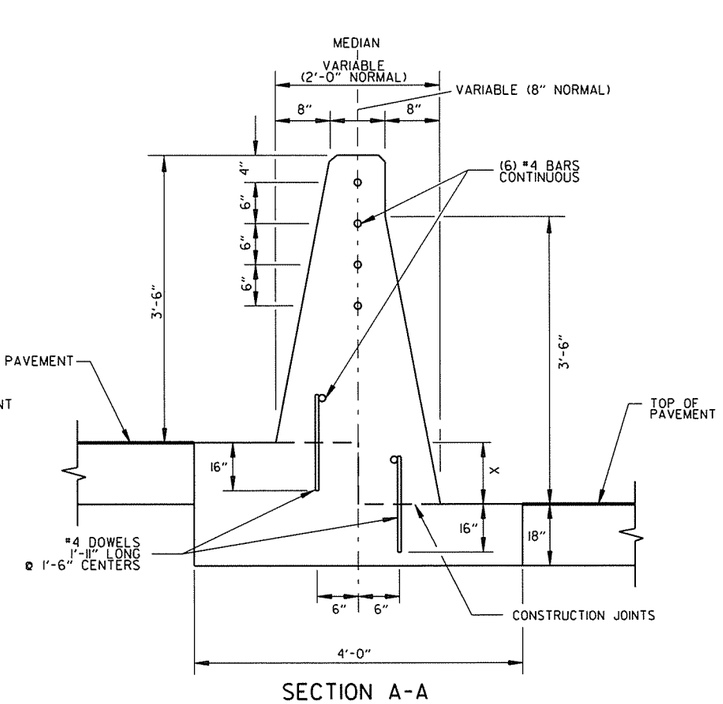
CONTRACTION JOINT DETAIL



SECTION C-C



SECTION B-B



SECTION A-A

DETAILS OF CONCRETE BARRIER WALL (MEDIAN TYPE SP-4)
X = 0'-0" TO 3'-0"
(NOT TO SCALE)

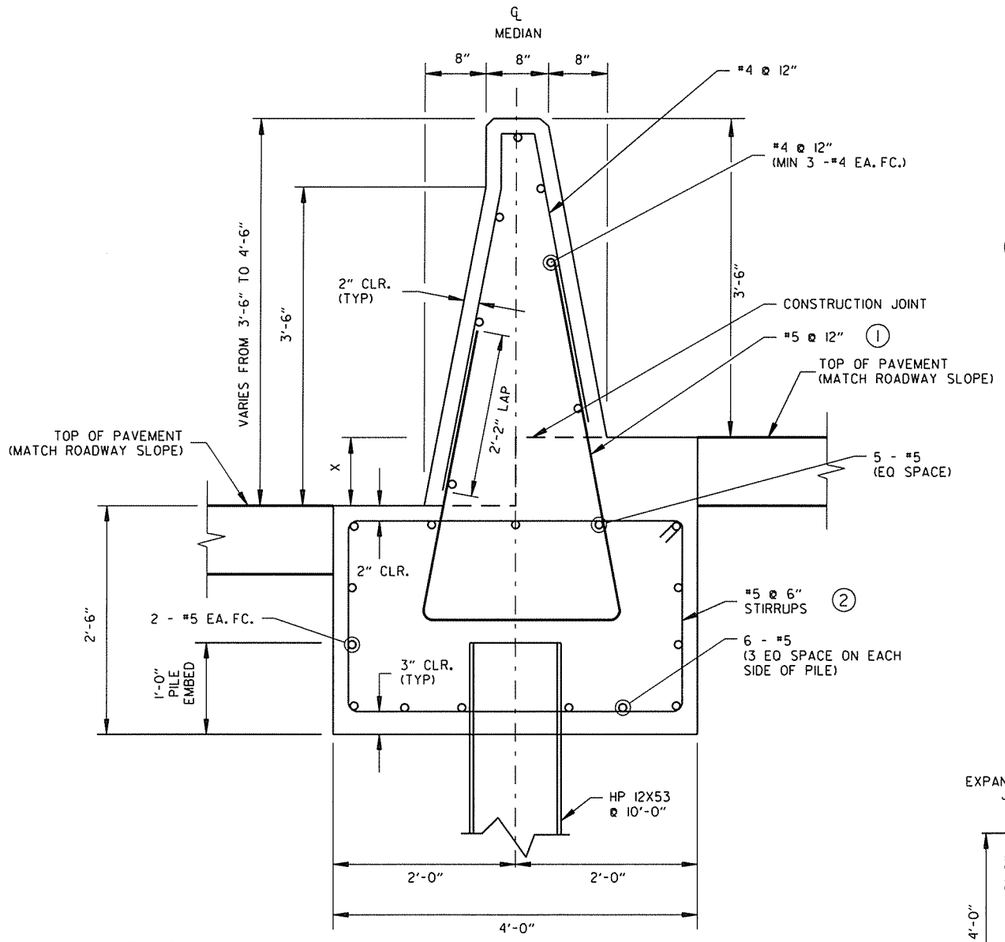
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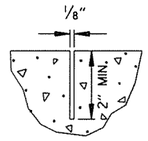
2 SPECIAL DETAILS



(1) EMBED 1'-3" MINIMUM INTO FOOTING

(2) PLACE STIRRUPS EITHER SIDE OF PILE AS INDICATED IN PLAN VIEW.

CONCRETE BARRIER WALL
(MEDIAN TYPE B SPECIAL)
X = 0'-0" TO 1'-0" MAX

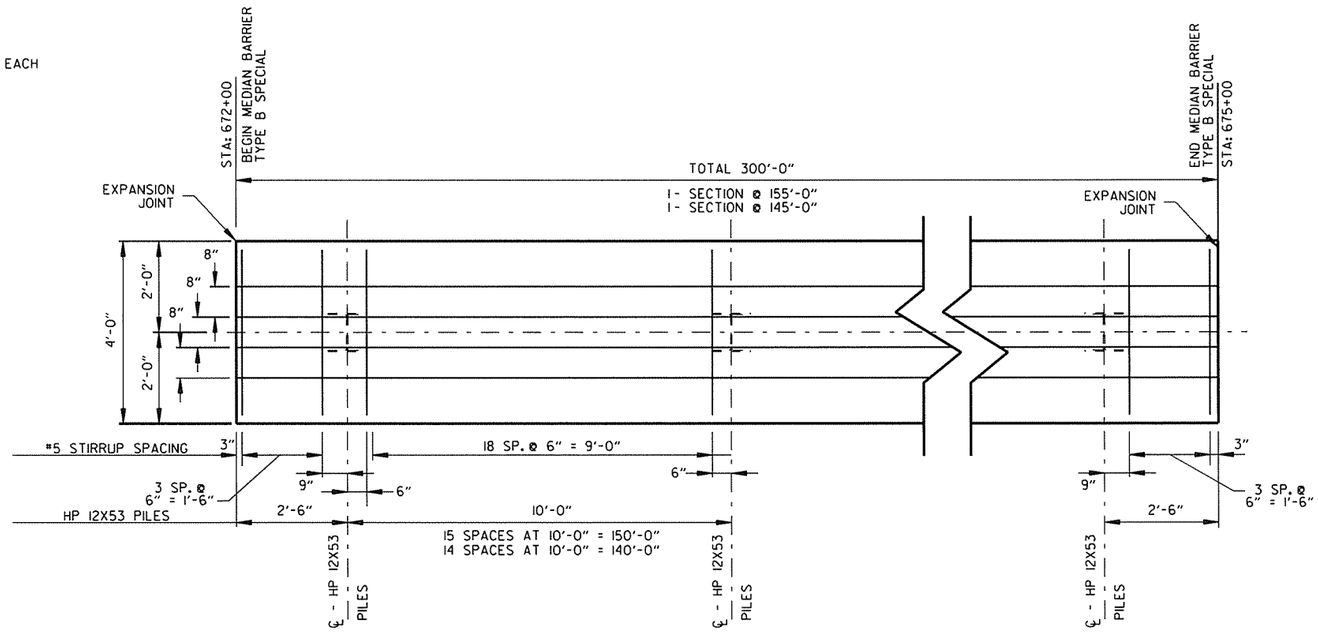


CONTRACTION JOINT DETAIL

GENERAL NOTES FOR CONCRETE BARRIER WALLS IN LANDFILL

1. ALL BARRIER WALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED AT 15'-0" MAXIMUM SPACING. CONTRACTION JOINTS ARE NOT PERMITTED AT DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL STEEL PILING SHALL BE HP 12X53 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM SAFE BEARING CAPACITY OF 70 TONS PER PILE INTO THE MATERIAL DESIGNATED AS HARD CHERTY LIMESTONE AS DESIGNATED BY THE BORING LOGS. LENGTHS SHOWN ARE FOR ESTIMATING QUANTITIES AND FOR USE IN DETERMINING PAYMENT FOR CUT-OFF AND BUILD-UP IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. ALL PILING SHALL BE STRUCTURAL STEEL (AASHTO M270, GR. 36). ON ALL PILING CONTRACTOR SHALL USE APPROVED STEEL H-PILE DRIVING POINTS.
5. BORING LOGS MAY BE OBTAINED FROM THE PROGRAM MANAGEMENT DIVISION.
6. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 100 FT. FOR BARRIER. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF THE EXPANSION JOINT.
8. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.
9. SEE QUANTITIES FOR LENGTHS OF PILINGS.
10. MATERIALS AND STRENGTHS:
    CLASS S CONCRETE (F'c = 3500 PSI)
    REINFORCING STEEL (GRADE 60 AASHTO M31 OR M322 TYPE A)
    STRUCTURAL STEEL (AASHTO M270, GR. 36) FY = 36,000 PSI

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



PLAN VIEW

DETAILS OF CONCRETE BARRIER
WALL MEDIAN (TYPE B SPECIAL) OVER LANDFILL
(NOT TO SCALE)

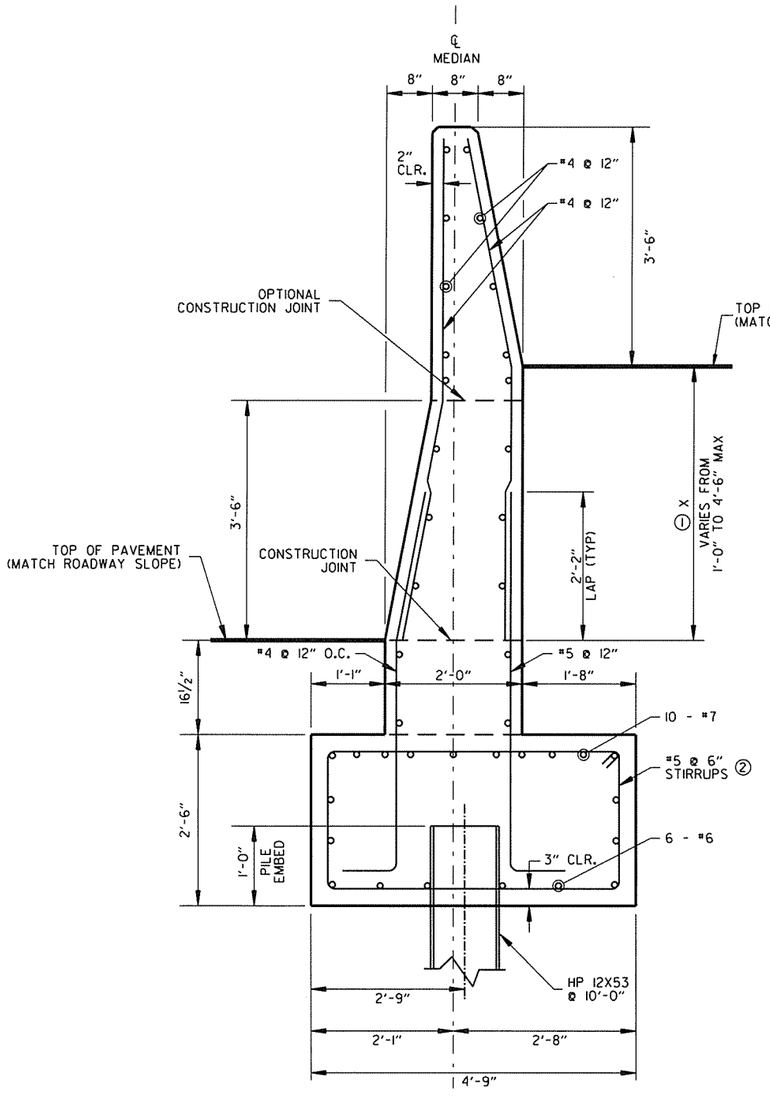
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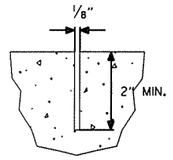
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	18	338

2 SPECIAL DETAILS



CONCRETE BARRIER WALL
(MEDIAN TYPE C SPECIAL)
X = 1'-0" TO 4'-6" MAX

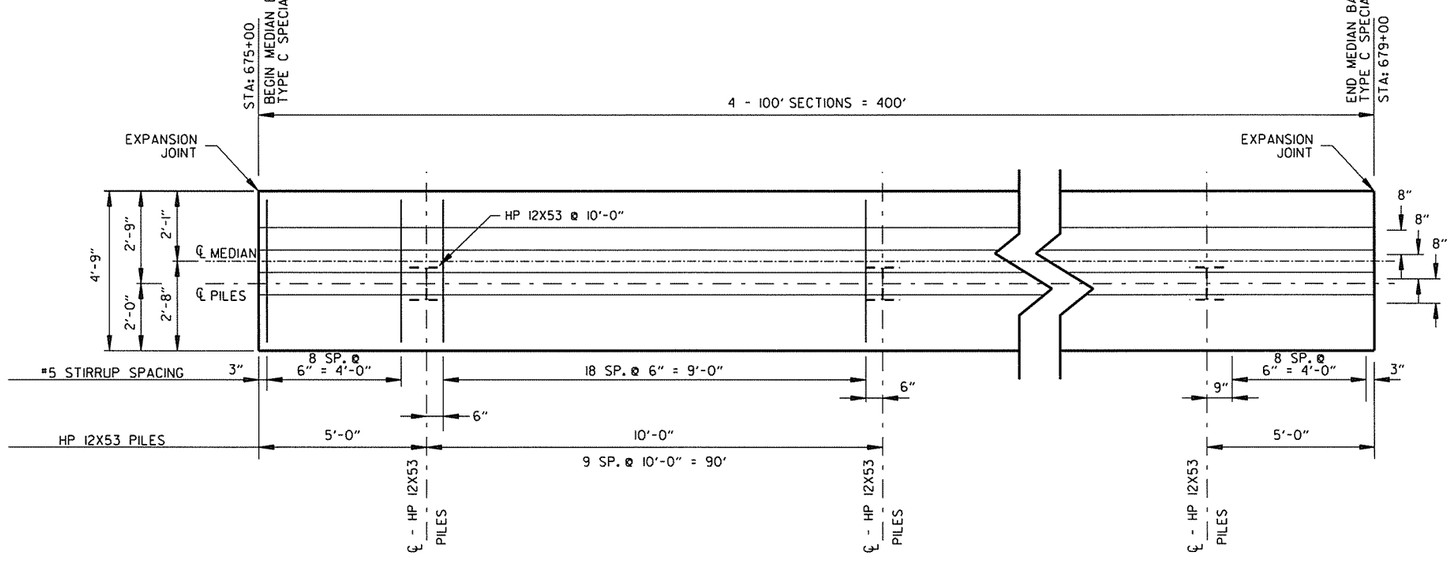


CONTRACTION JOINT DETAIL

GENERAL NOTES FOR CONCRETE BARRIER WALLS IN LANDFILL

1. ALL BARRIER WALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED AT 15'-0" MAXIMUM SPACING, CONTRACTION JOINTS ARE NOT PERMITTED AT DOWEL BAR LOCATIONS.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. ALL STEEL PILING SHALL BE HP 12X53 AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM SAFE BEARING CAPACITY OF 70 TONS PER PILE INTO THE MATERIAL DESIGNATED AS HARD CHERTY LIMESTONE AS DESIGNATED BY THE BORING LOGS. LENGTHS SHOWN ARE FOR ESTIMATING QUANTITIES AND FOR USE IN DETERMINING PAYMENT FOR CUT-OFF AND BUILD-UP IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. ALL PILING SHALL BE STRUCTURAL STEEL (AASHTO M270, GR. 36). ON ALL PILING CONTRACTOR SHALL USE APPROVED STEEL H-PILE DRIVING POINTS.
5. BORING LOGS MAY BE OBTAINED FROM THE PROGRAM MANAGEMENT DIVISION.
6. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 100 FT. FOR BARRIER. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF THE EXPANSION JOINT.
8. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.
9. SEE QUANTITIES FOR LENGTHS OF PILING.
10. MATERIALS AND STRENGTHS:
    CLASS S CONCRETE (F'c = 3500 PSI)
    REINFORCING STEEL (GRADE 60 AASHTO M31 OR M322 TYPE A)
    STRUCTURAL STEEL (AASHTO M270, GR. 36) FY = 36,000 PSI

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15



PLAN VIEW

DETAILS OF CONCRETE BARRIER
WALL MEDIAN (TYPE C SPECIAL) OVER LANDFILL
(NOT TO SCALE)

① REFER TO CROSS SECTIONS.

② PLACE STIRRUPS ON EITHER SIDE OF PILES AS INDICATED IN PLAN VIEW.

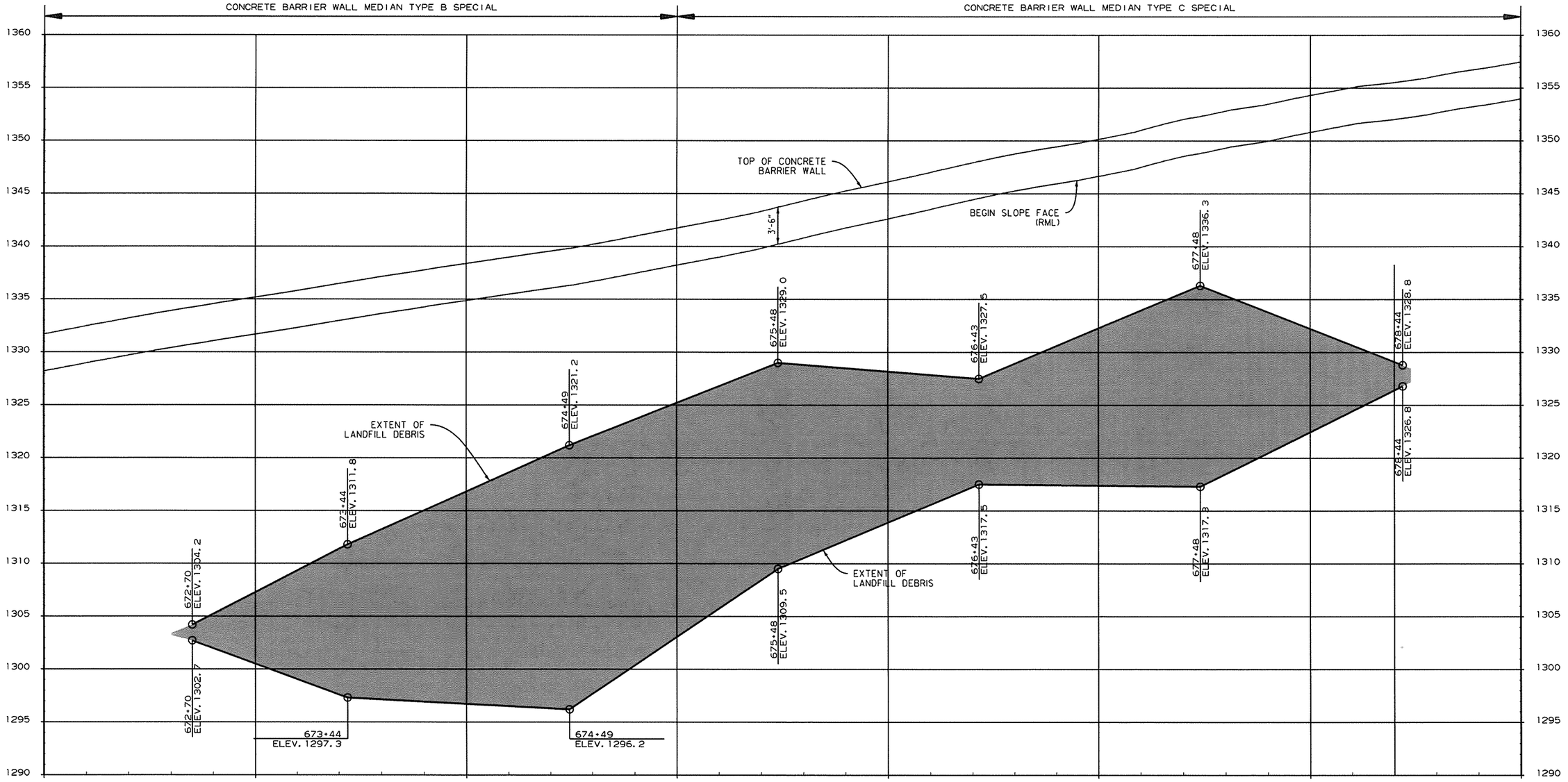
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				6	ARK.			
				JOB NO.		CA0401	19	338
				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15



I-49 PROFILE THRU LANDFILL AREA

SPECIAL DETAILS

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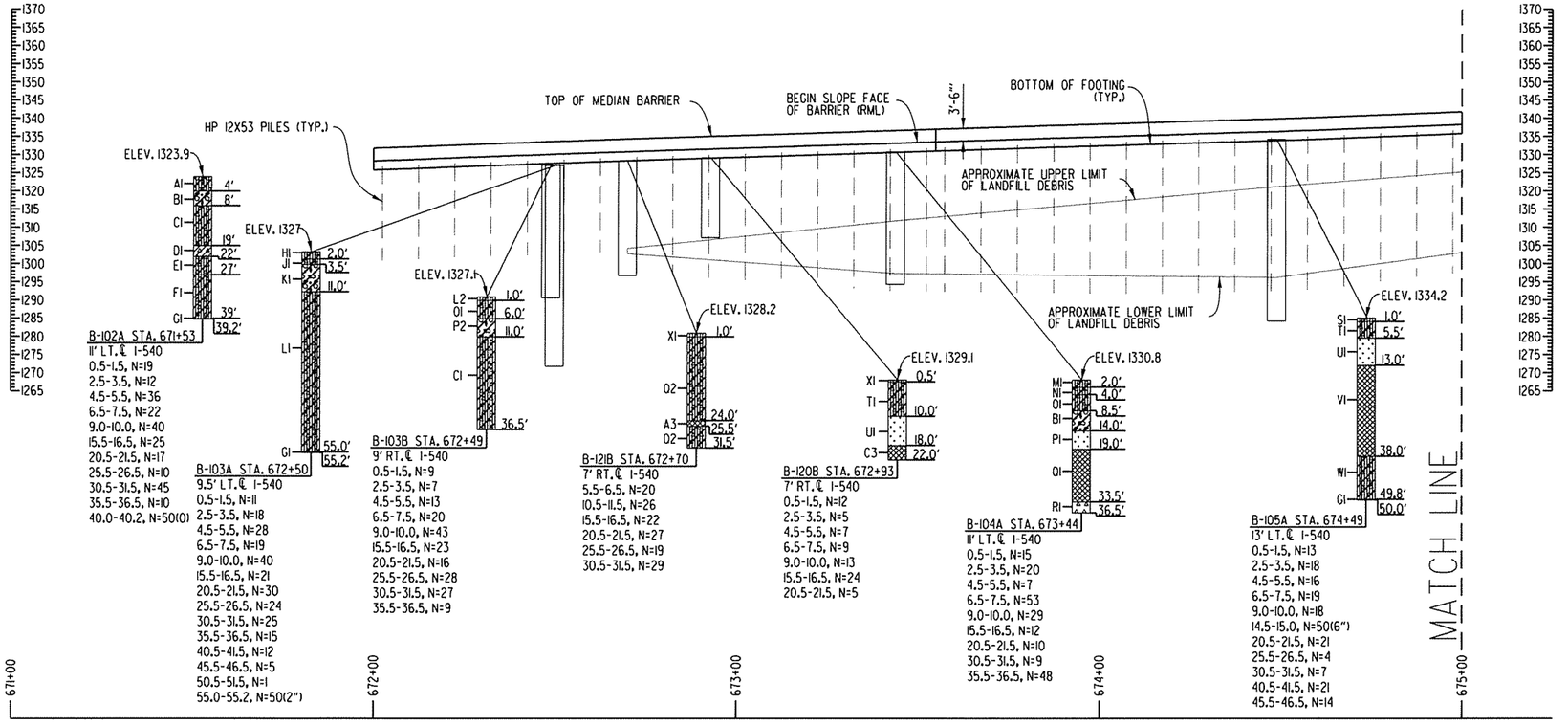
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				JOB NO.		CA0401	20	338

2 SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
04/2/15



ELEVATION

BORING LEGEND

A1. STIFF GRAY AND BROWN SILTY CLAY WITH CONCRETE (FILL)
B1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH SOME CLAY SEAMS, LAYERS AND POCKETS (FILL)
C1. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
D1. STIFF RED CLAY WITH CHERT FRAGMENTS (FILL)
E1. FIRM TO STIFF BROWN AND GRAY SILTY CLAY WITH CHERT FRAGMENTS AND WOOD DEBRIS (FILL)
F1. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND DARK RED CLAY SEAMS
G1. HARD LIGHT GRAY LIMESTONE
H1. STIFF BROWN SILTY CLAY WITH CHERT FRAGMENTS AND SURFACE ORGANICS (FILL)
J1. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND DARK RED CLAY SEAMS (FILL)
K1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENT FILL WITH SOME RED SILTY CLAY (FILL)
L1. STIFF REDDISH BROWN AND REDDISH TAN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
M1. STIFF REDDISH BROWN AND BROWN SILTY CLAY WITH CHERT AND SURFACE ORGANICS
N1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH SOME BROWN SILTY CLAY (FILL)
O1. FIRM REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
P1. MEDIUM DENSE DARK GRAY AND GRAY CRUSHED STONE WITH TRACE SILT (FILL)
Q1. LANDFILL DEBRIS: WOOD, CONCRETE, WIRE, GLASS, PLASTIC AND STEEL (FILL)
R1. LOW HARDNESS LIGHT GRAY AND WHITE CHERT, FRACTURED WITH REDDISH BROWN SILTY CLAY SEAMS AND LAYERS
S1. STIFF DARK BROWN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
T1. STIFF DARK BROWN AND REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
U1. MEDIUM DENSE GRAY CRUSHED STONE WITH FINES (FILL)
V1. LANDFILL DEBRIS: PLASTIC BAGS, HARD PLASTIC, GLASS AND WIRE WITH OCCASIONAL CLAYEY CHERT LAYERS AND SEAMS (FILL)
W1. STIFF BROWN SILTY CLAY WITH SOME CHERT FRAGMENTS (FILL)
X1. FIRM DARK BROWN SILTY CLAY WITH SURFACE ORGANICS (FILL)
Y1. STIFF GRAY AND REDDISH BROWN SILTY CLAY WITH WEATHERED CHERT AND LIMESTONE FRAGMENTS (FILL)
Z1. LANDFILL DEBRIS: PAPER, PLASTIC BAGS, SHEET METAL, GLASS AND WIRE (FILL)
A2. STIFF REDDISH BROWN SILTY CLAY WITH SOME BLACK, WHITE AND LIGHT GRAY CHERT AND LIMESTONE FRAGMENTS
B2. STIFF DARK BROWN SILTY CLAY WITH SURFACE ORGANICS (FILL)
C2. VERY STIFF BROWN AND GRAY CLAYEY SILT WITH SOME CHERT FRAGMENTS AND REDDISH BROWN CHERTY CLAY SEAMS (FILL)
D2. LANDFILL DEBRIS: PLASTIC BAGS, PAPER, HARD PLASTIC, GLASS AND CLOTH (FILL)
E2. STIFF TO VERY STIFF GRAY AND REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS
F2. FIRM BROWN AND REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
G2. LANDFILL DEBRIS: WOOD, PLASTIC BAGS, CLOTH, WIRE, ETC. (FILL)
H2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
J2. LANDFILL DEBRIS: WIRE, WOOD, PLASTIC BAGS, ETC. (FILL)
K2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND RED CLAY SEAMS
L2. FIRM DARK BROWN SILTY CLAY WITH CHERT FRAGMENTS AND SURFACE ORGANICS (FILL)
M2. FIRM REDDISH BROWN CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
N2. STIFF GRAY AND BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
O2. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS
P2. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH TRACE SILTY CLAY (FILL)
Q2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
R2. DENSE GRAY CRUSHED STONE WITH FINES (FILL)
S2. LANDFILL DEBRIS: PLASTIC BAGS AND CLOTH
T2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND CLAY POCKETS
U2. LANDFILL DEBRIS: HARD PLASTIC, PLASTIC BAGS AND CLOTH
V2. STIFF REDDISH BROWN SILTY CLAY WITH CLAY SEAMS AND A FEW CHERT FRAGMENTS
W2. STIFF DARK BROWN SILTY CLAY WITH CHERT AND SURFACE ORGANICS (FILL)
X2. FIRM REDDISH BROWN, BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
Y2. DENSE CRUSHED STONE WITH FINES (FILL)
Z2. FIRM DARK BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
A3. LANDFILL DEBRIS: PLASTIC, WOOD AND CLOTH
B3. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND OCCASIONAL CLAY SEAMS
C3. LANDFILL DEBRIS: PLASTIC BAGS, WOOD, CONCRETE, LEAD AND WIRE
D3. STIFF BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
E3. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS

BORING LOGS
SHEET 1 OF 2
SPECIAL DETAILS

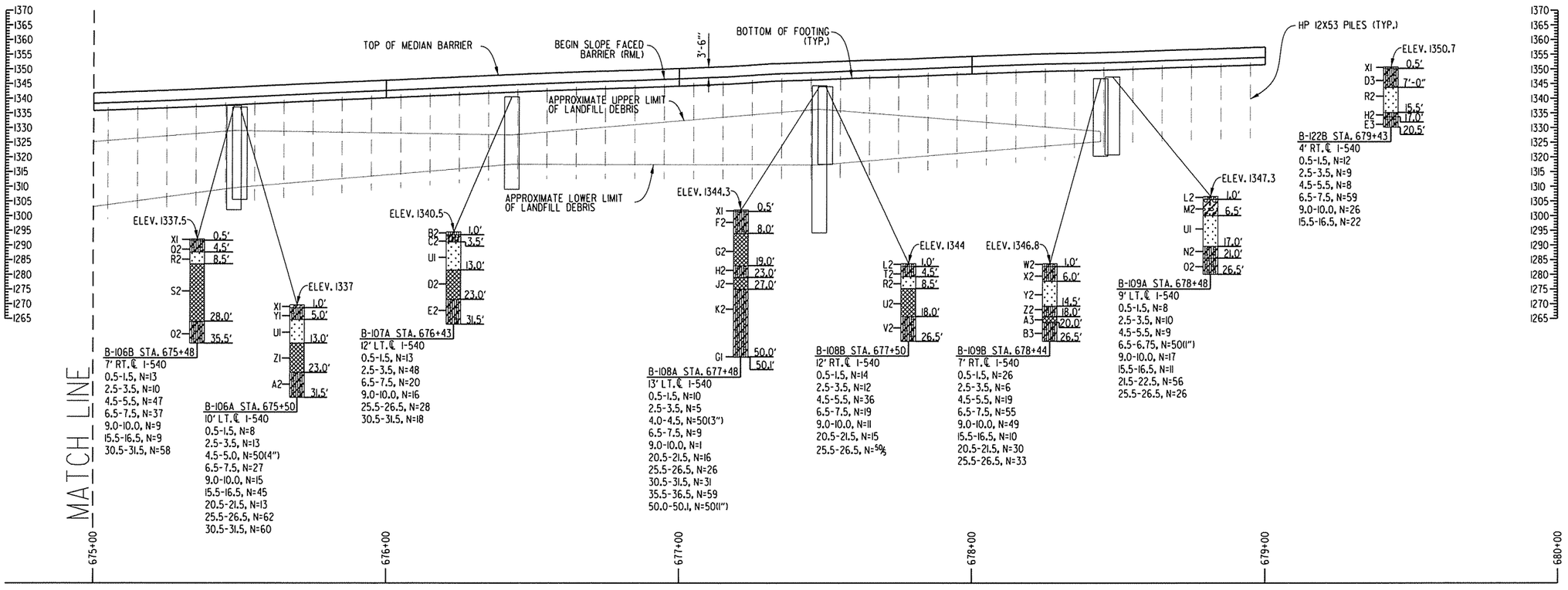
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15



ELEVATION

BORING LEGEND

A1. STIFF GRAY AND BROWN SILTY CLAY WITH CONCRETE (FILL)
B1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH SOME CLAY SEAMS, LAYERS AND POCKETS (FILL)
C1. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
D1. STIFF RED CLAY WITH CHERT FRAGMENTS (FILL)
E1. FIRM TO STIFF BROWN AND GRAY SILTY CLAY WITH CHERT FRAGMENTS AND WOOD DEBRIS (FILL)
F1. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND DARK RED CLAY SEAMS
G1. HARD LIGHT GRAY LIMESTONE
H1. STIFF BROWN SILTY CLAY WITH CHERT FRAGMENTS AND SURFACE ORGANICS (FILL)
J1. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND DARK RED CLAY SEAMS (FILL)
K1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENT FILL WITH SOME RED SILTY CLAY (FILL)
L1. STIFF REDDISH BROWN AND REDDISH TAN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
M1. STIFF REDDISH BROWN AND BROWN SILTY CLAY WITH CHERT AND SURFACE ORGANICS
N1. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH SOME BROWN SILTY CLAY (FILL)
O1. FIRM REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
P1. MEDIUM DENSE DARK GRAY AND GRAY CRUSHED STONE WITH TRACE SILT (FILL)
Q1. LANDFILL DEBRIS: WOOD, CONCRETE, WIRE, GLASS, PLASTIC AND STEEL (FILL)
R1. LOW HARDNESS LIGHT GRAY AND WHITE CHERT, FRACTURED WITH REDDISH BROWN SILTY CLAY SEAMS AND LAYERS
S1. STIFF DARK BROWN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
T1. STIFF DARK BROWN AND REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
U1. MEDIUM DENSE GRAY CRUSHED STONE WITH FINES (FILL)
V1. LANDFILL DEBRIS: PLASTIC BAGS, HARD PLASTIC, GLASS AND WIRE WITH OCCASIONAL CLAYEY CHERT LAYERS AND SEAMS (FILL)
W1. STIFF BROWN SILTY CLAY WITH SOME CHERT FRAGMENTS (FILL)
X1. FIRM DARK BROWN SILTY CLAY WITH SURFACE ORGANICS (FILL)
Y1. STIFF GRAY AND REDDISH BROWN SILTY CLAY WITH WEATHERED CHERT AND LIMESTONE FRAGMENTS (FILL)
Z1. LANDFILL DEBRIS: PAPER, PLASTIC BAGS, SHEET METAL, GLASS AND WIRE (FILL)
A2. STIFF REDDISH BROWN SILTY CLAY WITH SOME BLACK, WHITE AND LIGHT GRAY CHERT AND LIMESTONE FRAGMENTS
B2. STIFF DARK BROWN SILTY CLAY WITH SURFACE ORGANICS (FILL)
C2. VERY STIFF BROWN AND GRAY CLAYEY SILT WITH SOME CHERT FRAGMENTS AND REDDISH BROWN CHERTY CLAY SEAMS (FILL)
D2. LANDFILL DEBRIS: PLASTIC BAGS, PAPER, HARD PLASTIC, GLASS AND CLOTH (FILL)
E2. STIFF TO VERY STIFF GRAY AND REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS
F2. FIRM BROWN AND REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
G2. LANDFILL DEBRIS: WOOD, PLASTIC BAGS, CLOTH, WIRE, ETC. (FILL)
H2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS (FILL)
J2. LANDFILL DEBRIS: WIRE, WOOD, PLASTIC BAGS, ETC. (FILL)
K2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND RED CLAY SEAMS
L2. FIRM DARK BROWN SILTY CLAY WITH CHERT FRAGMENTS AND SURFACE ORGANICS (FILL)
M2. FIRM REDDISH BROWN CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
N2. STIFF GRAY AND BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
O2. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS
P2. MEDIUM DENSE LIGHT GRAY AND WHITE CHERT AND LIMESTONE FRAGMENTS WITH TRACE SILTY CLAY (FILL)
Q2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
R2. DENSE GRAY CRUSHED STONE WITH FINES (FILL)
S2. LANDFILL DEBRIS: PLASTIC BAGS AND CLOTH
T2. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND CLAY POCKETS
U2. LANDFILL DEBRIS: HARD PLASTIC, PLASTIC BAGS AND CLOTH
V2. STIFF REDDISH BROWN SILTY CLAY WITH CLAY SEAMS AND A FEW CHERT FRAGMENTS
W2. STIFF DARK BROWN SILTY CLAY WITH CHERT AND SURFACE ORGANICS (FILL)
X2. FIRM REDDISH BROWN, BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
Y2. DENSE CRUSHED STONE WITH FINES (FILL)
Z2. FIRM DARK BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
A3. LANDFILL DEBRIS: PLASTIC, WOOD AND CLOTH
B3. VERY STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS AND OCCASIONAL CLAY SEAMS
C3. LANDFILL DEBRIS: PLASTIC BAGS, WOOD, CONCRETE, LEAD AND WIRE
D3. STIFF BROWN AND GRAY SILTY CLAY WITH CHERT AND LIMESTONE FRAGMENTS (FILL)
E3. STIFF REDDISH BROWN SILTY CLAY WITH CHERT FRAGMENTS

BORING LOGS
SHEET 2 OF 2
SPECIAL DETAILS

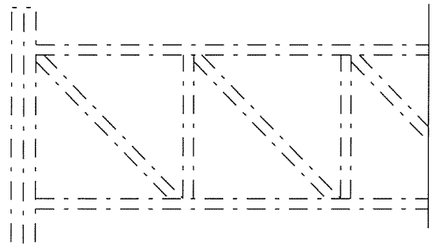
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PLOTTED: 4/2/2015 11:12 SCALE: 40:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	22	338

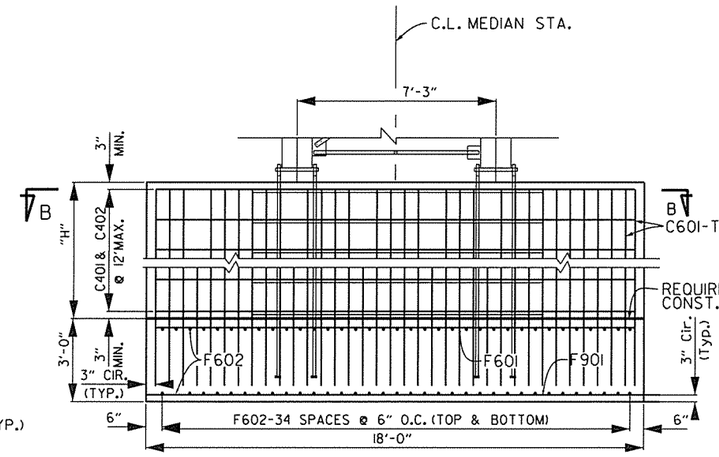
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15



NOTE: FOUNDATION DETAILS SHOWN ARE FOR STANDARD 70'-85' STEEL OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION. (NOT IN THIS CONTRACT)

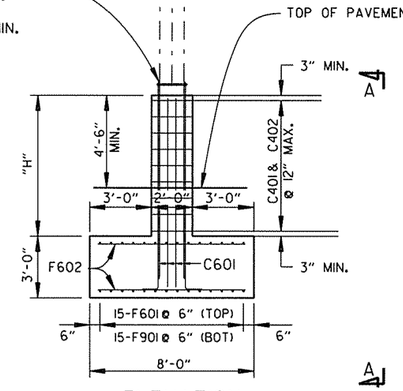
C.L. MEDIAN, C.L. COLUMN & C.L. FOUNDATION (TYP.)



VIEW A-A

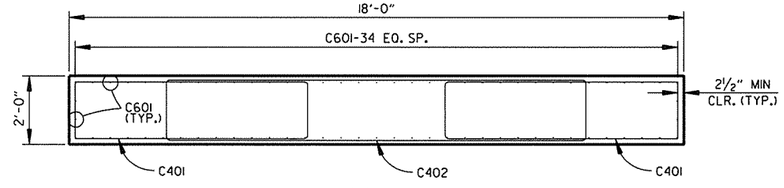
ANCHOR BOLTS SHALL BE INSTALLED DURING FOUNDATION CONSTRUCTION. SEE "ANCHOR BOLT LAYOUT". ANCHOR BOLT SHALL HAVE 1'-6" MIN. EMBEDMENT INTO FOOTING-TYP.

"H" =4'-7" @ STA: 622+26
4'-7" @ STA: 652+93
4'-7" @ STA: 747+40
4'-8" @ STA: 759+40
6'-9" @ STA: 763+05
6'-2" @ STA: 788+82
5'-6" @ STA: 789+50



ELEVATION

NOTE:
1. FOR MEDIAN BARRIER ON EITHER SIDE OF FOUNDATION, SEE ROADWAY PLANS.
2. TOP OF SIGN FOOTING SHALL MATCH TOP OF MEDIAN BARRIER FOOTING WHEN CONNECTING TO CONCRETE BARRIER WALL (MEDIAN TYPE B). TOP OF FOOTING SHALL MATCH TOP OF PAVEMENT LOW SIDE WHEN CONNECTING TO TYPES OF CONCRETE BARRIER WALL OTHER THAN CONCRETE BARRIER WALL (MEDIAN TYPE B).



SECTION B-B

GENERAL NOTES:

FOUNDATION MATERIALS AND STRENGTHS:

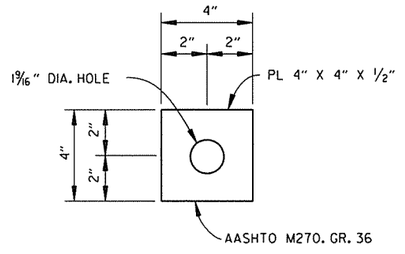
CLASS S CONCRETE F'C= 3,500 PSI
REINFORCING STEEL (GRADE 60, AASHTO M 31 OR M 322, TYPE A) FY= 60,000 PSI

ANCHOR BOLTS SHALL COMPLY WITH AASHTO M 314, GRADE 55 INCLUDING SUPPLEMENTARY REQUIREMENT S1, AND GALVANIZED ACCORDING TO SUBSECTION 807.07.

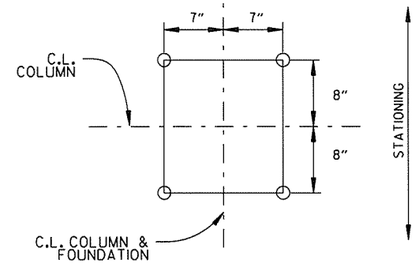
SHORING MAY BE REQUIRED TO PROTECT EXISTING SHOULDERS DURING EXCAVATION. ANY SHORING REQUIRED SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

PAYMENT FOR CLASS S CONCRETE, REINFORCING STEEL, EXCAVATION, ANCHOR BOLTS, NUTS, WASHERS, AND FOR ALL OTHER MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM "OVERHEAD SIGN STRUCTURE FOUNDATION".

MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.



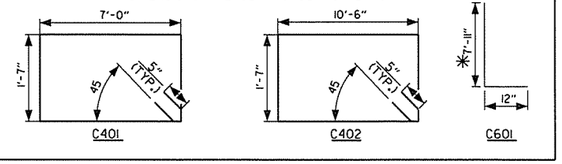
ANCHOR BOLT DETAIL



ANCHOR BOLT LAYOUT

BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
				DIMENSIONS ARE OUT TO OUT OF BARS
C401	12	17'-8"	3"	
C402	6	24'-8"	3"	
* C601	74	8'-9"	4½"	
F601	15	17'-6"	Str.	
F602	70	7'-6"	Str.	
F901	15	17'-6"	Str.	



*APPROXIMATE QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

CLASS S CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EXCAVATION (CU. YDS.)
23.3	3288	33.2

* NOTE: ANCHOR BOLT LENGTH, BAR LIST AND QUANTITIES BASED ON 5'-6" COLUMN HEIGHT. CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS FOR OTHER COLUMN HEIGHTS.

DETAILS FOR MEDIAN FOUNDATIONS
(OVERHEAD SIGN)
(NOT TO SCALE)

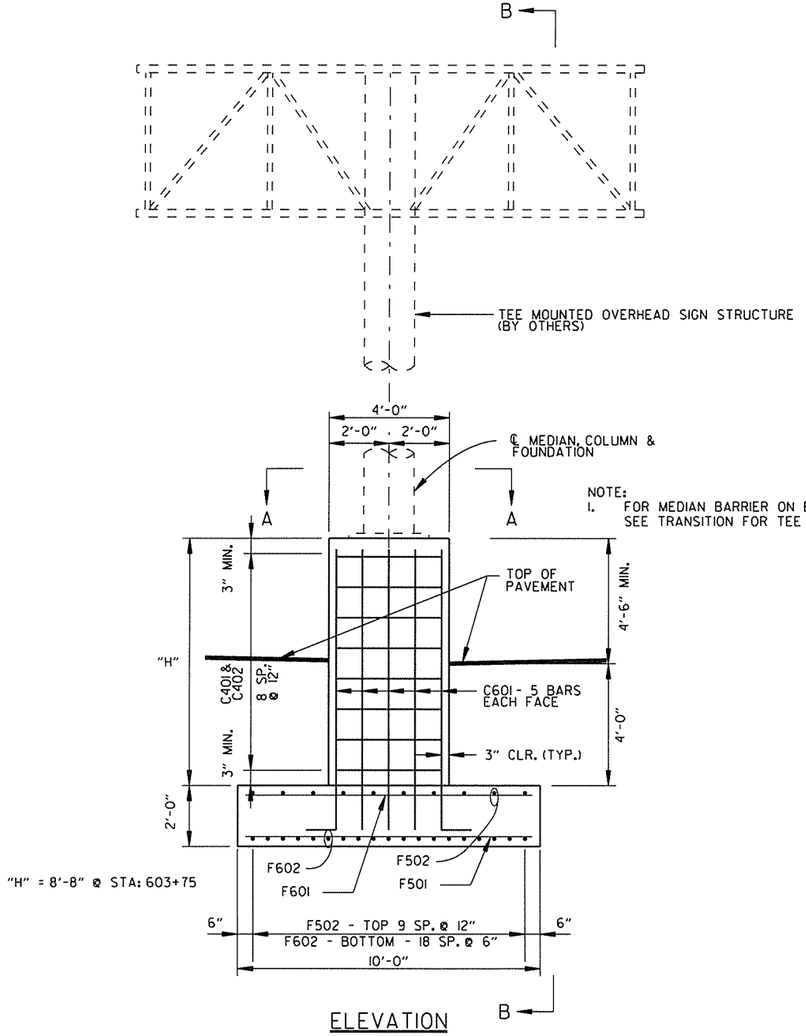
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Crafton, Tull & Associates Inc.

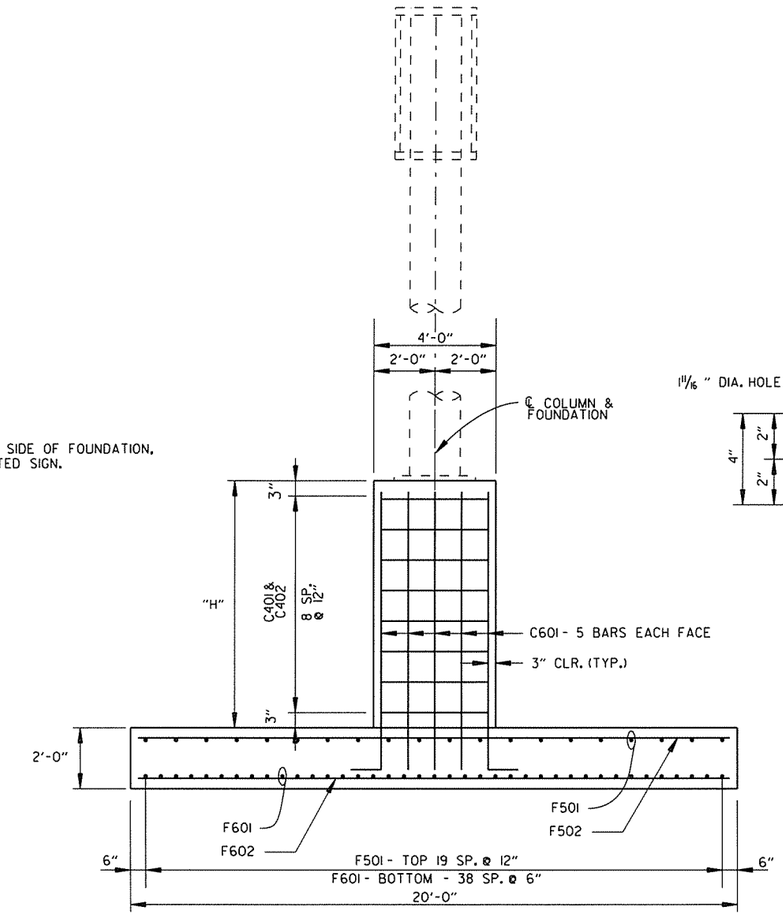
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	23	338

(2) SPECIAL DETAILS

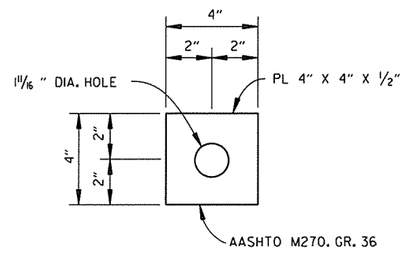
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

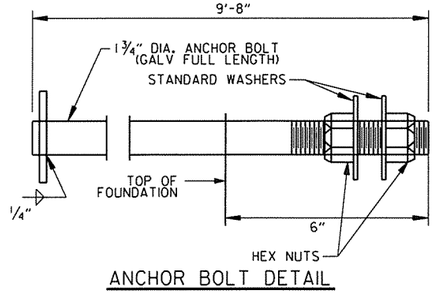


ELEVATION

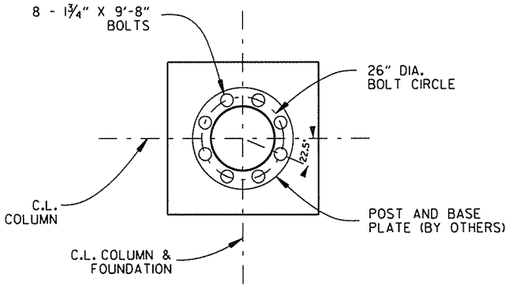


VIEW B-B

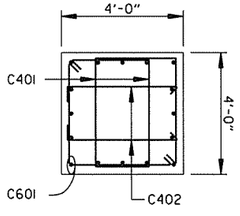




ANCHOR BOLT DETAIL



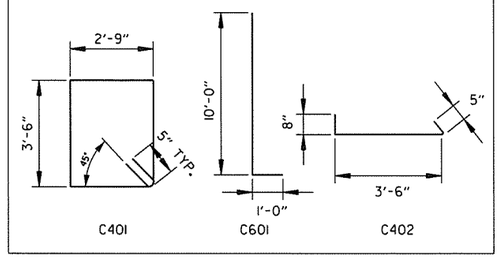
ANCHOR BOLT LAYOUT



SECTION A-A

BAR LIST - FOUNDATION

MARK	NO. REQ'D.	LENGTH	P.D.
C401	18	13'-0"	3"
C402	18	4'-5"	3"
F501	20	9'-6"	STR.
F502	10	19'-6"	STR.
C601	16	10'-11"	4½"
F601	39	9'-6"	STR.
F602	19	19'-6"	STR.



*APPROXIMATE QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

CLASS S CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EXCAVATION (CU. YDS.)
20	2190	66.4

* NOTE: ANCHOR BOLT LENGTH, BAR LIST AND QUANTITIES BASED ON 8'-8" COLUMN HEIGHT. CONTRACTOR SHALL MAKE APPROPRIATE ADJUSTMENTS FOR OTHER COLUMN HEIGHTS.

DETAILS FOR MEDIAN FOUNDATIONS
(TEE MOUNTED OVERHEAD SIGN)
(NOT TO SCALE)

GENERAL NOTES (TEE MOUNTED SIGN FOUNDATION):

1. CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS UNLESS OTHERWISE NOTED IN THE PLANS.
2. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 6TH EDITION (2012) WITH CURRENT INTERIM SPECIFICATIONS.
3. MATERIALS AND STRENGTHS: CLASS S CONCRETE F'C = 3,500 PSI REINFORCING STEEL (GRADE 60 AASHTO M 31 OR M 322 TYPE A)
4. STRUCTURAL STEEL (AASHTO M 270, GR. 36) FY = 36,000 PSI
5. ANCHOR BOLTS SHALL COMPLY WITH AASHTO M314, GRADE 55 INCLUDING SUPPLEMENTARY REQUIREMENT S1, AND GALVANIZED ACCORDING TO SECTION 807.07.
6. BORING LOGS: BORING LOGS MAY BE OBTAINED FROM THE PROGRAM MANAGEMENT DIVISION.
7. FOOTINGS: FOUNDATIONS FOR FOOTINGS SHALL BE PREPARED IN ACCORDANCE WITH SUBSECTION 801.04 OF THE STANDARD SPECIFICATIONS.
8. PAYMENT FOR CLASS S CONCRETE, REINFORCING STEEL, EXCAVATION, ANCHOR BOLTS, NUTS, WASHERS, AND FOR ALL OTHER MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM "OVERHEAD SIGN STRUCTURE FOUNDATION".
9. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT UNLESS OTHERWISE NOTED.

SPECIAL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7(8to12)\TRANSP\dgn\special_details\CA0401SpecialDetails 03 Signs.dgn
PLOTTED: 4/2/2015 11:12
SCALE: 20:1

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.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	24	338

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

P.I. 585+82.30

590 595 600 605 610 615

N06°56'47"W

℄ MEDIAN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

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

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\erosion\rCA0401_EC.dgn
PLOTTED: 4/2/2015 11:13
SCALE: 100'

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	25	338

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS

620 625 630

CREEK

SILT FENCE = 65 LIN. FT.

SILT FENCE = 65 LIN. FT.

℄ MEDIAN

+57 +00 +75 +67

E-5 E-6 E-7 E-11

+70 +37 +57 +04 +70 +00 +37 +03 +70 +75 +36 +03 +69 +36 +00 +93 +67 +43

REVISIONS

DATE OF REVISION	REVISION

CLEAR

JOHNSON MILL BLVD.

LEGEND

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

635 640 645

SILT FENCE = 70 LIN. FT.

SILT FENCE = 70 LIN. FT.

℄ MEDIAN

+00 +58 +58

E-5 E-6 E-7 E-11

+45 +22 +90 +00 +56 +23 +58 +90 +56 +23 +90 +57 +24 +80 +46 +13 +80 +47 +14 +58 +80 +47

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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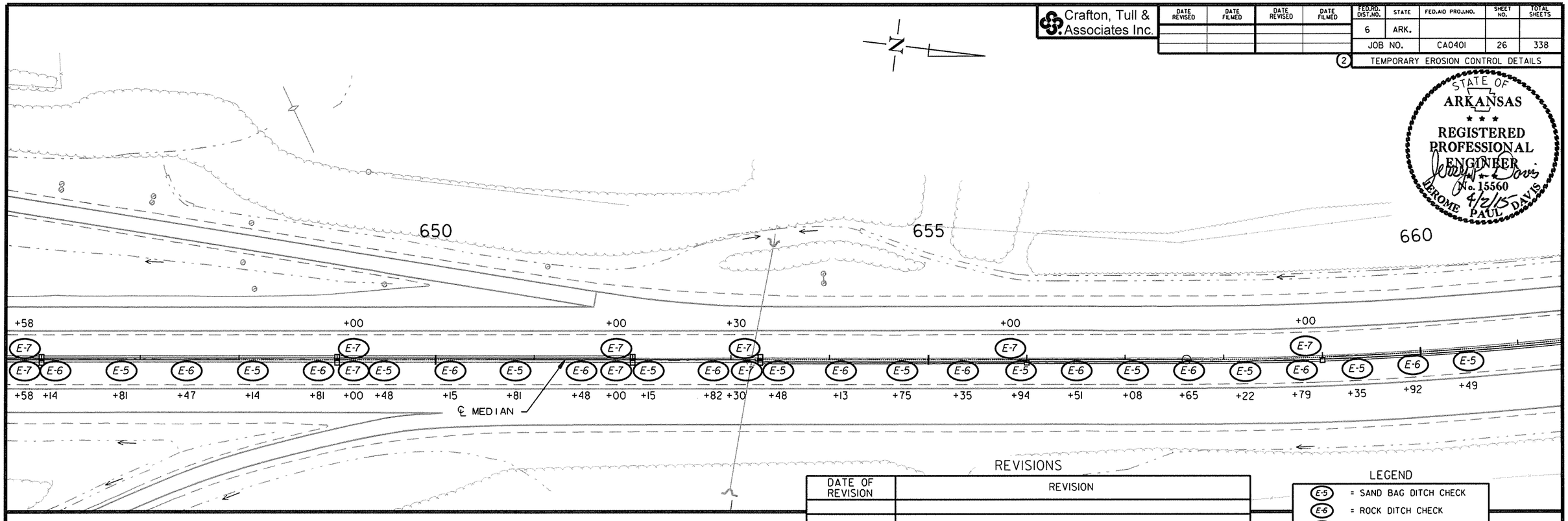
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	26	338

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

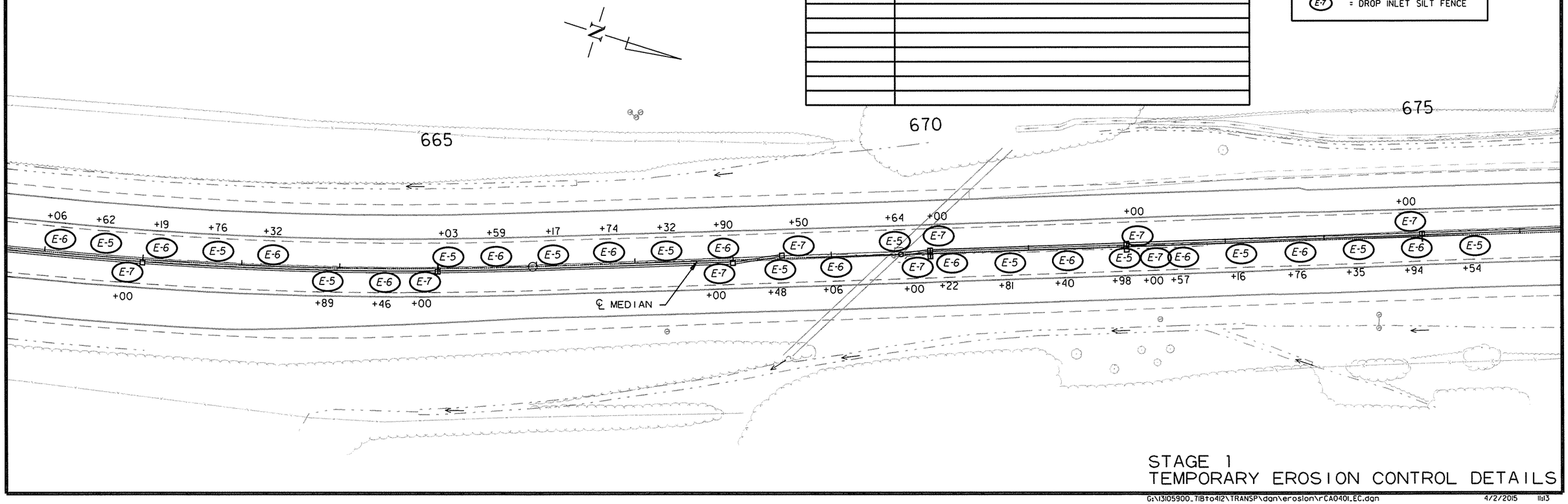


REVISIONS

DATE OF REVISION	REVISION

LEGEND

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



STAGE 1
TEMPORARY EROSION CONTROL DETAILS

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	27	338

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

680 685 690

+00 E-7 +00 E-7 +00 E-7 +00 E-7 +50 E-7 +00 E-7 +00 E-7

E-6 +14 E-5 +74 E-6 +33 E-5 +94 E-6 +54 E-5 +15 E-6 +75 E-5 +38 E-6 +05 E-5 +77 E-6 +56 E-5 +44 E-6 +46 E-5 +72 E-6 +72 E-5 +72 E-6 +72 E-7 +00

℄ MEDIAN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE

695 DON TYSON PKWY. 700 705

+00 E-7 +10 E-6 +00 E-7 +18 E-5 +10 E-6 +00 E-7 +98 E-7 +00 E-7 +00 E-7

E-6 E-7 E-5 +72 E-7 +00 E-7 +00 E-5 E-7 +99 +00 E-6 +88 E-5 E-7 +77 +98 E-6 +65 E-5 E-7 +54 +00 E-6 +43 E-5 +32 E-6 +21 E-7 +00 E-5 +10 E-6 +99

N00°11'39"E

℄ MEDIAN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\erosion\rCA0401_EC.dgn
PLOTTED: 4/2/2015 11:13
SCALE: 100:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	CA0401		28	338

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

710 715 720

+00 +25 +97 +75 +00 +20 +00

E-5 E-6 E-7

+88 +78 +00 +95 +25 +75 +25 +75 +95 +00 +18 +09 +98 +88 +20 +78 +67 +00 +57 +46

℄ MEDIAN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

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

WATKINS AVE.

WEIGH STATION

725 730 735

+50 +50 +50 +50 +00 +50 +00 +50

+36 +50 +27 +33 +82 +25 +50 +25 +50 +25 +50 +25 +00 +25 +00 +25 +50

℄ MEDIAN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	29	338

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15550
4/2/15

740 745 750

+00 +94 +00 +00 +00 +00 +43

E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7

E-6 E-7 E-7 E-5 E-6 E-7 E-5 E-6 E-7 E-5 E-6 E-7 E-7 E-5 E-6 E-7 E-5 E-6 E-7 E-5

+25 +00 +94 +25 +01 +00 +43 +86 +00 +28 +70 +00 +13 +55 +43 +97

℄ MEDIAN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

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

755 760 765

+00 +00 +00

E-5 E-5

+00 +00 +50 +50 +60 +50 +14 +00

E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7 E-7

E-6 E-5 E-7 E-6 E-5 E-7 E-6 E-7 E-5 E-7 E-6 E-5 E-6 E-5 E-6 E-5

+40 +82 +00 +24 +67 +00 +09 +50 +51 +50 +00 +25 +75 +00 +50 +80

℄ MEDIAN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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PLOTTED: 4/2/2015 11:13
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	30	338

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

U.S. HWY. 412

770 775 780 785 790 795

S 48TH ST

SILT FENCE = 65 LIN. FT.

SILT FENCE = 65 LIN. FT.

℄ MEDIAN

℄ MEDIAN

E-5 +50 +10 +41 +01 +00

E-6 +50 +71 +57 +00

E-7 +50 +50 +00 +51 +50 +85 +00

E-11 +00

E-5 +51 +58 +50

E-6 +00 +57

E-7 +58 +50

E-5 +56 +54 +53 +53 +52 +52 +80

E-6 +56 +55 +53 +52 +00

E-7 +47

E-11 +00

REVISIONS

DATE OF REVISION	REVISION

LEGEND

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

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\erosion\rCA0401_EC.dgn
PLOTTED: 4/2/2015 11:13
SCALE: 1"=100'

Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.	CA0401		31	338

(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 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 IA:
CONSTRUCT SHOULDER TRENCHING FOR MOT TRAFFIC SHIFT AS FOLLOWING.
REFER TO SPECIAL DETAILS FOR SHOULDER TRENCHING.
FROM STA. 620+54.48 TO STA. 623+54.48 ON RML,
FROM STA. 627+80.46 TO STA. 630+80.46 ON RML,
FROM STA. 634+94.47 TO STA. 637+94.47 ON RML,
FROM STA. 640+60.96 TO STA. 643+60.96 ON RML,
FROM STA. 771+20.48 TO STA. 774+20.48 ON RML,
FROM STA. 777+06.23 TO STA. 780+06.23 ON RML,
FROM STA. 620+86.95 TO STA. 623+86.95 ON LML,
FROM STA. 628+14.00 TO STA. 631+08.86 ON LML,
FROM STA. 629+68.53 TO STA. 632+68.53 ON LML,
FROM STA. 634+54.75 TO STA. 638+54.75 ON LML,
FROM STA. 641+21.24 TO STA. 624+21.24 ON LML,
FROM STA. 770+80.70 TO STA. 773+80.70 ON LML, AND
FROM STA. 776+55.83 TO STA. 779+55.83 ON LML.

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

TRAFFIC WILL BE MAINTAINED ON EXISTING PAVEMENT IN (2) 11'-0" LANES EXCEPT WHEN CROSSING THE EXISTING BRIDGES.
REFER TO STA. 620+54.48 TO STA. 630+80.46 ON RML.
REFER TO STA. 620+86.95 TO STA. 632+68.53 ON LML.
REFER TO STA. 634+94.47 TO STA. 643+60.96 ON RML.
REFER TO STA. 635+54.75 TO STA. 644+21.24 ON LML.
REFER TO STA. 770+80.70 TO STA. 779+55.83 ON LML.
REFER TO STA. 771+20.48 TO STA. 780+06.23 ON RML.

CONSTRUCT CONCRETE BARRIER WALL AND PAVEMENT WIDENING IN THE MEDIAN OF I-49.
CONSTRUCT THE PORTION OF BRIDGE ON BOTH LML & RML.

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.

REFER TO "MAINTENANCE OF TRAFFIC" SPECIAL PROVISION.

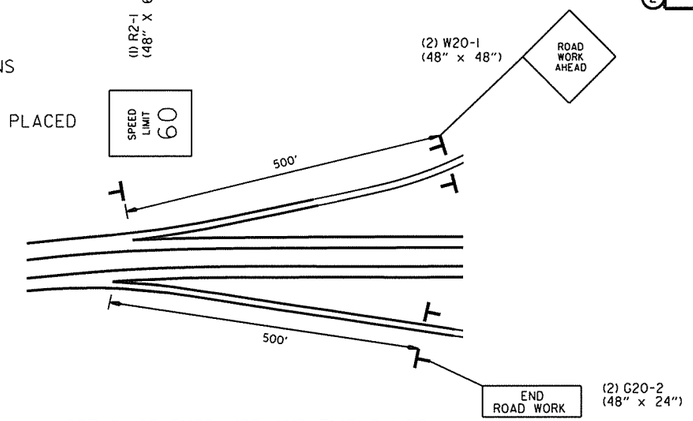
STAGE 2:
MILL AND A.C.H.M. INLAY OPERATIONS SHALL MAINTAIN A SINGLE LANE OF TRAFFIC ON THE EXISTING ROADWAY IN THE DIRECTION THE OPERATIONS ARE OCCURRING AS A MINIMUM.

A TWO (2) MILE LANE CLOSURE WILL BE PERMITTED IN THE OPPOSITE MAIN LANES FOR CONSTRUCTION OTHER THAN MILL AND INLAY OPERATIONS AS LONG AS NO OTHER LANE CLOSURE EXISTS IN THAT SET OF LANES.

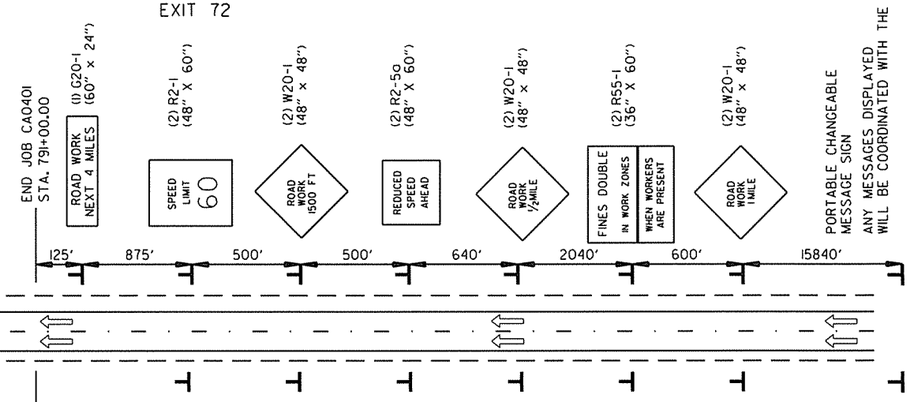
FINAL LIFT OF ASPHALT ON WIDENED PORTION OF MAIN LANES SHALL BE PLACED WITH EXISTING INSIDE MAIN LANE MILL AND INLAY OPERATIONS.

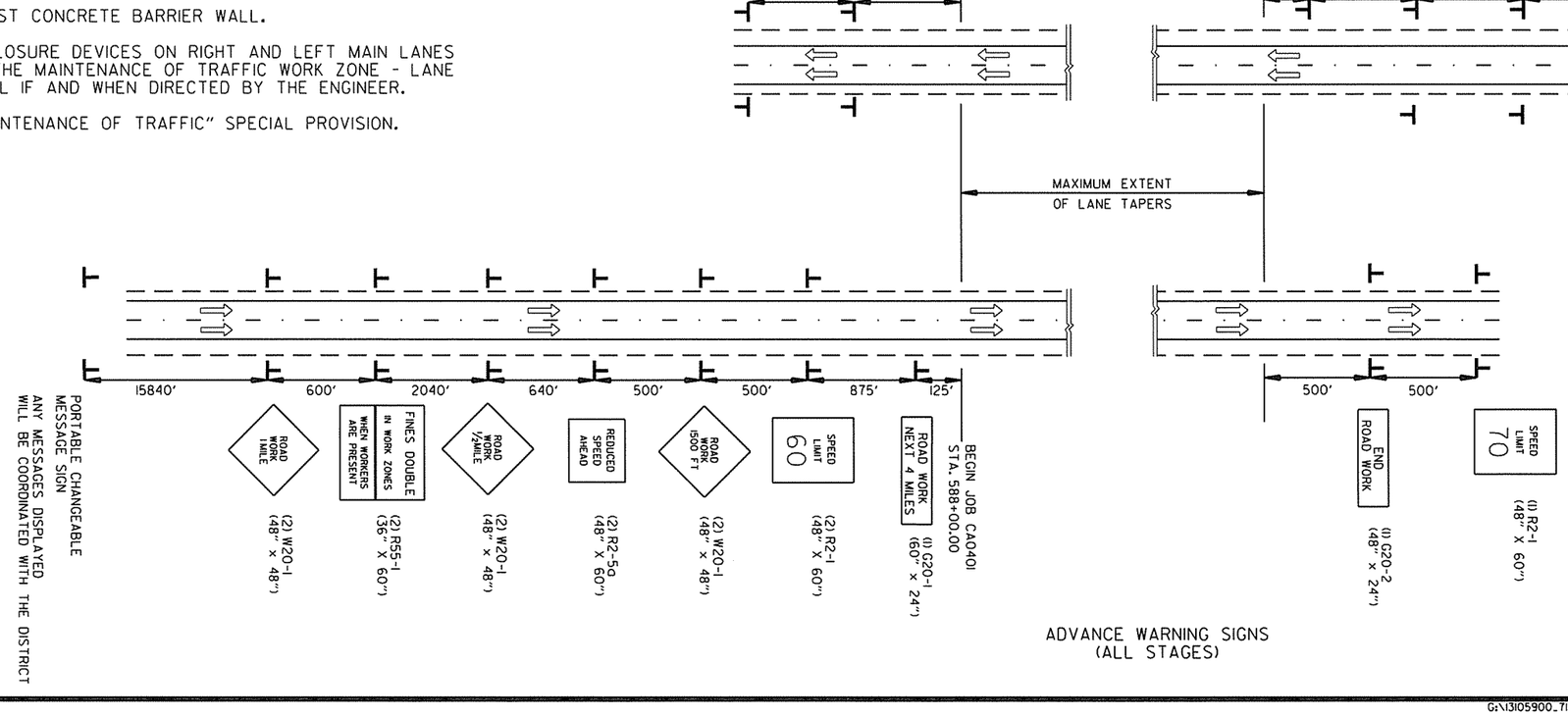
PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

REFER TO "MAINTENANCE OF TRAFFIC" SPECIAL PROVISION.



DETAIL OF ENTRANCE AND EXIT RAMPS
(ALL STAGES)
EXIT 69
EXIT 70
EXIT 72





ADVANCE WARNING SIGNS
(ALL STAGES)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
PLOTTED: 4/2/2015 11:14 SCALE: 100:1

Crafton, Tull & Associates Inc.

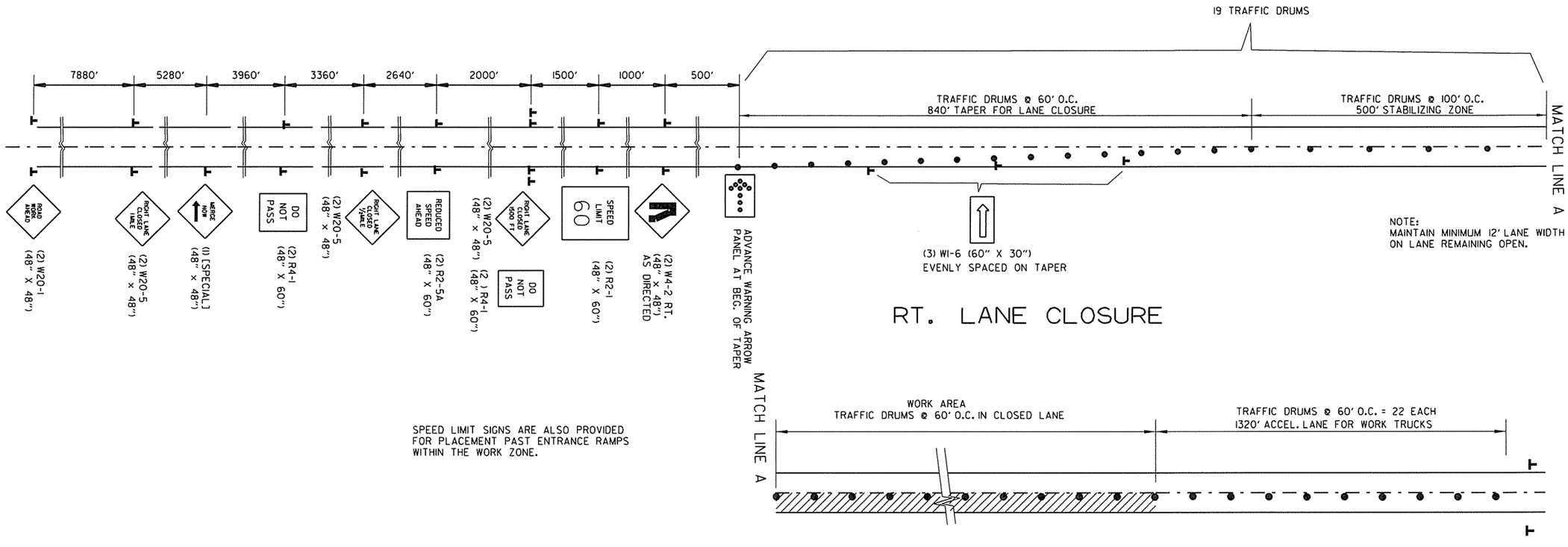
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	32	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS

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

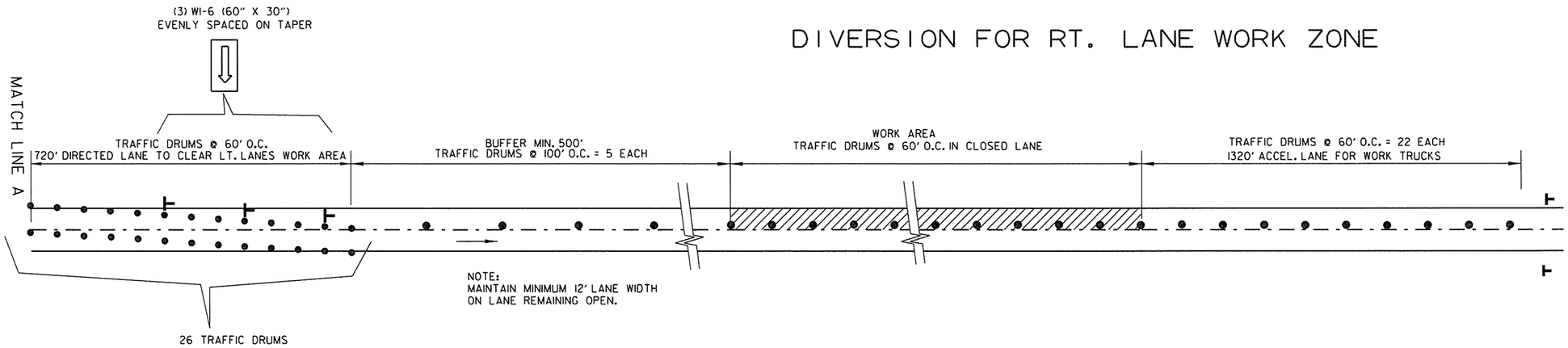


RT. LANE CLOSURE

SPEED LIMIT 70 (2) R2-1 (48" X 60")

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

DIVERSION FOR RT. LANE WORK ZONE



DIVERSION FOR LT. LANE WORK ZONE

MAINTENANCE OF TRAFFIC DETAILS
WORK ZONE - LANE CLOSURE

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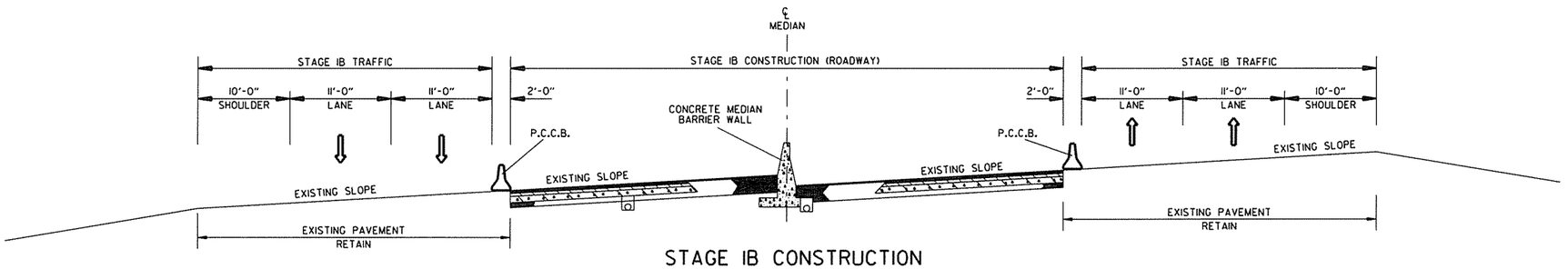
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	33	338

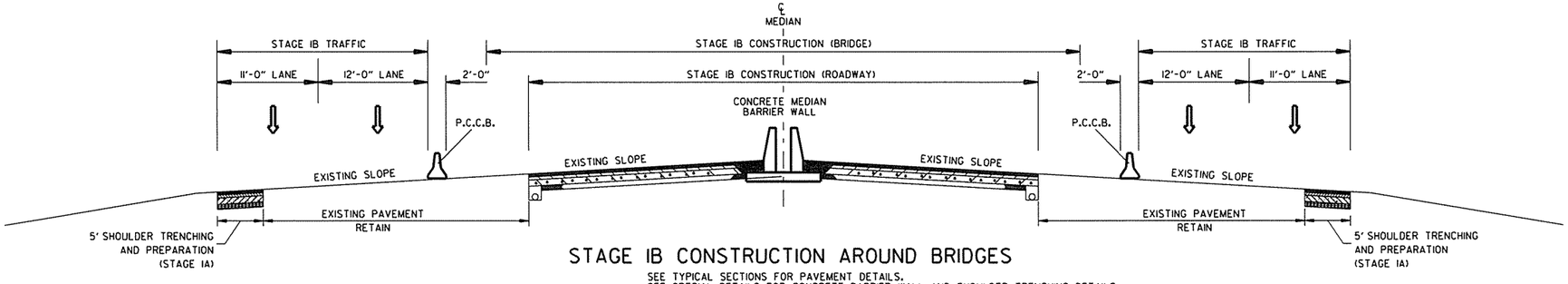
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS



STAGE IB CONSTRUCTION

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



STAGE IB CONSTRUCTION AROUND BRIDGES

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

STAGE 1B CONSTRUCTION MAINTENANCE OF TRAFFIC DETAILS

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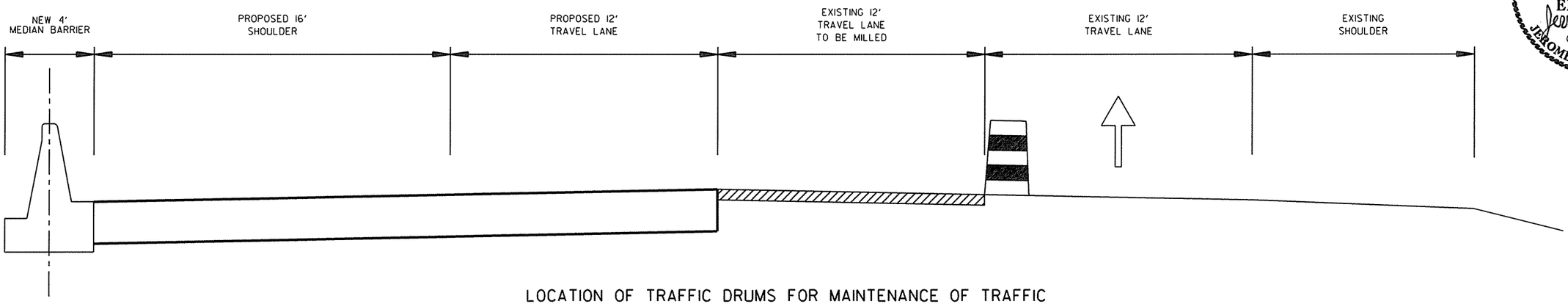
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

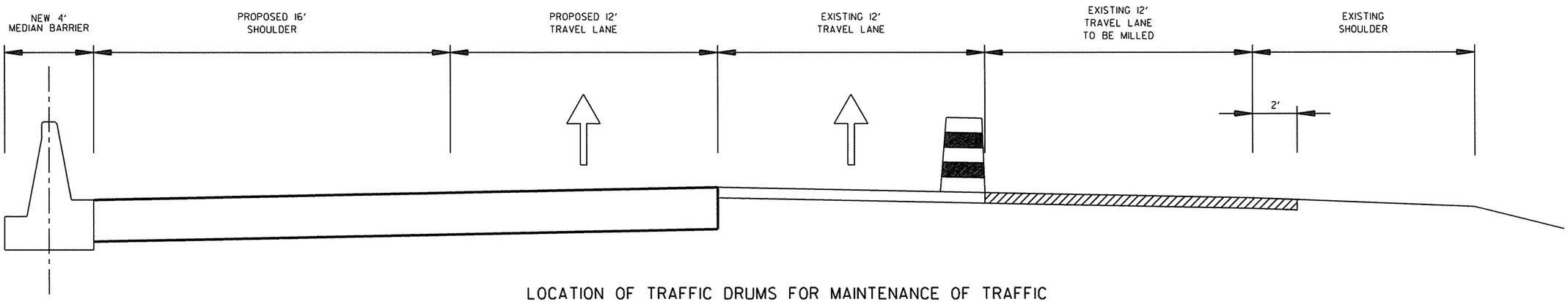
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6	ARK.			
JOB NO.		CA0401	34	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerrett Davis
No. 15560
4/2/15
JEROME PAUL DAVIS



LOCATION OF TRAFFIC DRUMS FOR MAINTENANCE OF TRAFFIC
INSIDE LANE CLOSED FOR MILL AND OVERLAY
(SHOWN IN DIRECTION OF TRAFFIC)



LOCATION OF TRAFFIC DRUMS FOR MAINTENANCE OF TRAFFIC
OUTSIDE LANE CLOSED FOR MILL AND OVERLAY
(SHOWN IN DIRECTION OF TRAFFIC)

STAGE 2 CONSTRUCTION
MAINTENANCE OF TRAFFIC DETAILS

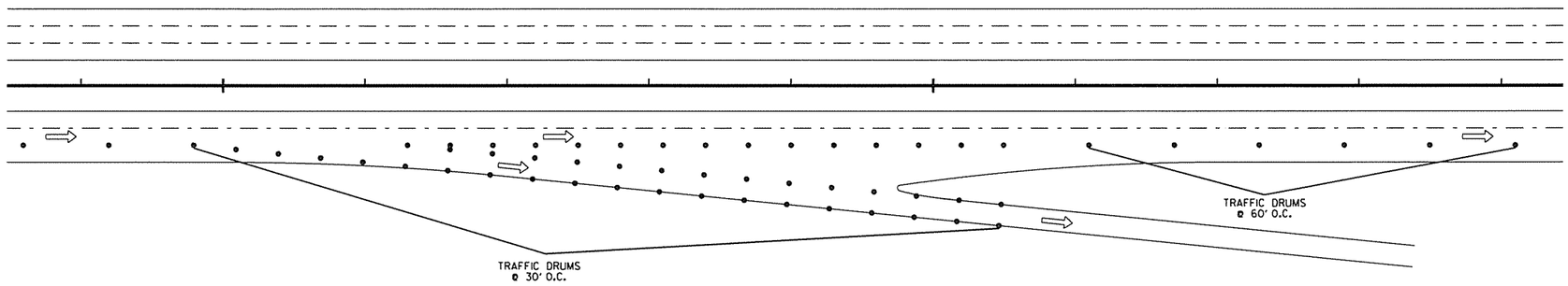
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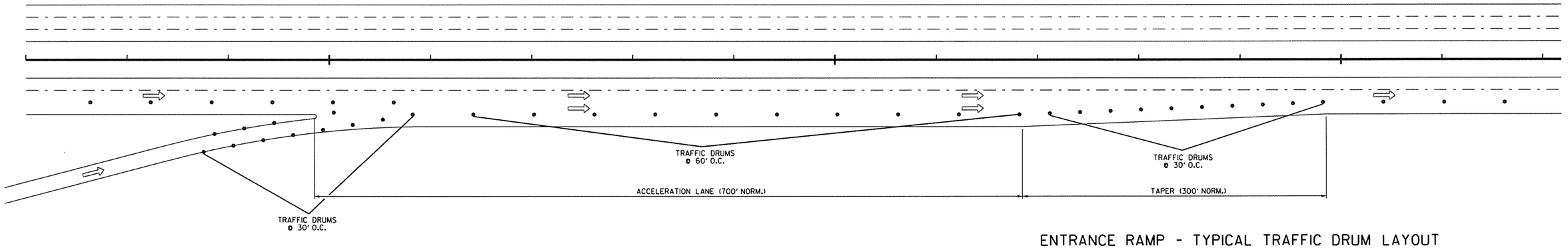
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				6	ARK.			
				JOB NO.		CA0401	35	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15



EXIT RAMP - TYPICAL TRAFFIC DRUM LAYOUT
OUTSIDE LANE CLOSURE



ENTRANCE RAMP - TYPICAL TRAFFIC DRUM LAYOUT
ACCELERATION LANE CLOSURE

EXIT 69:
NORTHBOUND EXIT = 40 TRAFFIC DRUMS
NORTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

SOUTHBOUND EXIT = 40 TRAFFIC DRUMS
SOUTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

EXIT 70:
NORTHBOUND EXIT = 40 TRAFFIC DRUMS
NORTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

SOUTHBOUND EXIT = 40 TRAFFIC DRUMS
SOUTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

EXIT 72:
NORTHBOUND EXIT = 40 TRAFFIC DRUMS
NORTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

SOUTHBOUND EXIT = 40 TRAFFIC DRUMS
SOUTHBOUND ENTRANCE = 17 TRAFFIC DRUMS

STAGE 2 CONSTRUCTION
MAINTENANCE OF TRAFFIC
DETAIL OF RAMPS WITH LANE CLOSURE

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
PLOTTED: 4/2/2015 11:14
SCALE: 100:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	36	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

560 565 570 575 580 585

℄ MEDIAN

P.C. 567+30.62

P.I. 576+64.60

N25°27'47"W

N06°56'47"W

P.T. 585+82.30

+20 100' SHOULDER TAPER TRAFFIC DRUMS @ 25' O.C. +20

N

STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: ad5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	37	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

590 595 600

+20 130' LANE TAPER +50
+97 53' P.C.C.B. TAPER
12' 12' 11' 11' 2'

4" YELLOW CONSTRUCTION PAVEMENT MARKING

20,400' P.C.C.B.

N06°56'47"W N06°56'47"W

TEMPORARY IMPACT ATTENUATION BARRIER

2' 11' 11'

P.I. 585+82.30

+90 +10 40' P.C.C.B. TAPER

60' P.C.C.B.

130' LANE TAPER

TRAFFIC DRUMS @ 60' O.C.

+50 +20

℄ MEDIAN

20,400' P.C.C.B.

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

605 610 615

4" YELLOW CONSTRUCTION PAVEMENT MARKING

℄ MEDIAN

P.C.C.B.

11' 11'

N06°56'47"W

P.C.C.B.

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	38	338

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

620 625 635 640 645

4" YELLOW CONSTRUCTION PAVEMENT MARKING
4" WHITE CONSTRUCTION PAVEMENT MARKING
4" DOTTED WHITE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
300' LANE TAPER & OUTSIDE SHLDR. TRENCHING & PREP. *
300' LANE TAPER & SHLDR. TRENCHING & PREP. *
P.C.C.B.
℄ MEDIAN
N06°56'47"W
JOHNSON MILL BLVD
MAIN DR

* REFER TO SPECIAL DETAILS FOR SHOULDER TRENCHING CONSTRUCTED IN STAGE IA.

STAGE 1B MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
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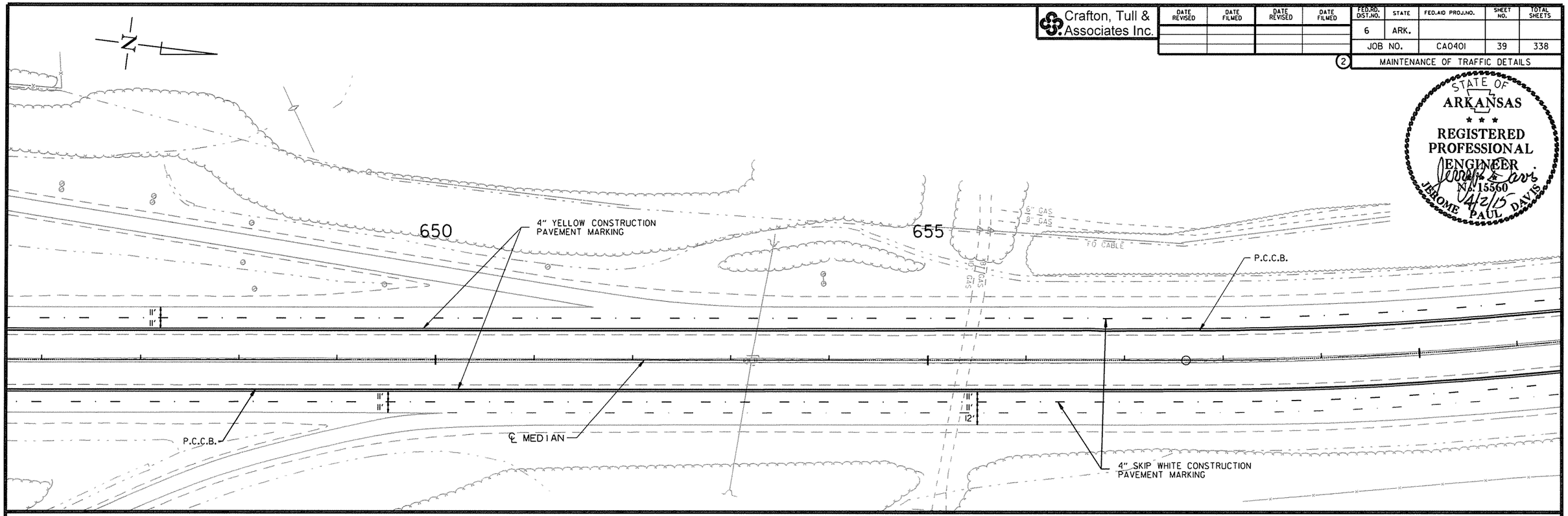
Crafton, Tull & Associates Inc.

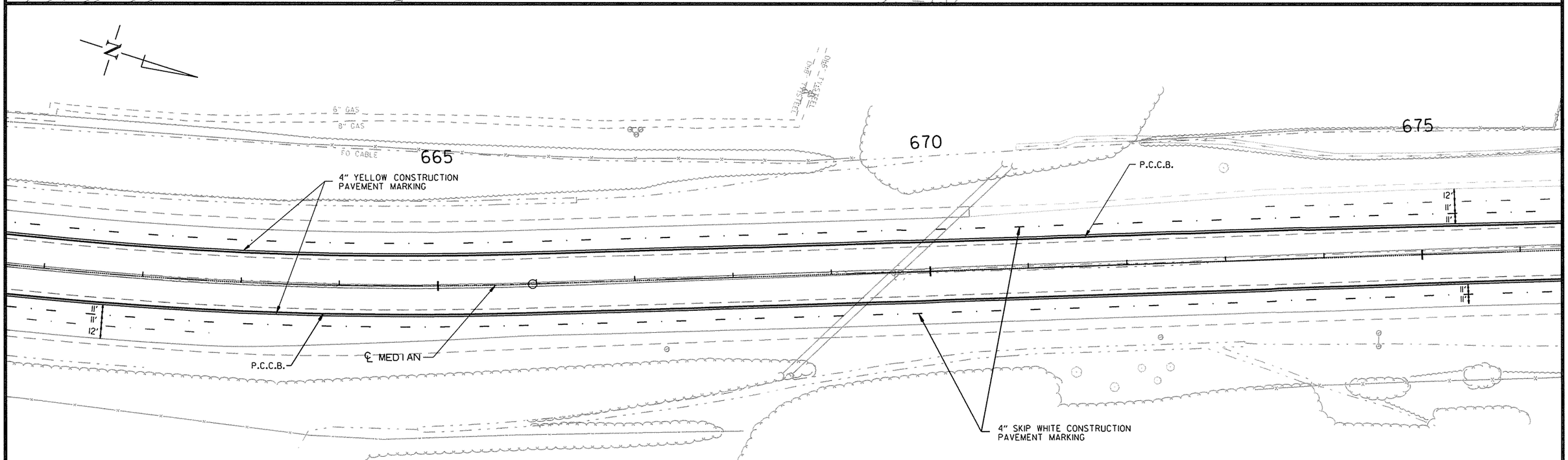
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	39	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS





STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
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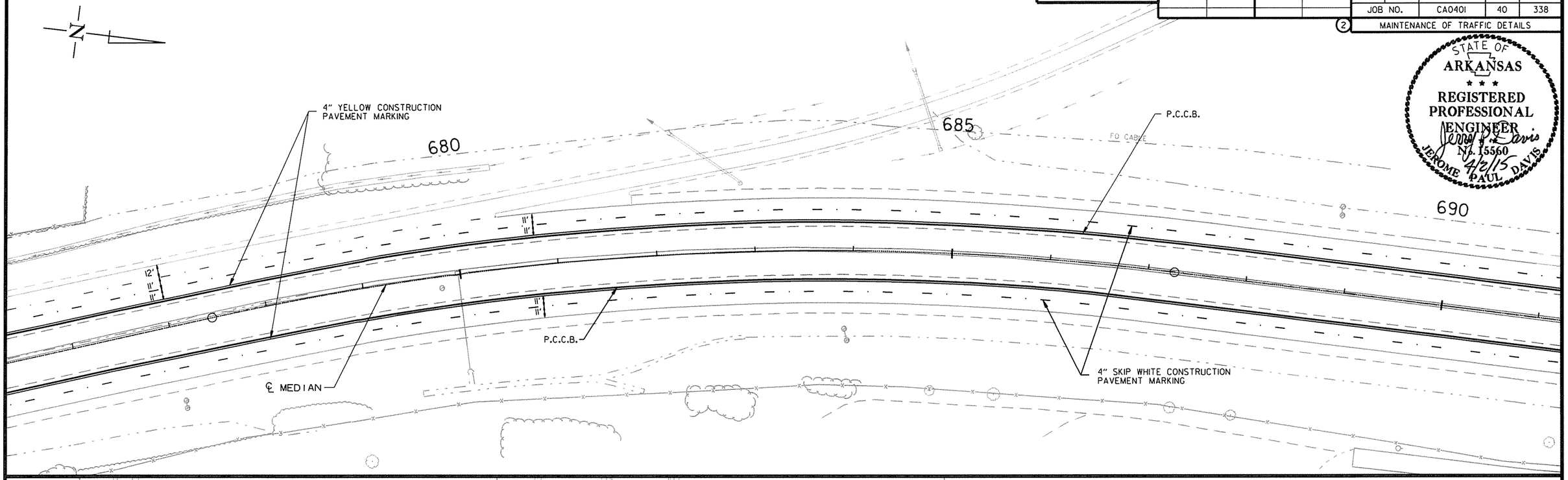
Crafton, Tull & Associates Inc.

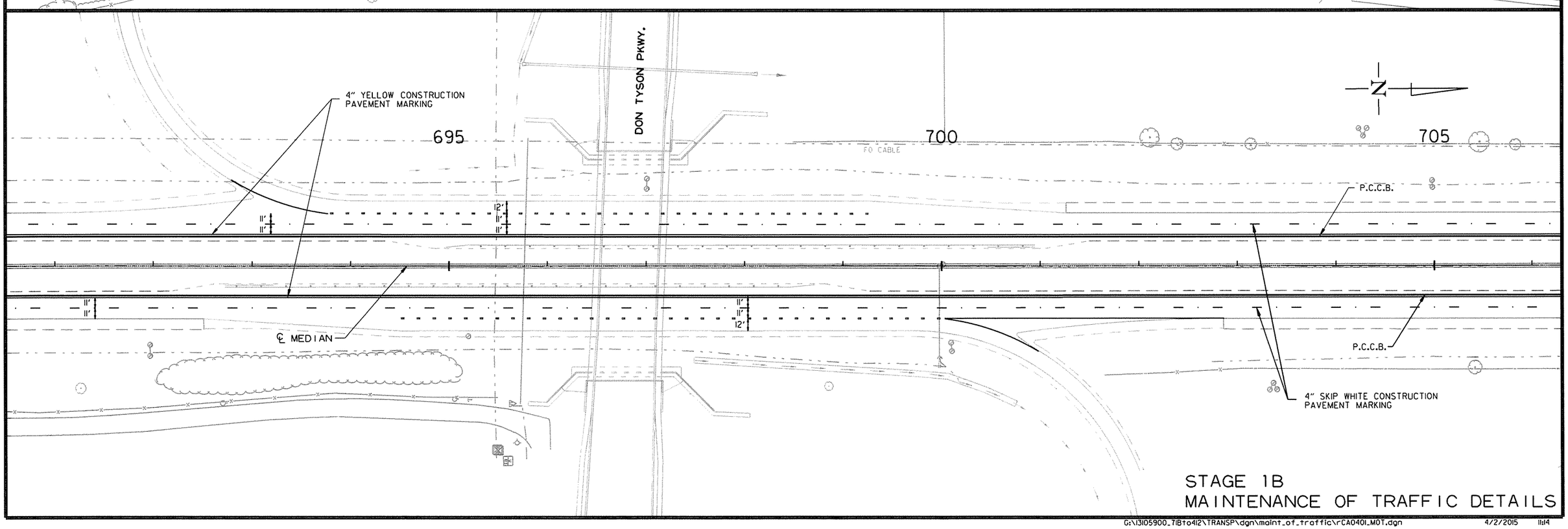
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	40	338

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Davis
No. 15560
4/2/15
JEROME PAUL DAVIS





STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
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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.		CA0401	41	338

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

4" YELLOW CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

710 715 720

FO CABLE

P.C.C.B.

11' 11' 12'

℄ MEDIAN

WATKINS AVE.

725 730 735

WEIGH STATION

STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
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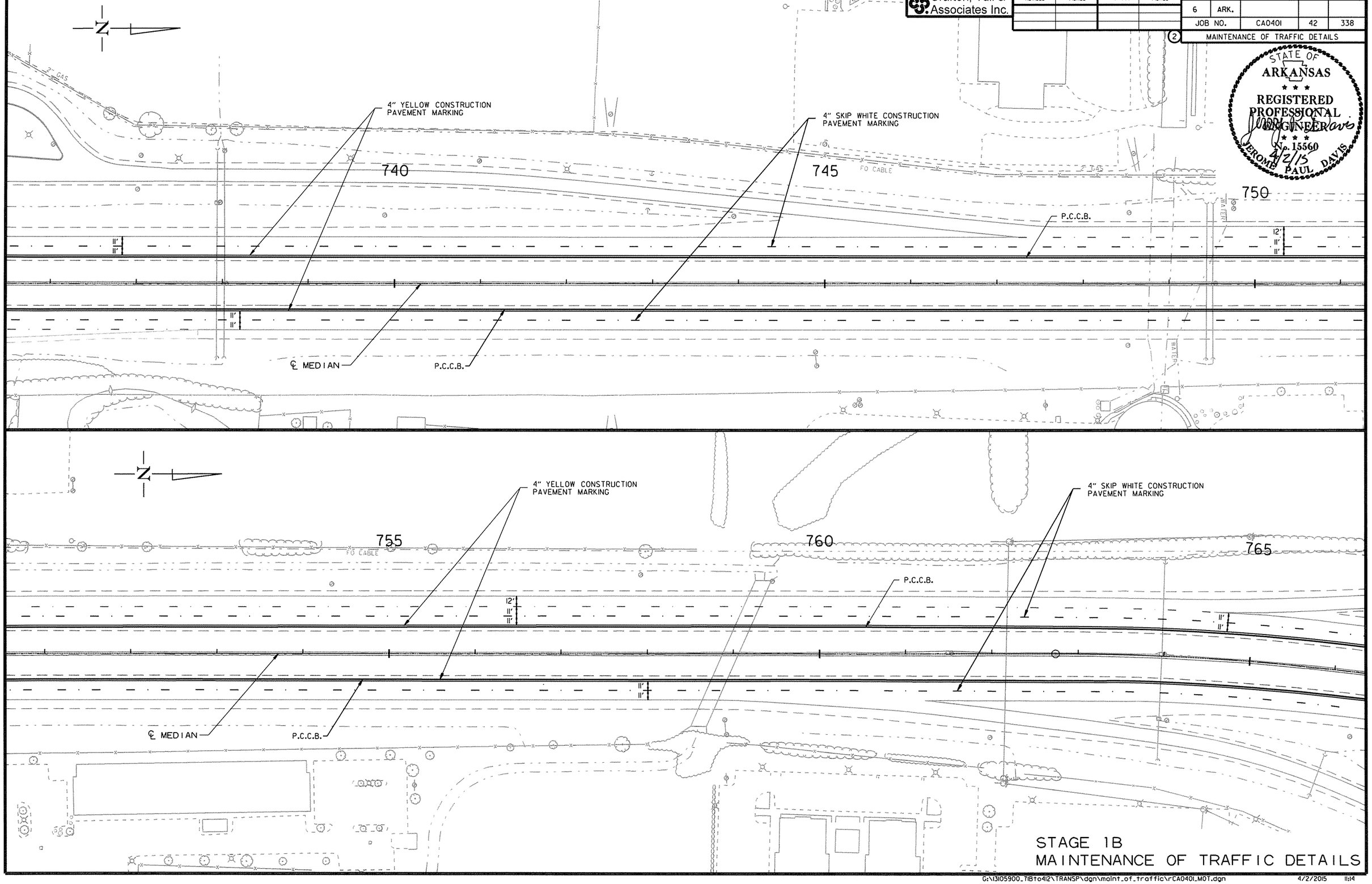
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	42	338

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS



STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\maint_of_traffic\rCA0401_MOT.dgn
PLOTTED: 4/2/2015 11:14
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	43	338

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4/2/15
JEROME PAUL DAVIS

770 775 780 785 790 795

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

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

U.S. HWY. 412

500'

300' LANE TAPER & OUTSIDE SHLDR. TRENCHING & PREP. *

80.70

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

P.C.C.B.

4" WHITE CONSTRUCTION PAVEMENT MARKING

11'

11'

55.83

20.48

P.C.C.B.
4" YELLOW CONSTRUCTION PAVEMENT MARKING

℄ MEDIAN

106.23

* REFER TO SPECIAL DETAILS FOR SHOULDER TRENCHING CONSTRUCTED IN STAGE IA.

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

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

S 48TH ST.

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

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

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

60' P.C.C.B.

40' P.C.C.B. TAPER

TEMPORARY IMPACT ATTENUATION BARRIER

53' P.C.C.B. TAPER

+03

+50 130' LANE TAPER +80

4" YELLOW CONSTRUCTION PAVEMENT MARKING

STAGE 1B
MAINTENANCE OF TRAFFIC DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	44	338

(2) PERMANENT PAVEMENT MARKING DETAILS

LEFT MAIN LANES
HIGH PERFORMANCE PAVEMENT MARKINGS
4" YELLOW = 20,498 LIN. FT.
4" WHITE = 19,969 LIN. FT.
4" SKIP WHITE = 9705 LIN. FT.
4" SKIP WHITE CONTRAST = 485 LIN. FT.
8" WHITE = 3160 LIN. FT.
8" DOTTED WHITE = 772 LIN. FT.
8" DOTTED WHITE CONTRAST= 107 LIN. FT.

RAISED PAVEMENT MARKERS
TYPE II (WHITE/RED) = 919 EACH

RIGHT MAIN LANES
HIGH PERFORMANCE PAVEMENT MARKINGS
4" YELLOW = 20,462 LIN. FT.
4" WHITE = 19,896 LIN. FT.
4" SKIP WHITE = 9732 LIN. FT.
4" SKIP WHITE CONTRAST = 485 LIN. FT.
8" WHITE = 2385 LIN. FT.
8" DOTTED WHITE = 946 LIN. FT.

RAISED PAVEMENT MARKERS
TYPE II (WHITE/RED) = 814 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
6-03-15

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

590 595 600 605 610 615

840' LANE DROP TAPER

180' ADDITIONAL LANE TAPER

+20 +40 +80 +00 +85

P.T. 585+82.30

12' 12' 12' 12" 12" 12"

N06°56'47"W

℄ MEDIAN

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

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

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	45	338

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
6-03-15

620 +52 625 +82 +09 +75

330' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

427' 8" DOTTED WHITE HIGH PERFORMANCE CONTRAST PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

110' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

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

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

12' 12' 12' 12'

N06°56'47"W

+18 60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C. +18

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

℄ MEDIAN

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

+70 280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C. +45 +46

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

635 640 645

JOHNSON MILL BLVD

MAIN DR

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

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

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

12' 12' 12'

℄ MEDIAN

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6/03/2015				6	ARK.			
				JOB NO.		CA0401	46	338
				(2) PERMANENT PAVEMENT MARKING DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
6-03-15

650
655
280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.
+90
+66
4" WHITE HIGH PERFORMANCE PAVEMENT MARKING
8" 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
6" GAS
8" GAS
FO CABLE
375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.
60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.
+68
+10
+28
℄ MEDIAN
689' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.
+17
12'

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN addition, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

665
670
675
+80
+63
+15
+42
+15
℄ MEDIAN

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	47	338

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15360
JEROME PAUL DAVIS
6-03-15

N

680

685

+90

+49

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

375' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

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

FO CABLE

+02

12'

℄ MEDIAN

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

+67

280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

695

700

705

+77

+52

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

375' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

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

FO CABLE

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

+29

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

N00°11'39"E

℄ MEDIAN

+51

+52

332' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

+71

+03

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

+78

280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

N

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	48	338

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
6-03-15

710 715 725 730 735

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

384' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

N00°11'39"E

60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

℄ MEDIAN

496' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

1135' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

FO CABLE

2" GAS

WATER

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	CA0401		49	338

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
6-03-15
JEROME PAUL DAVIS

740 745 755 760 765

+62 +39 +06 +47 +88

F.O. CABLE 2" GAS WATER

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

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

1714' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

12' 12' 12' 12'

N00°11'39"E

℄ MEDIAN

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

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

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

1714' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

P.C. 764+73.95

60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

N00°11'39"E

℄ MEDIAN

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

PERMANENT PAVEMENT MARKING DETAILS

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/03/2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	50	338

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
13560
JEROME PAUL DAVIS
6-03-15
180

N

U.S. HWY. 412

770

775

785

790

795

+95

+00

+73

+42

+12

+45

+16

+80

+18

+71

+51

+19

+76

+00

+80

12'

12'

12'

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

℄ MEDIAN

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" SKIP WHITE HIGH PERFORMANCE CONTRAST 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 80' CENTERS

NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

280' - (29) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

170' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

130' TAPER

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

375' - (38) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

60' - (14) STANDARD TYPE II R.P.M. SPACED @ 10' O.C.

180' TAPER

N51°39'12"E

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

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

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

318' 8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING STANDARD TYPE II R.P.M. SPACED @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
6-03-15

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING		HIGH PERFORMANCE PAVEMENT MARKING			
				4"	8"	4"			8"
			TY. II (WHITE/RED)	WHITE	WHITE	WHITE	WHITE (SKIP)	YELLOW	WHITE
	LIN. FT.		EACH	LIN.FT.		LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS.	18064								
CONSTRUCTION PAVEMENT MARKINGS		55981							
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			1733						
HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")				970					
HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (8")					107				
HIGH PERFORMANCE MARKING TAPE WHITE (4")						39865			
HIGH PERFORMANCE MARKING TAPE (SKIP) WHITE (4")							19437		
HIGH PERFORMANCE MARKING TAPE YELLOW (4")								40960	
HIGH PERFORMANCE MARKING TAPE WHITE (8")									7263
TOTALS:	**18064**	**55981**	**1733**	**970**	**107**	**39865**	**19437**	**40960**	**7263**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION , 2014 EDITION.
NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN. BARRIER (REPAIR)	MOBILE SPEED NOTIFICATION SYSTEM	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
							NO.	SQ. FT.							
W20-5	RIGHT LANE CLOSED 1 MILE	48" x 48"	8		4	8	8	128.0							
R4-1	DO NOT PASS	48" x 60"	16		8	16	16	320.0							
W20-5	RIGHT LANE CLOSE 1/2 MILE	48" x 48"	8		4	8	8	128.0							
W20-5	RIGHT LANE CLOSED 1500 FEET	48" x 48"	8		4	8	8	128.0							
W20-1	ROAD WORK 1 MILE	48" x 48"		4		4	4	64.0							
R55-1	FINES DOUBLE IN WORK ZONES	36" x 60"		4		4	4	60.0							
W20-1	ROAD WORK 1/2 MILE	48" x 48"		4		4	4	64.0							
R2-5A	REDUCED SPEED AHEAD	48" x 60"	8	4	4	8	8	160.0							
W20-1	ROAD WORK 1500 FT.	48" x 48"		4		4	4	64.0							
R2-1	SPEED LIMIT 60 MPH	48" x 60"	8	10	4	10	10	200.0							
G20-1	ROAD WORK NEXT xx MILES	60" x 24"		2		2	2	20.0							
W20-1	ROAD WORK AHEAD	48" x 24"	8	12	4	12	12	96.0							
G20-2	END ROAD WORK	48" x 24"		16		16	16	128.0							
R2-1	SPEED LIMIT 70 MPH	48" x 60"	8	4	4	8	8	160.0							
SPECIAL 1	MERGE NOW + ARROW	48" x 48"	4	1	2	4	4	64.0							
RSP-1	SHOULDER CLOSED	48" x 30"		6		6	6	60.0							
W4-2 R	LANE ENDS	48" x 48"	8		4	8	8	128.0							
W1-6 L	LARGE ARROW	60" x 30"	12		6	12	12	150.0							
	TRAFFIC DRUMS		397		869	869			869						
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			41026		41026				41026					
	TEMPORARY IMPACT ATTENUATION BARRIER			2		2					2				
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			2		2						2			
	ADVANCE WARNING ARROW PANEL		4		2	4								90	
	PORTABLE CHANGEABLE MESSAGE SIGN		4	4	4	4									246
	* MOBILE SPEED NOTIFICATION SYSTEM			2	2	2							2		
	* TEMPORARY IMPACT ATTENUATION BARRIER			4		4					4				
	* TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			4		4						4			
TOTALS:								**2122.0**	**869**	**41026**	**6**	**6**	**2**	**90**	**246**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.
* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	52	338

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	APPROACH SLAB AND GUTTERS	GUARDRAIL	CONCRETE DITCH PAVING	WIRE ROPE SAFETY FENCE	PLOWABLE PAVEMENT MARKERS
			*EACH	LIN.FT.	SQ.YD.	LIN.FT.	EACH
587+55	622+03	I-49 - C.L. MEDIAN				3448	
587+55	622+03	I-49 - C.L. MEDIAN			1532		
621+16	623+87	I-49 - R.M.L. - LT.		271			
623+61	623+96	I-49 - R.M.L. - LT.	1				
623+77	624+12	I-49 - L.M.L. - RT.	1				
627+77	630+48	I-49 - L.M.L. - RT.		271			
627+53	627+88	I-49 - R.M.L. - LT.	1				
627+69	628+04	I-49 - L.M.L. - RT.	1				
629+61	636+55	I-49 - C.L. MEDIAN				694	
629+61	636+55	I-49 - C.L. MEDIAN			308		
635+64	638+35	I-49 - R.M.L. - LT.		271			
638+08	638+43	I-49 - R.M.L. - LT.	1				
638+41	638+76	I-49 - L.M.L. - RT.	1				
635+64	638+35	I-49 - R.M.L. - LT.	1				
635+42	638+21	I-49 - L.M.L. - RT.	1				
640+79	643+50	I-49 - L.M.L. - RT.		271			
642+62	717+81	I-49 - C.L. MEDIAN			3342		
723+14	772+47	I-49 - C.L. MEDIAN				4933	
723+14	772+47	I-49 - C.L. MEDIAN			2193		
771+70	774+47	I-49 - R.M.L. - LT.		277			
773+89	774+23	I-49 - L.M.L. - RT.	1				
774+12	774+48	I-49 - R.M.L. - LT.	1				
776+28	776+63	I-49 - L.M.L. - RT.	1				
776+57	776+93	I-49 - R.M.L. - LT.	1				
776+43	779+11	I-49 - L.M.L. - RT.		268			
778+24	791+00	I-49 - C.L. MEDIAN			567		
778+24	791+45	I-49 - C.L. MEDIAN				1321	
588+00	791+00	I-49 - L.M.L. AND R.M.L.					508
TOTALS:			12	1629	7942	10396	508

* REMOVE TO CUT LINE SHOWN ON BRIDGE PLANS.

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
600+97	DROP INLET - I-49 C.L. MEDIAN		1
617+57	DROP INLET - I-49 C.L. MEDIAN		1
679+98	DROP INLET - I-49 C.L. MEDIAN		1
699+98	DROP INLET - I-49 C.L. MEDIAN		1
718+09	CULVERT - I-49 C.L. MEDIAN	1	
724+80	CULVERT - I-49 C.L. MEDIAN	1	
761+50	DROP INLET - I-49 C.L. MEDIAN	1	1
786+47	DROP INLET - I-49 C.L. MEDIAN		1
TOTALS:		3	6

WIRE ROPE SAFETY FENCE

STATION	STATION	LOCATION	END TERMINAL
			EACH
587+55	588+00	I-49 - MEDIAN	1
791+00	791+45	I-49 - MEDIAN	1
TOTAL:			2

BENCH MARKS

STATION	DESCRIPTION	BENCH MARKS
		EACH
624+04	BRIDGE ON I-49 - RIGHT	1
638+60	BRIDGE ON I-49 - RIGHT	1
774+55	BRIDGE ON I-49 - RIGHT	1
TOTAL:		3

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	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 STANDARD SPECIFICATIONS.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT REMOVAL AND DISPOSAL
			ACRE	TON	ACRE	M. GAL.	ACRE	ACRE	ACRE	M. GAL.	BAG	CU. YD.	LIN.FT.	LIN.FT.	CU. YD.
623+91	624+09	I-49 - C.L. MEDIAN												65	3
627+51	627+68	I-49 - C.L. MEDIAN												65	3
638+42	638+76	I-49 - C.L. MEDIAN												70	3
640+38	640+71	I-49 - C.L. MEDIAN												70	3
774+21	774+45	I-49 - C.L. MEDIAN												65	3
776+27	776+55	I-49 - C.L. MEDIAN												65	3
ENTIRE	PROJECT	I-49 - C.L. MEDIAN	4.51	9	4.51	460.0	4.51	5.30	5.30	108.1	2332	303	2448		711
* ENTIRE PROJECT AS DIRECTED BY THE ENGINEER															
								2.00	2.00	40.8	816	106	864	140	255
TOTALS:			4.51	9	4.51	460.0	4.51	7.30	7.30	148.9	3148	409	3312	540	984

BASIS OF ESTIMATE:
LIME.....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G./ACRE OF SEEDING
WATER..... 20.4 M.G./ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
DROP INLET SILT FENCE.....18 LIN.FT./LOCATION
ROCK DITCH CHECKS.....3 CU. YDS. PER DITCH CHECK

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

*QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

CRASH CUSHION

STATION	DESCRIPTION	EACH
588+00	I-49 - C.L.	1
791+00	I-49 - C.L.	1
TOTAL:		2

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	LIN. FT.
623+98	624+11	I-49 MEDIAN	46
627+54	627+66	I-49 MEDIAN	46
638+47	638+73	I-49 MEDIAN	46
640+42	640+68	I-49 MEDIAN	46
774+43	774+49	I-49 MEDIAN	46
776+28	776+34	I-49 MEDIAN	46
TOTAL:			276

QUANTITIES

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	53	338

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4-09-15

STRUCTURES (BOX 1 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT			FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	STEEL GRATE ASSEMBLY (TYPE 1)	DROP INLETS	MODIFYING DROP INLETS	SOLID SODDING	WATER	STD. DWG. NOS.
		CLASS III	CLASS III	CLASS V			TYPE				
		18"	24"	24"	24"	24"	ST				
			LIN. FT.			EACH		EACH	SQ. YD.	M. GAL.	
587+78	STEEL GRATE ASSEMBLY (TYPE 1)		5			1					PCC-1, G-1
587+96	RETAIN & MODIFY D.I. ON CL.							1			FPC-9S
591+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
591+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
594+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
594+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
597+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
597+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
600+00	CONST. D.I. ON LT. W/ PIPE CULVERT		93				1				PCC-1, FPC-9S
600+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
600+97	CONST. D.I. ON LT.	4					1				PCC-1, FPC-9S
600+97	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
602+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
602+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
605+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
605+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
608+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
608+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
611+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
611+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
614+50	CONST. D.I. ON LT. W/ PIPE CULVERT		303				1				PCC-1, FPC-9S
614+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
617+57	CONST. D.I. ON LT.	4					1				PCC-1, FPC-9S
617+57	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
619+00	CONST. D.I. ON LT. W/ PIPE CULVERT		171				1				PCC-1, FPC-9S
619+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
620+75	CONST. D.I. ON LT. W/ PIPE CULVERT		268				1				PCC-1, FPC-9S
620+75	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
623+47	RETAIN & MODIFY D.I. ON CL.							1			
627+98	RETAIN & MODIFY D.I. ON CL.							1			
630+67	CONST. D.I. ON LT. W/ PIPE CULVERT		265				1				PCC-1, FPC-9S
630+67	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
633+00	CONST. D.I. ON LT. W/ PIPE CULVERT		229				1				PCC-1, FPC-9S
633+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
634+57	CONST. D.I. ON LT. W/ PIPE CULVERT		153				1				PCC-1, FPC-9S
634+57	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
641+47	RETAIN & MODIFY D.I. ON CL.							1			
644+58	CONST. D.I. ON LT. W/ PIPE CULVERT		307				1				PCC-1, FPC-9S
644+58	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
646+00	CONST. D.I. ON LT. W/ PIPE CULVERT		138				1				PCC-1, FPC-9S
646+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
649+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
649+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
652+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
652+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
653+21	RETAIN & MODIFY D.I. ON CL.							1			
653+30	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
653+30	CONST. D.I. ON RT. W/ PIPE CULVERT		5				1				PCC-1, FPC-9S
656+00	CONST. D.I. ON RT. W/ PIPE CULVERT		264				1				PCC-1, FPC-9S
659+00	CONST. D.I. ON RT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
662+00	CONST. D.I. ON RT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
665+00	CONST. D.I. ON RT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
668+00	CONST. D.I. ON RT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
668+50	CONST. D.I. ON LT. W/ PIPE CULVERT		46				1				PCC-1, FPC-9S
669+70	RETAIN & MODIFY D.I. ON CL.							1			
670+00	CONST. D.I. ON LT. W/ PIPE CULVERT		26				1				PCC-1, FPC-9S
670+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
672+00	CONST. D.I. ON LT. W/ PIPE CULVERT		196				1				PCC-1, FPC-9S
672+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
675+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
678+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
679+98	CONST. D.I. ON LT. W/ PIPE CULVERT	4					1				PCC-1, FPC-9S
683+00	CONST. D.I. ON LT. W/ PIPE CULVERT		298				1				PCC-1, FPC-9S
686+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
687+50	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
689+00	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
691+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
691+00	CONST. D.I. ON RT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
694+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
694+00	CONST. D.I. ON RT. W/ PIPE CULVERT		196				1				PCC-1, FPC-9S
696+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
696+00	CONST. D.I. ON RT. W/ PIPE CULVERT		196				1				PCC-1, FPC-9S
698+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
698+00	CONST. D.I. ON RT. W/ PIPE CULVERT		196				1				PCC-1, FPC-9S
699+98	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
699+98	CONST. D.I. ON RT.	4					1				PCC-1, FPC-9S
SUBTOTALS:		**16**	**8735**			**1**	**69**	**6**			

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	54	338

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4-09-15

STRUCTURES (BOX 2 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT			FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	STEEL GRATE ASSEMBLY (TYPE 1)	DROP INLETS	MODIFYING DROP INLETS	SOLID SODDING	WATER	STD. DWG. NOS.
		CLASS III	CLASS III	CLASS V			TYPE				
		18"	24"	24"	24"	24"	ST				
		LIN FT.			EACH			EACH	SQ. YD.	M. GAL.	
702+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
702+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
705+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
705+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
708+00	CONST. D.I. ON LT. W/ PIPE CULVERT		221				1				PCC-1, FPC-9S
708+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
710+25	CONST. D.I. ON LT. W/ PIPE CULVERT		68				1				PCC-1, FPC-9S
710+25	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
710+97	CONST. D.I. ON LT.						1				PCC-1, FPC-9S
710+97	CONST. D.I. ON RT.						1				PCC-1, FPC-9S
711+75	CONST. D.I. ON LT. W/ PIPE CULVERT		74				1				PCC-1, FPC-9S
711+75	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
714+00	CONST. D.I. ON LT. W/ PIPE CULVERT		221				1				PCC-1, FPC-9S
714+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
717+06	RETAIN & MODIFY D.I. ON CL.							1			
717+20	CONST. D.I. ON RT. W/ PIPE CULVERT		10				1				PCC-1, FPC-9S
717+20	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
719+00	CONST. D.I. ON RT. W/ PIPE CULVERT		176				1				PCC-1, FPC-9S
719+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
721+50	CONST. D.I. ON RT. W/ PIPE CULVERT		246				1				PCC-1, FPC-9S
721+50	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
726+50	CONST. D.I. ON LT. W/ PIPE CULVERT		196				1				PCC-1, FPC-9S
726+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
728+50	CONST. D.I. ON LT. W/ PIPE CULVERT		96				1				PCC-1, FPC-9S
728+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
729+50	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
729+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
731+00	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
731+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
732+50	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
732+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
734+00	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
734+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
735+50	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
735+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
737+00	CONST. D.I. ON LT. W/ PIPE CULVERT		90				1				PCC-1, FPC-9S
737+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
737+94	CONST. D.I. ON LT.						1				PCC-1, FPC-9S
737+94	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
741+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
741+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
744+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
744+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
747+00	CONST. D.I. ON LT. W/ PIPE CULVERT		239				1				PCC-1, FPC-9S
747+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
749+43	CONST. D.I. ON LT.						1				PCC-1, FPC-9S
749+43	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
753+00	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
753+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
756+00	CONST. D.I. ON LT. W/ PIPE CULVERT		246				1				PCC-1, FPC-9S
756+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
758+50	CONST. D.I. ON LT. W/ PIPE CULVERT			78	1		1		8	0.1	PCC-1, FPC-9S,FES-1, FES-2
758+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
759+50	CONST. D.I. ON LT. W/ PIPE CULVERT		106				1				PCC-1, FPC-9S
759+50	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
760+60	CONST. D.I. ON LT. W/ PIPE CULVERT		86				1				PCC-1, FPC-9S
761+50	CONST. D.I. ON LT. W/ PIPE CULVERT		60				1				PCC-1, FPC-9S
762+14	CONST. D.I. ON LT. W/ PIPE CULVERT		182				1				PCC-1, FPC-9S
763+97	RETAIN & MODIFY D.I. ON CL.							1			
764+25	CONST. D.I. ON LT. W/ PIPE CULVERT			90	1		1		8	0.1	PCC-1, FPC-9S,FES-1, FES-2
766+50	CONST. D.I. ON LT. W/ PIPE CULVERT		221				1				PCC-1, FPC-9S
769+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
772+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
777+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
780+50	CONST. D.I. ON LT. W/ PIPE CULVERT		296				1				PCC-1, FPC-9S
783+50	CONST. D.I. ON LT. W/ PIPE CULVERT		293				1				PCC-1, FPC-9S
786+47	CONST. D.I. ON LT. W/ PIPE CULVERT	4					1				FPC-9S
788+00	CONST. D.I. ON LT. W/ PIPE CULVERT		146				1				PCC-1, FPC-9S
789+50	CONST. D.I. ON LT. W/ PIPE CULVERT		131				1				PCC-1, FPC-9S
790+85	CONST. D.I. ON LT. W/ PIPE CULVERT		11				1				PCC-1, FPC-9S
791+00	CONST. D.I. ON LT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
791+00	CONST. D.I. ON RT. W/ PIPE CULVERT		2				1				PCC-1, FPC-9S
SUBTOTALS (BOX 1 OF 2):		16	8735			1	69	6			
SUBTOTALS (BOX 2 OF 2):		4	6569	168	2		70	2	16	0.2	
TOTALS:		**20**	**15304**	**168**	**2**	**1**	**139**	**8**	**16**	**0.2**	

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

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QUANTITIES

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	55	338

(2) QUANTITIES

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE								
			B	C	SP-1	SP-2	SP-3	SP-4	B SPECIAL	C SPECIAL	SPECIAL
			LIN. FT.								
588+00	602+98	I-49 - C.L. MEDIAN	1498								
602+98	603+73	I-49 - C.L. MEDIAN				75					
603+77	604+52	I-49 - C.L. MEDIAN				75					
604+52	621+92	I-49 - C.L. MEDIAN	1740								
621+92	622+17	I-49 - C.L. MEDIAN			25						
622+35	622+60	I-49 - C.L. MEDIAN			25						
622+60	623+38	I-49 - C.L. MEDIAN	78								
623+38	623+70	I-49 - C.L. MEDIAN						32			
627+95	628+27	I-49 - C.L. MEDIAN						32			
628+27	637+94	I-49 - C.L. MEDIAN	967								
637+94	638+26	I-49 - C.L. MEDIAN						32			
640+90	641+23	I-49 - C.L. MEDIAN						33			
641+23	652+59	I-49 - C.L. MEDIAN	1136								
652+59	652+84	I-49 - C.L. MEDIAN			25						
653+02	653+27	I-49 - C.L. MEDIAN			25						
653+27	656+35	I-49 - C.L. MEDIAN	308								
656+35	667+75	I-49 - C.L. MEDIAN		1140							
667+75	672+00	I-49 - C.L. MEDIAN	425								
672+00	675+00	I-49 - C.L. MEDIAN							300		
675+00	679+00	I-49 - C.L. MEDIAN								400	
679+00	689+90	I-49 - C.L. MEDIAN		1090							
689+90	695+71	I-49 - C.L. MEDIAN	581								
695+71	696+47	I-49 - C.L. MEDIAN					76				
697+19	697+95	I-49 - C.L. MEDIAN					76				
697+95	721+72	I-49 - C.L. MEDIAN	2377								
721+72	723+44	I-49 - C.L. MEDIAN									172
723+44	747+06	I-49 - C.L. MEDIAN	2362								
747+06	747+31	I-49 - C.L. MEDIAN			25						
747+49	747+74	I-49 - C.L. MEDIAN			25						
747+74	759+06	I-49 - C.L. MEDIAN	1132								
759+06	759+31	I-49 - C.L. MEDIAN			25						
759+49	759+74	I-49 - C.L. MEDIAN			25						
759+74	761+20	I-49 - C.L. MEDIAN	146								
761+20	762+71	I-49 - C.L. MEDIAN		151							
762+71	762+96	I-49 - C.L. MEDIAN			25						
763+14	763+39	I-49 - C.L. MEDIAN			25						
763+39	773+68	I-49 - C.L. MEDIAN		1029							
773+68	774+02	I-49 - C.L. MEDIAN						34			
776+80	777+12	I-49 - C.L. MEDIAN						32			
777+12	788+48	I-49 - C.L. MEDIAN		1136							
788+48	788+73	I-49 - C.L. MEDIAN			25						
788+91	789+41	I-49 - C.L. MEDIAN			50						
789+59	789+84	I-49 - C.L. MEDIAN			25						
789+84	791+00	I-49 - C.L. MEDIAN		116							
TOTALS:			12750	4662	350	150	152	195	300	400	172

EARTHWORK

STATION	STATION	LOCATION/DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION	* STONE BACKFILL
			CU.YD.	CU.YD.	TON	TON
588+00	791+00	I-49 - MEDIAN	31874	14168		
624+86	625+06	CLEAR CREEK NORTH BANK		2980		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			150	960
TOTALS:			31874	17148	150	960

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

PREBORING FOR CONCRETE BARRIER WALL

STATION	STATION	LOCATION/DESCRIPTION	LIN. FT.
672+02	678+98	MEDIAN I-49 / TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	242
TOTAL:			242

STEEL PILING FOR CONCRETE BARRIER WALL (HP 12X53)

STATION	LOCATION/DESCRIPTION	LIN. FT.
672+02.50	I-49 - MEDIAN	26.0
672+12.50	I-49 - MEDIAN	26.0
672+22.50	I-49 - MEDIAN	26.0
672+32.50	I-49 - MEDIAN	26.0
672+42.50	I-49 - MEDIAN	26.0
672+52.50	I-49 - MEDIAN	26.0
672+62.50	I-49 - MEDIAN	26.0
672+72.50	I-49 - MEDIAN	31.8
672+82.50	I-49 - MEDIAN	32.9
672+92.50	I-49 - MEDIAN	33.9
673+02.50	I-49 - MEDIAN	34.9
673+12.50	I-49 - MEDIAN	36.0
673+22.50	I-49 - MEDIAN	37.0
673+32.50	I-49 - MEDIAN	38.1
673+42.50	I-49 - MEDIAN	39.2
673+52.50	I-49 - MEDIAN	39.7
673+57.50	I-49 - MEDIAN	39.9
673+67.50	I-49 - MEDIAN	40.3
673+77.50	I-49 - MEDIAN	40.7
673+87.50	I-49 - MEDIAN	41.2
673+97.50	I-49 - MEDIAN	41.6
674+07.50	I-49 - MEDIAN	42.0
674+17.50	I-49 - MEDIAN	42.4
674+27.50	I-49 - MEDIAN	42.8
674+37.50	I-49 - MEDIAN	43.2
674+47.50	I-49 - MEDIAN	43.5
674+57.50	I-49 - MEDIAN	42.8
674+67.50	I-49 - MEDIAN	41.8
674+77.50	I-49 - MEDIAN	40.9
674+87.50	I-49 - MEDIAN	39.9
674+97.50	I-49 - MEDIAN	39.0
675+05.00	I-49 - MEDIAN	38.2
675+15.00	I-49 - MEDIAN	37.3
675+25.00	I-49 - MEDIAN	36.3
675+35.00	I-49 - MEDIAN	35.4
675+45.00	I-49 - MEDIAN	34.5
675+55.00	I-49 - MEDIAN	34.0
675+65.00	I-49 - MEDIAN	33.6
675+75.00	I-49 - MEDIAN	33.3
675+85.00	I-49 - MEDIAN	32.9
675+95.00	I-49 - MEDIAN	32.5
676+05.00	I-49 - MEDIAN	32.0
676+15.00	I-49 - MEDIAN	31.7
676+25.00	I-49 - MEDIAN	31.3
676+35.00	I-49 - MEDIAN	30.9
676+45.00	I-49 - MEDIAN	30.7
676+55.00	I-49 - MEDIAN	31.1
676+65.00	I-49 - MEDIAN	31.5
676+75.00	I-49 - MEDIAN	31.8
676+85.00	I-49 - MEDIAN	32.2
676+95.00	I-49 - MEDIAN	32.6
677+05.00	I-49 - MEDIAN	33.0
677+15.00	I-49 - MEDIAN	33.4
677+25.00	I-49 - MEDIAN	34.0
677+35.00	I-49 - MEDIAN	34.6
677+45.00	I-49 - MEDIAN	35.0
677+55.00	I-49 - MEDIAN	34.7
677+65.00	I-49 - MEDIAN	34.3
677+75.00	I-49 - MEDIAN	33.8
677+85.00	I-49 - MEDIAN	33.3
677+95.00	I-49 - MEDIAN	32.9
678+05.00	I-49 - MEDIAN	32.4
678+15.00	I-49 - MEDIAN	32.0
678+25.00	I-49 - MEDIAN	31.5
678+35.00	I-49 - MEDIAN	30.8
678+45.00	I-49 - MEDIAN	30.2
678+55.00	I-49 - MEDIAN	26.0
678+65.00	I-49 - MEDIAN	26.0
678+75.00	I-49 - MEDIAN	26.0
678+85.00	I-49 - MEDIAN	26.0
678+95.00	I-49 - MEDIAN	26.0
TOTAL:		2417.2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry D. Jones
No. 15560
4/2/15
JEROME PAUL DAVIS

QUANTITIES

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
05-26-2015				6	ARK.			
				JOB NO.		CA0401	56	338
				(2)	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
5-26-15

TRENCHING AND SHOULDER PREPARATION

STATION	STATION	LOCATION	TRENCHING AND SHOULDER PREPARATION	ACNHPP-0072(45) TACK COAT 0.03 GAL. PER SQ.YD.			ACHM BASE COURSE (1 1/2") 440 LBS. PER SQ.YD.			ACHM BINDER COURSE (1") 440 LBS. PER SQ.YD.			ACNHPP-0072(45) ACHM SURFACE COURSE (1/2") 440 LBS. PER SQ.YD.		
				AVG. WIDTH	SQYD.	GALLON	AVG. WIDTH	SQYD.	PG 76-22	AVG. WIDTH	SQYD.	PG 76-22	AVG. WIDTH	SQYD.	PG 76-22
			STATION	FEET			FEET		TON	FEET		TON	FEET		TON
620+54.00	623+54.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
620+86.00	623+86.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
627+80.00	630+80.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
628+14.00	631+08.00	I-49 L.M.L. - OUTSIDE SHOULDER	2.94	21.90	715.40	21.46	7.30	238.47	52.46	7.30	238.47	52.46	7.30	238.47	52.46
629+36.00	632+69.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.33	13.50	499.50	14.99	4.50	166.50	36.63	4.50	166.50	36.63	4.50	166.50	36.63
634+94.00	637+94.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
635+55.00	638+55.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
640+61.00	643+61.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
641+21.00	644+21.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
770+81.00	774+11.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.30	15.00	550.00	16.50	5.00	183.33	40.33	5.00	183.33	40.33	5.00	183.33	40.33
771+20.00	774+20.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
777+06.00	780+06.00	I-49 R.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
776+56.00	779+56.00	I-49 L.M.L. - OUTSIDE SHOULDER	3.00	15.00	500.00	15.00	5.00	166.67	36.67	5.00	166.67	36.67	5.00	166.67	36.67
TOTALS:			39.57			202.95		2255.00	496.12		2255.00	496.12		2255.00	496.12

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

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTERS (TYPE SPECIAL 1)	APPROACH SLABS (TYPE SPECIAL 1)	REINFORCING STEEL-RDWY. (GRADE 60)	AGGREGATE BASE COURSE (CLASS 7)
			CU.YD.		POUND	TON
623+79.17	624+14.17	I-49 LML - BEG. BRIDGE A (APPR. SLAB A)		37.50	5803	34.48
627+71.22	628+06.22	I-49 LML - END BRIDGE A (APPR. SLAB B)		37.50	5799	34.48
623+69.80	624+04.80	I-49 LML - BEG. BRIDGE A (GUTTER A) - INSIDE	17.10		4848	29.73
627+61.85	627+96.85	I-49 LML - END BRIDGE A (GUTTER B) - INSIDE	15.80		4522	27.43
623+60.91	624+01.00	I-49 RML - BEG. BRIDGE B (APPR. SLAB A)		37.50	5799	34.48
627+52.96	627+93.05	I-49 RML - END BRIDGE B (APPR. SLAB B)		37.50	5803	34.48
623+68.41	624+01.00	I-49 RML - BEG. BRIDGE B (GUTTER A) - INSIDE	15.80		4522	27.43
627+58.05	627+95.46	I-49 RML - END BRIDGE B (GUTTER B) - INSIDE	17.10		4848	29.73
638+07.90	638+53.54	I-49 RML - BEG. BRIDGE A (APPR.SLAB A)		37.50	5815	34.48
640+39.39	640+85.03	I-49 RML - END BRIDGE A (APPR.SLAB B)		37.50	5809	34.48
638+23.58	638+59.42	I-49 RML - BEG BRIDGE A (GUTTER A) - INSIDE	17.80		5018	26.18
640+50.03	640+90.07	I-49 RML - END BRIDGE A (GUTTER B) - INSIDE	15.10		4350	30.98
638+30.66	638+76.30	I-49 LML - BEG. BRIDGE B (APPR. SLAB A)		37.50	5809	34.48
640+62.15	641+07.80	I-49 LML - END BRIDGE B (APPR. SLAB B)		37.50	5815	34.48
638+25.62	638+65.66	I-49 LML - BEG. BRIDGE B (GUTTER A) - INSIDE	15.10		4350	30.98
640+56.27	640+92.11	I-49 LML - BEG. BRIDGE B (GUTTER B) - INSIDE	17.80		5018	26.18
773+89.07	774+30.27	I-49 LML - BEG. BRIDGE B (APPR. SLAB A)		37.70	6049	34.48
776+31.29	776+75.24	I-49 LML - END BRIDGE B (APPR. SLAB B)		37.70	5832	34.48
773+99.14	774+34.11	I-49 LML - BEG. BRIDGE B (GUTTER A) - INSIDE	17.40		4927	26.97
776+40.39	776+80.09	I-49 LML - BEG. BRIDGE B (GUTTER B) - INSIDE	15.30		4423	30.69
774+05.51	774+47.62	I-49 RML - BEG. BRIDGE A (APPR.SLAB A)		37.70	5839	34.48
776+51.79	776+96.86	I-49 RML - END BRIDGE A (APPR.SLAB B)		37.70	5849	34.48
774+01.88	774+40.67	I-49 RML - BEG BRIDGE A (GUTTER A) - INSIDE	15.50		4481	30.69
776+47.11	776+82.15	I-49 RML - END BRIDGE A (GUTTER B) - INSIDE	17.70		5009	26.97
TOTALS:			197.50	450.80	126337	757.72

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	ACNHPP-0072(45) LIN. FT.	BIM-B49-0(218) LIN. FT.
588+00	623+90	I-49 - R.M.L. INSIDE SHOULDER	3590	
588+00	623+65	I-49 - R.M.L. OUTSIDE SHOULDER		3565
588+00	624+22	I-49 - L.M.L. OUTSIDE SHOULDER		3622
588+00	623+77	I-49 - L.M.L. INSIDE SHOULDER	3577	
627+44	638+25	I-49 - R.M.L. OUTSIDE SHOULDER		1081
627+95	638+29	I-49 - R.M.L. INSIDE SHOULDER	1034	
627+97	638+91	I-49 - L.M.L. OUTSIDE SHOULDER		1094
627+77	638+26	I-49 - L.M.L. INSIDE SHOULDER	1049	
640+23	774+55	I-49 - R.M.L. OUTSIDE SHOULDER		13432
640+90	774+05	I-49 - R.M.L. INSIDE SHOULDER	13315	
640+92	773+99	I-49 - L.M.L. OUTSIDE SHOULDER		13307
640+85	774+12	I-49 - L.M.L. INSIDE SHOULDER	13327	
776+68	791+00	I-49 - R.M.L. INSIDE SHOULDER	1432	
776+82	791+00	I-49 - R.M.L. OUTSIDE SHOULDER		1418
776+80	791+00	I-49 - L.M.L. INSIDE SHOULDER	1420	
776+15	791+00	I-49 - L.M.L. OUTSIDE SHOULDER		1485
TOTALS:			38744	39004

OVERHEAD SIGN STRUCTURE FOUNDATION

STATION	LOCATION	EACH
603+75	I-49 MEDIAN NORTHBOUND AND SOUTHBOUND	1
622+26	I-49 MEDIAN NORTHBOUND	1
652+93	I-49 MEDIAN SOUTHBOUND	1
747+40	I-49 MEDIAN SOUTHBOUND	1
759+40	I-49 MEDIAN NORTHBOUND	1
763+05	I-49 MEDIAN SOUTHBOUND	1
788+82	I-49 MEDIAN NORTHBOUND	1
789+50	I-49 MEDIAN SOUTHBOUND	1
TOTAL:		8

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4-29-15

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	BIM-B49-0(218) COLD MILLING ASPHALT PAVEMENT
			FEET	SQ.YD.
588+00.00	620+54.48	I-49 R.M.L.	26.0	9401.83
620+54.48	623+54.48	I-49 R.M.L.	24.0	800.00
627+80.46	630+80.46	I-49 R.M.L.	24.0	800.00
630+80.46	634+94.43	I-49 R.M.L.	26.0	1195.91
634+94.43	637+94.43	I-49 R.M.L.	24.0	800.00
640+60.96	643+60.96	I-49 R.M.L.	24.0	800.00
643+60.96	650+05.68	I-49 R.M.L.	26.0	1862.52
650+05.68	663+03.26	I-49 R.M.L.	38.8	5594.01
663+03.26	665+84.95	I-49 R.M.L.	31.8	995.30
665+84.95	692+50.90	I-49 R.M.L.	26.0	7701.63
692+50.90	702+85.91	I-49 R.M.L.	24.0	2760.03
702+85.91	711+42.68	I-49 R.M.L.	26.0	2475.11
711+42.68	737+71.62	I-49 R.M.L.	24.0	7010.51
737+71.62	758+75.61	I-49 R.M.L.	26.0	6078.19
758+75.61	761+22.18	I-49 R.M.L.	32.5	890.39
761+22.18	764+70.97	I-49 R.M.L.	24.0	930.11
764+70.97	771+20.48	I-49 R.M.L.	24.0	1732.03
771+20.48	774+20.48	I-49 R.M.L.	24.0	800.00
777+06.23	780+06.23	I-49 R.M.L.	24.0	800.00
780+06.23	786+16.48	I-49 R.M.L.	26.0	1762.94
786+16.48	787+66.25	I-49 R.M.L.	26.0	432.67
787+66.25	791+00.00	I-49 R.M.L.	38.8	1438.83
588+00.00	612+01.19	I-49 L.M.L.	26.0	6936.77
612+01.19	615+16.08	I-49 L.M.L.	33.8	1182.59
615+16.08	620+86.95	I-49 L.M.L.	40.0	2537.20
620+86.95	623+86.95	I-49 L.M.L.	36.9	1230.00
628+03.05	628+14.00	I-49 L.M.L.	34.0	41.37
628+14.00	629+35.79	I-49 L.M.L.	35.9	485.81
629+35.79	632+68.53	I-49 L.M.L.	24.0	887.31
632+68.53	635+54.75	I-49 L.M.L.	26.0	826.86
635+54.75	638+54.75	I-49 L.M.L.	24.0	800.00
641+21.24	644+21.24	I-49 L.M.L.	24.0	800.00
644+20.78	648+85.14	I-49 L.M.L.	26.0	1341.48
648+85.14	651+60.56	I-49 L.M.L.	24.0	734.45
651+60.56	670+41.53	I-49 L.M.L.	26.8	5601.11
670+41.53	681+78.14	I-49 L.M.L.	39.9	5038.97
681+78.14	690+91.33	I-49 L.M.L.	26.0	2638.10
690+91.33	701+26.41	I-49 L.M.L.	24.0	2760.21
701+26.41	714+26.13	I-49 L.M.L.	26.0	3754.75
714+26.13	717+33.60	I-49 L.M.L.	32.3	1103.48
717+33.60	723+57.71	I-49 L.M.L.	38.3	2655.93
723+57.71	725+15.35	I-49 L.M.L.	24.0	420.37
725+15.35	744+51.50	I-49 L.M.L.	26.0	5593.32
744+51.50	747+26.00	I-49 L.M.L.	24.0	732.00
747+26.00	764+53.25	I-49 L.M.L.	38.4	7369.60
764+53.25	765+93.53	I-49 L.M.L.	24.0	374.08
765+93.53	770+80.70	I-49 L.M.L.	26.0	1407.38
770+80.70	773+80.70	I-49 L.M.L.	24.0	800.00
776+55.83	779+55.83	I-49 L.M.L.	24.0	800.00
779+55.83	783+49.44	I-49 L.M.L.	26.0	1137.10
783+49.44	785+29.02	I-49 L.M.L.	24.0	478.88
785+29.02	788+80.48	I-49 L.M.L.	39.5	1542.52
788+80.48	791+00.00	I-49 L.M.L.	33.3	812.22
TOTAL:				119885.87

DUMPED RIPRAP

STATION	SIDE	DUMPED RIPRAP	* FILTER BLANKET
		CU.YD.	SQ.YD.
763+97	LT.	5	9
786+47	LT.	5	9
TOTALS:		10	18

NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
* FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	ASPHALT CONCRETE	ACNHPP-0072(45) TACK COAT
	TON	GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	93	185
DIRECTED BY THE ENGINEER		
TOTALS:	93	185

NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE ..... 25 TON/MILE
TACK COAT..... 50 GAL/MILE

AUTOMATED WORK ZONE INFORMATION SYSTEM

	AWIS MOBILIZATION	AWIS OPERATION	FURNISH AND INSTALL				DEVICE RELOCATION
			VEHICLE DETECTION SYSTEM	CLOSED CIRCUIT TELEVISION SYSTEM	VARIABLE MESSAGE SIGN	PUBLIC NOTIFICATION SYSTEM	
	LUMP SUM	MONTH	EACH				
	1.00	17	24	2	7	2	17
TOTALS:	1.00	17	24	2	7	2	17

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	WIDTH	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			FT.	FT.	SQ.YD.		M.GAL.
590+50	591+00	I-49 CENTERLINE MEDIAN	50	4.0	22	11	0.1
791+00	791+50	I-49 CENTERLINE MEDIAN	50	4.0	22	11	0.1
TOTALS:					44	22	0.2

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

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	58	338
				(2)	QUANTITIES			

4" PIPE UNDERDRAIN (1 OF 3)

STATION	STATION	LOCATION	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
591+00	594+00	I-49 RIGHT MAIN LANE	326	
591+00	594+00	I-49 LEFT MAIN LANE	326	
594+00	597+00	I-49 RIGHT MAIN LANE	326	
594+00	597+00	I-49 LEFT MAIN LANE	326	
597+00	600+00	I-49 RIGHT MAIN LANE	326	
597+00	600+00	I-49 LEFT MAIN LANE	326	
600+00	600+97	I-49 RIGHT MAIN LANE	123	
600+00	600+97	I-49 LEFT MAIN LANE	123	
600+97	602+50	I-49 RIGHT MAIN LANE	179	
600+97	602+50	I-49 LEFT MAIN LANE	179	
602+50	605+50	I-49 RIGHT MAIN LANE	326	
602+50	605+50	I-49 LEFT MAIN LANE	326	
605+50	608+50	I-49 RIGHT MAIN LANE	326	
605+50	608+50	I-49 LEFT MAIN LANE	326	
608+50	611+50	I-49 RIGHT MAIN LANE	326	
608+50	611+50	I-49 LEFT MAIN LANE	326	
611+50	614+50	I-49 RIGHT MAIN LANE	326	
611+50	614+50	I-49 LEFT MAIN LANE	326	
614+50	617+57	I-49 RIGHT MAIN LANE	333	
614+50	617+57	I-49 LEFT MAIN LANE	333	
617+57	619+00	I-49 RIGHT MAIN LANE	169	
617+57	619+00	I-49 LEFT MAIN LANE	169	
619+00	620+75	I-49 RIGHT MAIN LANE	201	
619+00	620+75	I-49 LEFT MAIN LANE	201	
620+75	623+47	I-49 RIGHT MAIN LANE	298	
620+75	623+47	I-49 LEFT MAIN LANE	298	
634+57	633+00	I-49 RIGHT MAIN LANE	183	
634+57	633+00	I-49 LEFT MAIN LANE	183	
633+00	630+67	I-49 RIGHT MAIN LANE	259	
633+00	630+67	I-49 LEFT MAIN LANE	259	
630+67	627+98	I-49 RIGHT MAIN LANE	295	
630+67	627+98	I-49 LEFT MAIN LANE	295	
690+00	689+00	I-49 RIGHT MAIN LANE	126	
690+00	689+00	I-49 LEFT MAIN LANE	126	
689+00	687+50	I-49 RIGHT MAIN LANE	176	
689+00	687+50	I-49 LEFT MAIN LANE	176	
687+50	686+00	I-49 RIGHT MAIN LANE	176	
687+50	686+00	I-49 LEFT MAIN LANE	176	
686+00	683+00	I-49 RIGHT MAIN LANE	326	
686+00	683+00	I-49 LEFT MAIN LANE	326	
683+00	679+98	I-49 RIGHT MAIN LANE	328	
683+00	679+98	I-49 LEFT MAIN LANE	328	
679+98	678+00	I-49 RIGHT MAIN LANE	224	
679+98	678+00	I-49 LEFT MAIN LANE	224	
678+00	675+00	I-49 RIGHT MAIN LANE	326	
678+00	675+00	I-49 LEFT MAIN LANE	326	
675+00	672+00	I-49 RIGHT MAIN LANE	326	
675+00	672+00	I-49 LEFT MAIN LANE	326	
672+00	670+00	I-49 RIGHT MAIN LANE	226	
672+00	670+00	I-49 LEFT MAIN LANE	226	
670+00	669+70	I-49 RIGHT MAIN LANE	56	
670+00	669+70	I-49 LEFT MAIN LANE	56	
669+70	668+00	I-49 RIGHT MAIN LANE	196	
669+70	668+50	I-49 LEFT MAIN LANE	146	
668+00	665+00	I-49 RIGHT MAIN LANE	304	
668+50	665+00	I-49 LEFT MAIN LANE	400	
665+00	662+00	I-49 RIGHT MAIN LANE	304	
665+00	662+00	I-49 LEFT MAIN LANE	350	
662+00	659+00	I-49 RIGHT MAIN LANE	304	
662+00	659+00	I-49 LEFT MAIN LANE	350	
659+00	656+00	I-49 RIGHT MAIN LANE	304	
659+00	656+00	I-49 LEFT MAIN LANE	350	
656+00	653+30	I-49 RIGHT MAIN LANE	274	
656+00	653+30	I-49 LEFT MAIN LANE	320	
653+30	653+21	I-49 RIGHT MAIN LANE	13	
653+30	653+21	I-49 LEFT MAIN LANE	59	
653+21	652+00	I-49 RIGHT MAIN LANE	147	
653+21	652+00	I-49 LEFT MAIN LANE	147	
652+00	649+00	I-49 RIGHT MAIN LANE	326	
652+00	649+00	I-49 LEFT MAIN LANE	326	
649+00	646+00	I-49 RIGHT MAIN LANE	326	
SUBTOTAL:			18170	

4" PIPE UNDERDRAIN (2 OF 3)

STATION	STATION	LOCATION	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
649+00	646+00	I-49 LEFT MAIN LANE	326	
646+00	644+58	I-49 RIGHT MAIN LANE	168	
646+00	644+58	I-49 LEFT MAIN LANE	168	
644+58	641+47	I-49 RIGHT MAIN LANE	337	
644+58	641+47	I-49 LEFT MAIN LANE	337	
690+00	691+00	I-49 RIGHT MAIN LANE	126	
690+00	691+00	I-49 LEFT MAIN LANE	126	
691+00	694+00	I-49 RIGHT MAIN LANE	326	
691+00	694+00	I-49 LEFT MAIN LANE	326	
694+00	696+00	I-49 RIGHT MAIN LANE	226	
694+00	696+00	I-49 LEFT MAIN LANE	226	
696+00	698+00	I-49 RIGHT MAIN LANE	226	
696+00	698+00	I-49 LEFT MAIN LANE	226	
698+00	699+98	I-49 RIGHT MAIN LANE	224	
698+00	699+98	I-49 LEFT MAIN LANE	224	
699+98	702+00	I-49 RIGHT MAIN LANE	228	
699+98	702+00	I-49 LEFT MAIN LANE	228	
702+00	705+00	I-49 RIGHT MAIN LANE	326	
702+00	705+00	I-49 LEFT MAIN LANE	326	
705+00	708+00	I-49 RIGHT MAIN LANE	326	
705+00	708+00	I-49 LEFT MAIN LANE	326	
708+00	710+25	I-49 RIGHT MAIN LANE	251	
708+00	710+25	I-49 LEFT MAIN LANE	251	
710+25	710+97	I-49 RIGHT MAIN LANE	98	
710+25	710+97	I-49 LEFT MAIN LANE	98	
711+75	710+97	I-49 RIGHT MAIN LANE	104	
711+75	710+97	I-49 LEFT MAIN LANE	104	
714+00	711+75	I-49 RIGHT MAIN LANE	251	
714+00	711+75	I-49 LEFT MAIN LANE	251	
726+50	721+50	I-49 RIGHT MAIN LANE	526	
726+50	721+50	I-49 LEFT MAIN LANE	526	
721+50	719+00	I-49 RIGHT MAIN LANE	276	
721+50	719+00	I-49 LEFT MAIN LANE	276	
719+00	717+06	I-49 RIGHT MAIN LANE	225	
719+00	717+06	I-49 LEFT MAIN LANE	225	
717+06	714+00	I-49 RIGHT MAIN LANE	332	
717+06	714+00	I-49 LEFT MAIN LANE	332	
726+50	728+50	I-49 RIGHT MAIN LANE	226	
726+50	728+50	I-49 LEFT MAIN LANE	226	
728+50	729+50	I-49 RIGHT MAIN LANE	126	
728+50	729+50	I-49 LEFT MAIN LANE	126	
729+50	731+00	I-49 RIGHT MAIN LANE	176	
729+50	731+00	I-49 LEFT MAIN LANE	176	
731+00	732+50	I-49 RIGHT MAIN LANE	176	
731+00	732+50	I-49 LEFT MAIN LANE	176	
732+50	734+00	I-49 RIGHT MAIN LANE	176	
732+50	734+00	I-49 LEFT MAIN LANE	176	
734+00	735+50	I-49 RIGHT MAIN LANE	176	
734+00	735+50	I-49 LEFT MAIN LANE	176	
735+50	737+00	I-49 RIGHT MAIN LANE	176	
735+50	737+00	I-49 LEFT MAIN LANE	176	
737+00	737+94	I-49 RIGHT MAIN LANE	120	
737+00	737+94	I-49 LEFT MAIN LANE	120	
737+94	741+00	I-49 RIGHT MAIN LANE	332	
737+94	741+00	I-49 LEFT MAIN LANE	332	
741+00	744+00	I-49 RIGHT MAIN LANE	326	
741+00	744+00	I-49 LEFT MAIN LANE	326	
744+00	747+00	I-49 RIGHT MAIN LANE	326	
744+00	747+00	I-49 LEFT MAIN LANE	326	
747+00	749+43	I-49 RIGHT MAIN LANE	269	
747+00	749+43	I-49 LEFT MAIN LANE	269	
749+43	753+00	I-49 RIGHT MAIN LANE	383	
749+73	753+00	I-49 LEFT MAIN LANE	353	
753+00	756+00	I-49 RIGHT MAIN LANE	326	
753+00	756+00	I-49 LEFT MAIN LANE	326	
756+00	758+50	I-49 RIGHT MAIN LANE	276	
756+00	758+50	I-49 LEFT MAIN LANE	276	
758+50	759+50	I-49 RIGHT MAIN LANE	126	
758+50	759+50	I-49 LEFT MAIN LANE	126	
759+50	760+60	I-49 RIGHT MAIN LANE	136	
759+50	760+60	I-49 LEFT MAIN LANE	125	
SUBTOTAL:			17141	

4" PIPE UNDERDRAIN (3 OF 3)

STATION	STATION	LOCATION	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
760+60	761+50	I-49 RIGHT MAIN LANE	140	
760+60	761+50	I-49 LEFT MAIN LANE	94	
761+50	762+14	I-49 RIGHT MAIN LANE	114	
761+50	762+14	I-49 LEFT MAIN LANE	68	
762+14	763+97	I-49 RIGHT MAIN LANE	233	
762+14	763+97	I-49 LEFT MAIN LANE	187	
764+25	763+97	I-49 RIGHT MAIN LANE	78	
764+25	763+97	I-49 LEFT MAIN LANE	32	
772+50	769+50	I-49 RIGHT MAIN LANE	350	
772+50	769+50	I-49 LEFT MAIN LANE	304	
769+50	766+50	I-49 RIGHT MAIN LANE	350	
769+50	766+50	I-49 LEFT MAIN LANE	304	
766+50	764+25	I-49 RIGHT MAIN LANE	275	
766+50	764+25	I-49 LEFT MAIN LANE	229	
777+50	780+50	I-49 RIGHT MAIN LANE	350	
777+50	780+50	I-49 LEFT MAIN LANE	304	
780+50	783+50	I-49 RIGHT MAIN LANE	350	
780+50	783+50	I-49 LEFT MAIN LANE	304	
783+50	786+47	I-49 RIGHT MAIN LANE	347	
783+50	786+47	I-49 LEFT MAIN LANE	301	
786+47	788+00	I-49 RIGHT MAIN LANE	203	
786+47	788+00	I-49 LEFT MAIN LANE	157	
788+00	789+50	I-49 RIGHT MAIN LANE	200	
788+00	789+50	I-49 LEFT MAIN LANE	154	
789+50	790+85	I-49 RIGHT MAIN LANE	185	
789+50	790+85	I-49 LEFT MAIN LANE	139	
790+85	791+00	I-49 RIGHT MAIN LANE	41	
790+85	791+00	I-49 LEFT MAIN LANE	41	
ENTIRE PROJECT AS DIRECTED BY THE ENGINEER			1855	10
SUBTOTALS:			**7689**	**10**

TOTAL (1 OF 3)	18170	
TOTAL (2 OF 3)	17141	
TOTAL (3 OF 3)	7689	10
TOTALS:	**43000**	**10**

NOTE: QUANTITIES 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 THE 4" PIPE UNDERDRAIN.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 13560
4/2/15

QUANTITIES

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	59	338

2 QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4-29-15

BASE AND SURFACING (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACNHPP-0072(45) ACHM SURFACE COURSE (1/2")								ACNHPP-0072(45) TACK COAT			
				TON / STATION	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	TOTAL TON	AVG. WID.	SQ.YD.	GALLONS/ SQ.YD.	GALLONS
			FT.			FT.				FT.				FT.				FT.					FT.			
FULL DEPTH WIDENING INTO MEDIAN - RIGHT																										
588+00.00	602+98.00	I-49 R.M.L.	1498.00	205.63	3080.34	19.50	3245.67	880.00	1428.09	19.25	3204.06	440.00	704.89	19.13	3184.08	220.00	350.25	28.00	4660.44	220.00	512.65	862.90	77.38	12879.47	0.03	386.38
602+98.00	603+18.00	I-49 R.M.L. - BARRIER TRANS.	20.00	205.63	41.13	19.50	43.33	880.00	19.07	19.25	42.78	440.00	9.41	19.13	42.51	220.00	4.68	29.00	64.44	220.00	7.09	11.77	77.38	171.96	0.03	5.16
603+18.00	603+48.00	I-49 R.M.L. - BARRIER TRANS.	30.00	196.82	59.05	19.50	65.00	880.00	28.60	19.25	64.17	440.00	14.12	19.13	63.77	220.00	7.01	28.50	95.00	220.00	10.45	17.46	77.38	257.93	0.03	7.74
603+48.00	604+02.00	I-49 R.M.L.	54.00	188.00	101.52	19.50	117.00	880.00	51.48	19.25	115.50	440.00	25.41	19.13	114.78	220.00	12.63	28.00	168.00	220.00	18.48	31.11	77.38	464.28	0.03	13.93
604+02.00	604+32.00	I-49 R.M.L. - BARRIER TRANS.	30.00	196.82	59.05	19.50	65.00	880.00	28.60	19.25	64.17	440.00	14.12	19.13	63.77	220.00	7.01	28.50	95.00	220.00	10.45	17.46	77.38	257.93	0.03	7.74
604+32.00	604+52.00	I-49 R.M.L. - BARRIER TRANS.	20.00	205.63	41.13	19.50	43.33	880.00	19.07	19.25	42.78	440.00	9.41	19.13	42.51	220.00	4.68	29.00	64.44	220.00	7.09	11.77	77.38	171.96	0.03	5.16
604+52.00	621+92.00	I-49 R.M.L.	1740.00	205.63	3577.96	19.50	3770.00	880.00	1658.80	19.25	3721.67	440.00	818.77	19.13	3698.47	220.00	406.83	28.00	5413.33	220.00	595.47	1002.30	77.38	14960.13	0.03	448.80
621+92.00	622+17.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.50	50.13	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
622+17.00	622+35.00	I-49 R.M.L.	18.00	201.25	36.23	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
622+35.00	622+60.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.50	50.13	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
622+60.00	623+38.00	I-49 R.M.L.	78.00	205.63	160.39	19.50	169.00	880.00	74.36	19.25	166.83	440.00	36.70	19.13	165.79	220.00	18.24	28.00	242.67	220.00	26.69	44.93	77.38	670.63	0.03	20.12
623+38.00	623+68.41	I-49 R.M.L. - BARRIER TRANS.	30.41	193.00	58.69	19.50	65.89	880.00	28.99	19.25	65.04	440.00	14.31	19.13	64.64	220.00	7.11	27.50	92.92	220.00	10.22	17.33	77.38	261.46	0.03	7.84
627+95.46	628+27.00	I-49 R.M.L. - BARRIER TRANS.	31.54	193.00	60.87	19.50	68.34	880.00	30.07	19.25	67.46	440.00	14.84	19.13	67.04	220.00	7.37	27.50	96.37	220.00	10.60	17.97	77.38	271.17	0.03	8.14
628+27.00	637+94.00	I-49 R.M.L.	967.00	205.63	1988.44	19.50	2095.17	880.00	921.87	19.25	2068.31	440.00	455.03	19.13	2055.41	220.00	226.10	28.00	3008.44	220.00	330.93	557.03	77.38	8314.05	0.03	249.42
637+94.00	638+23.58	I-49 R.M.L. - BARRIER TRANS.	29.58	193.00	57.09	19.50	64.09	880.00	28.20	19.25	63.27	440.00	13.92	19.13	62.87	220.00	6.92	27.50	90.38	220.00	9.94	16.86	77.38	254.32	0.03	7.63
640+90.08	641+23.00	I-49 R.M.L. - BARRIER TRANS.	32.92	193.00	63.54	19.50	71.33	880.00	31.39	19.25	70.41	440.00	15.49	19.13	69.97	220.00	7.70	27.50	100.59	220.00	11.06	18.76	77.38	283.04	0.03	8.49
641+23.00	652+59.00	I-49 R.M.L.	1136.00	205.63	2335.96	19.50	2461.33	880.00	1082.99	19.25	2429.78	440.00	534.55	19.13	2414.63	220.00	265.61	28.00	3534.22	220.00	388.76	654.37	77.38	9767.08	0.03	293.01
652+59.00	652+84.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
652+84.00	653+02.00	I-49 R.M.L.	18.00	202.00	36.36	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
653+02.00	653+27.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
653+27.00	656+35.00	I-49 R.M.L.	308.00	205.63	633.34	19.50	667.33	880.00	293.63	19.25	658.78	440.00	144.93	19.13	654.67	220.00	72.01	28.00	958.22	220.00	105.40	177.41	77.38	2648.12	0.03	79.44
656+35.00	667+75.00	I-49 R.M.L.	1140.00	211.50	2411.10	19.50	2470.00	880.00	1086.80	19.25	2438.33	440.00	536.43	19.13	2423.13	220.00	266.54	29.00	3673.33	220.00	404.07	670.61	77.38	9801.47	0.03	294.04
667+75.00	675+00.00	I-49 R.M.L.	725.00	205.63	1490.82	19.50	1570.83	880.00	691.17	19.25	1550.69	440.00	341.15	19.13	1541.03	220.00	169.51	28.00	2255.56	220.00	248.11	417.62	77.38	6233.39	0.03	187.00
675+00.00	689+90.00	I-49 R.M.L.	1490.00	213.00	3173.70	19.50	3228.33	880.00	1420.47	19.25	3186.94	440.00	701.13	19.13	3167.08	220.00	348.38	29.00	4801.11	220.00	528.12	876.50	77.38	12810.69	0.03	384.32
689+90.00	695+71.00	I-49 R.M.L.	581.00	205.63	1194.71	19.50	1258.83	880.00	553.89	19.25	1242.69	440.00	273.39	19.13	1234.95	220.00	135.84	28.00	1807.56	220.00	198.83	334.67	77.38	4995.31	0.03	149.86
695+71.00	696+46.90	I-49 R.M.L. - BARRIER TRANS.	75.90	197.75	150.09	19.50	164.45	880.00	72.36	19.25	162.34	440.00	35.71	19.13	161.33	220.00	17.75	28.00	236.13	220.00	25.97	43.72	77.38	652.57	0.03	19.58
696+46.90	697+19.19	I-49 R.M.L.	72.29	195.75	141.51	19.50	156.63	880.00	68.92	19.25	154.62	440.00	34.02	19.13	153.66	220.00	16.90	28.00	224.90	220.00	24.74	41.64	77.38	621.53	0.03	18.65
697+19.19	697+95.00	I-49 R.M.L. - BARRIER TRANS.	75.81	197.75	149.91	19.50	164.25	880.00	72.27	19.25	162.15	440.00	35.67	19.13	161.14	220.00	17.73	28.00	235.85	220.00	25.94	43.67	77.38	651.80	0.03	19.55
697+95.00	721+72.00	I-49 R.M.L.	2377.00	205.63	4887.83	19.50	5150.17	880.00	2266.07	19.25	5084.14	440.00	1118.51	19.13	5052.45	220.00	555.77	28.00	7395.11	220.00	813.46	1369.23	77.38	20436.92	0.03	613.11
721+72.00	722+47.00	I-49 R.M.L. - BARRIER TRANS.	75.00	181.75	136.31	19.50	162.50	880.00	71.50	19.25	160.42	440.00	35.29	19.13	159.42	220.00	17.54	26.63	221.92	220.00	24.41	41.95	77.38	644.83	0.03	19.34
722+47.00	722+69.00	I-49 R.M.L.	22.00	163.75	36.03	19.50	47.67	880.00	20.97	19.25	47.06	440.00	10.35	19.13	46.76	220.00	5.14	25.25	61.72	220.00	6.79	11.93	77.38	189.15	0.03	5.67
722+69.00	723+44.00	I-49 R.M.L. - BARRIER TRANS.	75.00	181.75	136.31	19.50	162.50	880.00	71.50	19.25	160.42	440.00	35.29	19.13	159.42	220.00	17.54	26.63	221.92	220.00	24.41	41.95	77.38	644.83	0.03	19.34
723+44.00	747+06.00	I-49 R.M.L.	2362.00	205.63	4856.98	19.50	5117.67	880.00	2251.77	19.25	5052.06	440.00	1111.45	19.13	5020.56	220.00	552.26	28.00	7348.44	220.00	808.33	1360.59	77.38	20307.95	0.03	609.24
747+06.00	747+31.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
747+31.00	747+49.00	I-49 R.M.L.	18.00	202.00	36.36	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
747+49.00	747+74.00	I-49 R.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
747+74.00	759+06.00	I-49 R.M.L.	1132.00	205.63	2327.73	19.50	2452.67	880.00	1079.17	19.25	2421.22	440.00	532.67	19.13	2406.13	220.00	264.67	28.00	3521.78	220.00	387.40	652.07	77.38	9732.68	0.03	291.98
759+06.00	759+31.00	I-49 R.M.L. - BARRIER TRANS.	25.00	202.25	50.56	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
759+31.00	759+49.00	I-49 R.M.L.	18.00	204.75	36.86	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
759+49.00	759+74.00	I-49 R.M.L. - BARRIER TRANS.	25.00	202.25	50.56	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
759+74.00	761+20.00	I-49 R.M.L.	146.00	205.63	300.22	19.50	316.33	880.00	139.19	19.25	312.28	440.00	68.70	19.13	310.33	220.00	34.14	28.00	454.22	220.00	49.96	84.10	77.38	1255.28	0.03	37.66
761+20.00	773+68.00	I-49 R.M.L.	1248.00	213.00	2658.24	19.50	2704.00	880.00	1189.76	19.25	2669.33	440.00	587.25	19.13	2652.69	220.00	291.80	29.00	4021.33	220.00	442.35	734.15	77.38	10730.03	0.03	321.90
773+68.00	774+01.88	I-49 R.M.L. - BARRIER TRANS.	33.88	206.38	69.92	19.50	73.41	880.00	32.30	19.25	72.47	440.00	15.94	19.13	72.01	220.00	7.92	28.75	108.23	220.00	11.91	19.83	77.38	291.29	0.03	8.74
776+81.58	777+12.00	I-49 R.M.L. - BARRIER TRANS.	30.42	206.38	62.78	19.50	65.91	880.00	29.00	19.25	65.06	440.00	14.31	19.13	64.66	220.00	7.11	28.75	97.17	220.00	10.69	17.80	77.38	261.54	0.03	7.85
777+12.00	789+84.00	I-49 R.M.L.	1272.00	213.00	2709.36	19.50	2756.00	880.00	1212.64	19.25	2720.67	440.00	598.55	19.13	2703.71	220.00	297.41	29.00	4098.67	220.00	450.85	748.26	77.38	10936.37	0.03	328.09
789+84.00	791+00.00	I-49 R.M.L.	116.00	205.63	238.53	19.50	251.33	880.00	110.59	19.25	248.11	440.00	54.58	19.13	246.56	220.00	27.12	28.00	360.89	220.00	39.70	66.82	77.38	997.34	0.03	29.92
SUBTOTALS:					**39998.65**		**41874.65**		**18424.83**		**41337.77**		**9094.25**		**41080.09**		**4518.86**		**60706.78**		**6677.72**	**11196.58**		**166167.06**		**4985.00**

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

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\quantities\CA0401quant_08.dgn
PLOTTED: 4/29/2015 14:34
SCALE: 1:1

QUANTITIES

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	60	338

2 QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4-29-15
JEROME PAUL DAVIS

BASE AND SURFACING (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACNHPP-0072(45) ACHM SURFACE COURSE (1/2")									ACNHPP-0072(45) TACK COAT			
				TON / STATION	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	TOTAL	AVG. WID.	SQ.YD.	GALLONS/ SQ.YD.	GALLONS
			FT.			FT.				FT.				FT.				FT.					FT.			
FULL DEPTH WIDENING INTO MEDIAN - LEFT																										
588+00.00	602+98.00	I-49 L.M.L.	1498.00	205.63	3080.34	19.50	3245.67	880.00	1428.09	19.25	3204.06	440.00	704.89	19.13	3184.08	220.00	350.25	28.00	4660.44	220.00	512.65	862.90	77.38	12879.47	0.03	386.38
602+98.00	603+18.00	I-49 L.M.L. - BARRIER TRANS.	20.00	205.63	41.13	19.50	43.33	880.00	19.07	19.25	42.78	440.00	9.41	19.13	42.51	220.00	4.68	28.00	62.22	220.00	6.84	11.52	77.38	171.96	0.03	5.16
603+18.00	603+48.00	I-49 L.M.L. - BARRIER TRANS.	30.00	196.82	59.05	19.50	65.00	880.00	28.60	19.25	64.17	440.00	14.12	19.13	63.77	220.00	7.01	28.00	93.33	220.00	10.27	17.28	77.38	257.93	0.03	7.74
603+48.00	604+02.00	I-49 L.M.L.	54.00	188.00	101.52	19.50	117.00	880.00	51.48	19.25	115.50	440.00	25.41	19.13	114.78	220.00	12.63	28.00	168.00	220.00	18.48	31.11	77.38	464.28	0.03	13.93
604+02.00	604+32.00	I-49 L.M.L. - BARRIER TRANS.	30.00	196.82	59.05	19.50	65.00	880.00	28.60	19.25	64.17	440.00	14.12	19.13	63.77	220.00	7.01	28.00	93.33	220.00	10.27	17.28	77.38	257.93	0.03	7.74
604+32.00	604+52.00	I-49 L.M.L. - BARRIER TRANS.	20.00	205.63	41.13	19.50	43.33	880.00	19.07	19.25	42.78	440.00	9.41	19.13	42.51	220.00	4.68	28.00	62.22	220.00	6.84	11.52	77.38	171.96	0.03	5.16
604+52.00	621+92.00	I-49 L.M.L.	1740.00	205.63	3577.96	19.50	3770.00	880.00	1658.80	19.25	3721.67	440.00	818.77	19.13	3698.47	220.00	406.83	28.00	5413.33	220.00	595.47	1002.30	77.38	14960.13	0.03	448.80
621+92.00	622+17.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.50	50.13	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
622+17.00	622+35.00	I-49 L.M.L.	18.00	201.25	36.23	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
622+35.00	622+60.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.50	50.13	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
622+60.00	623+38.00	I-49 L.M.L.	78.00	205.63	160.39	19.50	169.00	880.00	74.36	19.25	166.83	440.00	36.70	19.13	165.79	220.00	18.24	28.00	242.67	220.00	26.69	44.93	77.38	670.63	0.03	20.12
623+38.00	623+69.80	I-49 L.M.L. - BARRIER TRANS.	31.80	193.00	61.37	19.50	68.90	880.00	30.32	19.25	68.02	440.00	14.96	19.13	67.59	220.00	7.43	27.50	97.17	220.00	10.69	18.12	77.38	273.41	0.03	8.20
627+96.85	628+27.00	I-49 L.M.L. - BARRIER TRANS.	30.15	193.00	58.19	19.50	65.33	880.00	28.75	19.25	64.49	440.00	14.19	19.13	64.09	220.00	7.05	27.50	92.13	220.00	10.13	17.18	77.38	259.22	0.03	7.78
628+27.00	637+94.00	I-49 L.M.L.	967.00	205.63	1988.44	19.50	2095.17	880.00	921.87	19.25	2068.31	440.00	455.03	19.13	2055.41	220.00	226.10	28.00	3008.44	220.00	330.93	557.03	77.38	8314.05	0.03	249.42
637+94.00	638+25.62	I-49 L.M.L. - BARRIER TRANS.	31.62	193.00	61.03	19.50	68.51	880.00	30.14	19.25	67.63	440.00	14.88	19.13	67.21	220.00	7.39	27.50	96.62	220.00	10.63	18.02	77.38	271.86	0.03	8.16
640+92.11	641+23.00	I-49 L.M.L. - BARRIER TRANS.	30.89	193.00	59.62	19.50	66.93	880.00	29.45	19.25	66.07	440.00	14.54	19.13	65.66	220.00	7.22	27.50	94.39	220.00	10.38	17.60	77.38	265.59	0.03	7.97
641+23.00	652+59.00	I-49 L.M.L.	1136.00	205.63	2335.96	19.50	2461.33	880.00	1082.99	19.25	2429.78	440.00	534.55	19.13	2414.63	220.00	265.61	28.00	3534.22	220.00	388.76	654.37	77.38	9767.08	0.03	293.01
652+59.00	652+84.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
652+84.00	653+02.00	I-49 L.M.L.	18.00	202.00	36.36	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
653+02.00	653+27.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
653+27.00	656+35.00	I-49 L.M.L.	308.00	205.63	633.34	19.50	667.33	880.00	293.63	19.25	658.78	440.00	144.93	19.13	654.67	220.00	72.01	28.00	958.22	220.00	105.40	177.41	77.38	2648.12	0.03	79.44
656+35.00	667+75.00	I-49 L.M.L.	1140.00	213.00	2428.20	19.50	2470.00	880.00	1086.80	19.25	2438.33	440.00	536.43	19.13	2423.13	220.00	266.54	29.00	3673.33	220.00	404.07	670.61	77.38	9801.47	0.03	294.04
667+75.00	675+00.00	I-49 L.M.L.	725.00	205.63	1490.82	19.50	1570.83	880.00	691.17	19.25	1550.69	440.00	341.15	19.13	1541.03	220.00	169.51	28.00	2255.56	220.00	248.11	417.62	77.38	6233.39	0.03	187.00
675+00.00	689+90.00	I-49 L.M.L.	1490.00	211.50	3151.35	19.50	3228.33	880.00	1420.47	19.25	3186.94	440.00	701.13	19.13	3167.08	220.00	348.38	29.00	4801.11	220.00	528.12	876.50	77.38	12810.69	0.03	384.32
689+90.00	695+71.00	I-49 L.M.L.	581.00	205.63	1194.71	19.50	1258.83	880.00	553.89	19.25	1242.69	440.00	273.39	19.13	1234.95	220.00	135.84	28.00	1807.56	220.00	198.83	334.67	77.38	4995.31	0.03	149.86
695+71.00	696+46.90	I-49 L.M.L. - BARRIER TRANS.	75.90	196.63	149.24	19.50	164.45	880.00	72.36	19.25	162.34	440.00	35.71	19.13	161.33	220.00	17.75	28.00	236.13	220.00	25.97	43.72	77.38	652.57	0.03	19.58
696+46.90	697+19.19	I-49 L.M.L.	72.29	193.50	139.88	19.50	156.63	880.00	68.92	19.25	154.62	440.00	34.02	19.13	153.66	220.00	16.90	28.00	224.90	220.00	24.74	41.64	77.38	621.53	0.03	18.65
697+19.19	697+95.00	I-49 L.M.L. - BARRIER TRANS.	75.81	196.65	149.08	19.50	164.25	880.00	72.27	19.25	162.15	440.00	35.67	19.13	161.14	220.00	17.73	28.00	235.85	220.00	25.94	43.67	77.38	651.80	0.03	19.55
697+95.00	721+72.00	I-49 L.M.L.	2377.00	205.63	4887.83	19.50	5150.17	880.00	2266.07	19.25	5084.14	440.00	1118.51	19.13	5052.45	220.00	555.77	28.00	7395.11	220.00	813.46	1369.23	77.38	20436.92	0.03	613.11
721+72.00	722+47.00	I-49 L.M.L. - BARRIER TRANS.	75.00	181.75	136.31	19.50	162.50	880.00	71.50	19.25	160.42	440.00	35.29	19.13	159.42	220.00	17.54	26.63	221.92	220.00	24.41	41.95	77.38	644.83	0.03	19.34
722+47.00	722+69.00	I-49 L.M.L.	22.00	163.75	36.03	19.50	47.67	880.00	20.97	19.25	47.06	440.00	10.35	19.13	46.76	220.00	5.14	25.25	61.72	220.00	6.79	11.93	77.38	189.15	0.03	5.67
722+69.00	723+44.00	I-49 L.M.L. - BARRIER TRANS.	75.00	181.75	136.31	19.50	162.50	880.00	71.50	19.25	160.42	440.00	35.29	19.13	159.42	220.00	17.54	26.63	221.92	220.00	24.41	41.95	77.38	644.83	0.03	19.34
723+44.00	747+06.00	I-49 L.M.L.	2362.00	205.63	4856.98	19.50	5117.67	880.00	2251.77	19.25	5052.06	440.00	1111.45	19.13	5020.56	220.00	552.26	28.00	7348.44	220.00	808.33	1360.59	77.38	20307.95	0.03	609.24
747+06.00	747+31.00	I-49 L.M.L. - BARRIER TRANS.	25.00	201.38	50.35	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
747+31.00	747+49.00	I-49 L.M.L.	18.00	203.00	36.54	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
747+49.00	747+74.00	I-49 L.M.L. - BARRIER TRANS.	25.00	201.38	50.35	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
747+74.00	759+06.00	I-49 L.M.L.	1132.00	205.63	2327.73	19.50	2452.67	880.00	1079.17	19.25	2421.22	440.00	532.67	19.13	2406.13	220.00	264.67	28.00	3521.78	220.00	387.40	652.07	77.38	9732.68	0.03	291.98
759+06.00	759+31.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
759+31.00	759+49.00	I-49 L.M.L.	18.00	202.00	36.36	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
759+49.00	759+74.00	I-49 L.M.L. - BARRIER TRANS.	25.00	200.88	50.22	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
759+74.00	761+20.00	I-49 L.M.L.	146.00	205.63	300.22	19.50	316.33	880.00	139.19	19.25	312.28	440.00	68.70	19.13	310.33	220.00	34.14	28.00	454.22	220.00	49.96	84.10	77.38	1255.28	0.03	37.66
761+20.00	762+71.00	I-49 L.M.L.	151.00	211.50	319.37	19.50	327.17	880.00	143.95	19.25	322.97	440.00	71.05	19.13	320.96	220.00	35.31	29.00	486.56	220.00	53.52	88.83	77.38	1298.26	0.03	38.95
762+71.00	762+96.00	I-49 L.M.L. - BARRIER TRANS.	25.00	206.75	51.69	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
762+96.00	763+14.00	I-49 L.M.L.	18.00	202.50	36.45	19.50	39.00	880.00	17.16	19.25	38.50	440.00	8.47	19.13	38.26	220.00	4.21	29.00	58.00	220.00	6.38	10.59	77.38	154.76	0.03	4.64
763+14.00	763+39.00	I-49 L.M.L. - BARRIER TRANS.	25.00	206.75	51.69	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
763+39.00	773+68.00	I-49 L.M.L.	1029.00	211.50	2176.34	19.50	2229.50	880.00	980.98	19.25	2200.92	440.00	484.20	19.13	2187.20	220.00	240.59	29.00	3315.67	220.00	364.72	605.31	77.38	8847.11	0.03	265.41
773+68.00	773+99.16	I-49 L.M.L. - BARRIER TRANS.	31.16	198.63	61.89	19.50	67.51	880.00	29.70	19.25	66.65	440.00	14.66	19.13	66.23	220.00	7.29	28.50	98.67	220.00	10.85	18.14	77.38	267.91	0.03	8.04
776+80.12	777+12.00	I-49 L.M.L. - BARRIER TRANS.	31.88	198.63	63.32	19.50	69.07	880.00	30.39	19.25	68.19	440.00	15.00	19.13	67.76	220.00	7.45	28.50	100.95	220.00	11.10	18.55	77.38	274.10	0.03	8.22
777+12.00	788+48.00	I-49 L.M.L.	1136.00	211.50	2402.64	19.50	2461.33	880.00	1082.99	19.25	2429.78	440.00	534.55	19.13	2414.63	220.00	265.61	29.00	3660.44	220.00	402.65	668.26	77.38	9767.08	0.03	293.01
788+48.00	788+73.00	I-49 L.M.L. - BARRIER TRANS.	25.00	207.00	51.75	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	29.00	80.56	220.00	8.86	14.71	77.38	214.94	0.03	6.45
788+73.00	789+59.00	I-49 L.M.L.	86.00	202.50	174.15	19.50	186.33	880.00	81.99	19.25	183.94	440.00	40.47	19.13	182.80	220.00	20.11	29.00	277.11	220.00	30.48	50.59	77.38	739.41	0.03	22.18
789+59.00	789+84.00	I-49 L.M.L. - BARRIER TRANS.	25.00	204.07	51.02	19.50	54.17	880.00	23.83	19.25	53.47	440.00	11.76	19.13	53.14	220.00	5.85	28.50	79.17	220.00	8.71	14.56	77.38	214.94	0.03	6.45
789+84.00	791+00.00	I-49 L.M.L.	116.00	205.63	238.53	19.50	251.33	880.00	110.59	19.25	248.11	440.00	54.58	19.13	246.56	220.00	27.12	28.00	360.89	220.00	39.70	66.82	77.38	997.34	0.03	29.92
SUBTOTALS (BOX 2 OF 2):					**39929.38**		**41871.94**		**18423.62**		**41335.10**		**9093.65**		**41077.45**		**4518.58**		**60691.90**		**6676.06**	**11194.64**		**166156.31**		**4984.68**
SUBTOTALS (BOX 1 OF 2):					**39998.65**		**41874.65**		**18424.83**		**41337.77**		**9094.25**		**41080.09**		**4518.86**		**60706.78**		**6677.72**	**11196.58**		**166167.06**		**4985.00**
TOTALS:					**79928.03**		**83746.59**		**36848.45**		**82672.87**		**18187.90**		**82157.54**		**9037.44**		**121398.68**		**13353.78**	**22391.22**		**332323.37**		**9969.68**

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

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\quantities\CA0401Quant_09.dgn
PLOTTED: 4/29/2015 14:34
SCALE: 16"

QUANTITIES

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	61	338

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2")				BIM-B49-0(218) ACHM BINDER COURSE (1")				BIM-B49-0(218) ACHM SURFACE COURSE (1/2")								BIM-B49-0(218) TACK COAT			
				TON / STATION	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	AVG. WID.	SQ.YD.	GALLONS/ SQ.YD.	GALLONS
			FT.			FT.				FT.				FT.				FT.				FT.			
MILL/INLAY EXISTING LANES - RIGHT																									
588+00.00	620+54.48	I-49 R.M.L.	3254.48															26.00	9401.83	220.00	1034.20	26.00	9401.83	0.10	940.18
620+54.48	623+54.05	I-49 R.M.L.	299.57															24.00	798.85	220.00	87.87	24.00	798.85	0.10	79.89
627+44.75	627+80.44	I-49 R.M.L.	35.69															24.30	96.36	220.00	10.60	24.30	96.36	0.10	9.64
627+80.44	630+80.46	I-49 R.M.L.	300.02															24.40	813.39	220.00	89.47	24.40	813.39	0.10	81.34
630+80.46	634+94.43	I-49 R.M.L.	413.97															26.00	1195.91	220.00	131.55	26.00	1195.91	0.10	119.59
634+94.43	637+94.47	I-49 R.M.L.	300.04															24.00	800.11	220.00	88.01	24.00	800.11	0.10	80.01
640+60.96	643+60.96	I-49 R.M.L.	300.00															24.00	800.00	220.00	88.00	24.00	800.00	0.10	80.00
643+60.96	650+05.68	I-49 R.M.L.	644.72															26.00	1862.52	220.00	204.88	26.00	1862.52	0.10	186.25
650+05.68	663+03.26	I-49 R.M.L.	1297.58															38.80	5594.01	220.00	615.34	38.80	5594.01	0.10	559.40
663+03.26	665+84.95	I-49 R.M.L.	281.69															31.80	995.30	220.00	109.48	31.80	995.30	0.10	99.53
665+84.95	692+50.90	I-49 R.M.L.	2665.95															26.30	7790.50	220.00	856.96	26.30	7790.50	0.10	779.05
692+50.90	702+85.91	I-49 R.M.L.	1035.01															24.00	2760.03	220.00	303.60	24.00	2760.03	0.10	276.00
702+85.91	711+42.68	I-49 R.M.L.	856.77															26.00	2475.11	220.00	272.26	26.00	2475.11	0.10	247.51
711+42.68	737+71.62	I-49 R.M.L.	2628.94															24.00	7010.51	220.00	771.16	24.00	7010.51	0.10	701.05
737+71.62	758+75.61	I-49 R.M.L.	2103.99															26.00	6078.19	220.00	668.60	26.00	6078.19	0.10	607.82
758+75.61	761+22.18	I-49 R.M.L.	246.57															32.50	890.39	220.00	97.94	32.50	890.39	0.10	89.04
761+22.18	764+70.97	I-49 R.M.L.	348.79															24.00	930.11	220.00	102.31	24.00	930.11	0.10	93.01
764+70.97	771+20.48	I-49 R.M.L.	649.51															24.00	1732.03	220.00	190.52	24.00	1732.03	0.10	173.20
777+06.23	780+06.23	I-49 R.M.L.	300.00															24.00	800.00	220.00	88.00	24.00	800.00	0.10	80.00
780+06.23	786+16.48	I-49 R.M.L.	610.25															26.00	1762.94	220.00	193.92	26.00	1762.94	0.10	176.29
786+06.23	787+66.25	I-49 R.M.L.	160.02															26.00	462.28	220.00	50.85	26.00	462.28	0.10	46.23
787+66.25	791+00.00	I-49 R.M.L.	333.75															38.80	1438.83	220.00	158.27	38.80	1438.83	0.10	143.88
672+50.00	678+50.00	I-49 R.M.L. LEVELING	600.00							14.86	1321.00	440.00	290.52									14.86	990.67	0.10	99.07
MILL/INLAY EXISTING LANES - LEFT																									
588+00.00	612+01.19	I-49 L.M.L.	2401.19															26.00	6936.77	220.00	763.04	26.00	6936.77	0.10	693.68
612+01.19	615+16.08	I-49 L.M.L.	314.89															33.80	1182.59	220.00	130.08	33.80	1182.59	0.10	118.26
615+16.08	620+86.95	I-49 L.M.L.	570.87															40.00	2537.20	220.00	279.09	40.00	2537.20	0.10	253.72
620+86.95	623+86.95	I-49 L.M.L.	300.00															36.90	1230.00	220.00	135.30	36.90	1230.00	0.10	123.00
627+77.61	628+14.00	I-49 L.M.L.	36.39															34.00	137.47	220.00	15.12	34.00	137.47	0.10	13.75
628+14.00	629+35.79	I-49 L.M.L.	121.79															35.90	485.81	220.00	53.44	35.90	485.81	0.10	48.58
629+35.79	632+68.53	I-49 L.M.L.	332.74															24.00	887.31	220.00	97.60	24.00	887.31	0.10	88.73
632+68.53	635+54.75	I-49 L.M.L.	286.22															26.00	826.86	220.00	90.95	26.00	826.86	0.10	82.69
635+54.75	638+54.75	I-49 L.M.L.	300.00															24.00	800.00	220.00	88.00	24.00	800.00	0.10	80.00
641+21.24	644+20.78	I-49 L.M.L.	299.54															24.00	798.77	220.00	87.86	24.00	798.77	0.10	79.88
644+20.78	648+85.14	I-49 L.M.L.	464.36															26.00	1341.48	220.00	147.56	26.00	1341.48	0.10	134.15
648+85.14	651+60.56	I-49 L.M.L.	275.42															24.00	734.45	220.00	80.79	24.00	734.45	0.10	73.45
651+60.56	670+41.53	I-49 L.M.L.	1880.97															26.80	5601.11	220.00	616.12	26.80	5601.11	0.10	560.11
670+41.53	681+78.14	I-49 L.M.L.	1136.61															39.94	5044.02	220.00	554.84	39.94	5044.02	0.10	504.40
681+78.14	690+91.33	I-49 L.M.L.	913.19															26.00	2638.10	220.00	290.19	26.00	2638.10	0.10	263.81
690+91.33	701+26.41	I-49 L.M.L.	1035.08															24.00	2760.21	220.00	303.62	24.00	2760.21	0.10	276.02
701+26.41	714+26.13	I-49 L.M.L.	1299.72															26.00	3754.75	220.00	413.02	26.00	3754.75	0.10	375.48
714+26.13	717+33.60	I-49 L.M.L.	307.47															32.30	1103.48	220.00	121.38	32.30	1103.48	0.10	110.35
717+33.60	723+57.71	I-49 L.M.L.	624.11															38.30	2655.93	220.00	292.15	38.30	2655.93	0.10	265.59
723+57.71	725+15.35	I-49 L.M.L.	157.64															24.00	420.37	220.00	46.24	24.00	420.37	0.10	42.04
725+15.35	744+51.50	I-49 L.M.L.	1936.15															26.00	5593.32	220.00	615.27	26.00	5593.32	0.10	559.33
744+51.50	747+26.00	I-49 L.M.L.	274.50															24.00	732.00	220.00	80.52	24.00	732.00	0.10	73.20
747+26.00	764+53.25	I-49 L.M.L.	1727.25															38.40	7369.60	220.00	810.66	38.40	7369.60	0.10	736.96
764+53.25	765+93.53	I-49 L.M.L.	140.28															24.00	374.08	220.00	41.15	24.00	374.08	0.10	37.41
765+93.53	770+80.70	I-49 L.M.L.	487.17															26.00	1407.38	220.00	154.81	26.00	1407.38	0.10	140.74
770+80.70	773+80.70	I-49 L.M.L.	300.00															24.00	800.00	220.00	88.00	24.00	800.00	0.10	80.00
776+56.70	779+55.83	I-49 L.M.L.	299.13															24.00	797.68	220.00	87.74	24.00	797.68	0.10	79.77
779+55.83	783+49.44	I-49 L.M.L.	393.61															26.00	1137.10	220.00	125.08	26.00	1137.10	0.10	113.71
783+49.44	785+29.02	I-49 L.M.L.	179.58															24.00	478.88	220.00	52.68	24.00	478.88	0.10	47.89
785+29.02	788+80.48	I-49 L.M.L.	351.46															39.50	1542.52	220.00	169.68	39.50	1542.52	0.10	154.25
788+80.48	791+00.00	I-49 L.M.L.	219.52															33.30	812.22	220.00	89.34	33.30	812.22	0.10	81.22
672+50.00	678+50.00	I-49 L.M.L. LEVELING	600.00							21.09	1874.71	660.00	618.65									21.09	1406.00	0.10	140.60
TOTALS :											**3195.71**		**909.17**						**119410.66**		**13135.11**		**121807.33**		**12180.75**

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

USER: dd5109
DESIGN FILE: G:\13105900_7IBtoHI2\TRANSP\dgn\quantities\CA0401 Quant_10.dgn
PLOTTED: 4/2/2015 11:16
SCALE: 16:1

QUANTITIES

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	62	338
A&B5919-A&B5922		BR. OTYS.		56505

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. CA0401

BRIDGE NO.	CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE / ITEM NO. / UNIT	801	802	802	802	803	804	805	805	SP & 807	SP & 807	807	808	809	812	816	816	821
				UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE -BRIDGE	CLASS S (AE) CONCRETE -BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE III)	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	① STEEL PILING (HP 12X53)	PREBORING	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M 270, GRADE 50)	③ PAINTING STRUCTURAL STEEL	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	BRIDGE NAME PLATE (TYPE D)	DUMPED RIPRAP	FILTER BLANKET	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)
				CU. YD.	CU. YD.	CU. YD.	LIN. FT.	GAL.	LB.	LIN. FT.	LIN. FT.	LB.	LB.	TON	CU. IN.	LIN. FT.	EACH	CU. YD.	SQ. YD.	LUMP SUM
A5919	X081	CLEAR CREEK	BENT 1	47	16.77			0.2	2365	212		412			1534.5					
			BENT 2	304	111.03				19219						3069.0					
			BENT 3	126	112.07				19379						3069.0					
			BENT 4	140	111.07				19221						3069.0					
			BENT 5	232	109.17				18903						3069.0					
			BENT 6	33	15.79			0.2	2302	184		412			1534.5					
			71'-0" COMP. PRESTRESSED CONCRETE GIRDER SPANS 1-5			345.40	1053.8	58.4	84551			5906				453		222	444	
			EXIST. BR. NO. A5919																	1
			TOTALS FOR BRIDGE NO. A5919	882	475.90	345.40	1053.8	58.8	165940	396		6730			15345.0	453		222	444	1
B5919	X081	CLEAR CREEK	BENT 1	46	15.92			0.1	2302	212		412			1534.5					
			BENT 2	303	111.22				19235						3069.0					
			BENT 3	126	112.24				19394						3069.0					
			BENT 4	139	111.17				19235						3069.0					
			BENT 5	232	109.23				18917						3069.0					
			BENT 6	32	16.62			0.2	2365	184		412			1534.5					
			71'-0" COMP. PRESTRESSED CONCRETE GIRDER SPANS 1-5			345.00	1053.8	57.0	84552			5906				448		222	444	
			EXIST. BR. NO. B5919																	1
			TOTALS FOR BRIDGE NO. B5919	878	476.40	345.00	1053.8	57.3	166000	396		6730			15345.0	448		222	444	1
A5920	X271	JOHNSON MILL BLVD.	BENT 1	65	16.13			0.2	1546	156	141	747		0.4	1017.8					
			BENT 2	43	37.75				6573	360	348				2371.5					
			BENT 3	43	38.40				6834	288	276				2569.1					
			BENT 4	66	15.22			0.2	1483	150	141	747		0.4	1145.6					
			194'-0" CONT. COMP. W-BEAM UNIT			166.90		28.5	45094			116606		57.5		150	1			
			EXIST. BR. NO. A5920																	1
			TOTALS FOR BRIDGE NO. A5920	217	107.50	166.90		28.9	61530	954	906	118100		58.3	7104.0	150	1			1
B5920	X271	JOHNSON MILL BLVD.	BENT 1	65	15.35			0.2	1483	156	141	747		0.4	1017.8					
			BENT 2	43	38.74				6630	348	336				2371.5					
			BENT 3	43	38.42				6755	300	288				2569.1					
			BENT 4	67	16.69			0.2	1547	150	141	747		0.4	1145.6					
			194'-0" CONT. COMP. W-BEAM UNIT			166.90		28.5	45095			116606		57.5		150				
			EXIST. BR. NO. B5920																	1
			TOTALS FOR BRIDGE NO. B5920	218	109.20	166.90		28.9	61510	954	906	118100		58.3	7104.0	150				1
A5922	X271	HWY. 412	BENT 1	13	15.47			0.1	1514	204	201		1581	0.7	571.0					
			BENT 2	42	35.43				6563	564	552				1218.0					
			BENT 3	42	38.16				7032	576	564				1638.0					
			BENT 4	14	16.34			0.1	1663	204	201		1636	0.8	945.0					
			208'-0" CONT. COMP. PLATE GIRDER UNIT			181.00		15.6	52778				117283	58.6		141				
			EXIST. BR. NO. A5922																	1
			TOTALS FOR BRIDGE NO. A5922	111	105.40	181.00		15.8	69550	1548	1518		120500	60.1	4372.0	141				1
B5922	X271	HWY. 412	BENT 1	13	16.27			0.1	1645	204	201		1581	0.7	571.0					
			BENT 2	42	37.60				6938	576	564				1218.0					
			BENT 3	42	38.80				7126	636	624				1638.0					
			BENT 4	13	15.93			0.1	1562	204	201		1636	0.8	945.0					
			208'-0" CONT. COMP. PLATE GIRDER UNIT			180.30		15.6	51839				117013	58.5		141				
			EXIST. BR. NO. B5922																	1
			TOTALS FOR BRIDGE NO. B5922	110	108.60	180.30		15.8	69110	1620	1590		120230	60.0	4372.0	141				1
			TOTALS FOR JOB NO. CA0401	② 2416	1383.00	1385.50	2107.6	205.5	593640	5868	4920	249660	240730	236.7	53642.0	1483	1	444	888	

① Steel piling (Grade 50) shall have special driving points which shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling (HP 12x53)".

② Includes 192 cu. yard of rock excavation.

③ The paint color for the new structural steel shall match the paint color of the existing structural steel.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WLFF
04/13/15

SCHEDULE OF BRIDGE QUANTITIES
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 10-03-14 FILENAME: bca0401ml_ql.dgn
CHECKED BY: CAW DATE: 12-05-14 SCALE: NOT TO SCALE
DESIGNED BY: KJC DATE: 09-26-14
BRIDGE NO. A&B5919-A&B5922 DRAWING NO. 56505

USER: jd5103
DESIGN FILE: G:\13105900_71B to 412\TRANSP\dgn\bridge\bca0401ml_ql.dgn
PLOTTED: 4/13/2015 16:43
SCALE: 2:1

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM	QUANTITIES ACNHPP-0072(45)	BIM-B49-0(218)	TOTAL	UNIT
202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS	12		12	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	7942		7942	SQ. YD.
202	REMOVAL AND DISPOSAL OF DROP INLETS	6		6	EACH
202	REMOVAL AND DISPOSAL OF FENCE	276		276	LIN. FT.
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL	1629		1629	LIN. FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	3		3	EACH
SP & 202	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE	10396		10396	LIN. FT.
207	STONE BACKFILL	960		960	TON
210	UNCLASSIFIED EXCAVATION	31874		31874	CU. YD.
210	COMPACTED EMBANKMENT	17148		17148	CU. YD.
SP & 210	SOIL STABILIZATION	150		150	TON
215	TRENCHING AND SHOULDER PREPARATION	40		40	STATION
303	AGGREGATE BASE COURSE (CLASS 7)	80686		80686	TON
401	TACK COAT	10358	12181	22539	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	35814		35814	TON
SP & 405	ASPHALT BINDER (PG76-22) IN ACHM BASE COURSE (1 1/2")	1531		1531	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	17843	868	18711	TON
SP, SS, & 406	ASPHALT BINDER (PG76-22) IN ACHM BINDER COURSE (1")	841	41	882	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	21628	12413	34041	TON
SP, SS, & 407	ASPHALT BINDER (PG76-22) IN ACHM SURFACE COURSE (1/2")	1259	722	1981	TON
412	COLD MILLING ASPHALT PAVEMENT		119886	119886	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	93		93	TON
504	APPROACH SLABS	450.80		450.80	CU.YD.
504	APPROACH GUTTERS	197.50		197.50	CU.YD.
601	MOBILIZATION	1.00		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1		1	EACH
SP & 603	MAINTENANCE OF TRAFFIC	1.00		1.00	LUMP SUM
603	TRAFFIC CONTROL SUPERVISOR	1.00		1.00	LUMP SUM
SS & 604	SIGNS	2122		2122	SQ. FT.
SS & 604	TRAFFIC DRUMS	869		869	EACH
604	ADVANCE WARNING ARROW PANEL	90		90	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN	246		246	WEEK
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	41026		41026	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	55981		55981	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	18064		18064	LIN. FT.
SP & 605	CONCRETE DITCH PAVING (TYPE B)	44		44	SQ. YD.
606	SELECTED PIPE BEDDING	700		700	CU. YD.
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	20		20	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	15304		15304	LIN. FT.
SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	168		168	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2		2	EACH
609	DROP INLETS (TYPE ST)	139		139	EACH
611	4" PIPE UNDERDRAINS	43000		43000	LIN. FT.
611	UNDERDRAIN OUTLET PROTECTORS	10		10	EACH
613	24" STEEL GRATE ASSEMBLY (TYPE 1)	1		1	EACH
620	LIME	9		9	TON
620	SEEDING	4.51		4.51	ACRE
SS & 620	MULCH COVER	11.81		11.81	ACRE
620	WATER	609.3		609.3	M. GAL.
621	TEMPORARY SEEDING	7.30		7.30	ACRE
621	SILT FENCE	540		540	LIN. FT.
621	SAND BAG DITCH CHECKS	3148		3148	BAG
621	ROCK DITCH CHECKS	409		409	CU.YD.
621	DROP INLET SILT FENCE	3312		3312	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL	984		984	CU. YD.
623	SECOND SEEDING APPLICATION	4.51		4.51	ACRE
624	SOLID SODDING	38		38	SQ. YD.
631	CONCRETE BARRIER WALL (MEDIAN TYPE B)	12750		12750	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE C)	4662		4662	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE B SPECIAL)	300		300	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE C SPECIAL)	400		400	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-1)	350		350	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-2)	150		150	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-3)	152		152	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-4)	195		195	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)	172		172	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00		1.00	LUMP SUM
640	MODIFYING DROP INLETS	8		8	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	38744	39004	77748	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	39865		39865	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	39865		39865	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING (SKIP LINE) WHITE (4") (ALTERNATE NO. 1)	19437		19437	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE (SKIP LINE) WHITE (4") (ALTERNATE NO. 2)	19437		19437	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8") (ALTERNATE NO. 1)	7263		7263	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (8") (ALTERNATE NO. 2)	7263		7263	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	40960		40960	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	40960		40960	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	970		970	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	970		970	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (8") (ALTERNATE NO. 1)	107		107	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (8") (ALTERNATE NO. 2)	107		107	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	1733		1733	EACH
SP & 724	OVERHEAD SIGN STRUCTURE FOUNDATION	8		8	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	6		6	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	6		6	EACH
732	CRASH CUSHION	2		2	EACH
804	REINFORCING STEEL-ROADWAY (GRADE 60)	126337		126337	LB.
SP & 805	PREBORING FOR CONCRETE BARRIER WALL	242		242	LIN. FT.

* DENOTES ALTERNATE BID ITEMS.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
05-26-2015				6	ARK.			
06-03-2015				JOB NO.		CA0401	63	338
				(2)	SUMMARY OF QUANTITIES AND REVISIONS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS 15360
6-03-15

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITIES ACNHPP-0072(45)	BIM-B49-0(218)	TOTAL	UNIT
SP & 805	STEEL PILING FOR CONCRETE BARRIER WALL (HP 12X53)	2417		2417	LIN. FT.
816	DUMPED RIPRAP	10		10	CU. YD.
816	FILTER BLANKET	18		18	SQ. YD.
SP	AWIS MOBILIZATION	1.00		1.00	LUMP SUM
SP	AWIS OPERATION	17		17	MONTH
SP	DEVICE RELOCATION	17		17	EACH
SP	FURNISH AND INSTALL CLOSED CIRCUIT TELEVISION SYSTEM	2		2	EACH
SP	FURNISH AND INSTALL PUBLIC NOTIFICATION SYSTEM	2		2	EACH
SP	FURNISH AND INSTALL VARIABLE MESSAGE SIGN	7		7	EACH
SP	FURNISH AND INSTALL VEHICLE DETECTION SYSTEM	24		24	EACH
SP	MOBILE SPEED NOTIFICATION SYSTEM	2		2	EACH
SP	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER	508		508	EACH
SP	WIRE ROPE SAFETY FENCE END TERMINAL	2		2	EACH
	STRUCTURES OVER 20'-0" SPAN				
636	BRIDGE CONSTRUCTION CONTROL	1.00		1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	2416		2416	CU. YD.
802	CLASS S CONCRETE-BRIDGE	1383.00		1383.00	CU. YD.
802	CLASS S (AE) CONCRETE-BRIDGE	1385.50		1385.50	CU. YD.
802	PRESTRESSED CONCRETE GIRDERS (TYPE III)	2107.6		2107.6	LIN. FT.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	205.5		205.5	GAL.
804	REINFORCING STEEL-BRIDGE (GRADE 60)	593640		593640	LB.
805	STEEL PILING (HP 12X53)	5868		5868	LIN. FT.
805	PREBORING	4920		4920	LIN. FT.
SP & 807	STRUCTURAL STEEL IN BEAM SPANS (M270 - GR 50)	249660		249660	LB.
SP & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270 - GR 50)	240730		240730	LB.
807	PAINTING STRUCTURAL STEEL	236.7		236.7	TON
808	ELASTOMERIC BEARINGS	53642.0		53642.0	CU. IN.
809	SILICONE JOINT SEALANT	1483		1483	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	1		1	EACH
816	DUMPED RIPRAP	444		444	CU.YD.
816	FILTER BLANKET	888		888	SQ. YD.
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5919)	1.00		1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. B5919)	1.00		1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5920)	1.00		1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. B5920)	1.00		1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. A5922)	1.00		1.00	LUMP SUM
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. B5922)	1.00		1.00	LUMP SUM

REVISIONS

DATE	REVISION	SHEET NUMBER
5/26/2015	REMOVED OVERHEAD SIGN STRUCTURE FOUNDATION QUANTITY AT STATION 586+70	56, 63
6/3/2015	ADDED NOTE FOR PERMANENT PAVEMENT MARKING DETAILS AND REVISED "HIGH PERFORMANCE PAVEMENT MARKING" SP.	44,45,46,47,48,49,50,51,63

SUMMARY OF QUANTITIES AND REVISIONS

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\quantities\CA0401quant_ll.dgn
PLOTTED: 6/3/2015 17:37
SCALE: 16d

SURVEY CONTROL COORDINATES
Project Name: CA 0401
Date: 7/3/2014
Coordinate System: Arkansas State Plane Coordinates
Based on AHTD GPS PTS : *720018 RESET, AGRONOMY - 720032, 720034 - 720034A*
Projected to Ground Coordinates
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description	CA JOB REFERENCE
39	651465.5406	0.0030	667853.3224	0.0030	1228.17	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
40	652101.4961	0.0100	668178.7263	0.0090	1225.28	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
41	652217.7648	0.0080	667681.2493	0.0070	1225.89	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
42	652677.6781	0.0100	668496.7121	0.0110	1234.75	0.010	CTL	PD:5/8" REBAR W/ CAP	CA0401
43	653525.2543	0.0090	668370.1193	0.0070	1207.59	0.011	CTL	PD:5/8" REBAR W/ CAP	CA0401
44	652577.6202	0.0060	669033.4803	0.0070	1226.00	0.008	CTL	PD:5/8" REBAR W/ CAP	CA0401
45	652956.3054	0.0050	669852.0035	0.0050	1224.68	0.008	CTL	PD:5/8" REBAR W/ CAP	CA0401
46	652915.4194	0.0070	670968.5436	0.0090	1236.68	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
47	654188.3509	0.0050	671617.6696	0.0040	1239.27	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
48	654893.0251	0.0040	671042.5445	0.0030	1218.20	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
49	655206.3045	0.0060	670211.3995	0.0050	1218.67	0.010	CTL	PD:5/8" REBAR W/ CAP	CA0401
50	655808.4005	0.0100	669716.5119	0.0080	1231.33	0.010	CTL	PD:5/8" REBAR W/ CAP	CA0401
51	656712.1046	0.0120	669287.8527	0.0110	1261.57	0.011	CTL	PD:5/8" REBAR W/ CAP	CA0401
52	657582.6577	0.0040	668890.0581	0.0040	1287.92	0.011	CTL	PD:5/8" REBAR W/ CAP	CA0401
53	654920.0351	0.0020	670094.7751	0.0020	1216.02	0.008	CTL	PD:5/8" REBAR W/ CAP	CA0401
54	654019.6223	0.0040	670444.4565	0.0030	1219.87	0.008	CTL	PD:5/8" REBAR W/ CAP	CA0401
55	653360.3997	0.0060	670267.9991	0.0060	1222.87	0.007	CTL	PD:5/8" REBAR W/ CAP	CA0401
56	653373.8178	0.0020	670757.5769	0.0020	1221.95	0.007	CTL	PD:5/8" REBAR W/ CAP	CA0401
57	653487.8744	0.0050	671293.0818	0.0040	1222.13	0.007	CTL	PD:5/8" REBAR W/ CAP	CA0401
58	653736.5224	0.0040	672045.7542	0.0040	1221.32	0.006	CTL	PD:5/8" REBAR W/ CAP	CA0401
59	654234.5252	0.0050	673187.2239	0.0050	1237.02	0.005	CTL	PD:5/8" REBAR W/ CAP	CA0401
60	653865.6850	0.0060	669984.3272	0.0060	1231.11	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
61	653352.1576	0.0080	670048.0728	0.0080	1246.64	0.008	CTL	PD:5/8" REBAR W/ CAP	CA0401
62	653038.6560	0.0040	670504.4569	0.0040	1243.54	0.009	CTL	PD:5/8" REBAR W/ CAP	CA0401
100	640169.1054	0.0050	661396.8193	0.0040	1280.75	0.011	GPS	PD:AHTD GPS 720034A	
101	642492.8042	0.0010	662000.3683	0.0010	1275.92	0.012	GPS	PD:AHTD GPS 720034	
102	653467.9567	0.0010	671555.8815	0.0010	1248.19	0.008	GPS	PD:AHTD GPS 720018 RESET	CA0401
103	633341.4840	0.0010	667878.9163	0.0010	1259.23	0.001	GPS	PD:AHTD GPS 720032	
104	649060.6371	0.0010	669973.0200	0.0010	1294.44	0.012	GPS	PD:AHTD GPS AGRONOMY	
105	677788.3766	0.0100	667280.2309	0.0100	1342.73	0.010	GPS	PD:AHTD GPS MON. 720021	CA0401
109	648580.8162	0.0110	669118.6233	0.0110	1288.98	0.012	CTL	PD:5/8" REBAR W/ CAP	
110	649473.8954	0.0120	669106.5063	0.0120	1295.19	0.012	CTL	PD:5/8" REBAR W/ CAP	
111	650289.7300	0.0070	669192.0831	0.0080	1291.33	0.011	CTL	PD:5/8" REBAR W/ CAP	
112	651206.5321	0.0070	669131.8043	0.0070	1253.75	0.010	CTL	PD:5/8" REBAR W/ CAP	CA0401
113	651994.9512	0.0100	668593.4199	0.0080	1255.04	0.017	CTL	PD:5/8" REBAR W/ CAP	CA0401,CA1101
150	654556.2441	0.0090	668296.9080	0.0090	1205.88	0.011	CTL	PD:5/8" REBAR W/ CAP	CA0401
800	659153.4767	0.0380	668505.1780	0.0380	1273.46	0.003	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
801	660443.5499	0.0510	668349.1818	0.0540	1252.42	0.002	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
802	662088.9051	0.0370	668148.5510	0.0340	1215.05	0.002	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
803	662736.9901	0.0300	668048.2835	0.0280	1199.36	0.044	TBM	PD:CUT SQUARE IN SOUTHEAST CORNER OF BRIDGE SOUTH BND. BR#5919A CLEAR CREEK 803 = 904 JOB # 012111	CA0401
804	663074.3441	0.0350	668118.3381	0.0320	1192.67	0.000	TBM	PD:CUT SQUARE IN NORTHEAST CORNER OF BRIDGE NORTH BND. BR#3919B CLEAR CREEK 804= 903 JOB # 012111	CA0401
805	664149.0337	0.0390	667964.3872	0.0360	1217.55	0.000	TBM	PD:AHTD STANDARD DISK SOUTHEAST CORNER OF BRIDGE NORTHBOUND BR# 5020A	CA0401
806	665630.3891	0.0390	667717.4873	0.0390	1259.24	0.000	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
807	667227.7745	0.0430	667350.0320	0.0440	1316.44	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
808	668199.5317	0.0400	667016.9742	0.0410	1350.78	0.000	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
809	670196.4532	0.0390	666932.4718	0.0380	1352.52	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
810	671294.1756	0.0300	667020.8692	0.0300	1332.23	0.001	TBM	PD:CUT SQUARE CENTER OF HEADWALL EAST END OF BOX CULVERT	CA0401
811	671901.1065	0.0390	666938.3458	0.0380	1341.17	0.000	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN	CA0401
812	672441.6005	0.0460	666803.5256	0.0470	1374.77	0.001	TBM	PD:AHTD STANDARD DISK SOUTHWEST CORNER OF BRIDGE # 5921 PEACH ROAD	CA0401
813	674000.4620	0.0450	666945.5101	0.0360	1355.41	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
814	675150.3965	0.0420	666949.4555	0.0400	1339.90	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401
815	676056.1725	0.0420	667036.4844	0.0440	1328.11	0.001	TBM	PD:CUT SQUARE CENTER OF HEADWALL EAST END OF BOX CULVERT	CA0401
816	677596.9434	0.0390	667166.6304	0.0370	1343.89	0.001	TBM	PD:STANDRD AHTD DISK SOUTHEAST CORNER BRIDGE # 5922 HWY 68 OVERPASS (NOW HWY412)	CA0401,CA1101
817	678582.0153	0.0410	667888.4438	0.0380	1322.05	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401,CA1101
818	679286.1216	0.0290	668634.7391	0.0290	1310.16	0.000	TBM	PD:CUT SQUARE CENTER OF HEADWALL WEST END OF BOX CULVERT	CA0401,CA1101
819	679924.6949	0.0430	669323.6822	0.0390	1307.87	0.000	TBM	PD:STANDARD AHTD DISK NORTHEAST CORNER OF HEADWALL EAST END OF BOX CULVET	CA0401,CA1101
820	680885.9025	0.0290	669392.5290	0.0270	1303.88	0.001	TBM	PD:CUT SQUARE DROP INLET IN CENTER OF MEDIAN OF I-49	CA0401,CA1101
838	663358.6967	0.0460	669673.9011	0.0450	1166.97	0.001	TBM	PD:CUT SQUARE CENTER OF HEADWALL NORTH SIDE OF GREATHOUSE SPRINGS RD	CA0401
839	664013.1356	0.0510	668574.3497	0.0510	1177.80	0.000	TBM	PD:CUT SQUARE BACK OF CATCH BASIN AT ENTRANCE OF METROPOLITAN NATIONAL BANK	CA0401
840	664476.8190	0.0420	666870.8289	0.0380	1217.35	0.001	TBM	PD:CUT SQUARE BASE OF LIGHT POLE AT ENTRANCE TO WILLOW CREEK DRIVE	CA0401
841	672399.9763	0.0400	667762.9441	0.0400	1368.36	0.001	TBM	PD:CUT SQUARE IN BASE OF SIGNAL POLE SOUTHEAST CORNER 48TH ST AND WATKINS AVE	CA0401
842	672533.1206	0.0470	665671.8776	0.0480	1340.87	0.001	TBM	PD:CUT X IN BOLT TOP OF FIRE HYDRANT NORTH OF WATKINS AVE	CA0401
843	677611.8585	0.0450	668402.7333	0.0440	1336.55	0.001	TBM	PD:SQ CUT IN CATCH BASIN SOUTH SIDE HWY 412 IN FRONT OF DOUBLETREE HOTEL	CA0401,CA1101
844	677723.2483	0.0440	667456.8014	0.0430	1320.81	0.000	TBM	PD:CUT SQUARE IN CATCH BASIN NORTH SIDE OF HWY 412	CA0401,CA1101
845	677831.8011	0.0510	665890.0752	0.0490	1311.49	0.001	TBM	PD:CUT SQUARE IN CATCH BASIN NORTHEAST CORNER HWY 412 & MATHIAS DRIVE	CA0401,CA1101
933	650870.2209	0.0040	667367.0251	0.0040	1244.36	0.009	BM	PD:SQUARE CUT IN DROP INLET IN MEDIAN OF I-49	CA0401
934	651672.7665	0.0030	668004.1838	0.0050	1224.75	0.009	BM	PD:SQUARE CUT IN DROP INLET NORTH HEADWALL, EAST OF I-49	CA0401

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Davis
No. 15566
4/2/15
JEROME PAUL DAVIS

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	64	338

(2) SURVEY CONTROL DETAILS

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description	CA JOB REFERENCE
935	652160.4629	0.0090	668439.7602	0.0150	1223.85	0.008	BM	PD:SQUARE CUT IN DROP INLET NORTH E OF I-49 HEADWALL, EAST OF I-49 AT SOUTH OF HWY 112 OVERPASS	CA0401
936	652756.9200	0.0030	669508.3771	0.0040	1223.31	0.008	BM	PD:SQUARE CUT CENTER OF STORM MANHOLE EAST OF I-49	CA0401
937	653287.5617	0.0070	670520.0001	0.0050	1222.93	0.007	BM	PD:SQUARE CUT EAST END OF HEADWALL NORTH OF I-49	CA0401
938	653627.8408	0.0030	671911.7083	0.0030	1217.92	0.007	BM	PD:SQUARE CUT IN HEADWALL SOUTH OF 71B	CA0401
939	654208.6324	0.0070	673193.6049	0.0080	1237.16	0.005	BM	PD:SQUARE CUT IN NORTHWEST CORNER OF BRIDGE#5802	CA0401
940	654204.2767	0.0100	673331.5908	0.0090	1212.08	0.000	BM	PD:NGS MARK K 310 1989 ST VT	CA0401
941	653340.7783	0.0070	670098.6661	0.0070	1245.66	0.008	BM	PD:SQUARE CUT IN NORTHEAST CORNER OF BRIDGE#5917	CA0401
942	653108.5117	0.0040	670376.6307	0.0040	1245.10	0.009	BM	PD:AHTD CAP SET IN SOUTHEAST CORNER OF BRIDGE#5917	CA0401
943	653475.3610	0.0030	671554.3789	0.0040	1248.57	0.008	BM	PD:SOUTHEAST CORNER OF BR#5916	CA0401
944	653776.8049	0.0080	671641.1146	0.0060	1246.91	0.008	BM	PD:SQUARE CUT NORTHEAST CORNER OF BRIDGE	CA0401
945	654749.2107	0.0030	671238.0484	0.0020	1220.41	0.009	BM	PD:SQ CUT IN SOUTH EDGE OF DROP INLET AT I-49 NORTH & 71B	CA0401
946	655456.7223	0.0280	669850.5221	0.0130	1219.73	0.010	BM	PD:SQUARE CUT AT BASE OF HWY SIGN IN MEDIAN OF I-49	CA0401
947	656439.6900	0.0050	669472.2127	0.0030	1251.72	0.011	BM	PD:SQUARE CUT SOUTHEAST CORNER OF BRIDGE#5918B	CA0401
948	657722.2372	0.0120	668897.5404	0.0100	1287.97	0.011	BM	PD:SQUARE CUT BASE OF HWY SIGN JOHNSON 1 MILE	CA0401
949	653646.2268	0.0080	670335.2791	0.0080	1218.37	0.007	BM	PD:SQUARE CUT IN CENTER OF HEADWALL WEST OF I-49	CA0401
950	652711.9785	0.0170	668498.6783	0.0170	1233.33	0.010	BM	PD:SET IN BASE OF SIGNAL LIGHT	CA0401
951	653529.8248	0.0080	668453.6313	0.0060	1209.83	0.011	BM	PD:SQUARE CUT IN BASE OF SIGNAL POLE AT HWY 112 & TUCKERS DR	CA0401
952	654555.0208	0.0070	668310.9906	0.0060	1207.74	0.011	BM	PD:PAINTED BOLT ON FIRE HYDRANT	CA0401
1000	656772.5592	0.0300	669311.2635	0.0280	1262.14	0.003	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1001	658377.0601	0.0300	668699.5557	0.0290	1288.60	0.003	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1002	659151.4724	0.0230	668575.8497	0.0220	1275.99	0.003	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1003	659968.3405	0.0300	668474.3424	0.0320	1262.94	0.003	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1004	660791.2078	0.0280	668375.4474	0.0290	1249.19	0.002	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1005	661614.4862	0.0280	668275.3778	0.0280	1231.90	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1006	662351.1253	0.0300	668186.4053	0.0310	1209.57	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1007	663325.2246	0.0300	668068.5227	0.0310	1194.22	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1008	665171.0013	0.0300	667842.5085	0.0310	1247.79	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1009	666107.0612	0.0280	667736.7172	0.0290	1278.90	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1010	667167.9580	0.0290	667444.5128	0.0310	1315.27	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1011	667846.3516	0.0260	667204.5695	0.0280	1339.29	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1012	668685.8052	0.0290	667005.9963	0.0300	1363.30	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1013	669454.7882	0.0230	666999.2584	0.0260	1368.00	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1014	670371.4573	0.0260	667002.1983	0.0250	1350.63	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1015	671224.2966	0.0280	667004.8708	0.0280	1333.85	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1016	672263.5241	0.0290	667008.5792	0.0290	1351.19	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1017	673057.4012	0.0310	667011.8150	0.0290	1359.87	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1018	673951.4809	0.0270	667014.8506	0.0280	1357.44	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1019	674861.4731	0.0310	667017.3728	0.0300	1345.90	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1020	675656.6157	0.0290	667020.1311	0.0300	1334.75	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401
1021	676562.1404	0.0280	667031.0014	0.0280	1327.51	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1022	677302.6668	0.0310	667151.4325	0.0320	1339.10	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1023	678374.7823	0.0270	667780.1725	0.0280	1327.07	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1024	679488.9632	0.0300	669056.6742	0.0300	1315.59	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1025	680212.3344	0.0320	669394.6040	0.0310	1312.21	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1046	663847.1736	0.0320	668826.5892	0.0300	1164.98	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1047	664099.4386	0.0340	668220.3901	0.0350	1186.68	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1048	664422.7548	0.0320	667587.4159	0.0330	1217.37	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1049	664494.4587	0.0320	667061.0353	0.0310	1221.09	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1050	663872.8188	0.0310	667646.1646	0.0320	1202.90	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1051	664625.9869	0.0260	668198.5114	0.0300	1211.22	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1052	664868.3885	0.0310	667631.7937	0.0340	1233.11	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1053	672395.6435	0.0300	667752.2248	0.0310	1367.51	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1054	672430.2882	0.0290	667084.9902	0.0310	1377.15	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1055	672484.6845	0.0290	666624.7460	0.0300	1365.60	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1056	672517.5565	0.0300	665673.2267	0.0310	1339.48	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1057	677028.0127	0.0300	667277.7174	0.0310	1332.32	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1058	677613.7238	0.0260	668160.3457	0.0240	1337.79	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1059	677618.6711	0.0270	667592.7734	0.0250	1322.58	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1060	677669.6500	0.0330	666785.4386	0.0310	1331.13	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1061	677819.0905	0.0290	665839.0262	0.0280	1312.12	0.001	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1062	677069.6285	0.0300	666851.5159	0.0300	1334.28	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1063	678115.0853	0.0310	666896.2937	0.0290	1324.13	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
1064	678314.5782	0.0300	667420.4594	0.0280	1331.82	0.000	CTL	PD:REBAR & 2" ALUMINUM CAP	CA0401,CA1101
9909	650462.4014	0.0040	669112.3499	0.0050	1287.74	0.011	BM	PD:SQUARE CUT NORTHEAST CORNER OF CONCRETE SLAB	CA0401

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7iBto4i2\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17
SCALE: 100

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description	CA JOB REFERENCE
9910	651318.3919	0.0090	669167.5318	0.0100	1256.43	0.010	BM	PD:SQUARE CUT IN SIGNAL POLE AT GARLAND AVE	CA0401
9911	651691.6866	0.0020	668876.1869	0.0020	1250.12	0.009	BM	PD:SQUARE CUT IN HEADWALL NORTH OF HWY 112	CA0401
9912	652184.8140	0.0140	668584.3591	0.0110	1253.10	0.009	BM	PD:AHTD CAP IN NORTHEAST CORNER OF BR#5692 =912 JOB 040489	CA0401
9915	656192.0699	30.0000	673293.9522	30.0000	1198.65	0.000	BM	PD:NGS MARK A27 1932 BRASS CAP L OF C\L GREGG&VAN ASCHE	CA0401

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap, plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ###" & "Job ######". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:###", "Job######", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.

**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped, plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey", & "Point No. ######".

SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX:, SY:, and SZ: for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.

Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techiniques.

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy:

Horizontal - GPS (1.0 cm± 1PPM)	PN: 100-105
Horizontal - Primary (2.0cm± 20PPM):	PN:1-62, 109-150, 1000-1079
Horizontal - Secondary (3 cm ± 50PPM):	PN:N/A
Vertical - NGS 1st Order (±4mm x Vdist in km)	PN: 900, 940, 9915
Vertical - NGS 2nd Order (±6mm x Vdist in km)	PN:N/A
Vertical - NGS 3rd Order (±8mm x Vdist in km)	PN:N/A

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0301-North Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 0.999916840 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:
A project Elevation Factor of: 0.999939163 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 1271.94 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 1-62, 100-105, 109-150, 800-848, 900-952, 1000-1079, 9907-9915
From NGS BM: 900, 940, 9915

Basis of Bearing: Grid Bearings based on AHTD GPS points: 720018 RESET, AGRONOMY - 720032, 720034 - 720034A
Convergence Angle is: 01 16 50.89 LEFT at PN: 101
LT: 36-04-42 N LG: 094-12-04 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	CA0401		65	338

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/12/15

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17
SCALE: 100:1

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	CA0401		66	338

(2) SURVEY CONTROL DETAILS

555 560 565

0 25 50 100 FEET
SCALE RATIO 1" = 100'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Davis
No. 15560
4-2-15
JEROME PAUL DAVIS

N25°27'47"W

I-49

SURVEY BASELINE N25°22'36"W
1000.21'

PN:51
PD:5/8" REBAR W/ CAP

℄ MEDIAN

8001

SURVEY BASELINE N24°33'28"W
957.13'

PN:947
PD:SQUARE CUT SOUTHEAST CORNER OF BRIDGE#5918B

PN:1000
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

P.C. 567+30.62

I-49
PI = 576+64.60
Δ = 18°31'00.3" RT.
D = 01°00'00"
T = 933.98'
L = 1851.68'
PC = 567+30.62
PT = 585+82.30
MATCH EXISTING SUPERELEVATION

CA0401 CONSTRUCTION CENTERLINE - I-49

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	P.O.B.	525+27.47	653374.4910	670853.7117
8001	P.C.	567+30.62	657169.3600	669046.6568
	P.I.	576+64.60	658012.6170	668645.1116
8002	C.C.		659632.6695	674219.6801
8003	P.T.	585+82.30	658939.7428	668532.1573
8004	P.C.	657+62.44	666067.1813	667663.8016
	P.I.	661+80.98	666482.6494	667613.1840
8005	C.C.		665605.2302	663872.1197
8006	P.T.	665+96.19	666877.2981	667473.7990
8007	P.C.	677+44.10	667959.6865	667091.5130
	P.I.	682+40.14	668427.4102	666926.3188
8008	C.C.		668913.7375	669792.7724
8009	P.T.	687+26.44	668923.4461	666927.9999
8010	P.C.	762+73.95	676470.9073	666953.5780
	P.I.	776+54.50	677851.4475	666958.2566
8011	C.C.		676461.1987	669818.3505
8012	P.T.	788+46.90	678707.9667	668040.9790
8013	P.O.E.	805+18.97	679745.3489	669352.3296

570 575 580 585

P.I. 576+64.60

N25°27'47"W N06°56'47"W

I-49

℄ MEDIAN

SURVEY BASELINE N13°29'07"W
816.92'

PN:52
PD:5/8" REBAR W/ CAP

PN:948
PD:SQUARE CUT BASE OF HWY. SIGN

PN:1001
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

SURVEY BASELINE N09°04'33"W
784.23'

I-49
PI = 576+64.60
Δ = 18°31'00.3" RT.
D = 01°00'00"
T = 933.98'
L = 1851.68'
PC = 567+30.62
PT = 585+82.30
MATCH EXISTING SUPERELEVATION

0 25 50 100 FEET
SCALE RATIO 1" = 100'

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71B1o412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 13:43 SCALE: 100.0

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	67	338

(2) SURVEY CONTROL DETAILS

I-49
PI = 576+64.60
Δ = 18°31'00.3" RT.
D = 01°00'00"
T = 933.98'
L = 1851.68'
PC = 567+30.62
PT = 585+82.30
MATCH EXISTING SUPERELEVATION

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4-2-15

585 590 595

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

8003

I-49

N06°56'47"W

PN:800
PD:CUT SQUARE,I-49,SPRINGDALE

℄ MEDIAN

P.T. 585+82.30

SURVEY BASELINE N07°05'01"W
823.15'

PN:1002
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

PN:1003
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N06°51'11"W
828.79'

600 605 610 615

I-49

N06°56'47"W

PN:801
PD:CUT SQUARE,I-49,SPRINGDALE

℄ MEDIAN

SURVEY BASELINE N06°55'49"W
829.34'

PN:1004
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

PN:1005
PD:REBAR & 2" ALUMINUM CAP,I-49

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17 SCALE: 100:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	68	338

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER.
Jerry P. Davis
No. 15560
4-2-15
JEROME PAUL DAVIS

615 620 625

BEARINGS ARE GRID BASED ON NAD 83 ARKANSAS NORTH ZONE

0 25 50 100 FEET
SCALE RATIO 1" = 100'

PN:803
PD:CUT SQUARE,I-49,SPRINGDALE

I-49

N06°56'47"W

PN:802
PD:CUT SQUARE,I-49,SPRINGDALE

℄ MEDIAN

SURVEY BASELINE N06°53'13"W
741.99'

PN:1006
PD:REBAR & 2" ALUMINUM,I-49,SPRINGDALE

SURVEY BASELINE

SURVEY BASELINE N06°54'01"W
981.21'

PN:804
PD:CUT SQUARE,I-49,SPRINGDALE

630 635 640 645

PN:1048
PD:REBAR & 2" ALUMINUM CAP,I-49

PN:1048
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N05°41'13"E
447.84'

SURVEY BASELINE N62°56'33"W
710.77'

I-49

N06°56'47"W

℄ MEDIAN

PN:1007
PD:REBAR & 2" ALUMINUM,I-49,SPRINGDALE

PN:805
PD:AHTD STANDARD DISK,I-49,SPRINGDALE

SURVEY BASELINE

BEARINGS ARE GRID BASED ON NAD 83 ARKANSAS NORTH ZONE

0 25 50 100 FEET
SCALE RATIO 1" = 100'

SURVEY BASELINE N11°05'53"E
788.97'

PN:1047
PD:REBAR & 2" ALUMINUM CAP,I-49

PN:1047
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17 SCALE: 100:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	69	338

(2) SURVEY CONTROL DETAILS

BEARINGS ARE GRID BASED ON NAD 83

0 25 50 100 FEET
SCALE RATIO 1" = 100'

I-49
PI = 661+80.98
Δ = 12°30'22.7" LT.
D = 01°30'00"
T = 418.54'
L = 833.75'
PC = 657+62.44
PT = 665+96.19
MATCH EXISTING SUPERELEVATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Lewis
No. 15560
4-2-15
JEROME PAUL DAVIS

645 650 655

PN:1052
PD:REBAR & 2" ALUMINUM CAP,I-49

P.C. 657+62.44
8004

N06°56'47"W

I-49

℄ MEDIAN

PN:806
PD:CUT SQUARE,I-49,SPRINGDALE

PN:1008
PD:REBAR & 2" ALUMINUM,I-49,SPRINGDALE

SURVEY BASELINE

SURVEY BASELINE N06°26'53"W
942.02'

PN:1009
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N33°09'09"W
650.98'

PN:1051
PD:REBAR & 2" ALUMINUM CAP,I-49

I-49
PI = 661+80.98
Δ = 12°30'22.7" LT.
D = 01°30'00"
T = 418.54'
L = 833.75'
PC = 657+62.44
PT = 665+96.19
MATCH EXISTING SUPERELEVATION

0 25 50 100 FEET
SCALE RATIO 1" = 100'

660 665 670 675

P.T. 665+96.19
8006

N06°56'47"W

N19°27'09"W

I-49

℄ MEDIAN

PN:807
PD:CUT SQUARE,I-49,SPRINGDALE

N19°27'09"W

P.I. 661+80.98

SURVEY BASELINE N15°23'57"W
1100.40'

SURVEY BASELINE

PN:1010
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N19°28'42"W
719.58'

SURVEY CONTROL DETAILS

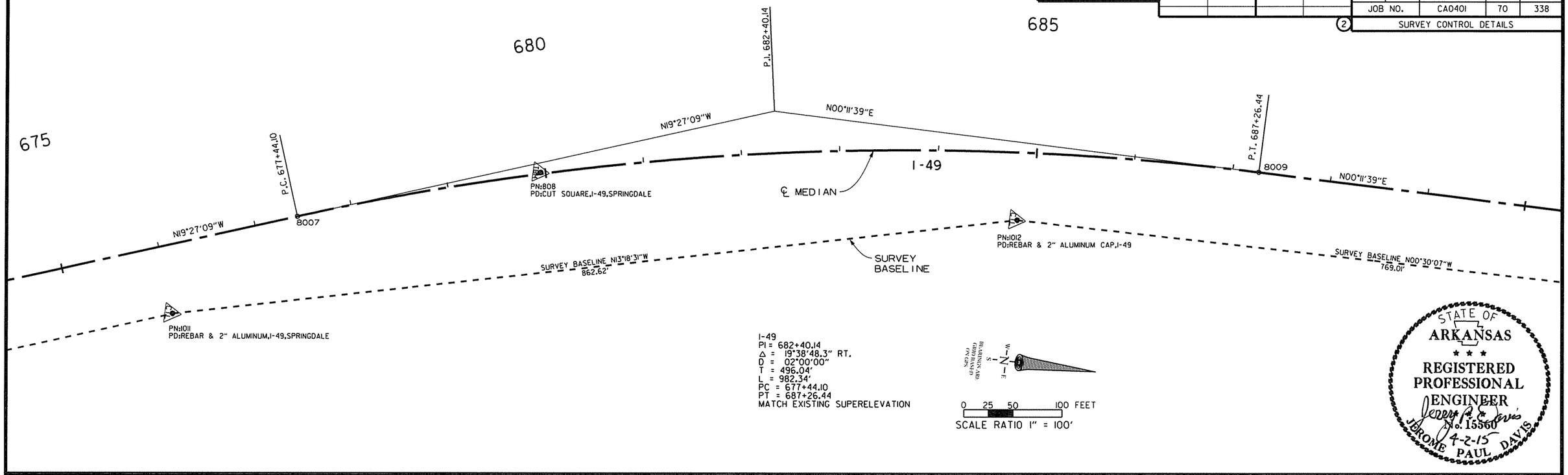
USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17 SCALE: 100:1

Crafton, Tull & Associates Inc.

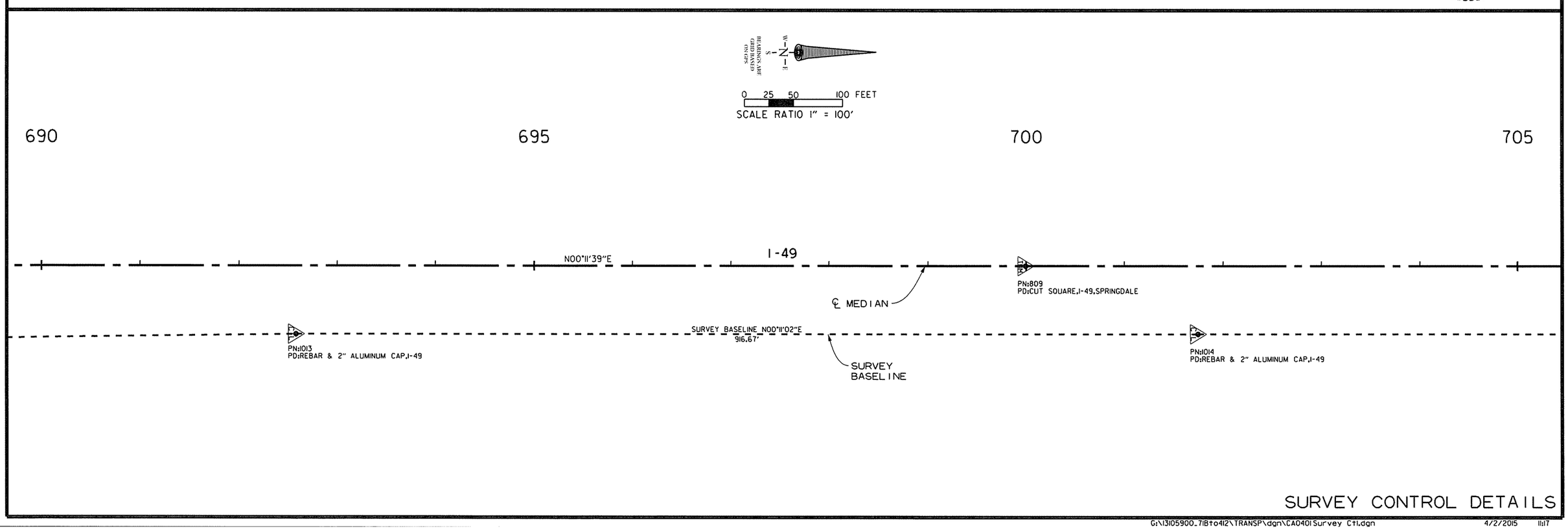
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	70	338

(2) SURVEY CONTROL DETAILS



STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Evans
No. 15560
4-2-15
JEROME PAUL DAVIS



SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\CA0401Survey Ct1.dgn
PLOTTED: 4/2/2015 11:17 SCALE: 100:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	71	338

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
4-2-15
JEROME PAUL DAVIS

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

705 710 715

I-49

N00°11'39"E

PN:811
PD:CUT SQUARE,I-49,SPRINGDALE

℄ MEDIAN

PN:1015
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N00°10'46"E
852.84'

PN:810
PD:CUT SQUARE,I-49,SPRINGDALE

SURVEY BASELINE

SURVEY BASELINE N00°12'16"E
1039.23'

720 725 730 735

PN:1055
PD:REBAR & 2" ALUMINUM CAP,I-49

PN:812
PD:AHTD STANDARD DISK,I-49,SPRINGDALE

SURVEY BASELINE N83°15'34"W
463.45'

N00°11'39"E

I-49

℄ MEDIAN

PN:1016
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N24°37'02"E
183.44'

SURVEY BASELINE N06°39'20"W
631.37'

SURVEY BASELINE

PN:1017
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N00°11'40"E
894.08'

PN:1054
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N87°10'40"W
668.13'

PN:1053
PD:REBAR & 2" ALUMINUM CAP,I-49

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17
SCALE: 100.0

G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn 4/2/2015 11:17

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	72	338

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4-2-15

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

735 740 745

I-49 N00°11'39"E

PN:813
PD:CUT SQUARE,I-49,SPRINGDALE

℄ MEDIAN

PN:814
PD:CUT SQUARE,I-49,SPRINGDALE

SURVEY BASELINE N00°09'32"E 910.00'

PN:1018
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

PN:1019
PD:REBAR & 2" ALUMINUM CAP,I-49

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

750 755 760 765

I-49
PI = 776+54.50
Δ = 51°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

P.C. 762+73.95
8010

I-49 N00°11'39"E

℄ MEDIAN

SURVEY BASELINE N00°11'56"E 795.15'

PN:1020
PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

SURVEY BASELINE N00°41'16"E 905.59'

PN:815
PD:CUT SQUARE,I-49,SPRINGDALE

PN:1021
PD:REBAR & 2" ALUMINUM CAP

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71B1to412\TRANSP\dgn\CA0401Survey Ctl.dgn SCALE: 100:1
PLOTTED: 4/2/2015 11:17

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	73	338

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

765 770 775 780

PN:1062 PD:REBAR & 2" ALUMINUM CAP,I-49

PN:1060 PD:REBAR & 2" ALUMINUM CAP,I-49

P.I. 776+54.50

N00°11'39"E

N51°39'12"E

SURVEY BASELINE N09°28'39"W 538.29'

SURVEY BASELINE N86°23'13"W 808.94'

PN:816 PD:STANDARD AHTD DISK,I-49,SPRINGDALE

I-49

℄ MEDIAN

PN:105 PD:AHTD GPS MON. 720021

PN:1022 PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N09°14'14"E 750.26'

SURVEY BASELINE

SURVEY BASELINE N24°41'34"W 302.30'

SURVEY BASELINE N54°23'49"E 512.81'

I-49
PI = 776+54.50
Δ = 51°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

PN:1057 PD:REBAR & 2" ALUMINUM CAP,I-49

PN:1059 PD:REBAR & 2" ALUMINUM CAP,I-49

PN:1059 PD:REBAR & 2" ALUMINUM CAP,I-49

785 790 795

PN:1063 PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE N69°09'49"E 560.84'

PN:1064 PD:REBAR & 2" ALUMINUM CAP,I-49

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

780

SURVEY BASELINE N80°29'55"E 364.72'

PN:817 PD:CUT SQUARE,I-49,SPRINGDALE

80T2

I-49

℄ MEDIAN

P.T. 788+46.90

N51°39'12"E

SURVEY BASELINE N48°53'03"E 1694.36'

PN:1024 PD:REBAR & 2" ALUMINUM CAP,I-49

SURVEY BASELINE

I-49
PI = 776+54.50
Δ = 51°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

SURVEY BASELINE N11°55'12"E 778.93'

PN:1059 PD:REBAR & 2" ALUMINUM CAP,I-49

BEARINGS ARE GRID BASED ON GPS

0 25 50 100 FEET
SCALE RATIO 1" = 100'

SURVEY CONTROL DETAILS

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\CA0401 Survey Ctl.dgn
PLOTTED: 4/2/2015 11:17 SCALE: 100:1

G:\13105900_71Bto412\TRANSP\dgn\CA0401Survey Ctl.dgn 4/2/2015 11:17

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	74	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerrod Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

STA. 587+78 - CONSTRUCT
STEEL GRATE ASSEMBLY (TYPE I) IN MEDIAN
WITH 24" x 5' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA: 587+96 IN MEDIAN

STA. 587+96 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-3" X 3'-0") - MODIFY
WITH 42" x 98' R.C. PIPE CULVERT
& 42" x 116' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT. - RETAIN
Q50 = 67 CFS: D.A. = 32.2 AC.

F.O. CABLE

590

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

RETAIN EXISTING W.R.S.F.

+55

P.T. 585+82.30

N06°56'47"W

STA: 588+00 INSTALL CRASH CUSHION
IN MEDIAN = 1 EACH

STA. 587+55 TO STA. 622+03 - IN PLACE
WIRE ROPE SAFETY FENCE
REMOVE

STA. 585+55 - INSTALL
WIRE ROPE SAFETY FENCE END TERMINAL = 1 EACH

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
588+00	602+98	B

STA. 591+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 594+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 591+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 591+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 594+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 597+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 594+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 594+00 LT.
TYPE ST DROP INLET = 4' X 4'

595

STA. 596+46 - IN PLACE
36" x 397' R.C. PIPE CULVERT
(45° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
RETAIN
Q50 = 43 CFS: D.A. = 17.3 AC.

STA. 597+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 597+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 597+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 600+97 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+97 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 600+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 93' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+97 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 600+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 600+97 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 100' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN
CONSTRUCT DROP INLET
3' LT. OF C.L. H = 7'-0"
CONNECT TO EXISTING 18" R.C. PIPE
WITH CONCRETE COLLAR
TYPE ST DROP INLET = 4' X 4'

REMOVAL AND DISPOSAL CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ.YDS.
587+55	622+03	℄ MED.	4'-0"	1532

I-49

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

STA. 588+00.00
BEGIN JOB CA0401
(LOG MILE 67.98)

EXISTING GROUND AT CENTERLINE MEDIAN

24" x 296' R.C. PIPE @1.60%

591+00 LT.
TOP ELEV. 1272.00
F.L. ELEV. 1266.90

591+00 RT.
TOP ELEV. 1272.03
F.L. ELEV. 1266.95

+96
(EXIST.)
TOP ELEV. 1273.44
F.L. ELEV. 1261.02

594+00 LT.
TOP ELEV. 1267.20
F.L. ELEV. 1262.07

594+00 RT.
TOP ELEV. 1267.16
F.L. ELEV. 1262.22

+46
(EXIST.)
F.L. ELEV. 1238.15

597+00 LT.
TOP ELEV. 1262.31
F.L. ELEV. 1257.23

597+00 RT.
TOP ELEV. 1262.31
F.L. ELEV. 1257.38

600+00 LT.
TOP ELEV. 1257.37
F.L. ELEV. 1252.40

600+00 RT.
TOP ELEV. 1257.39
F.L. ELEV. 1252.54

600+97 LT.
TOP ELEV. 1255.85
EX. F.L. ELEV. 1248.87

24" x 93' R.C. PIPE @1.60%

+97
(EXIST.)
TOP ELEV. 1252.39
F.L. 1248.87

600+97 RT.
TOP ELEV. 1255.80
F.L. ELEV. 1250.95

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1280 1275 1270 1265 1260 1255 1250 1245 1240 1235

586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00 598+00 599+00 600+00 601+00

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MODEL: 540 Plan and Profile 01

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	75	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

STA. 602+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 605+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 602+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 602+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 605+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-8"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 608+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 605+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-5"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 605+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 608+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-0"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 611+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 608+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 608+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 611+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 614+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 611+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 611+50 LT.
TYPE ST DROP INLET = 4' X 4'

FO CABLE

605

610

615

REFER TO SPECIAL DETAILS

CENTERLINE MEDIAN

N06°56'47"W

STA. 603+07 - IN PLACE
36" x 347' R.C. PIPE CULVERT
(4° RT. FWD. SKEW)
(CLASS V) WITH F.E.S. LT. & RT.
RETAIN
Q50 = 27 CFS: D.A. = 9.2 AC.

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
602+98	603+73	SP-2
603+77	604+52	SP-2
604+52	621+92	B

STA. 614+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-11"
WITH 24" X 303' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 617+57 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 614+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 614+50 LT.
TYPE ST DROP INLET = 4' X 4'

I-49

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

24" x 296' R.C. PIPE @1.50%
602+50 LT.
TOP ELEV. 1253.19
F.L. ELEV. 1249.32

602+50 RT.
TOP ELEV. 1253.26
F.L. ELEV. 1249.47

605+50 LT.
TOP ELEV. 1248.43
F.L. ELEV. 1244.82

605+50 RT.
TOP ELEV. 1248.40
F.L. ELEV. 1244.95

24" x 296' R.C. PIPE @1.75%
608+50 LT.
TOP ELEV. 1243.56
F.L. ELEV. 1239.54

608+50 RT.
TOP ELEV. 1243.46
F.L. ELEV. 1239.71

EXISTING GROUND AT CENTERLINE MEDIAN

24" x 296' R.C. PIPE @2.26%

611+50 LT.
TOP ELEV. 1236.58
F.L. ELEV. 1232.78

611+50 RT.
TOP ELEV. 1236.60
F.L. ELEV. 1232.83

24" x 296' R.C. PIPE @3.00%

24" x 303' R.C. PIPE @3.00%

614+50 LT.
TOP ELEV. 1227.71
F.L. ELEV. 1223.90

614+50 RT.
TOP ELEV. 1227.64
F.L. ELEV. 1223.95

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1270 1265 1260 1255 1250 1245 1240 1235 1230 1225

1270 1265 1260 1255 1250 1245 1240 1235 1230 1225 1220 1215 1210 1205

1250 1245 1240 1235 1230 1225 1220 1215 1210 1205

601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00 614+00 615+00 616+00

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MODEL: 540 Plan and Profile 01

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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.		CA0401	76	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

STA. 617+57 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 98' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN
CONSTRUCT DROP INLET
3' LT. OF C.L. H = 5'-6"
TYPE ST DROP INLET = 4' X 4'

STA. 617+57 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 617+57 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 619+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-0"
WITH 24" X 171' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 620+75.
TYPE ST DROP INLET = 4' X 4'

STA. 619+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 619+00 LT.
TYPE ST DROP INLET = 4' X 4'

620

STA. 620+75 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-11"
WITH 24" X 268' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 623+47.
TYPE ST DROP INLET = 4' X 4'

STA. 620+75 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 620+75 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 623+47 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - RETAIN AND MODIFY
WITH 18" X 96' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
621+92	622+17	SP-1
622+35	622+60	SP-1
622+60	623+38	B
623+38	623+69.80	SP-4
627+95.46	628+27	SP-4
628+27	637+94	B

625

30' CONC. BARRIER WALL TRANSITION

REFER TO SPECIAL DETAILS

FLOODPLAIN LIMIT

CENTERLINE MEDIAN

N06°56'47"W

CREEK

CLEAR

STA. 630+67 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-8"
WITH 24" X 265' R.C. PIPE CULVERT
(CLASS III)(TYPE 1 OR 2 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 627+98.
TYPE ST DROP INLET = 4' X 4'

FO CABLE

FLOODPLAIN LIMIT

STA. 630+67 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 1 OR 2 BEDDING)
CONNECT TO DROP INLET
AT STA. 630+67 LT.
TYPE ST DROP INLET = 4' X 4'

SS CABLE

WATER

30' CONC. BARRIER WALL TRANSITION

630

STA. 618+36 - IN PLACE
36" x 266' R.C. PIPE CULVERT
(6°30' LT. FWD. SKEW)
WITH F.E.S. LT. & RT. - RETAIN
Q50 = 63 CFS: DA = 13.9 AC.

REMOVAL AND DISPOSAL GUARDRAIL

STA.	STA.	SIDE	LIN. FT.
621+16	623+87	R.M.L. - LT.	271
627+77	630+48	L.M.L. - RT.	271

STA. 629+61 TO STA. 636+55 - IN PLACE
WIRE ROPE SAFETY FENCE
REMOVE

REMOVAL AND DISPOSAL CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ.YDS.
629+61	636+55	℄ MED.	4'-0"	308

STA.623+95.12 - BRIDGE END
I-49 RML BRIDGE (N.B.)
355'-0" COMPOSITE PRESTRESSED
CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
62'-0" CLEAR ROADWAY
BRIDGE NO. B5919
STA.627+52.17 - BRIDGE END

STA.624+14.17 - BRIDGE END
I-49 LML BRIDGE (S.B.)
355'0" COMPOSITE PRESTRESSED
CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
70'-0" CLEAR ROADWAY
BRIDGE NO. A5919
STA.627+71.22 - BRIDGE END

STA. 627+98 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - RETAIN AND MODIFY
WITH 18" X 96' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN

I-49

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

EXISTING GROUND AT CENTERLINE MEDIAN

+57 (EXIST.)
TOP ELEV. 1215.05
F.L. ELEV. 1212.89

617+57 LT.
TOP ELEV. 1218.37
F.L. ELEV. 1212.89

617+57 RT.
TOP ELEV. 1218.34
F.L. ELEV. 1214.86

+30 (EXIST.)
F.L. IN = 1197.96 RT
F.L. OUT = 1187.14 LT

24" x 171' R.C. PIPE @3.00%

619+00 LT.
TOP ELEV. 1214.06
F.L. ELEV. 1207.00

619+00 RT.
TOP ELEV. 1214.04
F.L. ELEV. 1207.15

24" x 268' R.C. PIPE @3.00%

620+75 LT.
TOP ELEV. 1208.66
F.L. ELEV. 1201.77

620+75 RT.
TOP ELEV. 1208.60
F.L. ELEV. 1201.92

623+47 LT.
TOP ELEV. 1199.04
F.L. ELEV. 1193.41

+47 (EXIST.)
TOP ELEV. 1196.56
F.L. ELEV. 1193.41

STA. 623+95.12 BR. END (RML BRIDGE)

STA. 624+14.17 BR. END (LML BRIDGE)

STA. 627+52.17 BR. END (RML BRIDGE)

STA. 627+71.22 BR. END (LML BRIDGE)

627+98
TOP ELEV. 192.46
F.L. ELEV. 186.81

24" x 265' R.C. PIPE @1.60%

+98 (EXIST.)
TOP ELEV. 189.81
F.L. ELEV. 186.81

630+67 LT.
TOP ELEV. 1195.98
F.L. ELEV. 1191.26

630+67 RT.
TOP ELEV. 1196.00
F.L. ELEV. 1191.41

DESIGN H.W. ELEV. 1159.92

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1225 1220 1215 1210 1205 1200 1195 1190 1185 1180

1225 1220 1215 1210 1205 1200 1195 1190 1185 1180 1175 1170 1165 1160 1155

1200 1195 1190 1185 1180 1175 1170 1165 1160 1155

616+00 617+00 618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00 628+00 629+00 630+00 631+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.		CA0401	77	338
				(2)	PLAN & PROFILE SHEETS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15560
JEROME PAUL DAVIS
4/2/15

STA. 633+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 229' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 630+67 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 633+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 633+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 634+57 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 153' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 633+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 634+57 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 634+57 LT.
TYPE ST DROP INLET = 4' X 4'

635 640 645

30' CONC. BARRIER WALL TRANSITION

30' CONC. BARRIER WALL TRANSITION

STA. 641+47 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - RETAIN AND MODIFY
WITH 18" X 91' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN

JOHNSON MILL BLVD.

CENTERLINE MEDIAN

N06°56'47"W

REMOVAL AND DISPOSAL GUARDRAIL

STA.	STA.	SIDE	LIN. FT.
635+64	638+35	R.M.L. - LT.	271
640+79	643+50	L.M.L. - RT.	271

STA. 642+62 TO STA. 717+81 - IN PLACE
WIRE ROPE SAFETY FENCE
REMOVE

STA. 638+41.25 BR. END
I-49 RML BRIDGE (N.B.) IN PLACE
194'-0" CONT. COMPOSITE
W-BEAM UNIT (49' - 86' - 59')
62'-0" CLEAR ROADWAY
BR. NO. B5920
STA. 640+37.74 - BRIDGE END

STA. 638+77.96 BR. END
I-49 LML BRIDGE (S.B.)
194'-0" CONT. COMPOSITE
W-BEAM UNIT (49'- 86' - 59')
62'-0" CLEAR ROADWAY
BR. NO. A5920
STA. 640+74.45 - BRIDGE END

STA. 644+58 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 307' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 641+47.
TYPE ST DROP INLET = 4' X 4'

STA. 644+58 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 644+58 LT.
TYPE ST DROP INLET = 4' X 4'

I-49

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
637+94	638+25.62	SP-4
640+90.08	641+23	SP-4
641+23	652+59	B

REMOVAL AND DISPOSAL CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ.YDS.
642+62	717+81	℄ MED.	4'-0"	3342

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

633+00 RT.
TOP ELEV. 1202.08
F.L. ELEV. 1197.25

633+00 LT.
TOP ELEV. 1202.11
F.L. ELEV. 1197.09

634+57 RT.
TOP ELEV. 1206.85
F.L. ELEV. 1201.83

634+57 LT.
TOP ELEV. 1206.87
F.L. ELEV. 1201.69

EXISTING GROUND AT CENTERLINE MEDIAN

STA. 638+41.25 BR. END (RML BRIDGE)

STA. 638+77.96 BR. END (LML BRIDGE)

STA. 640+37.74 BR. END (RML BRIDGE)

STA. 640+74.45 BR. END (LML BRIDGE)

JOHNSON MILL BLVD.

641+47
TOP ELEV. 1227.49
F.L. ELEV. 1220.63

641+47
(EXIST.)
TOP ELEV. 1223.67
F.L. ELEV. 1220.63

644+58 LT.
TOP ELEV. 1236.88
F.L. ELEV. 1231.71

644+58 RT.
TOP ELEV. 1236.90
F.L. ELEV. 1231.86

24" x 229' R.C. PIPE @2.50%

24" x 153' R.C. PIPE @3.00%

24" x 307' R.C. PIPE @3.00%

24" x 138' R.C. PIPE @3.00%

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1190 1195 1200 1205 1210 1215 1220 1225 1230 1235 1240 1245 1250 1255

631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00 644+00 645+00 646+00

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STA. 646+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-4"
WITH 24" X 138' R.C. PIPE CULVERT
(CLASS III)(TYPE 1 OR 2 BEDDING)
CONNECT TO DROP INLET
AT STA. 644+58 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 646+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 646+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 649+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 646+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 649+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 649+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 652+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-5"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 649+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 652+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-2"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 652+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 653+30 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-5"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 653+30 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 653+30 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-6"
WITH 24" X 5' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 653+21
TYPE ST DROP INLET = 4' X 4'

STA. 656+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-11"
WITH 24" X 264' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 653+30 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 659+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 656+00 RT.
TYPE ST DROP INLET = 4' X 4'

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	78	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerry Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

650 655 660

6" GAS
8" GAS
FO CABLE
8" GAS
P.C. 657+62.44

REFER TO SPECIAL DETAILS

CENTERLINE MEDIAN

N06°56'47"W

STA. 653+21 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-10" X 3'-0") - RETAIN AND MODIFY
WITH 48" X 118' R.C. PIPE CULVERT
& 48" X 132' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT. - RETAIN
Q50 = 207 CFS: D.A. = 62.7 AC.

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
652+59	652+84	SP-1
653+02	653+27	SP-1
653+27	656+35	B
656+35	667+75	C

I-49 ←
PI = 661+80.98
Δ = 12°30'22.7" LT.
D = 01°30'00"
T = 418.54'
L = 833.75'
PC = 657+62.44
PT = 665+96.19
MATCH EXISTING SUPERELEVATION

I-49

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

646+00 RT.
TOP ELEV. 1241.11
F.L. ELEV. 1236.04

646+00 LT.
TOP ELEV. 1241.20
F.L. ELEV. 1235.89

649+00 RT.
TOP ELEV. 1250.11
F.L. ELEV. 1245.02

649+00 LT.
TOP ELEV. 1250.11
F.L. ELEV. 1244.87

652+00 RT.
TOP ELEV. 1259.09
F.L. ELEV. 1254.00

652+00 LT.
TOP ELEV. 1259.19
F.L. ELEV. 1253.85

653+30 RT.
TOP ELEV. 1263.05
F.L. ELEV. 1257.58

653+30 LT.
TOP ELEV. 1263.09
F.L. ELEV. 1257.68

653+21 RT.
TOP ELEV. 1259.81
EX. F.L. ELEV. 1240.95

+21 (EXIST.)
TOP ELEV. 1259.27
F.L. ELEV. 1241.87

24" x 5' R.C. PIPE @3.00%

24" x 296' R.C. PIPE @3.00%

24" x 296' R.C. PIPE @3.00%

24" x 264' R.C. PIPE @3.00%

EXISTING GROUND AT CENTERLINE MEDIAN

656+00 RT.
TOP ELEV. 1271.72
F.L. ELEV. 1265.82

24" x 296' R.C. PIPE @3.50%

659+00 RT.
TOP ELEV. 1281.53
F.L. ELEV. 1276.30

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

1275 1270 1265 1260 1255 1250 1245 1240 1235 1230

1295 1290 1285 1280 1275 1270 1265 1260 1255 1250

646+00 647+00 648+00 649+00 650+00 651+00 652+00 653+00 654+00 655+00 656+00 657+00 658+00 659+00 660+00 661+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.		CA0401	79	338
				(2) PLAN & PROFILE SHEETS				

STA. 662+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 659+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 665+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-4"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 662+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 668+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-1"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 665+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 668+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 24" X 46' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 668+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 670+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-10"
WITH 24" X 26' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 669+70
TYPE ST DROP INLET = 4' X 4'

STA. 670+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-4"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 670+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 672+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-8"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 670+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 672+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 670+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 675+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-11"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 672+00 LT.
TYPE ST DROP INLET = 4' X 4'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

665 670 675

REFER TO SPECIAL DETAILS

8" GAS
8" GAS
FO CABLE

P.T. 665+96.19

CENTERLINE MEDIAN

N19°27'09"W

N06°56'47"W N19°27'09"W

P.I. 661+80.98

I-49
PI = 661+80.98
Δ = 12°30'22.7" LT.
D = 01°30'00"
T = 418.54'
L = 833.75'
PC = 657+62.44
PT = 665+96.19
MATCH EXISTING SUPERELEVATION

STA. 669+70 IN PLACE
DBL. 30" X 307' R.C. PIPE CULVERT
(49° LT. FWD. SKEW)
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") RETAIN AND MODIFY
OVER NORTHERN MOST R.C. PIPE CULVERT
WITH F.E.S. LT. & RT. - RETAIN
Q50 = 16 CFS; D.A. = 13.2 AC.

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
667+75	672+00	B
672+00	675+00	B-SPECIAL
675+00	679+00	C-SPECIAL

NOTE: APPROXIMATE LIMITS OF ABANDONED LANDFILL WITHIN HIGHWAY RIGHT-OF-WAY STA 672+00 - 679+00

I-49

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

668+50 LT.
TOP ELEV. 1315.75
F.L. ELEV. 1308.27

668+00 RT.
TOP ELEV. 1313.79
F.L. ELEV. 1307.70

EXISTING GROUND AT CENTERLINE MEDIAN

24" x 296' R.C. PIPE @3.50%

24" x 46' R.C. PIPE @1.00%

662+00 RT.
TOP ELEV. 1292.01
F.L. ELEV. 1286.77

24" x 296' R.C. PIPE @3.50%

665+00 RT.
TOP ELEV. 1302.57
F.L. ELEV. 1297.24

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

669+70
TOP ELEV. 1318.07
EX. F.L. ELEV. 1303.60

24" x 196' R.C. PIPE @3.40%

24" x 26' R.C. PIPE @3.40%

670+00 LT.
TOP ELEV. 1320.86
F.L. ELEV. 1314.01

+70
(EXIST.)
TOP ELEV. 1315.50
F.L. ELEV. 1303.60

670+00 RT.
TOP ELEV. 1321.04
F.L. ELEV. 1315.69

100' TRANSITION

LML PVI 672+00.00
ELEV. 1328.69

RML PVI 672+00.00
ELEV. 1328.96

3.32 % RML
3.29 % LML

24" x 296' R.C. PIPE @3.40%

672+00 LT.
TOP ELEV. 1327.93
F.L. ELEV. 1322.27

672+00 RT.
TOP ELEV. 1328.25
F.L. ELEV. 1322.45

675+00 LT.
TOP ELEV. 337.31
F.L. ELEV. 332.43

1325 1320 1315 1310 1305 1300 1295 1290 1285 1280

1345 1340 1335 1330 1325 1320 1315 1310 1305 1300

661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00 676+00

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STA. 678+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 675+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 679+98 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-0"
CONNECT TO EX. 18" R.C. PIPE CULVERT
TYPE ST DROP INLET = 4' X 4'

STA. 683+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-3"
WITH 24" X 298' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 679+98 LT.
TYPE ST DROP INLET = 4' X 4'

Crafton, Tull & Associates Inc.

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				JOB NO.		CA0401	80	338

(2) PLAN & PROFILE SHEETS

STA. 689+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-4"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 687+50 LT.
TYPE ST DROP INLET = 4' X 4'

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

REFER TO SPECIAL DETAILS

680

685

690

FO CABLE

P.I. 682+40.14

P.C. 677+44.10

P.T. 687+26.44

N19°27'09"W

N00°11'39"E

CENTERLINE MEDIAN

CONCRETE BARRIER WALL		
STA.	STA.	MEDIAN TYPE
679+00	689+90	C
689+90	695+71	B

NOTE: APPROXIMATE LIMITS OF ABANDONED LANDFILL WITHIN HIGHWAY RIGHT-OF-WAY STA 672+00 - 679+00

STA. 679+98 IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 97' R.C. PIPE OUTLET
TO RT. WITH F.E.S.
RETAIN

I-49
PI = 682+40.14
Δ = 19°38'48.3" RT.
D = 02°00'00"
T = 496.04'
L = 982.34'
PC = 677+44.10
PT = 687+26.44
MATCH EXISTING SUPERELEVATION

STA. 686+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 683+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 687+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-11"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 686+00 LT.
TYPE ST DROP INLET = 4' X 4'

I-49

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

100' TRANSITION

LML PVI 680+00.00 ELEV. 1354.97

RML PVI 680+00.00 ELEV. 1355.48

EXISTING GROUND AT CENTERLINE MEDIAN

683+00 LT.
TOP ELEV. 1360.52
F.L. ELEV. 1355.28

686+00 LT.
TOP ELEV. 1366.44
F.L. ELEV. 1361.90

687+50 LT.
TOP ELEV. 1368.72
F.L. ELEV. 1363.83

689+00 LT.
TOP ELEV. 1370.11
F.L. ELEV. 1365.75

3.32 % RML
3.29 % LML

24" x 296' R.C. PIPE @3.40%

24" x 298' R.C. PIPE @ 2.50%

24" x 296' R.C. PIPE @ 2.20%

24" x 146' R.C. PIPE @1.25%

24" x 146' R.C. PIPE @1.25%

+98
(EXIST.)
TOP ELEV. 1350.87
F.L. ELEV. 1347.14

678+00 LT.
TOP ELEV. 1347.08
F.L. ELEV. 1342.60

679+98 LT.
TOP ELEV. 1353.11
F.L. ELEV. 1347.08

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

1375 1370 1365 1360 1355 1350 1345 1340 1335 1330

676+00 677+00 678+00 679+00 680+00 681+00 682+00 683+00 684+00 685+00 686+00 687+00 688+00 689+00 690+00 691+00

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				6	ARK.			
				JOB NO.		CA0401	81	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
04/2/15
JEROME PAUL DAVIS

STA. 691+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 694+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 691+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-3"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 691+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 696+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 698+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 696+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 696+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 699+98 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 92' R.C. PIPE OUTLET
TO RT. WITH F.E.S. - RETAIN

STA. 698+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 698+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 699+98 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 8'-0"
CONNECT TO EXISTING 18" R.C. PIPE
CULVERT AT STA. 699+98 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 699+98 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 699+98 RT.
TYPE ST DROP INLET = 4' X 4'

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
695+71	696+46.90	SP-3
697+19.19	697+95	SP-3
697+95	721+72	B

STA. 702+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-8"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 705+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 702+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 702+00 LT.
TYPE ST DROP INLET = 4' X 4'

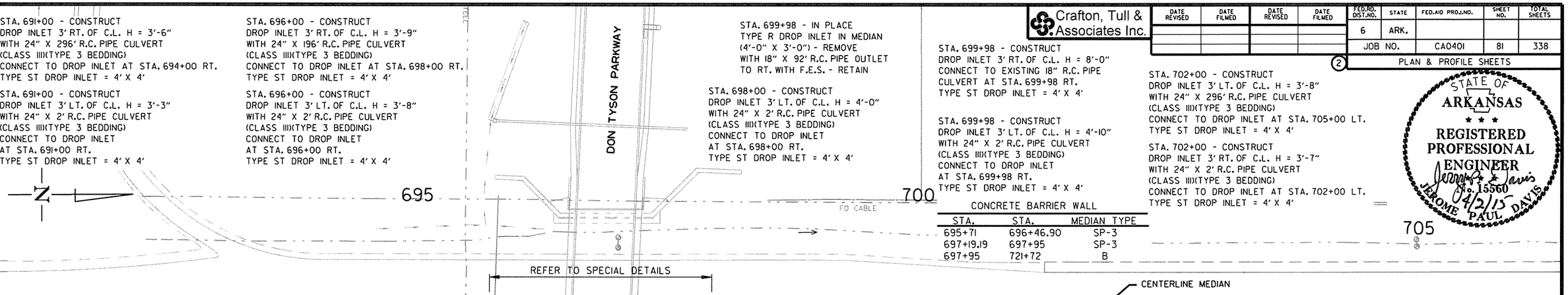
STA. 694+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-5"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 696+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 694+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-4"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 694+00 RT.
TYPE ST DROP INLET = 4' X 4'

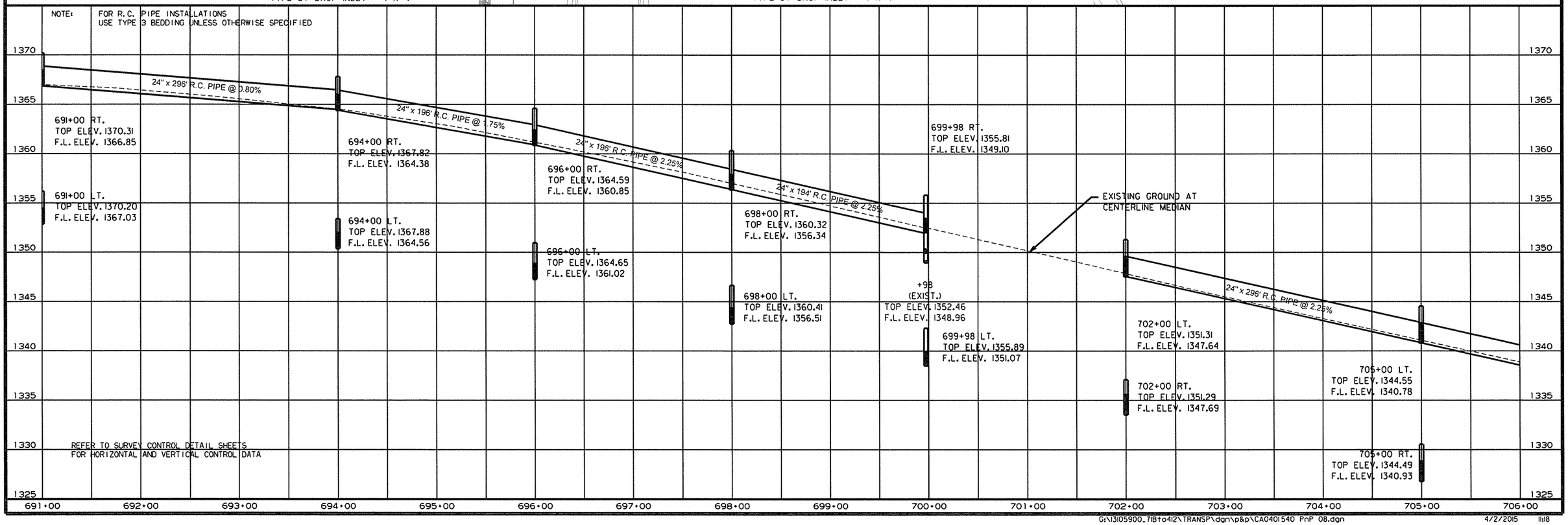
STA. 698+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-0"
WITH 24" X 194' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 699+98 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 705+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-9"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 708+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 705+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 705+00 LT.
TYPE ST DROP INLET = 4' X 4'



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SCALE: 100:1 MODEL: 540 Plan and Profile 01

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STA. 708+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-3"
WITH 24" X 221' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+25 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 708+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 708+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 710+25 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 68' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+97 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 710+25 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+25 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 710+97 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-4"
CONNECT TO EX. TRIPLE 5'X3'
R.C. BOX CULVERT STA. 710+97
TYPE ST DROP INLET = 4' X 4'

STA. 710+97 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-4"
CONNECT TO EX. TRIPLE 5'X3'
R.C. BOX CULVERT STA. 710+97
TYPE ST DROP INLET = 4' X 4'

STA. 711+75 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 74' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+97 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 711+75 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 711+75 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 714+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-2"
WITH 24" X 221' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 711+75 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 714+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 714+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 718+09 IN PLACE
18" X 40' C.M. PIPE CULVERT
IN MEDIAN - REMOVE

STA. 717+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 24" X 10' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING INLET
AT STA. 717+06.
TYPE ST DROP INLET = 4' X 4'

STA. 717+20 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 717+20 RT.
TYPE ST DROP INLET = 4' X 4'

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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.		CA0401	82	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

710

715

720

FO CABLE

CENTERLINE MEDIAN

N00°11'39"E

STA. 710+91 - IN PLACE
TYPE T DROP INLET IN MEDIAN
(3'-0" X 2'-6") - REMOVE
TRIPLE 5' X 3' X 172'
RC BOX CULVERT - RETAIN
050 = 332 CFS: D.A. = 243.2 AC.

STA. 717+06 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(5'-3" X 3'-0") - RETAIN AND MODIFY
WITH 36" X 115' R.C. PIPE CULVERT
(40° RT. FWD. SKEW)
& 36" X 126' R.C. PIPE CULVERT
(40° RT. FWD. SKEW)
WITH F.E.S. LT. & RT. - RETAIN
050 = 26 CFS: D.A. = 13.7 AC.

STA. 719+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 176' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 717+06.
TYPE ST DROP INLET = 4' X 4'

STA. 719+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 719+00 RT.
TYPE ST DROP INLET = 4' X 4'

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

24" x 296' R.C. PIPE @ 2.25%
24" x 221' R.C. PIPE @ 1.00%
24" x 68' R.C. PIPE @ 1.00%
24" x 74' R.C. PIPE @ 1.00%
24" x 221' R.C. PIPE @ 1.00%
24" x 10' R.C. PIPE @ 2.20%
24" x 176' R.C. PIPE @ 2.20%
24" x 246' R.C. PIPE @ 2.20%

EXISTING GROUND AT CENTERLINE MEDIAN

708+00 LT.
TOP ELEV. 1337.97
F.L. ELEV. 1333.71

708+00 RT.
TOP ELEV. 1337.92
F.L. ELEV. 1333.96

710+25 LT.
TOP ELEV. 1335.23
F.L. ELEV. 1331.40

710+25 RT.
TOP ELEV. 1335.21
F.L. ELEV. 1331.55

710+97 LT.
TOP ELEV. 1335.01
F.L. ELEV. 1327.09

710+97 RT.
TOP ELEV. 1335.04
F.L. ELEV. 1327.09

+91
(EXIST.)
TOP ELEV. 1335.51
F.L. ELEV. 1327.09

711+75 LT.
TOP ELEV. 1335.27
F.L. ELEV. 1331.46

711+75 RT.
TOP ELEV. 1335.15
F.L. ELEV. 1331.61

714+00 LT.
TOP ELEV. 1337.96
F.L. ELEV. 1333.77

714+00 RT.
TOP ELEV. 1337.80
F.L. ELEV. 1333.93

+06
(EXIST.)
TOP ELEV. 1341.12
F.L. ELEV. 1335.42

717+06
TOP ELEV. 1342.96
EX. F.L. ELEV. 1335.42

717+20 RT.
TOP ELEV. 1344.82
F.L. ELEV. 1338.02

717+20 LT.
TOP ELEV. 1344.91
F.L. ELEV. 1338.19

719+00 RT.
TOP ELEV. 1348.84
F.L. ELEV. 1342.09

719+00 LT.
TOP ELEV. 1348.91
F.L. ELEV. 1342.24

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

1355 1350 1345 1340 1335 1330 1325 1320 1315 1310

706+00 707+00 708+00 709+00 710+00 711+00 712+00 713+00 714+00 715+00 716+00 717+00 718+00 719+00 720+00 721+00

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SCALE: 100:1
MODEL: 540 Plan and Profile 01

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STA. 721+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 24" X 246' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 719+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 721+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 721+50 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 726+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 728+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 726+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 726+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 728+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-10"
WITH 24" X 96' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 729+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 728+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 728+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 729+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-11"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 731+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 729+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 729+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 731+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-0"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 732+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 731+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 731+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 734+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 735+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 734+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 734+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 735+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-3"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 735+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 735+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 732+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 734+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 732+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 732+50 LT.
TYPE ST DROP INLET = 4' X 4'

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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.		CA0401	83	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
JEROME PAUL DAVIS
No. 15560
4/2/15

WATKINS AVE.

4" GAS

FO CABLE

725

730

735

REFER TO SPECIAL DETAILS

N00°11'39"E

CENTERLINE MEDIAN

CONCRETE BARRIER WALL		
STA.	STA.	MEDIAN TYPE
721+72	723+44	SPECIAL
723+44	747+06	B

STA. 723+14 TO STA. 772+47 - IN PLACE
WIRE ROPE SAFETY FENCE - REMOVE

STA. 724+80 - IN PLACE
18" X 65' C.M. PIPE CULVERT
IN MEDIAN - REMOVE

0 25 50 100 FEET
BAR SCALE

I-49

REMOVAL AND DISPOSAL GUARDRAIL			
STA.	STA.	SIDE	LIN. FT.
718+70	723+99	R.M.L. - LT.	529
721+20	726+49	L.M.L. - RT.	529

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

REMOVAL AND DISPOSAL CONCRETE DITCH PAVING (TYPE B)				
STA.	STA.	SIDE	"W"	SQ.YDS.
723+14	772+47	℄ MED.	4'-0"	2193

EXISTING GROUND AT CENTERLINE MEDIAN

721+50 RT.
TOP ELEV. 1354.36
F.L. ELEV. 1347.50

721+50 LT.
TOP ELEV. 1354.38
F.L. ELEV. 1347.65

726+50 LT.
TOP ELEV. 1361.02
F.L. ELEV. 1356.00

726+50 RT.
TOP ELEV. 1361.03
F.L. ELEV. 1356.15

728+50 LT.
TOP ELEV. 1361.26
F.L. ELEV. 1355.41

728+50 RT.
TOP ELEV. 1361.21
F.L. ELEV. 1355.56

729+50 LT.
TOP ELEV. 1361.00
F.L. ELEV. 1355.07

729+50 RT.
TOP ELEV. 1361.00
F.L. ELEV. 1355.22

731+00 LT.
TOP ELEV. 1360.60
F.L. ELEV. 1354.60

731+00 RT.
TOP ELEV. 1360.60
F.L. ELEV. 1354.75

732+50 LT.
TOP ELEV. 1360.34
F.L. ELEV. 1354.14

732+50 RT.
TOP ELEV. 1360.26
F.L. ELEV. 1354.29

734+00 LT.
TOP ELEV. 1359.87
F.L. ELEV. 1353.67

734+00 RT.
TOP ELEV. 1359.81
F.L. ELEV. 1353.82

735+50 LT.
TOP ELEV. 1359.48
F.L. ELEV. 1353.21

735+50 RT.
TOP ELEV. 1359.44
F.L. ELEV. 1353.36

24" x 196' R.C. PIPE @ 0.25%
24" x 96' R.C. PIPE @ 0.25%
24" x 146' R.C. PIPE @ 0.25%
24" x 146' R.C. PIPE @ 0.25%
24" x 146' R.C. PIPE @ 0.25%
24" x 146' R.C. PIPE @ 0.25%

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1375 1370 1365 1360 1355 1350 1345 1340 1335 1330

721+00 722+00 723+00 724+00 725+00 726+00 727+00 728+00 729+00 730+00 731+00 732+00 733+00 734+00 735+00 736+00

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MODEL: 540 Plan and Profile 01
SCALE: 100:1

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STA. 737+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-4"
WITH 24" X 90' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+94 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 737+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-3"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 737+94 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-1"
CONNECT TO EXISTING 42" R.C. PIPE
AT STA. 737+94.
TYPE ST DROP INLET = 5' X 5'

STA. 737+94 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+94 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 741+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-9"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 744+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 741+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 741+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 744+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-8"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 747+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 744+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 744+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 747+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-10"
WITH 24" X 239' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 749+51 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 747+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 747+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 749+43 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-2"
CONNECT TO EXISTING 36" x 179' R.C.
PIPE CULVERT
AT STA. 749+43 LT.
TYPE ST DROP INLET = 5' X 5'

STA. 749+43 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 749+43 LT.
TYPE ST DROP INLET = 4' X 4'

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	84	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome Paul Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

740 745 750

FO CABLE FO CABLE

AIR 770 WATER WATER

CENTERLINE MEDIAN

N00°11'39"E

REFER TO SPECIAL DETAILS

STA. 738+02 - IN PLACE
DBL. 42" X 238' R.C. PIPE CULVERT
WITH TYPE R DROP INLET IN MEDIAN
(4'-3" X 3'-0") OVER
NORTHERN MOST R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
RETAIN AND MODIFY TO M.H.
050 = 81 CFS: D.A. = 35.4 AC.

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
747+06	747+31	SP-1
747+49	747+74	SP-1
747+74	759+06	B

STA. 749+51 IN PLACE
DBL. 36" X 179' R.C. PIPE CULVERT
WITH TYPE R DROP INLET IN MEDIAN
(4'-3" X 3'-0") RETAIN AND MODIFY
OVER NORTHERN MOST R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
050 = 95 CFS: D.A. = 47.0 AC.

I-49

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

737+94 LT.
TOP ELEV. 1358.67
F.L. ELEV. 1350.88

737+94 RT.
TOP ELEV. 1358.66
F.L. ELEV. 1354.89

24" x 146'
R.C. PIPE @ 0.25%

24" x 90'
R.C. PIPE @ 0.25%

737+00 LT.
TOP ELEV. 1359.09
F.L. ELEV. 1352.74

737+00 RT.
TOP ELEV. 1359.12
F.L. ELEV. 1352.89

+02
(EXIST.)
TOP ELEV. 1355.36
F.L. ELEV. 1350.75

EXISTING GROUND AT CENTERLINE MEDIAN

741+00 LT.
TOP ELEV. 1355.09
F.L. ELEV. 1349.34

741+00 RT.
TOP ELEV. 1355.12
F.L. ELEV. 1349.49

24" x 296' R.C. PIPE @ 1.40%

744+00 LT.
TOP ELEV. 1350.80
F.L. ELEV. 1345.10

744+00 RT.
TOP ELEV. 1350.87
F.L. ELEV. 1345.25

24" x 296' R.C. PIPE @ 1.40%

747+00 RT.
TOP ELEV. 1346.64
F.L. ELEV. 1341.01

747+00 LT.
TOP ELEV. 1346.70
F.L. ELEV. 1340.86

24" x 239' R.C. PIPE @ 1.40%

749+43 RT.
TOP ELEV. 1343.23
F.L. ELEV. 1338.55

749+43 LT.
TOP ELEV. 1343.21
F.L. ELEV. 1335.00

+51
(EXIST.)
TOP ELEV. 1339.89
F.L. ELEV. 1334.99

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1375 1370 1365 1360 1355 1350 1345 1340 1335 1330

736+00 737+00 738+00 739+00 740+00 741+00 742+00 743+00 744+00 745+00 746+00 747+00 748+00 749+00 750+00 751+00

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STA. 753+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 756+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 753+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 753+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 756+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 246' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 758+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 756+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 756+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 758+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-8"
WITH 24" X 78' R.C. PIPE CULVERT
OUTLET W/FES ON LT.
(CLASS V)(TYPE 3 BEDDING)
TYPE ST DROP INLET = 4' X 4'
5 CU. YD. DUMPED RIPRAP
(JACK AND BORE)

STA. 758+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 758+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 759+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 106' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 760+60 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 759+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-4"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 759+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 760+60 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 86' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 761+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 761+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-5"
WITH 24" X 60' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 762+14 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 762+14 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-11"
WITH 24" X 182' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 763+97
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 764+25 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-9"
WITH 24" X 90' R.C. PIPE CULVERT
OUTLET W/FES ON LT.
(CLASS V)(TYPE 3 BEDDING)
TYPE ST DROP INLET = 4' X 6'
3 GRATES
5 CU. YD. DUMPED RIPRAP
(JACK AND BORE)

STA. 763+97 - IN PLACE
TYPE R DROP INLET 73' RT. OF MEDIAN
(4'-0" X 3'-0") - RETAIN
WITH 24" X 44' R.C. PIPE CULVERT INLET
& 24" X 72' R.C. PIPE CULVERT TO
TYPE R DROP INLET 2' LT. OF MEDIAN
(4'-0" X 3'-0") - RETAIN AND MODIFY
WITH 24" X 103' R.C. PIPE CULVERT OUTLET
WITH F.E.S. LT. & RT. - RETAIN
Q50 = 12 CFS: D.A. = 8.4 AC.

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6	ARK.			
JOB NO.		CA0401	85	338
(2) PLAN & PROFILE SHEETS				

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome P. Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

755 760 765

CENTERLINE MEDIAN

N00°11'39"E

TO CABLE

REFER TO SPECIAL DETAILS

REFER TO SPECIAL DETAILS

P.C. 762+73.95

STA. 758+97 - IN PLACE
TRIPLE 5' X 3' X 186'
R.C. BOX CULVERT - RETAIN
(24° LT. FWD SKEW)
Q50 = 171 CFS: D.A. = 175.4

STA. 761+50 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 244' R.C. PIPE OUTLET
TO TYPE R DROP INLET - REMOVE
STA. 763+97

I-49
PI = 776+54.50
Δ = 51°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

I-49

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
759+06	759+31	SP-1
759+49	759+74	SP-1
759+74	761+20	B
761+20	762+71	C
762+71	762+96	SP-1
763+14	763+39	SP-1
763+39	773+68	C

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

EXISTING GROUND AT CENTERLINE MEDIAN

753+00 LT.
TOP ELEV. 1338.22
F.L. ELEV. 1333.09

753+00 RT.
TOP ELEV. 1338.21
F.L. ELEV. 1333.24

24" x 296' R.C. PIPE @ 1.40%

756+00 LT.
TOP ELEV. 1334.05
F.L. ELEV. 1328.85

24" x 246' R.C. PIPE @ 1.40%

756+00 RT.
TOP ELEV. 1334.04
F.L. ELEV. 1329.00

758+50 RT.
TOP ELEV. 1330.48
F.L. ELEV. 1325.46

758+50 LT.
TOP ELEV. 1330.58
F.L. ELEV. 1324.93

+97
(EXIST.)
F.L. ELEV. 1323.31

759+50 RT.
TOP ELEV. 1329.40
F.L. ELEV. 1324.08

759+50 LT.
TOP ELEV. 1329.24
F.L. ELEV. 1323.91

24" x 106' R.C. PIPE @ 0.50%

760+60 LT.
TOP ELEV. 1328.29
F.L. ELEV. 1323.29

24" x 86' R.C. PIPE @ 0.50%

761+50 LT.
TOP ELEV. 1328.17
F.L. ELEV. 1322.77

24" x 60' R.C. PIPE @ 0.50%

+50
(EXIST.)
TOP ELEV. 1324.88
F.L. ELEV. 1322.26

762+14 LT.
TOP ELEV. 1328.31
F.L. ELEV. 1322.38

24" x 182' R.C. PIPE @ 0.50%

EX. 244' of 18" R.C. PIPE @ 0.41%

+97
(EXIST.)
TOP ELEV. 1326.49 RT
F.L. ELEV. 1321.48
F.L. IN = 1321.68 RT
TOP ELEV. 1326.85 LT
F.L. ELEV. 1321.26
F.L. OUT = 1320.52 LT

764+25 LT.
TOP ELEV. 1329.23
F.L. ELEV. 1321.26
F.L. OUT = 1320.52

24" x 221' R.C. PIPE @ 2.00%

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1345 1340 1335 1330 1325 1320 1315 1310 1305 1300

751+00 752+00 753+00 754+00 755+00 756+00 757+00 758+00 759+00 760+00 761+00 762+00 763+00 764+00 765+00 766+00

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6	ARK.			
JOB NO.		CA0401	86	338

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
* * *
REGISTERED PROFESSIONAL ENGINEER
Jerome P. Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

STA. 766+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 221' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 764+25 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

I-49
PI = 776+54.50
Δ = 5°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

30' CONC. BARRIER WALL TRANSITION

CENTERLINE MEDIAN

STA. 777+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 780+50 LT.
TYPE ST DROP INLET = 4' X 4'

30' CONC. BARRIER WALL TRANSITION

STA. 769+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-9"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 766+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

STA. 772+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 769+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
773+68	774+01.88	SP-4
776+80.15	777+12	SP-4
777+12	788+48	C

STA. 777+40 IN PLACE
DBL. 5' X 3' X 735' R.C. BOX CULVERT
(32° LT. FWD. SKEW)
RETAIN
Q50 = 178 CFS: D.A. = 84.9 AC.

STA. 774+18.44 - BRIDGE END
I-49 LML BRIDGE (S.B.) IN PLACE
208'-0" CONT. COMPOSITE PLATE GIRDER UNIT
(52' - 104' - 52')
62'-0" CLEAR ROADWAY
BR. NO. A5922
STA. 776+25.61 - BRIDGE END

STA. 774+52.63 - BRIDGE END
I-49 RML BRIDGE (N.B.) IN PLACE
208'-0" CONT. COMPOSITE PLATE GIRDER UNIT
(52' - 104' - 52')
62'-0" CLEAR ROADWAY
BR. NO. B5922
STA. 776+66.27 - BRIDGE END

STA. 780+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 783+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 778+24 TO STA. 791+45 - IN PLACE
WIRE ROPE SAFETY FENCE
REMOVE

I-49

HWY. 412

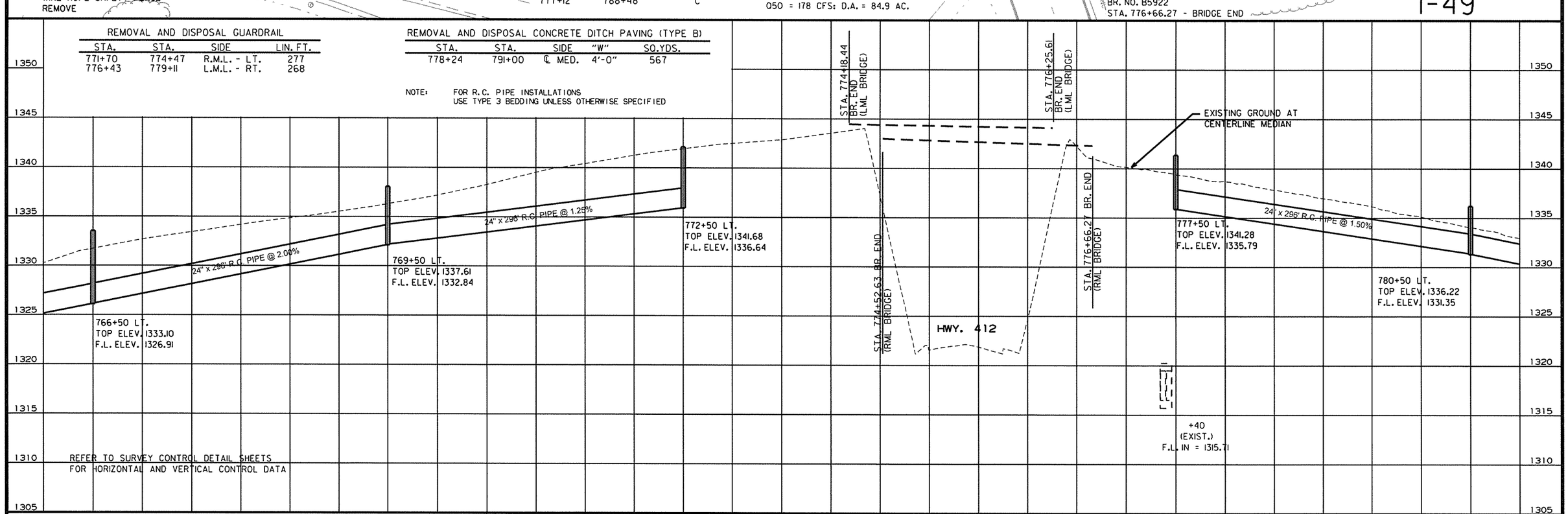
REMOVAL AND DISPOSAL GUARDRAIL

STA.	STA.	SIDE	LIN. FT.
771+70	774+47	R.M.L. - LT.	277
776+43	779+11	L.M.L. - RT.	268

REMOVAL AND DISPOSAL CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ.YDS.
778+24	791+00	℄ MED.	4'-0"	567

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



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				6	ARK.			
				JOB NO.		CA0401	87	338
				(2) PLAN & PROFILE SHEETS				

STA. 786+47 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
CONNECT TO EXISTING 18"
R.C. PIPE CULVERT
AT STA. 786+47 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 788+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-5"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 789+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 789+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-7"
WITH 24" X 131' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 790+85 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 790+85 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-9"
WITH 24" X 11' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 791+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 791+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
STUB OUT AND CAP FOR FUTURE CONNECTION
TYPE ST DROP INLET = 4' X 6'
3 GRATES

CONCRETE BARRIER WALL

STA.	STA.	MEDIAN TYPE
788+48	788+73	SP-1
788+91	789+41	SP-1
789+59	789+84	SP-1
789+84	791+00	C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
Jerry P. Davis
No. 15560
4/2/15
JEROME PAUL DAVIS

785 S 48TH ST 790 795

CENTERLINE MEDIAN

REFER TO SPECIAL DETAILS

RETAIN EXISTING W.R.S.F.

+45

N51°39'12"E

OH LINE

STA. 783+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 293' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 786+47 LT.
TYPE ST DROP INLET = 4' X 4'

I-49
PI = 776+54.50
Δ = 51°27'32.5" RT.
D = 02°00'00"
T = 1380.55'
L = 2572.95'
PC = 762+73.95
PT = 788+46.90
MATCH EXISTING SUPERELEVATION

STA. 786+47 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") -REMOVE
WITH 18" X 100' R.C. PIPE OUTLET
TO RT. WITH F.E.S.

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

STA: 791+00 INSTALL
CRASH CUSHION IN MEDIAN = 1EACH

STA: 791+45 INSTALL
WIRE ROPE SAFETY FENCE END TERMINAL = 1EACH

I-49

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

NOTE: DROP INLETS FROM STA. 788+00 TO STA: 791+00 SHALL BE INSTALLED UNDER CA0401 AND CAPPED. CONNECTION WILL BE MADE TO FUTURE SYSTEM UNDER CA1101.

24" x 296' R.C. PIPE @ 2.00%
24" x 293' R.C. PIPE @ 2.00%
24" x 146' R.C. PIPE @ 1.00%
24" x 131' R.C. PIPE @ 0.60%
24" x 11' R.C. PIPE @ 1.00%

783+50 LT.
TOP ELEV. 1330.39
F.L. ELEV. 1325.32

786+47 LT.
TOP ELEV. 1324.23
F.L. ELEV. 1319.07

788+00 LT.
TOP ELEV. 1321.23
F.L. ELEV. 1313.80

789+50 LT.
TOP ELEV. 1318.85
F.L. ELEV. 312.24

791+00 LT.
TOP ELEV. 1316.98
F.L. ELEV. 1311.17

790+85 LT.
TOP ELEV. 1317.11
F.L. ELEV. 1311.35

791+00 RT.
TOP ELEV. 1316.98
F.L. ELEV. 1311.27
F.L. ELEV. 1311.17

STA. 791+00.00
END JOB CA0401
(LOG MILE 71.83)

EXISTING GROUND AT CENTERLINE MEDIAN

REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA

1335 1330 1325 1320 1315 1310 1305 1300 1295 1290

781+00 782+00 783+00 784+00 785+00 786+00 787+00 788+00 789+00 790+00 791+00 792+00 793+00 794+00 795+00 796+00

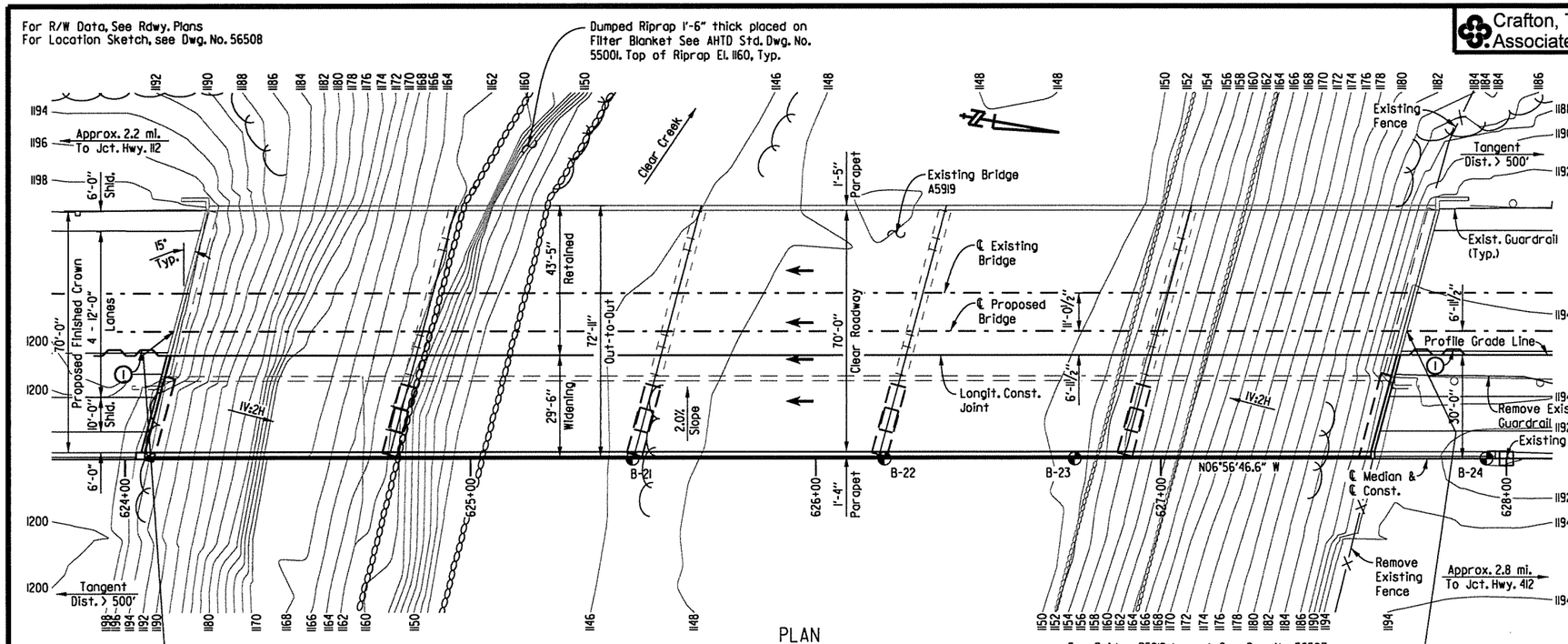
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				6	ARK.			
				JOB NO.		CA0401	88	338
				A5919		LAYOUT		56506

For R/W Data, See Rdwy. Plans
For Location Sketch, see Dwg. No. 56508

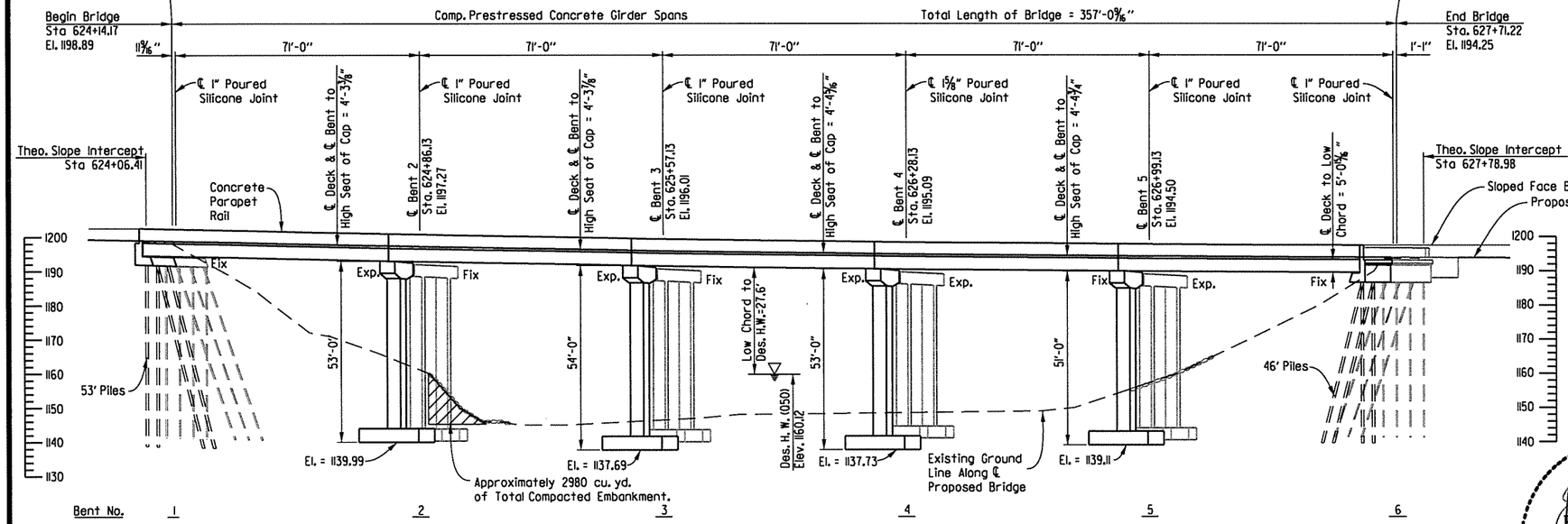


PLAN

Existing dumped riprap at intermediate bents disturbed during construction or regrading of embankment slopes shall be replaced as directed by the Engineer. This work shall be paid for at the unit price bid for "Dumped Riprap". Filter blanket disturbed shall be replaced and paid for under the item "Filter Blanket". Quantities of dumped riprap and filter blanket are estimated. Actual quantities shall be determined in the field.

① SHORING may be required during construction. Payment for the work, if required, shall be considered subsidiary to the Pay item "Unclassified Excavation for Structures - Bridge." See SP Job No. CA0401 "Shoring."

For Bridge B5919 Layout, See Dwg. No. 56507
Remove Existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type I Special Approach Slabs at both ends of Bridge, see Dwg. Nos. 56528 & & 56530. Use Type I Special Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. Nos. 56531.



ELEVATION

Note: Elevations shown are along ℄ Proposed Bridge.
For Soil Boring Information, see Dwg. No. 56508

GENERAL NOTES

BENCH MARK: TBM 803, 21.09' Lt. of Sta. 624+10.19, Elev. 1199.36

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with current interim specifications (New construction only).

LIVE LOADING: HL-93 SEISMIC PERFORMANCE ZONE: I S_{D1} = 0.052 SITE CLASS: B

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (slab, parapet, diaphragm)	f'c = 4,000 psi
Class S Concrete (Prestressed Girders)	f'c = 6,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (Grade 60 AASHTO M 31 or M 322 Type A)	fy = 60,000 psi
Prestressing Strands (AASHTO M203)	fpu = 270,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PILING: All new piling shall be HP 12x53 (Gr. 50) and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 96 tons per pile into the material designated as hard limestone on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in End Bent 1 & 6 to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

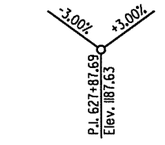
FOOTINGS: Footings shall be set a minimum of 2'-0" into material designated as Hard Limestone on the boring legend and shall have a minimum cover above top of footing of 2'. Foundations for footings shall be prepared in accordance with Subsection 801.04 of the Standard Specifications. Rock excavations 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.

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.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and roadway face and top of parapet rail of the new construction including the existing deck surface to be retained.

DETAIL DRAWINGS:	DRAWING NUMBER
Stage Construction	56509-56510
End Bents	56511-56515
Intermediate Bents	56516-56518
Elastomeric Bearings	56519
Widening Details	56520-56527
Type Special Approach Slabs	56528-56530
Type Special Approach Gutters	56531-56532

For Additional General Notes see Sheet Dwg. No. 56507



VERTICAL CURVE DATA
900' V.C.
Along Profile Grade Line (Bridge A & B)

HYDRAULIC DATA

(Based on Existing Plans Vertical Datum)

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL W.S. ELEVATION	W.S. ELEVATION W/BACKWATER
	YEARS	CFS	FEET	FEET
DESIGN	50	16,950	1158.99	1160.12
BASE	100	20,067	1159.71	1161.16
EXTREME	500	26,327	1160.99	1163.06
OVERTOPPING	>500	N/A	N/A	N/A

*Unconstricted water surface elevation without structure or roadway approaches.
100 yr. backwater elevation for existing structure = 1161.16 feet
Proposed Low Bridge Chord Elev. = 1187.69 feet
Drainage Area = 34.84 sq. miles
Historical H.W. Elev. = 1164.9 feet

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 1 OF 3

LAYOUT OF BRIDGE 'A' OVER CLEAR CREEK
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: CAW DATE: 12-08-14 SCALE: 1" = 20'
DESIGNED BY: JKJ DATE: 10-24-14

BRIDGE NO. A5919 DRAWING NO. 56506

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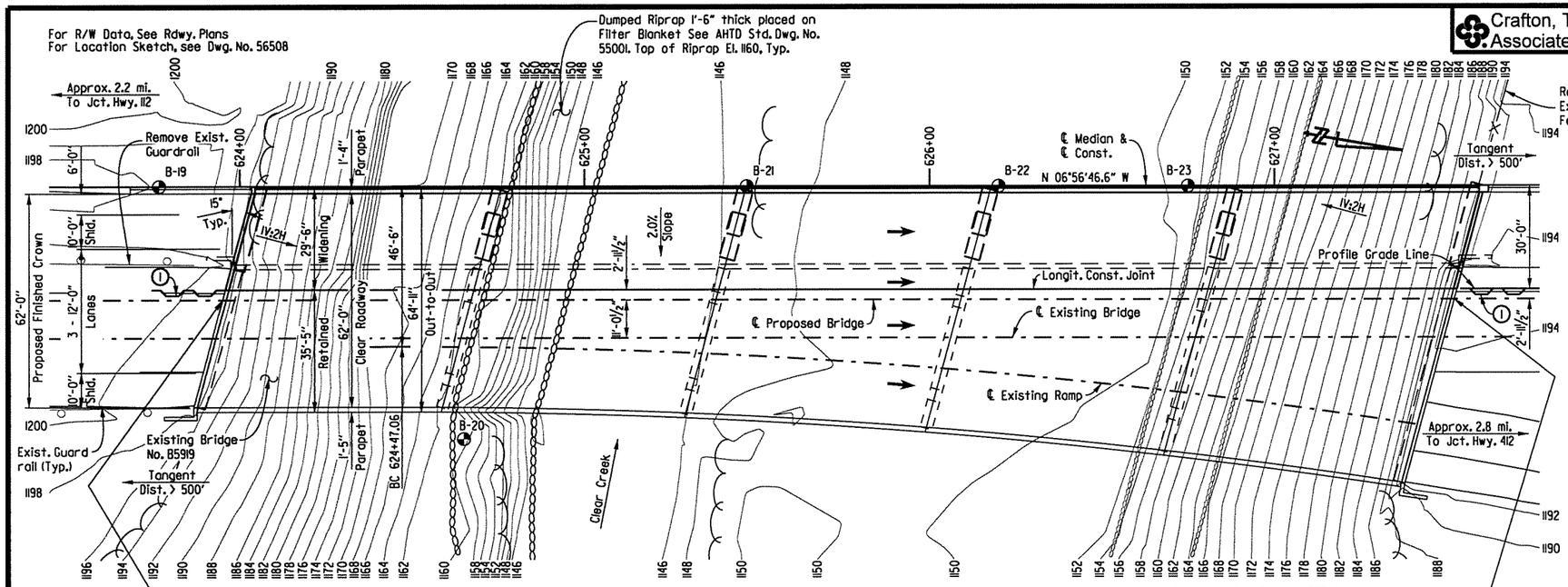
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	89	338
				B5919		LAYOUT		56507

For R/W Data, See Rdwy. Plans
For Location Sketch, see Dwg. No. 56508

Dumped Riprap 1'-6" thick placed on Filter Blanket See AHTD Std. Dwg. No. 55001. Top of Riprap El. 1160, Typ.

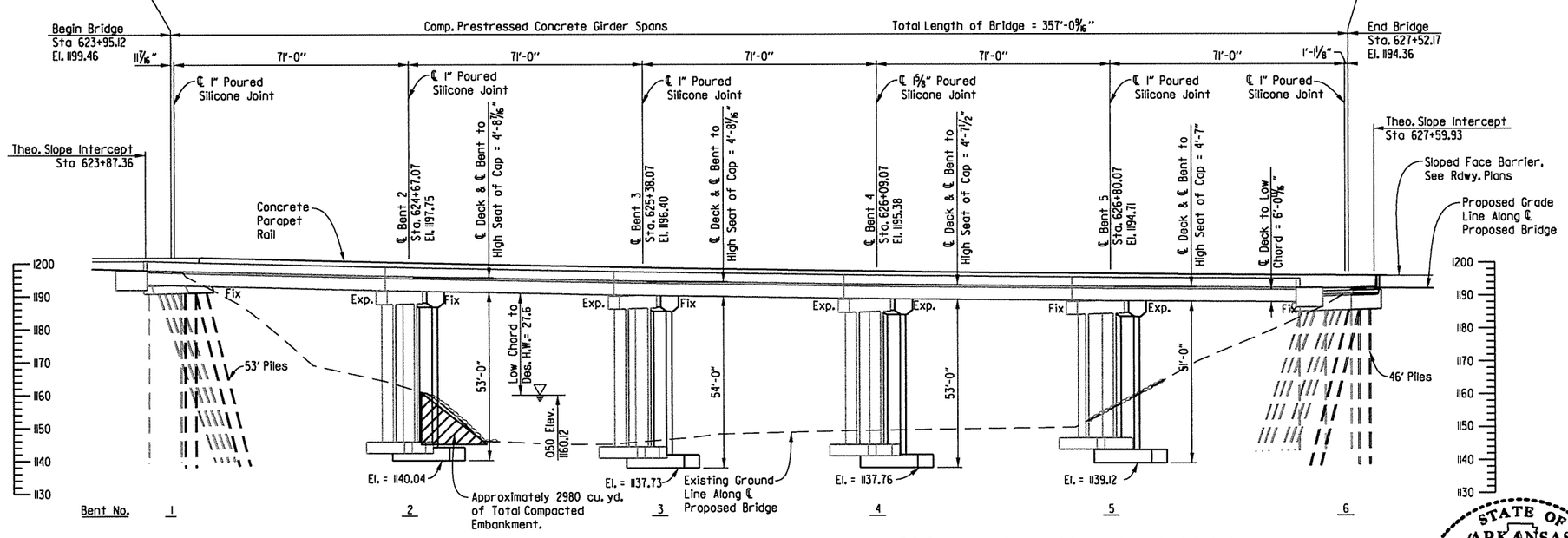


① SHORING may be required during construction. Payment for the work, if required, shall be considered subsidary to the Pay item "Unclassified Excavation for Structures - Bridge." See SP Job No. CA0401 "Shoring."

PLAN

For Bridge A5919 Layout, See Dwg. No. 56506

Remove Existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type I Special Approach Slabs at both ends of Bridge, see Dwg. Nos. 56529 & 56530. Use Type I Special Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. Nos. 56532.



ELEVATION

Note: For Soil Boring Information, see Dwg. No. 56508
For Hydraulic Data, See Bridge 'A' Layout
Elevations shown are along ℄ Proposed Bridge

Existing dumped riprap at intermediate bents disturbed during construction or regrading of embankment slopes shall be replaced as directed by the Engineer. This work shall be paid for at the unit price bid for "Dumped Riprap". Filter blanket disturbed shall be replaced and paid for under the item "Filter Blanket". Quantities of dumped riprap and filter blanket are estimated. Actual quantities shall be determined in the field.

GENERAL NOTES (con't)

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, modifying the existing end bents, constructing new intermediate bents to the median side of existing bents, removing and replacing portions of the concrete deck, removing and replacing portions of the existing dumped riprap, and replacing the joint seals. For additional requirements in conducting the work, see Section 821.

EXISTING BRIDGE: The Existing Bridge No. A5919 is 50.83' wide and 357.05' long, and consists of 7 1.00' simple span prestressed concrete girder unit, reinforced concrete slab spans, multi-column intermediate bents on spread footings, and end bents on steel piles. The Existing Bridge No. B5919 is approximately 357.05' long with varying width, and consists of 71.00' flared simple span prestressed concrete girder unit, reinforced concrete slab spans, multi-column intermediate bents on spread footings, and end bents on steel piles. Plans of the existing bridges may be obtained upon request from Construction Contract Procurement Section of the Program Management Division.

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. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5919) and "Modification of Existing Bridge Structure (Br. No. B5919)".

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

MAINTENANCE OF TRAFFIC: See Roadway Plans and Special Provisions for more information.

See Dwg. No. 56506 for Vertical Curve Data

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 2 OF 3

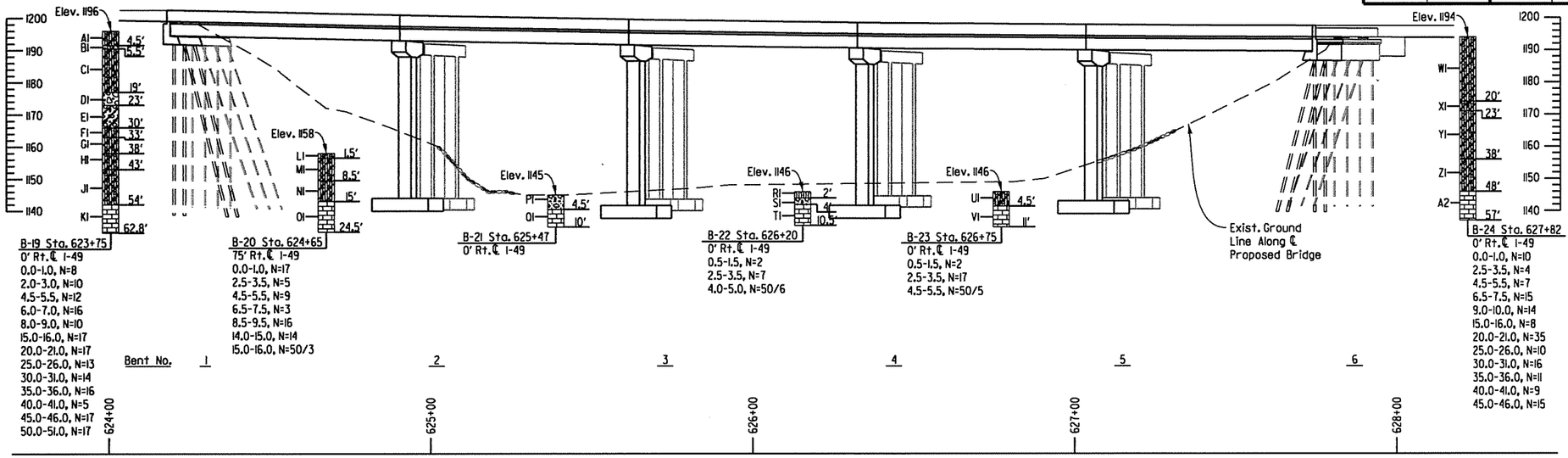
LAYOUT OF BRIDGE 'B' OVER CLEAR CREEK
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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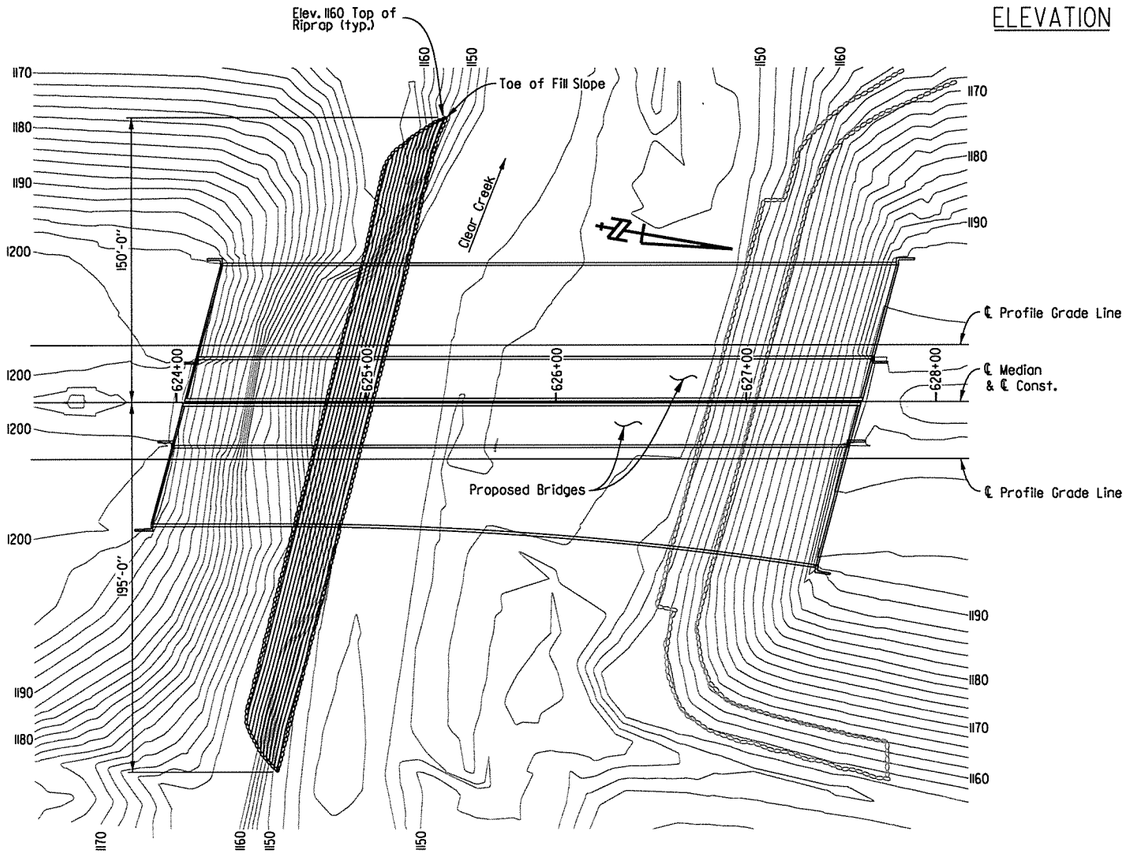
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Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	90	338
A&B5919		LAYOUT		56508



ELEVATION



LOCATION SKETCH

Scale: 1" = 40'

Place Total Compacted Embankment with 2:1 ends slopes as shown. Taper ends of embankment to meet the existing banks. Approximately 2980 cu. yd. of total embankment.

BORING LEGEND

A1. Firm reddish brown silty clay with chert and limestone fragments (fill)
B1. Medium dense light gray weathered chert and limestone fragments with a little reddish brown silty clay (fill)
C1. Stiff reddish brown silty clay with chert fragments and dark red clay seams (fill)
D1. Medium dense white and gray weathered chert fragments with a little reddish brown silty clay (fill)
E1. Stiff reddish brown clay with chert fragments (fill)
F1. Stiff gray, tan and reddish brown silty clay with fine chert fragments and ferrous stains and nodules (fill)
G1. Stiff red, brown, tan and gray silty clay with chert fragments and ferrous stains and nodules (fill)
H1. Soft gray silty clay with few chert fragments
J1. Low hardness white and gray weathered chert with some red and dark brown silty clay
K1. Hard white and gray limestone with occasional chert nodules and inclusions
L1. Stiff dark brown and reddish brown silty clay with chert fragments and weathered limestone seams
M1. Soft dark brown silty clay, slightly sandy with trace weathered limestone and chert fragments
N1. Stiff brown silty clay with weathered chert fragments
O1. Hard white and light gray limestone with chert nodules and inclusions
P1. Loose brown fine sand and fine coarse gravel (fill from access grading)
Q1. Hard white and gray limestone with occasional chert nodules and inclusions
R1. Very loose brown silty fine sand, slightly clayey
S1. Loose brown fine sand and fine to coarse gravel
T1. Hard white and gray limestone with occasional chert nodules and inclusions
U1. Very soft brown silty clay, sandy with crushed stone (fill)
V1. Hard white and gray limestone with occasional chert nodules and inclusions
W1. Firm to stiff brown silty clay with chert fragments (fill)
X1. Dense gray weathered chert fragments with reddish brown silty clay seams (fill)
Y1. Firm to stiff reddish brown silty clay with chert fragments (fill)
Z1. Firm dark gray silty clay with few chert fragments
A2. Hard white and light gray limestone with occasional chert nodules and inclusions

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 3 OF 3

LAYOUT OF BRIDGE 'A & B' OVER CLEAR CREEK

HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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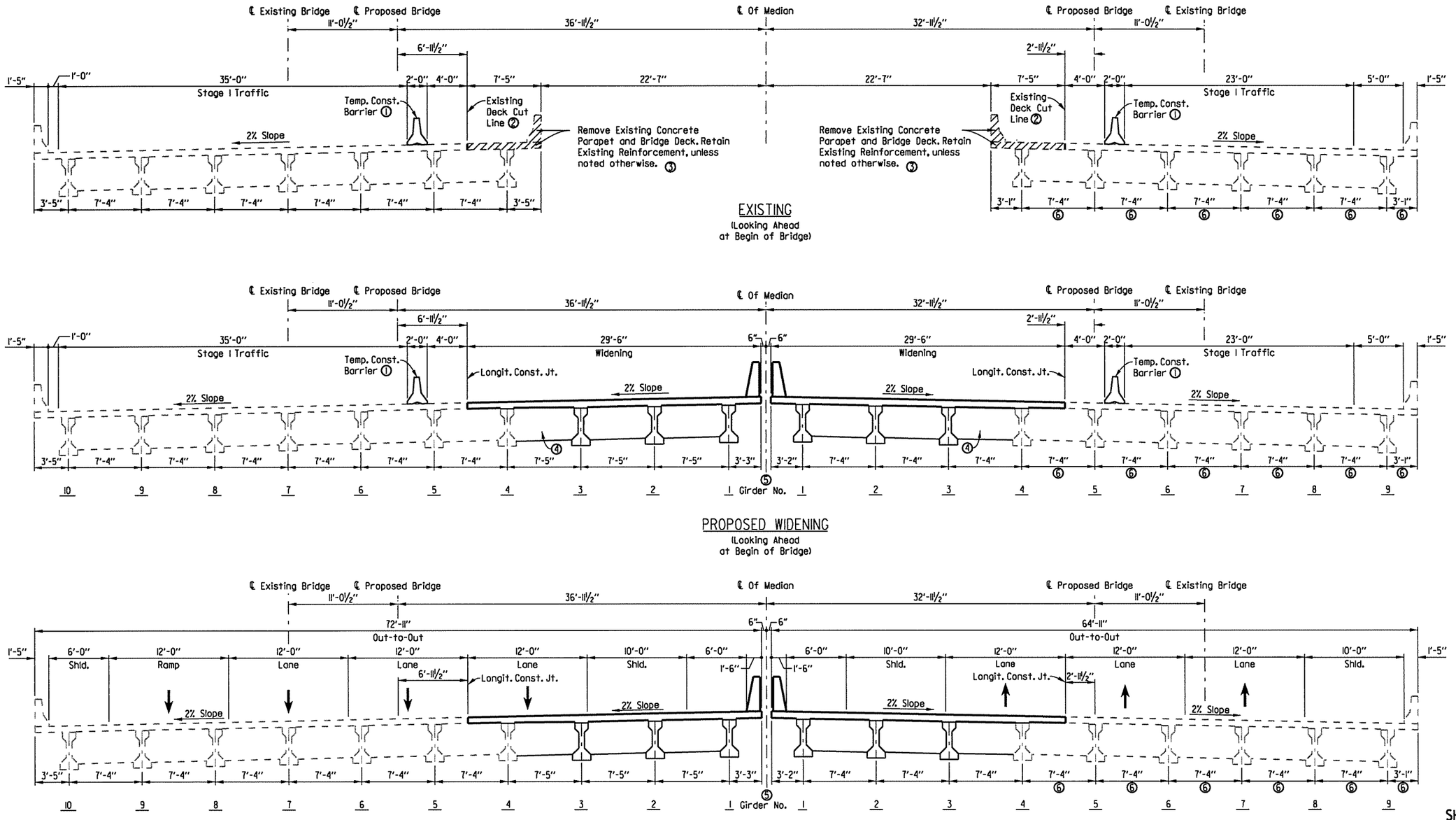
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Crafton, Tull & Associates Inc.

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6	ARK.			
JOB NO.		CA0401	91	338
A&B5919		STAGE CONST.		56509



SOUTHBOUND BRIDGE A5919

NORTHBOUND BRIDGE B5919

Notes:

① For Details of Temporary Precast Barrier, See Std. Dwg. No. TC-4 (Do not connect to existing deck).

② Partial Saw Cut Depth. See Section 821.

③ Care shall be exercised during the removal of the existing deck to ensure that the girders, diaphragms and reinforcement are not damaged. Damaged items that are not salvageable as determined by the Engineer, shall be replaced by the contractor at no additional payment.

④ Install new diaphragms prior to deck pour.

⑤ The girder numbers have been renumbered from the original plans to provide consistency to the plan details.

⑥ The number of girders and girder spacing varies for each span. See original plans for additional details.

The contractor may propose a different sequence of construction to the Engineer for approval.

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 1 OF 2

STAGE CONSTRUCTION
DETAILS OF BRIDGES OVER CLEAR CREEK
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

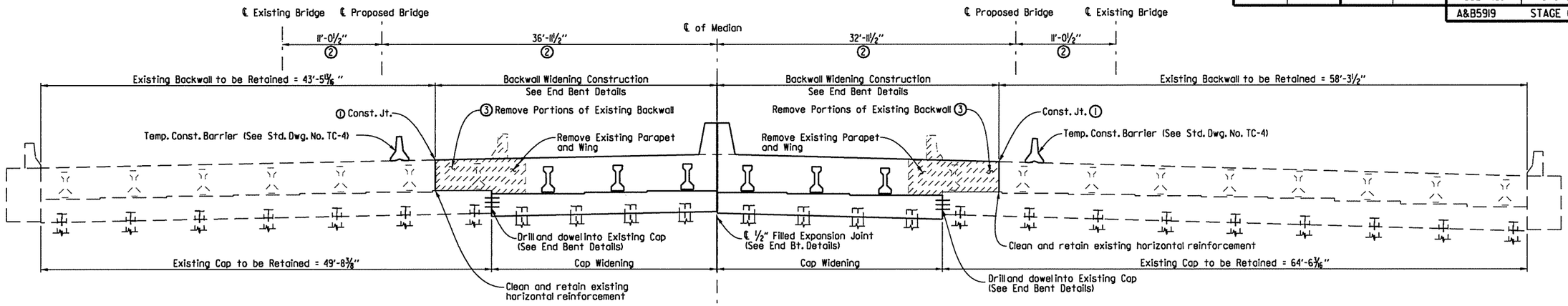
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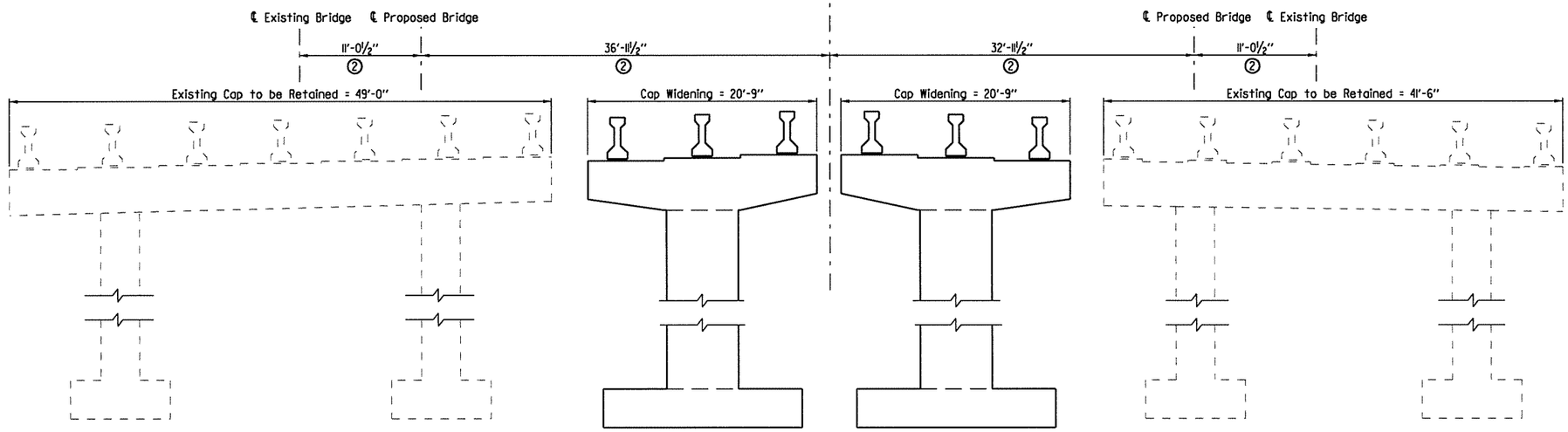
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				6	ARK.			
				JOB NO.		CA0401	92	338
				A&B5919		STAGE CONST.		56510



SOUTHBOUND BRIDGE A5919 Bent 6
(Looking Ahead, Dimensions Along ℄ Bent u.n.o.)
Bent 1 Similar

NORTHBOUND BRIDGE B5919 Bent 6
(Looking Ahead, Dimensions Along ℄ Bent u.n.o.)
Bent 1 Similar

① Saw cut and remove wing and portions of existing backwall.
② Dimensions are measured perpendicular to ℄ Median.
③ Clean and retain portions of existing reinforcement. See end bent details.



SOUTHBOUND BRIDGE A5919 Int. Bent 2
(Looking Ahead, Dimensions Along ℄ Bent)
Bent 3, 4, 5 Similar

NORTHBOUND BRIDGE B5919 Int. Bent 2
(Looking Ahead, Dimensions Along ℄ Bent)
Bent 3, 4, 5 Similar

Note: See Dwg. No. 56516 and 56517 for additional details.

Dimensions are along the ℄ Bent, unless otherwise noted.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 2 OF 2

STAGE CONSTRUCTION
DETAILS OF BRIDGES OVER CLEAR CREEK
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

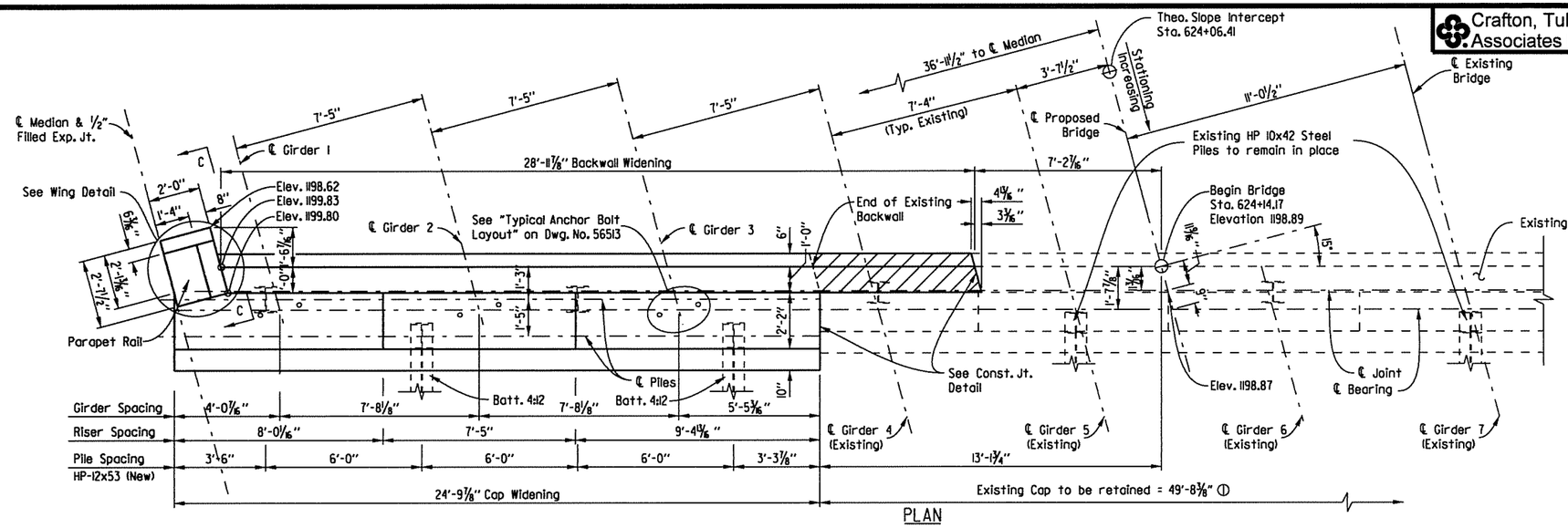
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BRIDGE NO. A&B5919 DRAWING NO. 56510

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Crafton, Tull & Associates Inc.

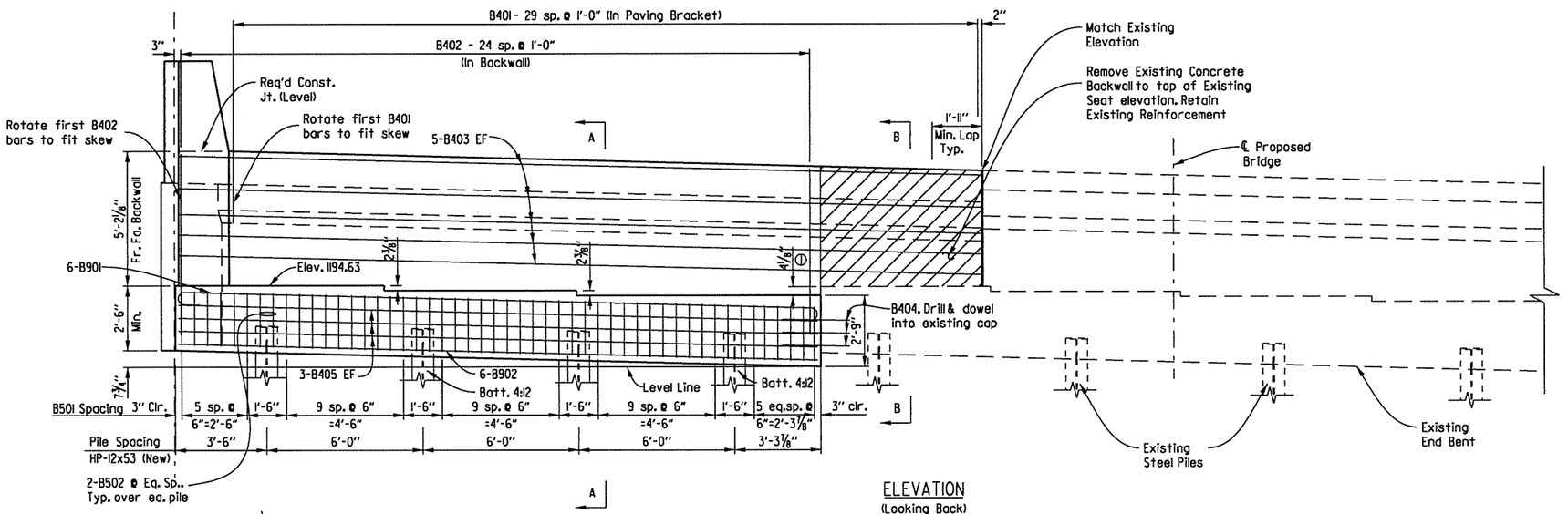
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6	ARK.			
JOB NO.		CA0401	93	338
A5919		END BENT 1		5651l



PLAN

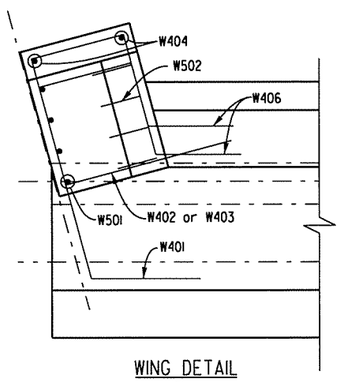
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ELEVATION

(Looking Back)

Scale: ⅜" = 1'-0"



WING DETAIL

Scale: ¾" = 1'-0"

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing deck surface to be retained and roadway face and top of parapet rails of the new construction.

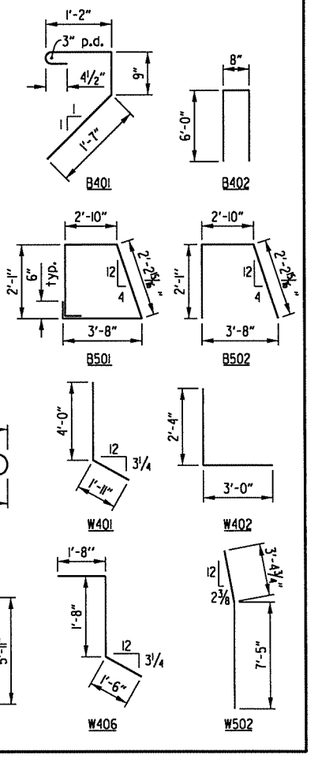
① Based on Existing plans. The Contractor shall verify dimensions in the field.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	30	3'-11"	2"
B402	25	12'-6"	2"
B403	10	30'-10"	Str.
B404	6	2'-11"	Str.
B405	6	24'-6"	Str.
B501	42	11'-4"	2½"
B502	8	7'-0"	2½"
B901	6	27'-0"	9"
B902	6	24'-6"	Str.
W401	3	5'-10"	3"
W402	2	5'-2"	3"
W403	2	4'-8"	3"
W404	2	6'-11"	3"
W405	10	1'-8"	Str.
W406	7	4'-9"	3"
W501	4	10'-10"	Str.
W502	4	10'-10"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Jose Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

DETAILS OF END BENT 1 - BRIDGE A

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TRW DATE: 11-03-14 FILENAME: bca0401a1_bll.dgn

CHECKED BY: CAW DATE: 12-09-14 SCALE: SEE DETAILS

DESIGNED BY: JKJ DATE: 10-24-14

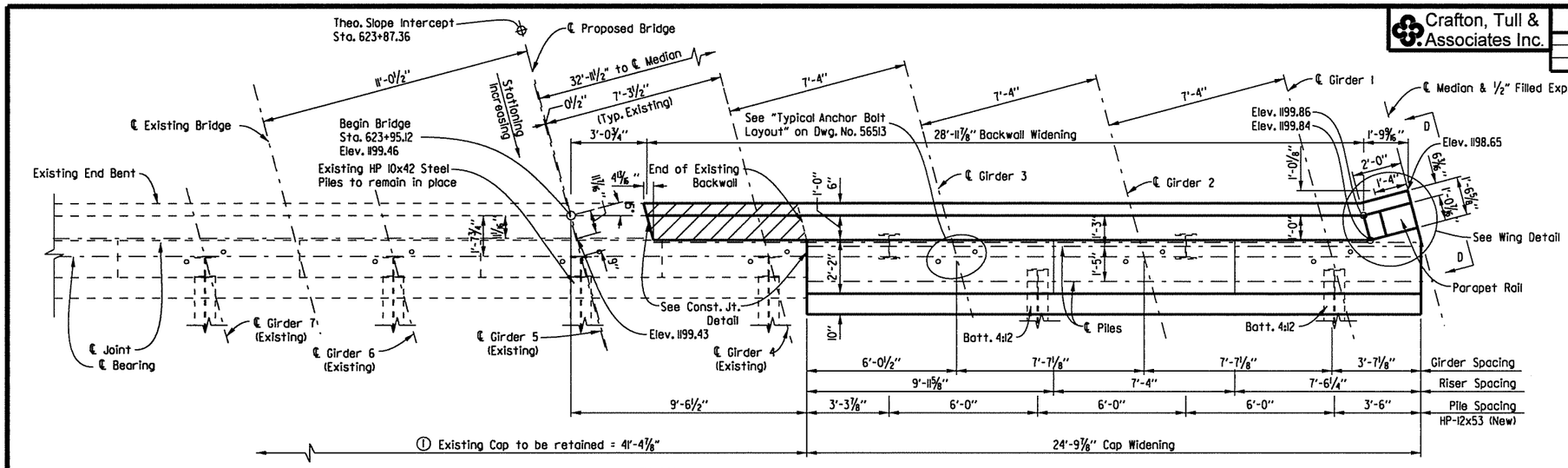
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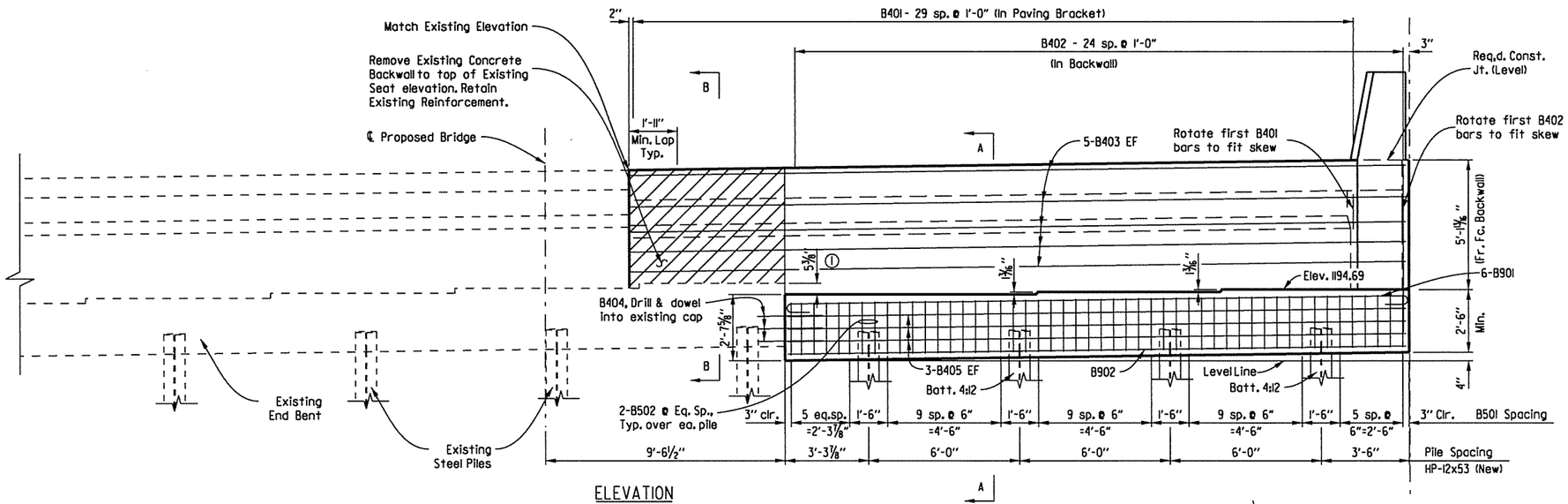
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6	ARK.			
JOB NO.		CA0401	94	338
B5919		END BENT 1		56512



PLAN

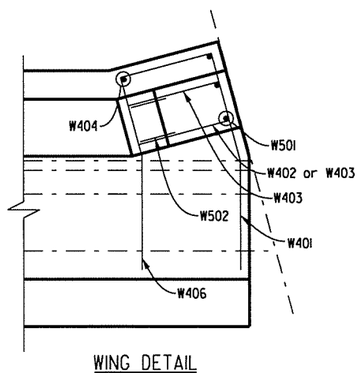
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ELEVATION

(Looking Back)

Scale: ⅜" = 1'-0"



WING DETAIL

Scale: ¾" = 1'-0"

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing deck surface to be retained and roadway face and top of parapet rails of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56519
For Additional Details & General Notes, See Dwg. No. 56513

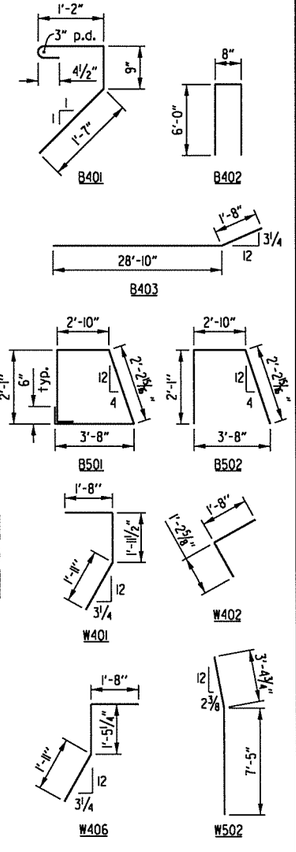
① Based on Existing plans. The Contractor shall verify dimensions in the field.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	30	3'-11"	2"
B402	25	12'-6"	2"
B403	10	30'-6"	2"
B404	6	2'-11"	Str.
B405	6	24'-6"	Str.
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B502	8	7'-0"	2½"
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B902	6	24'-6"	Str.
W401	3	5'-5"	3"
W402	4	2'-9"	3"
W403	4	2'-4"	3"
W404	2	6'-11"	3"
W405	10	9"	Str.
W406	3	4'-11"	3"
W501	2	10'-10"	Str.
W502	2	10'-10"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

DETAILS OF END BENT 1 - BRIDGE B

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

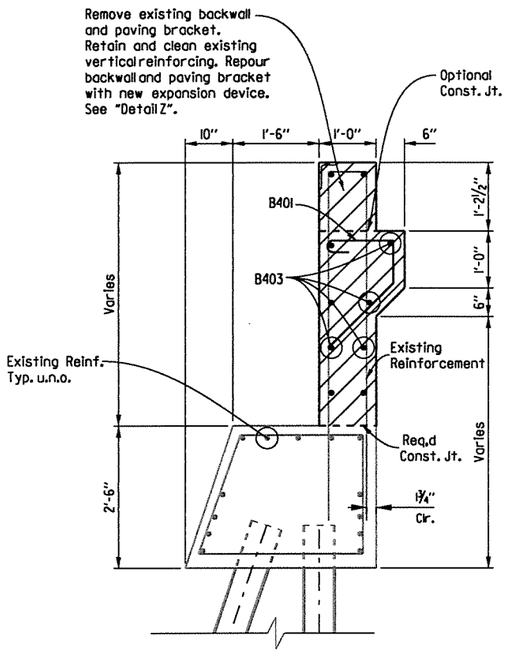
LITTLE ROCK, ARK.

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CHECKED BY: CAW DATE: 12-09-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 10-24-14

BRIDGE NO. B5919 DRAWING NO. 56512

USER: lw7300
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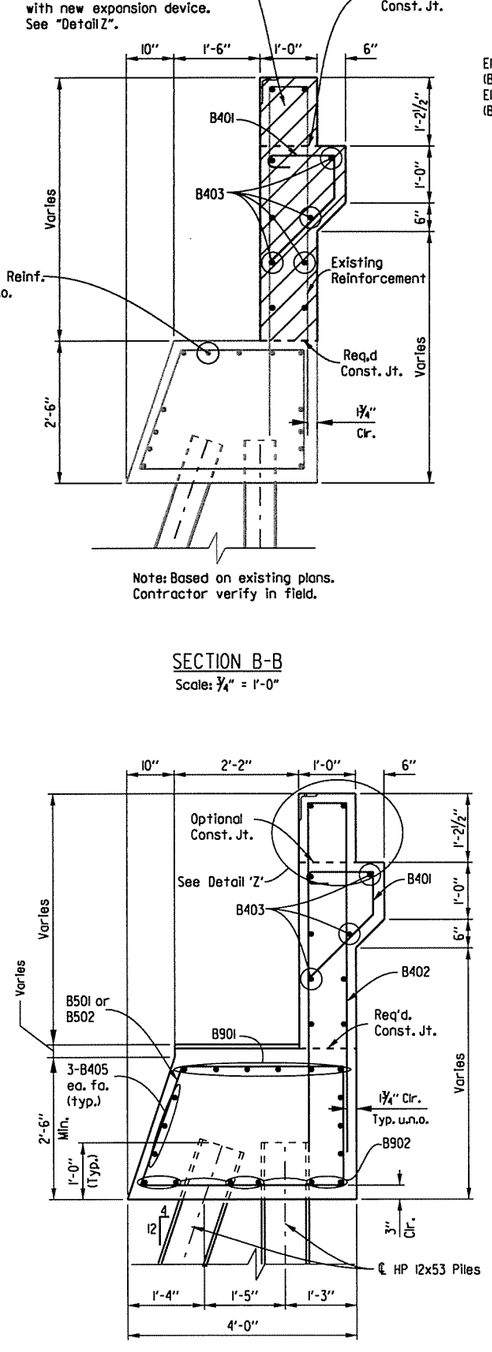
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Note: Based on existing plans. Contractor verify in field.

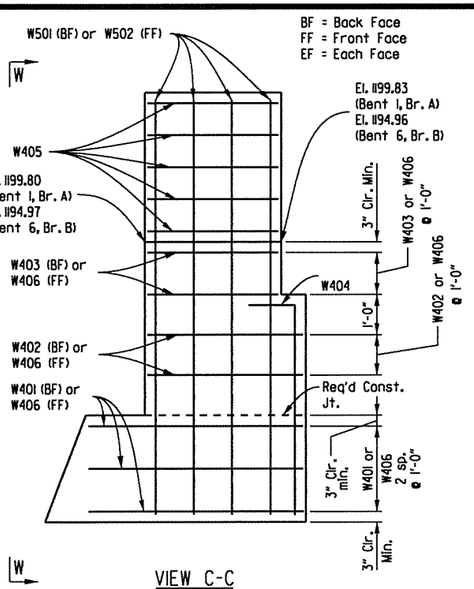
SECTION B-B

Scale: ¾" = 1'-0"



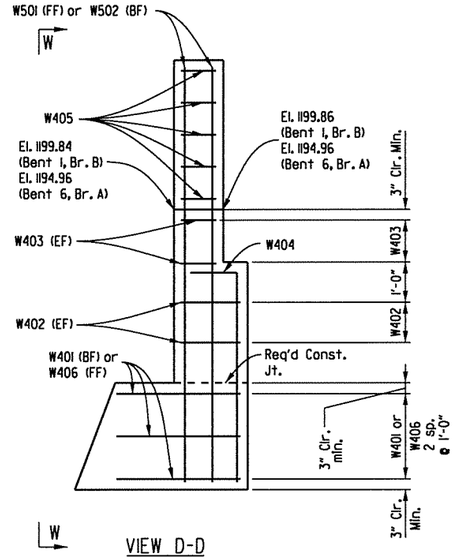
SECTION A-A

Scale: ¾" = 1'-0"



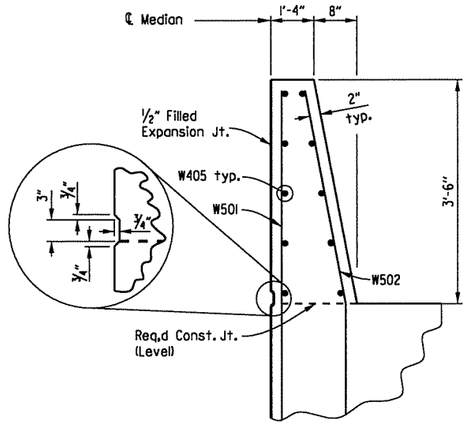
VIEW C-C

No Scale



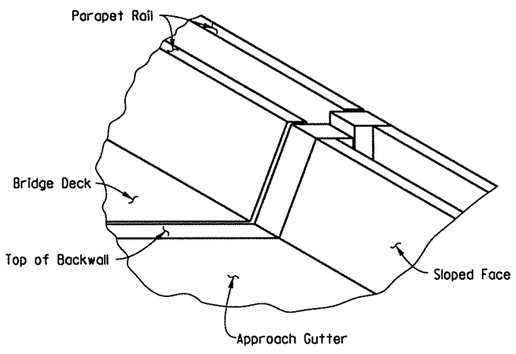
VIEW D-D

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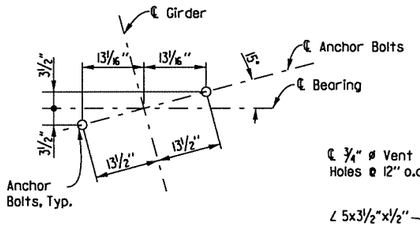
DETAIL W-W

No Scale



DETAIL OF BARRIER AT BRIDGE END

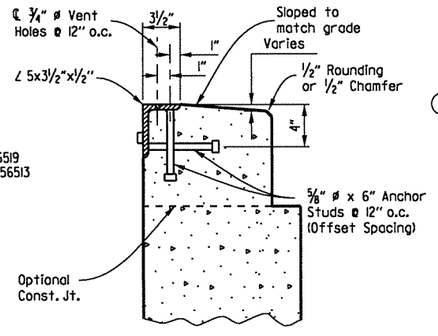
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TYPICAL ANCHOR BOLT LAYOUT

Scale: ¾" = 1'-0"

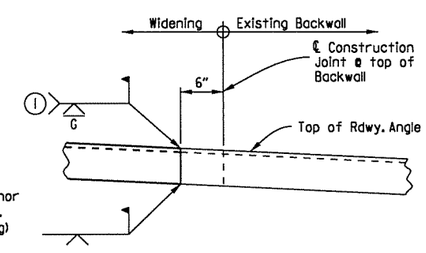
Note:
For Details of Elastomeric Bearings, See Dwg. No. 56519
For Additional Details & General Notes, See Dwg. No. 56513



Note: For additional Joint Details, See Dwg. No. 56527

DETAIL Z

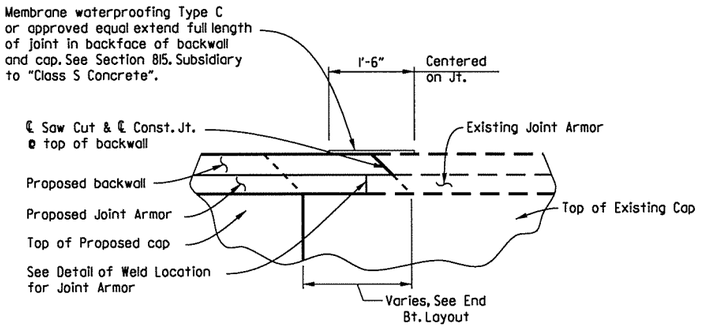
No Scale



1 Grind flush from top of deck to top of Bumper Plate.

DETAIL OF WELD LOCATION FOR JOINT ARMOR

Looking Back - Bridge A Bent 1 Shown (Others Similar)
No Scale



CONSTRUCTION JOINT DETAIL

(Bent 1, Bridge A Shown - Others Similar)
No Scale

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

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

GENERAL NOTES

All Concrete shall be Class "S" and poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All Reinforcing Steel shall be Grade 60 (fy = 60,000 psi) AASHTO M 31 or M 322, Type A with mill test reports.

The backwall shall not be poured before the girders are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Detail Z for additional information.

Structural Steel in end bents shall be AASHTO M 270, Gr. 50 and shall be included in the bid item "Structural Steel in Beam Spans (M270, Gr. 50)." Structural Steel in the end bent shall be cleaned and painted in accordance with Section 638. This work will not be paid for separately but will be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50)".

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

Drill and grout bars where shown using an approved cement or epoxy system from the QPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.

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. A5919)" and "Modification of Existing Bridge Structure (Br. No. B5919)".

Payment for ½" filled expansion joint material shall be considered subsidiary to "Class S Concrete-Bridge".

For additional information, see Layout.

STATE OF ARKANSAS
Joel K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	95	338
				A&B5919		END BENT DETAILS		56513

DETAILS OF END BENTS 1 & 6 - BRIDGES A & B

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

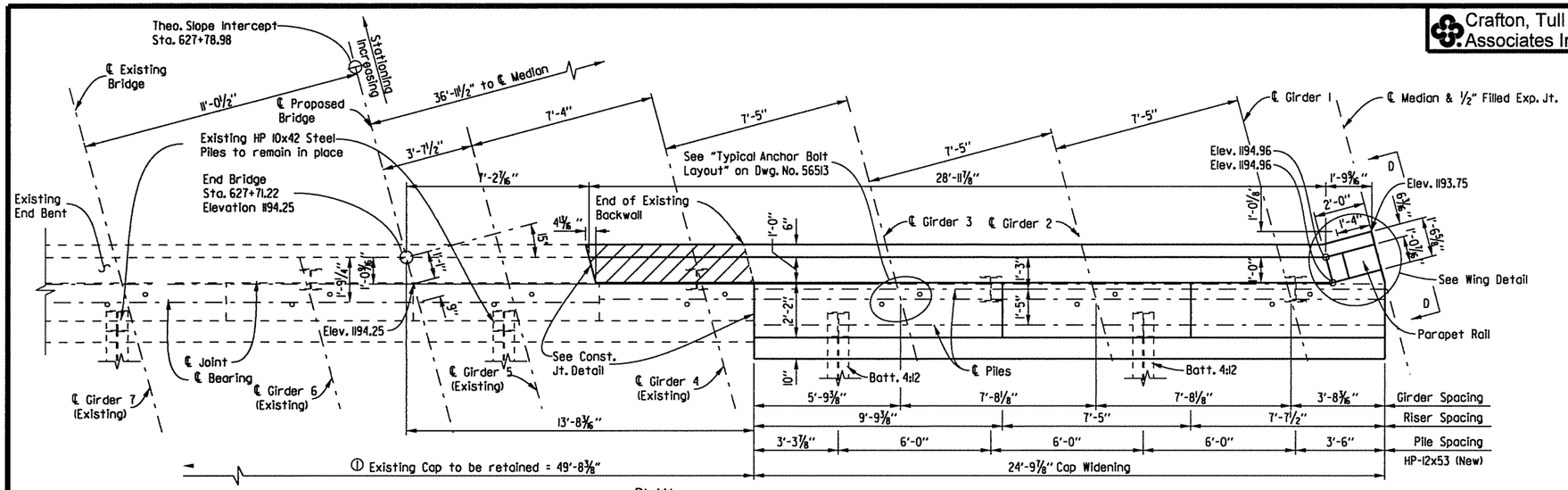
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CHECKED BY: CAW	DATE: 12-09-14	SCALE: SEE DETAILS	
DESIGNED BY: JKJ	DATE: 10-24-14		

BRIDGE NO. A&B5919 DRAWING NO. 56513

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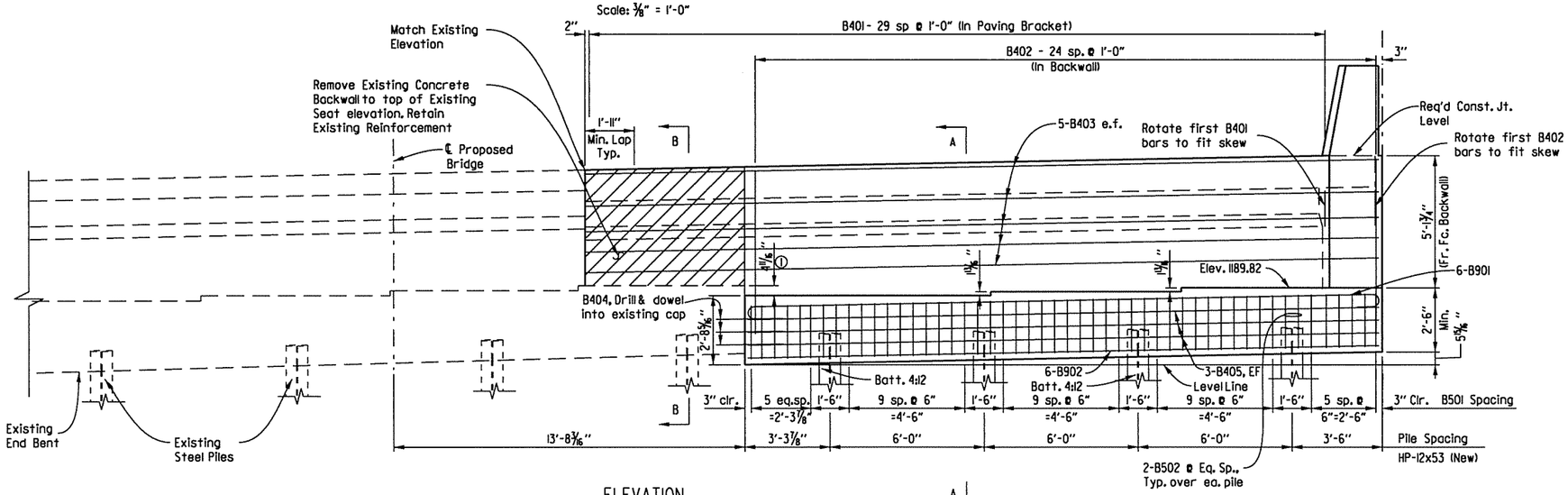
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	96	338
				A5919		END BENT 6		56514



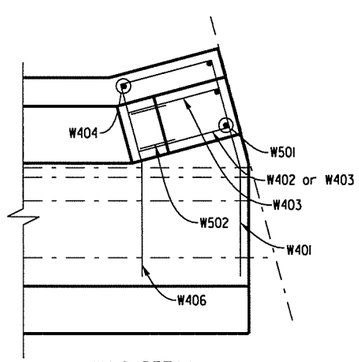
PLAN

Scale: ⅜" = 1'-0"



ELEVATION

(Looking Ahead)
Scale: ⅜" = 1'-0"



WING DETAIL

Scale: ¾" = 1'-0"

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing deck surface to be retained and roadway face and top of parapet rails of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56519
For Additional Details & General Notes, See Dwg. No. 56513

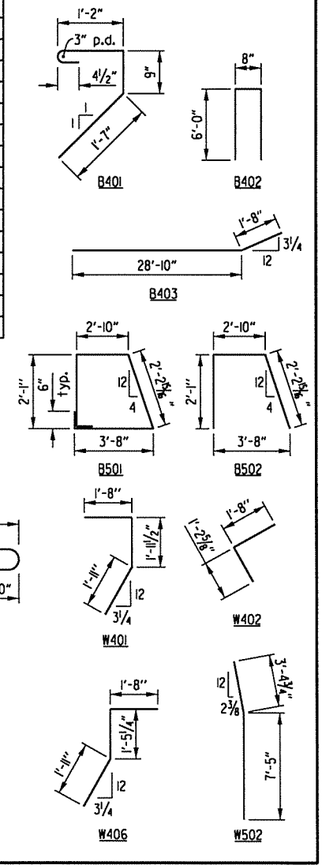
① Based on Existing plans. The Contractor shall verify dimensions in the field.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	30	3'-11"	2"
B402	25	12'-6"	2"
B403	10	30'-6"	2"
B404	6	2'-11"	Str.
B405	6	24'-6"	Str.
B501	42	11'-4"	2½"
B502	8	7'-0"	2½"
B901	6	27'-0"	9"
B902	6	24'-6"	Str.
W401	3	5'-5"	3"
W402	4	2'-9"	3"
W403	4	2'-4"	3"
W404	2	6'-11"	3"
W405	10	9"	Str.
W406	3	4'-11"	3"
W501	2	10'-10"	Str.
W502	2	10'-10"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

DETAILS OF END BENT 6 - BRIDGE A

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TRM	DATE: 11-03-14	FILENAME: bca0401a1_b61.dgn	
CHECKED BY: CAW	DATE: 12-09-14	SCALE: SEE DETAILS	
DESIGNED BY: JKJ	DATE: 10-24-14		

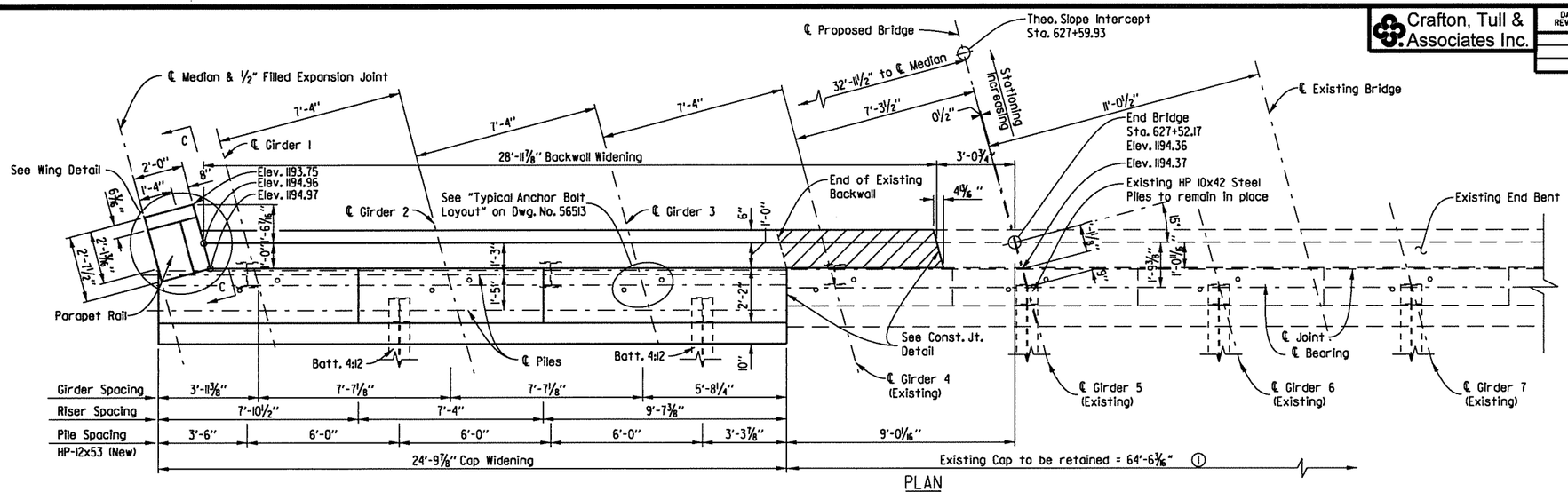
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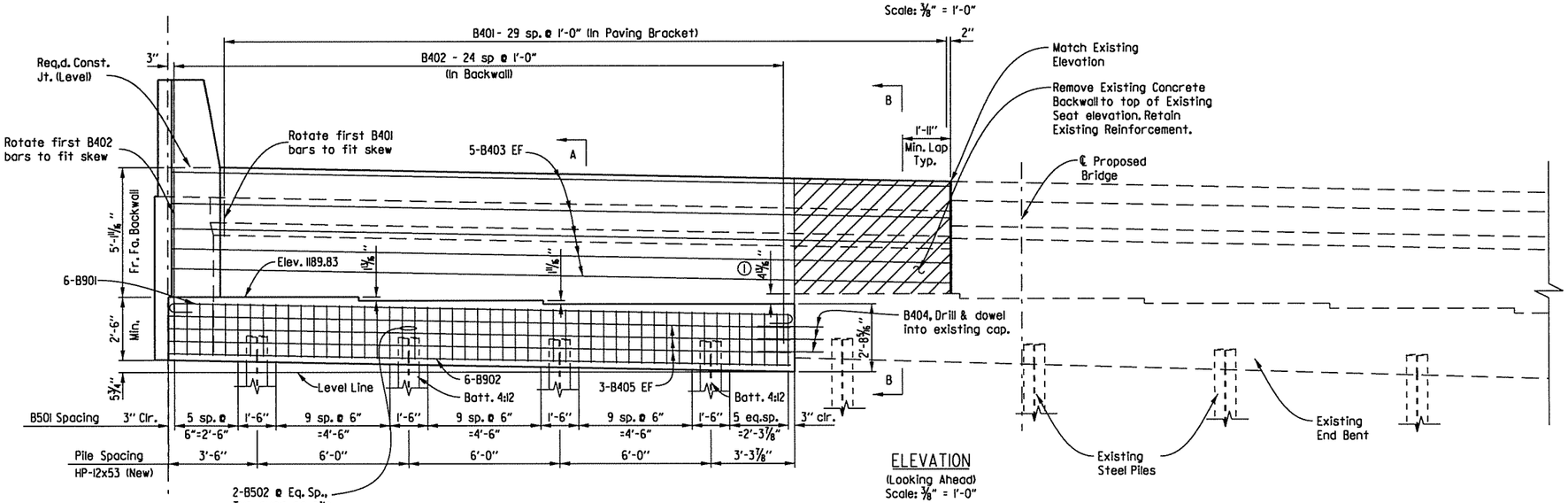
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

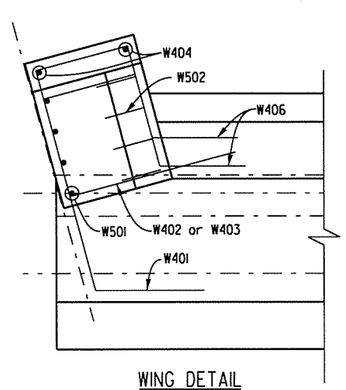
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	97	338
B5919		END BENT 6		56515



PLAN
Scale: ⅜" = 1'-0"



ELEVATION
(Looking Ahead)
Scale: ⅜" = 1'-0"



WING DETAIL
Scale: ¾" = 1'-0"

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing deck surface to be retained and roadway face and top of parapet rails of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56519
For Additional Details & General Notes, See Dwg. No. 56513

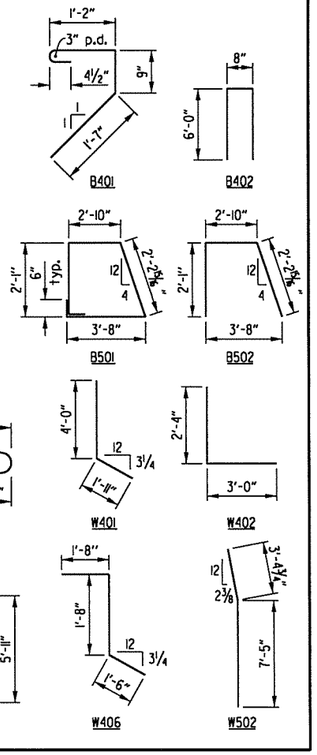
① Based on Existing plans. The Contractor shall verify dimensions in the field.

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	30	3'-11"	2"
B402	25	12'-6"	2"
B403	10	30'-10"	Str.
B404	6	2'-11"	Str.
B405	6	24'-6"	Str.
B501	42	11'-4"	2½"
B502	8	7'-0"	2½"
B901	6	27'-0"	9"
B902	6	24'-6"	Str.
W401	3	5'-10"	3"
W402	2	5'-2"	3"
W403	2	4'-8"	3"
W404	2	6'-11"	3"
W405	10	1'-8"	Str.
W406	7	4'-9"	3"
W501	4	10'-10"	Str.
W502	4	10'-10"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

DETAILS OF END BENT 6 - BRIDGE B

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

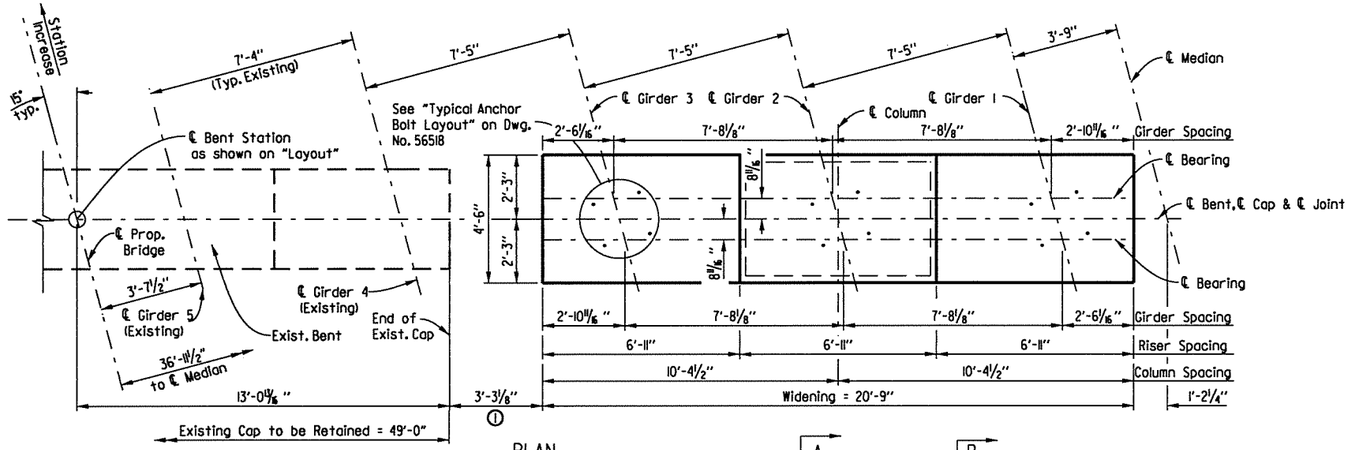
LITTLE ROCK, ARK.

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CHECKED BY: CAW DATE: 12-09-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 10-24-14

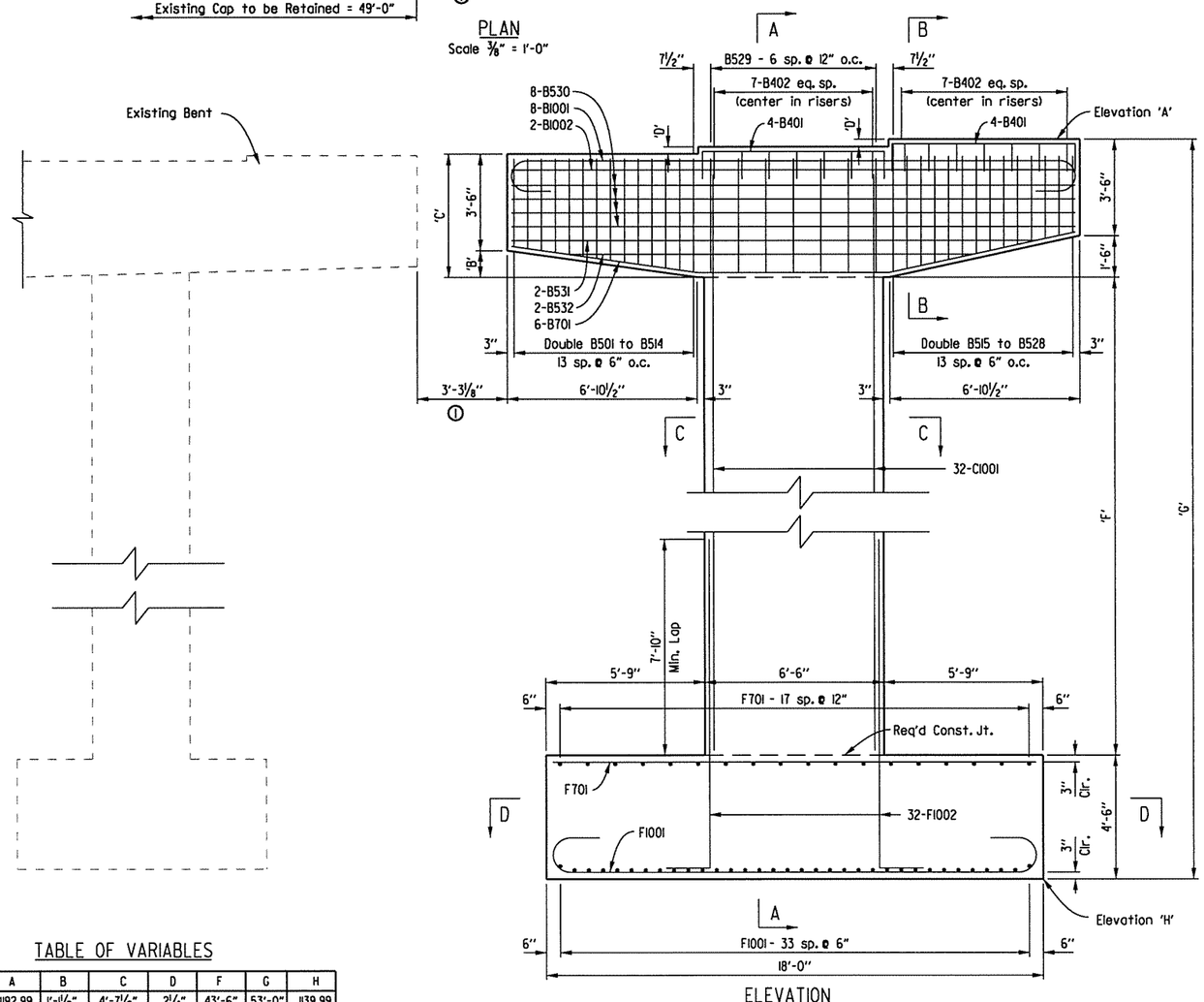
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Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	98	338
					A5919		INT. BENT		56516



PLAN
Scale ⅜" = 1'-0"



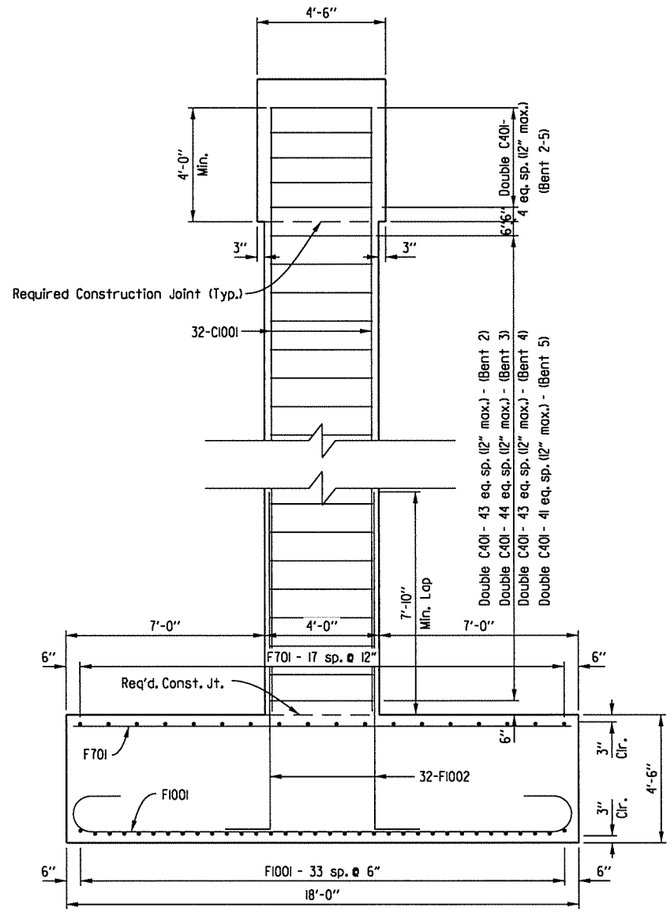
ELEVATION
(Looking Ahead)
Scale: ⅜" = 1'-0"

TABLE OF VARIABLES

Bridge	Bent	A	B	C	D	F	G	H
A5919	2	1192.99	1'-1½"	4'-7½"	2¼"	43'-6"	53'-0"	1139.99
	3	1191.69	1'-1⅝"	4'-7⅝"	2⅜"	44'-6"	54'-0"	1137.69
	4	1190.73	1'-1⅞"	4'-7⅞"	2½"	43'-6"	53'-0"	1137.73
	5	1190.11	1'-2⅛"	4'-8⅛"	1⅝"	41'-6"	51'-0"	1139.11

① These dimensions are based on the original plans. The Contractor shall verify these in the field.

Note:
For Additional Information, See Layout and Dwg. No. 56518
For Details of Elastomeric Bearings, See Dwg. No. 56519



SECTION A-A
Scale: ⅜" = 1'-0"

STATE OF ARKANSAS
JOSE K. JOSEPH
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

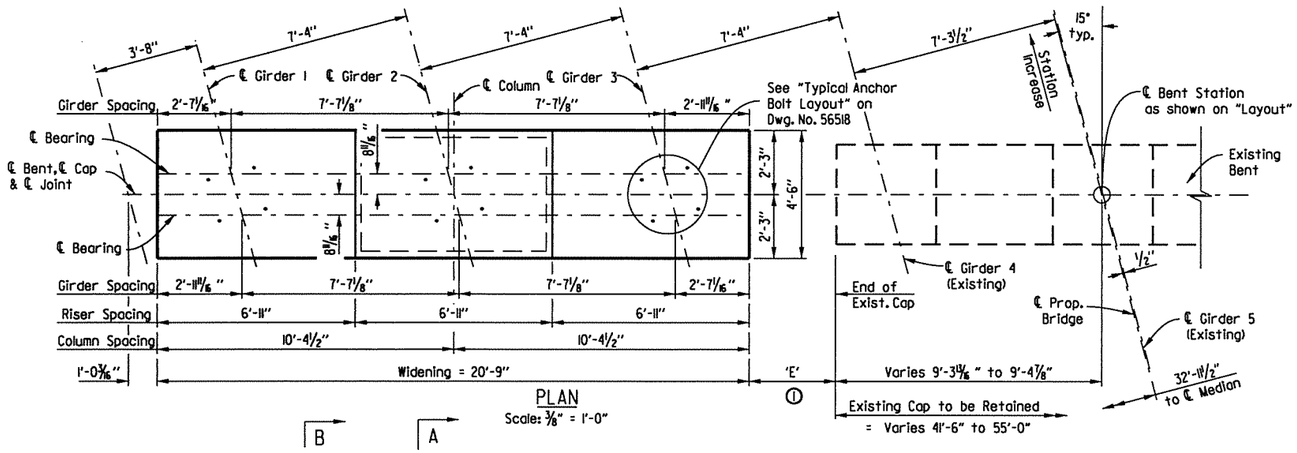
SHEET 1 OF 3
DETAILS OF BENTS 2, 3, 4 & 5 - BRIDGE A
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

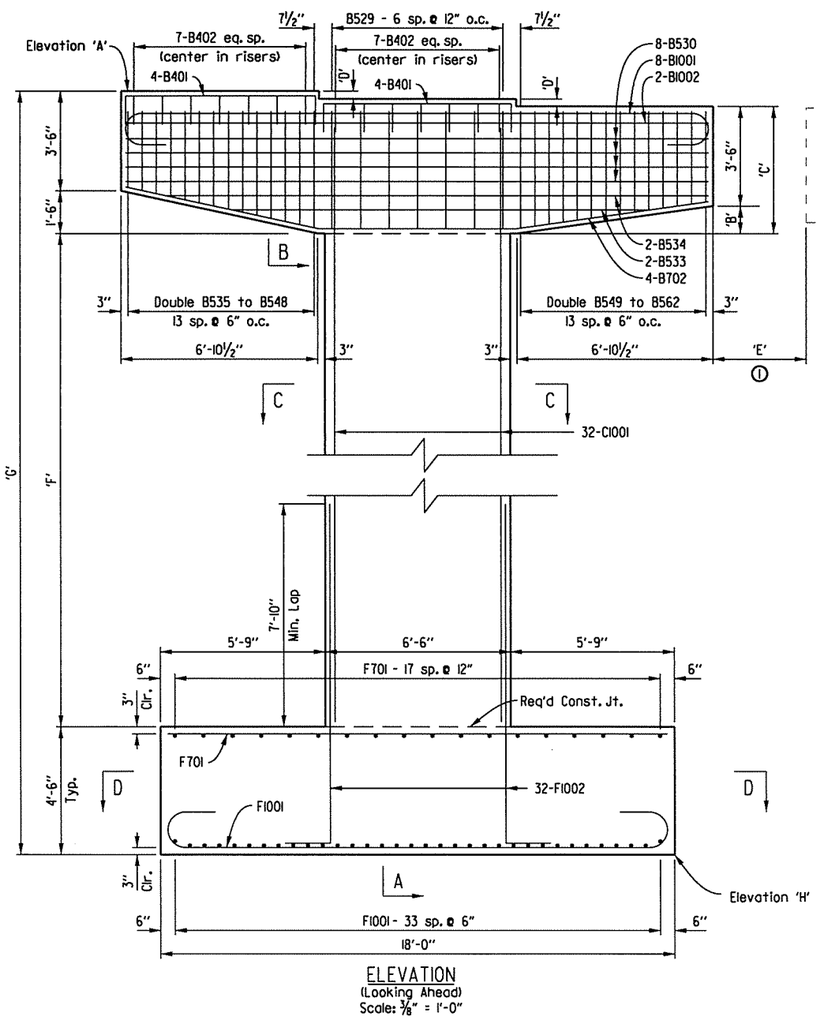
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DESIGNED BY: JKJ DATE: 10-20-14
BRIDGE NO. A5919 DRAWING NO. 56516

USER: iw7300
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Crafton, Tull & Associates Inc.

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.		CA0401	99	338
				B5919		INT. BENT		56517





ELEVATION
(Looking Ahead)
Scale: ⅜" = 1'-0"

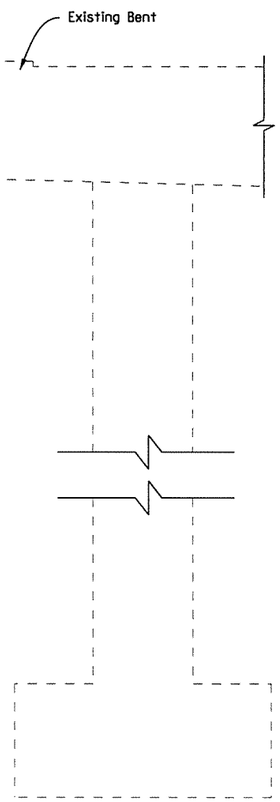
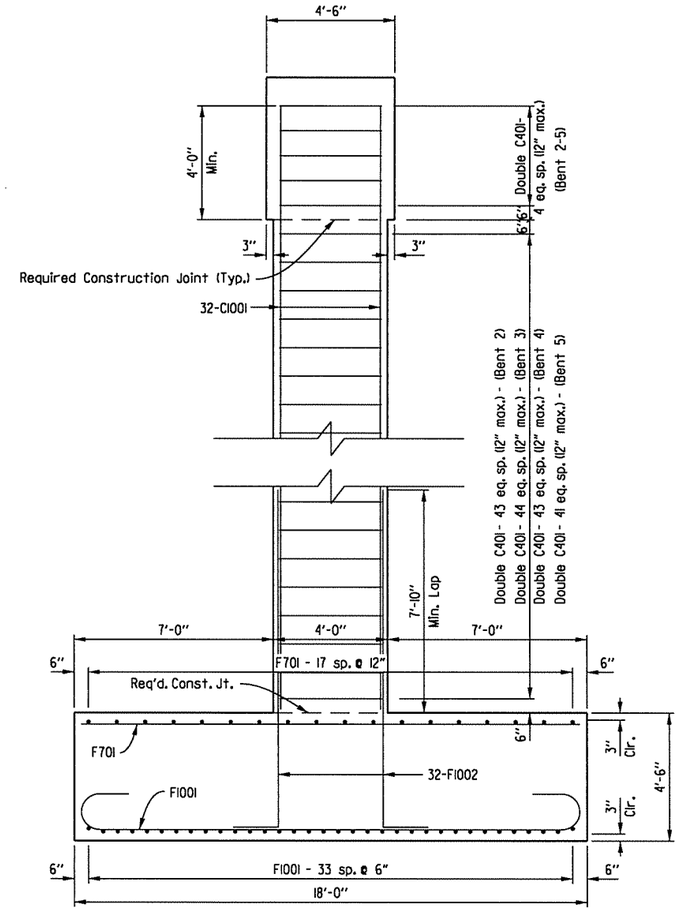


TABLE OF VARIABLES

Bridge	Bent	A	B	C	D	E	F	G	H
B5919	2	1193.04	1'-3½"	4'-9½"	1¼"	3'-0½"	43'-6"	53'-0"	1140.04
	3	1191.73	1'-3¼"	4'-9¼"	1⅜"	2'-11⅜"	44'-6"	54'-0"	1137.73
	4	1190.76	1'-3"	4'-9"	1½"	2'-11⅞"	43'-6"	53'-0"	1137.76
	5	1190.12	1'-2⅞"	4'-8⅞"	1⅜"	3'-0⅛"	41'-6"	51'-0"	1139.12

① These dimensions are based on the original plans. The Contractor shall verify these in the field.

Note:
For Additional Information, See Layout and Dwg. No. 56518
For Details of Elastomeric Bearings, See Dwg. No. 56519



SECTION A-A
Scale: ⅜" = 1'-0"

STATE OF ARKANSAS
Jose Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 2 OF 3
DETAILS OF BENTS 2, 3, 4 & 5 - BRIDGE B
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TRM DATE: 10-22-14 FILENAME: bca0401bl_b2l.dgn
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DESIGNED BY: JKJ DATE: 10-20-14
BRIDGE NO. B5919 DRAWING NO. 56517

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G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401bl_b2l.dgn 4/2/2015 17:01

BAR LIST (PER BENT)

A&B5919 BENT 2

MARK	NO. REQ'D. Br. A	NO. REQ'D. Br. B	LENGTH	"A"	"B"	P.D.
B401	8	8	8'-5"	6'-7"	1'-0"	2"
B402	14	14	6'-0"	4'-2"	1'-0"	2"
B501 to B514	2 each	---	11'-10" to 14'-0"	2'-6"	3'-2" to 4'-3"	2½"
B515 to B528	2 each	---	11'-2" to 14'-0"	2'-6"	2'-10" to 4'-3"	2½"
B529	7	7	13'-5½"	4'-2"	4'-9"	2½"
B530	8	8	20'-5"			Str.
B531	2	---	18'-11"			Str.
B532	2	---	13'-11"			Str.
B533	---	2	15'-1"			Str.
B534	---	2	19'-9"			Str.
B535 to B548	---	2 each	11'-4" to 14'-4"	2'-6"	2'-11" to 4'-5"	2½"
B549 to B562	---	2 each	11'-10" to 14'-2"	2'-6"	3'-2" to 4'-4"	2½"
B701	6	---	20'-7"	6'-9"	6'-10"	5¼"
B702	---	6	20'-8"	6'-10"	6'-10"	5¼"
B1001	8	8	23'-3"	20'-5"	11½"	10"
B1002	2	2	20'-5"			Str.
C401	98	98	15'-6"			3"
C1001	32	32	47'-6"			Str.
F701	34	34	17'-6"			Str.
F1001	68	68	20'-4"	17'-6"	11½"	10"
F1002	32	32	15'-2"			3¾"

A&B5919 BENT 3

MARK	NO. REQ'D. Br. A	NO. REQ'D. Br. B	LENGTH	"A"	"B"	P.D.
B401	8	8	8'-5"	6'-7"	1'-0"	2"
B402	14	14	6'-0"	4'-2"	1'-0"	2"
B501 to B514	2 each	---	11'-10" to 14'-0"	2'-6"	3'-2" to 4'-3"	2½"
B515 to B528	2 each	---	11'-2" to 14'-0"	2'-6"	2'-10" to 4'-3"	2½"
B529	7	7	13'-5½"	4'-2"	4'-9"	2½"
B530	8	8	20'-5"			Str.
B531	2	---	19'-0"			Str.
B532	2	---	14'-0"			Str.
B533	---	2	14'-11"			Str.
B534	---	2	19'-7"			Str.
B535 to B548	---	2 each	11'-4" to 14'-4"	2'-6"	2'-11" to 4'-5"	2½"
B549 to B562	---	2 each	11'-10" to 14'-2"	2'-6"	3'-2" to 4'-4"	2½"
B701	6	---	20'-7"	6'-9"	6'-10"	5¼"
B702	---	6	20'-8"	6'-10"	6'-10"	5¼"
B1001	8	8	23'-3"	20'-5"	11½"	10"
B1002	2	2	20'-5"			Str.
C401	100	100	15'-6"			3"
C1001	32	32	48'-6"			Str.
F701	34	34	17'-6"			Str.
F1001	68	68	20'-4"	17'-6"	11½"	10"
F1002	32	32	15'-2"			3¾"

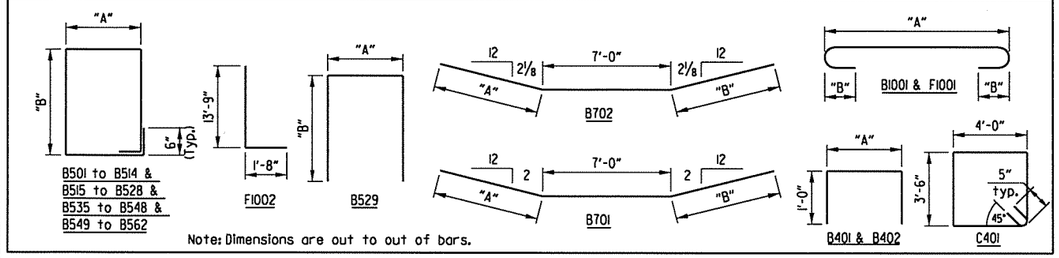
A&B5919 BENT 4

MARK	NO. REQ'D. Br. A	NO. REQ'D. Br. B	LENGTH	"A"	"B"	P.D.
B401	8	8	8'-5"	6'-7"	1'-0"	2"
B402	14	14	6'-0"	4'-2"	1'-0"	2"
B501 to B514	2 each	---	11'-10" to 14'-0"	2'-6"	3'-2" to 4'-3"	2½"
B515 to B528	2 each	---	11'-2" to 14'-0"	2'-6"	2'-10" to 4'-3"	2½"
B529	7	7	13'-5½"	4'-2"	4'-9"	2½"
B530	8	8	20'-5"			Str.
B531	2	---	19'-1"			Str.
B532	2	---	14'-2"			Str.
B533	---	2	14'-10"			Str.
B534	---	2	19'-6"			Str.
B535 to B548	---	2 each	11'-4" to 14'-4"	2'-6"	2'-11" to 4'-5"	2½"
B549 to B562	---	2 each	11'-10" to 14'-2"	2'-6"	3'-2" to 4'-4"	2½"
B701	6	---	20'-7"	6'-9"	6'-10"	5¼"
B702	---	6	20'-8"	6'-10"	6'-10"	5¼"
B1001	8	8	23'-3"	20'-5"	11½"	10"
B1002	2	2	20'-5"			Str.
C401	98	98	15'-6"			3"
C1001	32	32	47'-6"			Str.
F701	34	34	17'-6"			Str.
F1001	68	68	20'-4"	17'-6"	11½"	10"
F1002	32	32	15'-2"			3¾"

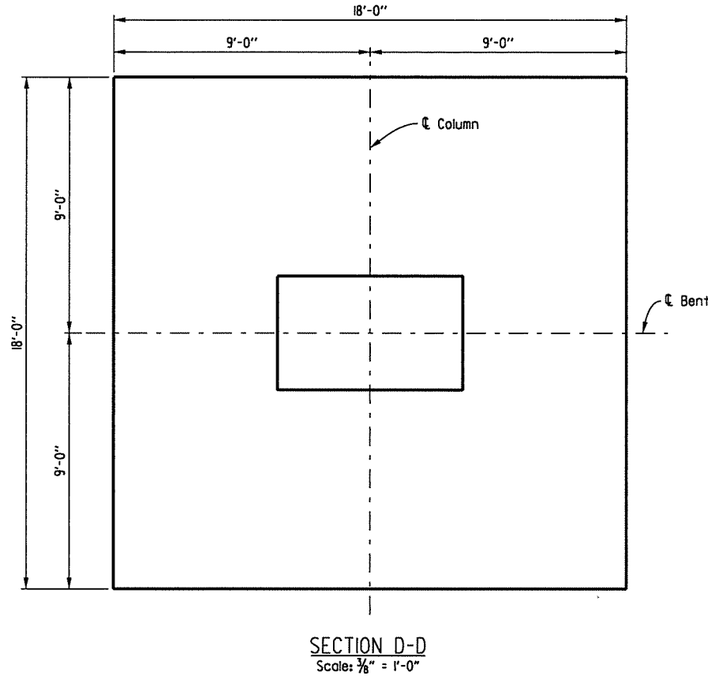
A&B5919 BENT 5

MARK	NO. REQ'D. Br. A	NO. REQ'D. Br. B	LENGTH	"A"	"B"	P.D.
B401	8	8	8'-5"	6'-7"	1'-0"	2"
B402	14	14	6'-0"	4'-2"	1'-0"	2"
B501 to B514	2 each	---	11'-10" to 14'-0"	2'-6"	3'-2" to 4'-3"	2½"
B515 to B528	2 each	---	11'-2" to 14'-0"	2'-6"	2'-10" to 4'-3"	2½"
B529	7	7	13'-5½"	4'-2"	4'-9"	2½"
B530	8	8	20'-5"			Str.
B531	2	---	19'-2"			Str.
B532	2	---	14'-4"			Str.
B533	---	2	14'-9"			Str.
B534	---	2	19'-6"			Str.
B535 to B548	---	2 each	11'-4" to 14'-4"	2'-6"	2'-11" to 4'-5"	2½"
B549 to B562	---	2 each	11'-10" to 14'-2"	2'-6"	3'-2" to 4'-4"	2½"
B701	6	---	20'-7"	6'-9"	6'-10"	5¼"
B702	---	6	20'-8"	6'-10"	6'-10"	5¼"
B1001	8	8	23'-3"	20'-5"	11½"	10"
B1002	2	2	20'-5"			Str.
C401	94	94	15'-6"			3"
C1001	32	32	45'-6"			Str.
F701	34	34	17'-6"			Str.
F1001	68	68	20'-4"	17'-6"	11½"	10"
F1002	32	32	15'-2"			3¾"

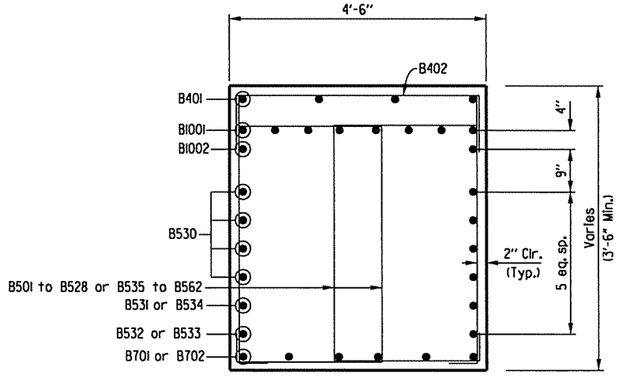
BAR BENDING DIAGRAMS



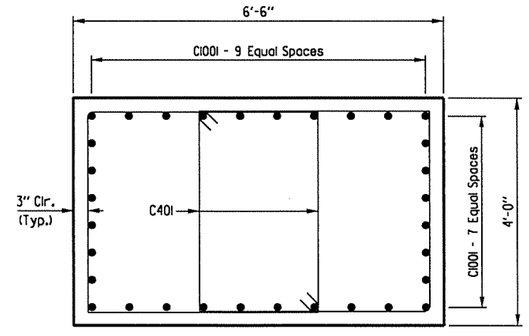
Note: Dimensions are out to out of bars.



SECTION D-D
Scale: ⅜" = 1'-0"



SECTION B-B
Scale: ¾" = 1'-0"



SECTION C-C
Scale: ¾" = 1'-0"

GENERAL NOTES

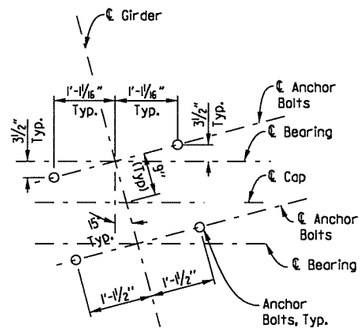
Concrete shall be Class 'S' with a minimum 28 day compressive strength of f'c = 3,500 p.s.i. Concrete shall be poured in the dry. All exposed corners shall be chamfered ¾" unless otherwise noted.

All Reinforcing Steel shall be Grade 60 (fy = 60,000 psi) AASHTO M 31 or M 322, Type A with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For details of Elastomeric Bearings see Dwg. No. 56519.

For additional information see Layout and Dwg. No. 56516 & 56517.



TYPICAL ANCHOR BOLT LAYOUT
Scale: ¾" = 1'-0"

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 3 OF 3
DETAILS OF BENTS 2, 3, 4 & 5 - BRIDGES A & B
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TRM DATE: 10-22-14 FILENAME: bca040101_b22.dgn
CHECKED BY: CAW DATE: 12-14-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 10-20-14
BRIDGE NO. A&B5919 DRAWING NO. 56518

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	100	338
				A&B5919		INT. BENT		56518

USER: lw7300
DESIGN FILE: G:\13105900_718to412\TRANSP\dgn\bridge\bca040101_b22.dgn
PLOTTED: 4/9/2015 13:14
SCALE: 5.333333:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	101	338
				A&B5919		BEARING DETAILS		56519

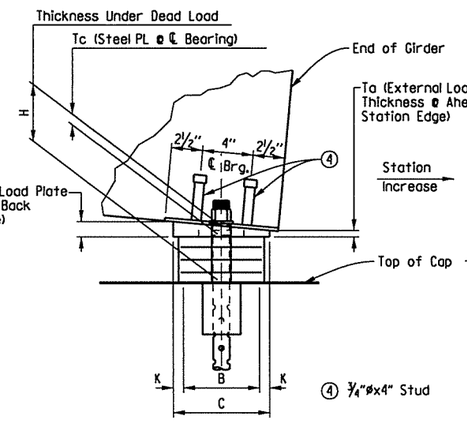
TABLE OF FABRICATOR VARIABLES

Bridge No.	Location		Bearing Type	No. of Bearings Each Bent	*Maximum Design Load (Kips)	Elastomeric Pad							External Load Plate									Anchor Bolt				
	Bent No.	Girder No.				G	H	A	B	N	ti	te	No. & Thickness of Steel Laminae	T	C	D	E	F	K	M	Ta	Tb	Tc	Anchor Bolt (ø X L)	Grade	Pipe Sleeve Size (ø X L)	Sheet Metal Sleeve Size (ø X L)	Steel Washer Size (O.D.)
A&B5919	1	1-3	Fixed	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	2 1/4"	2 1/4"	1/2"	13 1/2"	1.95"	2.05"	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	2 BK	1-3	Expansion	3	138	8 5/16"	6 3/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	3"	2 1/4"	1/2"	13 1/2"	2.26"	2.49"	2.375"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	2 AH	1-3	Fixed	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	2 1/4"	2 1/4"	1/2"	13 1/2"	1.97"	2.03"	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	3 BK	1-3	Expansion	3	138	8 5/16"	6 3/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	3"	2 1/4"	1/2"	13 1/2"	2.28"	2.47"	2.375"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	3 AH	1-3	Fixed	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	2 1/4"	2 1/4"	1/2"	13 1/2"	1.99"	2.01	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	4 BK	1-3	Expansion	3	138	8 13/16"	6 1/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	3"	2 1/4"	1/2"	13 1/2"	2.17"	2.33"	2.25"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	4 AH	1-3	Expansion	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	3"	2 1/4"	1/2"	13 1/2"	2.00"	2.00"	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	5 BK	1-3	Fixed	3	138	8 11/16"	5 5/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	2 1/4"	2 1/4"	1/2"	13 1/2"	2.06"	2.19"	2.125"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	5 AH	1-3	Expansion	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	3"	2 1/4"	1/2"	13 1/2"	2.02"	1.98"	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"
	6	1-3	Fixed	3	138	8 9/16"	5 11/16"	22"	6"	6	7/16"	1/4"	7 @ 12 ga.	3 7/8"	7"	32 1/2"	2 1/4"	2 1/4"	1/2"	13 1/2"	1.95"	2.05"	2"	1 1/2" X 26"	55	1 1/2" X 6 1/16"	3" X 5"	3 1/2"

* Maximum Design Load = Service I limit State

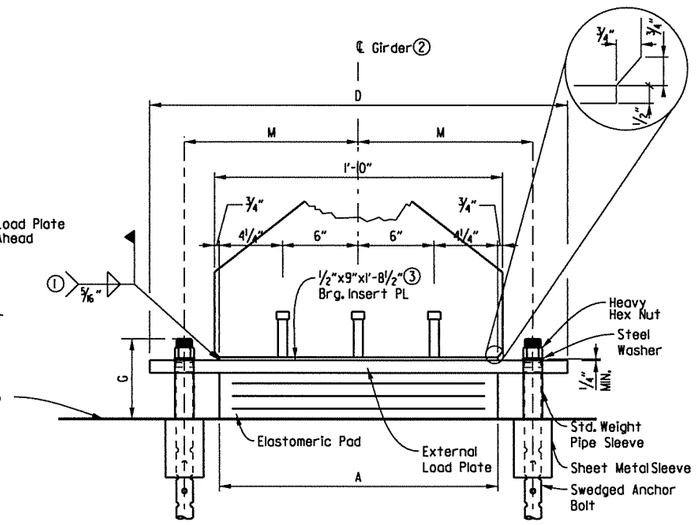
Unless otherwise approved by the Engineer, welding of the External Load Plate at expansion bearings to the girder will be allowed only when: 1) The approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) The slots in the external load 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.

Note:
The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in TABLE OF FABRICATOR VARIABLES.



④ ¾"ø x 4" Stud

SIDE VIEW
No Scale

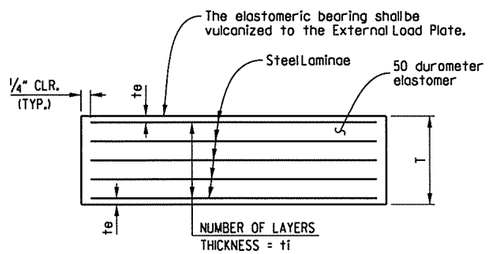


FRONT VIEW
No Scale

① Care shall be taken to ensure that the External Load Plate is in full and complete contact with the beam or girder flange before welding begins.

② ℄ elastomeric pad shall be aligned with ℄ Girder

③ Bearing insert plate (M270, Gr, 50W) & studs shall be considered subsidiary to the item "Prestressed Concrete Girders (Type III)"

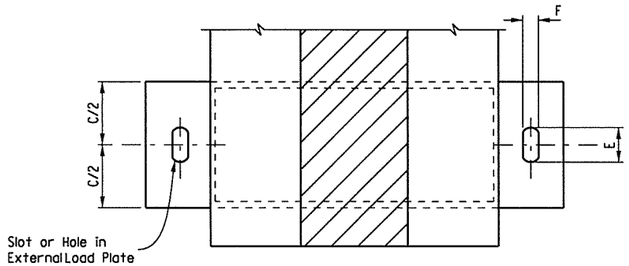


te= Thickness of elastomer cover on top and bottom of pad

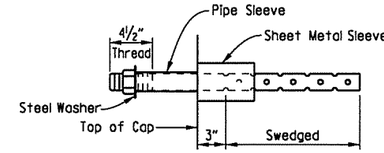
ti= Thickness of elastomer between steel laminae

N= Number of elastomer layers of thickness ti

ELASTOMERIC BEARING (TYP.)
No Scale



PLAN VIEW
No Scale



ANCHOR BOLT DETAIL
No Scale

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 into place, the galvanized sheet metal sleeve shall be cast in place as shown. It shall be dry packed with styrofoam or urethane foam or approved equal prior to pouring concrete. After pouring of the cap and prior to erection of Prestressed Beams the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into masonry. Bolts placed in drilled holes shall be accurately set and fixed using AHTD 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 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 required.

External Load Plates shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External Load 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.

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.

Bearings shall be seated in accordance with Subsection 808.08. All cost of bearing assembly including work and materials are considered as subsidiary to the price bid for "Elastomeric Bearings".

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)". The cost of all other items in the bearing assembly shall be subsidiary to the price bid for "Elastomeric Bearings".

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

DETAILS OF ELASTOMERIC BEARINGS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TRM DATE: 05-14-14 FILENAME: bca0401ml_el.dgn
CHECKED BY: KJC DATE: 07-10-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 05-01-14

BRIDGE NO. A&B5919 DRAWING NO. 56519

USER: lw7300
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401ml_el.dgn SCALE: 2:1
PLOTTED: 4/2/2015 17:01

Note: Class I Protective Roadway Surface Treatment shall be applied to the roadway surface and roadway face & top of parapet of the new construction including the existing deck surface to be retained.

Note: 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 AHTD Std. Dwg. No. 55005 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

Hi-Chairs: Trans- 4'-0" max & 3'-6" long

(1) Tolerances: Minus = 1/4"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance
See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

(2) See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

(3) Measured at ℄ Bearing and ℄ New Girders, Typ.

(4) Measured at ℄ Bearing and ℄ Exist. Girders, Typ.

(5) Care shall be exercised during the removal of the existing deck to ensure that the girders, diaphragms, and reinforcement are not damaged. Damaged items that are not salvageable as determined by the Engineer, shall be replaced by the contractor at no additional payment. See Section 821.

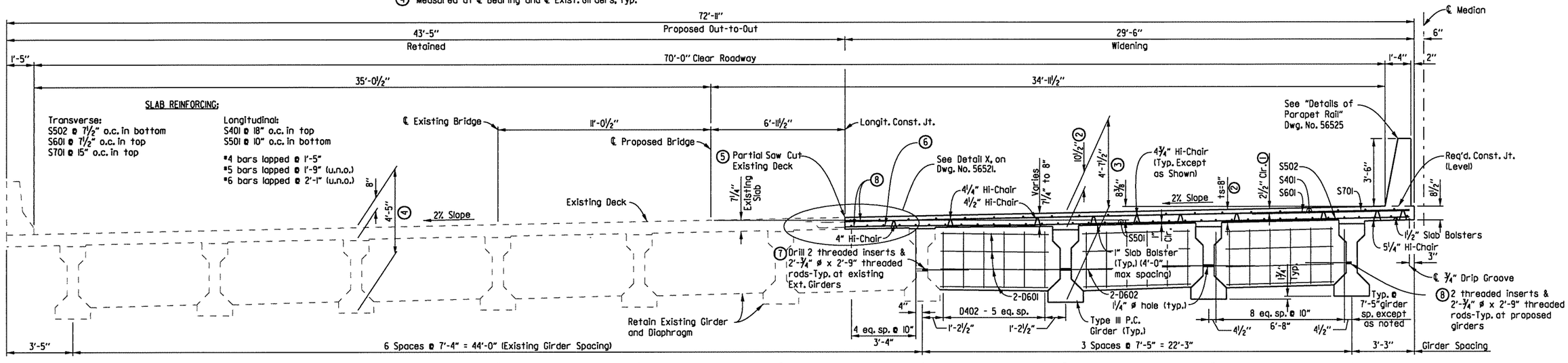
(6) Clean and Retain Existing Transverse Reinforcing. Remove and replace existing longitudinal reinforcement.

(7) Galvanized threaded inserts: Dayton-Richmond F-42 loop ferrule insert or an approved equal. 3/4" ø threaded rods to be AASHTO M270, Grade 36 or AASHTO M31 or M322 Type A, Gr. 60. These are to be non-pay items-subsidiary to the item "Prestressed Concrete Girders (Type III)". Galvanizing shall be in accordance with AASHTO M232 Class C or ASTM B695 Class 50.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

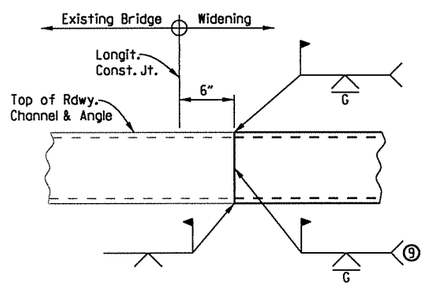
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	102	338
A5919	SPAN DETAILS			56520



(8) New transverse reinforcing steel shall not be tied to existing transverse steel.

TYPICAL ROADWAY SECTION

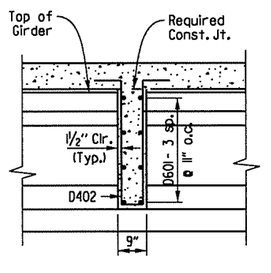
(Looking Ahead)
Scale: 3/8" = 1'-0"



DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

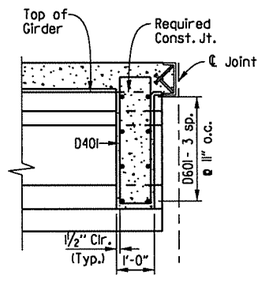
No Scale

(9) Grind flush from top of deck to top of Bumper Plate.



INTERIOR DIAPHRAGM

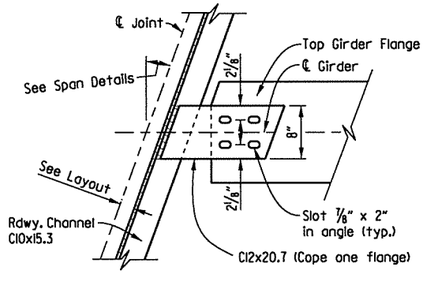
(Normal to Grade)
Scale: 1/2" = 1'-0"



END DIAPHRAGM

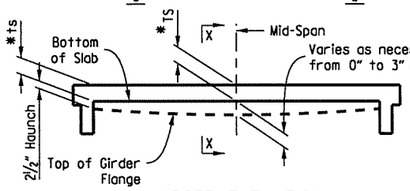
(Normal to Grade)
Scale: 1/2" = 1'-0"

For Additional Details of Expansion Device, see Sh. No. 56527



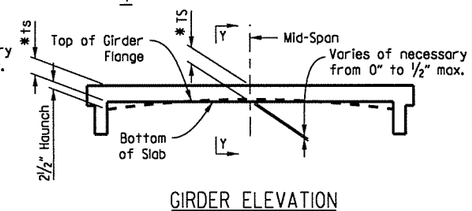
CHANNEL CONNECTION DETAILS

(Girders 1-4)
No Scale



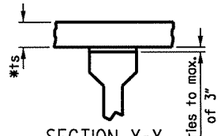
GIRDER ELEVATION

No Scale



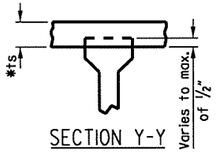
GIRDER ELEVATION

No Scale



SECTION X-X

No Scale



SECTION Y-Y

No Scale

Note: ts = slab thickness as shown on Superstructure Details. See "Half-Sections of Midspan & Beam End Diaphragms".

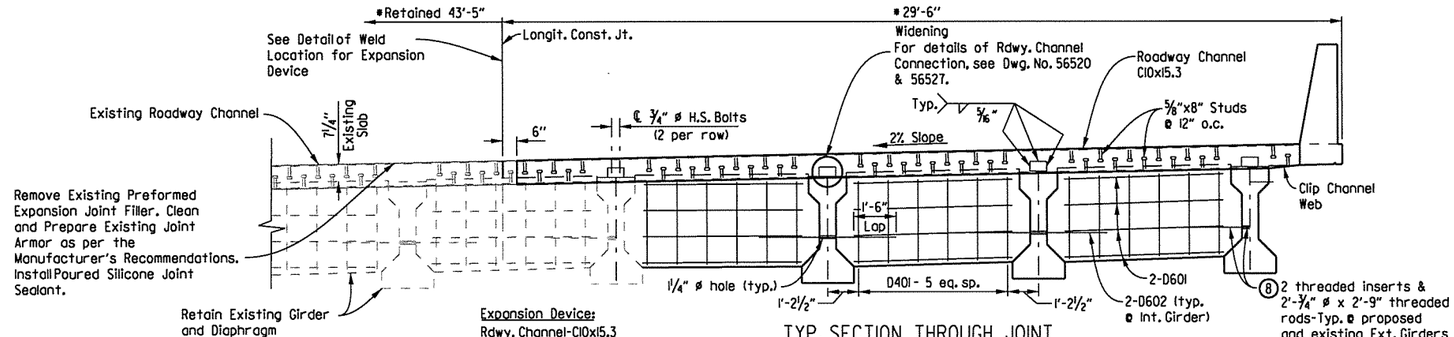
* Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Dwg. No. 55005 for tolerances when permanent steel deckforms are used.

'Girder Elevation' sketches show the range of acceptability of the top of the girder relative to bottom of slab after the placement of the slab. When the top of the girder projects more than 1/2" into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans so when adjustment is necessary the profile grade can be adjusted over suitable increments so the revised grade line will produce a smooth riding surface. Variation of the haunch height will be at the Contractor's expense.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

No Scale

*Measured perpendicular to ℄ Bridge



Expansion Device:
Rdwy. Channel-C10x15.3
Conn. L's- C12x20.7 (Cope one flange)

TYP. SECTION THROUGH JOINT

(Looking Ahead)
No Scale

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 1 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGE A)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LLW	DATE: 11-14-13	FILENAME: bca0401al_sl.dgn	
CHECKED BY: KJC	DATE: 07-10-14	SCALE: SEE DETAILS	
DESIGNED BY: JKJ	DATE: 10-27-13		

BRIDGE NO. A5919 DRAWING NO. 56520

USER: lw7300
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401al_sl.dgn
PLOTTED: 4/2/2015 17:01
SCALE: 5.3333333

G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401al_sl.dgn 4/2/2015 17:01

Note: Class I Protective Roadway Surface Treatment shall be applied to the roadway surface and roadway face & top of parapet of the new construction including the existing deck surface to be retained.

Note: 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 AHTD Std. Dwg. No. 55005 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

Hi-Chairs: Trans- 4'-0" max & 3'-6" long

① Tolerances: Minus = 1/4"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance
See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

② See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

③ Measured at ℄ Bearing and ℄ New Girders, Typ.

④ Measured at ℄ Bearing and ℄ Exist. Girders, Typ.

⑤ Care shall be exercised during the removal of the existing deck to ensure that the girders, diaphragms, and reinforcement are not damaged. Damaged items that are not salvageable as determined by the Engineer, shall be replaced by the contractor at no additional payment. See Section 821.

⑥ Clean and Retain Existing Transverse Reinforcing. Remove and replace all existing longitudinal reinforcement.

⑦ The number of girders and girder spacing varies for each span. See existing plans for additional details.

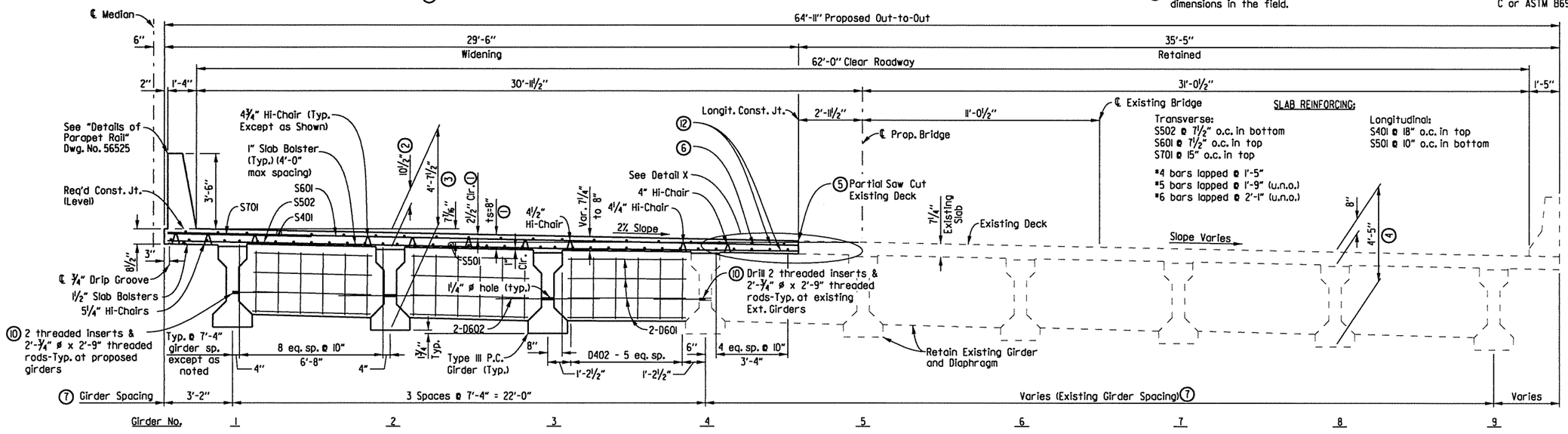
⑧ Typical roadway section shown is for span 1. The typical roadway section for the new construction is similar for all other spans.

⑨ Based on Existing plans. The Contractor shall verify dimensions in the field.

⑩ Galvanized threaded inserts: Dayton-Richmond F-42 loop ferrule insert or an approved equal. 3/4" ø threaded rods to be AASHTO M270, Grade 36 or AASHTO M31 or M322 Type A, Gr. 60. These are to be non-pay items-subsidiary to the item "Prestressed Concrete Girders (Type III)". Galvanizing shall be in accordance with AASHTO M232 Class C or ASTM B695 Class 50.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	103	338
				B5919		SPAN DETAILS		56521

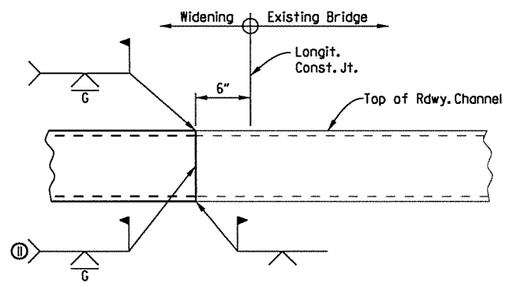


TYPICAL ROADWAY SECTION ⑧

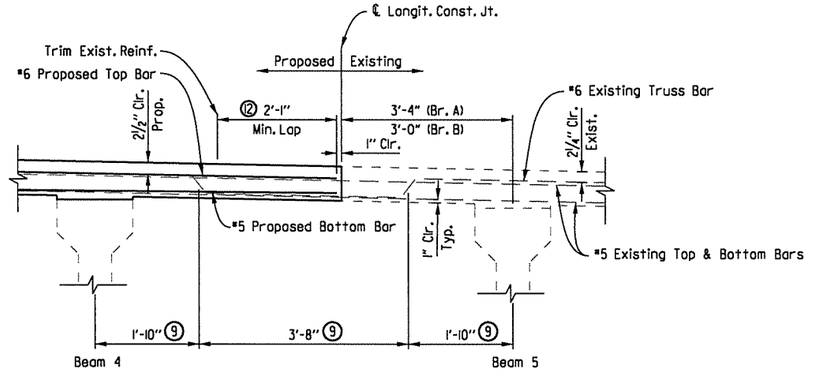
(Looking Ahead)
Scale: 3/8" = 1'-0"

⑫ New transverse reinforcing steel shall not be tied to existing transverse steel.

Note: For additional details, see Dwg. No. 56520



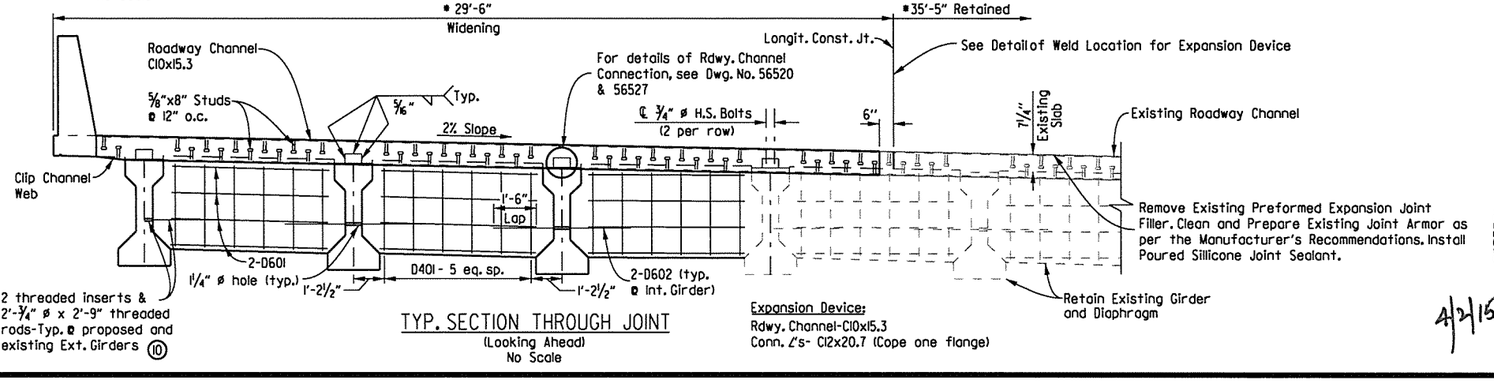
⑪ Grind flush from top of deck to top of Bumper Plate.



DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale

*Measured perpendicular to ℄ Bridge



TYP. SECTION THROUGH JOINT

(Looking Ahead)
No Scale

Expansion Device:
Rdwy. Channel-C10x15.3
Conn. ∠'s- C12x20.7 (Cope one flange)

DETAIL X

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

Note:
Longitudinal Reinforcement not shown for clarity.

Note:
Drawn for Bridge No. B5919.
Bridge No. A5919 similar.

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 2 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGE B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LLW	DATE: 11-14-13	FILENAME: bca040ibl_sl.dgn	
CHECKED BY: KJC	DATE: 07-10-14	SCALE: SEE DETAILS	
DESIGNED BY: JKJ	DATE: 10-27-13		

BRIDGE NO. B5919 DRAWING NO. 56521

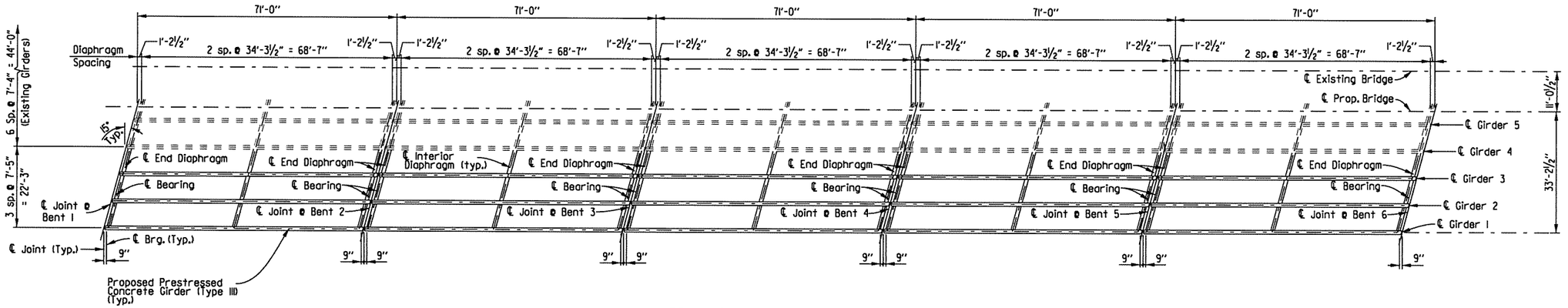
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Crafton, Tull & Associates Inc.

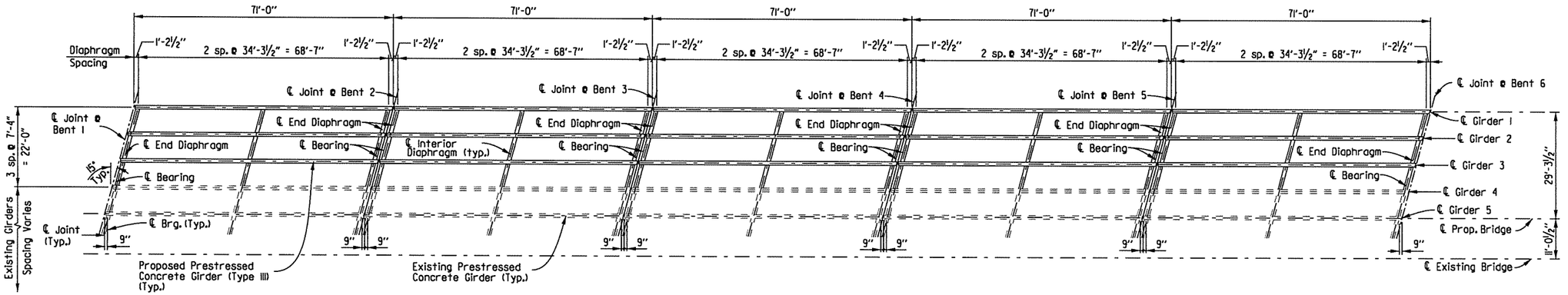
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	104	338
A&B5919		SPAN DETAILS		56522



FRAMING PLAN - BRIDGE A

Scale: 1/16" = 1'-0"



FRAMING PLAN - BRIDGE B

Scale: 1/16" = 1'-0"

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 3 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

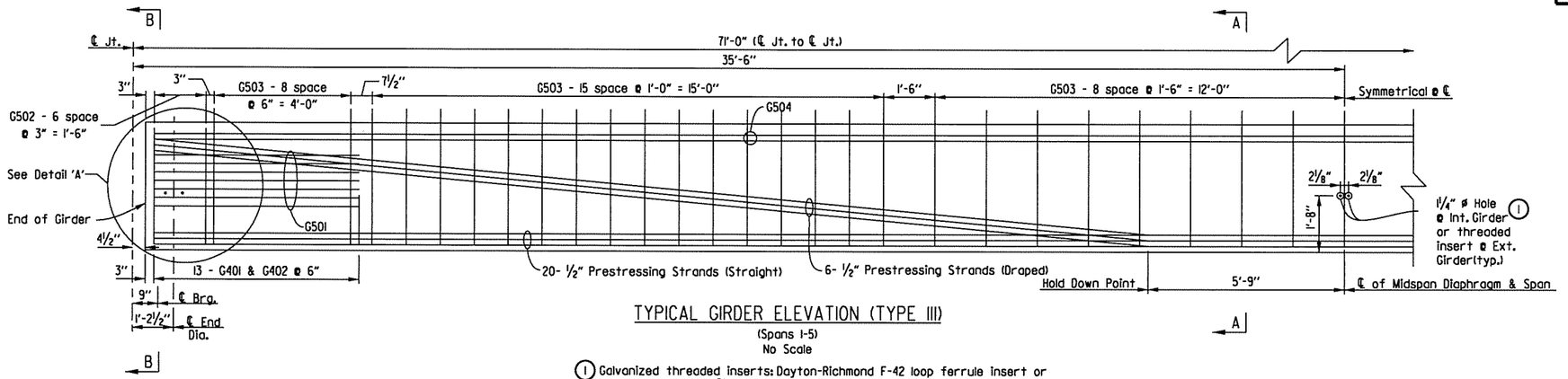
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CHECKED BY: KJC DATE: 07-10-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 10-27-13

BRIDGE NO. A&B5919 DRAWING NO. 56522

USER: lw7300
DESIGN FILE: F:\13105900_71Bto412\TRANSP\dgn\bridge\bcc0401ml_s3.dgn SCALE: 16:1
PLOTTED: 4/9/2015 13:14

Crafton, Tull & Associates Inc.

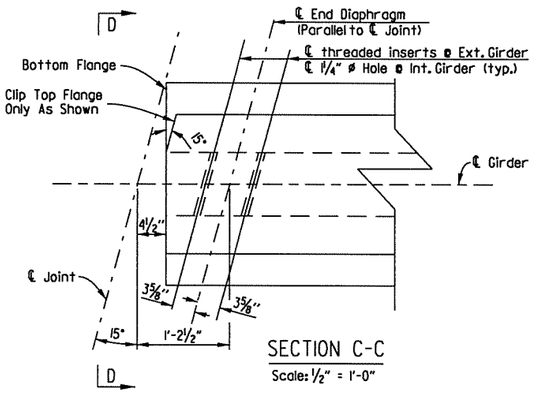
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	105	338
				A&B5919		SPAN DETAILS		56523



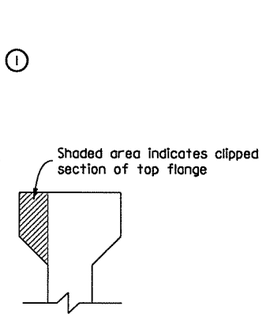
TYPICAL GIRDER ELEVATION (TYPE III)

(Spans 1-5)
No Scale

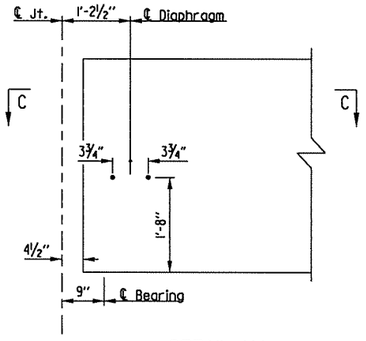
(1) Galvanized threaded inserts: Dayton-Richmond F-42 loop ferrule insert or an approved equal. ¾" ø threaded rods to be AASHTO M270, Grade 36 or AASHTO M31 or M322 Type A, Gr. 60. These are to be non-pay items-subsidiary to the item "Prestressed Concrete Girders (Type III)". Galvanizing shall be in accordance with AASHTO M232 Class C or ASTM B695 Class 50.



SECTION C-C
Scale: ½" = 1'-0"



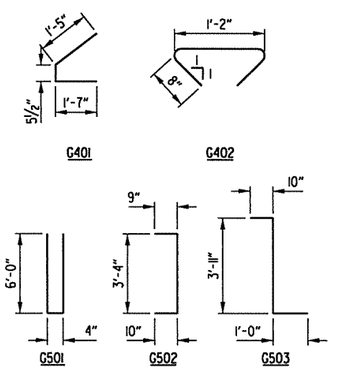
SECTION D-D
Scale: 1" = 1'-0"



DETAIL 'A'
Scale: ⅔" = 1'-0"

BAR LIST - PER GIRDER

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS (DIMENSIONS ARE OUT TO OUT OF BARS.)
G401	52	3'-4"	2"	
G402	26	2'-4"	3"	
G501	14	12'-2"	3"	
G502	28	4'-9"	2"	
G503	134	5'-7"	2"	
G504	8	36'-5"	Str.	



GENERAL NOTES - GIRDERS ONLY

Pretensioning steel shall be ½" dia. low relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M203.

All girders shall be AASHTO Type III I-Girders as shown on the details. All girders shall be cast in concrete floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22 of the Standard Specifications.

Concrete shall be Class 'S' and shall have a minimum 28 day compressive strength f'c = 6000 PSI.

Dimensions shown are to the center of strands.

The initial tensile force applied to each ½" dia. strand shall be 31000 pounds. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 4500 psi.

The Contractor shall submit the method and sequence for release of strands to the Engineer for approval prior to casting of the girders.

The first 16" along the top of the girder at each end shall have a smooth finish. The remaining portion shall be rough floated at approximately the time of set then scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding slabs.

Girder lengths shown on the design plans are net lengths measured horizontally along girder centerlines. The girder manufacturer shall make the necessary allowances for grade and shortening due to elastic shortening, creep, and shrinkage.

All exposed steel at ends of girders shall be protected against corrosion by a coating of tar or other waterproofing material.

Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregardment of the requirement may lead to collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

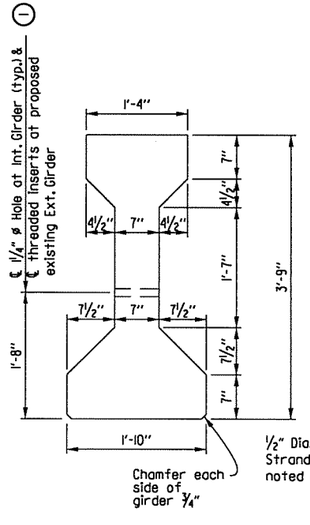
The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with Subsection 802.22 except that only ½" diameter strands shall be allowed.

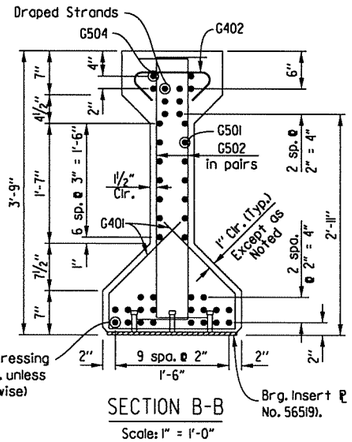
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322 Type A with Mill Test Reports.

Distances from the forms and spacing of the prestressing steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the shop drawings.

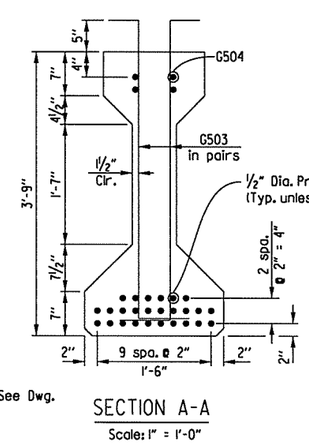
The point of support and direction of the reactions with respect to the member shall be appoximately the same during transportation and storage as when member is in its final position.

Drawings show general features of design only. Shop drawings shall be submitted to the Engineer and approval shall be secured before fabrication can begin.

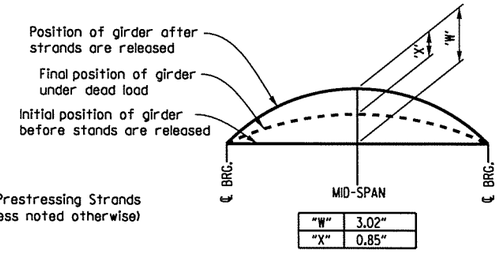




SECTION B-B
Scale: 1" = 1'-0"



SECTION A-A
Scale: 1" = 1'-0"



"W"	3.02"
"X"	0.85"

'W' is expected camber of girder at 90 days release (Prestress + Dead Load of Girder)
'X' is Dead Load Deflection of Slab + Diaphragms + Composite Dead Load.

CAMBER & DEFLECTIONS (INCHES)

STATE OF ARKANSAS
Jose Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 4 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	LLW	DATE:	06-24-14	FILENAME:	bca040lml_s4.dgn
CHECKED BY:	KJC	DATE:	07-10-14	SCALE:	SEE DETAILS
DESIGNED BY:	JKJ	DATE:	10-27-13		

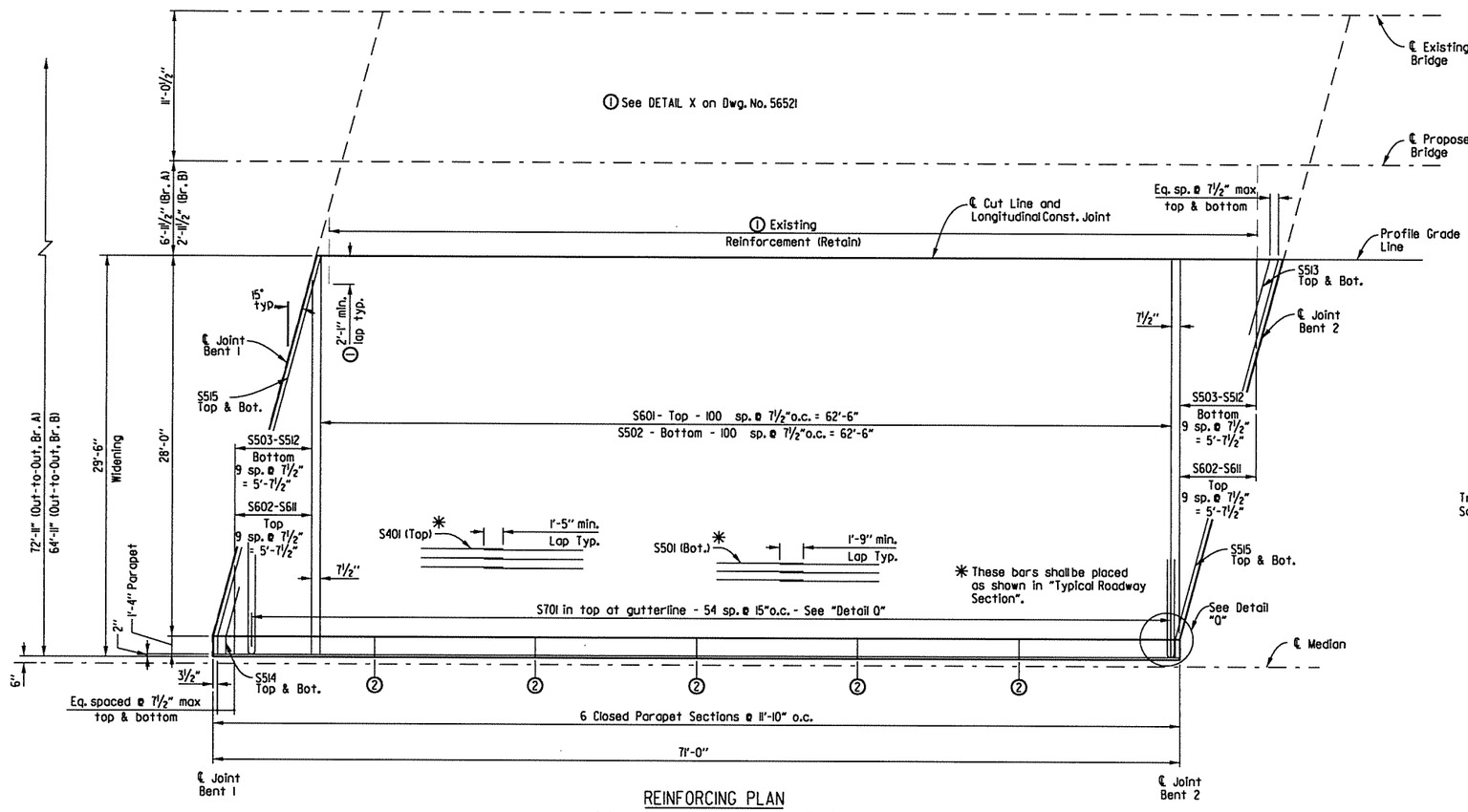
BRIDGE NO. A&B5919 DRAWING NO. 56523

USER: lw7300
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PLOTTED: 4/9/2015 13:14 SCALE: 4:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

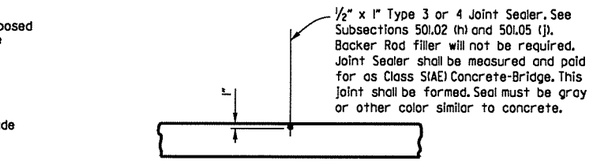
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	106	338
A&B5919		SPAN DETAILS		56524



REINFORCING PLAN

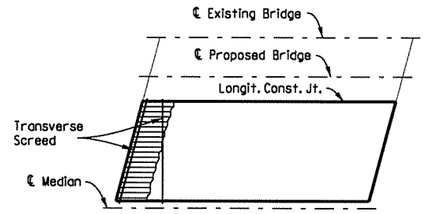
(Bridge A shown, Bridge B Opposite Hand)
(Span 1 shown - Spans 2,3,4, & 5 similar)
Scale: 3/16"=1'-0"

② ℄ Partial Depth Parapet Joint (1¼" to 1" Max) Stop 1'-6" from top of slab



LONGITUDINAL CONSTRUCTION JOINT

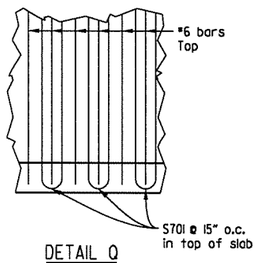
No Scale



Note: At the Contractor's Option, the Transverse Screed may be placed parallel to the skew or perpendicular to ℄ Bridge. Place Concrete to Approx. Slab Thickness Parallel to Skew as shown. Longitudinal screed shall not be used.

CONCRETE PLACEMENT PROCEDURE

No Scale



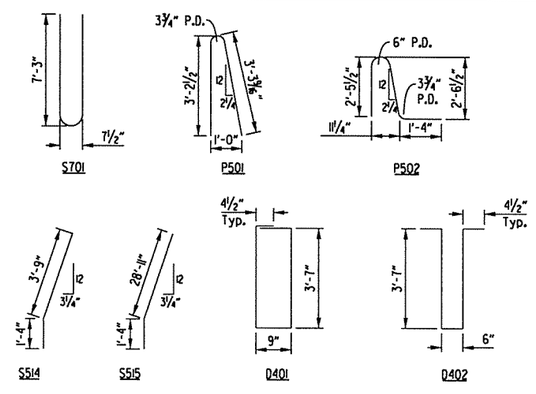
DETAIL O

No Scale

BAR LIST - PER BRIDGE

MARK	NO. REQ'D.	LENGTH	P.D.
S401	200	36'-2"	Str.
S501	360	36'-4"	Str.
S502	505	29'-4"	Str.
S503-S512	100	6'-6" to 27'-6"	Str.
S513	10	5'-9"	Str.
S514	10	5'-1"	3¾"
S515	20	30'-3"	3¾"
S601	505	29'-4"	Str.
S602-S611	100	6'-6" to 27'-6"	Str.
S701	275	14'-9"	5¾"
P401	40	36'-2"	Str.
P402	150	11'-5"	Str.
P501	570	6'-8"	3¾"
P502	570	6'-9"	3¾"
D401	90	9'-0"	2"
D402	180	8'-1"	2"
D601	360	5'-5"	Str.
D602	60	5'-4"	Str.

BENDING DIAGRAMS
(Dimensions are out to out of bars)



STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 5 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	TRM	DATE:	05-14-14	FILENAME:	bca040lml_s5.dgn
CHECKED BY:	KJC	DATE:	07-10-14	SCALE:	3/16" = 1'-0"
DESIGNED BY:	JKJ	DATE:	05-01-14		

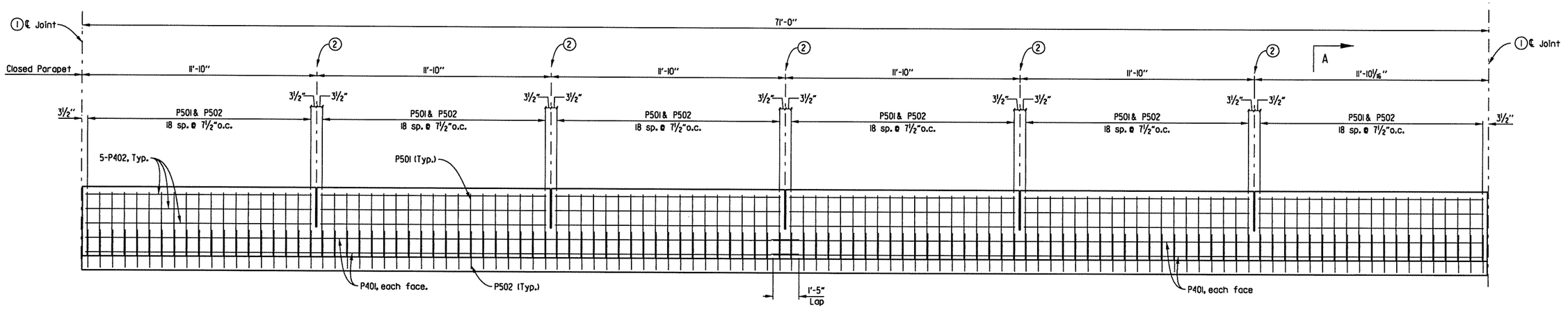
BRIDGE NO. A&B5919 DRAWING NO. 56524

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PLOTTED: 4/9/2015 13:14

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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.		CA0401	107	338
A&B5919		SPAN DETAILS		56525

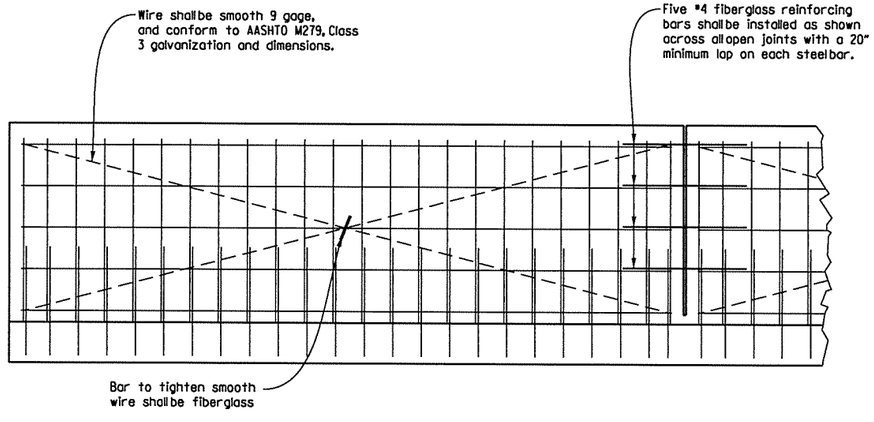


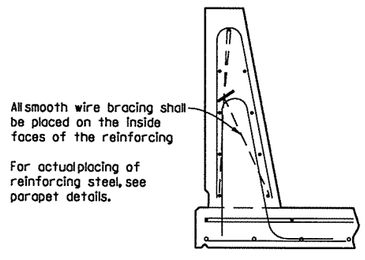
① For Joint Opening Match Slab, See Dwg. No. 56524

② ℄ Partial-Depth Parapet Joint 1¼" to 1" Max.) Stop 1'-6" from top of slab.

DETAILS OF CLOSED PARAPET RAIL

Scale: ⅜"=1'-0"



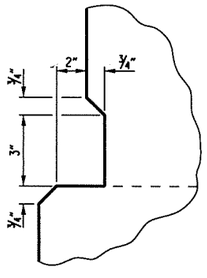


All panels shall be braced as required to prevent cracking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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.

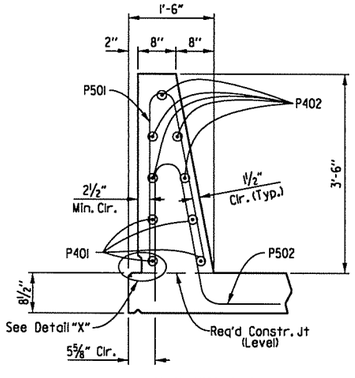
DETAIL OF OPTIONAL SLIP FORMING OF CONCRETE PARAPET RAIL

No Scale



DETAIL X

No Scale



SECTION A-A

Scale: ¾"=1'-0"

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/9/15

SHEET 6 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: TRM DATE: 05-14-14 FILENAME: bca0401ml_s6.dgn
CHECKED BY: KJC DATE: 07-10-14 SCALE: SEE DETAILS
DESIGNED BY: JKJ DATE: 05-01-14

BRIDGE NO. A&B5919 DRAWING NO. 56525

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PLOTTED: 4/9/2015 13:14

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	108	338
				A&B5919		SPAN DETAILS		52526

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 6th edition (2012) with current interim specifications - New Construction Only

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (slab, parapet, diaphragm)	f'c= 4,000 psi
Class S Concrete (Prestressed Girders)	f'c= 6,000 psi
Class S Concrete (Substructure)	f'c= 3,500 psi
Reinforcing Steel (Grade 60 AASHTO M31 or M322 Type A)	fy= 60,000 psi
Prestressing Strands (AASHTO M203)	fpu= 270,000 psi
Structural Steel (AASHTO M270, GR. 50)	Fy= 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy= 36,000 psi

CONCRETE:
All Concrete in slabs, parapets, and diaphragms shall be Class S(AE) with a minimum of 28 day compressive strength f'c= 4000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted. All end of unit and midspan diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured, unless otherwise noted. Slab shall not be poured until at least 90 days after the release of the prestressing strands.

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. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

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 girder. Use of longitudinal screed is prohibited. Slab Joints from new construction shall align with Slab Joints from existing construction. Required Slab Joints shall align with the Parapet Open Joints.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M 31 or M 322 Type A with mill test reports.

The reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports sufficient in size and number 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 of "Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL:
All Structural Steel shall be AASHTO M270, GR. 50 unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M270, GR. 50)". Structural steel completely embedded in concrete may be AASHTO M270, GR. 36. All other exposed surfaces shall be called in accordance with Section 807 unless noted otherwise.

The roadway channels and end bent joint armor shall be cleaned and painted in accordance with Section 638. This work will not be paid for separately but will be considered subsidiary to The item "Structural Steel in Beam Spans (M270, GR 50)".

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. Shape and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawing 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 or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

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.

Elastomeric bearings shall be firmly seated in accordance with Subsection 808.08 of the Specifications. This work to be considered subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

REMOVAL OF EXISTING DECK:
Care shall be exercised during the removal of the existing deck to ensure that the existing girders, including shear reinforcements, are not damaged. Damaged items that are not salvageable, as determined by the Engineer, shall be replaced at the Contractor's expense.

The deck removal shall progress in a manner that will ensure the stability of the existing structure. The concrete deck in the end spans shall not be removed before the deck in the interior spans have been removed.

The existing concrete deck shall be completely removed to the top flange of the existing girders. Care should be exercised during the removal of the existing deck to ensure that the existing girders, diaphragms and reinforcement is not damaged. This work will not be paid for directly but will be considered subsidiary to this item "Modification of Existing Bridge Structure (Br. No. A5919)" and "Modification of Existing Bridge Structure (Br. No. B5919)".

METHOD OF WORK:
The Contractor shall remove portions of the existing deck as shown in "Details of Stage Construction" on Dwg. No. 56509. After Construction of all bents and removal of portions of the existing slab have been performed to the satisfaction of the Engineer, the Contractor shall drill and dowel the diaphragm reinforcing to Girder No. 4, as shown in the plans, to facilitate diaphragm construction. This work will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5919)" & "Modification of Existing Bridge Structure (Br. No. B5919)".

All applicable provisions of Section 805, as determined by the Engineer, shall be followed.

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 sufficient details and information to the Engineer'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. No. A5919)" & "Modification of Existing Bridge Structure (Br. No. B5919)".

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 7 OF 8

DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

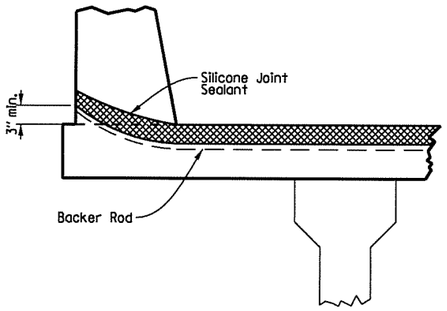
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DESIGNED BY: JKJ DATE: 05-01-14

BRIDGE NO. A&B5919 DRAWING NO. 56526

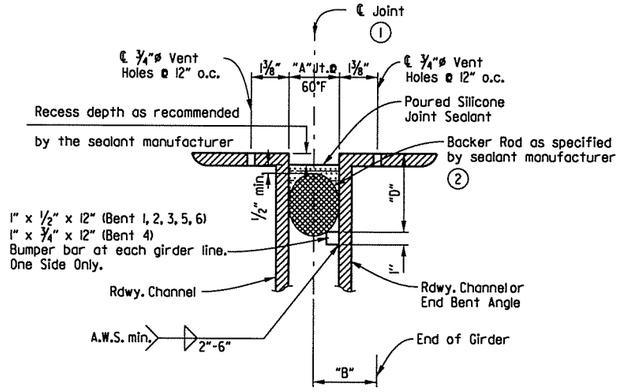
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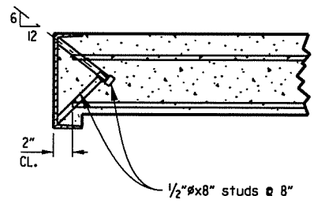
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				6	ARK.			
				JOB NO.		CA0401	109	338
				A&B5919		SPAN DETAILS		56527



JOINT SEAL PLACEMENT AT PARAPET
No Scale



DETAIL OF POURED SILICONE JOINT SEAL
No Scale



Note: As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structural steel in anchors.

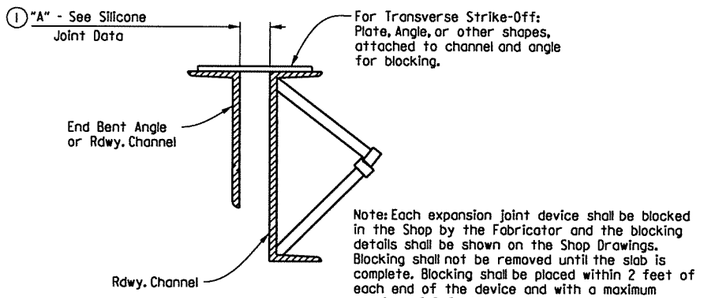
DETAILS OF ALTERNATE ANCHORS
No Scale

EXPANSION DEVICE INSTALLATION

The Contractor may elect to install the expansion device for the end bents using one of the following two alternatives:

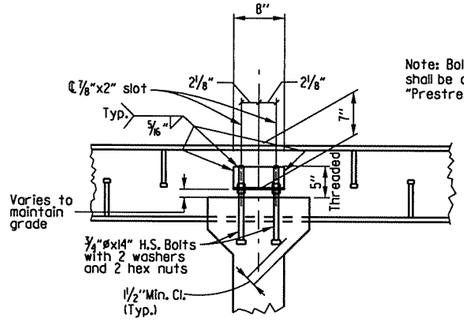
1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing 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 shall be poured to the optional construction joint after girders 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: Each expansion joint device shall be blocked in the Shop by the Fabricator and the blocking details shall be shown on the Shop Drawings. Blocking shall not be removed until the slab is complete. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE
No Scale



SECTION B-B
No Scale

Note: Bolts, washers & hex nuts shall be considered subsidiary to the item "Prestressed Concrete Girders (Type III)".

TABLE FOR WELDS

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.

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	1⅛"	1"	⅞"	4½"	1"x½"x12"	2¼"
2	1⅛"	1"	⅞"	4½"	1"x½"x12"	2¼"
3	1⅛"	1"	⅞"	4½"	1"x½"x12"	2¼"
4	1¾"	1⅝"	1½"	4½"	1"x⅞"x12"	3¼"
5	1⅛"	1"	⅞"	4½"	1"x½"x12"	2¼"
6	1⅛"	1"	⅞"	4½"	1"x½"x12"	2¼"

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.

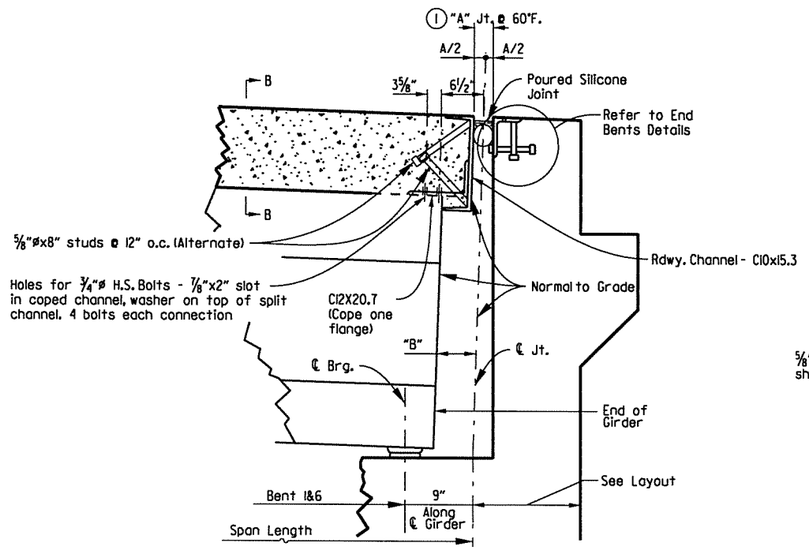
The sealant shall be installed only when the average 24 hour air temperature is between 40°and 80°F.

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.

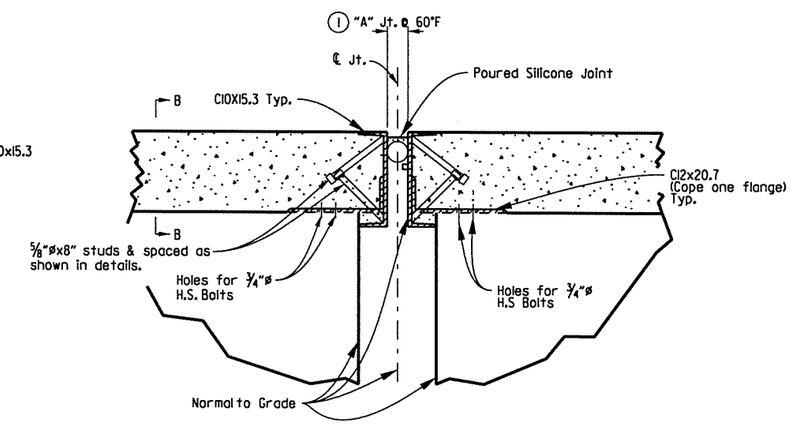
Except as noted, do not install more backer rod than that which can be sealed in the same day.

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



JOINT AT END BENTS
No Scale

Note: End Diaphragm not shown for clarity



JOINT AT INT. BENT
No Scale

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/9/15

SHEET 8 OF 8
DETAILS OF 71'-0" PRESTRESSED CONCRETE GIRDER UNIT CLEAR CREEK (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

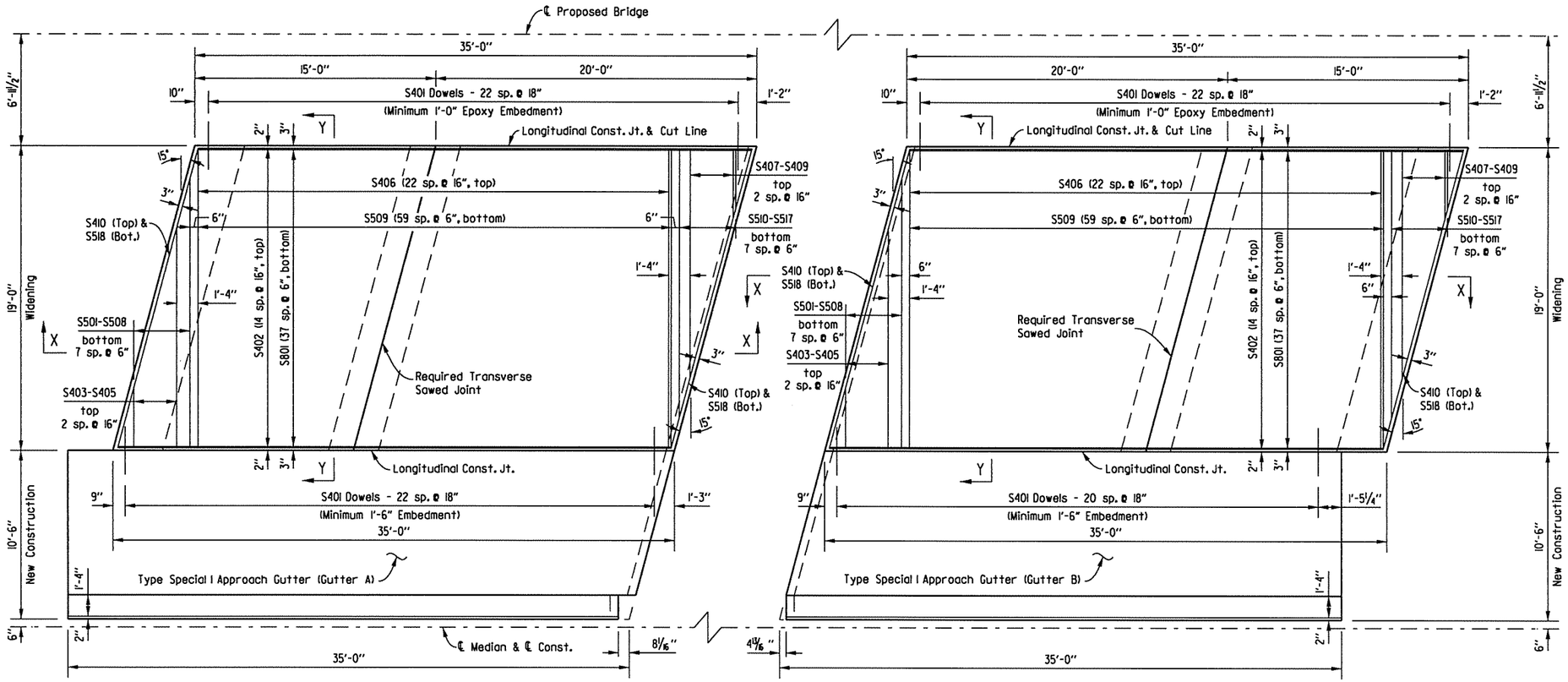
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				6	ARK.			
				JOB NO.		CA0401	110	338
				A5919		APPR. SLAB		56528



PLAN - APPROACH SLAB
(BEGIN BRIDGE A)

PLAN - APPROACH SLAB
(END BRIDGE A)

Note: Surface finish for approach slab shall match that used on bridge deck.

For General Notes, Sections, Bar List, and additional details See Dwg. No. 56530
For details of Type Special I Approach Gutters, See Dwg. No. 56531

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 1 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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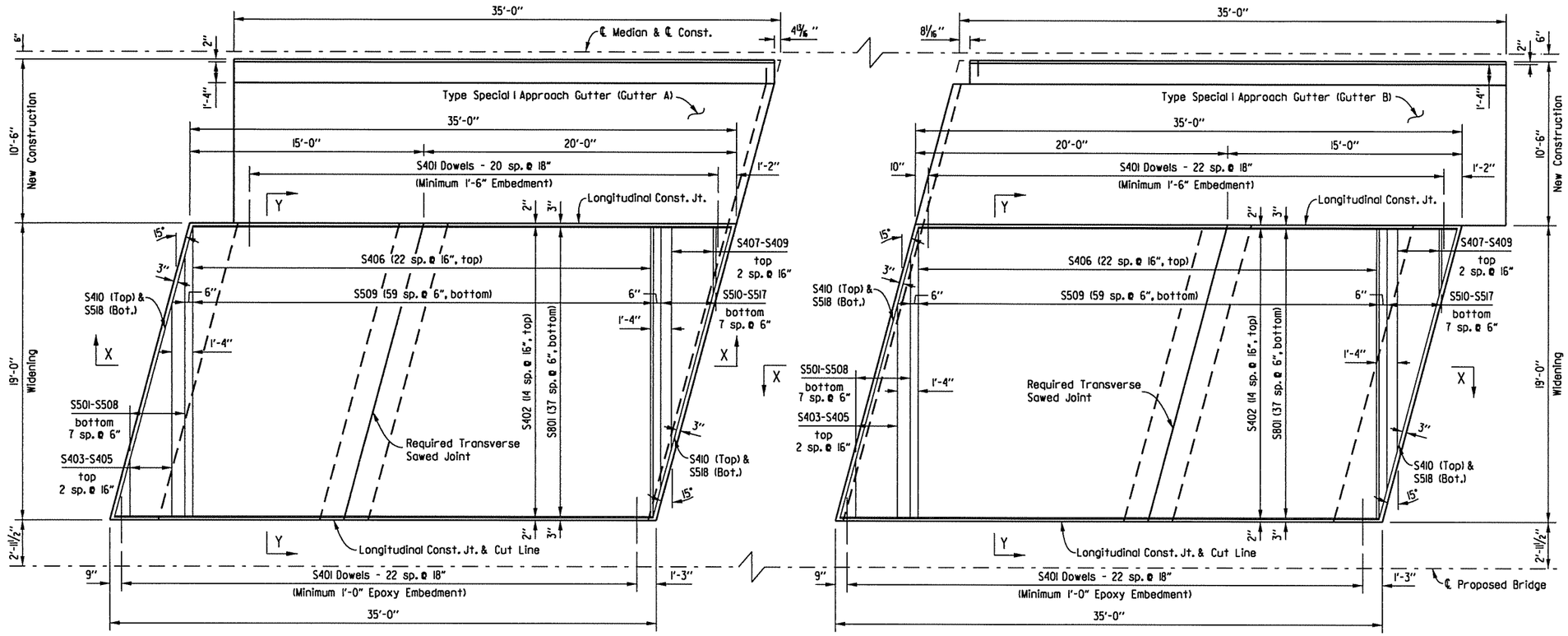
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	III	338
B5919		APPR. SLAB		56529



PLAN - APPROACH SLAB
(BEGIN BRIDGE B)

PLAN - APPROACH SLAB
(END BRIDGE B)

Note: Surface finish for approach slab shall match that used on bridge deck.

For General Notes, Sections, Bar List, and additional details See Dwg. No. 56530
For details of Type Special I Approach Gutters, See Dwg. No. 56532

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 2 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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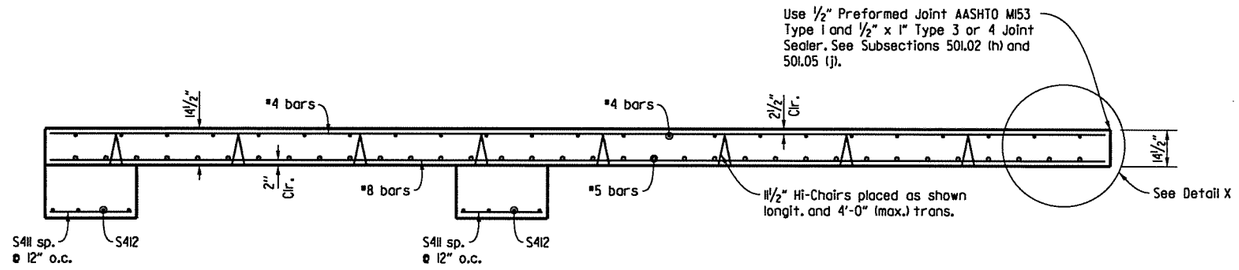
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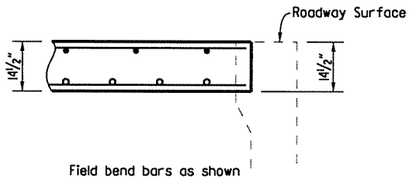
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Crafton, Tull & Associates Inc.

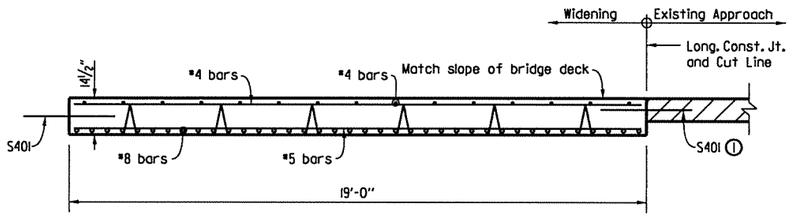
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				6	ARK.			
				JOB NO.		CA0401	112	338
				A&B5919		APPR. SLAB		56530



SECTION X - X
No Scale



DETAIL X
No Scale



SECTION Y - Y
No Scale

① Drill and grout bars where shown using an approved cement or epoxy system from the QPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.

BAR LIST
BRIDGE A

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
S401	46	44	3'-0"
S402	15	15	34'-6"
S403-S405	3	3	3'-8" to 13'-8"
S406	23	23	18'-8"
S407-S409	3	3	4'-4" to 14'-3"
S410	2	2	19'-4"
S411	19	19	2'-8"
S412	8	8	19'-4"
S501-S508	8	8	3'-8" to 16'-9"
S509	60	60	18'-8"
S510-S517	8	8	3'-8" to 16'-9"
S518	2	2	19'-3"
S801	38	38	34'-6"

BAR LIST
BRIDGE B

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
S401	44	46	3'-0"
S402	15	15	34'-6"
S403-S405	3	3	3'-8" to 13'-8"
S406	23	23	18'-8"
S407-S409	3	3	4'-4" to 14'-3"
S410	2	2	19'-4"
S411	19	19	2'-8"
S412	8	8	19'-4"
S501-S508	8	8	3'-8" to 16'-9"
S509	60	60	18'-8"
S510-S517	8	8	3'-8" to 16'-9"
S518	2	2	19'-3"
S801	38	38	34'-6"

TABLE OF QUANTITIES FOR
TYPE SPECIAL 1 APPROACH SLABS
(for information only)

		Slab Width	Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)
Bridge A	Beg. of Bridge	19'-0"	5803	37.5
	End of Bridge	19'-0"	5799	37.5
Bridge B	Beg. of Bridge	19'-0"	5799	37.5
	End of Bridge	19'-0"	5803	37.5

GENERAL NOTES

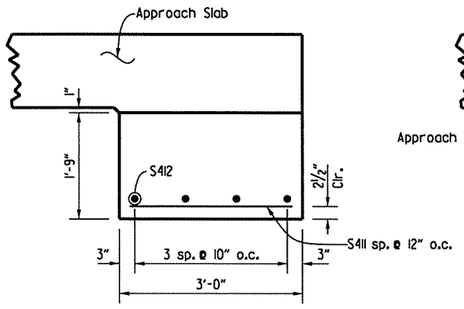
Concrete shall be Class S(AE) f'c = 4,000 psi)

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

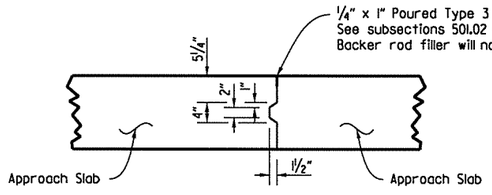
Approach Slabs will be measured and paid for in accordance with Section 504.

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

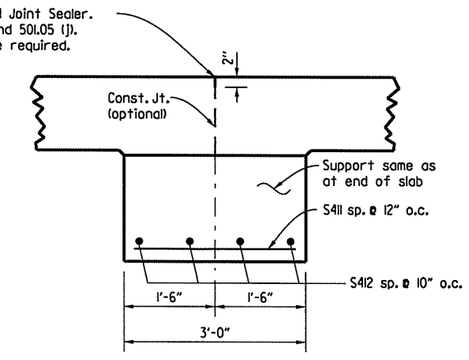
Work required to remove & dispose portions of the existing approach slab & gutter, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5919)" and "Modification of Existing Bridge Structure (Br. No. B5919)".



DETAILS OF SUPPORT AT END OF SLAB
No Scale



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT
No Scale



DETAILS OF REQUIRED TRANSVERSE SAWED JOINT
No Scale

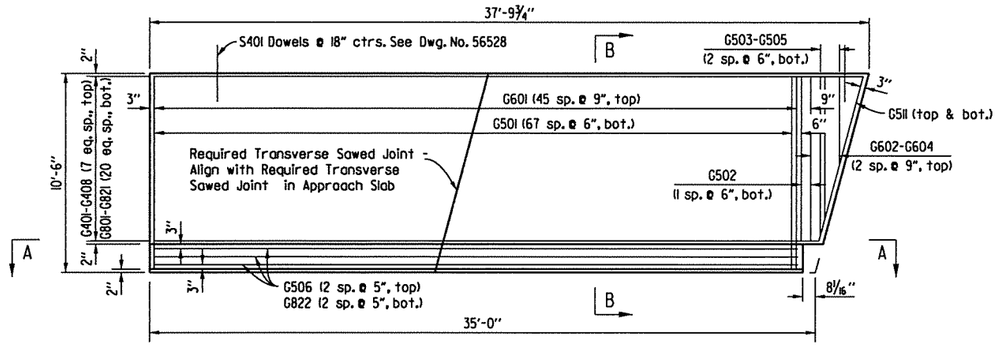
STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH
4/2/15

SHEET 3 OF 3
DETAILS OF TYPE SPECIAL 1 APPROACH SLABS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

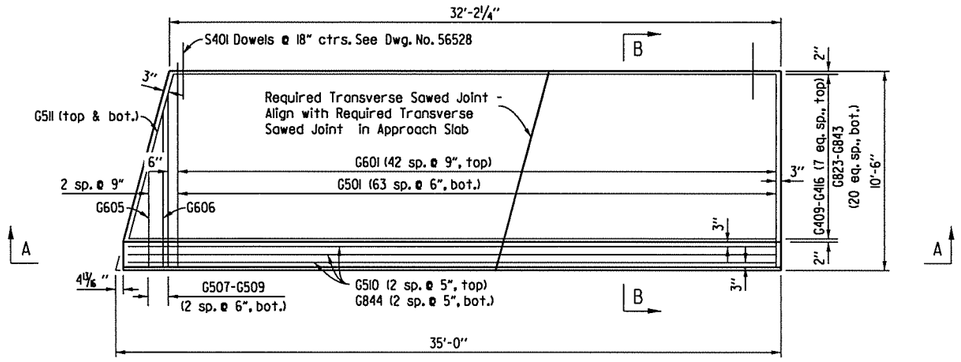
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BRIDGE NO. A&B5919 DRAWING NO. 56530

USER: lw7300
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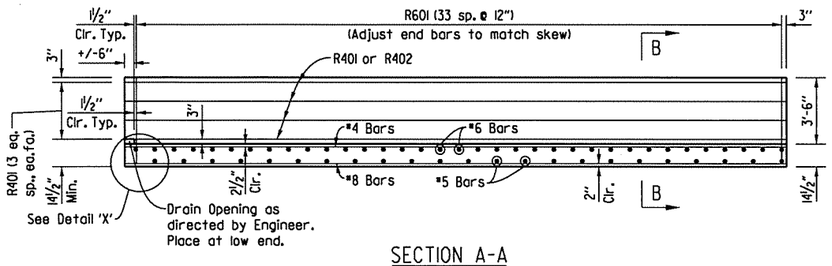
Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	113	338
					A5956		APPR. GUTTER		56531



GUTTER A
(BEGIN BRIDGE A)



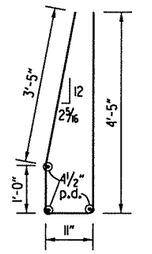
GUTTER B
(END BRIDGE A)

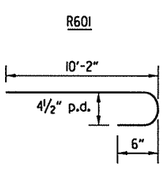


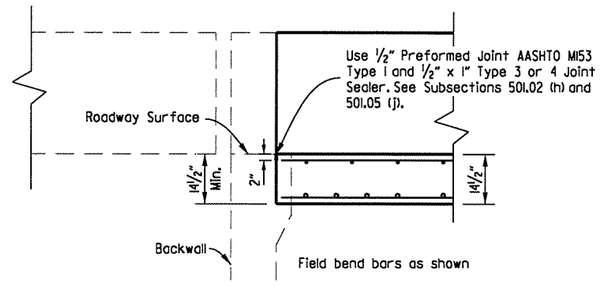
SECTION A-A
No Scale

BAR LIST

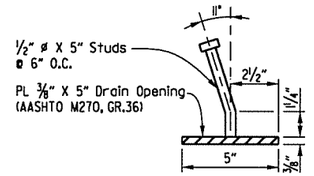
MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH	Bending Diagram
G401-G408	8	---	34'-11" to 37'-3"	
G409-G416	---	8	31'-9" to 34'-0"	
G501	68	64	10'-2"	
G502	2	---	8'-8"	
G503-G505	3	---	4'-8" to 8'-5"	
G506	3	---	33'-10"	
G507-G509	---	3	5'-5" to 9'-2"	
G510	---	3	34'-1"	
G511	2	2	9'-0"	
G601	46	43	10'-10"	
G602-G604	3	---	4'-8" to 8'-8"	
G605	---	1	5'-4"	
G606	---	1	8'-2"	
G801-G821	21	---	34'-11" to 37'-3"	
G822	3	---	33'-10"	
G823-G843	---	21	31'-9" to 34'-0"	
G844	---	3	34'-1"	
R401	8	---	33'-10"	
R402	---	8	34'-1"	
R601	34	34	9'-5"	







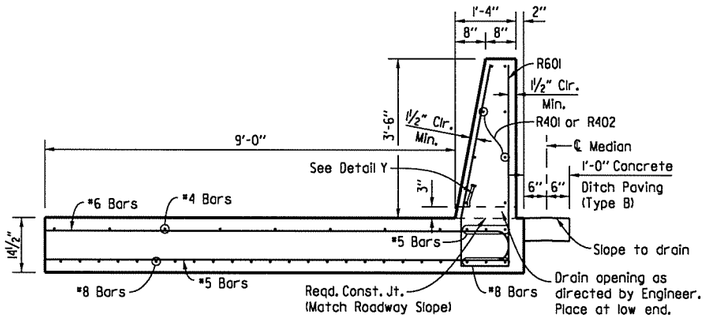
DETAIL X
No Scale



DETAIL Y
No Scale

NOTE:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

The surfaces of the ⅜" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to other bid items.



SECTION B-B
No Scale

TABLE OF QUANTITIES FOR TYPE SPECIAL I APPROACH GUTTERS

(for information only)

		Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)
Bridge A	Gutter A	4798	17.1
	Gutter B	4488	15.8
Bridge B	Gutter A	4488	15.8
	Gutter B	4798	17.3

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

Concrete Ditch Paving shall be subsidiary to other bid items.

STATE OF ARKANSAS
Jose Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 1 OF 2

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

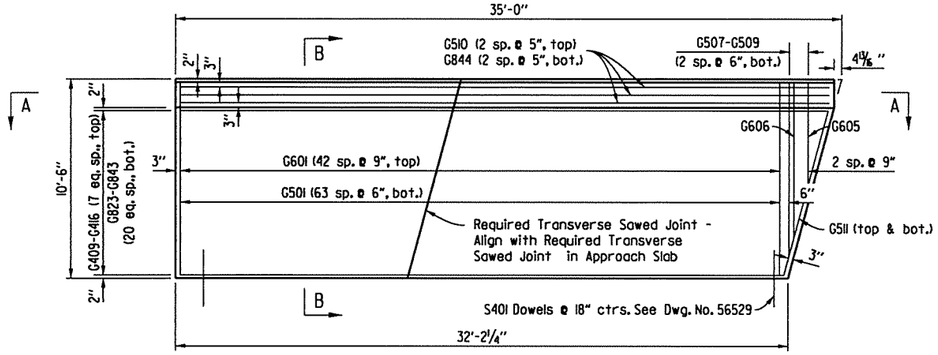
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BRIDGE NO. A5919
DRAWING NO. 56531

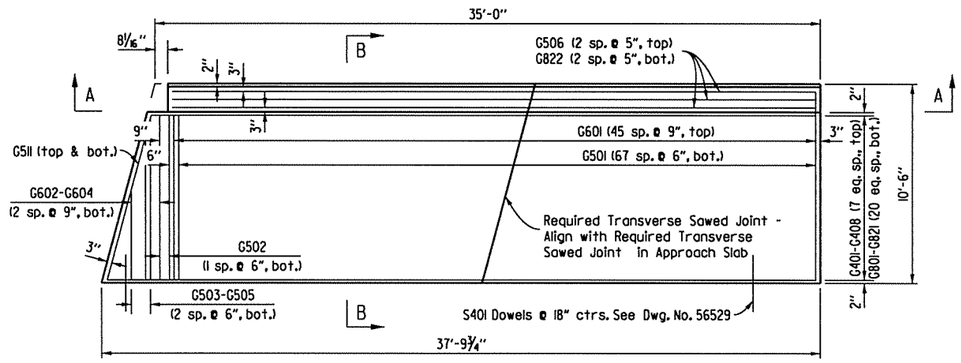
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SCALE: 8:1

Crafton, Tull & Associates Inc.

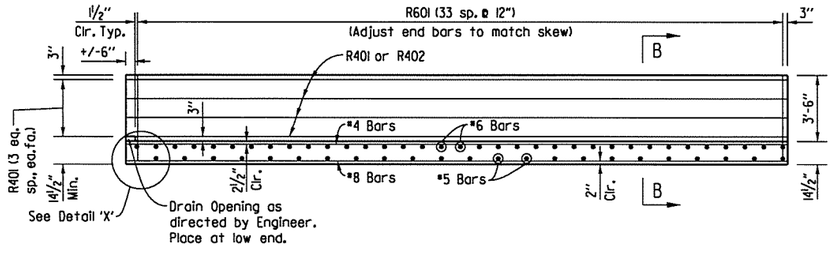
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				6	ARK.			
				JOB NO.		CA0401	114	338
				B5919		APPR. GUTTER		56532



GUTTER A
(BEGIN BRIDGE B)



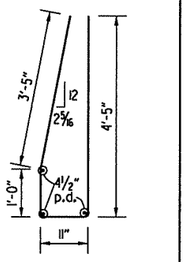
GUTTER B
(END BRIDGE B)



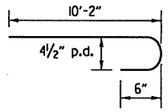
SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH	Bending Diagram
G401-G408	---	8	34'-11" to 37'-3"	
G409-G416	8	---	31'-9" to 34'-0"	
G501	64	68	10'-2"	
G502	---	2	8'-8"	
G503-G505	---	3	4'-8" to 8'-5"	
G506	---	3	33'-10"	
G507-G509	3	---	5'-5" to 9'-2"	
G510	3	---	34'-1"	
G511	2	2	9'-0"	
G601	43	46	10'-10"	
G602-G604	---	3	4'-8" to 8'-8"	
G605	1	---	5'-4"	
G606	1	---	8'-2"	
G801-G821	---	21	34'-11" to 37'-3"	
G822	---	3	33'-10"	
G823-G843	21	---	31'-9" to 34'-0"	
G844	3	---	34'-1"	
R401	---	8	33'-10"	
R402	8	---	34'-1"	
R601	34	34	9'-5"	

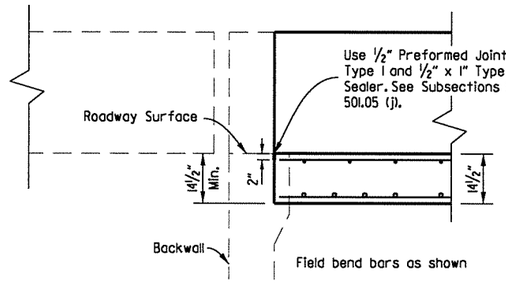


R601

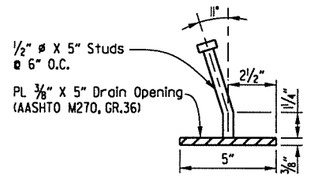


G601

For additional information, see Dwg. No. 56531



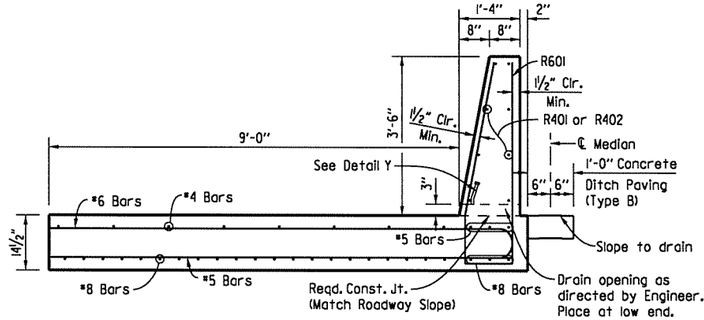
DETAIL X
No Scale



DETAIL Y
No Scale

NOTE:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to other bid items.



SECTION B-B
No Scale

STATE OF ARKANSAS
Jose K. Joseph
REGISTERED PROFESSIONAL ENGINEER
No. 15634
JOSE K. JOSEPH

4/2/15

SHEET 2 OF 2

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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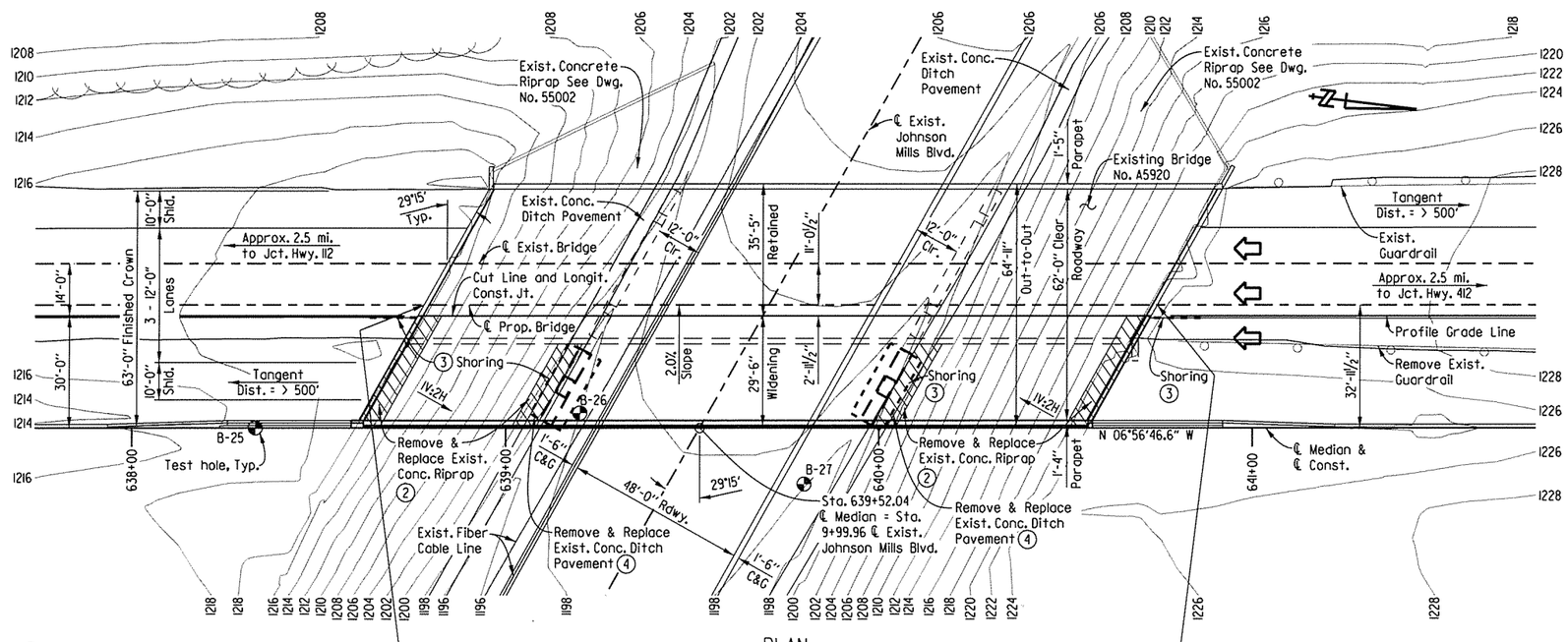
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	115	338
				A5920		LAYOUT		56533

For R/W Data, See Roadway Plans.



PLAN

① Minimum Vertical Clearance

② Remove Existing Concrete Riprap & Replace with New Concrete Riprap as necessary for Bent construction (See Std. Dwg. No. 55002). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5920)".

③ Shoring may be required during construction. Payment for this work, if required, shall be considered subsidiary to the pay item "Unclassified Excavation for Structures - Bridge". See SP Job No. CA0401 "Shoring".

④ Remove Existing Conc. Ditch Pavement & Replace with New Conc. Ditch Pavement as necessary for Bent construction (See Std. Dwg. No. CDP-11). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5920)".

For Bridge B5920 Layout, see Dwg. No. 56534

Remove Existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type Special I Approach Slabs at both ends of Bridge, see Dwg.Nos. 56554 & 56556. Use Type Special I Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. No. 56557.

Note: Elevations shown are along ℄ Proposed Bridge

Begin Bridge Sta 638+77.96 El. 1219.91

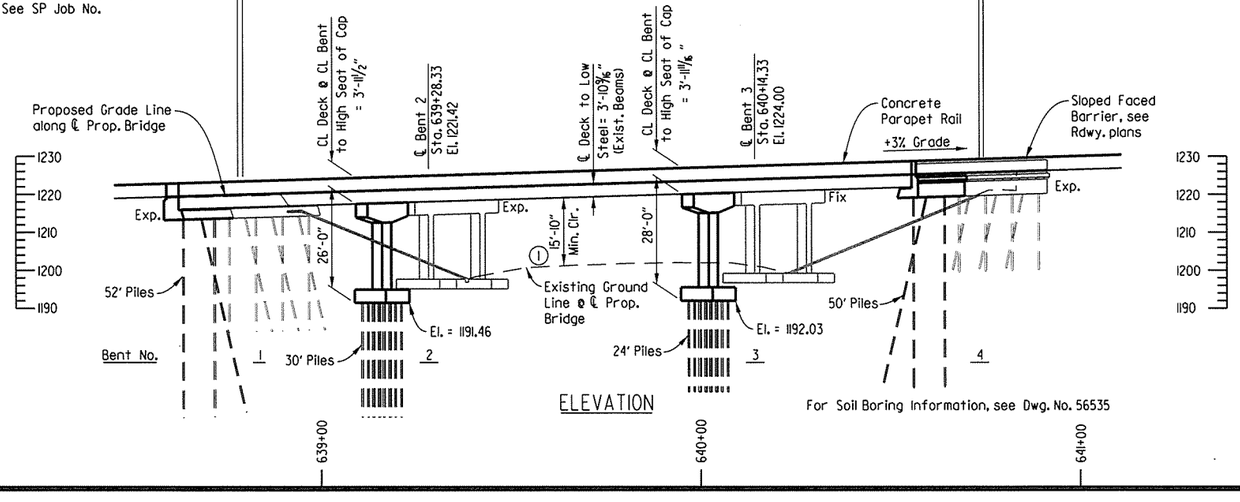
Total Length of Bridge = 196'-5⅝"

End Bridge Sta. 640+74.45 El. 1225.80

1'-4⅞" | 194'-0" Continuous Composite W-Beam Unit (49', 86', 59') | 1'-1½"

℄ 2⅝" Poured Silicone Joint

℄ 1⅝" Poured Silicone Joint



ELEVATION

For Soil Boring Information, see Dwg. No. 56535

GENERAL NOTES

BENCH MARK: TBM 805, 66.40' Rt. Centerline, Sta. 638+22.02, Elev. 1217.55.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with current interim specifications (New construction only).

LIVE LOADING: HL-93 SEISMIC PERFORMANCE ZONE: I S_{DI} :0.089 SITE CLASS: C

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 M 31 or M 322 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

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PILING: All piling shall be HP 12x53 (Gr. 50) and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 96 tons per pile into the material designated as Hard Limestone on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in End Bent 1 & 4 to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

PREBORING: Preboring will be required for all piling and shall extend from bottom of footing or bottom of cap to top of rock. A preboring depth of 47' is anticipated at End Bents. A preboring depth of 29' at Bent 2 and 23' at Bent 3 is anticipated for Bridge A. A preboring depth of 28' at Bent 2 and 24' at Bent 3 is anticipated for Bridge B. The quantities for preboring shown are for bidding purposes only. The actual size and depth of preboring are to be determined in the field by the Engineer. The length of prebored hole shall be backfilled in accordance with Subsection 805.08(a) to completely fill the remaining voids. The Contractor shall be responsible for keeping prebored holes free from debris prior to back filling which may require the use of temporary casings or other methods. Pile casings and backfill will not be paid for directly but shall be considered subsidiary to the item "Preboring".

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.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface including the existing deck surface to be retained, and roadway face and top of parapet rail of the new construction.

PAINT: All new Structural Steel except galvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection 807.75. The color of paint shall match existing beams.

DETAIL DRAWINGS:	DRAWING NUMBER
Stage Construction	56536-56537
End Bents	56538-56542
Intermediate Bents	56543-56544
Elastomeric Bearings	56545
Widening Details	56546-56553
Type Special Approach Slab	56554-56556
Type Special Approach Gutters	56557-56558

For Additional General Notes see Sheet No. 56534

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 1 OF 3

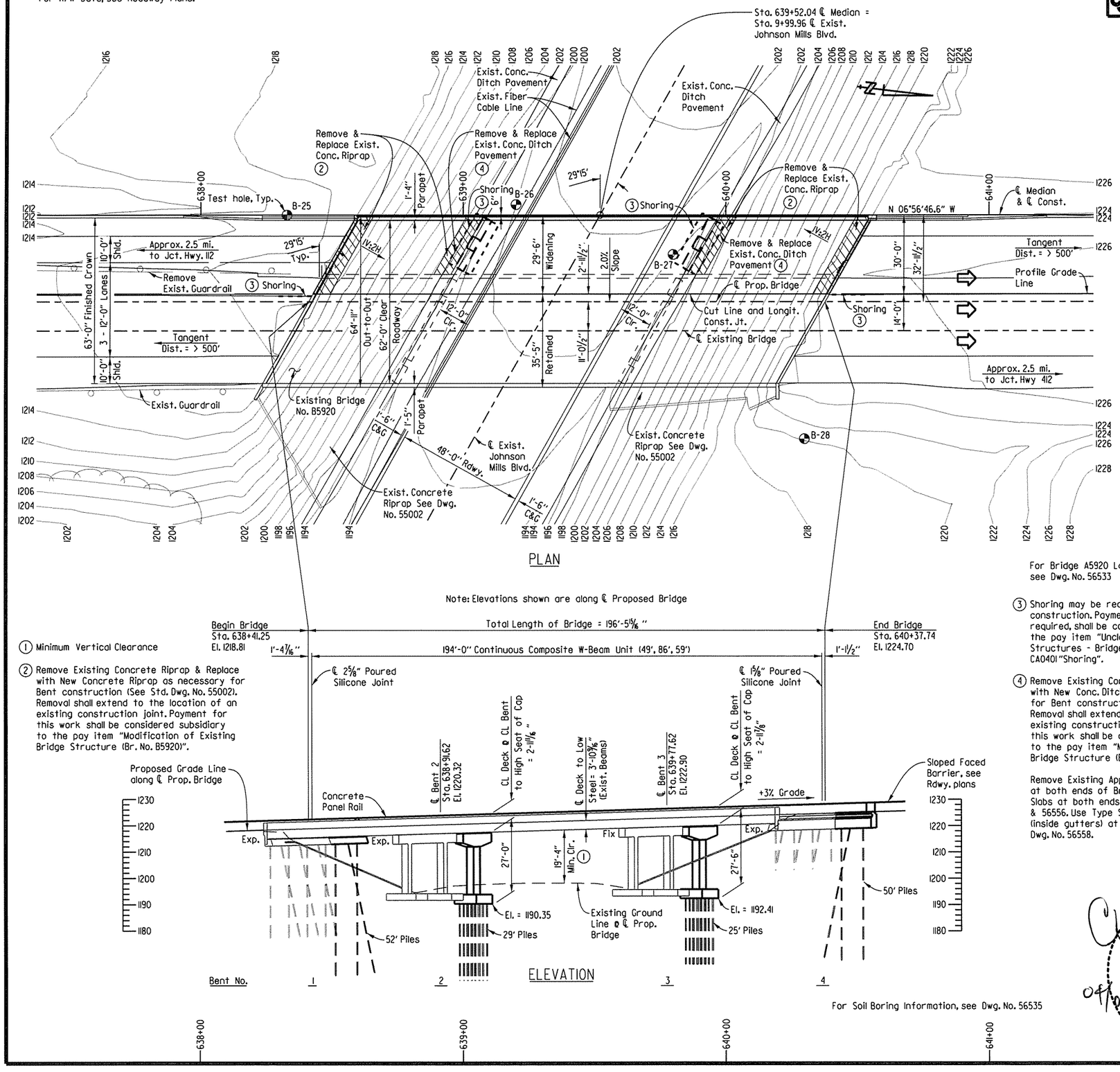
LAYOUT OF BRIDGE 'A' OVER JOHNSON MILL BLVD.
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: CAW DATE: 01-22-14 SCALE: 1" = 20'
DESIGNED BY: KJC DATE: 10-30-13
BRIDGE NO. A5920 DRAWING NO. 56533

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For R/W Data, See Roadway Plans.



PLAN

Note: Elevations shown are along ℄ Proposed Bridge

ELEVATION

For Soil Boring Information, see Dwg. No. 56535

(1) Minimum Vertical Clearance

(2) Remove Existing Concrete Riprap & Replace with New Concrete Riprap as necessary for Bent construction (See Std. Dwg. No. 55002). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5920)".

(3) Shoring may be required during construction. Payment for this work, if required, shall be considered subsidiary to the pay item "Unclassified Excavation for Structures - Bridge". See SP Job No. CA0401 "Shoring".

(4) Remove Existing Conc. Ditch Pavement & Replace with New Conc. Ditch Pavement as necessary for Bent construction (See Std. Dwg. No. CDP-11). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5920)".

Remove Existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type Special I Approach Slabs at both ends of Bridge, see Dwg. Nos. 56555 & 56556. Use Type Special I Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. No. 56558.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	116	338
B5920		LAYOUT		56534

GENERAL NOTES (con't)

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, modifying the existing end bents, constructing new intermediate bents to the median side of existing bents, removing and replacing portions of the concrete deck, removing and replacing portions of the existing concrete riprap, and replacing the joint seals. For additional requirements in conducting the work, see Section 821.

EXISTING BRIDGE: The Existing Bridge Nos. A&B5920 are approximately 42.8' wide and 196.5' long and consists of a continuous 194' composite W-beam and reinforced concrete slab span, multi-column intermediate bents on spread footings, and steel pile end bents. Plans of the existing structure may be obtained upon request to the Construction Contract Procurement Section of the Program Management Division.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to proposed work. Information and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to 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. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5920) and Modification of Existing Bridge Structure (Br. No. B5920)".

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 and Special Provisions for more information.

For Bridge A5920 Layout, see Dwg. No. 56533

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 2 OF 3

LAYOUT OF BRIDGE 'B' OVER
JOHNSON MILL BLVD.
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

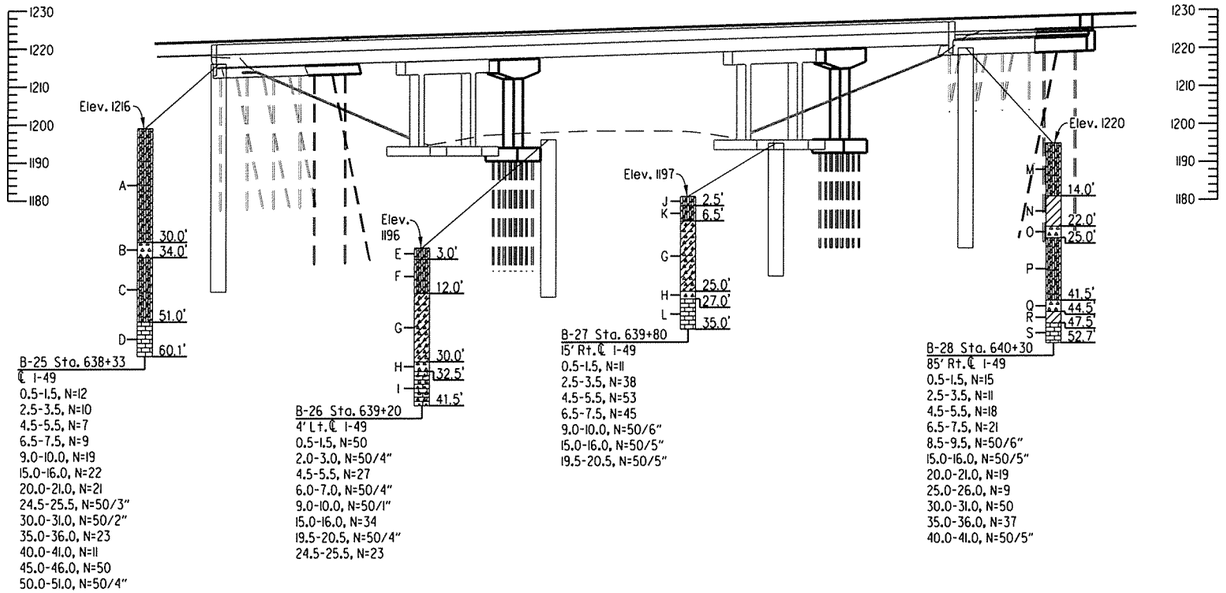
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BRIDGE NO. B5920 DRAWING NO. 56534

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	117	338
				A&B5920		LAYOUT		56535



B-25 Sta. 638+33
℄ I-49
0.5-1.5, N=12
2.5-3.5, N=10
4.5-5.5, N=7
6.5-7.5, N=9
9.0-10.0, N=19
15.0-16.0, N=22
20.0-21.0, N=21
24.5-25.5, N=50/3"
30.0-31.0, N=50/2"
35.0-36.0, N=23
40.0-41.0, N=11
45.0-46.0, N=50
50.0-51.0, N=50/4"

B-26 Sta. 639+20
4' Lt.℄ I-49
0.5-1.5, N=50
2.0-3.0, N=50/4"
4.5-5.5, N=27
6.0-7.0, N=50/4"
9.0-10.0, N=50/1"
15.0-16.0, N=34
19.5-20.5, N=50/4"
24.5-25.5, N=23

B-27 Sta. 639+80
15' Rt.℄ I-49
0.5-1.5, N=11
2.5-3.5, N=38
4.5-5.5, N=53
6.5-7.5, N=45
9.0-10.0, N=50/6"
15.0-16.0, N=50/5"
19.5-20.5, N=50/5"

B-28 Sta. 640+30
85' Rt.℄ I-49
0.5-1.5, N=15
2.5-3.5, N=11
4.5-5.5, N=18
6.5-7.5, N=21
8.5-9.5, N=50/6"
15.0-16.0, N=50/5"
20.0-21.0, N=19
25.0-26.0, N=9
30.0-31.0, N=50
35.0-36.0, N=37
40.0-41.0, N=50/5"

ELEVATION

BORING LEGEND

A. Stiff reddish brown silty CLAY with chert and limestone fragments and silty clay seams - fill
B. Low hardness white and tan highly weathered CHERT with trace silty clay seams
C. Stiff reddish tan silty CLAY with some highly weathered chert and chert fragments
D. Hard white and light gray LIMESTONE with occasional chert inclusions
E. Very stiff reddish brown silty CLAY with chert fragments - fill
F. Stiff reddish brown silty CLAY with chert fragments and ferrous stains and nodules
G. Low hardness white and light gray weathered CHERT with some reddish brown silty clay
H. Hard white and light gray CHERT, highly fractured with limestone inclusions
I. Hard light gray LIMESTONE with some chert nodules and inclusions
J. Stiff reddish brown silty CLAY with chert fragments and a little limestone fragments - fill
K. Very stiff reddish brown silty CLAY with chert fragments
L. Hard light gray LIMESTONE with chert nodules and inclusions
M. Stiff brown and reddish brown silty CLAY with some chert and limestone fragments and red clay seams - fill
N. Very stiff dark red CLAY with trace chert fragments
O. Low hardness light gray completely weathered CHERT
P. Firm reddish brown silty CLAY with light tan weathered chert seams and chert fragments
Q. Low hardness white and light gray highly weathered CHERT
R. Very stiff red CLAY
S. Hard white and light gray LIMESTONE, highly fractured with some chert nodules and inclusions

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 3 OF 3

LAYOUT OF BRIDGES 'A & B' OVER JOHNSON MILL BLVD.
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

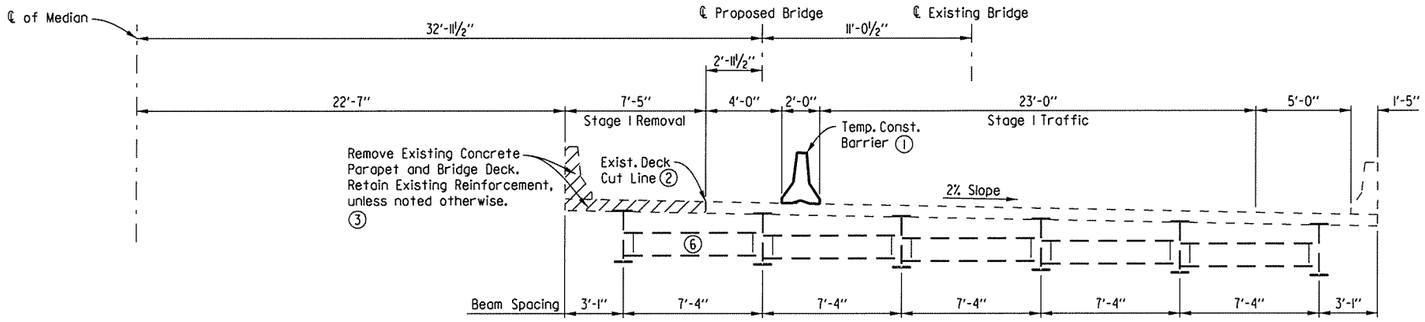
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DESIGNED BY: KJC DATE: 10-30-13
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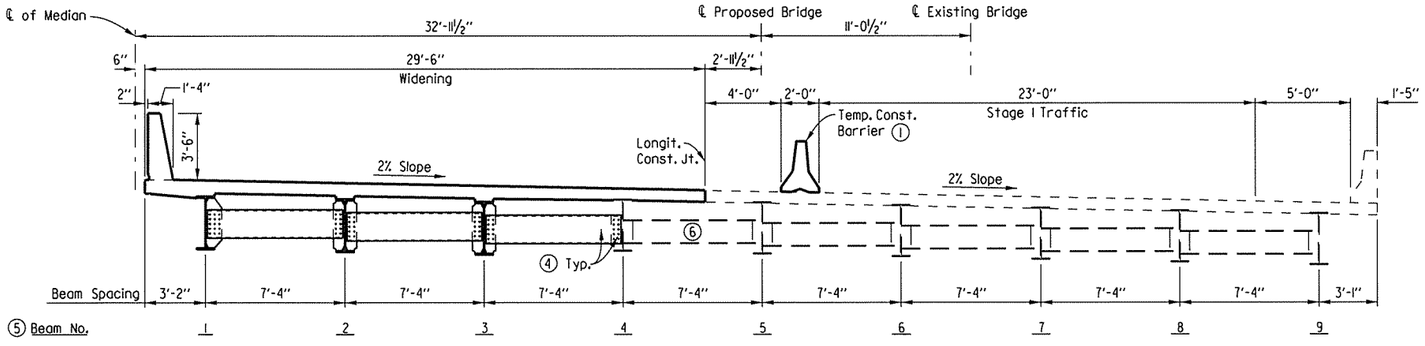
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Crafton, Tull & Associates Inc.

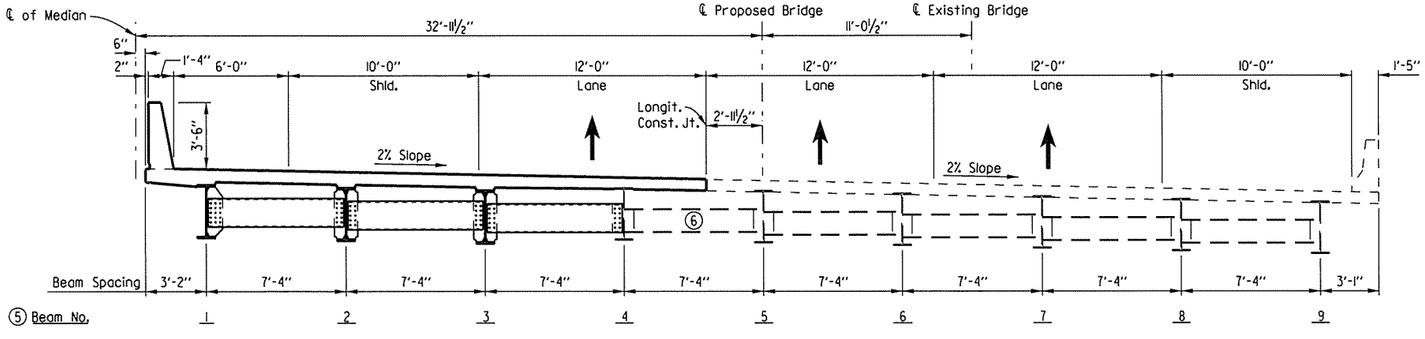
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				6	ARK.			
				JOB NO.		CA0401	118	338
				A&B5920		STAGE CONST.		56536



EXISTING
(Looking Ahead)
(Bridge B shown,
Bridge A opposite hand)



PROPOSED WIDENING
(Looking Ahead)
(Bridge B shown,
Bridge A opposite hand)



CONSTRUCTION COMPLETE
(Looking Ahead)
(Bridge B shown,
Bridge A opposite hand)

Notes:

① For Details of Temporary Precast Barrier, See Std. Dwg. No. TC-4. (Do not connect to existing deck)

② Partial Saw Cut Depth. See Section 821.

③ Care shall be exercised during the removal of the existing deck to ensure that the beams, diaphragms, bolted connections and reinforcement are not damaged. Damaged items that are not salvageable as determined by the Engineer, shall be replaced by the Contractor at no additional payment.

④ Install new diaphragms and connection prior to deck pour. The new connection plate shall be field welded to the existing beam. See Dwg No. 56546 for information regarding tightening of bolts.

⑤ The beam numbers have been renumbered from the original plans to provide consistency to the plan details.

⑥ See "Typical Section at Midspan", Dwg. No. 56546

The Contractor may propose a different sequence of construction to the Engineer for approval.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 1 OF 2

STAGE CONSTRUCTION

DETAILS OF BRIDGES OVER JOHNSON MILL BLVD.

HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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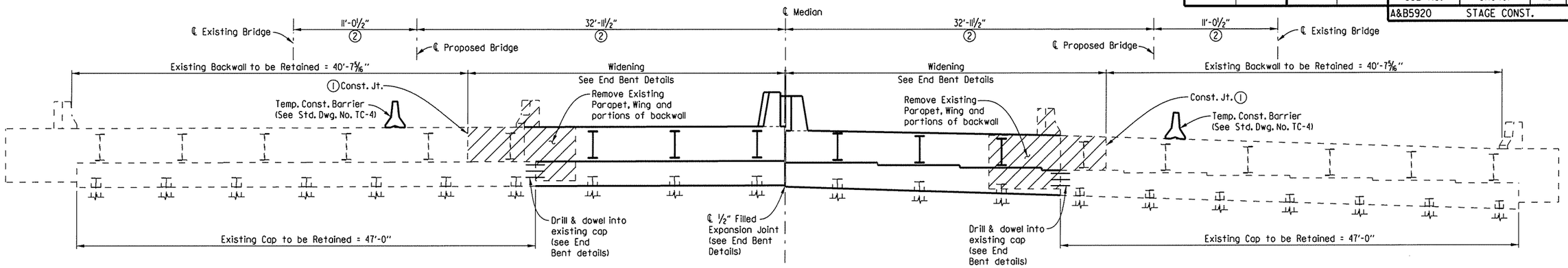
BRIDGE NO. A&B5920 DRAWING NO. 56536

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

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6	ARK.			
JOB NO.		CA0401	119	338
A&B5920		STAGE CONST.		56537



Southbound Bridge A5920 Bent 4

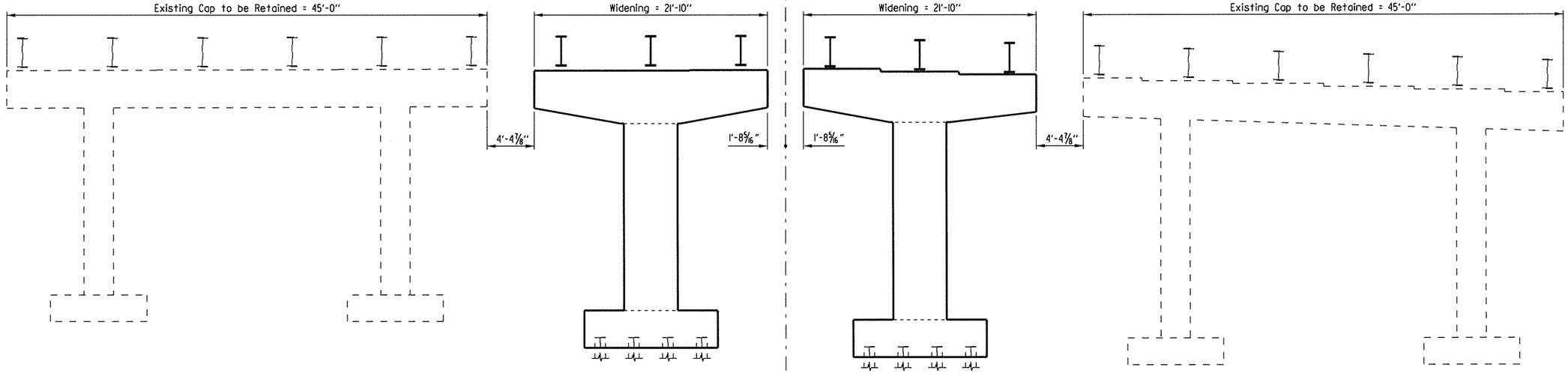
Looking Ahead
Note: Dimensions Along ℄ Bent, U.N.O.
Bent 1 Similar

Northbound Bridge B5920 Bent 4

Looking Ahead
Note: Dimensions Along ℄ Bent, U.N.O.
Bent 1 Similar

① Saw cut and remove wing and portions of existing backwall.

② Dimensions are measured perpendicular to ℄ Median.



Southbound Bridge A5920 Int. Bts. 2 & 3

Looking Ahead
Note: Dimensions Along ℄ Bent, U.N.O.

Northbound Bridge B5920 Int. Bts. 2 & 3

Looking Ahead
Note: Dimensions Along ℄ Bent, U.N.O.

Unless otherwise noted, all dimensions shown are along ℄ Bent.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 2 OF 2

STAGE CONSTRUCTION
DETAILS OF BRIDGES OVER JOHNSON MILL BLVD.
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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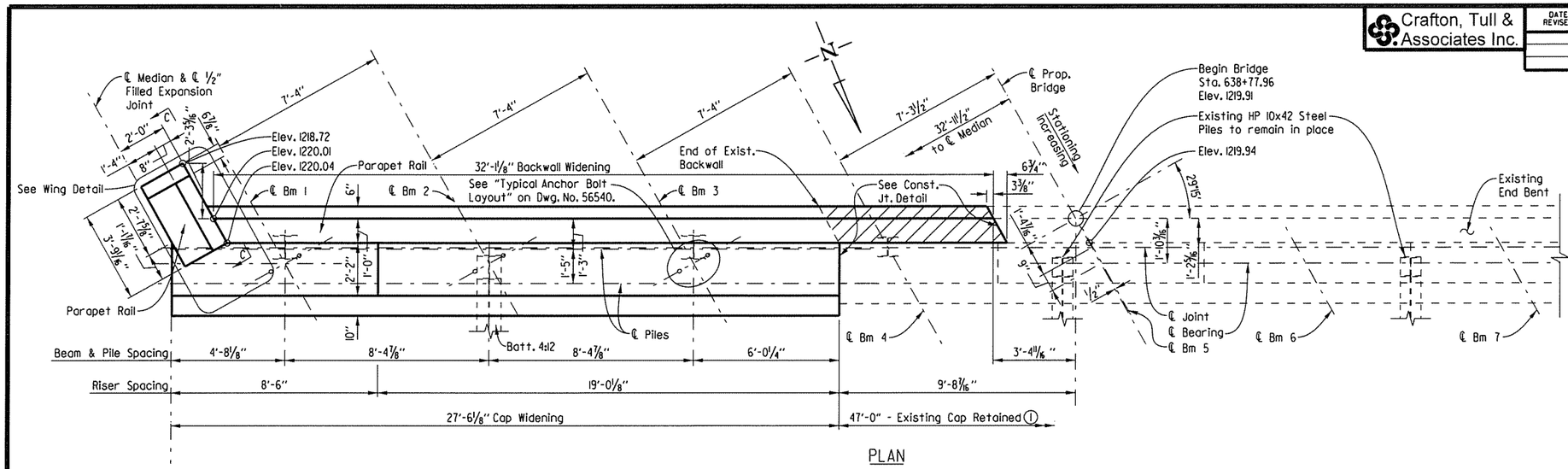
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Crafton, Tull & Associates Inc.

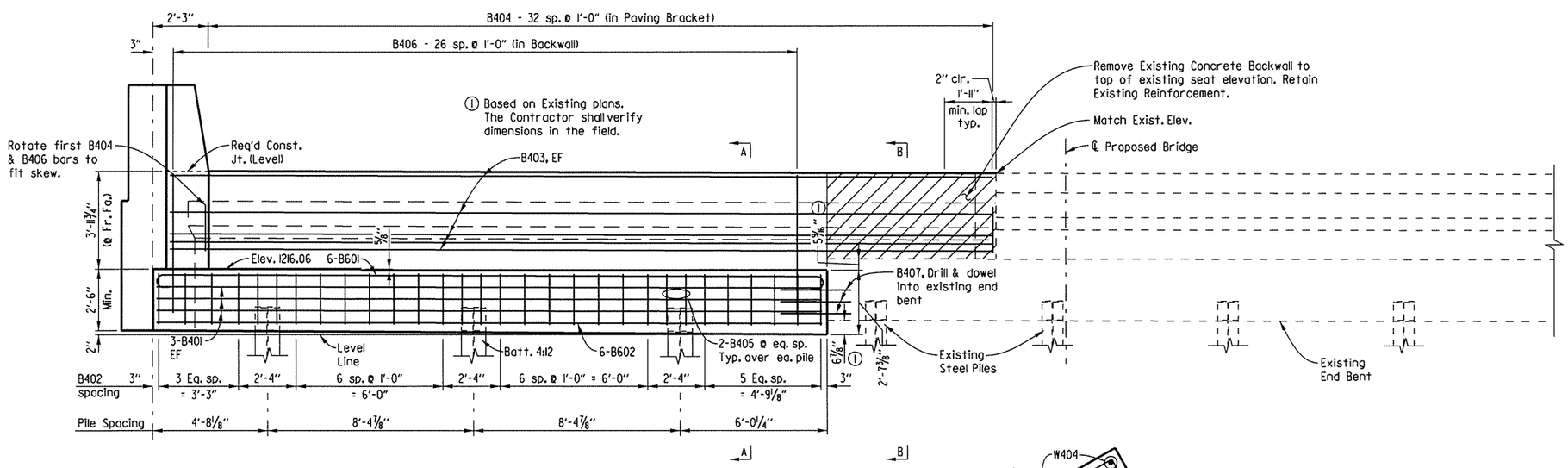
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6	ARK.			
JOB NO.		CA0401	120	338
A5920		END BENT 1		56538



PLAN

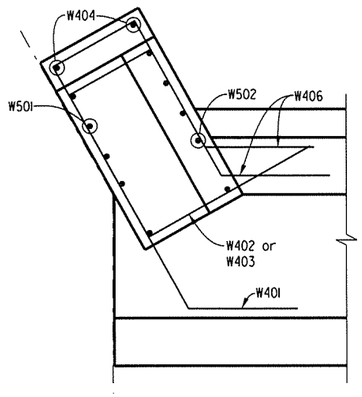
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ELEVATION

(Looking Back)

Scale: ⅜" = 1'-0"



WING DETAIL

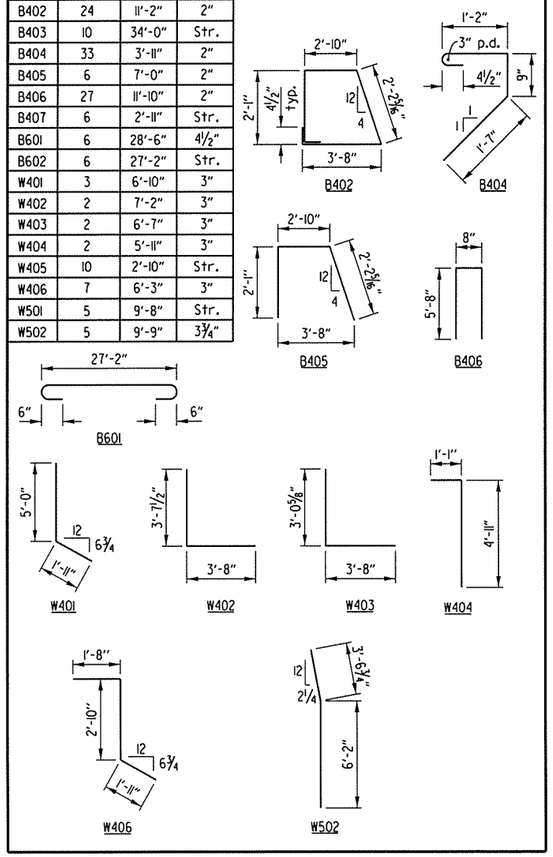
Scale: ¾" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	27'-2"	Str.
B402	24	11'-2"	2"
B403	10	34'-0"	Str.
B404	33	3'-11"	2"
B405	6	7'-0"	2"
B406	27	11'-10"	2"
B407	6	2'-11"	Str.
B601	6	28'-6"	4½"
B602	6	27'-2"	Str.
W401	3	6'-10"	3"
W402	2	7'-2"	3"
W403	2	6'-7"	3"
W404	2	5'-11"	3"
W405	10	2'-10"	Str.
W406	7	6'-3"	3"
W501	5	9'-8"	Str.
W502	5	9'-9"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing surface to be retained, and roadway face and top of parapet of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56545
For additional details and General Notes, See Dwg. No. 56540

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/07/15

DETAILS OF END BENT 1 - BRIDGE A

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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DESIGNED BY:	KJC	DATE:	09-09-14		

BRIDGE NO. A5920 DRAWING NO. 56538

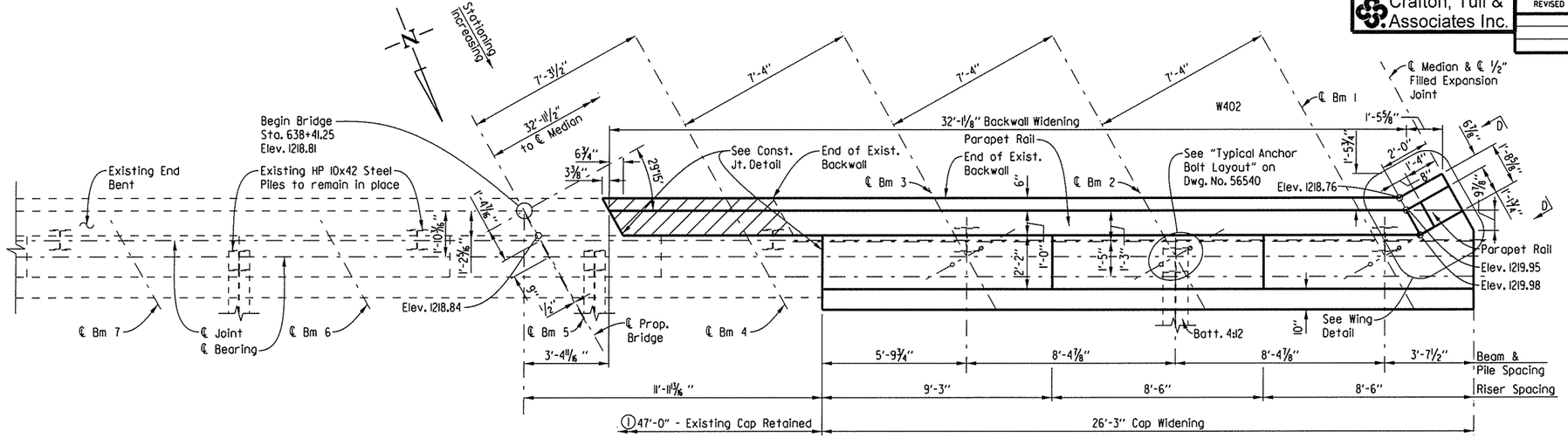
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Crafton, Tull & Associates Inc.

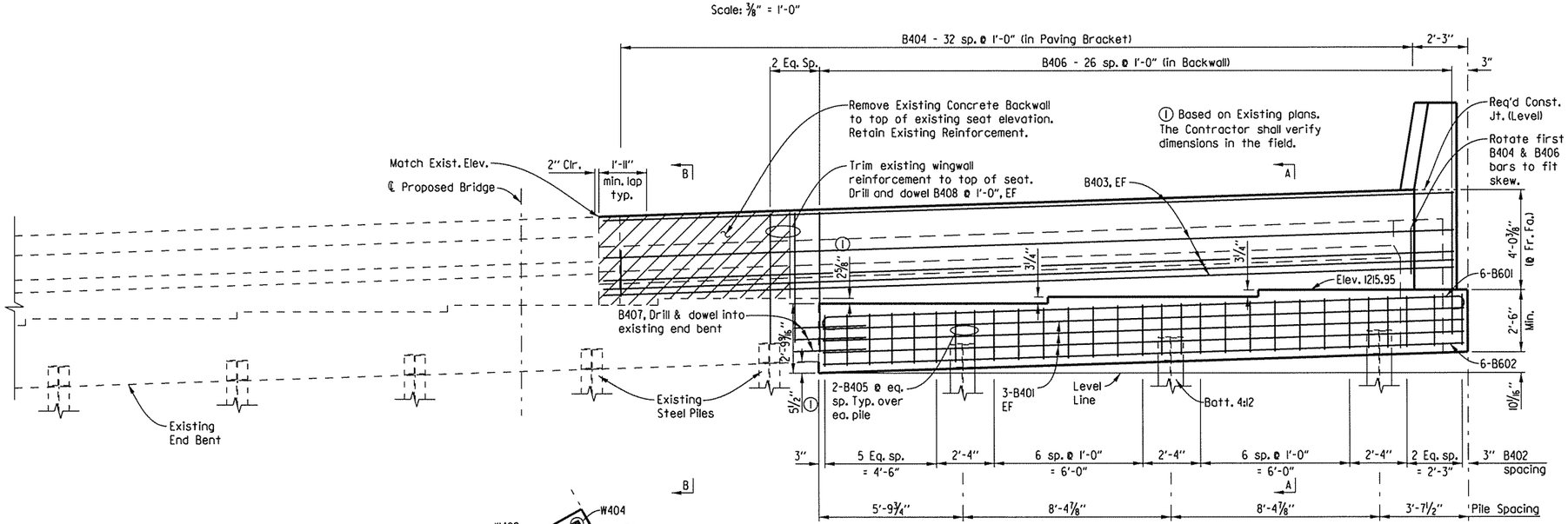
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6	ARK.			
JOB NO.		CA0401	121	338
B5920		END BENT 1		56539



PLAN

Scale: ⅜" = 1'-0"



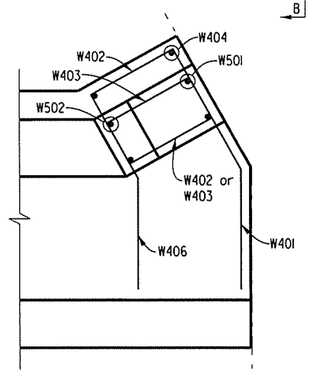
ELEVATION

(Looking Back)

Scale: ⅜" = 1'-0"

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing surface to be retained, and roadway face and top of parapet of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56545
For additional details and General Notes, See Dwg. No. 56540



WING DETAIL

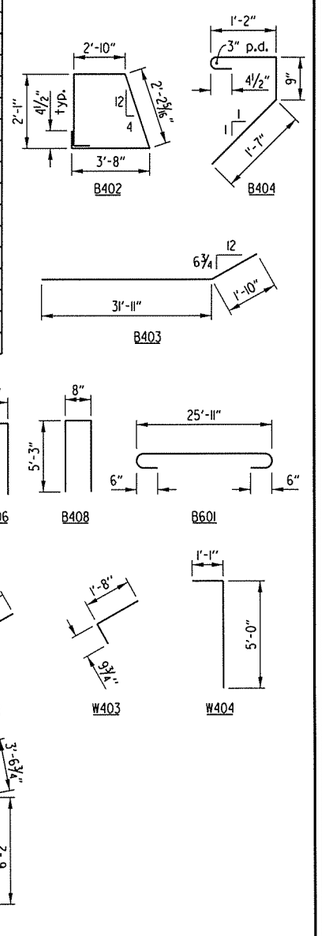
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BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	26'-0"	Str.
B402	23	11'-2"	2"
B403	10	33'-9"	2"
B404	33	3'-11"	2"
B405	6	7'-0"	2"
B406	27	11'-10"	2"
B407	6	2'-11"	Str.
B408	2	11'-0"	2"
B601	6	27'-3"	4½"
B602	6	26'-0"	Str.
W401	3	4'-6"	3"
W402	4	2'-11"	3"
W403	4	2'-5"	3"
W404	2	6'-0"	3"
W405	10	10"	Str.
W406	3	5'-2"	3"
W501	5	9'-8"	Str.
W502	5	9'-9"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

DETAILS OF END BENT 1 - BRIDGE B

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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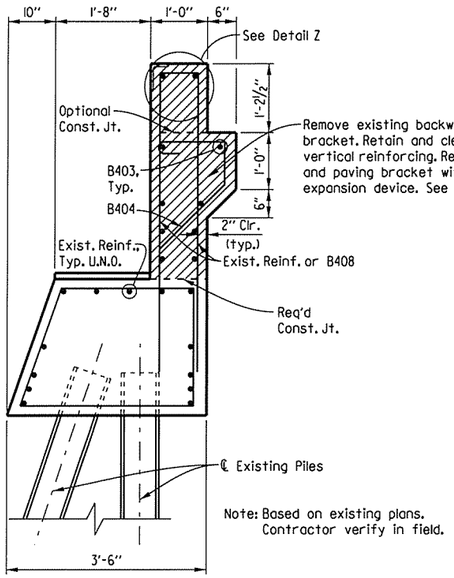
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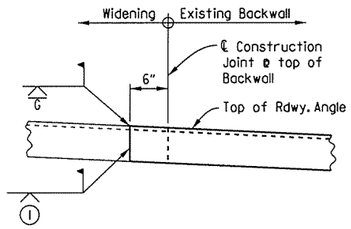
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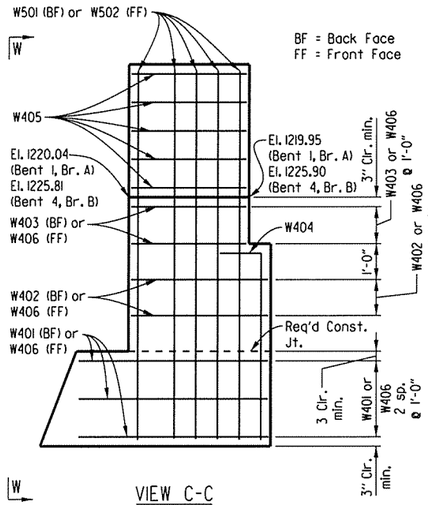


SECTION B-B
¾" = 1'-0"

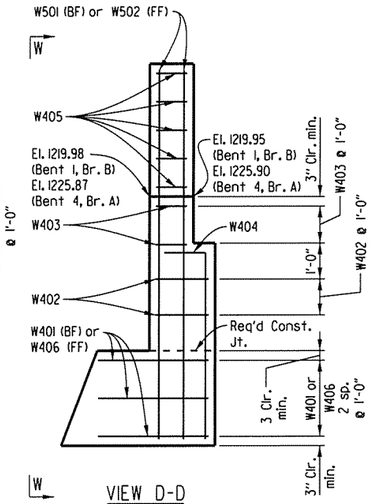


1 Grind flush from top of deck to top of Bumper Plate.

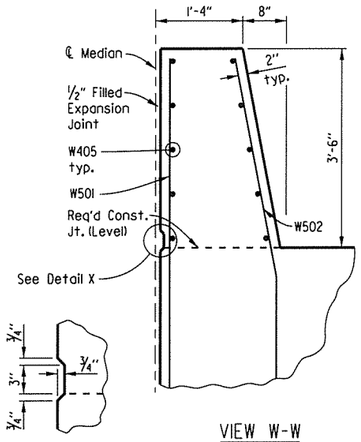
DETAIL OF WELD LOCATION FOR JOINT ARMOR
(Looking Back - Bridge A Bent 1 Shown. Others similar)
No Scale



VIEW C-C
No Scale

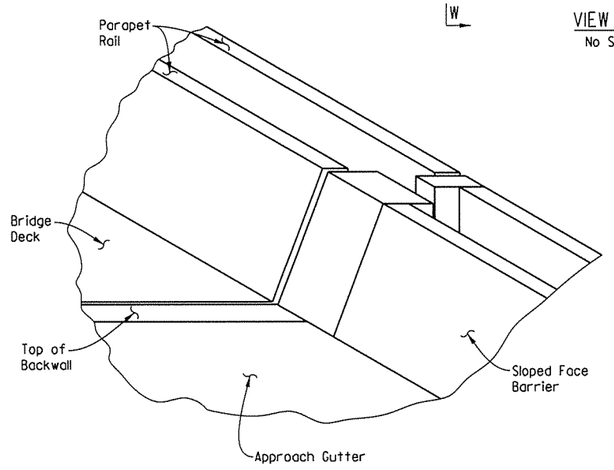


VIEW D-D
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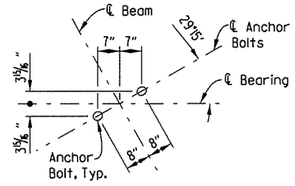


VIEW W-W
No Scale

DETAIL X
No Scale



DETAIL OF BARRIER AT BRIDGE END
No Scale



TYPICAL ANCHOR BOLT LAYOUT
Scale: ¾" = 1'-0"

GENERAL NOTES

All Concrete shall be Class "S" and poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All Reinforcing Steel shall be Grade 60 (fy = 60,000 psi) AASHTO M 31 or M 322, Type A with mill test reports.

The backwall shall not be poured before the beams are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Detail Z for additional information.

Structural Steel in end bents may be AASHTO M 270, Gr. 36 and shall be included in the bid item "Structural Steel in Beam Spans (M270, Gr. 50)."

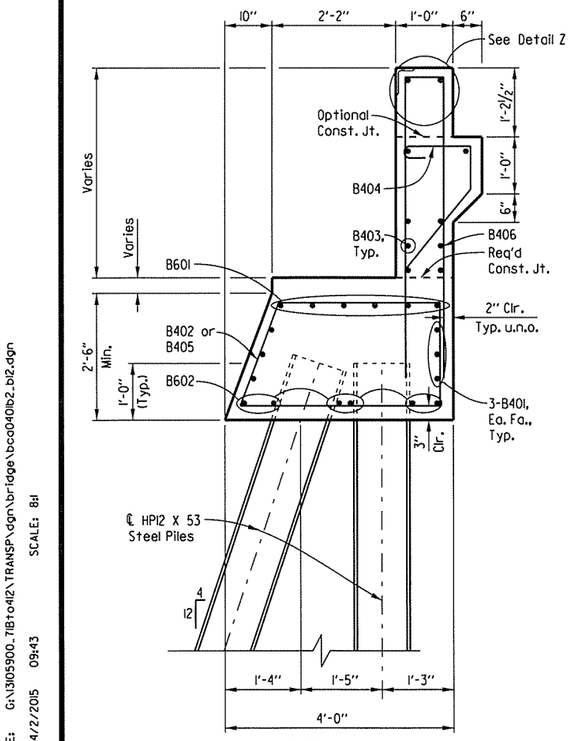
If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

Drill and grout bars where shown using an approved cement or epoxy system from the OPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.

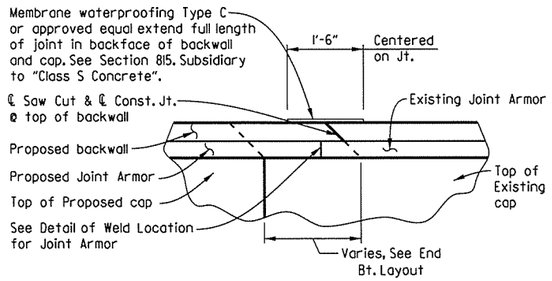
Work required to remove & dispose portions of the existing bridge, retain and clean existing reinforcing steel, and any required doweling will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5920)" and "Modification of Existing Bridge Structure (Br. No. B5920)".

½" Filled Expansion Joint will not be paid for directly but will be considered subsidiary to item "Class S Concrete - Bridge".

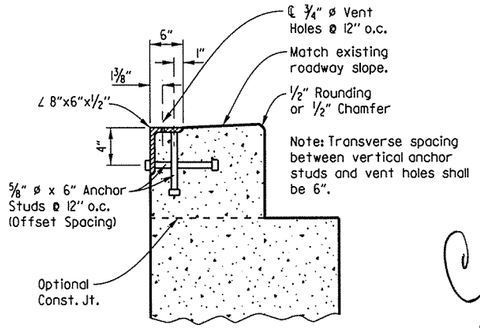
For additional information, see Layout.



SECTION A-A
¾" = 1'-0"



CONSTRUCTION JOINT DETAIL
(Bent 1, Bridge A Shown. Others similar)
No Scale



Note: For additional Joint Details, See Dwg. No. 56553

DETAIL Z
No Scale

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIFF
04/07/15

DETAILS OF END BENTS 1 & 4 - BRIDGES A & B

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	BWC	DATE:	10-03-14	FILENAME:	bca0401b2.bl2.dgn
CHECKED BY:	CAW	DATE:	10-30-14	SCALE:	SEE DETAILS
DESIGNED BY:	KJC	DATE:	09-09-14		

BRIDGE NO. A&B5920 DRAWING NO. 56540

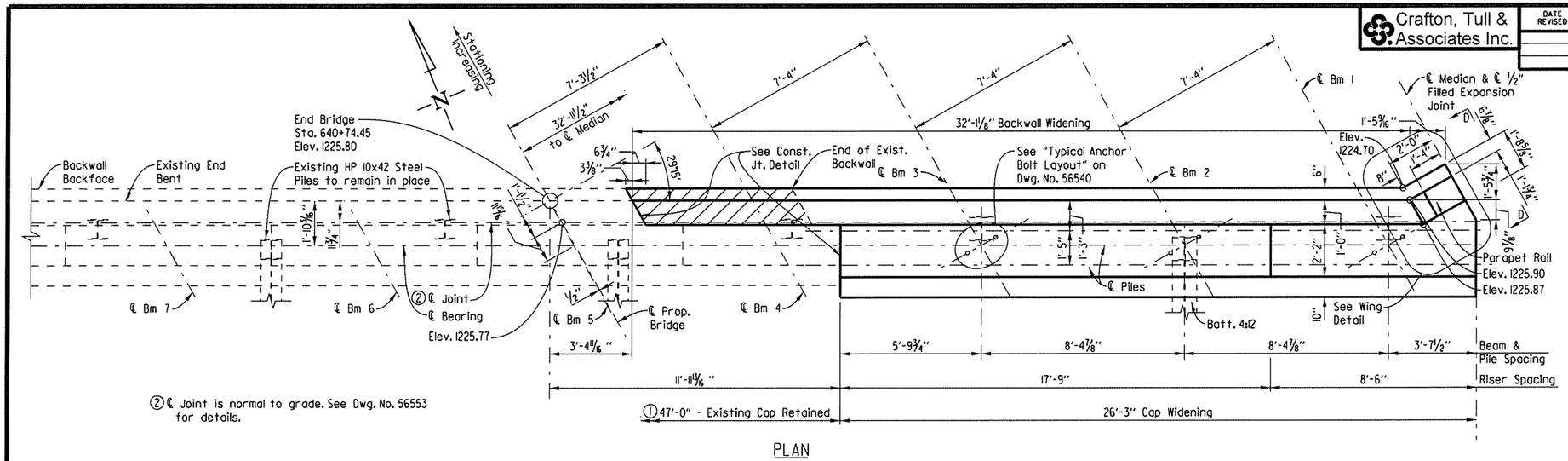
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PLOTTED: 4/2/2015 09:43 SCALE: 8:1

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Crafton, Tull & Associates Inc.

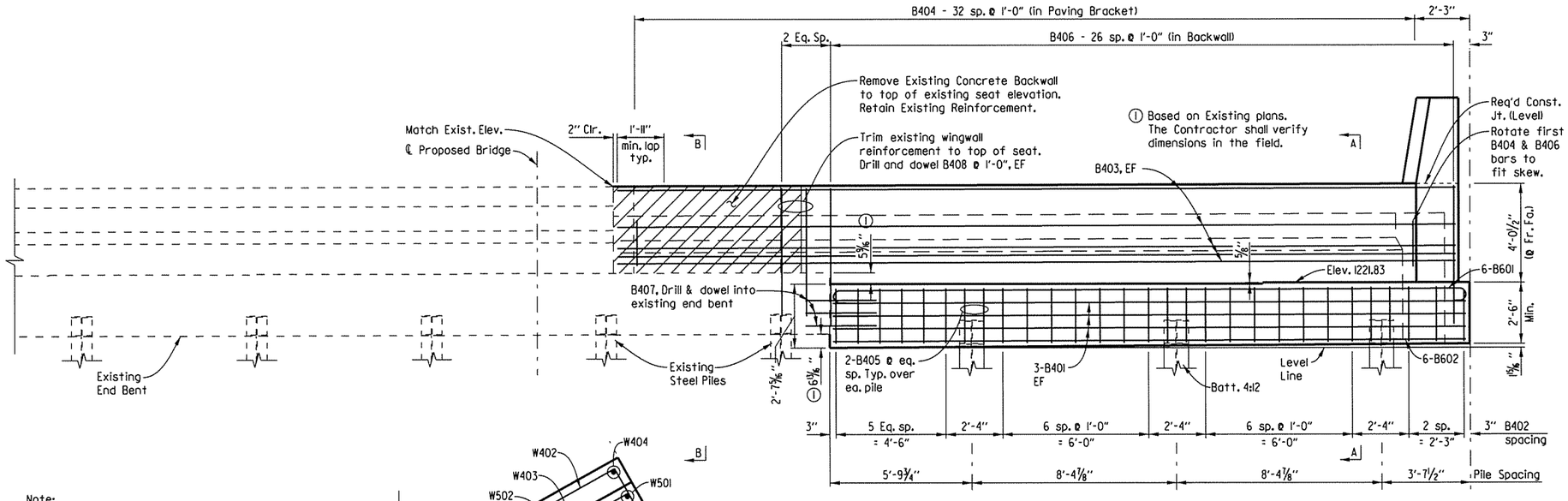
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	123	338
A5920		END BENT 4		56541



② ℄ Joint is normal to grade. See Dwg. No. 56553 for details.

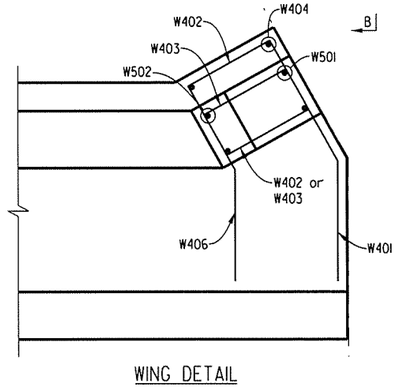
PLAN
Scale: ⅜" = 1'-0"



ELEVATION
(Looking Ahead)
Scale: ⅜" = 1'-0"

Note:
Class 1 Protective Surface Treatment shall be applied to the top of the backwall including the existing surface to be retained, and roadway face and top of parapet of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56545
For additional details and General Notes, See Dwg. No. 56540

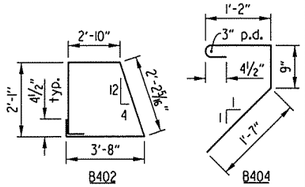


WING DETAIL
Scale: ¼" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	26'-0"	Str.
B402	23	11'-2"	2"
B403	10	33'-9"	2"
B404	33	3'-11"	2"
B405	6	7'-0"	2"
B406	27	11'-10"	2"
B407	6	2'-11"	Str.
B408	2	11'-0"	2"
B601	6	27'-3"	4½"
B602	6	26'-0"	Str.
W401	3	4'-6"	3"
W402	4	2'-11"	3"
W403	4	2'-5"	3"
W404	2	6'-0"	3"
W405	10	10"	Str.
W406	3	5'-2"	3"
W501	5	9'-8"	Str.
W502	5	9'-9"	3¾"

BENDING DIAGRAMS
Dimensions are out to out of bars.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/24/15

DETAILS OF END BENT 4 - BRIDGE A

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: BWC	DATE: 09-26-14	FILENAME: bca0401a2_b41.dgn	
CHECKED BY: CAW	DATE: 10-30-14	SCALE: SEE DETAILS	
DESIGNED BY: KJC	DATE: 09-09-14		

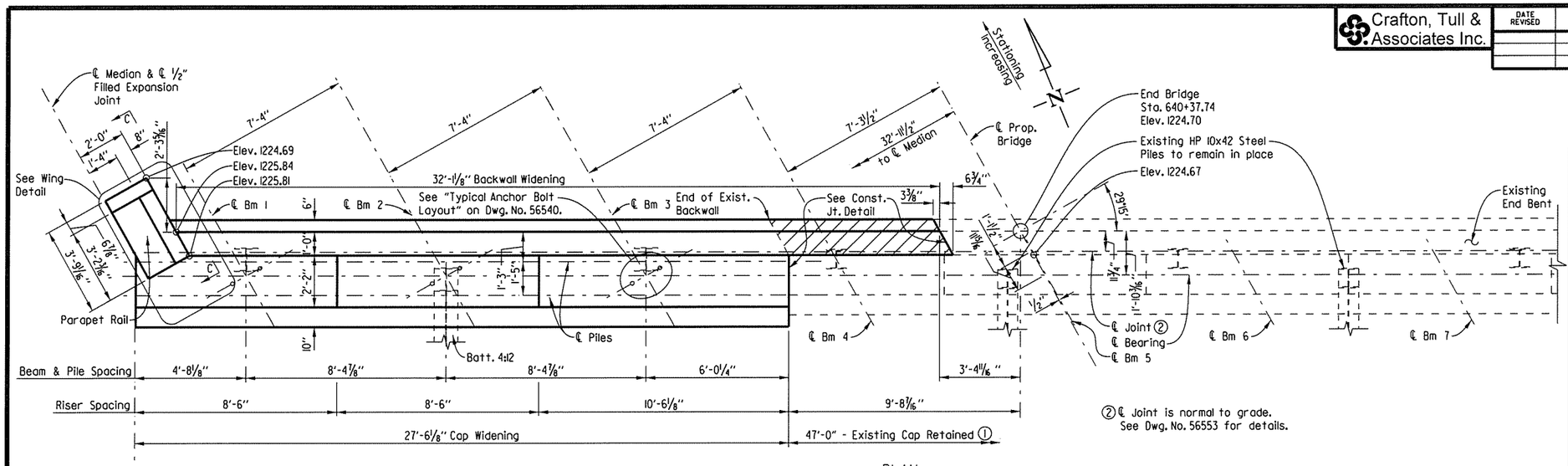
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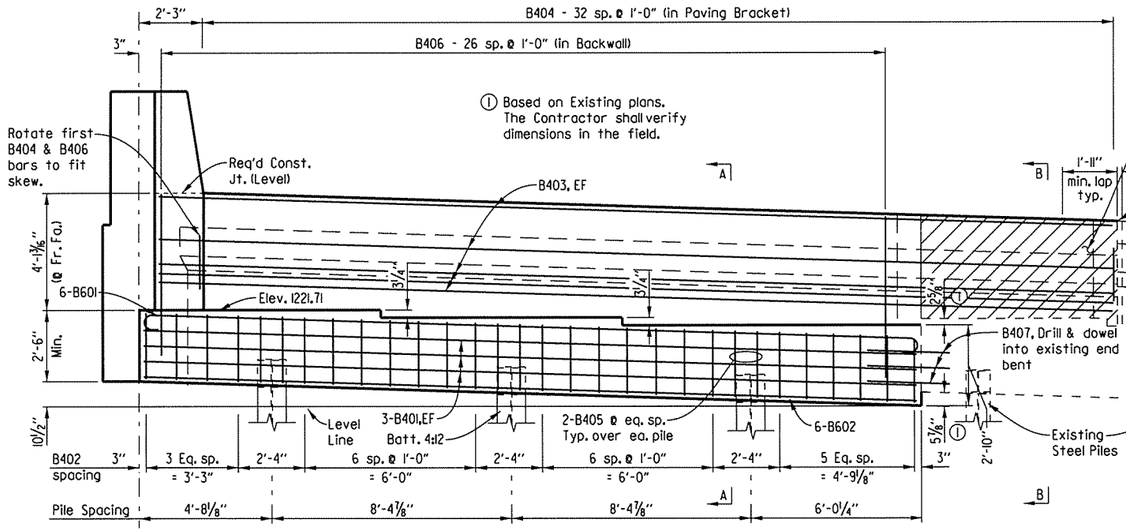
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

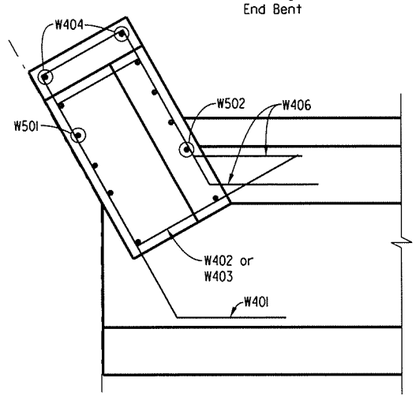
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	124	338
B5920		END BENT 4		56542



PLAN
Scale: ⅜" = 1'-0"



ELEVATION
(Looking Ahead)
Scale: ⅜" = 1'-0"

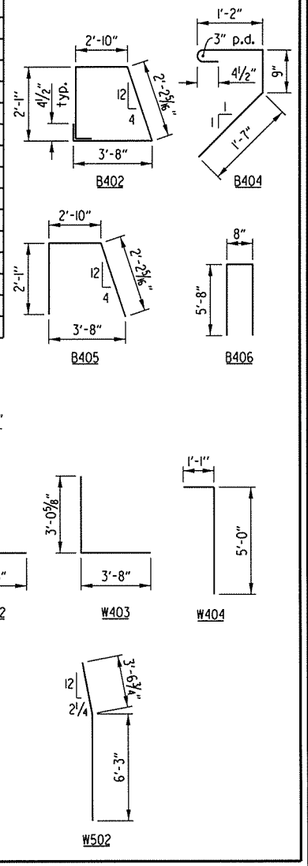


WING DETAIL
Scale: ¾" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	6	27'-2"	Str.
B402	24	11'-2"	2"
B403	10	34'-0"	Str.
B404	33	3'-11"	2"
B405	6	7'-0"	2"
B406	27	11'-10"	2"
B407	6	2'-11"	Str.
B601	6	28'-6"	4½"
B602	6	27'-2"	Str.
W401	3	6'-10"	3"
W402	2	7'-2"	3"
W403	2	6'-7"	3"
W404	2	5'-11"	3"
W405	10	2'-10"	Str.
W406	7	6'-3"	3"
W501	5	9'-9"	Str.
W502	5	9'-10"	3¾"

BENDING DIAGRAMS
Dimensions are out to out of bars.



Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall including the existing surface to be retained, and roadway face and top of parapet of the new construction.

Note:
For Details of Elastomeric Bearings, See Dwg. No. 56545
For additional details and General Notes, See Dwg. No. 56540

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

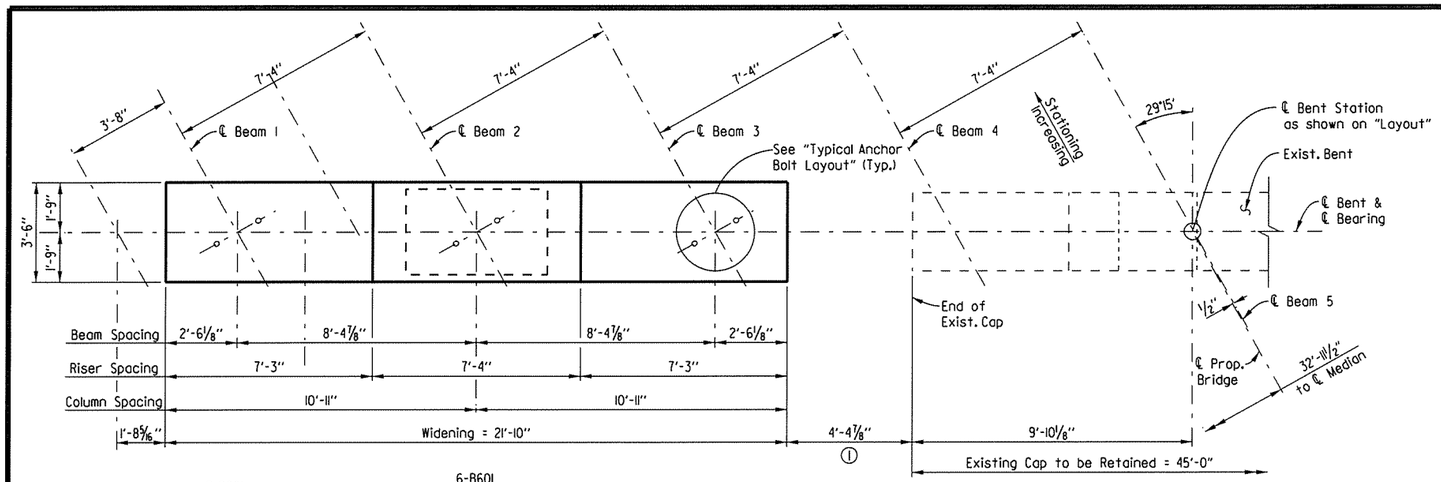
DETAILS OF END BENT 4 - BRIDGE B

ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

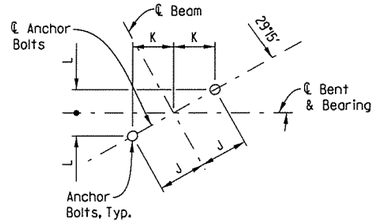
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DESIGNED BY: KJC DATE: 09-09-14
BRIDGE NO. B5920 DRAWING NO. 56542

USER: bc5100
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PLOTTED: 4/2/2015 09:43

Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	125	338
					A&B5920	BENT 2 & 3 DETAILS			56543

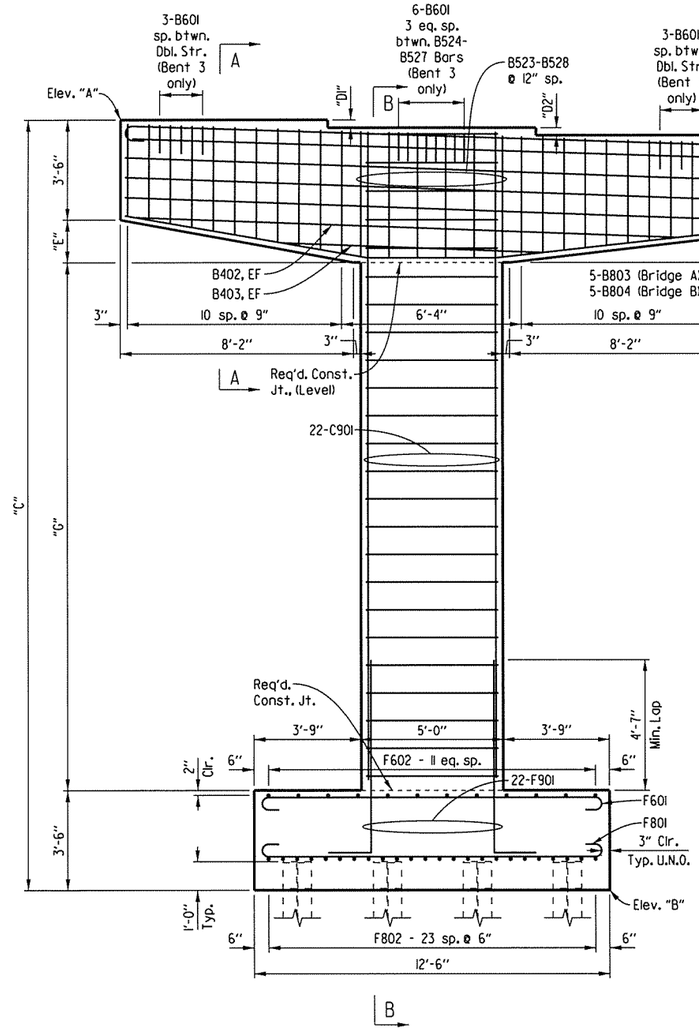


PLAN
(Bridge B shown, Bridge A opposite hand)
Scale: 3/8" = 1'-0"

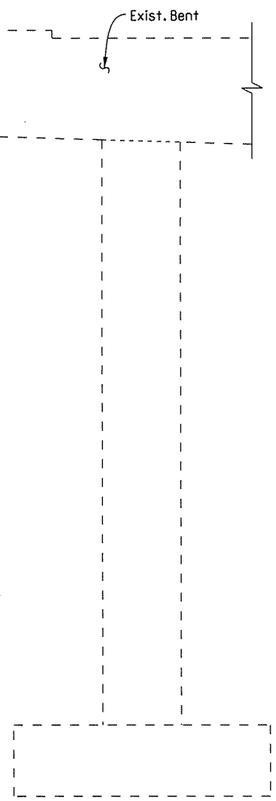


TYPICAL ANCHOR BOLT LAYOUT
Scale: 3/4" = 1'-0"

Class 3 Texture Coating shall be applied in accordance with Special Provision Job CA0401 "Textured Coating Finish".



ELEVATION
Looking Ahead Bridge B
Looking Back Bridge A
Scale: 3/8" = 1'-0"



① Based on Existing plans. Contractor shall verify in the field.

TABLE OF VARIABLES

Bridge	Bent	A	B	C	D1	D2	E	F	G	J	K	L
A	2	1217.46	1191.46	26'-0"	5/8"	0"	1'-6"	1'-5 3/8"	17'-6"	10"	8 3/4"	4 7/8"
	3	1220.03	1192.03	28'-0"					19'-6"	1'-0 3/8"	10 1/16"	6 1/16"
B	2	1217.35	1190.35	27'-0"	3 1/4"	3 1/4"	1'-6"	11 1/2"	18'-6"	10"	8 3/4"	4 7/8"
	3	1219.91	1192.41	27'-6"					19'-0"	1'-0 3/8"	10 1/16"	6 1/16"

GENERAL NOTES

Concrete shall be Class 'S' with a minimum 28 day compressive strength of f'c = 3,500 p.s.i. Concrete shall be poured in the dry. All exposed corners shall be chamfered 3/4" unless otherwise noted.

All Reinforcing Steel shall be Grade 60 (fy = 60,000 psi) AASHTO M 31 or M 322, Type A with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For details of Elastomeric Bearings see Dwg. No. 56545.

For additional information see Layout and Dwg. No. 56544.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 1 OF 2
DETAILS OF BENTS 2 & 3 - BRIDGES A & B
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

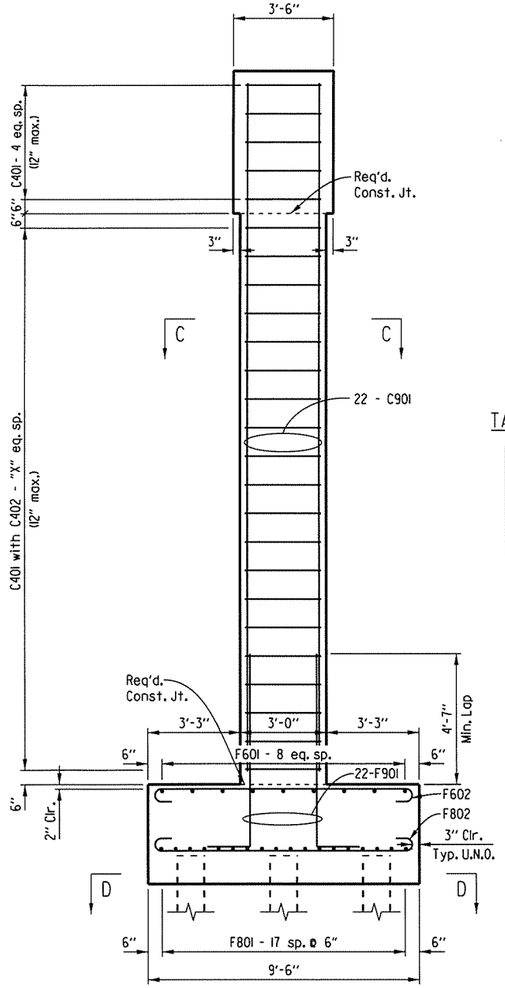
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DESIGNED BY: KJC DATE: 09-11-14
BRIDGE NO. A&B5920 DRAWING NO. 56543

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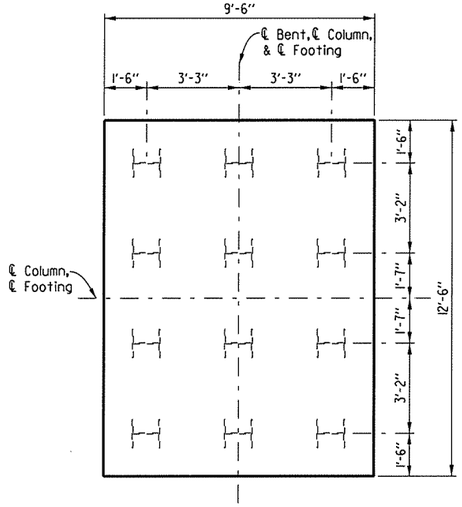
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Crafton, Tull & Associates Inc.

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.		CA0401	126	338
				A&B5920		BENT 2 & 3 DETAILS		56544



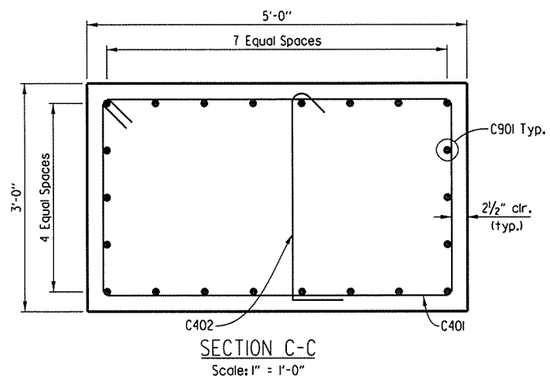
SECTION B-B
Scale: 3/8" = 1'-0"



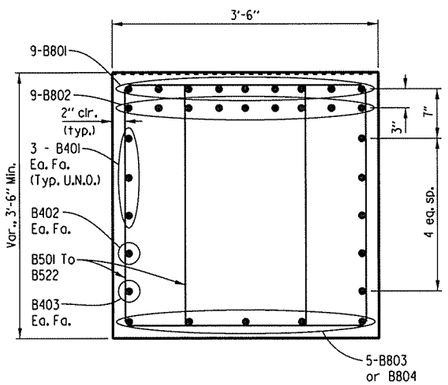
SECTION D-D
Scale: 3/8" = 1'-0"

TABLE OF VARIABLES

Bridge	Bent	"X"
A	2	17
	3	19
B	2	18
	3	18

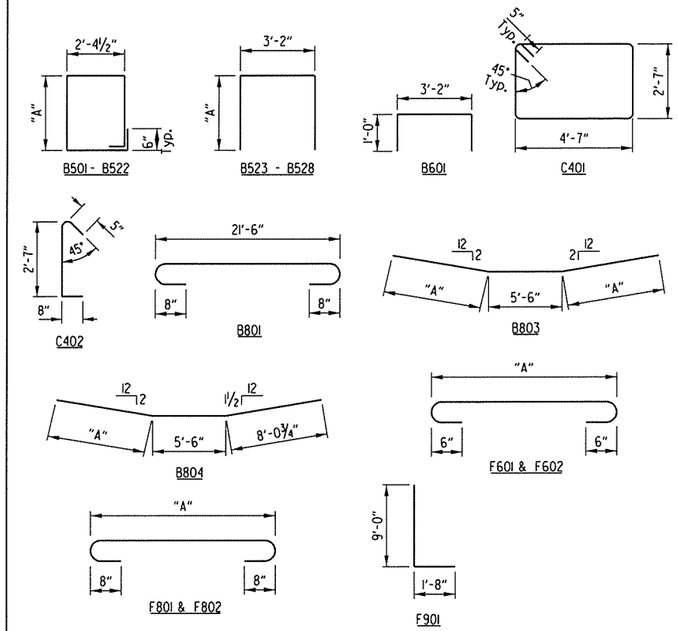


SECTION C-C
Scale: 1" = 1'-0"



SECTION A-A
Scale: 1" = 1'-0"

BENDING DIAGRAMS



Dimensions are out to out of bars.

BAR LIST

A5920 BENT 2

TABLE SHOWS BAR LIST FOR ONE BENT.

MARK	NO. REQ'D.	LENGTH	"A"	P.D.
B401	6	21'-6"		Str.
B402	2	18'-8"		Str.
B403	2	11'-1"		Str.
B501 TO B511	2 EA.	VAR. 11'-8" TO 14'-4"	VAR. 3'-2½" TO 4-6½"	2½"
B512 TO B522	2 EA.	VAR. 11'-6" TO 14'-3"	VAR. 3'-1¼" TO 4'-6"	2½"
B523 TO B528	1 EA.	VAR. 12'-1" TO 12'-2"	VAR. 4'-6¾" TO 4'-7¼"	2½"
B801	9	23'-4"		6"
B802	9	21'-0"		Str.
B803	5	21'-9"	8'-1½"	6"
C401	23	14'-10"		3"
C402	18	3'-8"		3"
C901	22	22'-0"		Str.
F601	9	13'-4"	12'-0"	4½"
F602	12	10'-4"	9'-0"	4½"
F801	18	13'-10"	12'-0"	6"
F802	24	10'-10"	9'-0"	6"
F901	22	10'-5"		9"

B5920 BENT 2

TABLE SHOWS BAR LIST FOR ONE BENT.

MARK	NO. REQ'D.	LENGTH	"A"	P.D.
B401	6	21'-6"		Str.
B402	2	16'-11"		Str.
B403	2	7'-10"		Str.
B501 TO B511	2 EA.	VAR. 11'-8" TO 13'-10"	VAR. 3'-2½" TO 4'-3½"	2½"
B512 TO B522	2 EA.	VAR. 11'-2" TO 13'-5"	VAR. 2'-11¼" TO 4'-1"	2½"
B523 TO B528	1 EA.	VAR. 11'-3" TO 11'-8"	VAR. 4'-2" TO 4'-4¼"	2½"
B801	9	23'-4"		6"
B802	9	21'-0"		Str.
B804	5	21'-8"	8'-1½"	6"
C401	24	14'-10"		3"
C402	19	3'-8"		3"
C901	22	23'-0"		Str.
F601	9	13'-4"	12'-0"	4½"
F602	12	10'-4"	9'-0"	4½"
F801	18	13'-10"	12'-0"	6"
F802	24	10'-10"	9'-0"	6"
F901	22	10'-5"		9"

A5920 BENT 3

TABLE SHOWS BAR LIST FOR ONE BENT.

MARK	NO. REQ'D.	LENGTH	"A"	P.D.
B401	6	21'-6"		Str.
B402	2	18'-8"		Str.
B403	2	11'-1"		Str.
B501 TO B511	2 EA.	VAR. 11'-8" TO 14'-4"	VAR. 3'-2½" TO 4-6½"	2½"
B512 TO B522	2 EA.	VAR. 11'-6" TO 14'-3"	VAR. 3'-1¼" TO 4'-6"	2½"
B523 TO B528	1 EA.	VAR. 12'-1" TO 12'-2"	VAR. 4'-6¾" TO 4'-7¼"	2½"
B601	12	4'-10"		4½"
B801	9	23'-4"		6"
B802	9	21'-0"		Str.
B803	5	21'-9"	8'-1½"	6"
C401	25	14'-10"		3"
C402	20	3'-8"		3"
C901	22	24'-0"		Str.
F601	9	13'-4"	12'-0"	4½"
F602	12	10'-4"	9'-0"	4½"
F801	18	13'-10"	12'-0"	6"
F802	24	10'-10"	9'-0"	6"
F901	22	10'-5"		9"

B5920 BENT 3

TABLE SHOWS BAR LIST FOR ONE BENT.

MARK	NO. REQ'D.	LENGTH	"A"	P.D.
B401	6	21'-6"		Str.
B402	2	16'-11"		Str.
B403	2	7'-10"		Str.
B501 TO B511	2 EA.	VAR. 11'-8" TO 13'-10"	VAR. 3'-2½" TO 4'-3½"	2½"
B512 TO B522	2 EA.	VAR. 11'-2" TO 13'-5"	VAR. 2'-11¼" TO 4'-1"	2½"
B523 TO B528	1 EA.	VAR. 11'-3" TO 11'-8"	VAR. 4'-2" TO 4'-4¼"	2½"
B601	12	4'-10"		4½"
B801	9	23'-4"		6"
B802	9	21'-0"		Str.
B804	5	21'-8"	8'-1½"	6"
C401	24	14'-10"		3"
C402	19	3'-8"		3"
C901	22	23'-6"		Str.
F601	9	13'-4"	12'-0"	4½"
F602	12	10'-4"	9'-0"	4½"
F801	18	13'-10"	12'-0"	6"
F802	24	10'-10"	9'-0"	6"
F901	22	10'-5"		9"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/27/15

SHEET 2 OF 2

DETAILS OF BENTS 2 & 3 - BRIDGES A & B
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 10-02-14 FILENAME: bca0401b2_b22.dgn
CHECKED BY: CAW DATE: 11-01-14 SCALE: SEE DETAILS
DESIGNED BY: KJC DATE: 09-11-14
BRIDGE NO. A&B5920 DRAWING NO. 56544

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	127	338
A&B5920		BEARING DETAILS		56545

TABLE OF FABRICATOR VARIABLES

Br. No.	Location: Bent No.	Location: Beam No.	Bearing Type	No. of Bearings Each Bent	* Maximum Design Load (Kips)	G	H	Elastomeric Pad: A	B	N	T_i	T_e	No. & Thickness of Steel Laminae	T	External Load Plate: C	D	E	F	J	K	M	Ta	Tb	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.)
A&B5920	1	1-3	Exp.	3	75	8 1/8" ③	5 5/8" ③	11 1/2"	8"	5	1/2"	1/4"	6 @ 12 Ga.	3 11/16"	9"	21"	4 1/8"	2"	---	1/2"	8"	2.14" ③	1.86" ③	1 1/4" X 23"	55	1 1/4" X 5 7/8"	3" X 8"	2 1/2"
	2	1-3	Exp.	3	200	8 5/16" ③	6 3/16" ③	15 1/2"	12"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	13"	25 1/2"	3 11/16"	2 1/4"	---	1/2"	10"	2.19" ③	1.81" ③	1 1/2" X 27"	55	1 1/2" X 6 7/16"	3" X 11"	3"
	3	1-3	Fixed	3	206	8 5/16" ③	6 3/16" ③	15 1/2"	13"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	14"	33"	2 1/4"	2 1/4"	3 11/16"	1/2"	12 3/8"	2.21" ③	1.79" ③	1 1/2" X 27"	55	1 1/2" X 6 7/16"	3" X 11"	3"
	4	1-3	Exp.	3	86	8 1/8" ③	5 5/8" ③	11 1/2"	9"	5	1/2"	1/4"	6 @ 12 Ga.	3 11/16"	10"	21"	3 1/16"	2"	---	1/2"	8"	2.15" ③	1.85" ③	1 1/4" X 23"	55	1 1/4" X 5 7/8"	3" X 8"	2 1/2"

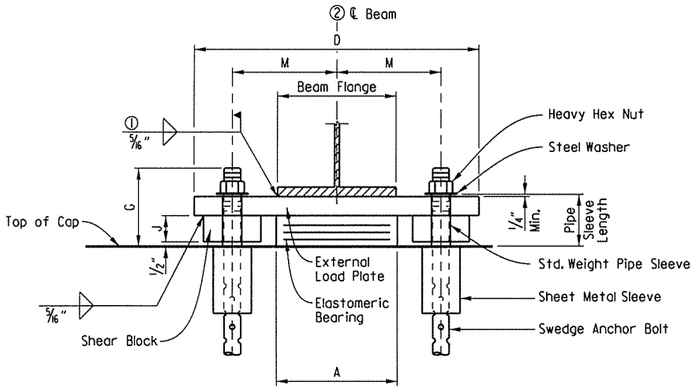
* Maximum Design Load = Service Limit State I

① Care shall be taken to ensure that the External Load plate is in full and complete contact with the Beam Flange before welding begins.

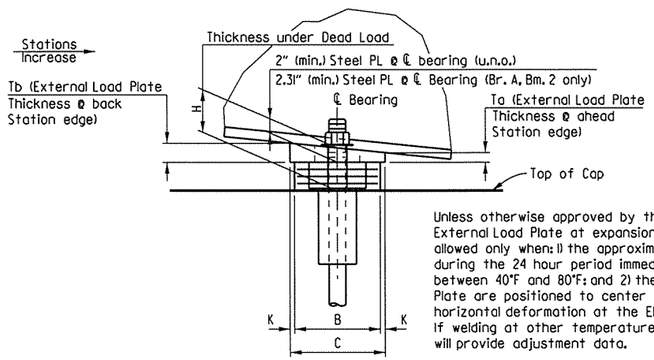
② Center line of Beam shall be aligned with center line of Elastometric pad.

③ Br. A, Bm. 2 only

Bent No.	G	H	Ta	Tb
1	8 3/16"	5 15/16"	2.45"	2.17"
2	9 1/4"	6 1/2"	2.50"	2.12"
3	9 1/4"	6 1/2"	2.52"	2.10"
4	8 3/16"	5 15/16"	2.46"	2.16"



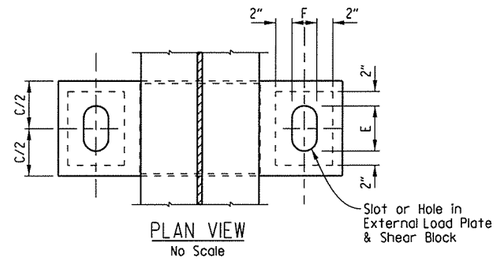
FRONT VIEW
No Scale



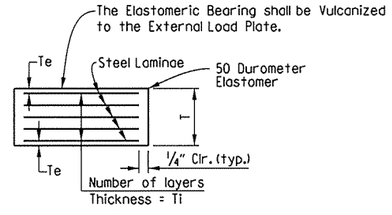
SIDE VIEW
No Scale

Unless otherwise approved by the Engineer, welding of the External Load Plate at expansion bearings to the Beam 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 at the Elastomeric pad is evident. If welding at other temperature is required, the Engineer will provide adjustment data.

Note:
The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in TABLE OF FABRICATOR VARIABLES.

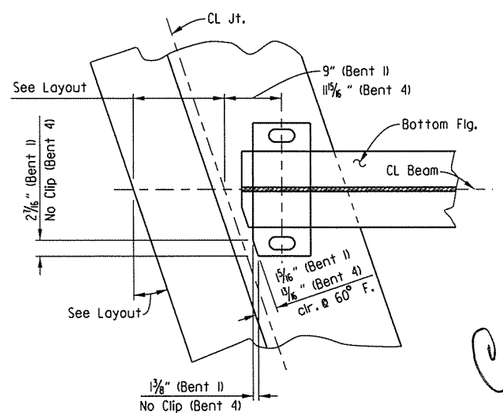


PLAN VIEW
No Scale

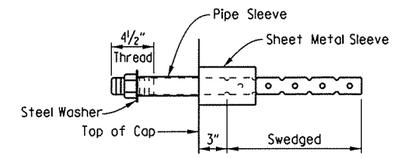


Te = thickness of Elastomer cover on top and bottom of pad
Ti = thickness of Elastomer between Steel Laminae
N = number of Elastomer layers of thickness Ti

ELASTOMERIC BEARING
No Scale



BEARING PLAN AT END BENT
No Scale



ANCHOR BOLT DETAIL
No Scale

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 an AHTD 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 items "Structural Steel in Beam Spans, (M 270, Gr.50)".

GENERAL NOTES

Elastomeric bearings shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings". Long-duration testing of random lot samples specified in Subsection 808.05 is required.

External load plates and shear blocks 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 ASTM B695, Class 50.

External load plates and shear blocks 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) and painted according to Subsection 807.75. The color of the paint shall match the color of the paint on existing structural steel.

Anchor Bolts, Washers and Nuts shall conform to Subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Bearings shall be seated in accordance with Subsection 808.08.

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)". The cost of all other items in the bearing assembly shall be subsidiary to the price bid for "Elastomeric Bearings".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

DETAILS OF ELASTOMERIC BEARINGS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	BWC	DATE:	01-17-14	FILENAME:	bca0401b2_el.dgn
CHECKED BY:	CAW	DATE:	11-03-14	SCALE:	NO SCALE
DESIGNED BY:	KJC	DATE:	11-05-13		

BRIDGE NO. A&B5920 DRAWING NO. 56545

USER: bc5100
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PLOTTED: 4/2/2015 10:49 SCALE: 16:1

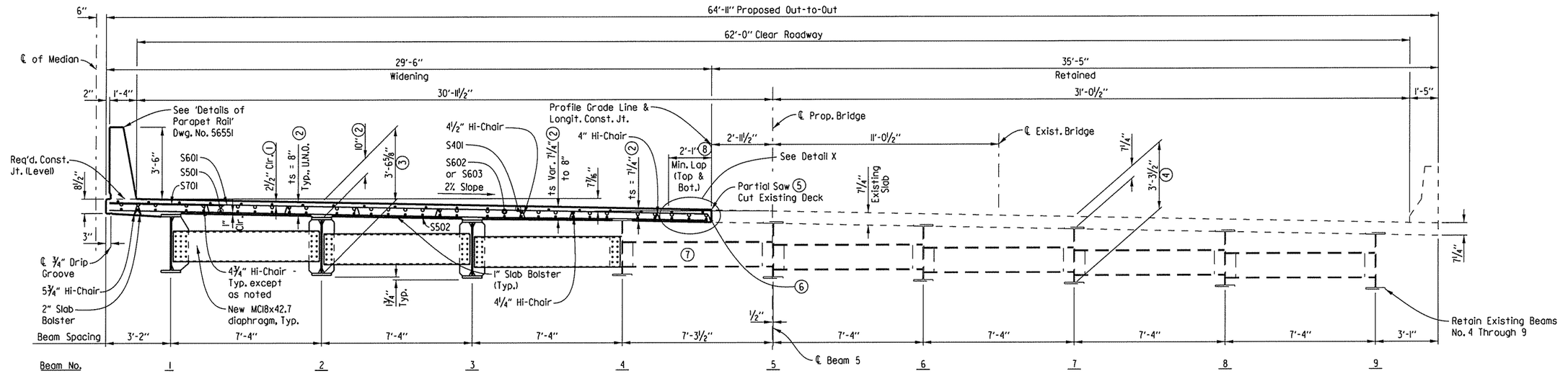
G:\13105900_7iBto412\TRANSP\dgn\bridge\bca0401b2_el.dgn 4/2/2015 10:49

Notes: Class I Protective Roadway Surface treatment shall be applied to the roadway surface, including the existing deck surface to be retained, and roadway face and top of parapet of the new construction.

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	128	338
A&B5920		SPAN DETAILS		56546



① Tolerances: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance
See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used."

② See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used."

③ Measured at ℄ Bearing and ℄ New Beams, Typ.

④ Measured at ℄ Bearing and ℄ Exist. Beams, Typ.

⑤ Care shall be exercised during the removal of the existing deck to ensure that the beams, diaphragms, bolted connections and reinforcement are not damaged. Damaged items that are not salvageable as determined by the Engineer, shall be replaced by the contractor at no additional payment. See Section 821.

Note: 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 AHTD Std. Dwg. No. 55005 for allowable modifications and for tolerances when permanent steel bridge deck forms are used.

⑥ Clean and Retain Existing Transverse Reinforcing. Remove and replace existing longitudinal reinforcement.

⑦ Bolts in the existing diaphragms and end struts shall be loosened to the satisfaction of Engineer at Beam Nos. 4 & 5 during deck removal. 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 deck pour.

⑧ New transverse reinforcing steel shall not be tied to existing reinforcing steel.

⑨ Based on Existing plans. The Contractor shall verify dimensions in the field.

TYPICAL SECTION AT MIDSPAN

(Bridge 'A' - Looking Back)
(Bridge 'B' - Looking Ahead)
Scale: ⅜" = 1'-0"

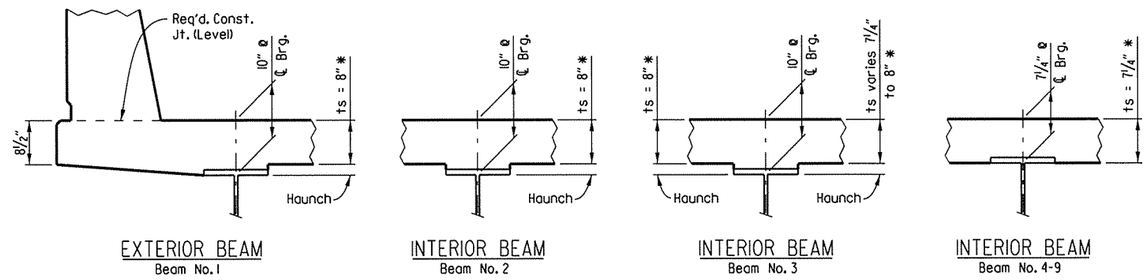
SLAB REINFORCING:

Transverse:
S502 @ 7½" o.c. in bottom
S601 @ 7½" o.c. in top
S701 @ 15" o.c. in top

#4 bars lapped @ 1'-5"
#5 bars lapped @ 1'-9" (u.n.o.)
#6 bars lapped @ 2'-1" (u.n.o.)

Longitudinal:
S401 as shown (18" max)
S501 as shown (10" max)
S602 or S603 as shown over int. supports

Note: Hi-Chairs 4'-0" o.c. long. Space slab bolsters 4'-0" max. sp.



EXTERIOR BEAM
Beam No. 1

INTERIOR BEAM
Beam No. 2

INTERIOR BEAM
Beam No. 3

INTERIOR BEAM
Beam No. 4-9

* Tolerance when removable deck forming is used is +½", -¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

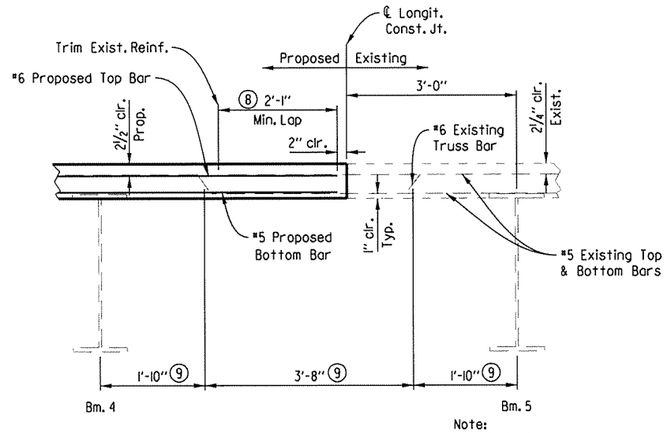
Note: ts = slab thickness as shown in "Typical Section at Midpan".

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 1½". 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. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

No Scale



DETAIL X
Scale: ¾" = 1'-0"

Note:
Longitudinal Reinforcement not shown for clarity.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/27/15

SHEET 1 OF 8

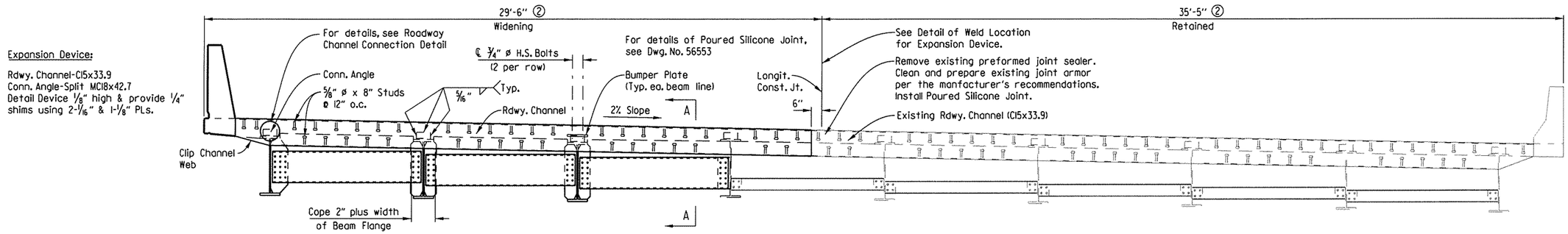
DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 01-17-14 FILENAME: bca0401b2_sl.dgn
CHECKED BY: CAW DATE: 11-07-14 SCALE: SEE DETAILS
DESIGNED BY: KJC DATE: 11-05-13
BRIDGE NO. A&B5920 DRAWING NO. 56546

USER: bc5100
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401b2_sl.dgn
PLOTTED: 4/2/2015 09:43 SCALE: 5.333333:1

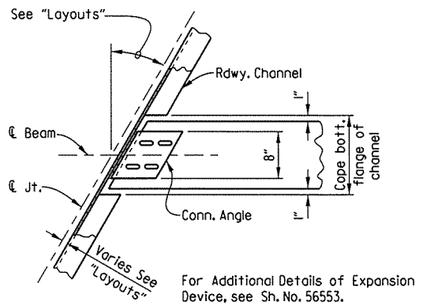
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					6	ARK.			
					JOB NO.		CA0401	129	338
					A&B5920		SPAN DETAILS		56547

② - Dimensions are measured perpendicular to ℄ Bridge.



TYPICAL SECTION THROUGH JOINT

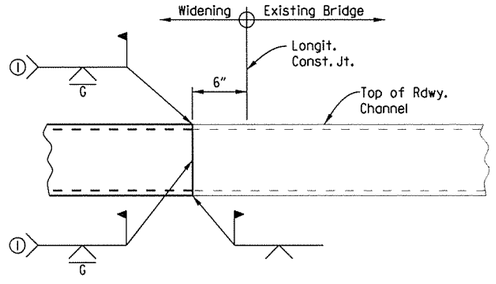
(Bridge 'A' - Looking Back ø Bent 4, Bent 1 opposite hand)
(Bridge 'B' - Looking Ahead ø Bent 1, Bent 4 opposite hand)
No Scale



For Additional Details of Expansion Device, see Sh. No. 56553.

ROADWAY CHANNEL CONNECTION DETAIL

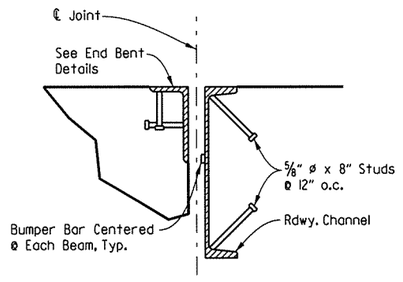
No Scale



① Grind flush from top of deck to top of Bumper Plate.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale



SECTION A-A

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 2 OF 8

DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT JOHNSON MILL BLVD. (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 01-17-14 FILENAME: bca0401b2_s2.dgn
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DESIGNED BY: KJC DATE: 11-05-13

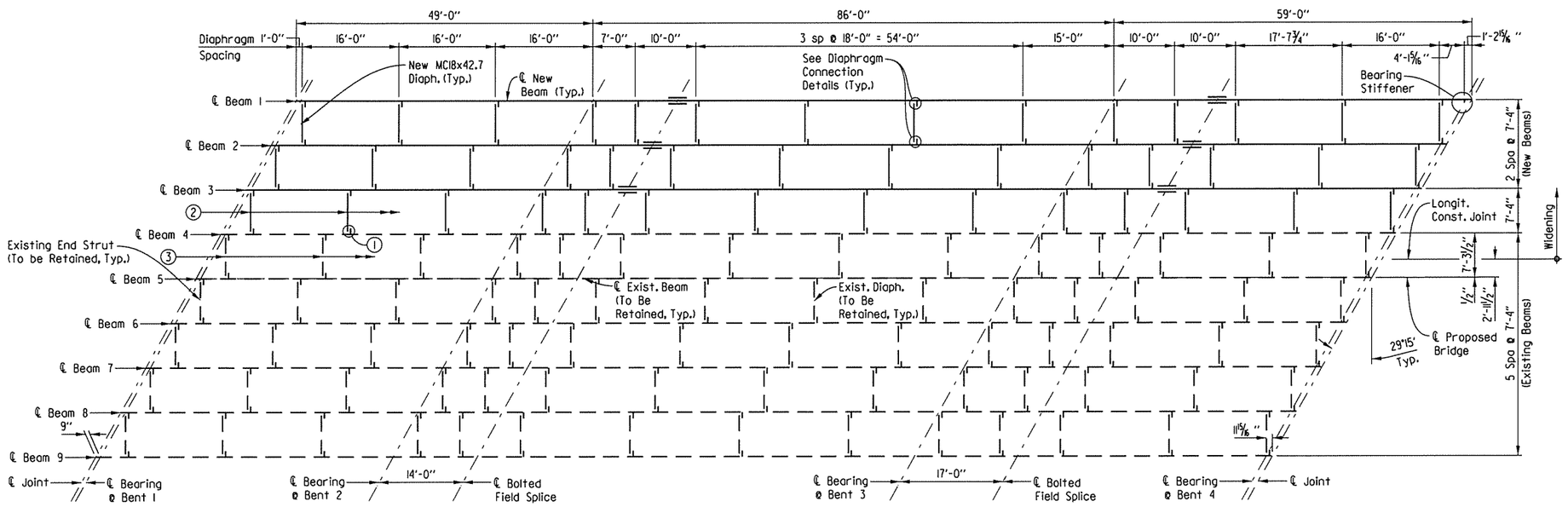
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	130	338
				A&B5920		SPAN DETAILS		56548



FRAMING PLAN

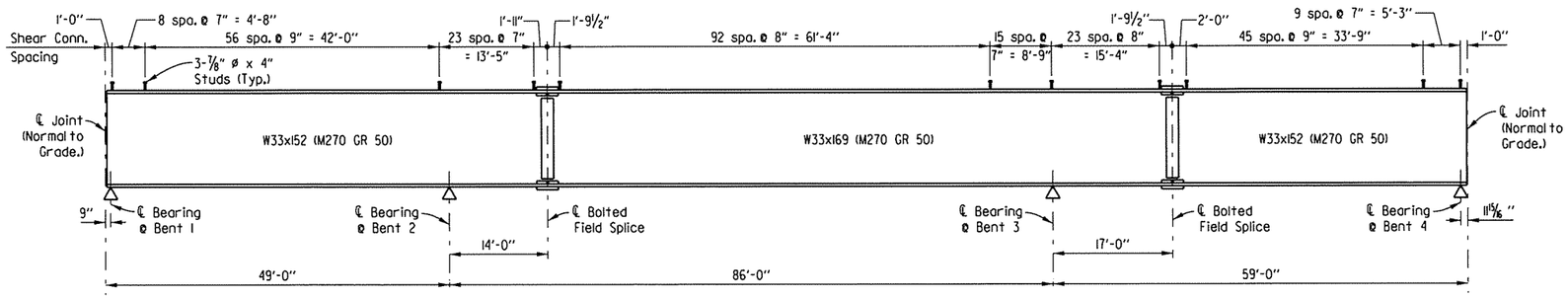
(Bridge B shown, Bridge A opposite hand)

The existing paint system on the existing beams may consist of a lead based paint system. The Contractor shall take all necessary steps according to state and federal regulations to protect the workers, public, and the environment when modifying the existing beams.

① Install new Connection PL's on existing beams after existing deck removal and prior to pouring new deck slab. (Typ. Beam No. 4). See Diaphragm Connection Details.

② Install diaphragms prior to deck pour. Tighten Bolts after all deck pours are complete. (This bay only)

③ Refer to Typical Section at Midspan on Dwg No. 56546.



BEAM ELEVATION - PROPOSED BEAMS NO. 1-3

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REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/07/15

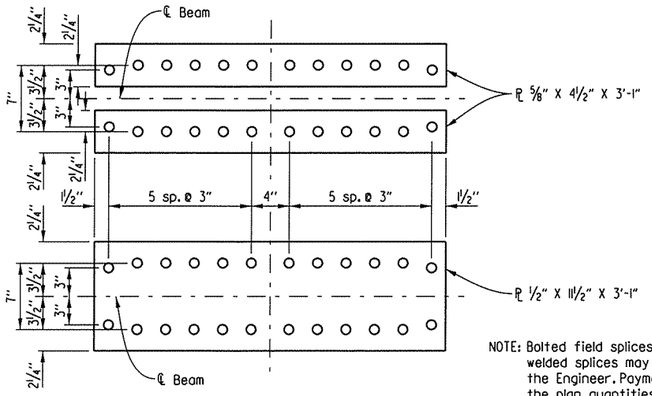
SHEET 3 OF 8

DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 05-23-14 FILENAME: bca0401b2_s3.dgn
CHECKED BY: CAW DATE: 11-08-14 SCALE: ½" = 1'-0"
DESIGNED BY: KJC DATE: 11-05-13
BRIDGE NO. A&B5920 DRAWING NO. 56548

USER: bc5100
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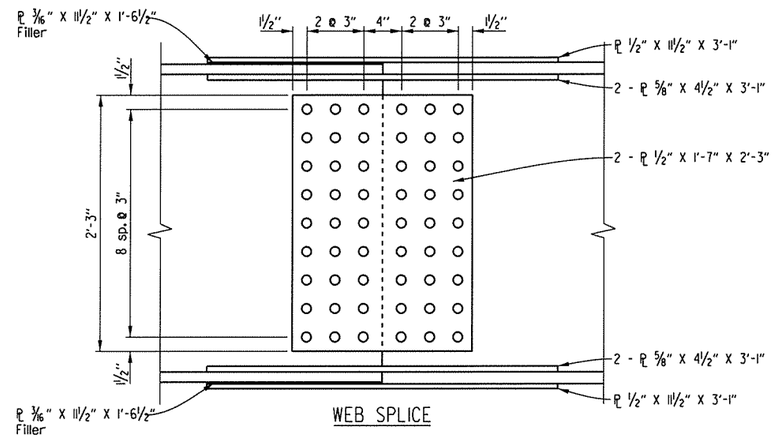
Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	131	338
					A&B5920		SPAN DETAILS		56549



FLANGE SPLICE

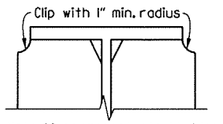
NOTE: Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

All field splice bolts shall be ⅞" ø Hi-str. bolts
All holes for splice bolts shall be 15/16 " ø
All field splice plates shall be AASHTO M270 Gr. 50 steel.



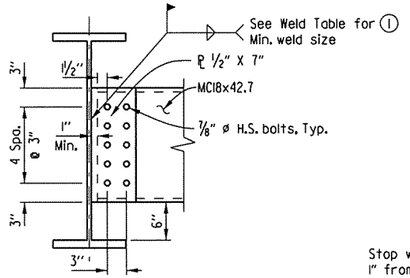
WEB SPLICE

FIELD SPLICE DETAILS
Scale: 1½" = 1'-0"

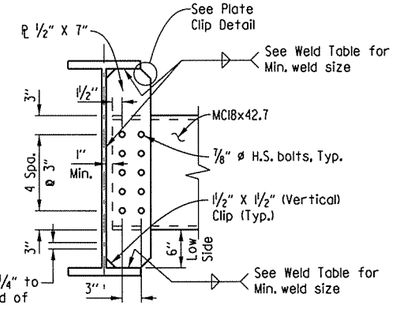


Note: if permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

PLATE CLIP DETAIL
No Scale

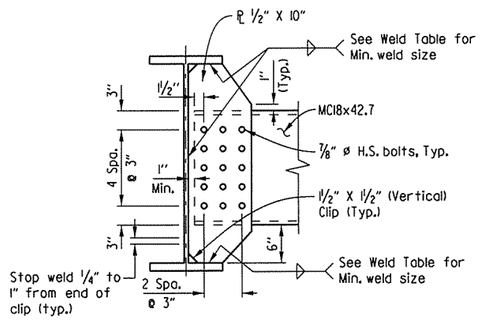


TYPICAL INTERIOR CONNECTION PLATE
Beam 4



Note: Omit holes at bearing stiffeners.

TYPICAL INTERIOR CONNECTION PLATE
Beams 2 & 3



TYPICAL EXTERIOR CONNECTION PLATE
Beam 1

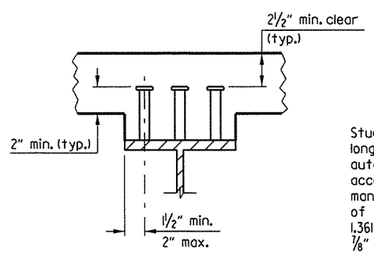
DIAPHRAGM CONNECTION DETAILS
Scale: 1" = 1'-0"

① Field weld to existing beam No. 4 after deck removal and prior to deck pour. Remove paint from existing beam prior to welding. See General Notes.

TABLE FOR WELDS

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.



SHEAR CONNECTOR DETAIL
No Scale

Stud Shear Connectors shown shall be ⅞" ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the manufacturer. ¾" ø studs may be used in place of the ⅞" ø studs shown, at the ratio of 1.361 - ¾" ø studs in place of one ⅞" ø stud. ⅞" ø studs will be used as basis for measurement of structural steel in Shear Connectors. Maximum stud spacing = 24".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 4 OF 8
DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 05-23-14 FILENAME: bca0401b2_s4.dgn
CHECKED BY: CAW DATE: 11-08-14 SCALE: SEE DETAILS
DESIGNED BY: KJC DATE: 11-05-13
BRIDGE NO. A&B5920 DRAWING NO. 56549

USER: bc5100
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401b2_s4.dgn
PLOTTED: 4/2/2015 09:43 SCALE: 2i.333333i

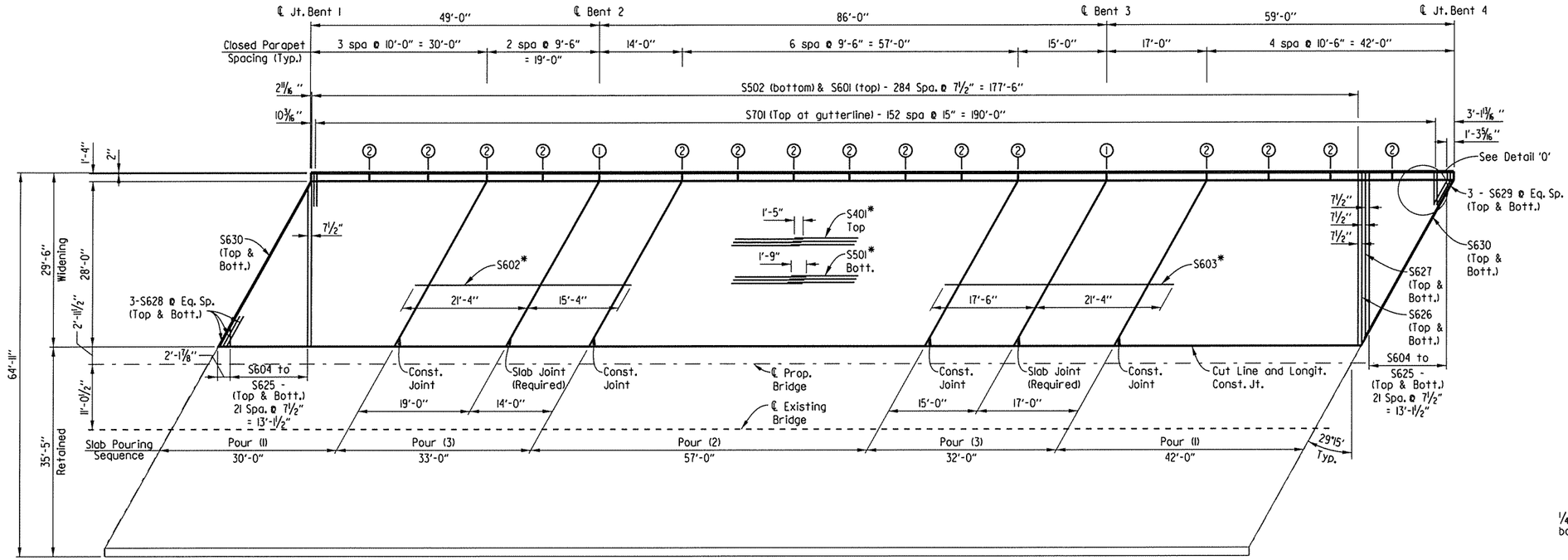
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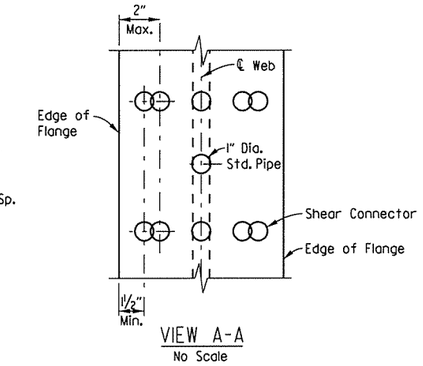
① ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 56551.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab. See Dwg. No. 56551.

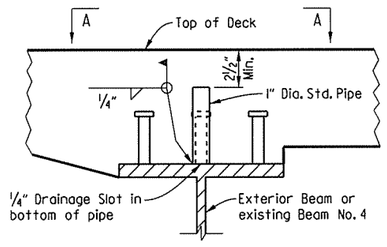
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	132	338
				A&B5920		SPAN DETAILS		56550





VIEW A-A
No Scale



TRANSVERSE SCREED RAIL SUPPORT DETAIL
No Scale

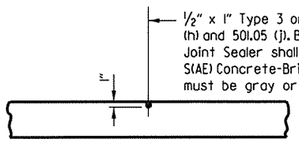
Notes: The transverse screed rail supports shall be centered over the beam web and centered longitudinally between adjacent rows of shear connectors.

The pipe shall not interfere with 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.

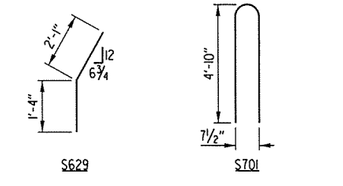
All welding shall be performed by a certified welder and in accordance with Subsections 802.13 and 807.26.



LONGITUDINAL CONSTRUCTION JOINT
No Scale

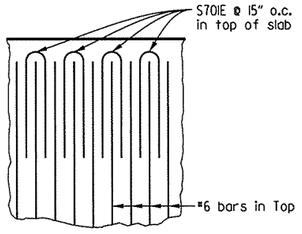
BAR LIST

Mark	Number Required	Length	Pin Diameter	Bending Diagrams (Dimensions are Out to Out of Bars)
S401	100	39'-11"	Str.	
S501	128	49'-9"	Str.	
S502	285	29'-2"	Str.	
S601	285	29'-2"	Str.	
S602	32	36'-8"	Str.	
S603	32	38'-10"	Str.	
S604 to S625	4 EA.	VAR. 3'-2" TO 26'-8"	Str.	
S626	2	28'-10"	Str.	
S627	2	27'-9"	Str.	
S628	6	5'-9"	Str.	
S629	6	3'-5"	4 1/2"	
S630	4	31'-9"	Str.	
S701	153	9'-11"	5 3/4"	
P401	10	39'-11"	Str.	
P402	40	9'-2"	Str.	
P403	15	9'-8"	Str.	
P404	20	10'-2"	Str.	
P405	5	13'-8"	Str.	
P406	5	14'-8"	Str.	
P407	5	16'-8"	Str.	
P408	4	25'-1"	Str.	
P409	6	29'-6"	Str.	
P410	4	30'-1"	Str.	
P501	309	6'-8"	3 3/4"	
P502	309	6'-9"	3 3/4"	



REINFORCING PLAN
Bridge B shown, Bridge A opposite hand.
No Scale

*Place reinforcing as shown in Typical Roadway Section.



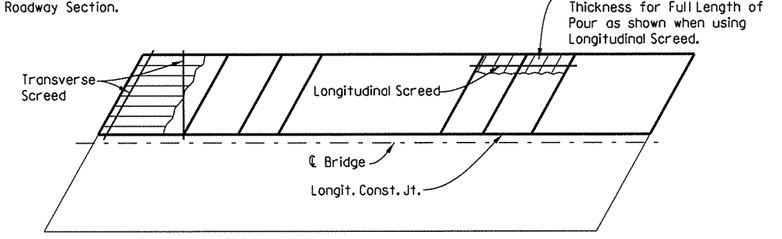
DETAIL Q
No Scale

Notes:

Required slab joints and Pouring Sequence Joints near intermediate bents shall align with joints in parapet rail at the gutterline.

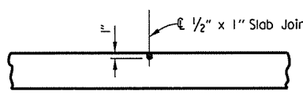
Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. Likewise, all Pours (2) must be placed before Pours (3) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab in the respective 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.



Note: At the Contractor's Option, the Transverse Screed may be placed parallel to the skew or perpendicular to ℄ Bridge. Place Concrete to Approx. Slab Thickness Parallel to Skew as shown.

CONCRETE PLACEMENT PROCEDURE
No Scale



SLAB JOINT DETAIL
No Scale

Note:
Use Type 3 or 4 joint sealer. See Subsections 501.02(h) and 501.05 (j) of the Standard Specifications. Backer rod filler will not be required. Joint Sealer shall be measured and paid for under "Class S(AE) Concrete - Bridge". Slab joints shall extend to the outside edge of the deck slab (gutterline to gutterline). 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 joints without damage to the slab. Slab joints shall align with parapet joints. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations.

STATE OF ARKANSAS
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CHARLES A. WIPF
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SHEET 5 OF 8

DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BWC DATE: 01-17-14 FILENAME: bca0401b2_s5.dgn
CHECKED BY: CAW DATE: 11-11-14 SCALE: NO SCALE
DESIGNED BY: KJC DATE: 11-05-13

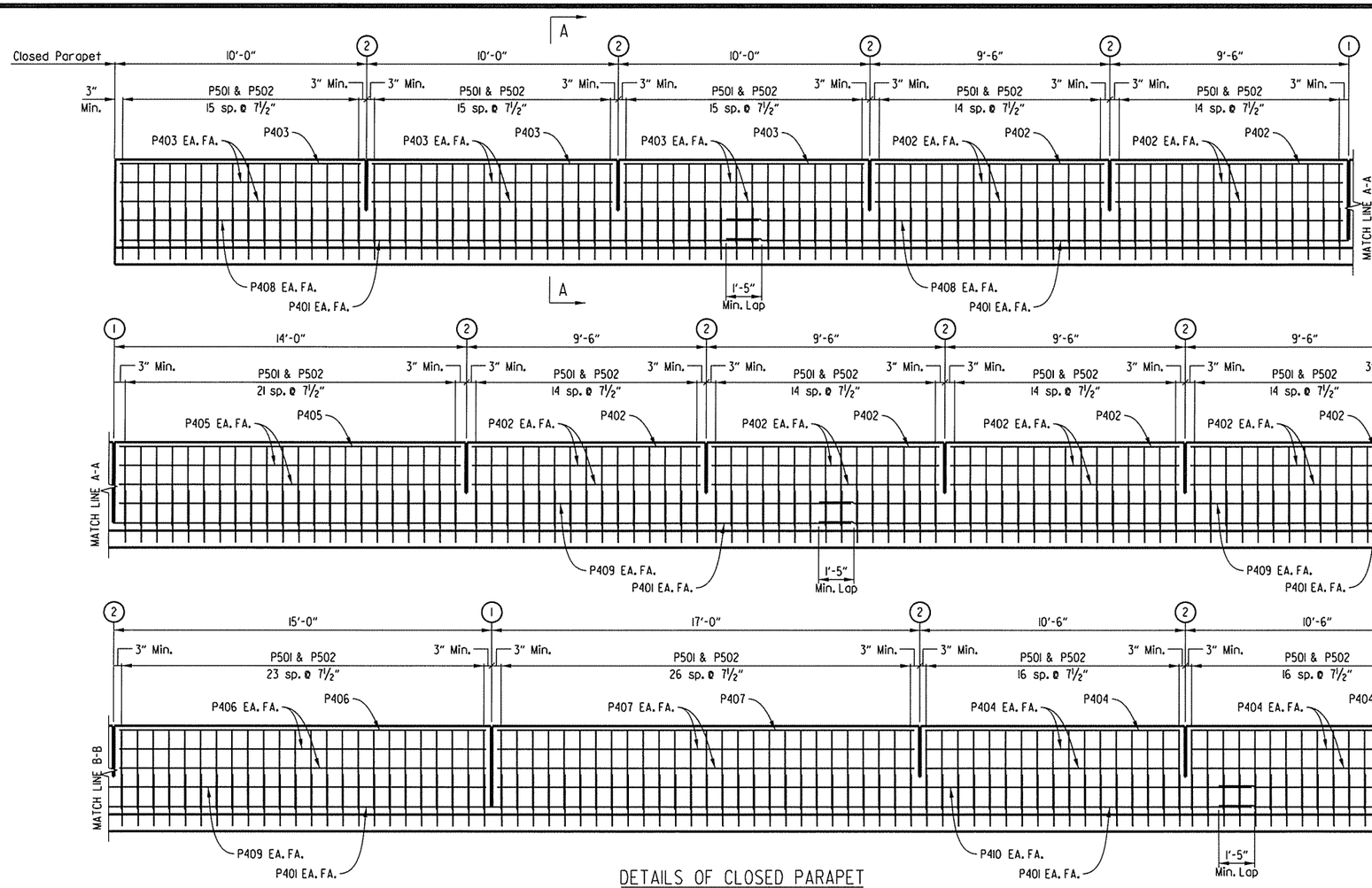
BRIDGE NO. A&B5920 DRAWING NO. 56550

USER: bc5100 DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\bridge\bca0401b2_s5.dgn PLOTTED: 4/2/2015 10:30 SCALE: 21.333333:1

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Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	133	338
A&B5920		SPAN DETAILS		56551

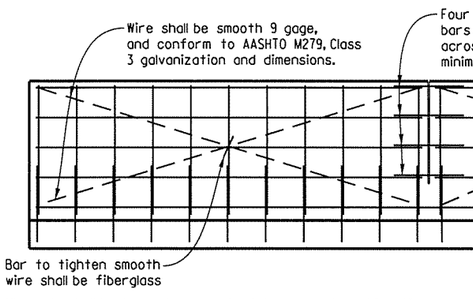


DETAILS OF CLOSED PARAPET

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

① ℄ Full-Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab. See Dwg. No. 56550.

② ℄ Partial-Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab. See Dwg. No. 56550.

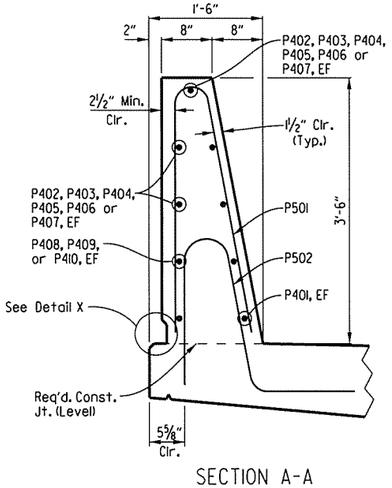


All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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.

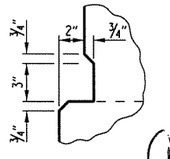
DETAILS OF OPTIONAL SLIP FORMING OF CONCRETE PARAPET RAIL

No Scale



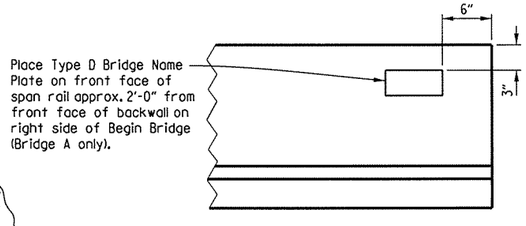
SECTION A-A

Scale: 1" = 1'-0"



DETAIL X

Scale: 1½" = 1'-0"



NAME PLATE DETAIL

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/07/15

SHEET 6 OF 8

DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT

JOHNSON MILL BLVD. (BRIDGES A & B)

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	BWC	DATE:	01-17-14	FILENAME:	bca0401b2_s6.dgn
CHECKED BY:	CAW	DATE:	11-11-14	SCALE:	SEE DETAILS
DESIGNED BY:	KJC	DATE:	11-05-13		

BRIDGE NO. A&B5920 DRAWING NO. 56551

USER: bc5100
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\bridge\bca0401b2_s6.dgn
PLOTTED: 4/2/2015 09:43
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Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	134	338
					A&B5920		SPAN DETAILS		56552

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2012 Edition) with current interim specifications.

LIVE LOADING: HL-93

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c = 4,000 psi
Reinforcing Steel (Grade 60 AASHTO M 31 or M 322 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".
All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4000 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. 55005 for allowable modifications and for tolerances when Permanent Steel Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

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.

Slab joints shall align with slab joints from existing construction. Required Slab Joints shall align with the parapet open joint.

REINFORCING STEEL:
All Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322 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)".

NEW STRUCTURAL STEEL:
All new Structural Steel shall be AASHTO M270, 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 unless otherwise noted. Structural Steel completely embedded in concrete may be AASHTO M 270, Grade 36.

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. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of plan quantities.

Beams and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered as 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 in groups of a minimum of three sections. Beams shall be blocked with webs horizontal and as specified in Subsection 807.54(b)(2). The camber, length of sections, distance between bearings and opening of joints shall be measured with the beams in their true positions and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and those marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60°F. A tolerance of ¼" (plus or minus) allowed for camber.

Flange Field Splice Plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching 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 existing beams shall be as shown in the plans. All welding shall conform to Subsection 807.26.

Unless noted otherwise, Field Connections and splices shall be bolted with High-Strength Bolts and shall be ⅞" ø with 1⅛ " open holes at a spacing of 3" o.c. 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 bolt that is loosened or removed shall be replaced by a new high-strength 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 noted otherwise.

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

Bearings shall be seated in accordance with Subsection 808.08. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. 50)" and will not be paid for directly.

PAINTING STRUCTURAL STEEL:
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 match the color of the existing structural steel.

The existing paint system used on the existing beams may consist of a lead based paint system. The Contractor shall take all necessary steps to protect the workers modifying the existing beams.

The area of the existing beams where new diaphragm connection plates will be field welded shall be cleaned and painted in accordance with Section 638.

The elastomeric bearing pads shall be protected against overspray.

REMOVAL OF EXISTING DECK:
Care shall be exercised during the removal of the existing deck to ensure that the existing paint system and the existing structural steel, including shear connectors, are not damaged. Damaged items that are not salvageable, as determined by the Engineer, shall be replaced at the Contractor's expense.

The deck removal shall progress in a manner that will ensure the stability of the existing structure. The concrete deck in the end spans shall not be removed before the deck in the interior spans has been removed.

The existing concrete deck shall be completely removed to the top flange of the existing beams. 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. No. A5920)" and "Modification of Existing Bridge Structure (Br. No. B5920)".

METHOD OF WORK:
The Contractor shall remove portions of the existing deck as shown in "Details of Stage Construction" Dwg. No. 56536. During deck removal, the Contractor shall loosen the diaphragm and end strut bolts adjacent to Beam No. 4 & 5, as shown in the plans, to facilitate construction. This work will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5920)" and "Modification of Existing Bridge Structure (Br. No. B5920)".

All applicable provisions of Section 807, as determined by the Engineer, shall be followed. See Special Provision Job No. CA0401 "Special Safety Requirements for Bridges" for additional information.

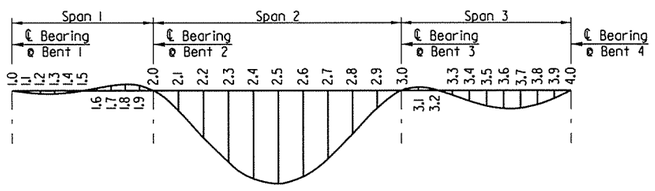
The Contractor may submit an alternate Method of Work. The plan shall be submitted to the Engineer for information and record keeping purposed at least three weeks prior to any work being performed. The submittal shall be prepared and/or approved by an Arkansas Professional Engineer and shall include sufficient details and information to the Engineer's satisfaction. The Contractor shall be responsible for the results obtained by the use the alternate Method of Work. All work, materials, and labor required for the Contractor to develop and execute the plan will not be paid directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5920)" and "Modification of Existing Bridge Structure (Br. No. B5920)".

TABLE OF DEAD LOAD DEFLECTIONS - INCHES

Span	Point of Deflection	BEAM NO. 1, 2 & 3: Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet		BEAM NO. 4: Slab Only
		Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior
1	0	0	0	0	0	0	0	0
	0.1	0.003	0.003	0.025	0.023	0.029	0.029	0.021
	0.2	0.005	0.005	0.041	0.038	0.047	0.048	0.034
	0.3	0.004	0.004	0.042	0.040	0.049	0.050	0.034
	0.4	0	0	0.028	0.026	0.034	0.034	0.021
	0.5	-0.006	-0.006	0	-0.001	0.002	0.003	-0.006
	0.6	-0.013	-0.013	-0.036	-0.034	-0.038	-0.038	-0.040
	0.7	-0.019	-0.019	-0.069	-0.066	-0.077	-0.077	-0.071
	0.8	-0.021	-0.021	-0.086	-0.082	-0.097	-0.099	-0.086
	0.9	-0.016	-0.016	-0.070	-0.067	-0.080	-0.082	-0.070
2	0	0	0	0	0	0	0	0
	0.1	0.060	0.060	0.280	0.265	0.321	0.327	0.277
	0.2	0.138	0.138	0.647	0.613	0.739	0.753	0.639
	0.3	0.208	0.208	0.981	0.929	1.119	1.139	0.968
	0.4	0.255	0.255	1.205	1.141	1.373	1.397	1.189
	0.5	0.270	0.270	1.275	1.206	1.452	1.477	1.257
	0.6	0.249	0.249	1.176	1.113	1.341	1.364	1.160
	0.7	0.198	0.198	0.931	0.881	1.063	1.082	0.919
	0.8	0.126	0.126	0.591	0.559	0.677	0.690	0.585
	0.9	0.052	0.052	0.241	0.228	0.277	0.283	0.240
3	0	0	0	0	0	0	0	0
	0.1	-0.011	-0.011	-0.044	-0.042	-0.050	-0.051	-0.045
	0.2	-0.006	-0.006	-0.011	-0.011	-0.012	-0.012	-0.018
	0.3	0.007	0.007	0.061	0.057	0.071	0.073	0.049
	0.4	0.023	0.023	0.143	0.135	0.165	0.168	0.126
	0.5	0.036	0.036	0.211	0.199	0.241	0.245	0.191
	0.6	0.044	0.044	0.247	0.234	0.281	0.285	0.225
	0.7	0.044	0.044	0.242	0.229	0.274	0.278	0.222
	0.8	0.035	0.035	0.193	0.182	0.219	0.221	0.178
	0.9	0.020	0.020	0.108	0.102	0.122	0.123	0.099
	0	0	0	0	0	0	0	0

Note:
Camber for Dead Load Deflection plus Vertical curve ±¼" tolerance.
Deflections shown are off a chord from ℄ Bearing to ℄ Bearing
Vertical curve corrections not included. Negative sign (-) indicates upward deflection.

Dead Load Deflections based on use of removable forms.



DEAD LOAD DEFLECTION DIAGRAM
No Scale

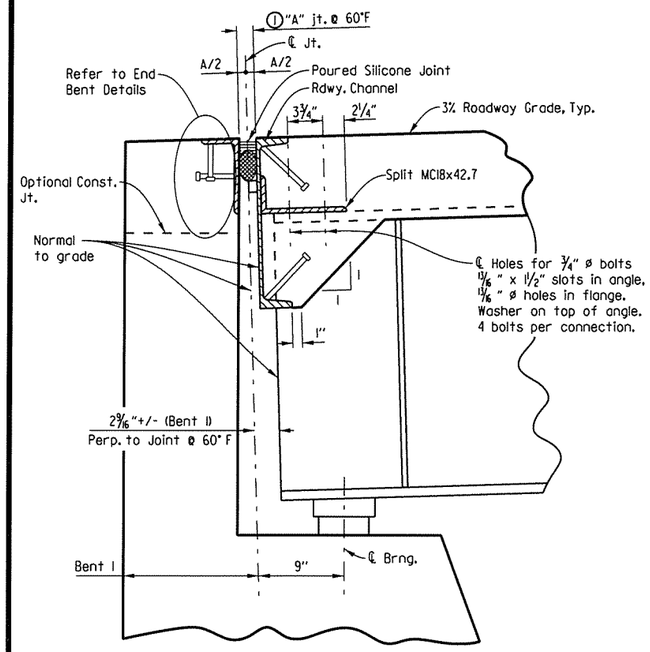
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 7 OF 8
DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: CAW DATE: 11-11-14 SCALE: SEE DETAILS
DESIGNED BY: KJC DATE: 11-05-13
BRIDGE NO. A&B5920 DRAWING NO. 56552

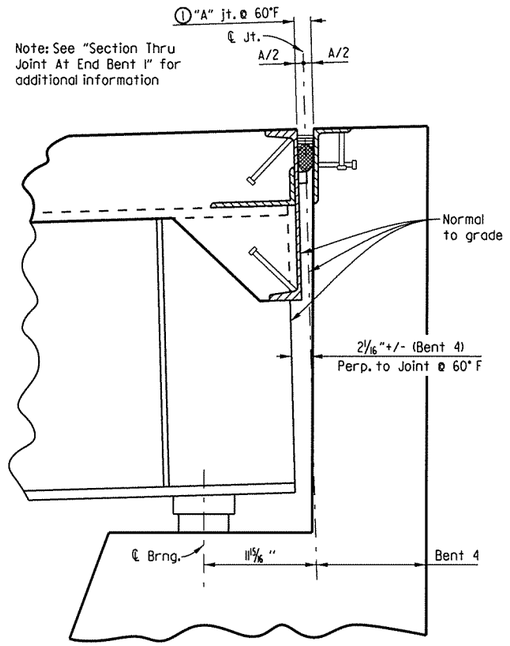
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Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	135	338
					A&B5920		SPAN DETAILS		56553

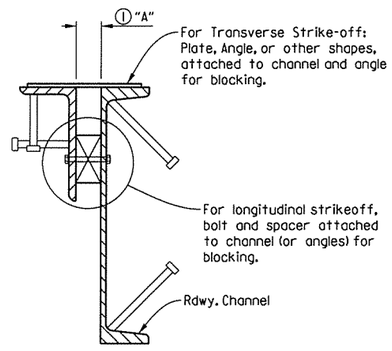


Note: The ℄ of Jt. is normal to profile grade line to match the existing bridge. See Existing Plans.

SECTION THRU JOINT AT END BENT 1
Scale: 1½" = 1'-0"

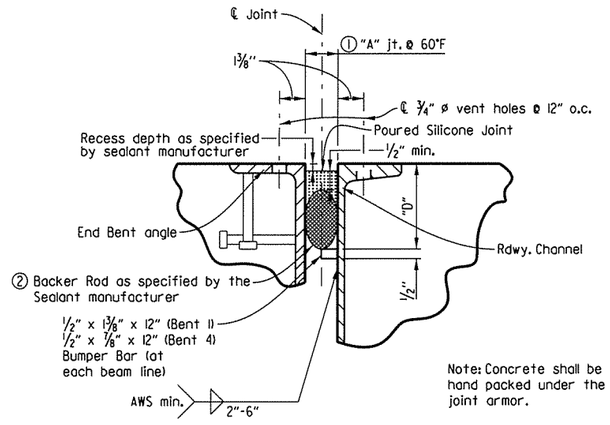


SECTION THRU JOINT AT END BENT 4
Scale: 1½" = 1'-0"



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE
No Scale



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

DETAIL OF POURED SILICONE JOINT
No Scale

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.

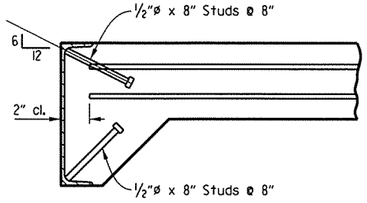
The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

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.

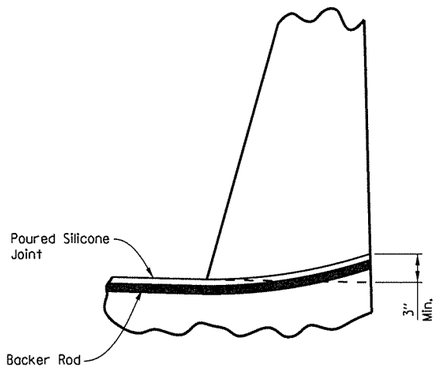
Except as noted, do not install more backer rod than that which can be sealed in the same day.

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



Note: As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structure steel in anchors.

DETAILS OF ALTERNATE ANCHORS
No Scale



JOINT SEAL PLACEMENT AT PARAPET
Scale: 1½" = 1'-0"

EXPANSION DEVICE INSTALLATION

The Contractor may elect to install the expansion device using one of the following two alternatives:

1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams erected, the blocked expansion device shall be installed and adjusted for grade. All Connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.

2) The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

JOINT ERECTION DIMENSIONS

"A" Width perpendicular to joint at 24 hour average temperature of:				"D"
Bent No.	40° F	60° F	80° F	
1	2 11/16"	2 5/8"	2 7/16"	4¼"
4	1 11/16"	1 5/8"	1 9/16"	3⅜"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/27/15

SHEET 8 OF 8
DETAILS OF 194'-0" CONTINUOUS COMPOSITE W-BEAM UNIT JOHNSON MILL BLVD. (BRIDGES A & B)
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY: KJC DATE: 11-05-13
BRIDGE NO. A&B5920 DRAWING NO. 56553

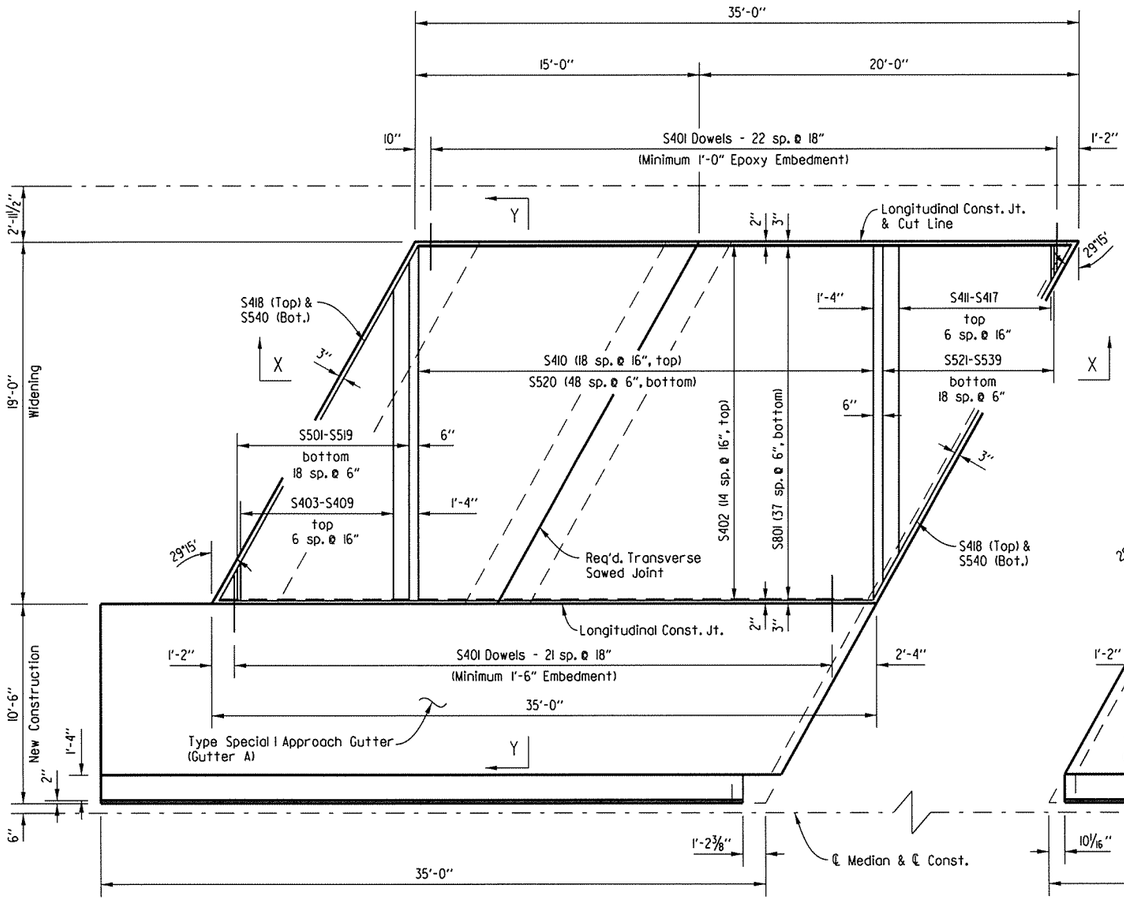
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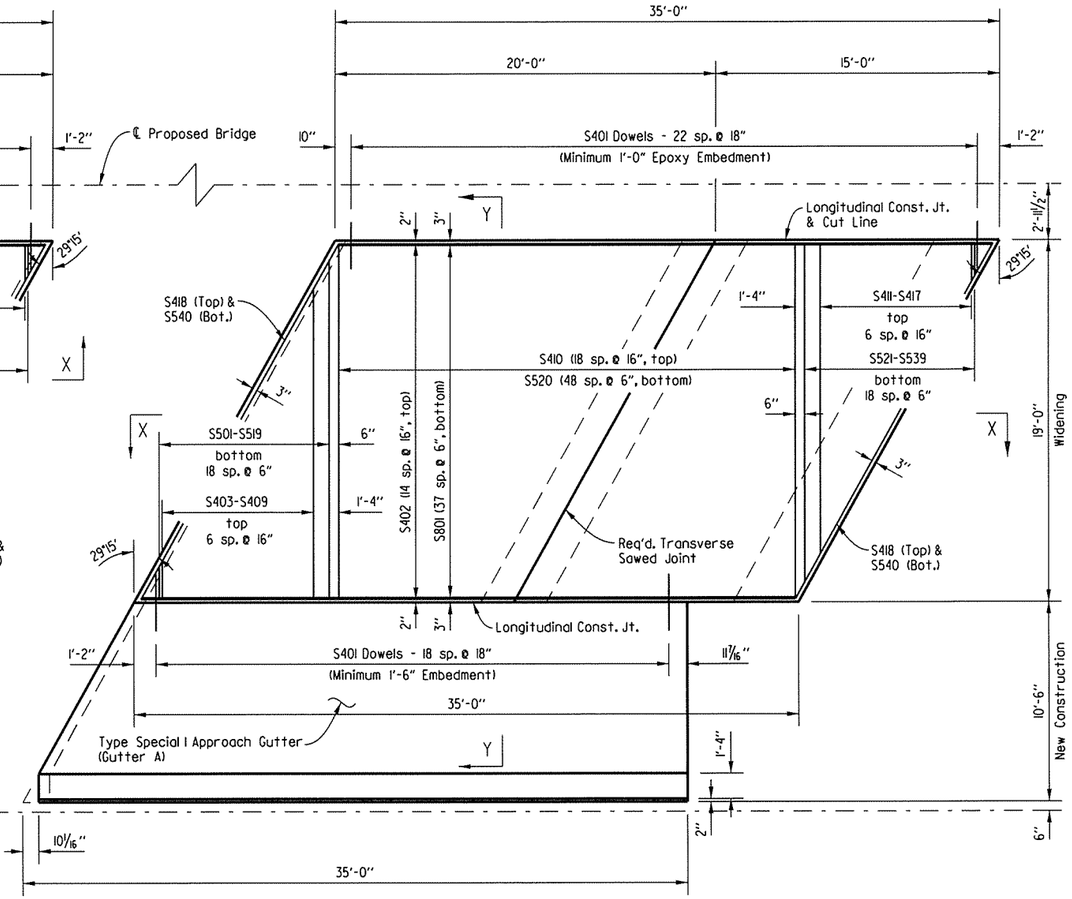
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	136	338
A5920		APPR. SLAB		56554



PLAN - APPROACH SLAB
(BEGIN BRIDGE A)



PLAN - APPROACH SLAB

Note: Surface finish for approach slab shall match that used on bridge deck.

For General Notes, Sections, Bar List, and additional details See Dwg. No. 56556.
For details of Type Special I Approach Gutters, See Dwg. No. 56557.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/24/15

SHEET 1 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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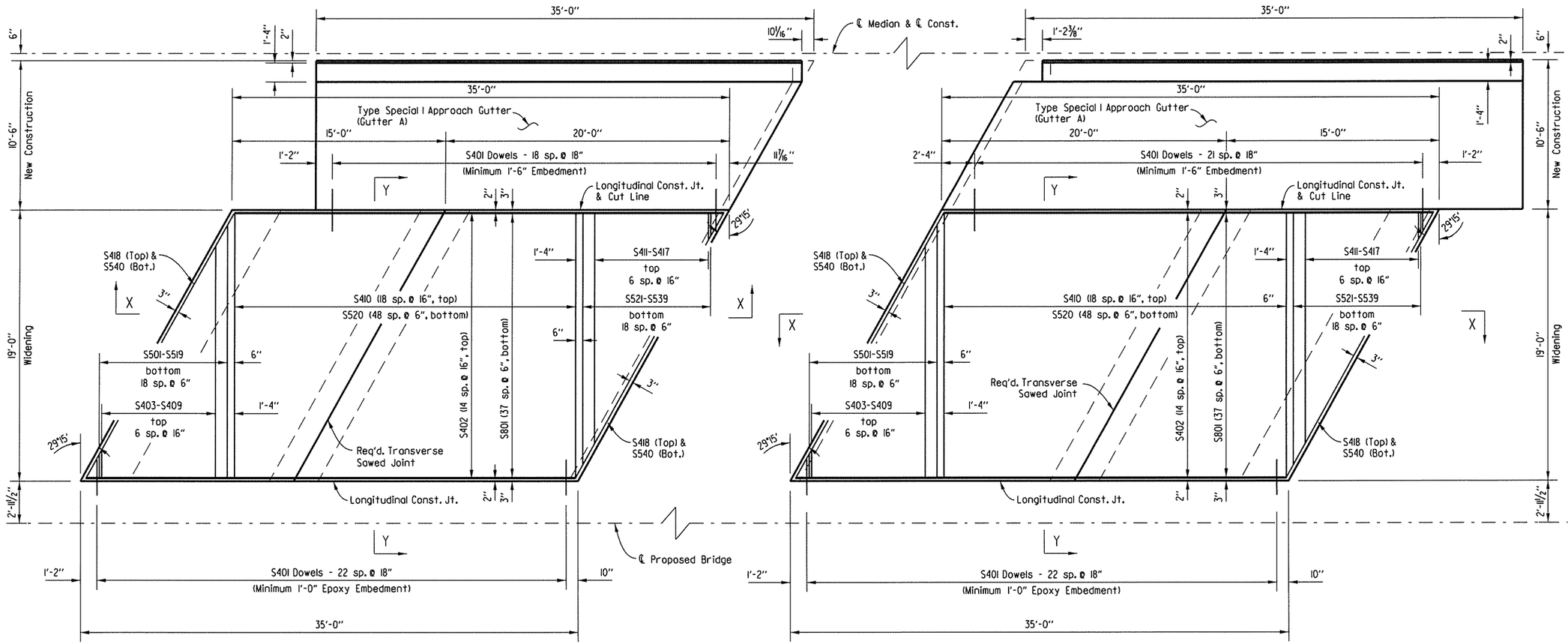
BRIDGE NO. A5920 DRAWING NO. 56554

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	137	338
				B5920		APPR. SLAB		56555



PLAN - APPROACH SLAB
(BEGIN BRIDGE B)

PLAN - APPROACH SLAB
(END BRIDGE B)

Note: Surface finish for approach slab shall match that used on bridge deck.

For General Notes, Sections, Bar List, and additional details See Dwg. No. 56556.
For details of Type Special I Approach Gutters, See Dwg. No. 56558.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 2 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

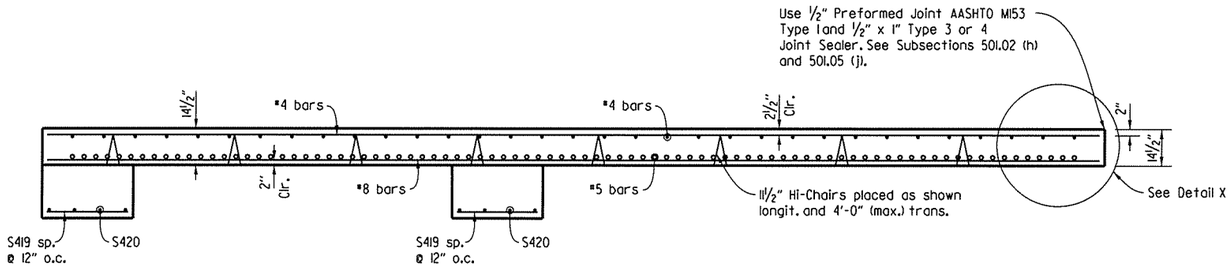
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BRIDGE NO. B5920 DRAWING NO. 56555

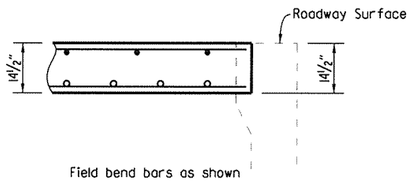
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Crafton, Tull & Associates Inc.

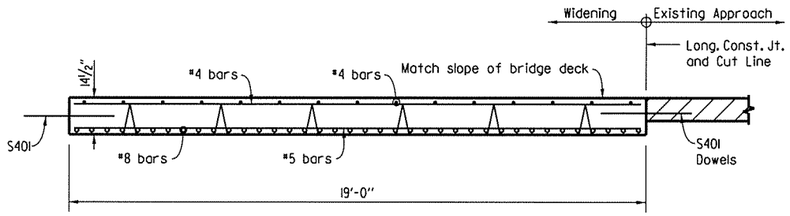
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				6	ARK.			
				JOB NO.		CA0401	138	338
				A&B5920		APPR. SLAB		56556



SECTION X - X
No Scale



DETAIL X
No Scale



SECTION Y - Y
No Scale

BAR LIST
BRIDGE A

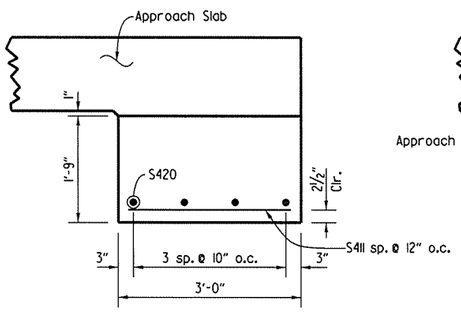
MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
S401	43	40	3'-0"
S402	15	15	34'-6"
S403-S409	7	7	2'-0" to 16'-3"
S410	19	19	18'-8"
S411-S417	7	7	1'-11" to 16'-3"
S418	2	2	21'-5"
S419	19	19	2'-8"
S420	8	8	21'-5"
S501-S519	19	19	1'-8" to 17'-9"
S520	49	49	18'-8"
S521-S539	19	19	1'-8" to 17'-9"
S540	2	2	21'-5"
S801	38	38	34'-6"

BAR LIST
BRIDGE B

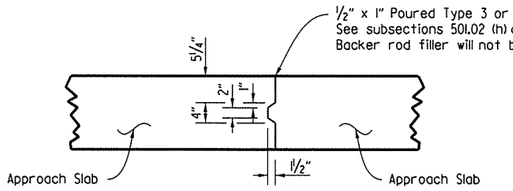
MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
S401	40	43	3'-0"
S402	15	15	34'-6"
S403-S409	7	7	2'-0" to 16'-3"
S410	19	19	18'-8"
S411-S417	7	7	1'-11" to 16'-3"
S418	2	2	21'-5"
S419	19	19	2'-8"
S420	8	8	21'-5"
S501-S519	19	19	1'-8" to 17'-9"
S520	49	49	18'-8"
S521-S539	19	19	1'-8" to 17'-9"
S540	2	2	21'-5"
S801	38	38	34'-6"

TABLE OF QUANTITIES FOR TYPE SPECIAL I APPROACH SLABS
(for information only)

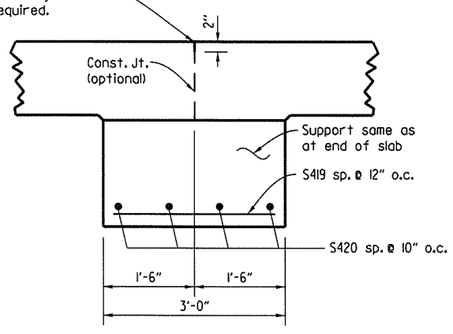
		Slab Width	Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)
Bridge A	Beg. of Bridge	19'-0"	5815	37.5
	End of Bridge	19'-0"	5809	37.5
Bridge B	Beg. of Bridge	19'-0"	5809	37.5
	End of Bridge	19'-0"	5815	37.5



DETAILS OF SUPPORT AT END OF SLAB
No Scale



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT
No Scale



DETAILS OF TRANSVERSE SAWED JOINT
No Scale

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".

Drill and grout bars where shown using an approved cement or epoxy system from the QPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.

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. A5920)" and "Modification of Existing Bridge Structure (Br. No. B5920)".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04-02-15

SHEET 3 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

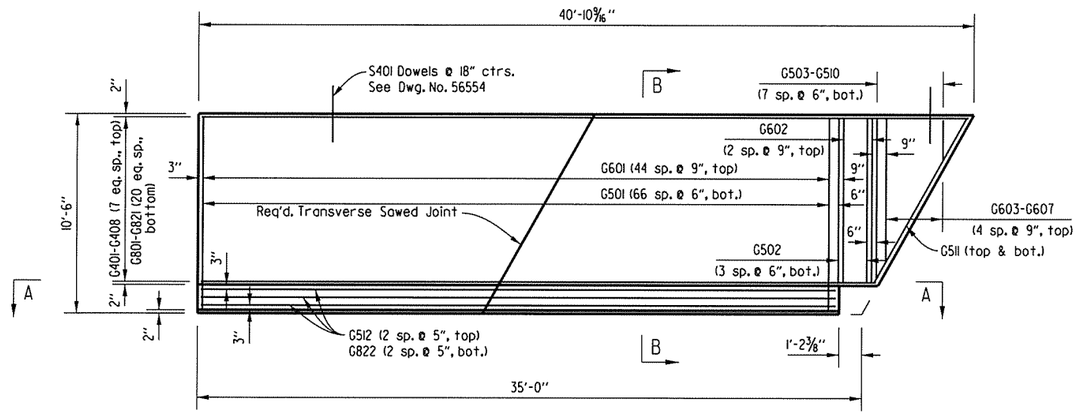
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BRIDGE NO. A&B5920 DRAWING NO. 56556

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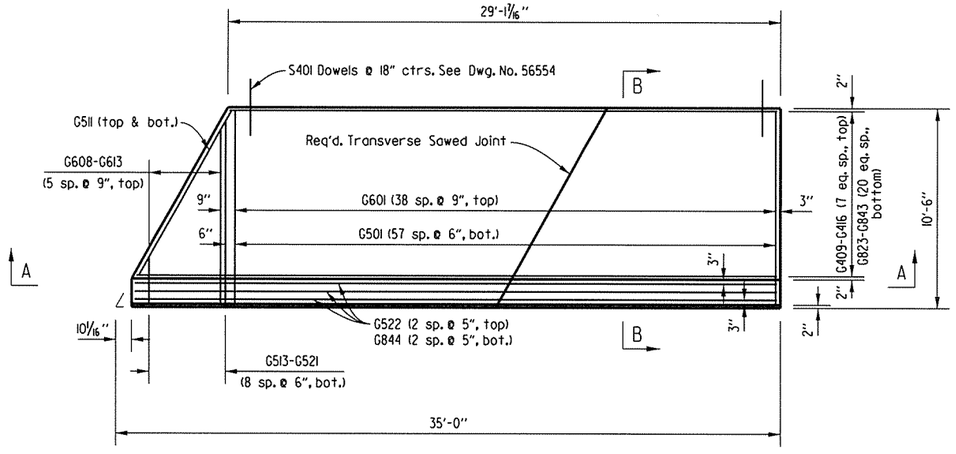
Crafton, Tull & Associates Inc.

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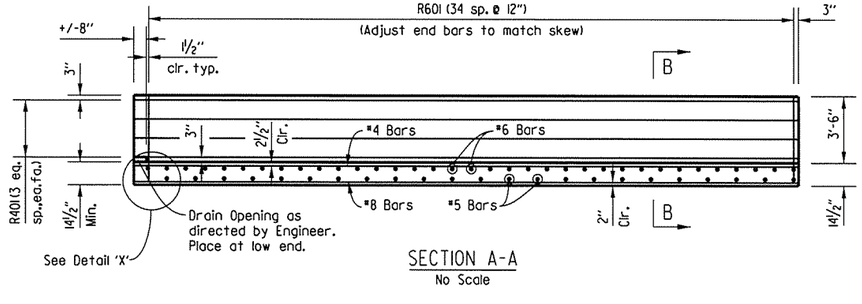
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6	ARK.			
JOB NO.		CA0401	139	338
A5920		APPR. GUTTER		56557



GUTTER A
(BEGIN BRIDGE A)



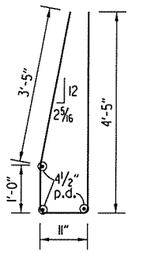
GUTTER B
(END BRIDGE A)

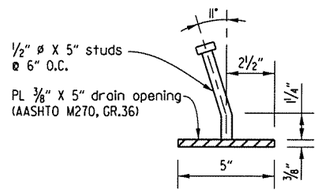


SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH	Bending Diagram
G401-G408	8	---	35'-4" to 40'-2"	
G409-G416	---	8	28'-8" to 33'-7"	
G501	70	58	10'-2"	
G502	4	---	8'-8"	
G503-G510	8	---	2'-1" to 8'-6"	
G511	2	2	9'-11"	
G512	3	---	33'-5"	
G513-G521	---	9	2'-4" to 9'-6"	
G522	---	3	33'-10"	
G601	47	39	10'-10"	
G602	3	---	8'-8"	
G603-G607	5	---	2'-1" to 7'-7"	
G608-G613	---	6	2'-4" to 9'-1"	
G801-G821	21	---	35'-4" to 40'-2"	
G822	3	---	33'-5"	
G823-G843	---	21	28'-8" to 33'-7"	
G844	---	3	33'-10"	
R401	8	8	34'-3"	
R601	35	35	9'-5"	



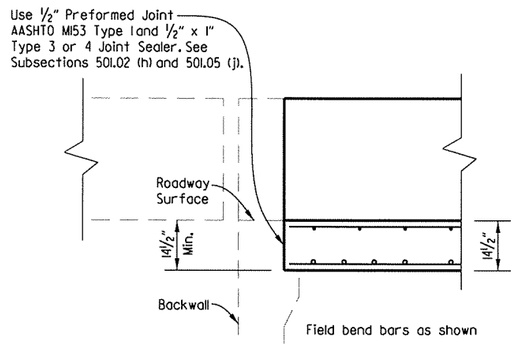


DETAIL Y
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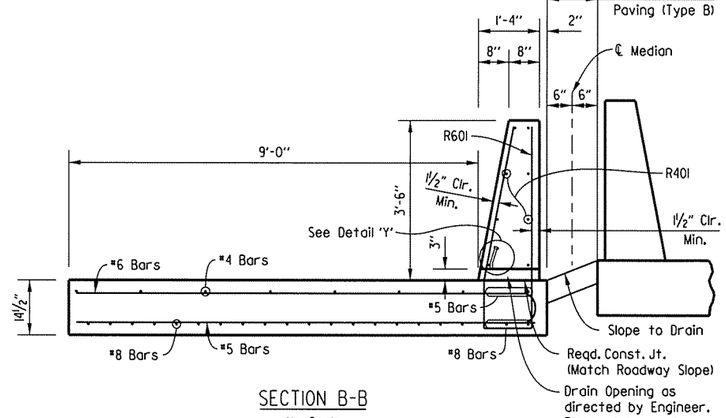
NOTE:

Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to other bid items.



DETAIL X
No Scale



SECTION B-B
No Scale

TABLE OF QUANTITIES FOR
TYPE SPECIAL I APPROACH GUTTERS
(for information only)

		Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)	Textured Coating Finish (Sq. Yds.)
Bridge A	Gutter A	5018	17.8	30.4
	Gutter B	4350	15.1	35.2

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

Concrete Ditch Paving shall be subsidiary to other bid items.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/02/15

SHEET 1 OF 2

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

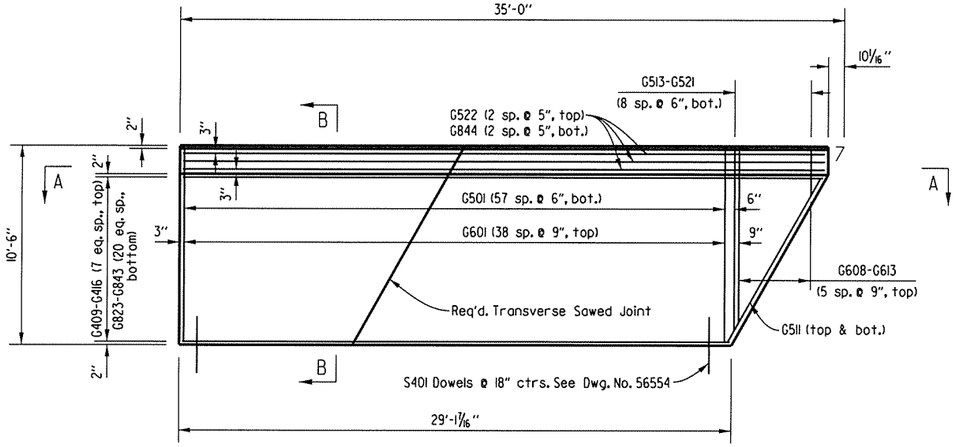
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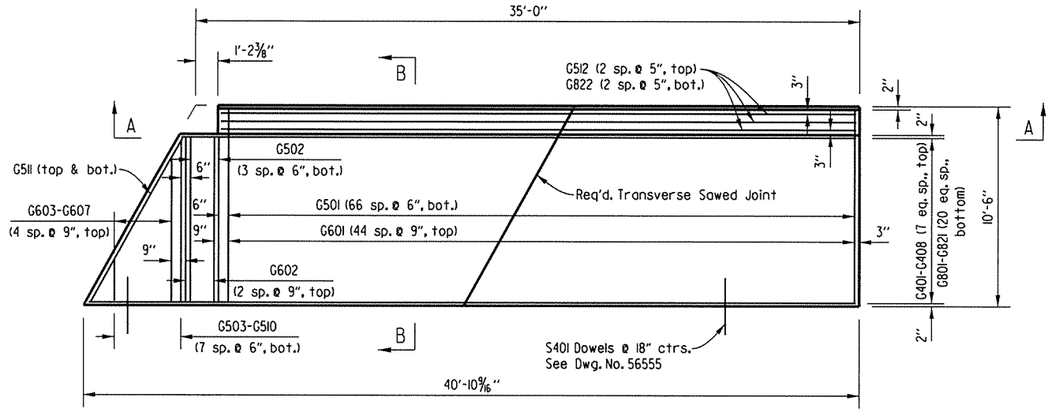
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Crafton, Tull & Associates Inc.

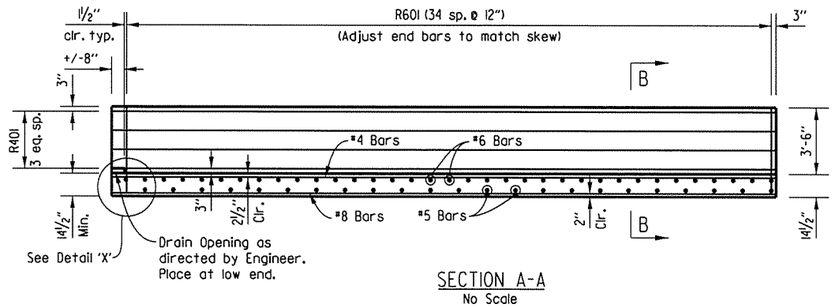
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				6	ARK.			
				JOB NO.		CA0401	140	338
				B5920		APPR. GUTTER		56558



GUTTER A
(BEGIN BRIDGE B)



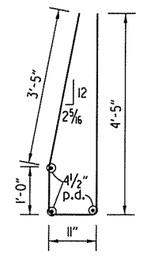
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(END BRIDGE B)



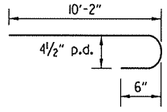
SECTION A-A
No Scale

BAR LIST

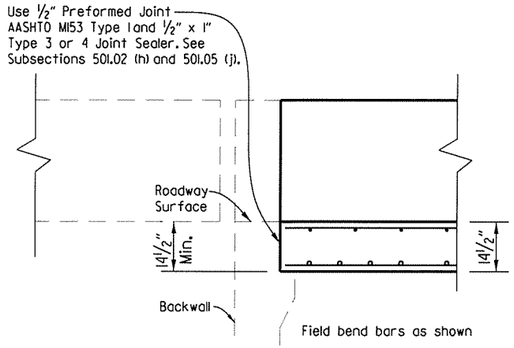
MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH	Bending Diagram
G401-G408	8	---	35'-4" to 40'-2"	
G409-G416	---	8	28'-8" to 33'-7"	
G501	70	58	10'-2"	
G502	4	---	8'-8"	
G503-G510	8	---	2'-1" to 8'-6"	
G511	2	2	9'-11"	
G512	3	---	33'-5"	
G513-G521	---	9	2'-4" to 9'-6"	
G522	---	3	33'-10"	
G601	47	39	10'-10"	
G602	3	---	8'-8"	
G603-G607	5	---	2'-1" to 7'-7"	
G608-G613	---	6	2'-4" to 9'-1"	
G801-G821	21	---	35'-4" to 40'-2"	
G822	3	---	33'-5"	
G823-G843	---	21	28'-8" to 33'-7"	
G844	---	3	33'-10"	
R401	8	8	34'-3"	
R601	35	35	9'-5"	



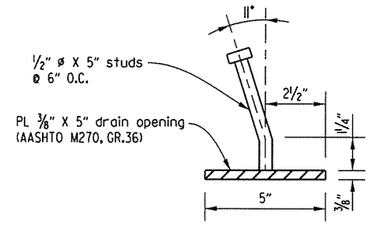
R601



G601



DETAIL X
No Scale



DETAIL Y
No Scale

NOTE:
Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to other bid items.

TABLE OF QUANTITIES FOR
TYPE SPECIAL I APPROACH GUTTERS
(for information only)

		Reinforcing Steel (lbs.)	Concrete (Cu. Yds.)	Textured Coating Finish (Sq. Yds.)
Bridge B	Gutter A	4350	15.1	29.8
	Gutter B	5018	17.8	35.8

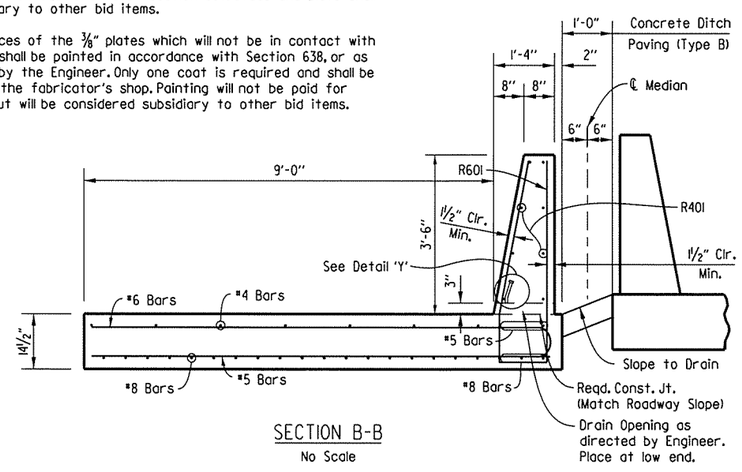
GENERAL NOTES

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

Concrete Ditch Paving shall be subsidiary to other bid items.



SECTION B-B
No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11856
CHARLES A. WIPF
04/07/15

SHEET 2 OF 2

DETAILS OF TYPE SPECIAL I APPROACH GUTTERS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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DESIGNED BY: TRM DATE: 09-15-14

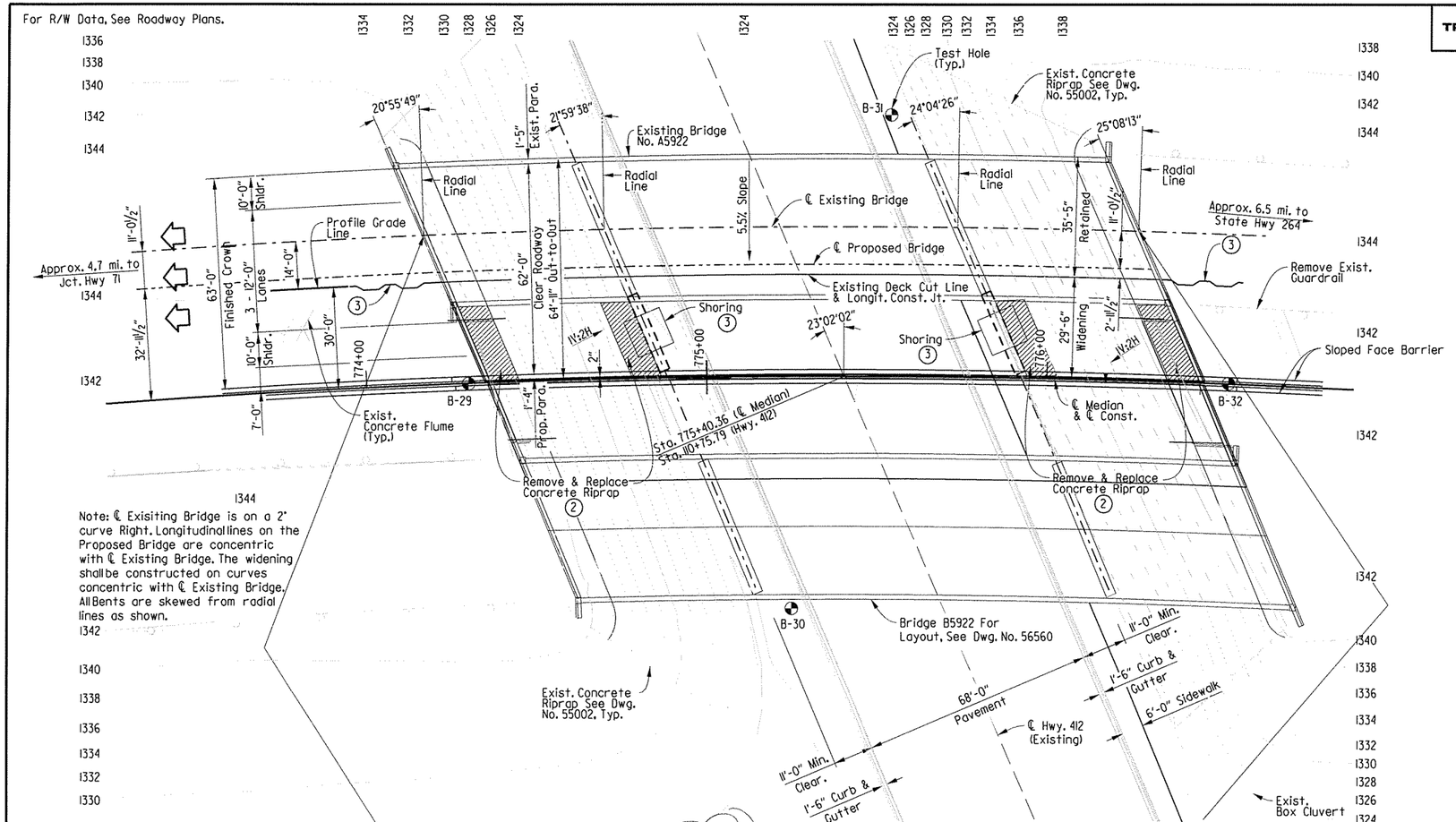
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PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	141	338
				(1) A5922		LAYOUT		56559

For R/W Data, See Roadway Plans.



PLAN

Note: ℄ Exisiting Bridge is on a 2° curve Right. Longitudinal lines on the Proposed Bridge are concentric with ℄ Existing Bridge. The widening shall be constructed on curves concentric with ℄ Existing Bridge. All Bents are skewed from radial lines as shown.

Note:
Stationing for the project is along the ℄ Median. The bent stations shown are determined by projecting a radial line from ℄ Median to ℄ Existing Bridge. The total bridge length, span lengths, and ℄ Joint to Beginning and End of Bridge dimensions are measured along ℄ Existing Bridge. Deck Elevations and the ℄ Deck to Low Steel and to low Seat of Cap Dimensions are from ℄ Existing Bridge.

For Soil Boring information, see Dwg. No. 56561.
For General Notes, see Dwg. No. 56561.

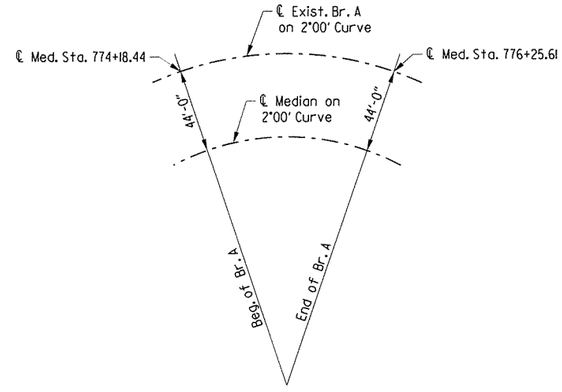


DIAGRAM OF ALIGNMENT - BRIDGE A

Total Length of Bridge = 210'-4¼" (Along ℄ Existing Bridge)
208'-0" Continuous Composite Plate Girder Unit (52', 104', 52')
1'-1⅞"
1'-2⅛"
℄ 1⅛" Poured Silicone Joint
℄ 2⅞" Poured Silicone Joint
Begin Bridge Sta 774+18.44
El. 1345.07
End Bridge Sta 776+25.61
El. 1344.62
Concrete Parapet Rail
℄ Bent 2 Sta. 774+70.75 El. 1345.12
℄ Deck ø ℄ Bent to Low Seat of Cap = 6'-10¾"
℄ Deck to Low Steel = 6'-6¾"
℄ Bent 3 Sta. 775+73.18 El. 1344.90
℄ Deck ø ℄ Bent to Low Seat of Cap = 7'-0⅜"
Grade Line Along ℄ Exist. Bridge
Sloped Face Barrier, See Roadway Plans
Exp.
Fix
22'-0"
17'-9" (1)
16'-9" Proposed Min. Clear
27'-0"
68' Piles
47' Piles
48' Piles
El.=1316.22
El.=1310.87
Existing Ground Line Along ℄ Existing Bridge
Bent No. 1 2 3 4

ELEVATION

Remove existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type I Special Approach Slabs at both ends of Bridge, see Dwg No.s 56584 and 56586. Use Type I Special Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. No. 56587.

(1) Minimum Vertical Clearance (Per Design Survey).

(2) Remove existing Concrete Riprap & Replace with New Concrete Riprap as necessary for Bent construction (See Std. Dwg. No. 55002). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5922)".

(3) Shoring may be required during construction. Payment for work, if required, shall be considered subsidary to the pay item "Unclassified Excavation For Structures - Bridge" See SP Job No. CA0401 "Shoring".



VERTICAL CURVE DATA
(Elevations Along Profile Grade Line)
(Stations Along ℄ Median)

SHEET 1 OF 3

LAYOUT OF BRIDGE 'A' OVER HWY. 412 HWY. 71B - HWY. 412 (WIDENING) (S) WASHINGTON COUNTY

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS ★★★ 15615 REGISTERED PROFESSIONAL ENGINEER ★★★ DAVID R. NOLTE 12-27-13

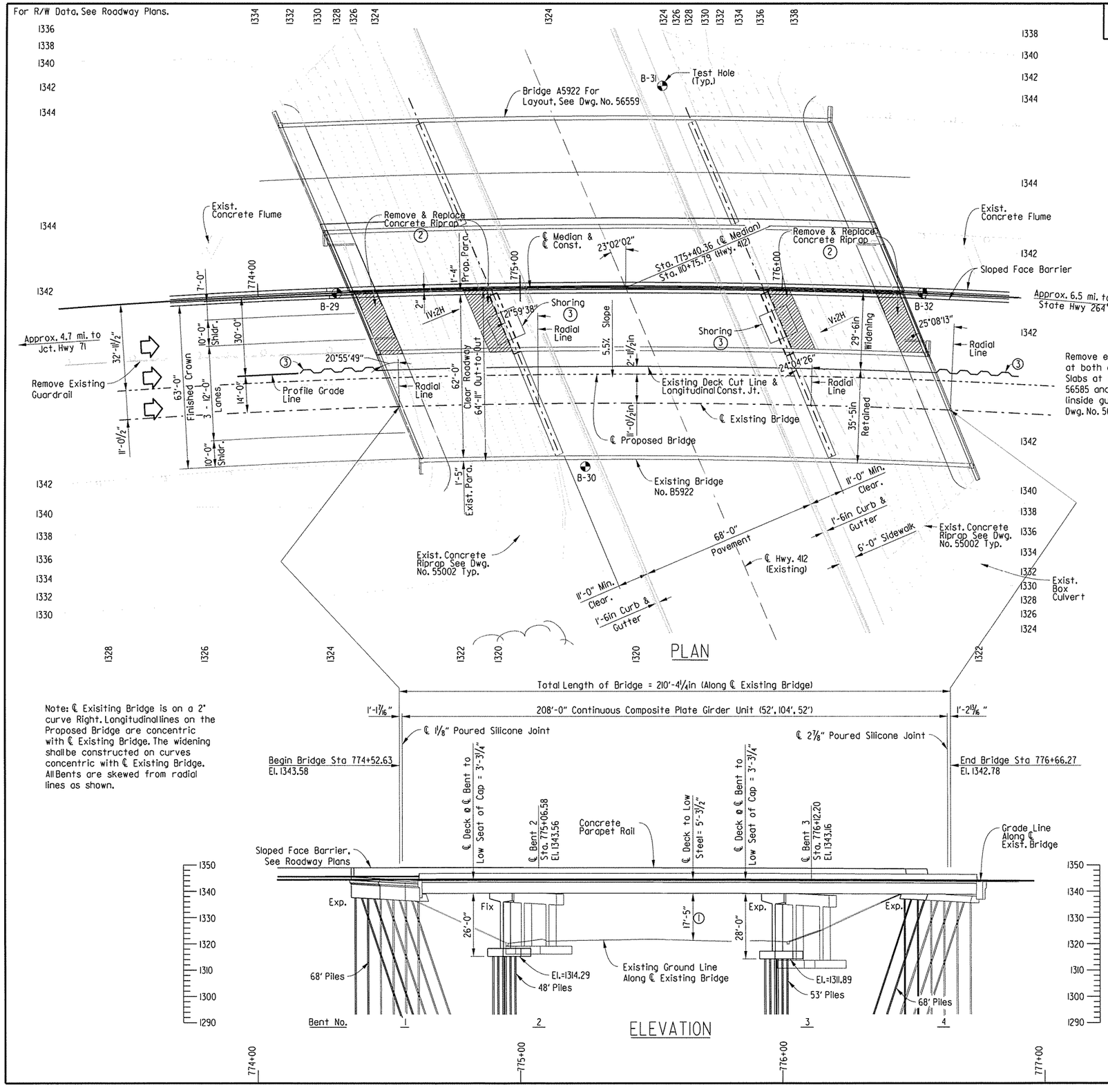
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					6	ARK.			
					JOB NO.		CA0401	142	338
					(1) B5922		LAYOUT		56560

For R/W Data, See Roadway Plans.



PLAN

Remove existing Approach Gutters (inside gutters) at both ends of Bridge. Use Type I Special Approach Slabs at both ends of Bridge, see Dwg No.s 56585 and 56586. Use Type I Special Approach Gutters (inside gutters) at both ends of Bridge, see Dwg. No. 56588.

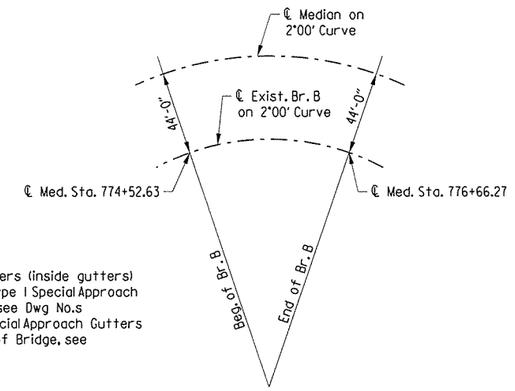


DIAGRAM OF ALIGNMENT - BRIDGE B

For General Notes see Dwg No. 56561.

For Soil Boring information, see Dwg. No. 56561.

(1) Minimum Vertical Clearance (Per Design Survey).

(2) Remove existing Concrete Riprap & Replace with New Concrete Riprap as necessary for Bent construction (See Std. Dwg. No. 55002). Removal shall extend to the location of an existing construction joint. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. B5922).

(3) Shoring may be required during construction. Payment for work, if required, shall be considered subsidiary to the pay item "Unclassified Excavation For Structures - Bridge" See SP Job No. CA0401 "Shoring".

HORIZONTAL CURVE DATA

P.I. STA. 776+62.2
Δ 51°36'20" RT.
D 2°00'
T 1385.2
L 2580.3'

Note: Horizontal Curve Data Shown Is Based On Existing Plans

Note: ℄ Exisiting Bridge is on a 2° curve Right. Longitudinal lines on the Proposed Bridge are concentric with ℄ Existing Bridge. The widening shall be constructed on curves concentric with ℄ Existing Bridge. All Bents are skewed from radial lines as shown.

Total Length of Bridge = 210'-4¼in (Along ℄ Existing Bridge)

1'-1⅞" | 208'-0" Continuous Composite Plate Girder Unit (52', 104', 52') | 1'-2⅛"

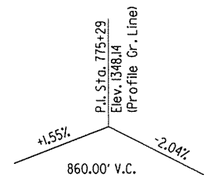
℄ 1⅛" Poured Silicone Joint

℄ 2⅛" Poured Silicone Joint

Begin Bridge Sta 774+52.63
El. 1343.58

End Bridge Sta 776+66.27
El. 1342.78

ELEVATION



VERTICAL CURVE DATA

(Elevations Along Profile Grade Line)
(Stations Along ℄ Median)

Note:
Stationing for the project is along the ℄ Median. The bent stations shown are determined by projecting a radial line from ℄ Median to ℄ Existing Bridge. The total bridge length, span lengths, and ℄ Joint to Beginning and End of Bridge dimensions are measured along ℄ Existing Bridge. Deck Elevations and the ℄ Deck to Low Steel and to Low Seat of Cap Dimensions are from ℄ Existing Bridge.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
DAVID R. NOLTE
No. 14573

SHEET 2 OF 3

LAYOUT OF BRIDGE 'B' OVER HWY. 412
HWY. 71B - HWY. 412
(WIDENING) (S)

ROUTE 49 SEC. 28

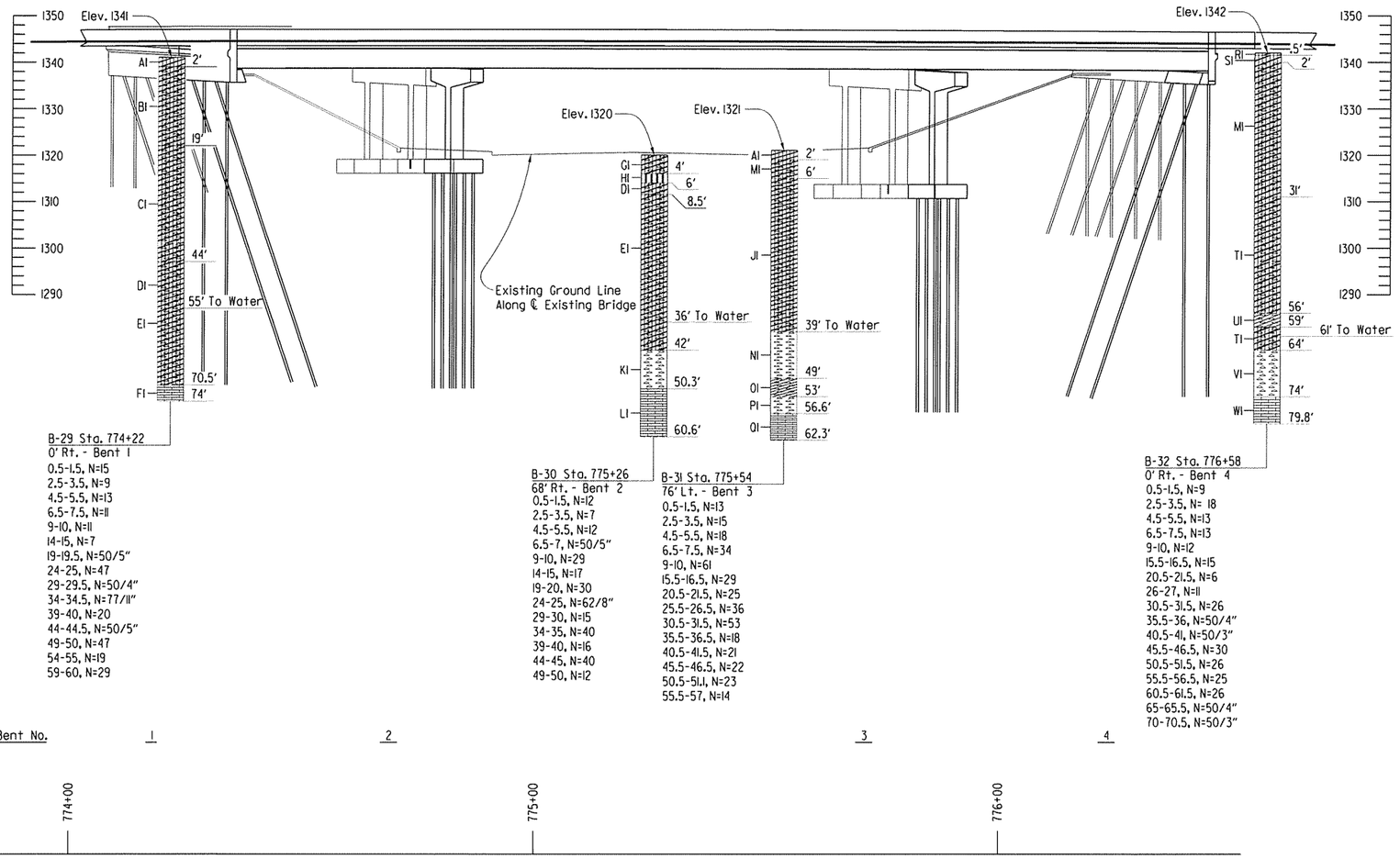
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: DRN DATE: 01-27-14
DESIGNED BY: JBM DATE: 12-13-13
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ELEVATION

BORING LEGEND

A1. Stiff brown silty clay with surface organics (fill)
B1. Firm gray and reddish brown silty clay with clay pockets and chert fragments (fill)
C1. Very stiff reddish brown silty clay with chert fragments and occasional dark red clay seams
D1. Very stiff red silty clay with chert fragments
E1. Very stiff red silty clay with chert fragments and occasional dark red clay seams
F1. Hard light gray limestone with occasional chert seams and inclusions
G1. Stiff reddish brown and dark brown silty clay with some chert fragments (fill)
H1. Medium dense brown fine sandy silt with trace organics
J1. Very stiff reddish brown silty clay with some chert fragments and clay seams
K1. Low hardness light gray and white chert, fractured with interbedded reddish brown silty clay seams
L1. Hard light gray and gray limestone with fine quartz and carbonaceous inclusions, fossiliferous
M1. Stiff brown and reddish brown silty clay with chert fragments
N1. Low hardness light gray and white chert, fractured with occasional red clay seams
O1. Stiff reddish brown clay with chert fragments
P1. Low hardness white and light gray chert, fractured with reddish brown silty clay seams and layers
Q1. Hard light gray limestone with micro-quartz and carbonaceous inclusions
R1. Firm brown silty clay with surface organics (fill)
S1. Firm reddish brown silty clay (fill)
T1. Very Stiff reddish brown silty clay with chert fragments
U1. Very stiff dark red clay with some fine chert fragments
V1. Low hardness light gray and white chert, fractured with occasional silty clay seams
W1. Hard light gray to gray limestone with chert seams and inclusions and micro quartz and carbonaceous inclusions

General Notes Continued:

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to proposed work. Information and dimensions shown are based on existing bridge plans. The Contractor is to adhere strictly to 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. Payment for this work shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Br. No. A5922)" and "Modification of Existing Bridge Structure (Br. No. B5922)".

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 and Special Provisions for more information.

PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	143	338
				A&B5922		LAYOUT		56561

GENERAL NOTES

BENCH MARK: TBM 816 AHTD Cap South East Corner of Bridge #5922, 19.92' LT. of Sta. 774+23.52 Elevation = 1343.89

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with current interim specifications. (New construction only)

LIVE LOADING: HL-93 SEISMIC PERFORMANCE ZONE: 1 Sd1 = .125 Site Class = D

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 M 31 or M 322 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

BORING LOGS: Boring logs may be obtained from the Construction Contract Precurement Section of the Program Management Division.

STEEL PILING: All piling shall be HP 12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 96 tons per pile into the material designated as Hard Light Gray Cherty Limestone on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in End Bent 1 & 4 to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

PREBORING: Preboring will be required at all bents and shall extend from bottom of footing or bottom of cap to top of Hard Limestone. A preboring depth of 67 feet is anticipated at all End Bents (Bridges A & B), a preboring depth of 46 feet at Bridge A Bent 2, 47 feet at Bridge A Bent 3, 47 feet at Bridge B Bent 2, and 52 feet at Bridge B Bent 3 is anticipated. The length of prebored hole shall be backfilled in accordance with Subsection 805.08(a) to completely fill the remaining voids. The contractor shall be responsible for keeping prebored holes free from debris prior to backfilling which may require the use of temporary casings or other methods. Pile casings and backfill will not be paid for directly but shall be considered subsidiary to the item Preboring.

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.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface, including the existing deck surface to be retained, and roadway face and top of parapet rail of new construction.

PAINT: All new Structural Steel except galvanized members, surfaces in contact with concrete, and as otherwise noted, shall be painted as specified in Subsection 807.75. The color of paint shall match color of existing girders.

DETAIL DRAWINGS:	DRAWING NUMBER
Stage Construction	56562-56563
End Bents	56564-56568
Intermediate Bents	56569-56573
Elastomeric Bearings	56574
Widening Details	56575-56583
Type Special Approach Slab	56584-56586
Type Special Approach Gutter	56587-56588

THE PROPOSED WORK CONSISTS OF: Widening the existing bridge, modifying the exisitng end bents, constructing new intermediate bents to the median side of existing bents, removing and replacing portions of the concrete deck, removing and replacing portions of the exisitng concrete riprap, and replacing the joint seals. For additional requirments in conducting the work, see Section 821.

EXISTING BRIDGE: Existing Bridges No. A5922 & B5922 are approximately 42.83' wide and 210.4' long and consists of a 208' continuous composite plate girder unit, multi-column intermediate bents on spread footings, and steel pile end bents. Plans of the existing structure may be obtained upon request to the Construction Contract Precurement Section of the Program Management Division.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17673
DAVID R. NOLTE

SHEET 3 OF 3

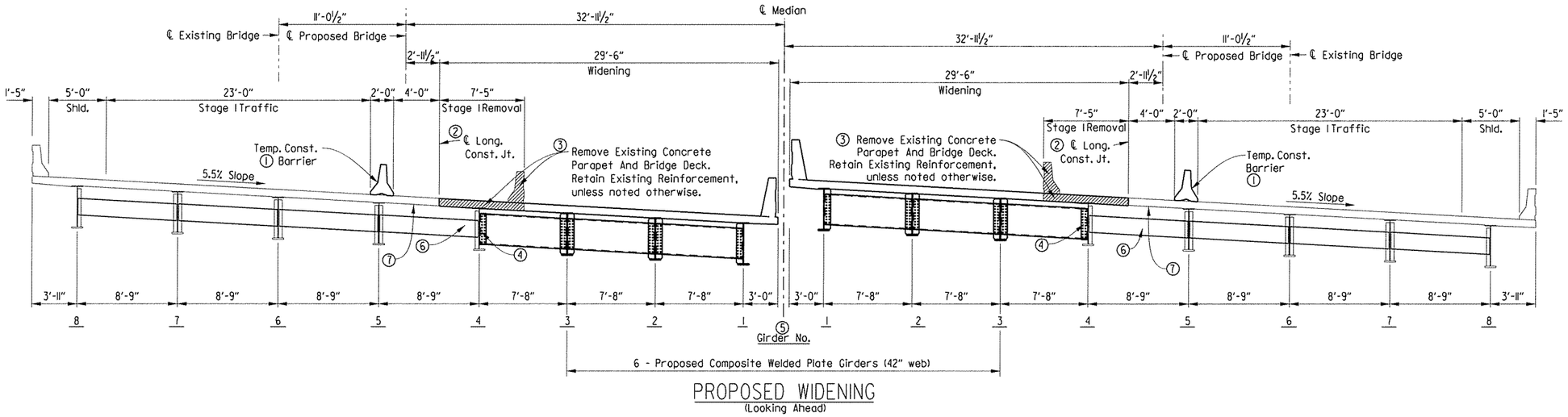
LAYOUT OF BRIDGES 'A & B' OVER
HWY. 412
HWY. 71B - HWY. 412
(WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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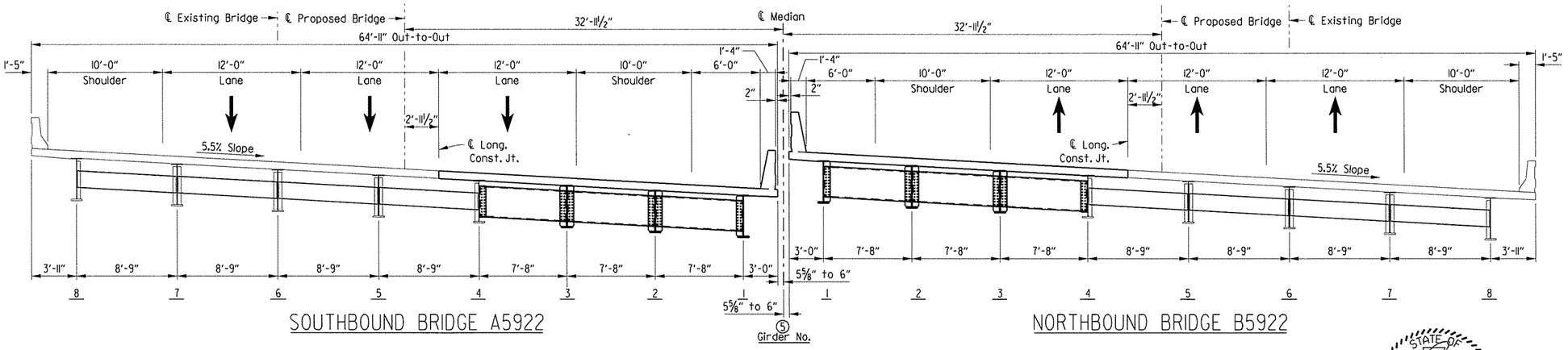
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PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	144	338
					(1) A&B5922		STAGE CONST.		56562



PROPOSED WIDENING
(Looking Ahead)



SOUTHBOUND BRIDGE A5922

NORTHBOUND BRIDGE B5922

CONSTRUCTION COMPLETE
(Looking Ahead)

Notes:

① For Details of Temporary Precast Barrier, See Std. Dwg. TC-4. (Do not connect to existing deck)

② Partial Saw Cut Depth, see Section 821.

③ Care shall be exercised during the removal of the existing deck to ensure that the bolted field splices, beams, diaphragms, shear studs, connection plates and existing reinforcement to remain are not damaged. Damaged items that are not salvageable, as determined by the Engineer, shall be replaced by the Contractor at no additional payment. The interior spans of the existing deck shall be removed before the end spans are removed in order to ensure stability of the exisiting bridge.

④ Install new diaphragm and connection plate prior to deck pour. The new connection plate shall be field welded to the existing girder.

⑤ The girder numbers have been renumbered from the original plans to provide consistency to the plan details.

⑥ Bolts in the existing diaphragms and end struts may be loosened to the satisfaction of Engineer at Girder Nos. 4 & 5 during deck removal. 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 Girder Nos. 4 & 5 shall be tightened after the completion of the deck pour.

⑦ Contractor is required to provide a temporary bracing system to support the existing deck. Payment for this work shall be subsidiary to "Modification of Existing Bridge Structure (Br. A5922)" and "Modification of Existing Bridge Structure (Br. B5922)".

Bridges are not concentric with ℄ of median. Dimensions shown are at beginning and end of bridge only.

The contractor may propose a different sequence of construction to the Engineer for approval.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/27/15
No. 7673
DAVID R. NOLTE

SHEET 1 OF 2

STAGE CONSTRUCTION DETAILS
BRIDGES 'A & B' OVER HWY. 412
HWY. 71B - HWY. 412 (WIDENING) (S)
ROUTE 49 Sec 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DR	DATE: 01-22-14	FILENAME: bca0401x3.12.dgn	
CHECKED BY: DRN	DATE: 10-24-14	SCALE: 1/8" = 1'-0"	
DESIGNED BY: JBM	DATE: 01-22-14		

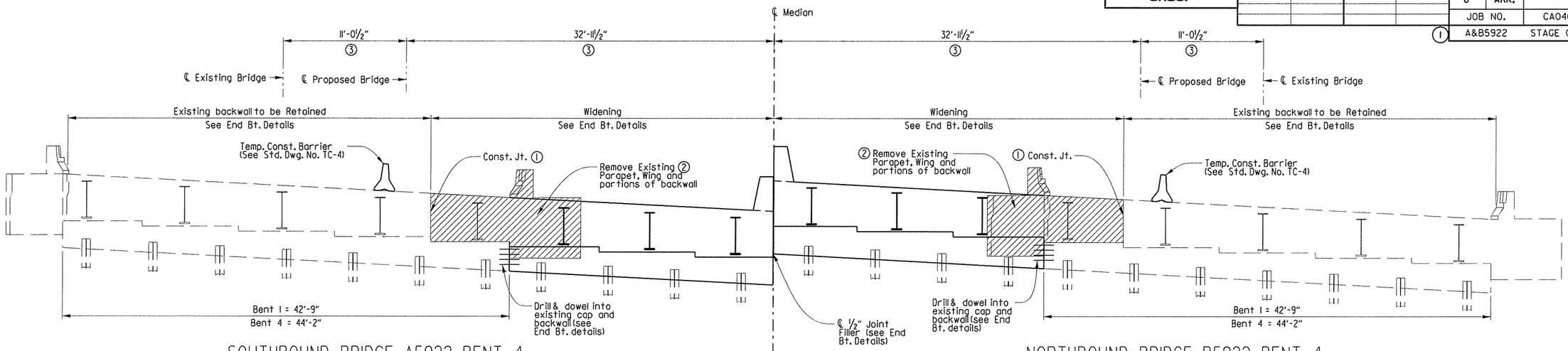
BRIDGE NO. A&B5922 DRAWING NO. 56562

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PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	145	338
(1) A&B5922		STAGE CONSTR.		56563



SOUTHBOUND BRIDGE A5922 BENT 4

Looking Ahead
Dimensions Along ℄ Bt.
Bent 1 Similar

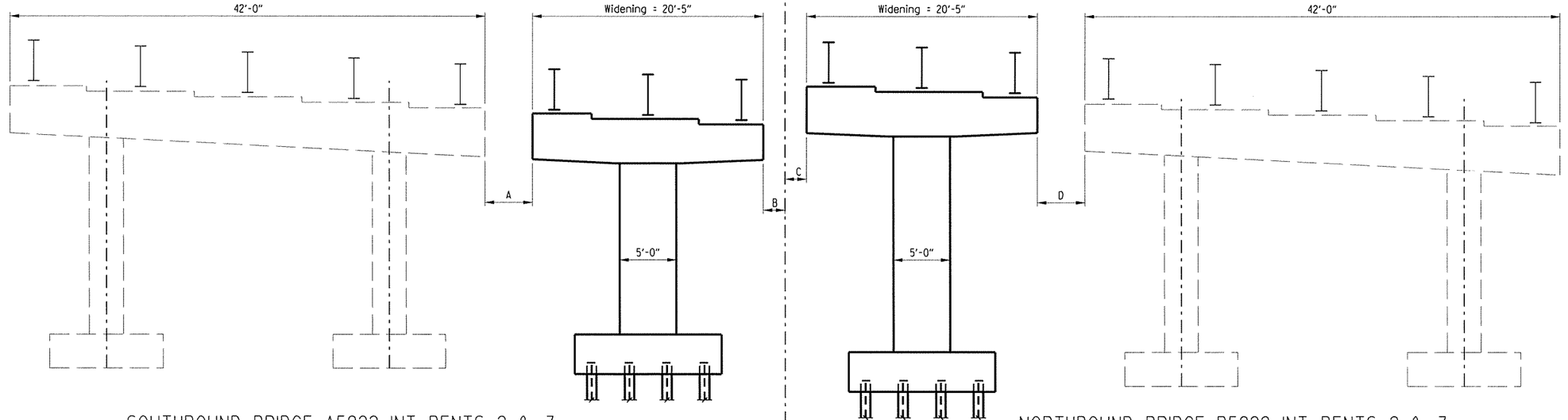
NORTHBOUND BRIDGE B5922 BENT 4

Looking Ahead
Dimensions Along ℄ Bt.
Bent 1 Similar

(1) Saw cut and remove wing and portions of existing backwall.

(2) Clean, retain, and straighten existing reinforcement as required to lap with new reinforcement.

(3) Dimensions are not concentric with ℄ Median. Dimensions shown are at beginning and end of bridge only.



SOUTHBOUND BRIDGE A5922 INT. BENTS 2 & 3

Looking Ahead
Dimensions Along ℄ Bt.

NORTHBOUND BRIDGE B5922 INT. BENTS 2 & 3

Looking Ahead
Dimensions Along ℄ Bt.

TABLE OF VARIABLES

VARIABLE	BRIDGE A		BRIDGE B	
	BENT 2	BENT 3	BENT 2	BENT 3
A	4'-2¾"	4'-9½"	-	-
B	1'-10⅝"	2'-0⅞"	-	-
C	-	-	1'-10"	2'-0¼"
D	-	-	4'-2 1/16"	4'-8½"

Unless otherwise noted all dimensions shown are along ℄ Bent.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11573
DAVID R. NOLTE

SHEET 2 OF 2

STAGE CONSTRUCTION DETAILS
BRIDGES 'A & B' OVER HWY. 412
HWY. 71B - HWY. 412 (WIDENING) (S)
WASHINGTON COUNTY
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 01-21-14 FILENAME: bca0401x3_13.dgn
CHECKED BY: DRN DATE: 01-23-14 SCALE: SEE DETAILS
DESIGNED BY: JBM DATE: 01-21-14
BRIDGE NO. A&B5922 DRAWING NO. 56563

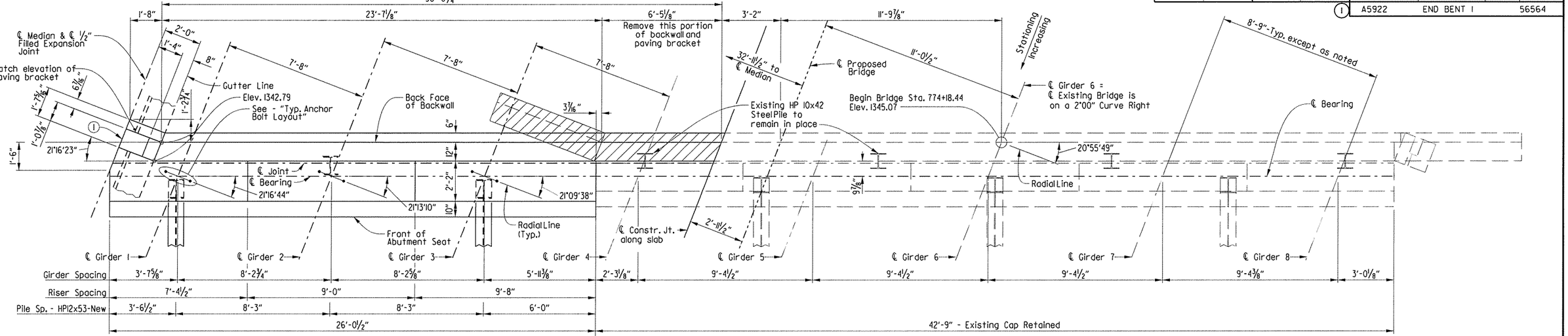
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PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	146	338
(1) A5922		END BENT 1		56564

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

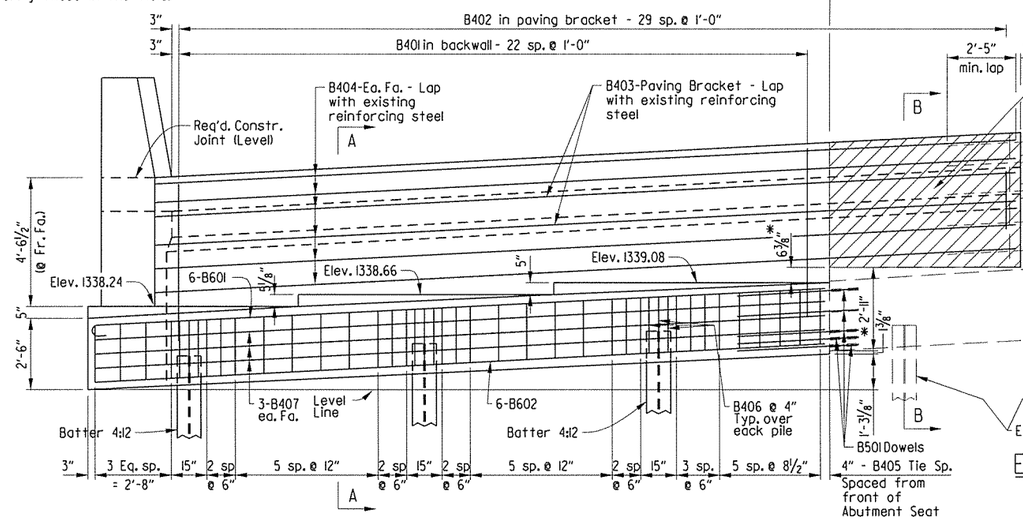


* These dimensions are based on the original plans. The contractor shall verify these in the field.

℄ Construction Joint See Detail

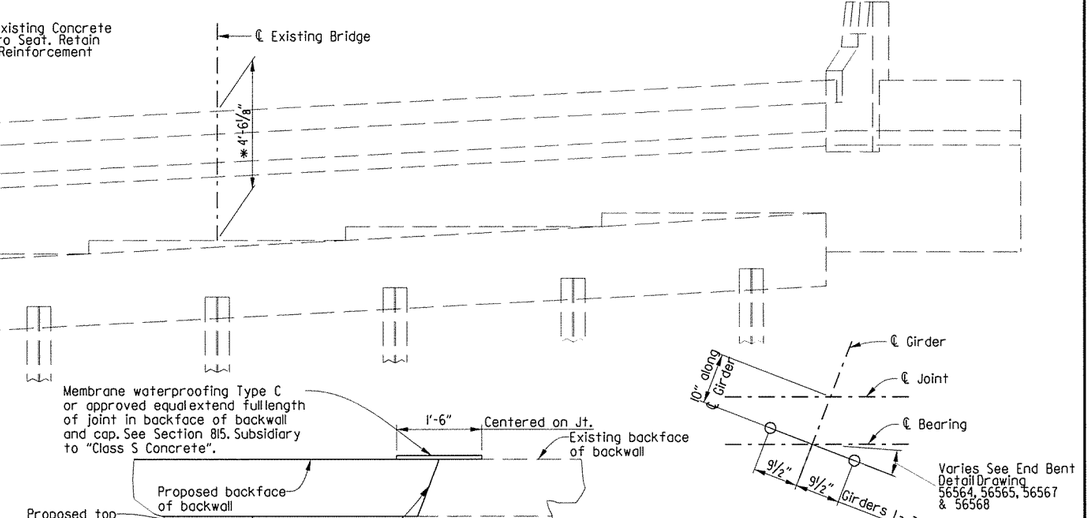
PLAN

Scale: ⅜" = 1'-0"



ELEVATION

Looking Back
Scale: ⅜" = 1'-0"



CONSTRUCTION JOINT DETAIL

Not to Scale

TYP. ANCHOR BOLT LAYOUT

No Scale

For details of elastomeric bearings, see Dwg. No. 56574

Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall, including the existing surface to be retained, and roadway face and top of parapet of the new construction.

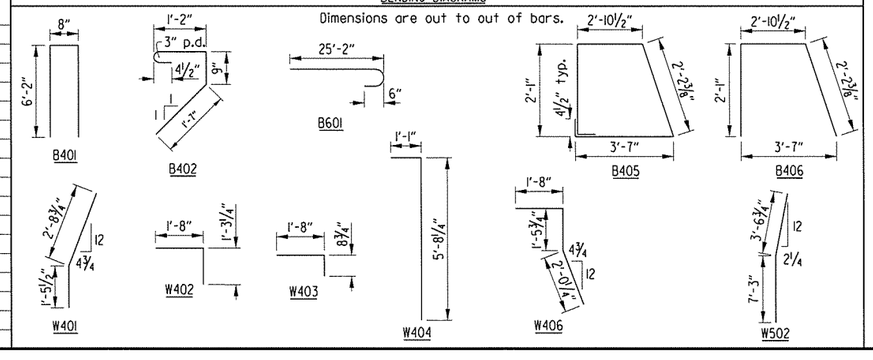
For additional details and General Notes, See Dwg. No. 56566

BAR LIST - END BENT 1, BRIDGE A

MARK	NO. REQ'D.	LENGTH	P.D.	MARK	NO. REQ'D.	LENGTH	P.D.
B401	23	12'-10"	2"	W401	3	4'-2"	3"
B402	30	4'-0"	3"	W402	6	2'-10"	3"
B403	2	29'-8"	Str	W403	4	2'-3"	3"
B404	10	29'-8"	Str	W404	2	6'-8"	3"
B405	33	11'-1"	2"	W405	8	9"	Str
B406	9	7'-1"	2"	W406	3	5'-0"	3"
B407	6	25'-2"	Str				
				W501	2	10'-7"	Str
B501	14	4'-0"	Str.	W502	2	10'-10"	3¾"
B601	6	25'-10"	4½"				
B602	6	25'-2"	Str				

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
13717
DAVID R. NOLTE

END BENT 1 DETAILS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DR	DATE: 01-21-14	FILENAME: bco0401a3_bll.dgn	
CHECKED BY: DRN	DATE: 12-03-14	SCALE: SEE DETAILS	
DESIGNED BY: JBM	DATE: 01-21-14		

BRIDGE NO. A5922 DRAWING NO. 56564

USER: PARSONS
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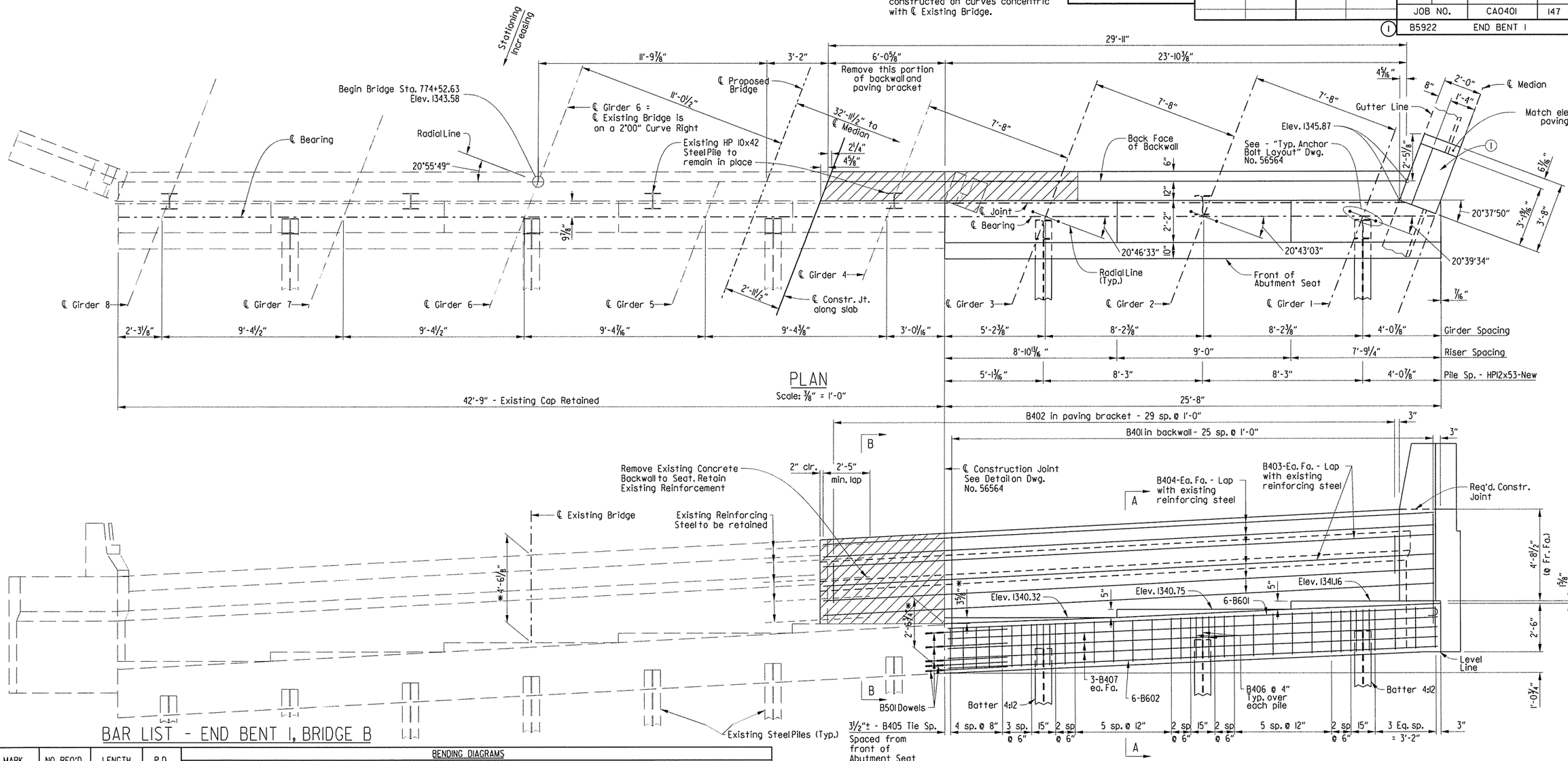
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PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	147	338
(1) B5922		END BENT 1		56565

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

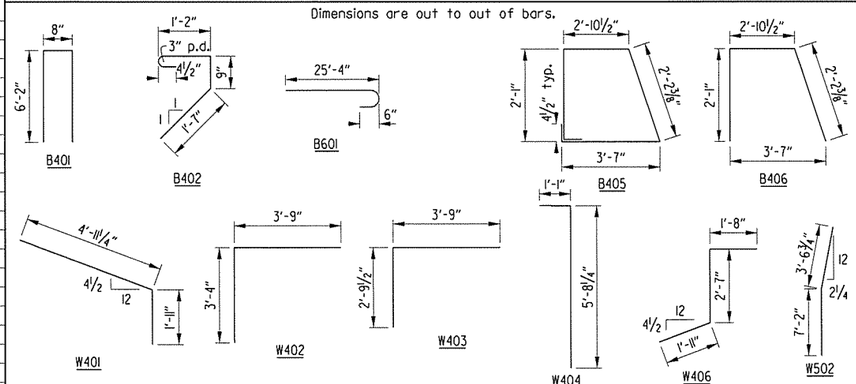


BAR LIST - END BENT 1, BRIDGE B

MARK	NO. REQ'D.	LENGTH	P.D.
B401	26	12'-10"	2"
B402	30	4'-0"	3"
B403	2	29'-7"	Str
B404	10	29'-7"	Str
B405	32	11'-1"	2"
B406	9	7'-1"	2"
B407	6	25'-4"	Str
B501	14	4'-0"	Str.
B601	6	26'-0"	4½"
B602	6	25'-4"	Str
W401	3	6'-10"	3"
W402	3	7'-0"	3"
W403	2	6'-5"	3"
W404	2	6'-8"	3"
W405	8	2'-9"	Str
W406	8	6'-0"	3"
W501	5	10'-6"	Str
W502	5	10'-8"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.



Note:
Class 1 Protective Surface Treatment shall be applied to the top of the backwall, including the existing surface to be retained, and roadway face and top of parapet of the new construction.

For additional details and General Notes, See Dwg. No. 56566

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
3/27/15
DAVID R. NOLTE

END BENT 1 DETAILS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DR	DATE: 01-21-14	FILENAME: bco040lb3_b12.dgn	
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DESIGNED BY: JBM	DATE: 01-21-14		

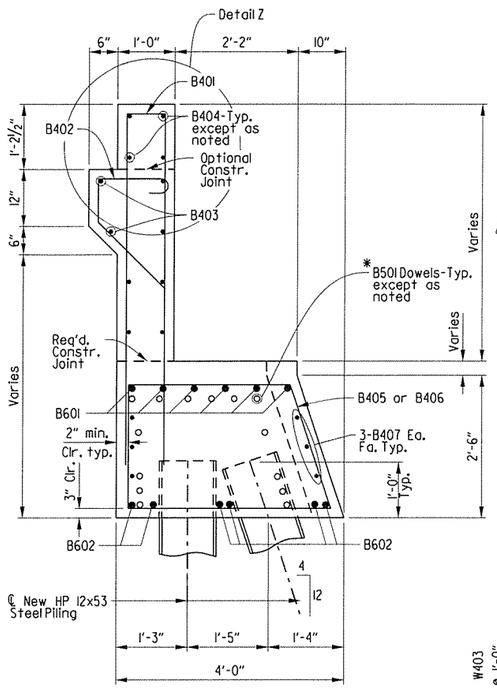
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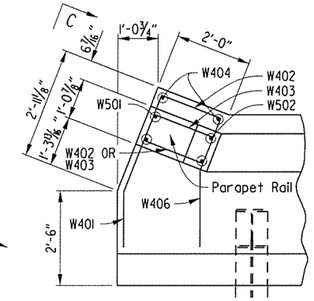
PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	148	338
				(1)	A&B5922	END BENT DETAILS		56566



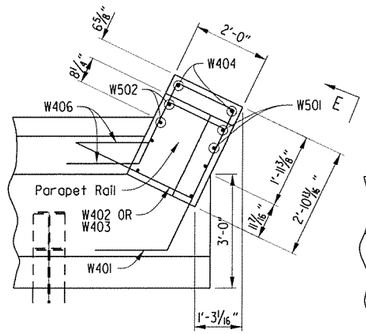
SECTION A-A

Scale: ¾" = 1'-0"



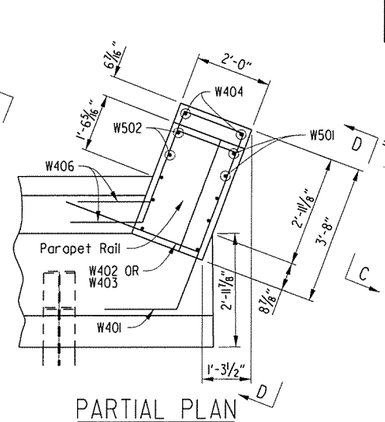
PARTIAL PLAN

BENT 1(Br. A)



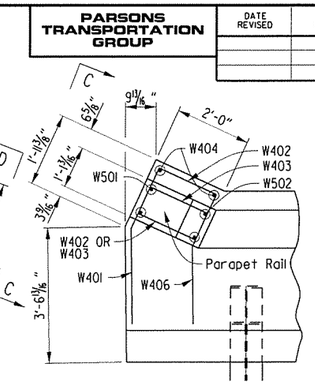
PARTIAL PLAN

BENT 4 (Br. A)



PARTIAL PLAN

BENT 1(Br. B)



PARTIAL PLAN

BENT 4 (Br. B)

GENERAL NOTES:

All Concrete shall be Class "S" and poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All Reinforcing Steel shall conform to Grade 60 (fy = 60,000 psi) AASHTO M 31 or M 322, Type A with mill test reports.

The backwall shall not be poured before the beams are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Detail Z for additional information.

Structural steel in end bents may be AASHTO M 270, Gr. 36 and shall be included in the bid item "Structural Steel in Beam Spans (M 270, Gr. 50)."

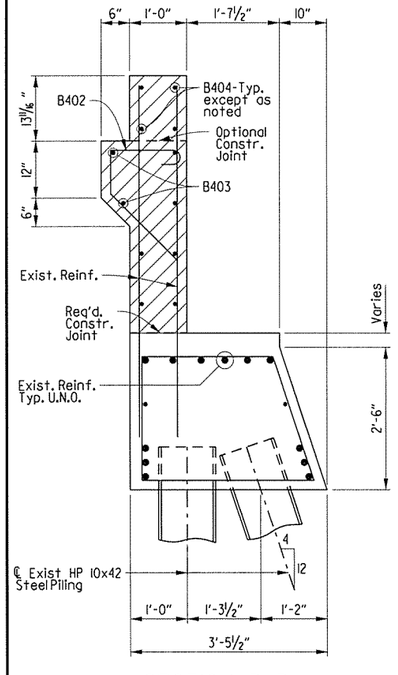
If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

Drill and grout bars where shown using an approved cement or epoxy system from the QPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.

Work required to remove and 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 as subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5922)" and "Modification of Existing Bridge Structure (Br. No. B5922)".

½" Filled Expansion Joint will not be paid for directly but will be considered subsidiary to item "Class S Concrete - Bridge".

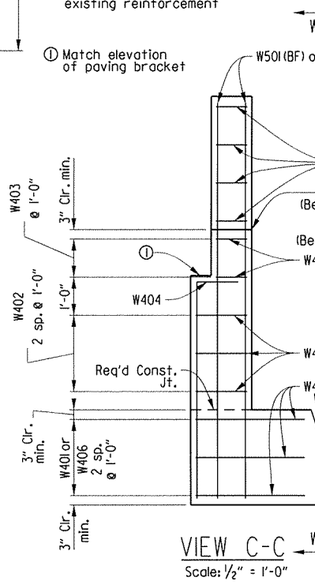
For additional information, see Layout.



SECTION B-B

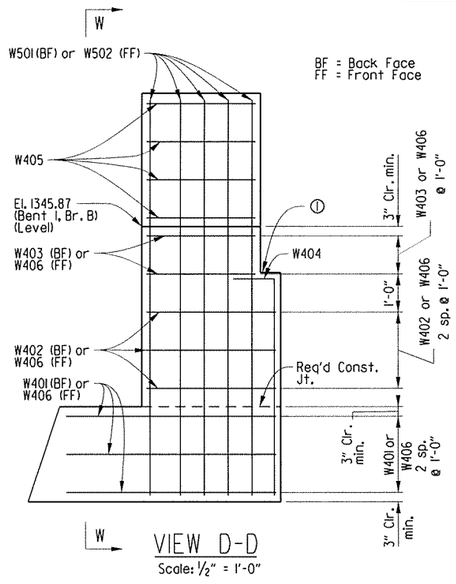
Scale: ¾" = 1'-0"

*Adjust as required to avoid conflict with existing reinforcement



VIEW C-C

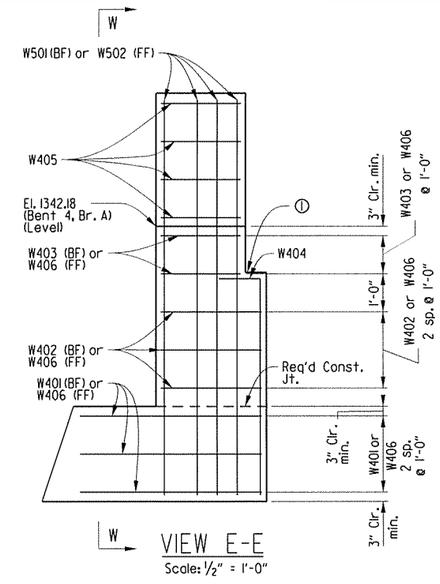
Scale: ½" = 1'-0"



VIEW D-D

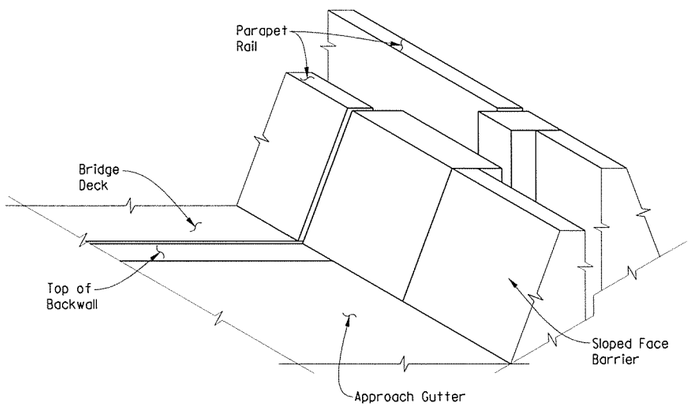
Scale: ½" = 1'-0"

BF = Back Face
FF = Front Face



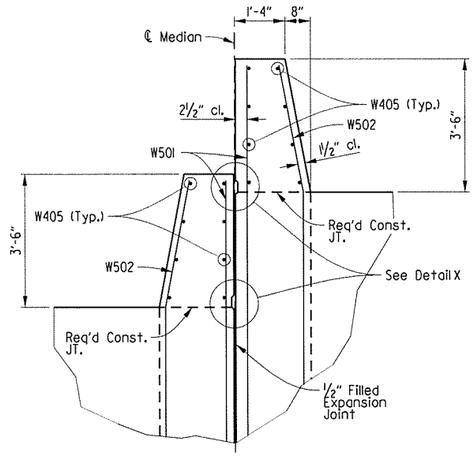
VIEW E-E

Scale: ½" = 1'-0"



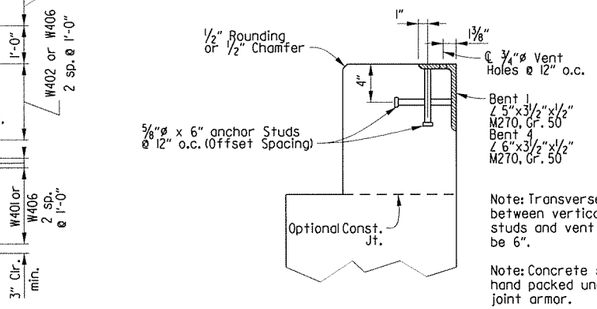
DETAIL OF BARRIER AT BRIDGE END

No Scale



VIEW W-W

Scale: ½" = 1'-0"



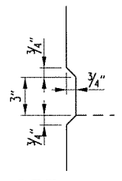
Note: Transverse spacing between vertical anchor studs and vent holes shall be 6".

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

Note: For additional joint details, see Dwg. No. 56576

DETAIL Z

Scale: 1½" = 1'-0"



DETAIL X

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

END BENT DETAILS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	DR	DATE:	01-21-14
CHECKED BY:	DRN	DATE:	12-04-14
DESIGNED BY:	JBM	DATE:	01-21-14

FILENAME: bca0401x3.bl3.dgn

SCALE: SEE DETAILS

BRIDGE NO. A&B5922 DRAWING NO. 56566

USER: PARSONS
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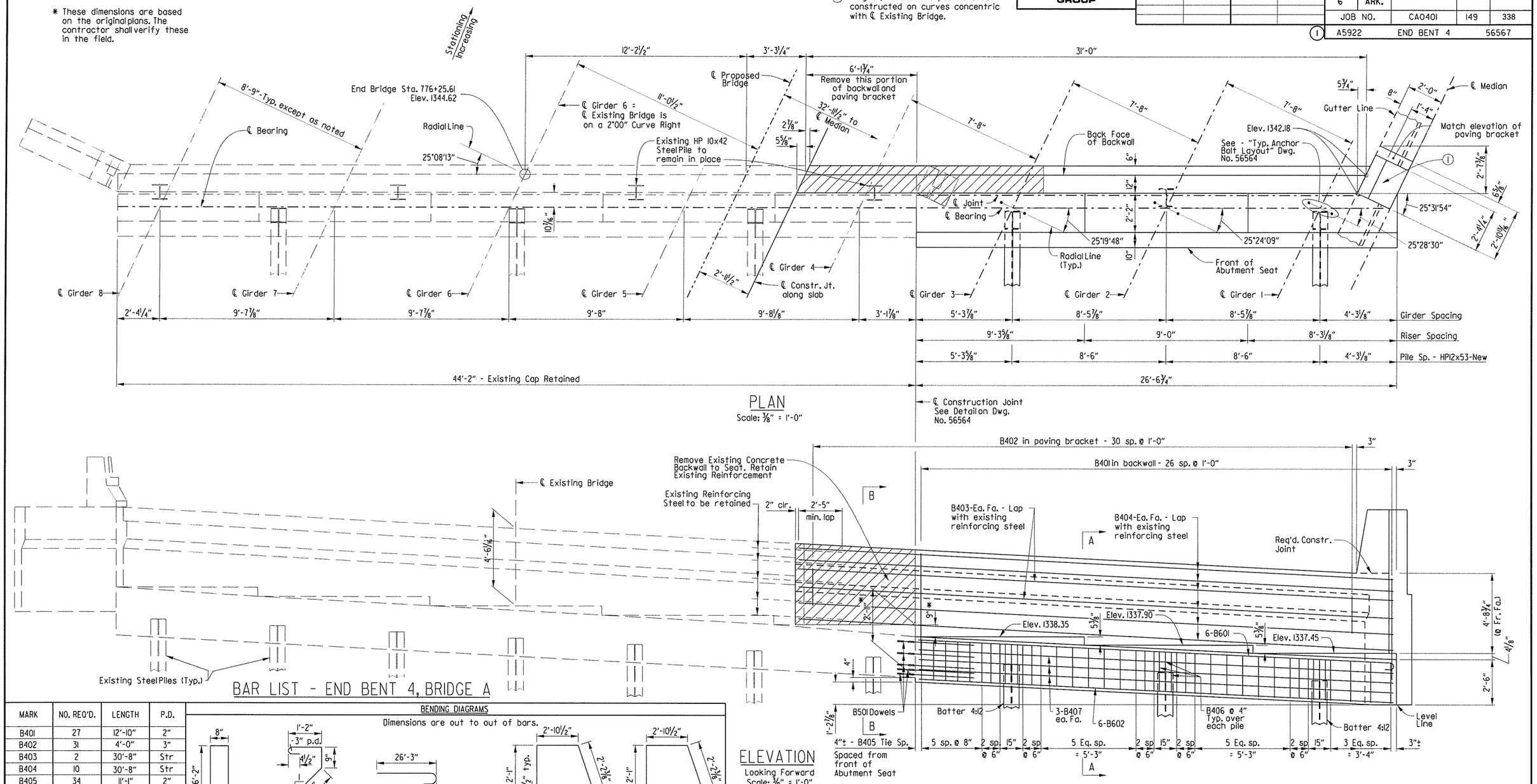
PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	149	338
(1) A5922		END BENT 4		56567

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

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



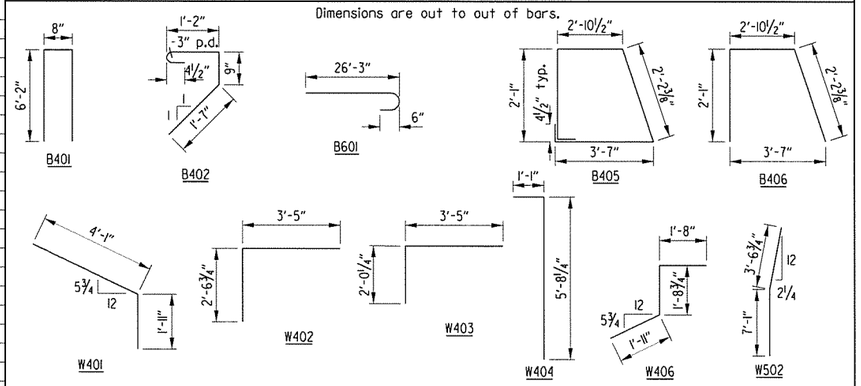
PLAN
Scale: ⅜" = 1'-0"

ELEVATION
Looking Forward
Scale: ⅜" = 1'-0"

BAR LIST - END BENT 4, BRIDGE A

MARK	NO. REQ'D.	LENGTH	P.D.
B401	27	12'-10"	2"
B402	31	4'-0"	3"
B403	2	30'-8"	Str
B404	10	30'-8"	Str
B405	34	11'-1"	2"
B406	9	7'-1"	2"
B407	6	26'-3"	Str
B501	14	4'-0"	Str.
B601	6	26'-11"	4½"
B602	6	26'-3"	Str
W401	3	6'-0"	3"
W402	3	5'-10"	3"
W403	2	5'-4"	3"
W404	2	6'-8"	3"
W405	8	2'-0"	Str
W406	8	5'-2"	3"
W501	4	10'-5"	Str
W502	4	10'-7"	3¾"

BENDING DIAGRAMS
Dimensions are out to out of bars.



Note:
Class 1 Protective Surface Treatment shall be applied to the top of the backwall, including the existing surface to be retained, and roadway face and top of parapet of the new construction.

For additional details and General Notes, See Dwg. No. 56566

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

END BENT 4 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

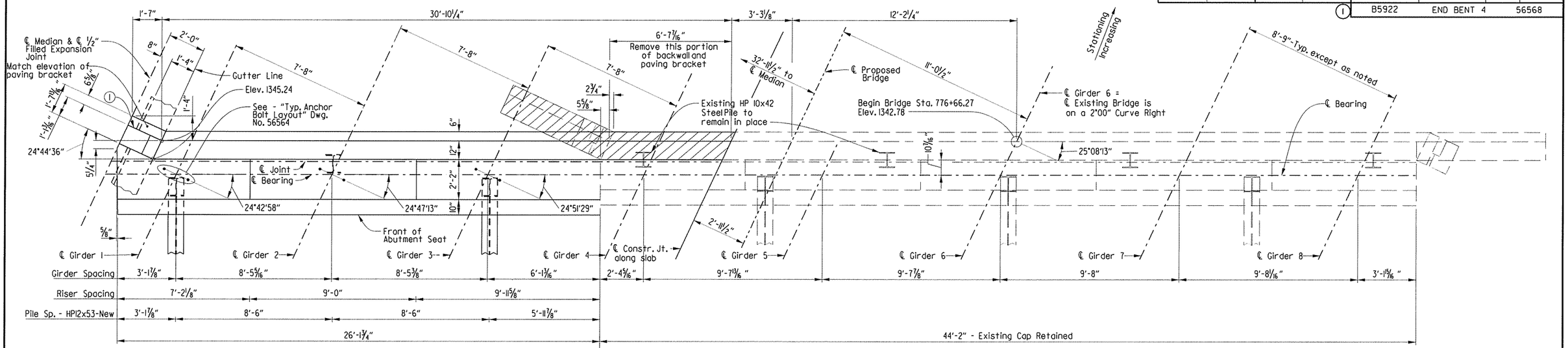
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CHECKED BY:	DRN	DATE:	12-04-14	SCALE:	SEE DETAILS
DESIGNED BY:	JBM	DATE:	01-21-14		

BRIDGE NO. A5922 DRAWING NO. 56567

USER: PARSONS
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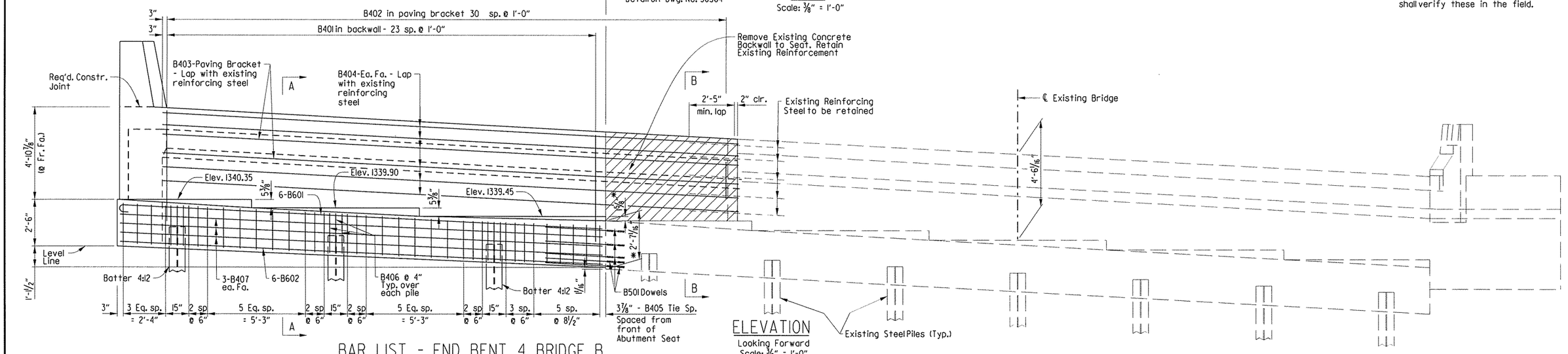
PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	150	338
					(1) B5922		END BENT 4		56568

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



PLAN
Scale: ⅜" = 1'-0"

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

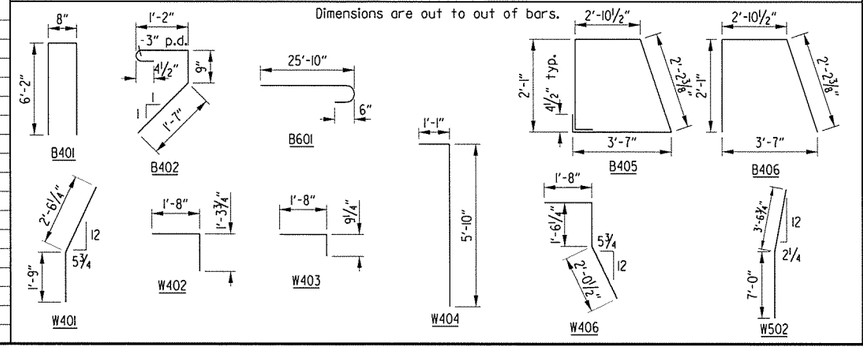


ELEVATION
Looking Forward
Scale: ⅜" = 1'-0"

BAR LIST - END BENT 4, BRIDGE B

MARK	NO. REQ'D.	LENGTH	P.D.	MARK	NO. REQ'D.	LENGTH	P.D.
B401	24	12'-10"	2"	W401	3	4'-3"	3"
B402	31	4'-0"	3"	W402	6	2'-10"	3"
B403	2	30'-6"	Str	W403	4	2'-4"	3"
B404	10	30'-6"	Str	W404	2	6'-9"	3"
B405	35	11'-1"	2"	W405	8	9"	Str
B406	9	7'-1"	2"	W406	3	5'-0"	3"
B407	6	25'-10"	Str				
				W501	2	10'-6"	Str
B501	14	4'-0"	Str.	W502	2	10'-6"	3¾"
B601	6	26'-6"	4½"				
B602	6	25'-10"	Str				

BENDING DIAGRAMS
Dimensions are out to out of bars.



Note:
Class I Protective Surface Treatment shall be applied to the top of the backwall, including the existing surface to be retained, and roadway face and top of parapet of the new construction.

For additional details and General Notes, See Dwg. No. 56566

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

END BENT 4 DETAILS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 01-21-14 FILENAME: bca0401b3_b42.dgn
CHECKED BY: DRN DATE: 12-04-14 SCALE: SEE DETAILS
DESIGNED BY: JBM DATE: 01-21-14

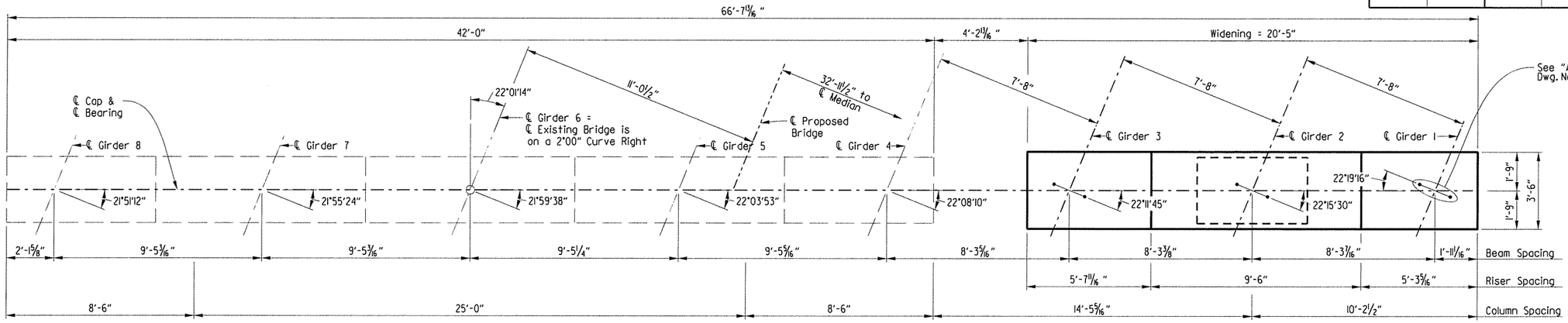
BRIDGE NO. B5922 DRAWING NO. 56568

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PLOTTED: 4/9/2015 7:35:24 PM

PARSONS TRANSPORTATION GROUP

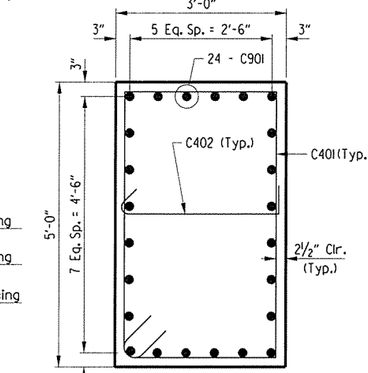
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	151	338
(1) A5922		BENT 2 DETAILS		56569

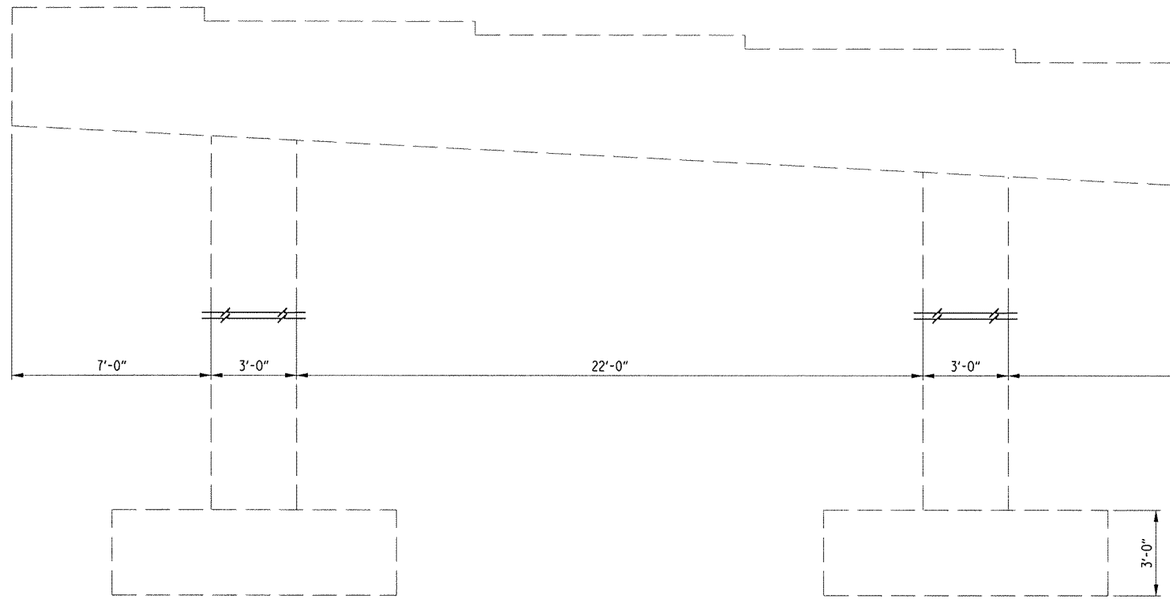


Note: Angles shown are to a line radial to ℄ Existing Bridge (Typ.)

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

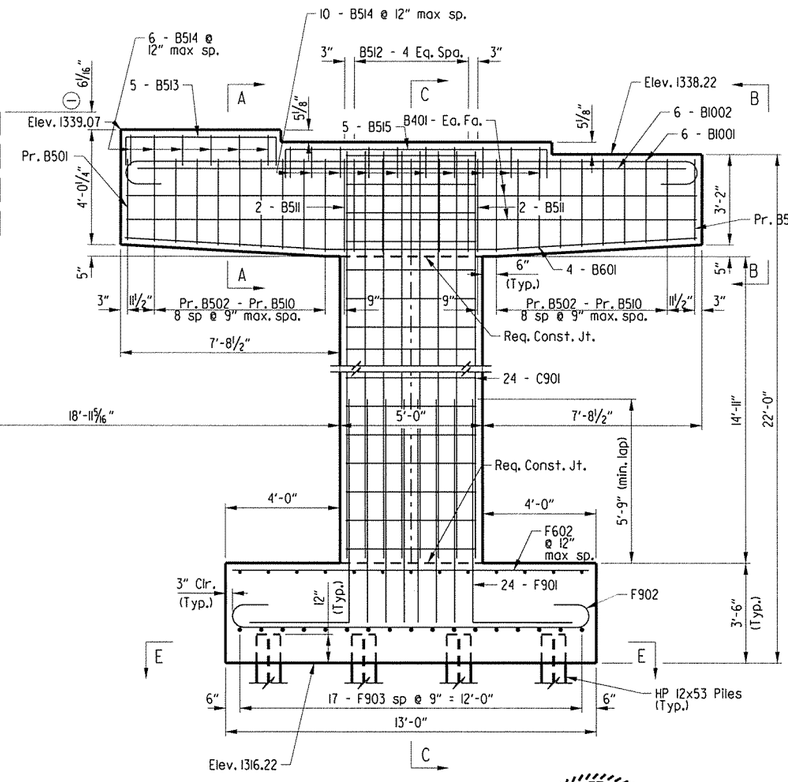


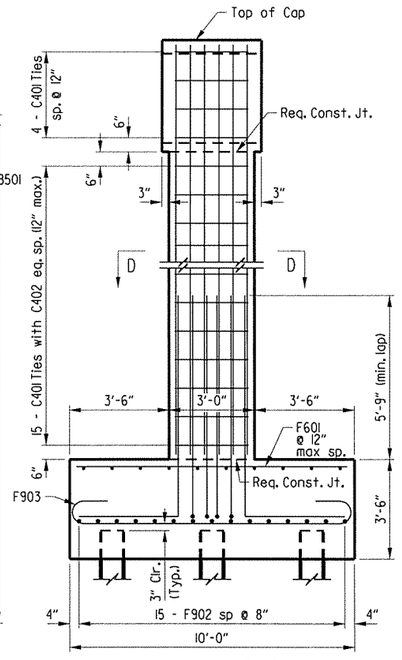
SECTION D-D
Scale: 3/4" = 1'-0"



① These dimensions are based on the current survey data and original plan dimensions. The contractor shall verify these in the field.

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





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

For additional information see Layout and Dwg. No. 56571.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3 2 14673
DAVID R. NOLTE

BENT 2 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	DR	DATE:	12-13-13	FILENAME:	bca0401a3_b21.dgn
CHECKED BY:	DRN	DATE:	10-22-14	SCALE:	SEE DETAILS
DESIGNED BY:	JBM	DATE:	12-13-13		

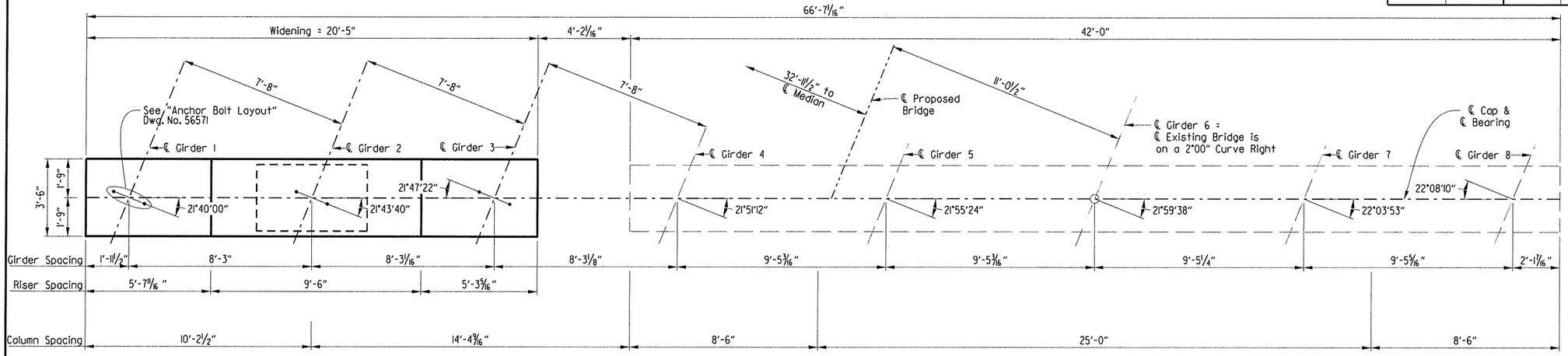
BRIDGE NO. A5922 DRAWING NO. 56569

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Bent 2 Layout Left Bridge.dgn
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PARSONS TRANSPORTATION GROUP

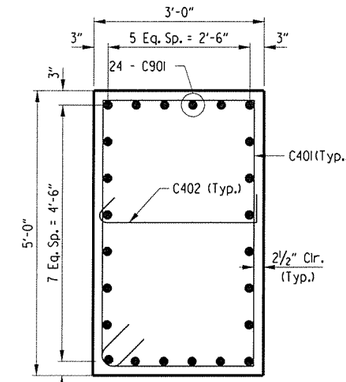
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	152	338
(1) B5922		BENT 2 DETAILS		56570

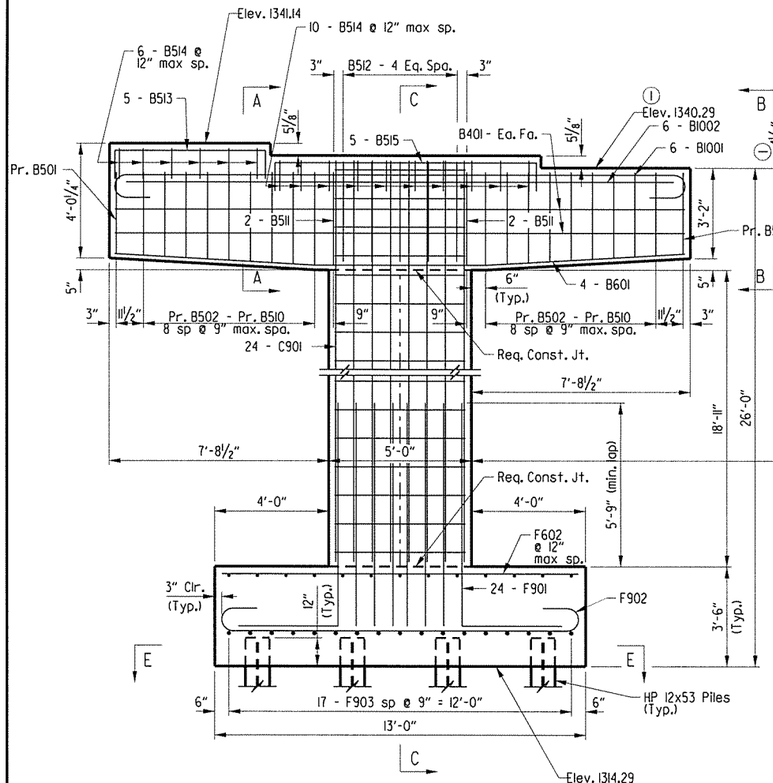


Note: Angles shown are to a line radial to ℄ Existing Bridge (Typ.)

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



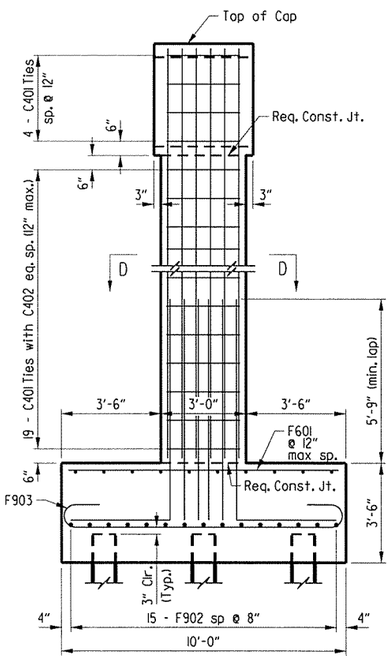
SECTION D-D
Scale: 3/4" = 1'-0"



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

(1) These dimensions are based on the current survey data and original plan dimensions. The contractor shall verify these in the field.

For additional information see Layout and Dwg. No. 56571.



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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID B. NOLTE

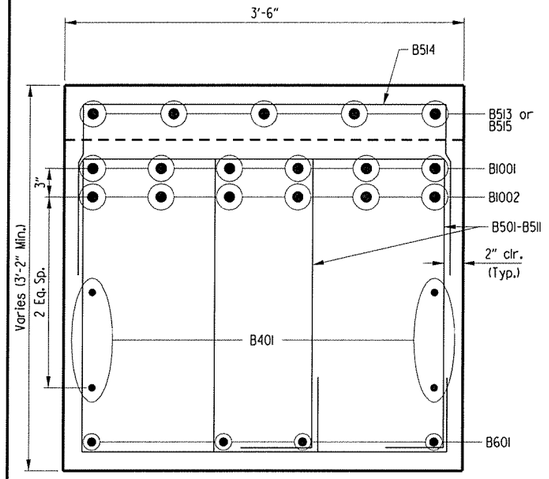
BENT 2 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	JBM	DATE:	12-13-13		

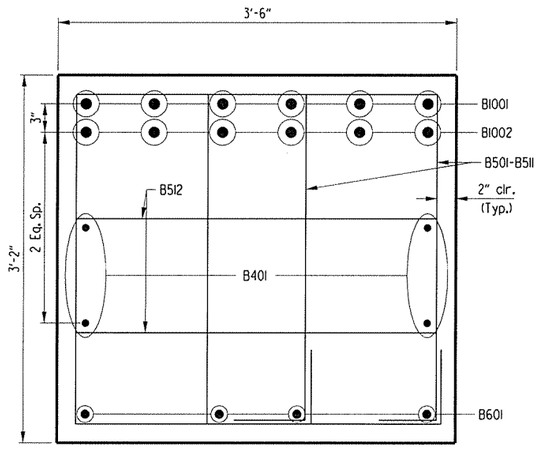
BRIDGE NO. B5922 DRAWING NO. 56570

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PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	153	338
					(1) A&B5922	BENT 2 & 3 DETAILS			56571



SECTION A-A
Scale: 1½" = 1'-0"

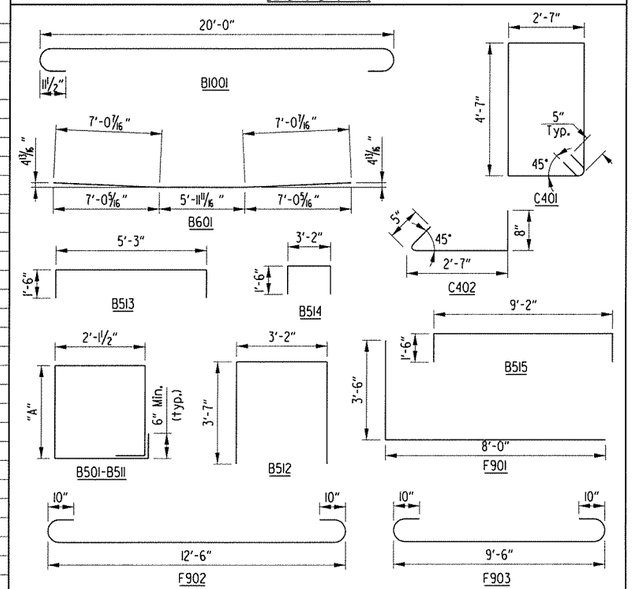


SECTION B-B
Scale: 1½" = 1'-0"

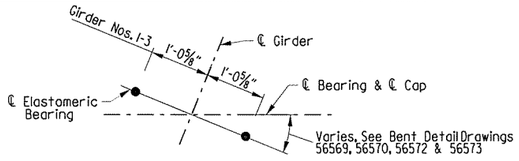
BAR LIST - PER BENT

MARK	BR. A NO. REQ'D. BENT 2	BR. A NO. REQ'D. BENT 3	BR. B NO. REQ'D. BENT 2	BR. B NO. REQ'D. BENT 3	LENGTH	P.D.
B401	4	4	4	4	20'-0"	Str.
B501	4	4	4	4	10'-5"	2½"
B502-B510	4 each	4 each	4 each	4 each	Var. 10'-7" to 11'-3"	2½"
B511	4	4	4	4	11'-3"	2½"
B512	9	9	9	9	10'-11½"	2½"
B513	5	5	5	5	8'-0½"	2½"
B514	16	16	16	16	5'-11½"	2½"
B515	5	5	5	5	11'-11½"	2½"
B601	4	4	4	4	20'-2"	
B1001	6	6	6	6	22'-10"	10"
B1002	6	6	6	6	19'-3"	Str.
C401	19	24	23	25	14'-10"	3"
C402	15	20	19	21	3'-8"	3"
C901	24	24	24	24	"B"	Str.
F601	13	13	13	13	12'-6"	Str.
F602	10	10	10	10	9'-6"	Str.
F901	24	24	24	24	11'-3"	9"
F902	15	15	15	15	15'-0"	9"
F903	17	17	17	17	12'-0"	9"

BENDING DIAGRAMS



Dimensions are out to out of bars.



BENT 2 & 3
ANCHOR BOLT LAYOUT
Not to Scale

Bar C901

BENT	"B"
BR. A BENT 2	18'-7"
BR. A BENT 3	23'-7"
BR. B BENT 2	22'-7"
BR. B BENT 3	24'-7"

MARK	"A"
B501	2'-10"
B502	2'-10⅞"
B503	2'-11⅜"
B504	2'-11⅞"
B505	3'-0⅜"
B506	3'-1"
B507	3'-1½"
B508	3'-2"
B509	3'-2½"
B510	3'-3"
B511	3'-3"

GENERAL NOTES

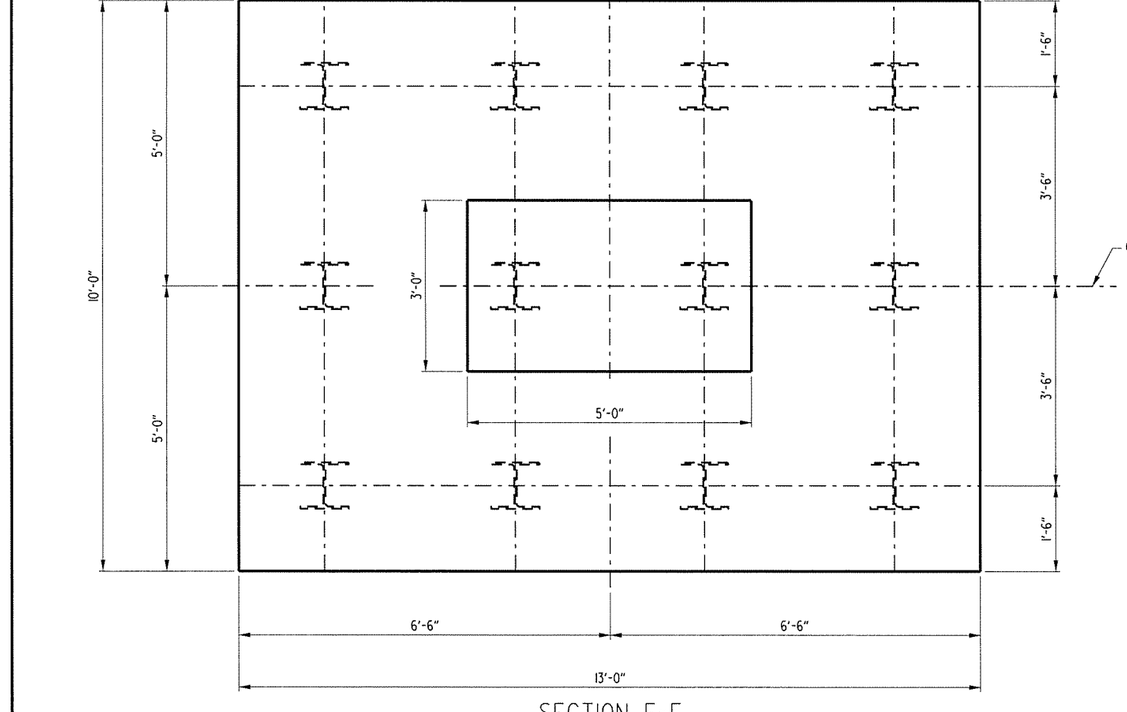
Concrete shall be Class "S" with a minimum 28 day compressive strength of f'c = 3500 psi. Concrete shall be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (fy = 60,000 psi) conforming to AASHTO M31 or M 322, Type A with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For details of Elastomeric Bearings see Dwg. No. 56574.

For additional information, See Layout and Dwg. No. 56569, 56570, 56572 and 56573.



SECTION E-E
Scale: ¾" = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/24/15
No. 7673
DAVID R. NOLTE

BENT 2 & 3 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 12-13-13
CHECKED BY: DRN DATE: 11-26-14
DESIGNED BY: JBM DATE: 12-13-13
FILENAME: bca0401x3_b23.dgn
SCALE: SEE DETAILS

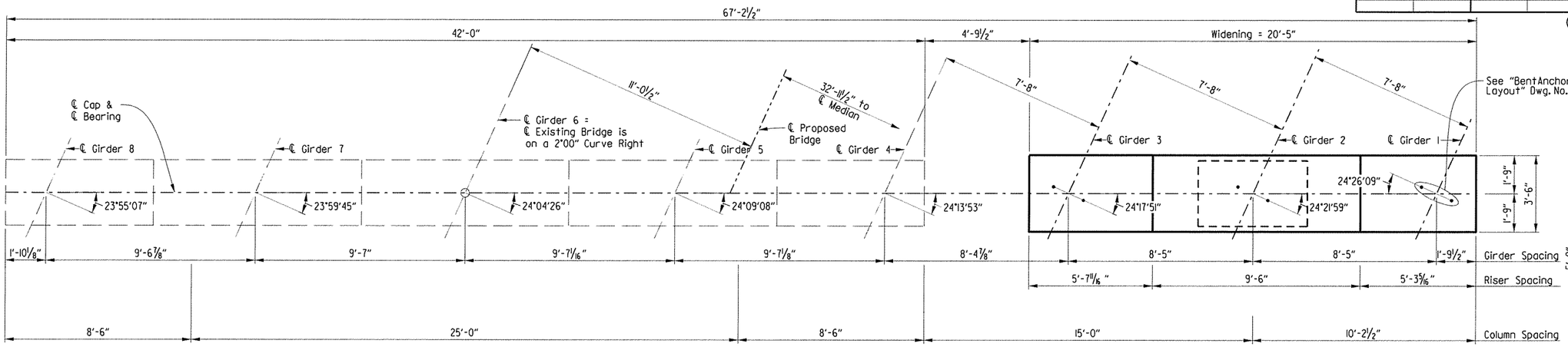
BRIDGE NO. A&B5922 DRAWING NO. 56571

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PARSONS TRANSPORTATION GROUP

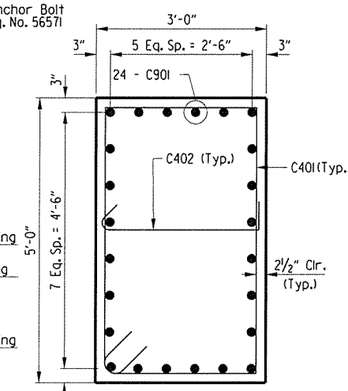
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	154	338
(1) A5922		BENT 3 DETAILS		56572

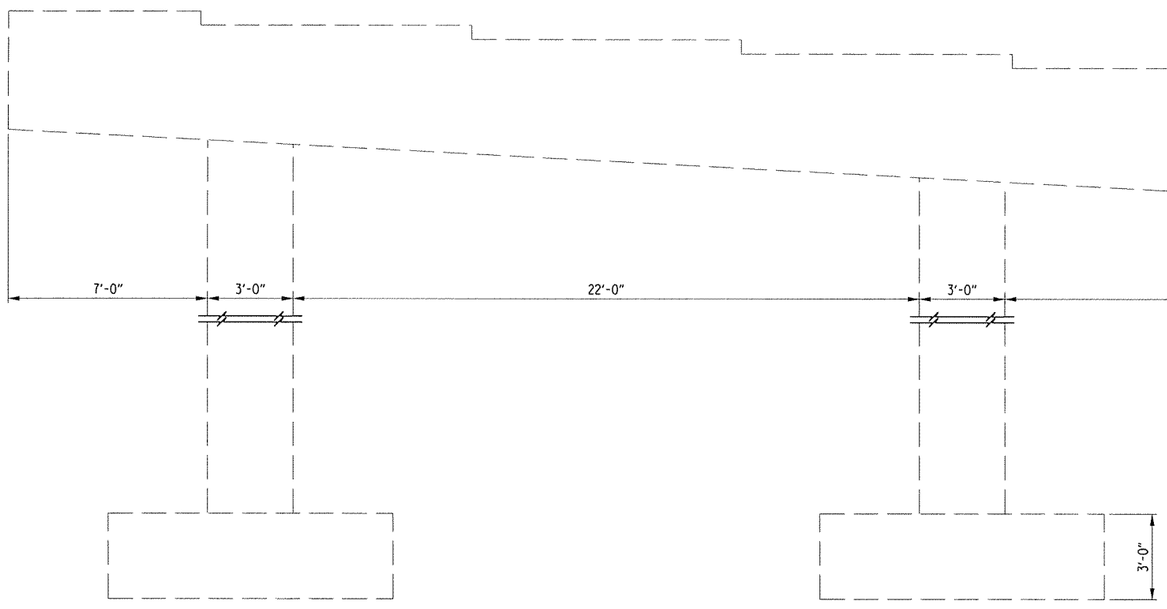


Note: Angles shown are to a line radial to ℄ Existing Bridge (Typ.)

PLAN
Looking Ahead
Scale: ⅜" = 1'-0"



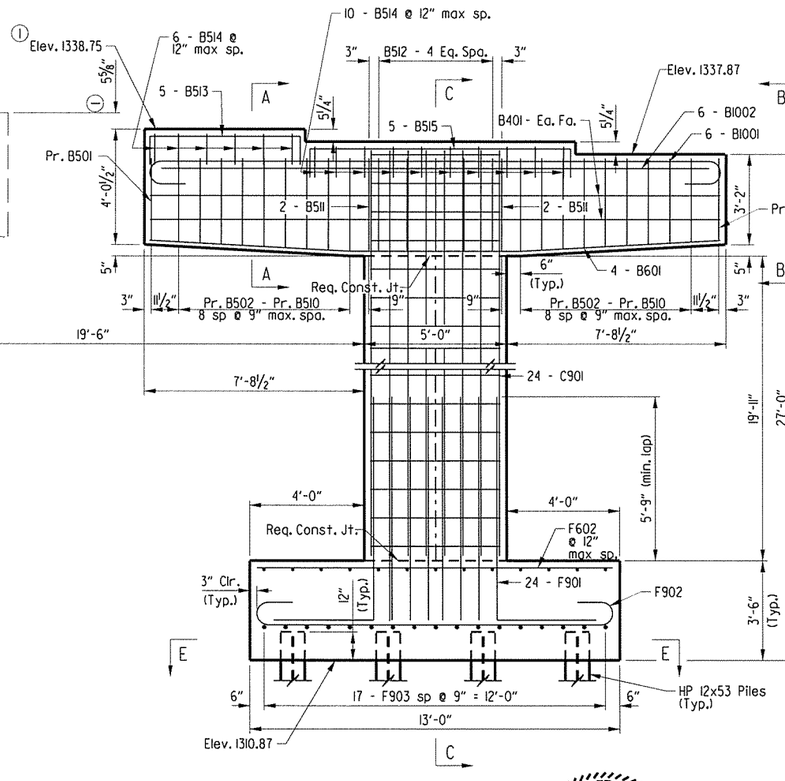
SECTION D-D
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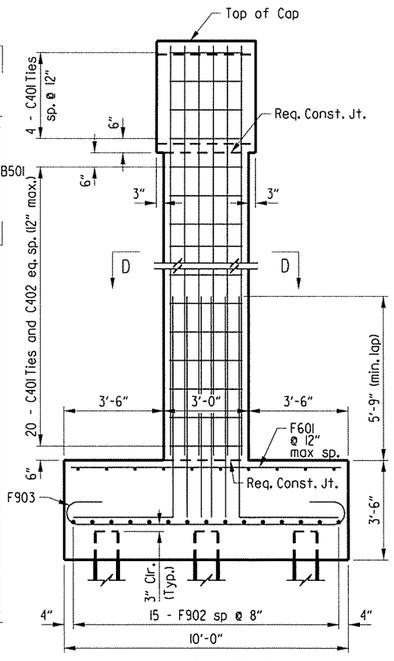


① These dimensions are based on the current survey data and original plan dimensions. The contractor shall verify these in the field.

For additional information see Layout and Dwg. No. 56571.

ELEVATION - BRIDGE A
Looking Ahead
Scale: ⅜" = 1'-0"





SECTION C-C
Scale: ⅜" = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7873
DAVID R. NOLTE

BENT 3 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 12-13-13 FILENAME: bca0401a3_b3l.dgn
CHECKED BY: DRN DATE: 01-22-14 SCALE: SEE DETAILS
DESIGNED BY: JBM DATE: 12-13-13

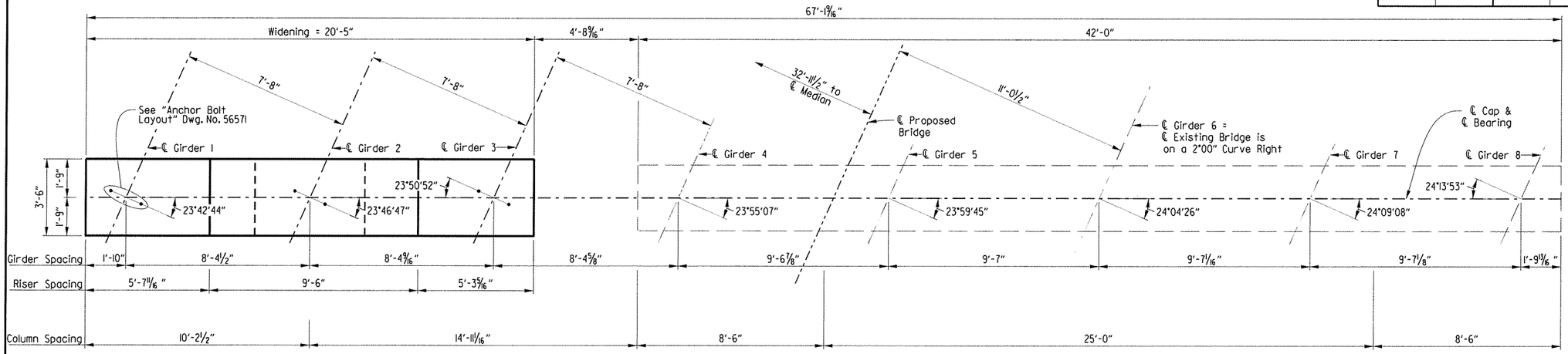
BRIDGE NO. A5922 DRAWING NO. 56572

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PARSONS TRANSPORTATION GROUP

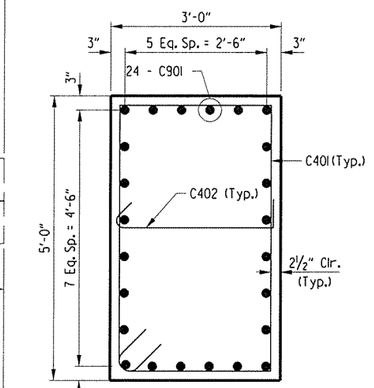
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	155	338
(1) B5922	BENT 3 DETAILS			56573

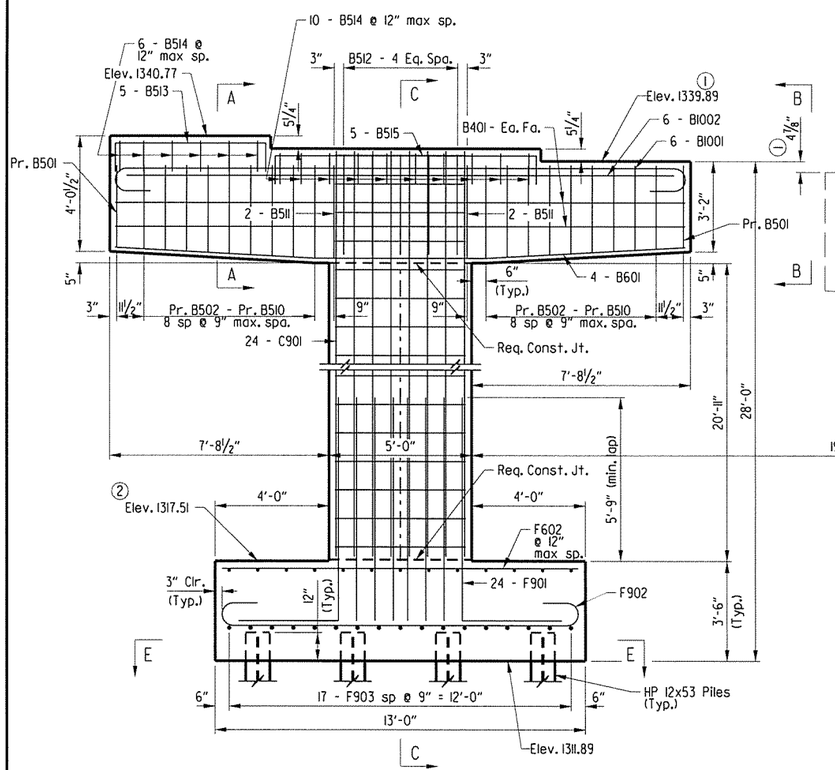


PLAN
Looking Ahead
Scale: 3/8" = 1'-0"

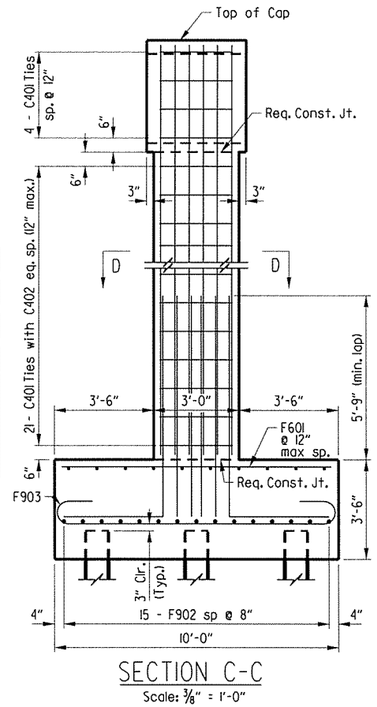
Note: Angles shown are to a line radial to ℄ Existing Bridge (Typ.)



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



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



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

(1) These dimensions are based on the current survey data and original plan dimensions. The contractor shall verify these in the field.

For additional information see Layout and Dwg. No. 56571.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/27/15
No. 7873
DAVID R. NOLTE

BENT 3 DETAILS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	DR	DATE:	12-13-13	FILENAME:	bca0401b3.b32.dgn
CHECKED BY:	DRN	DATE:	01-22-14	SCALE:	SEE DETAILS
DESIGNED BY:	JBM	DATE:	12-13-13		

BRIDGE NO. B5922 DRAWING NO. 56573

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Bent 3 Layout Right Bridge.dgn
PLOTTED: 3/30/2015 11:09:13 AM SCALE: 5:4 " / in.

TABLE OF FABRICATOR VARIABLES

Brg. No.	Location		Bearing Type	No. of Bearing Each Bent	* Maximum Design Load (kips)	Elastomeric Pad								External Load Plate								Anchor Bolt				
	Bent No.	Girder No.				G	H	A	B	N	T_i	T_e	No. & Thickness of Steel Laminae	T	C	D	E	F	J	K	M	Ta	Tb	Anchor Bolt ø x L	Anchor Bolt Grade	Pipe Sleeve Size (ø x L)	Sheet Metal Sleeve Size (ø x L)	Steel washer Size (O.D.)
A&B5922	1	1-3	Exp.	3	88	6 5/16"	3 3/4"	15"	7"	2	1/2"	1/4"	3 @ 12 Ga.	1 13/16"	8"	24"	2 15/16"	2"	--	1/2"	9 1/2"	2.01"	1.99"	1 1/4" x 22"	55	1 1/4" x 4"	3" x 8"	2 1/2"
	2	1-3	Fix	3	255	6 3/16"	3 3/4"	16"	14"	2	1/2"	1/4"	3 @ 12 Ga.	1 13/16"	15"	33 1/2"	2 1/4"	2 1/4"	1 5/16"	1/2"	12 5/8"	1.99"	2.01"	1 1/2" x 27"	55	1 1/2" x 4"	3" x 19"	3"
	3	1-3	Exp.	3	255	7 1/8"	4 3/8"	16"	14"	3	1/2"	1/4"	4 @ 12 Ga.	2 1/16"	15"	33 1/2"	3 5/16"	2 1/4"	1 5/16"	1/2"	12 5/8"	1.96"	2.04"	1 1/2" x 27"	55	1 1/2" x 4 5/8"	3" x 19"	3"
	4	1-3	Exp.	3	88	8 5/8"	6 1/8"	15"	7"	4	1/2"	1/4"	5 @ 12 Ga.	3"	8"	24"	4 1/16"	2"	--	1/2"	9 1/2"	1.97"	2.03"	1 1/4" x 23"	55	1 1/4" x 6 5/16"	3" x 8"	2 1/2"

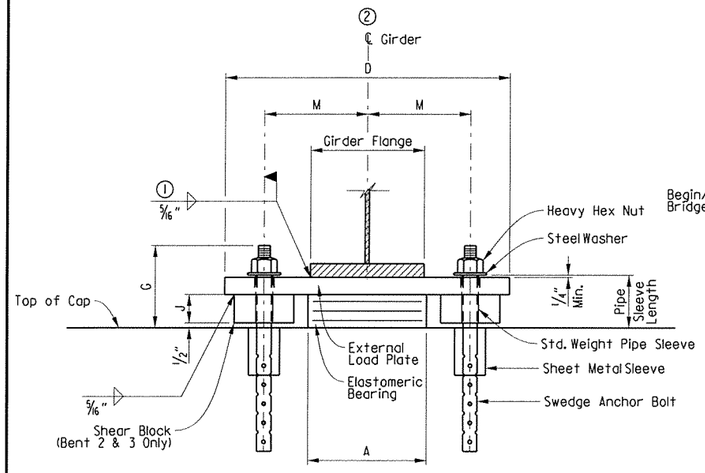
* Maximum Design load = Service I Limit State

① Care shall be taken to ensure that the External Load Plate is in full and complete contact with the Girder Flange before welding begins

② Center line of girder shall be aligned with center line of Elastometric pad.

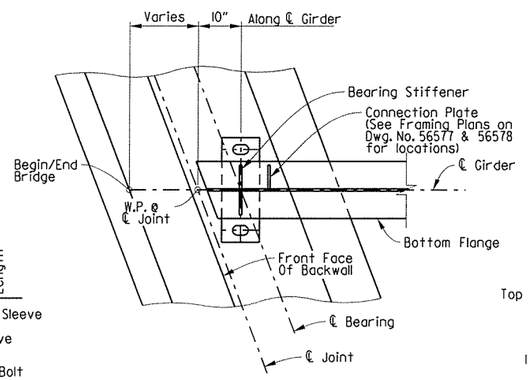
PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	156	338
① A&B5922	BEARING DETAILS			56574



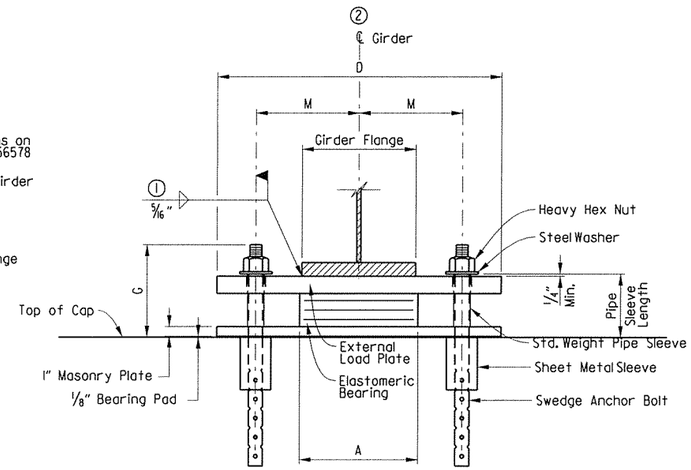
FRONT VIEW - AT BENT NOS. 1, 2 & 3

No Scale



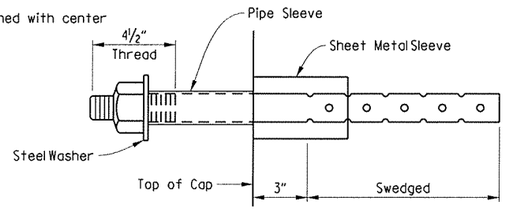
BEARING PLAN AT END BENT

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



FRONT VIEW - AT BENT NO. 4

No Scale

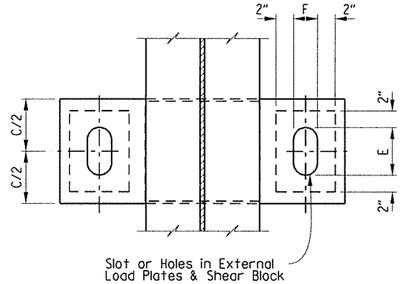


ANCHOR BOLT DETAIL

No Scale

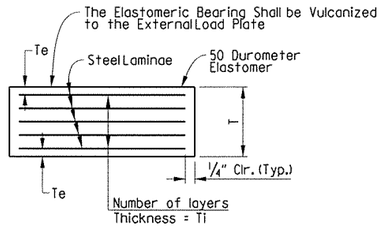
Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the galvanized Sheet Metal Sleeve will not be required.

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 an AHTO 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 items "Structural Steel in Plate Girder Spans, (M 270, Gr. 50)".



PLAN VIEW - AT BENT NOS. 1, 2 & 3

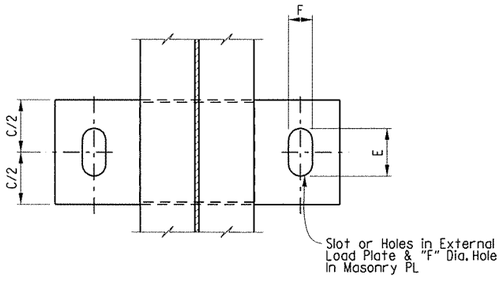
No Scale



Te = thickness of Elastomer cover on top and bottom of pad
Ti = thickness of Elastomer between Steel Laminae
N = number of Elastomer layers of thickness Ti

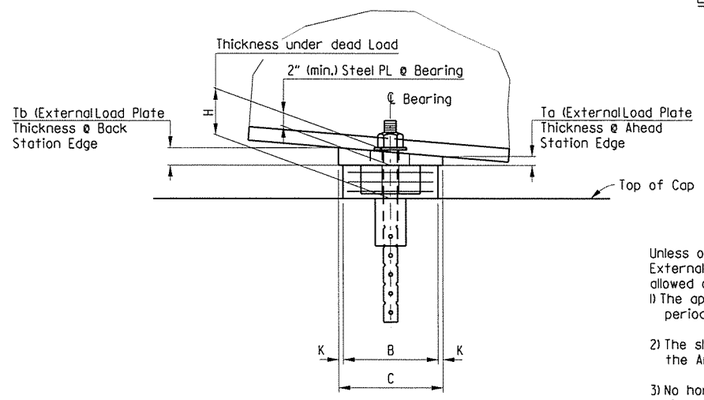
ELASTOMERIC BEARING

No Scale



PLAN VIEW - AT BENT NO. 4

No Scale



SIDE VIEW - AT BENT NOS. 1, 2 & 3

No Scale

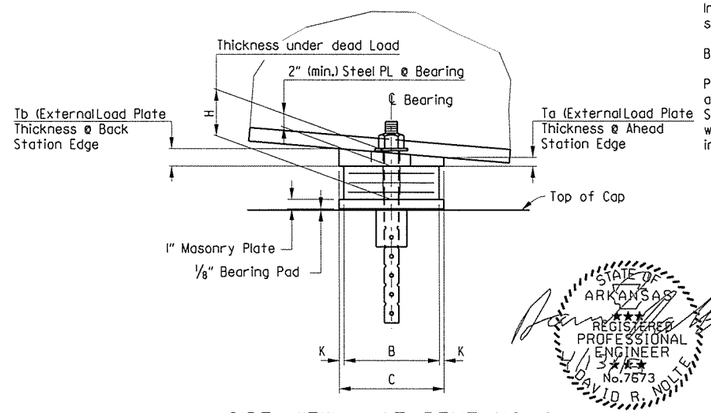
Note: The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in TABLE OF FABRICATOR VARIABLES.

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.

2) The slots in the External Load Plate are positioned to center on the Anchor Bolts.

3) No horizontal deformation at the Elastomeric pad is evident. If welding at other temperature is required, the Engineer will provide adjustment data.



SIDE VIEW - AT BENT NO. 4

No Scale

GENERAL NOTES

Elastomeric bearing shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearing".

External Load Plates and Shear Blocks shall be conform to AASHTO M 270, Grade 50. Pipe Sleeve shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External load plates and shear blocks shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulconizing 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) and painted according to Subsection 807.75. The color of paint to match existing paint on existing girders.

Anchor Bolts, washers and Nuts shall conform to Subsection 807.07 of the Std. Specs. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with founded bottoms and staggered as shown in the details.

Bearings shall be seated in accordance with Subsecion 808.08.

Pipe Sleeves, Shear Blocks, Masonry Plates, Anchor bolts, Washers, and nuts shall be paid for at the unit price bid for "Structural Steel in Plate Girder Spans (M270,Grade 50)". External load plates will not be measured or paid for separately but will be considered included in the unit bid price bid for "Elastomeric Bearings".

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.7673 DAVID R. HOLTE

DETAILS OF ELASTOMERIC BEARINGS

ROUTE 49 Sec. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 01-21-15 FILENAME: bca0401x3.el.dgn

CHECKED BY: DRN DATE: 01-31-15 SCALE:

DESIGNED BY: JBM DATE: 01-30-15

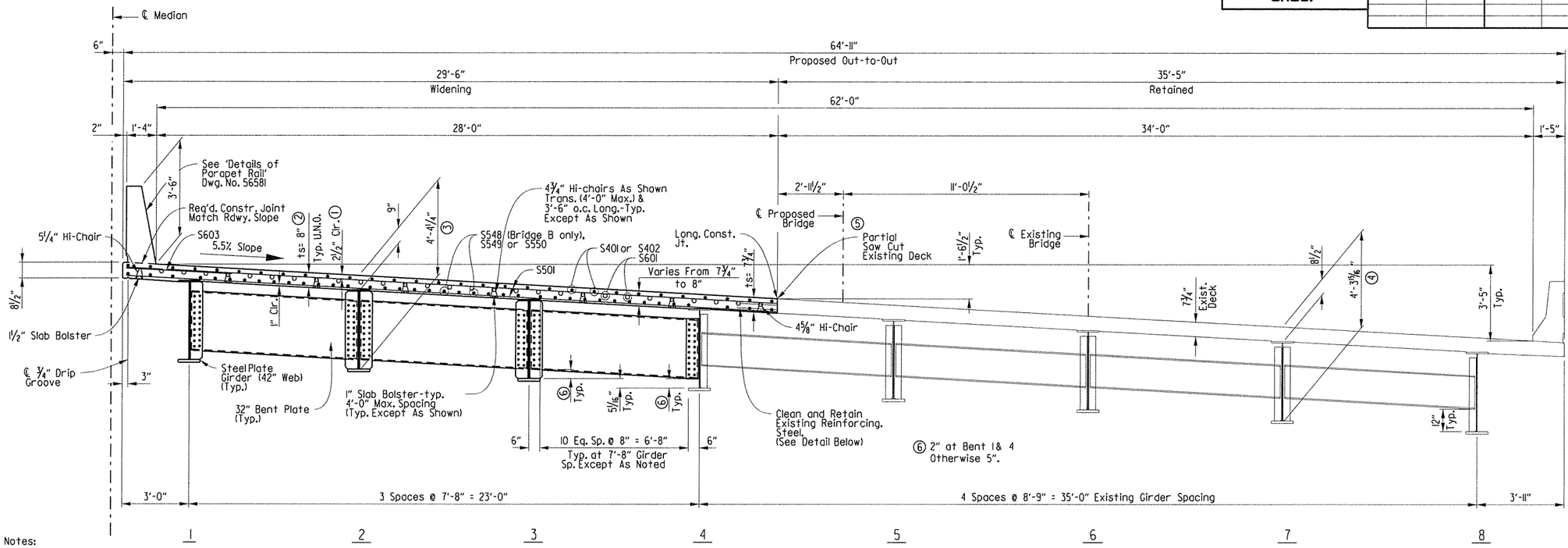
BRIDGE NO. A&B5922 DRAWING NO. 56574

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Bearing Details.dgn
PLOTTED: 4/13/2015 4:42:34 PM SCALE: 1:4 " / in.

Note: Class 1 Protective Roadway Surface treatment shall be applied to the roadway surface, including the existing deck surface to be retained, and roadway face and top of parapet rail of new construction.

PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	157	338
				(1) A&B5922		SPAN DETAILS		56575



Notes:

For details of alternate anchors see Dwg. No. 56583.

For Bearing Plan at End Bent detail see Dwg. No. 56574.

Notes:

(1) Tolerances: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance
See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

(2) See "Adjustment for Slab Thickness Tolerance when Removable Deck Forming is Used".

(3) Measured at ℄ Bearing and ℄ New Girders, Typ. at Interior Bent.

(4) Measured at ℄ Bearing and ℄ Exist Girders, Typ. at Interior Bent.

(5) Care shall be exercised during the removal of the existing deck to ensure that the bolted field splices, girders, diaphragms, shear studs and connection plates and existing reinforcement to remain are not damaged. Damaged items that are not salvageable, as determined by the Engineer, shall be replaced by the Contractor at no additional payment. The interior spans of the existing deck shall be removed before the end spans are removed in order to ensure stability of the existing bridge. See Section 821.

TYPICAL ROADWAY SECTION

Bridge B Shown (Bridge A Similar)
(Looking Ahead)
Scale: ¾" = 1'-0"

* Tolerance when removable deck forming is used, is +½", -¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Note: ts = slab thickness as shown in "Typical Roadway Section".

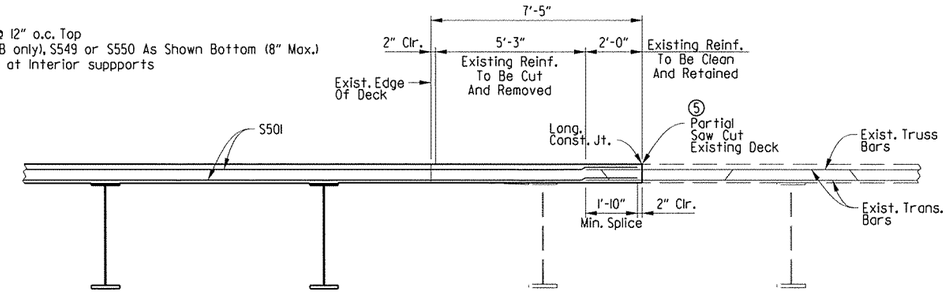
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1½". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

SLAB REINFORCING

Transverse:
S501 @ 6" o.c.-Top & Bottom
S603 @ 12" In Top At Gutterline

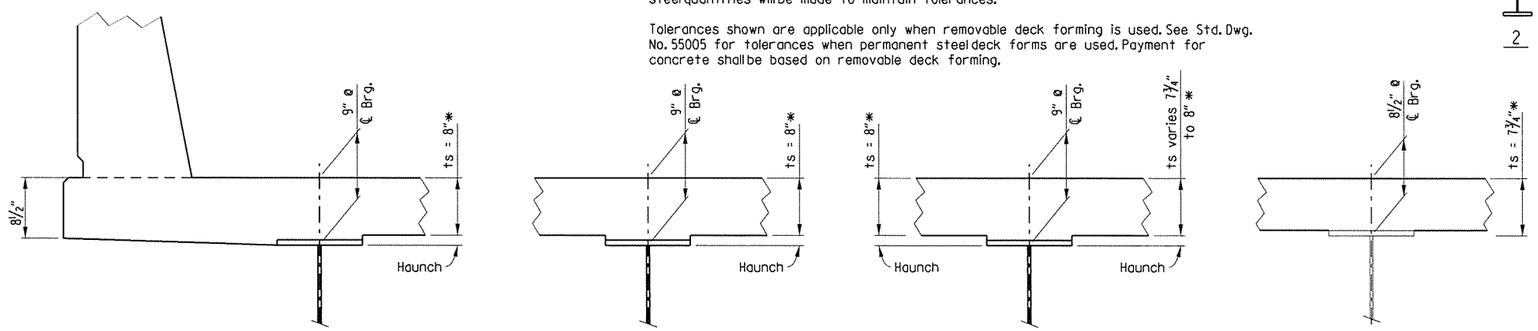
Longitudinal:
S401 or S402 @ 12" o.c. Top
S548 (Bridge B only), S549 or S550 As Shown Bottom (8" Max.)
S601 As shown at Interior suppports



TYPICAL EXISTING REINFORCING SPLICE DETAIL

Bridge B Shown (Bridge A Similar)
(Looking Ahead)
Scale: ¾" = 1'-0"

Note: New transverse reinforcement steel shall not be tied to existing transverse reinforcement steel.



EXTERIOR BEAM
Beam No. 1

INTERIOR BEAM
Beam No. 2

INTERIOR BEAM
Beam No. 3

INTERIOR BEAM
Beam No. 4-8

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
3/25/15
JOHN R. NOLTE

SHEET 1 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412
ROUTE 49 Sec. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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DESIGNED BY:	JBM	DATE:	01-22-14		

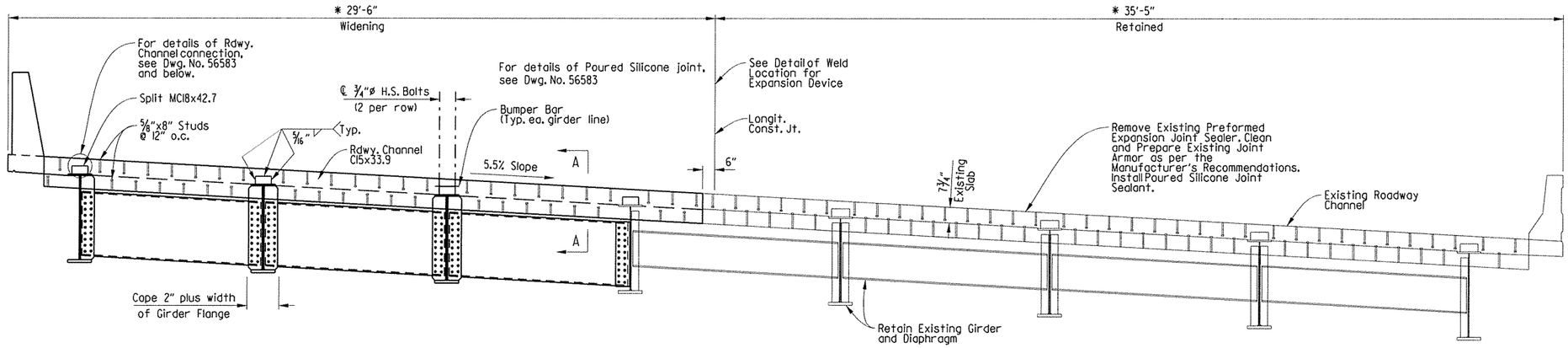
BRIDGE NO. A&B5922 DRAWING NO. 56575

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca0401\TypicalSection Details.dgn
PLOTTED: 4/1/2015 1:50:22 PM SCALE: 5:4 " / in.

PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	158	338
					(1) A&B5922		SPAN DETAILS		56576

Expansion Device:

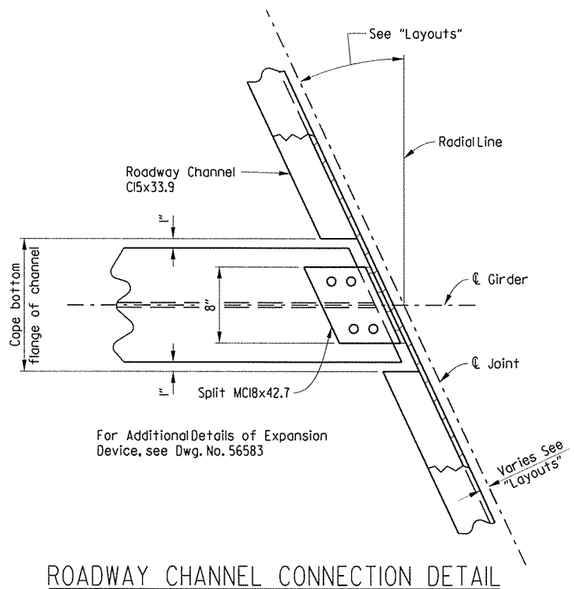
Rdwy. Channel - C15x33.9
Conn. ∠'s split MC18x42.7
Detail Device 1/8" high & provide 1/4" shims using 2-1/16" & 1-1/8" PL's.



* Measured Radial to ℄ Existing Bridge

TYPICAL SECTION THROUGH JOINT

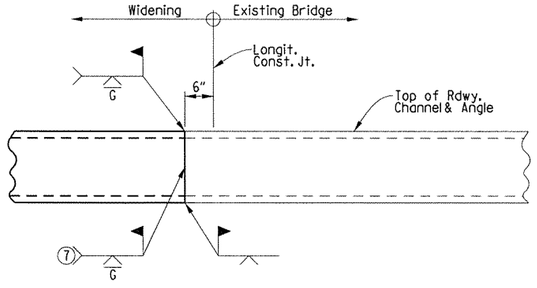
Bridge B Shown (Bridge A Similar)
(Looking Ahead @ Bent 1)
(Not to Scale)



For Additional Details of Expansion Device, see Dwg. No. 56583

ROADWAY CHANNEL CONNECTION DETAIL

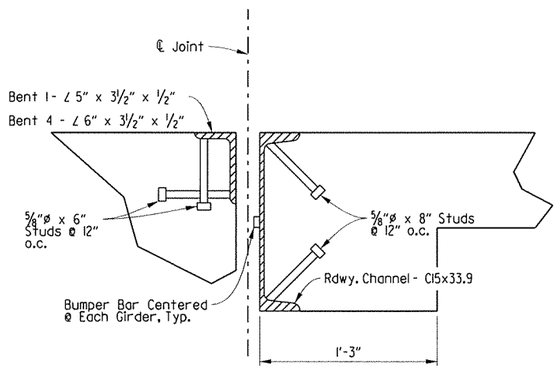
No Scale



7 Grind flush from top of deck to top of bumper bar.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

No Scale



SECTION A-A

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/2/15
No. 7673
DAVID R. NOLTE

SHEET 2 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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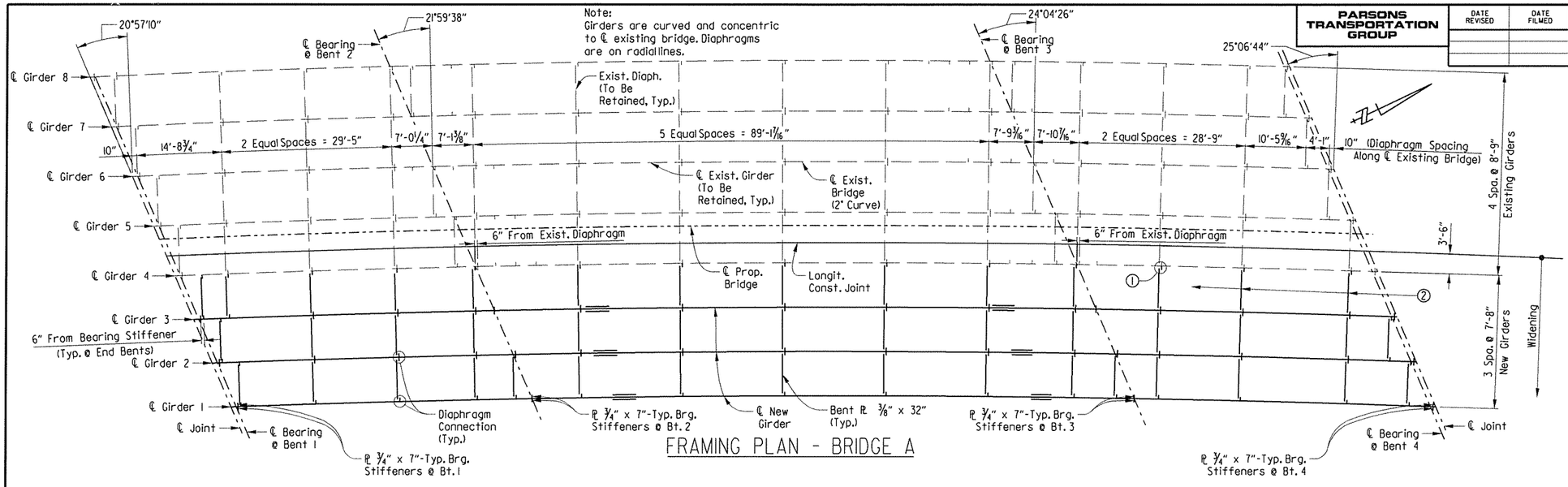
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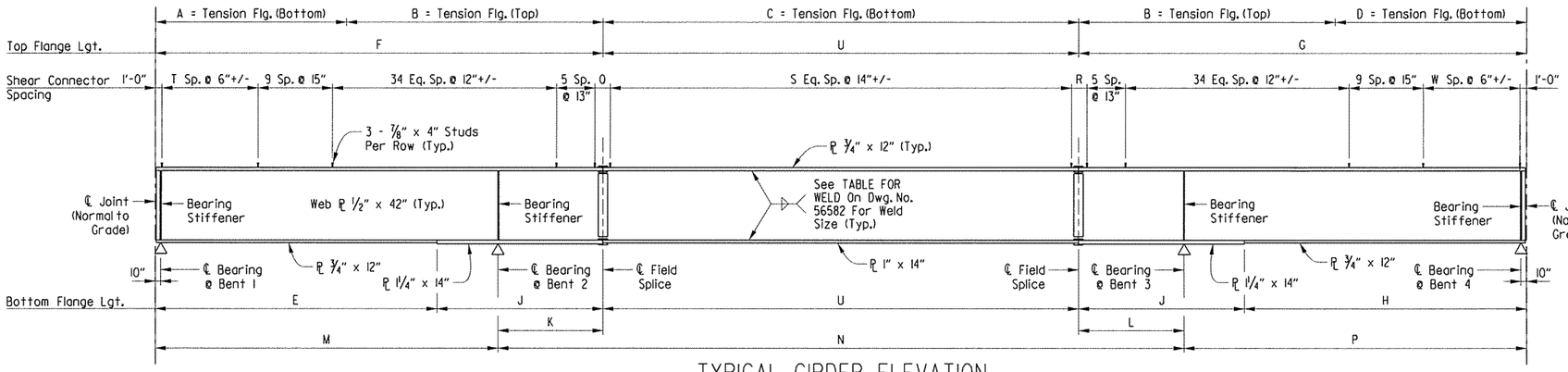
PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	159	338
				(1) A5922		SPAN DETAILS		56577

Note:
Girders are curved and concentric to ℄ existing bridge. Diaphragms are on radial lines.

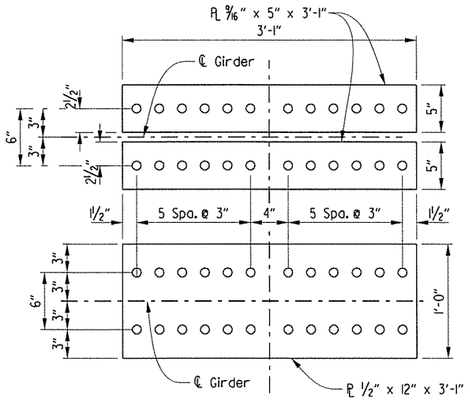


FRAMING PLAN - BRIDGE A



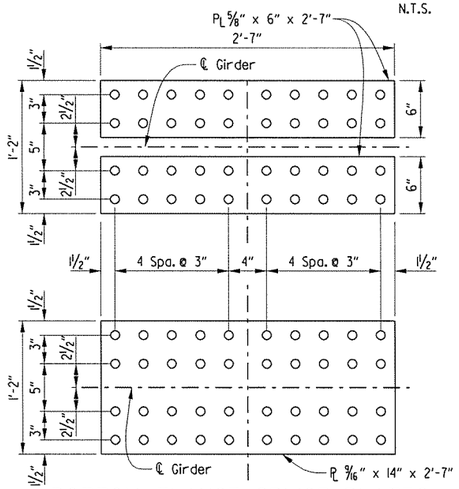
TYPICAL GIRDER ELEVATION

N.T.S.



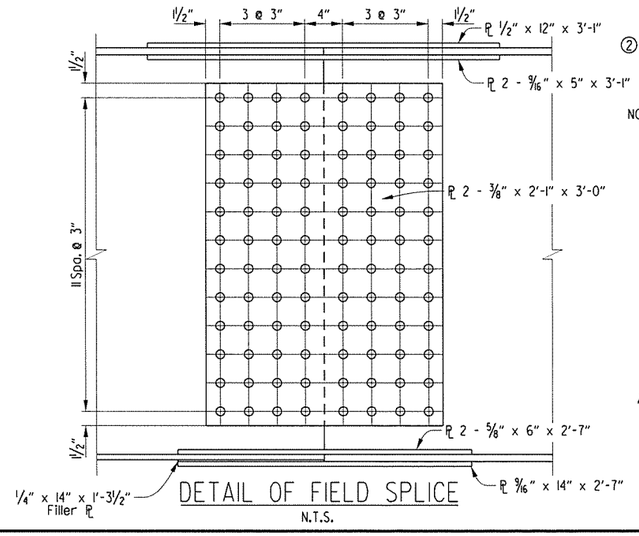
TOP FLANGE SPLICE PLATES

N.T.S.



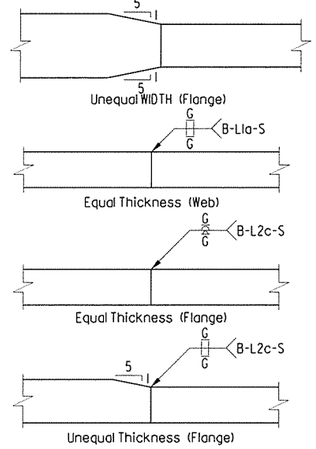
BOTTOM FLANGE SPLICE PLATES

N.T.S.



DETAIL OF FIELD SPLICE

N.T.S.



DETAILS OF WELDED SPLICES

Scale: N.T.S.

TABLE OF VARIABLES

VARIABLE	GIRDER 1	GIRDER 2	GIRDER 3
A	29'-1⅞"	29'-1¼"	28'-11⅞"
B	39'	39'	39'
C	72'-3⅜"	72'-2⅞"	72'-2⅜"
D	29'-2⅛"	29'-1⅝"	29'-1¼"
E	42'-10⅜"	42'-10¼"	42'-9⅝"
F	68'-1⅜"	68'-1¼"	69'-0⅝"
G	68'-2⅛"	68'-1⅝"	68'-1¼"
H	42'-11⅛"	42'-10⅝"	41'-10¼"
J	25'-3"	25'-3"	26'-3"
K	16'-0"	16'-0"	17'-0"
L	16'-0"	16'-0"	16'-0"
M	52'-1⅝"	52'-1⅝"	52'-1"
N	104'-3⅜"	104'-2⅞"	104'-2⅜"
P	52'-2⅛"	52'-1⅛"	52'-1⅝"
Q	4'-1⅝"	4'-0⅞"	3'-8⅜"
R	4'-1⅝"	4'-0⅞"	4'-7⅜"
S	58	58	57
T	32	32	34
U	72'-3⅜"	72'-2⅞"	71'-2⅜"
W	32	32	32

① Install new Connection Plates on existing girders prior to pouring deck slab. (Typ. girder No. 4)

② Install diaphragms prior to deck pour. Tighten Bolts after all deck pours are complete. (This bay only)

NOTE: See Dwg. No. 56574 for Bearing Stiffener Plan View.

NOTE: Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

All field splices bolts shall be ⅞"ø Hi-str. bolts
All holes for splice bolts shall be 15/16 "ø
All field splice plates shall be AASHTO M270 Gr. 50 steel.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID B. NOLTE

SHEET 3 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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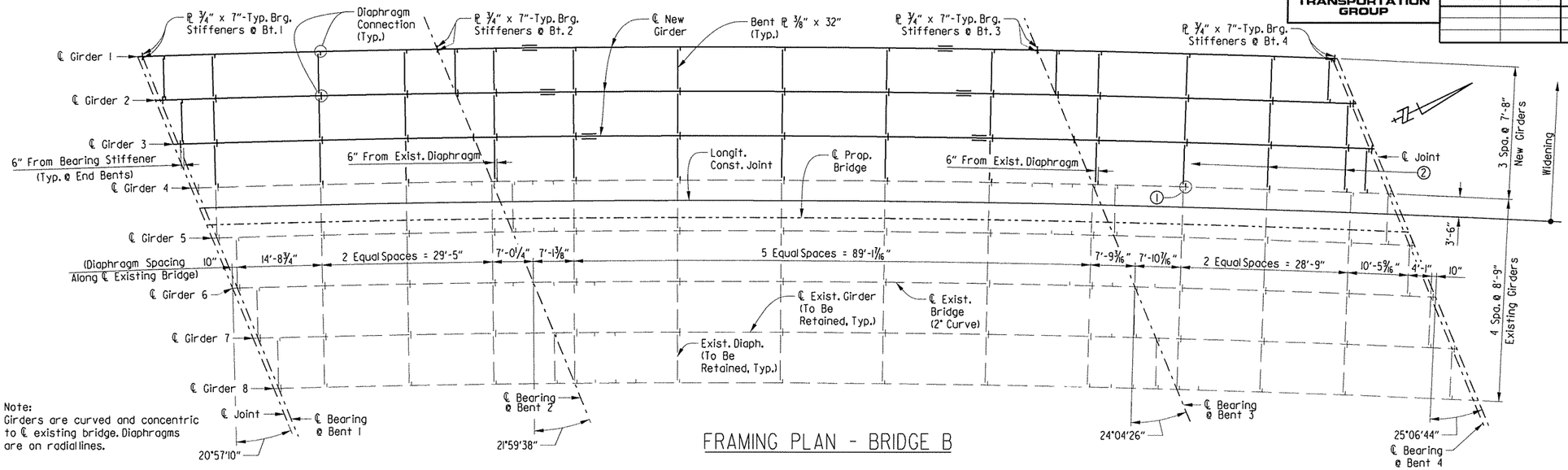
BRIDGE NO. A5922 DRAWING NO. 56577

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PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	160	338
B5922		SPAN DETAILS		56578



Note:
Girders are curved and concentric to ℄ existing bridge. Diaphragms are on radial lines.

FRAMING PLAN - BRIDGE B

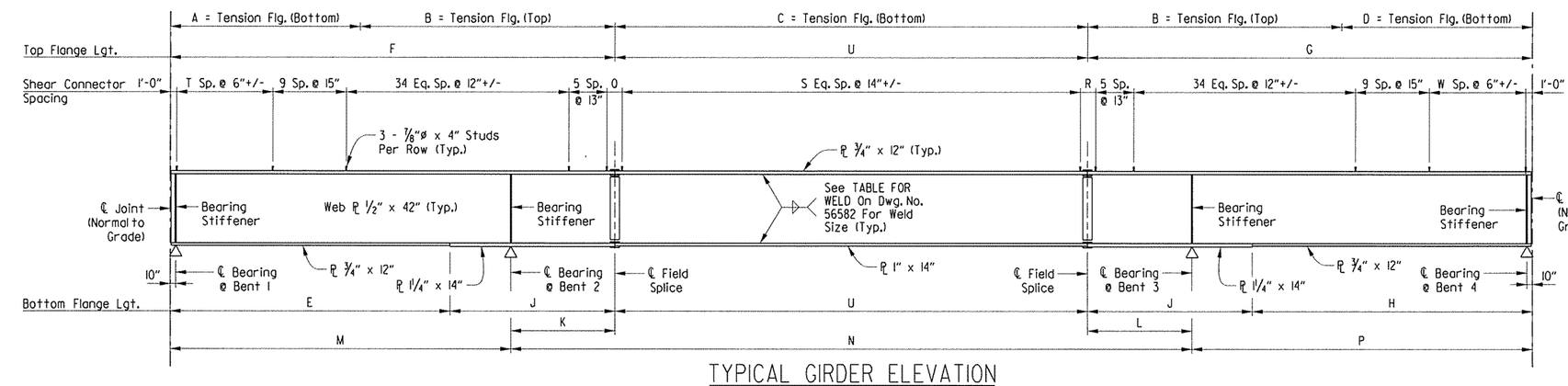
① Install new Connection Plates on existing girders prior to pouring deck slab. (Typ. girder No. 4)

② Install diaphragms prior to deck pour. Tighten Bolts after all deck pours are complete. (This bay only)

TABLE OF VARIABLES

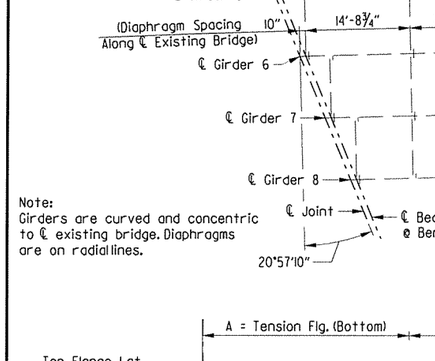
VARIABLE	GIRDER 1	GIRDER 2	GIRDER 3
A	28'-10 3/16"	28'-11 1/16"	28'-11 1/4"
B	39'	39'	39'
C	71'-9 3/16"	71'-9 11/16"	71'-10 3/16"
D	28'-10 7/16"	28'-10 3/4"	28'-11 1/16"
E	42'-7 15/16"	42'-8 1/16"	42'-8 1/4"
F	67'-10 7/16"	67'-11 1/16"	71'-11 1/4"
G	67'-10 7/16"	67'-10 3/4"	68'-11 1/16"
H	42'-7 7/16"	42'-7 3/4"	39'-8 1/16"
J	25'-3"	25'-3"	29'-3"
K	16'-0"	16'-0"	20'-0"
L	16'-0"	16'-0"	17'-0"
M	51'-10 15/16"	51'-11 1/16"	51'-11 1/4"
N	103'-9 3/16"	103'-9 11/16"	103'-10 3/16"
P	51'-10 7/16"	51'-10 3/4"	51'-11 1/16"
Q	4'-6 1/4"	4'-6 1/4"	3'-10 3/8"
R	4'-6 3/4"	4'-6 3/4"	4'-6 1/8"
S	58	58	54
T	30	30	40
U	71'-9 3/16"	71'-9 11/16"	66'-10 3/16"
W	30	30	32

NOTE: See Dwg. No. 56574 for Bearing Stiffener Plan View.



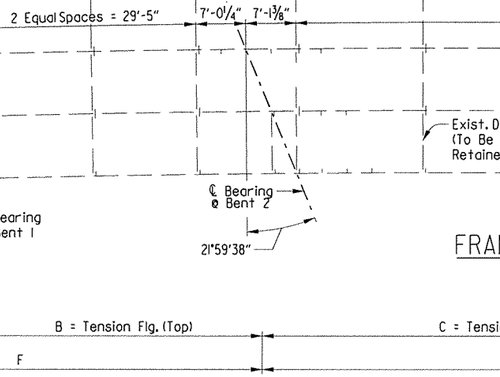
TYPICAL GIRDER ELEVATION

N.T.S.



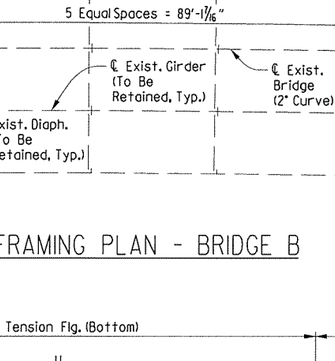
BEARING STIFFENER @ END AND INTERIOR BENTS

Scale: NTS



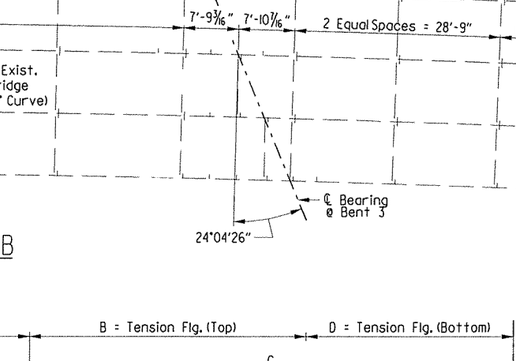
TYP. INT. CONNECTION PLATE

Girders 2 & 3



TYP. INT. CONNECTION PLATE

Girder 4



TYP. EXT. CONNECTION PLATE

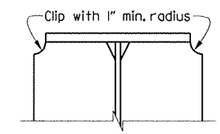
Girder 1

DIAPHRAGM CONNECTION DETAILS

Scale 1" = 1'-0"

③ Field weld to existing Girder No. 4 after deck removal and prior to deck pour.

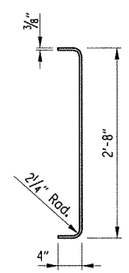
④ 2" at Bent 1 & 4 diaphragms connected to bearings. Otherwise 5".



NOTE: If permanant steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accomadate the deck form support.

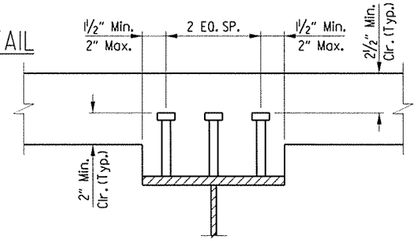
PLATE CLIP DETAIL

N.T.S.



SECTION A-A

Scale: NTS



Stud Shear Connectors shall be ⅞"ø x 4" long, granular fluxed filled, solid fluxed or equal and automatically end welded to girder flange in accordance with recommendations of the manufacturer. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 - ¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurment of structural steel in shear connectors.

SHEAR CONNECTOR DETAIL

N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14675
DAVID R. MALTE

SHEET 4 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	DR	DATE:	12-13-13
CHECKED BY:	DRN	DATE:	12-05-14
DESIGNED BY:	JBM	DATE:	12-13-13

FILENAME: bca040tb3_s4.dgn
SCALE: ½" = 1'-0"

BRIDGE NO. B5922 DRAWING NO. 56578

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Framing Plan Right Bridge.dgn SCALE: 2in = 1in.
PLOTTED: 4/10/2015 1:14:59 PM

PARSONS TRANSPORTATION GROUP

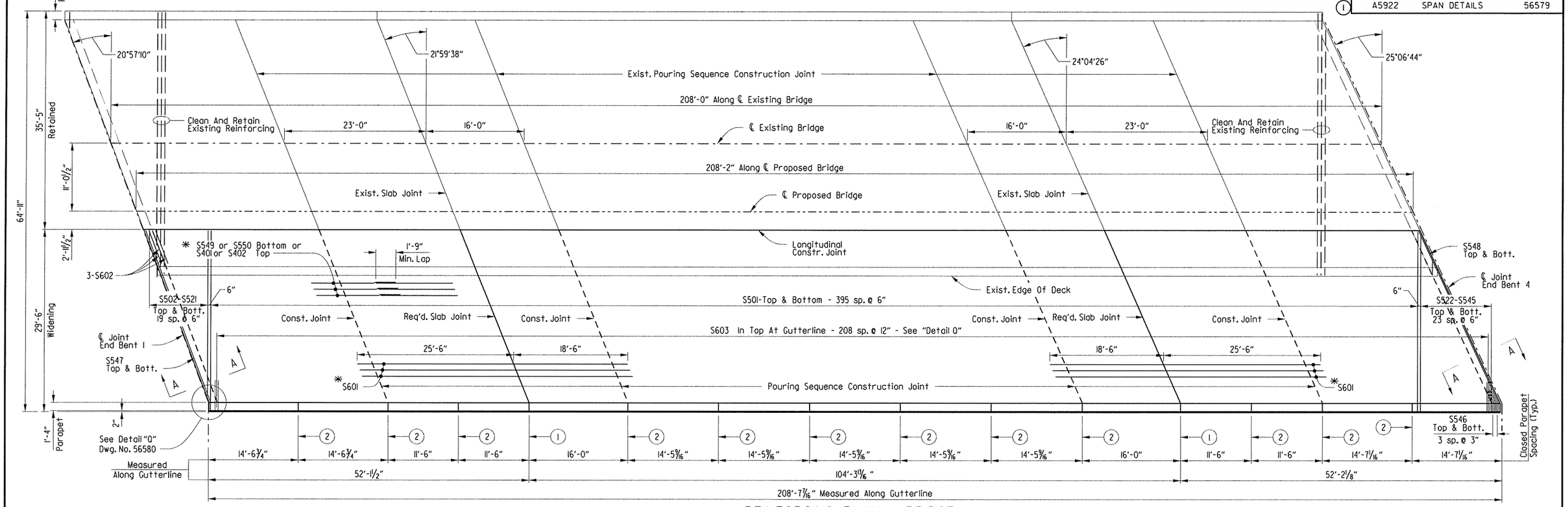
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	161	338
(1) A5922	SPAN DETAILS			56579

* These Bars Shall Be Placed As Shown In "Typ. Section Thru Roadway". Dwg. No 56575

(1) ℄ Full-Depth Parapet Joint (1¼" to 1" Max.). Stop 4" From Top Of Slab. See Dwg. No. 56581

(2) ℄ Partial-Depth Parapet Joint (1¼" to 1" Max.). Stop 1'-6" From Top Of Slab. See Dwg. No. 56581



REINFORCING PLAN - BRIDGE A

Scale: ⅛" = 1'-0"
(Looking Ahead)

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

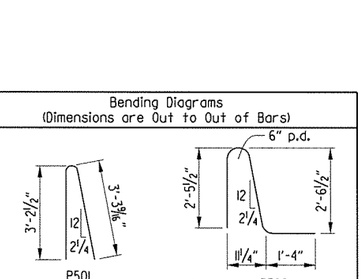
All longitudinal lines and reinforcing steel shall be placed on curve concentric with ℄ Existing Bridge.

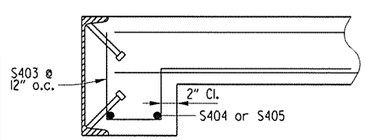
Required slab joints and pouring sequence construction joints shall align with open joints at the front face of the parapets.

Notes on Dwg. No. 56580 shall apply.

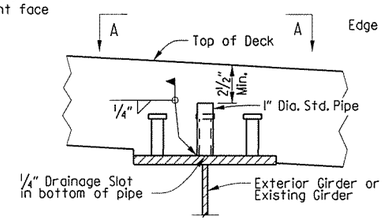
BAR LIST - PER BRIDGE

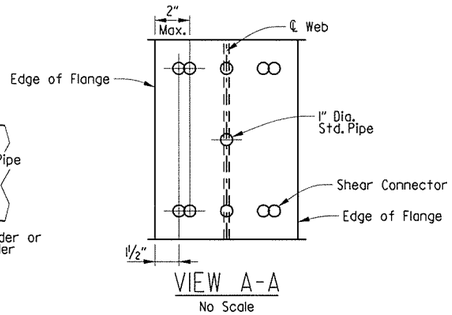
Mark	Number Required	Length	Pin Diameter	Bending Diagrams (Dimensions are Out to Out of Bars)
S501	792	29'-2"	Str.	
S502 to S521	2 EA.	26'-9" to 2'-4"	Str.	
S522 to S545	2 EA.	28'-2" to 4'-1"	Str.	
S546	8	3'-10"	3¾"	
S547	2	31'-2"	3¾"	
S548	2	32'-1"	3¾"	
S549	117	60'-0"	Str.	
S550	39	33'-4"	Str.	
S401	90	60'-0"	Str.	
S402	30	33'-4"	Str.	
S403	52	3'-11"	2"	
S404	12	6'-9"	Str.	
S405	4	2'-10"	Str.	
S601	56	44'-0"	Str.	
S602	3	5'-9"	Str.	
S701	209	10'-0"	5¼"	
P401	16	26'-7"	Str.	
P402	20	14'-2"	Str.	
P403	20	11'-1"	Str.	
P404	12	35'-7"	Str.	
P405	10	15'-7"	Str.	
P406	25	14'-1"	Str.	
P501	417	6'-8"	3¾"	
P502	417	6'-9"	3¾"	





SECTION A-A





VIEW A-A
No Scale

TRANSVERSE SCREED RAIL SUPPORT DETAIL

No Scale

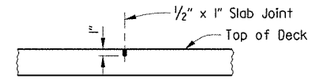
Notes: The transverse screed rail supports shall be centered over the girder web and centered longitudinally between adjacent rows of shear connectors.

The pipe shall not interfere with 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



SLAB JOINT DETAIL
No Scale

Note:
Use Type 3 or 4 joint sealer. See Sections 501.02(h) and 501.05(j) of the Standard Specifications. Backer rod filler will not be required. Joint sealer shall be measured and paid for under "Class (SAE) Concrete-Bridge". Slab joints shall extend to the outside edge of the deck slab (gutterline to gutterline). 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 joints without damage to the slab. Slab joints shall align with parapet joints. Slab joints shall be placed at all pouring sequence joints and required slab joint locations.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 5 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 Sec. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JBM	DATE: 01-21-14	FILENAME: bca0401a3_s5.dgn	
CHECKED BY: MAT	DATE: 11-25-14	SCALE: ¼" = 1'-0"	
DESIGNED BY: JBM	DATE: 01-22-14		

BRIDGE NO. A5922 DRAWING NO. 56579

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Slab Plan Left Bridge.dgn SCALE: 16.00000 ' / in.
PLOTTED: 4/9/2015 6:46:45 PM

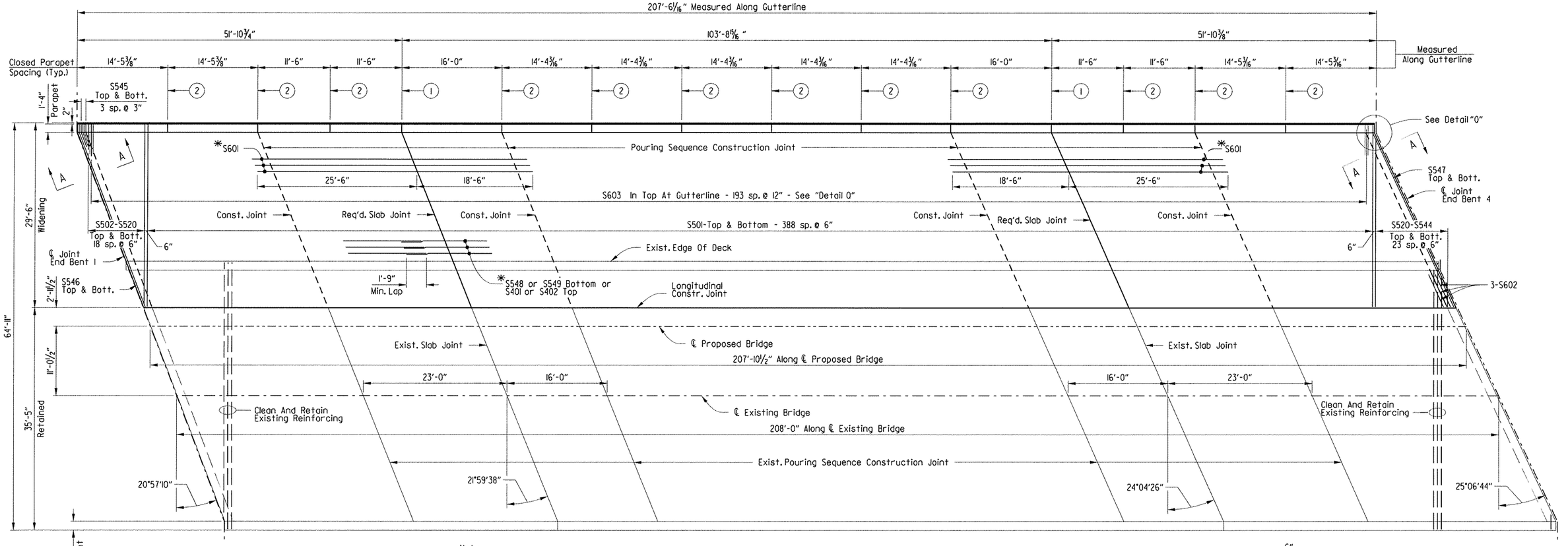
PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	162	338
				(1) B5922		SPAN DETAILS		56580

*These Bars Shall Be Placed As Shown In "Typ. Section Thru Roadway". Dwg. No 56575

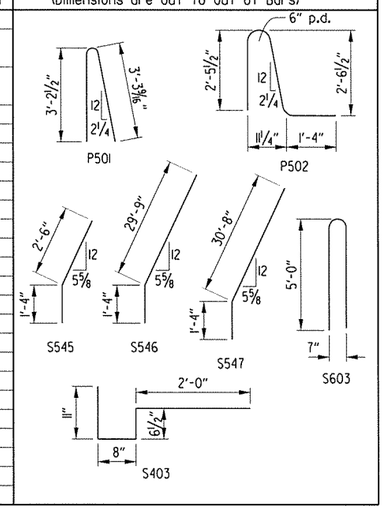
(1) ℄ Full-Depth Parapet Joint (1/4" to 1" Max.). Stop 4" From Top Of Slab. See Dwg. No. 56581

(2) ℄ Partial-Depth Parapet Joint (1/4" to 1" Max.). Stop 1'-6" From Top Of Slab. See Dwg. No. 56581



BAR LIST - PER BRIDGE

Mark	Number Required	Length	Pin Diameter	Bending Diagrams (Dimensions are Out to Out of Bars)
S501	776	29'-2"	Str.	
S502 to S520	2 EA.	4'-9" to 28'-8"	Str.	
S521 to S544	2 EA.	1'-10" to 26'-10"	Str.	
S545	8	3'-10"	3 3/4"	
S546	2	31'-1"	3 3/4"	
S547	2	32'-0"	3 3/4"	
S548	117	60'-0"	Str.	
S549	39	33'-4"	Str.	
S401	90	60'-0"	Str.	
S402	30	33'-4"	Str.	
S403	52	3'-11"	2"	
S404	12	6'-9"	Str.	
S405	4	2'-10"	Str.	
S601	56	44'-0"	Str.	
S602	3	5'-9"	Str.	
S603	194	10'-0"	5 1/4"	
P401	16	26'-5"	Str.	
P402	20	14'-0"	Str.	
P403	20	11'-1"	Str.	
P404	12	35'-4"	Str.	
P405	10	15'-7"	Str.	
P406	25	13'-11"	Str.	
P501	417	6'-8"	3 3/4"	
P502	417	6'-9"	3 3/4"	



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

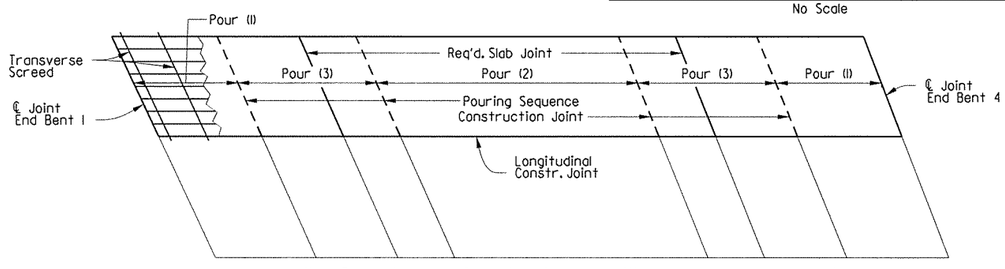
All longitudinal lines and reinforcing steel shall be placed on curve concentric with ℄ Existing Bridge.

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

See Dwg. 56579 for Section A-A.

REINFORCING PLAN - BRIDGE B

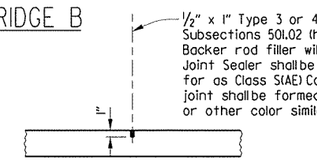
Scale: 1/8" = 1'-0"
(Looking Ahead)



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. All Pours (1) and Pours (2) must be placed before Pours (3) can be placed. 48 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.

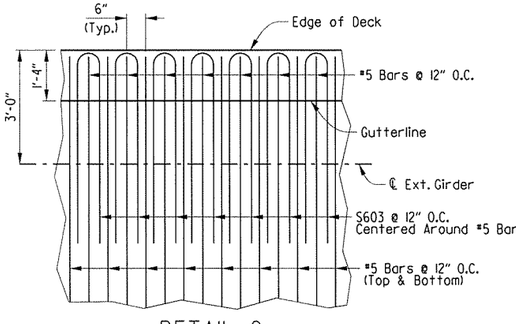
CONCRETE POURING SEQUENCE & PLACEMENT PROCEDURE

No Scale



LONGITUDINAL CONSTRUCTION JOINT

No Scale



DETAIL Q

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 6 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 Sec. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	JBM	DATE:	01-21-14	FILENAME:	bco0401b3_s6.dgn
CHECKED BY:	MAT	DATE:	11-25-14	SCALE:	1/4" = 1'-0"
DESIGNED BY:	JBM	DATE:	01-22-14		

BRIDGE NO. B5922 DRAWING NO. 56580

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Slab Plan Right Bridge.dgn SCALE: 16.00000 ' / in.
PLOTTED: 4/9/2015 6:53:52 PM

PARSONS TRANSPORTATION GROUP

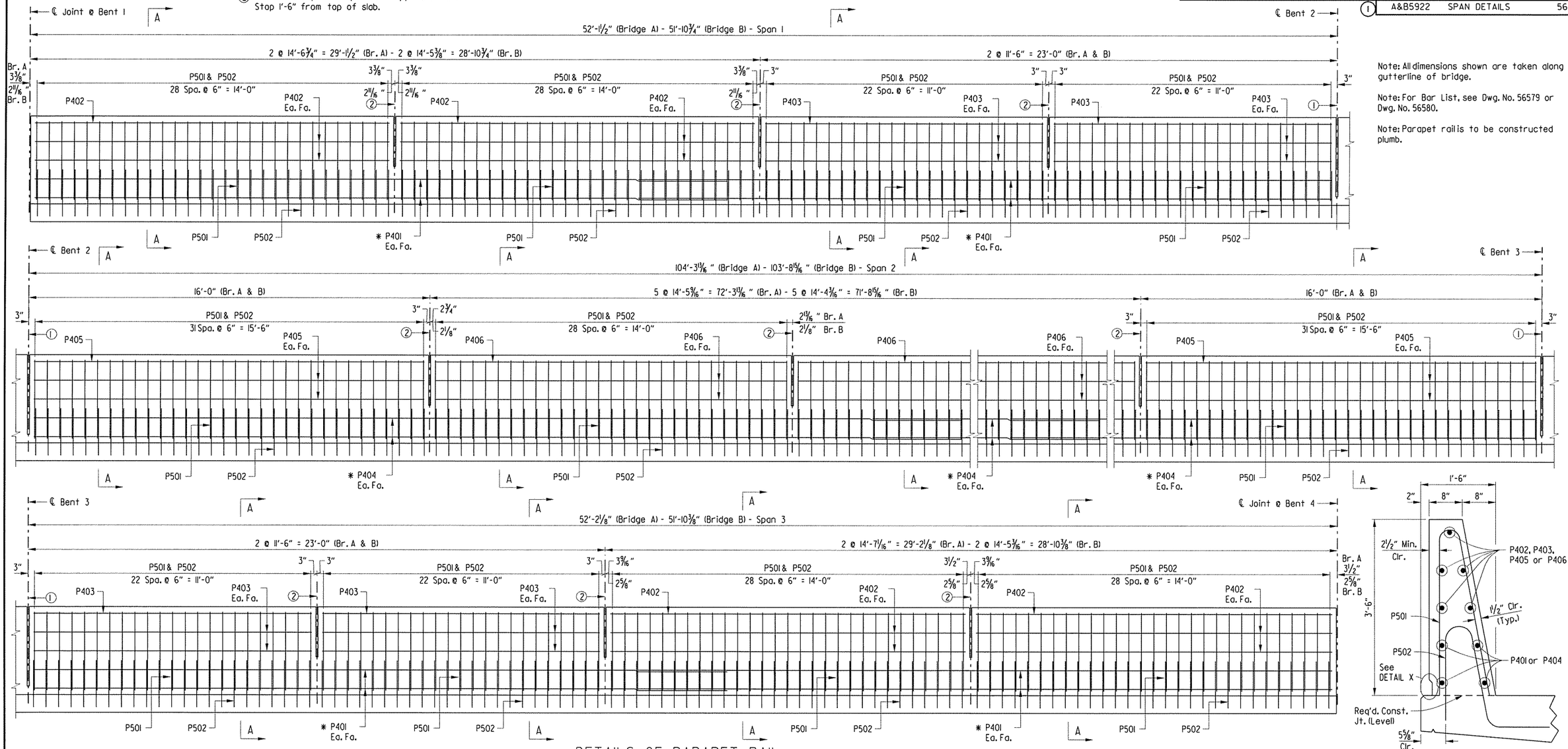
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	163	338
A&B5922		SPAN DETAILS		56581

① C.L. Full Depth Parapet Joint (1#4" to 1" max.) Stop 4" from top of slab.

② C.L. Partial Depth Parapet Joint (1/4" to 1" max.) Stop 1'-6" from top of slab.

* Minimum splice length for P401 and P404 bars = 1'-5"



Note: All dimensions shown are taken along gutterline of bridge.

Note: For Bar List, see Dwg. No. 56579 or Dwg. No. 56580.

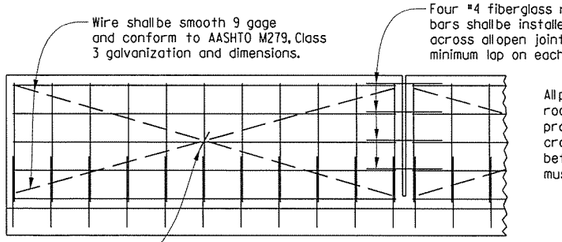
Note: Parapet rail is to be constructed plumb.

SECTION A-A

1" = 1'-0"

DETAILS OF PARAPET RAIL

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



All panels shall be braced as required to prevent rocking. 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.

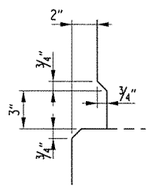
DETAILS OF OPTIONAL SLIP FORMING OF CONCRETE PARAPET RAIL

No Scale

All smooth wire bracing shall be placed on the inside faces of the reinforcing

For actual placement of reinforcing steel, see parapet details.

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.



DETAIL X

No Scale

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER 3/2015 No. 17673 DAVID R. NOLTE

SHEET 7 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DR	DATE: 12-13-13	FILENAME: bca0401x3_s7.dgn	
CHECKED BY: DRN	DATE: 01-27-14	SCALE: 1" = 20'	
DESIGNED BY: JBM	DATE: 12-13-13		

BRIDGE NO. A&B5922 DRAWING NO. 56581

USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Parapet Details.dgn
PLOTTED: 3/30/2015 11:15:31 AM SCALE: 4:0 ":" / in.

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2012 Edition) with current supplemental specifications and special provisions.

LIVE LOADING: HL-93

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c = 4,000 psi
Reinforcing Steel (Grade 60 AASHTO M 31 or M 322 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:
All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾".

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. 55005 for allowable modifications and for tolerances when Permanent Steel Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

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 girder. Use of a longitudinal screed is prohibited.

Slab joints from Stage I construction shall align with slab joints from existing construction. Required Slab Joints shall align with the parapet open joint.

REINFORCING STEEL:
All Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322 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 (Grade 60)" or "Epoxy Coated Reinforcing Steel (Grade 60)".

NEW STRUCTURAL STEEL:
All new Structural Steel shall be AASHTO M270, Grade 50 unless otherwise noted and shall be paid for as "Structural Steel in Plate Girder Spans (M 270, Gr. 50)". All exposed surfaces shall be cleaned in accordance with Subsection 807.84 unless otherwise noted. Structural Steel completely embedded in concrete may be AASHTO M 270, Grade 36.

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. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of plan quantities.

Girders, 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 as subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. 50)".

All girders shall be blocked in their true position in the shop in groups of a minimum of three sections. Girders shall be blocked with webs horizontal and as specified in Subsection 807.54(b)(2). The camber, length of sections, distance between bearings and opening of joints shall be measured with the girders in their true positions and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and those marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60°F. A tolerance of ¼" (plus or minus) allowed for camber.

Steel plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with a minimum length of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with a minimum length of 25'-0" for sections. Material specifications and locations of shop-welded splices, if any, shall be shown on the shop drawings. No additional payment for these welded splices will be made.

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 existing girders shall be as shown in the plans. All welding shall conform to Subsection 807.26.

Groove welds in flange and web plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications. Fillet welds at flange to web plate connections shall be Quality Control (Q.C.) tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the Contractor's expense.

All connection plates shall be fabricated normal to the top flange and on the side of the girder web as indicated on the framing plan. All bearing stiffeners shall be fabricated to be plumb in their final postions.

Unless noted otherwise, field connections and splices shall be bolted with High-Strength Bolts and shall be ⅞" ø with 15/16" open holes at a spacing of 3" o.c. Bolts shall be placed with heads on the outside face of the exterior Girder Webs and on the bottom of the Girder Flanges. Any existing bolt that is loosened or removed shall be replaced by new high-strength bolts, nuts and washers.

Diaphragms shall be installed as Girders 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 noted otherwise.

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

All new bearings, Girders 1-3 shall be seated in accordance with Subsection 808.08. This work and material are to be considered as subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. 50)" and will not be paid for directly.

Anchor bolts shall be AASHTO designation M314 Gr. 55, including supplemental requirement S1, and shall be galvanized to conform to AASHTO M232, Class C or ASTM B695, Class 50. Anchor bolts will be paid for at the contract unit price bid for "Structural Steel in Plate Girder Spans (M 270, Gr. 50)".

PAINTING STRUCTURAL STEEL:
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 match color of existing girders.

The existing paint system used on the existing girders may consist of a lead based paint system. The Contractor shall take all necessary steps to protect the workers modifying the existing girders.

The area of the existing girders where new diaphragm connection plates will be field welded shall be cleaned and painted in accordance with Section 638.

The elastomeric bearing pads shall be protected against overspray.

REMOVAL OF EXISTING DECK:
Care shall be exercised during the removal of the existing deck to ensure that the existing paint system and the existing structural steel, including shear connectors, are not damaged Damaged items that are not salvageable, as determined by the Engineer, shall be replaced at the Contractor's expense.

The deck removal shall progress in a manner that will ensure the stability of the existing structure. The concrete deck in the end spans shall not be removed before the deck in the interior spans have been removed.

The existing concrete deck shall be completely removed to the top flange of the existing girders. 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. No. A5922)" and "Modification of Existing Bridge Structure (Br. No. B5922)".

METHOD OF WORK:
The Contractor shall remove portions of the existing deck in Stages as shown in "Details of Stage Construction" Dwg. No. 56562. The Contractor may loosen the diaphragm and end strut bolts adjacent to Girder Nos. 4 & 5 as shown in plans, to facilitate construction. This work will not be paid for directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5922)" and "Modification of Existing Bridge Structure (Br. No. B5922)".

The existing structural steel, except top of girder 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.

All applicable provisions of Section 807, as determined by the Engineer, shall be followed. See Special Provision Job No. CA0401 "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 purposed 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 sufficient details and information to the Engineer's satisfaction. The Contractor shall be responsible for the results obtained by the use the alternate Method of Work. All work, materials and labor required for the Contractor to develop and execute the plan will not be paid directly but will be considered subsidiary to the item "Modification of Existing Bridge Structure (Br. No. A5922)" and "Modification of Existing Bridge Structure (Br. No. B5922)".

PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	164	338
				(1) A&B5922		SPAN DETAILS		56582

TABLE OF WELDS

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"	

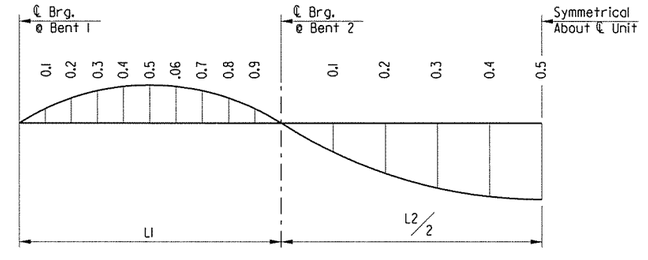
NOTE: When A Fillet Weld size, as shown on the Plans, is larger than the minimum, the first pass shall be that specified for minimum size of Fillet Weld.

TABLE OF DEAD LOAD DEFLECTIONS - INCHES
GIRDER NO. 1, 2 & 3

Span	Piont of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Parapet	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
1	0	0	0	0	0	0	0
	0.1	-0.003	-0.01	-0.017	-0.028	-0.018	-0.029
	0.2	-0.008	-0.022	-0.042	-0.06	-0.044	-0.063
	0.3	-0.016	-0.033	-0.076	-0.097	-0.08	-0.102
	0.4	-0.025	-0.046	-0.116	-0.139	-0.123	-0.146
	0.5	-0.034	-0.059	-0.153	-0.185	-0.162	-0.195
	0.6	-0.043	-0.067	-0.192	-0.217	-0.203	-0.229
	0.7	-0.049	-0.067	-0.215	-0.222	-0.227	-0.234
	0.8	-0.043	-0.062	-0.187	-0.211	-0.197	-0.223
	0.9	-0.03	-0.039	-0.129	-0.133	-0.136	-0.141
	0	0	0	0	0	0	0
2	0.1	0.117	0.133	0.488	0.471	0.514	0.498
	0.2	0.265	0.296	1.103	1.058	1.163	1.118
	0.3	0.416	0.452	1.724	1.625	1.817	1.718
	0.4	0.51	0.563	2.11	2.033	2.224	2.149
	0.5	0.553	0.599	2.281	2.173	2.405	2.297
	0.6	0.51	0.563	2.11	2.033	2.224	2.149
	0.7	0.416	0.452	1.724	1.625	1.817	1.718
	0.8	0.265	0.296	1.103	1.058	1.163	1.118
	0.9	0.117	0.133	0.488	0.471	0.514	0.498
	0	0	0	0	0	0	0
3	0.1	-0.03	-0.039	-0.129	-0.133	-0.136	-0.141
	0.2	-0.043	-0.062	-0.187	-0.211	-0.197	-0.223
	0.3	-0.049	-0.067	-0.215	-0.222	-0.227	-0.234
	0.4	-0.043	-0.067	-0.192	-0.217	-0.203	-0.229
	0.5	-0.034	-0.059	-0.153	-0.185	-0.162	-0.195
	0.6	-0.025	-0.046	-0.116	-0.139	-0.123	-0.146
	0.7	-0.016	-0.033	-0.076	-0.097	-0.08	-0.102
	0.8	-0.008	-0.022	-0.042	-0.06	-0.044	-0.063
	0.9	-0.003	-0.01	-0.017	-0.028	-0.018	-0.029
	0	0	0	0	0	0	0

Note:
Camber for Dead Load Deflection plus Vertical curve ¼" tolerance.
Deflections shown are off a chord from ℄ Brg. to ℄ Brg.
Vertical curve corrections not included. Negative sign (-) indicates upward deflections.

Dead Load Deflections based on use of removable forms.



DEAD LOAD DEFLECTION DIAGRAM
N.T.S.

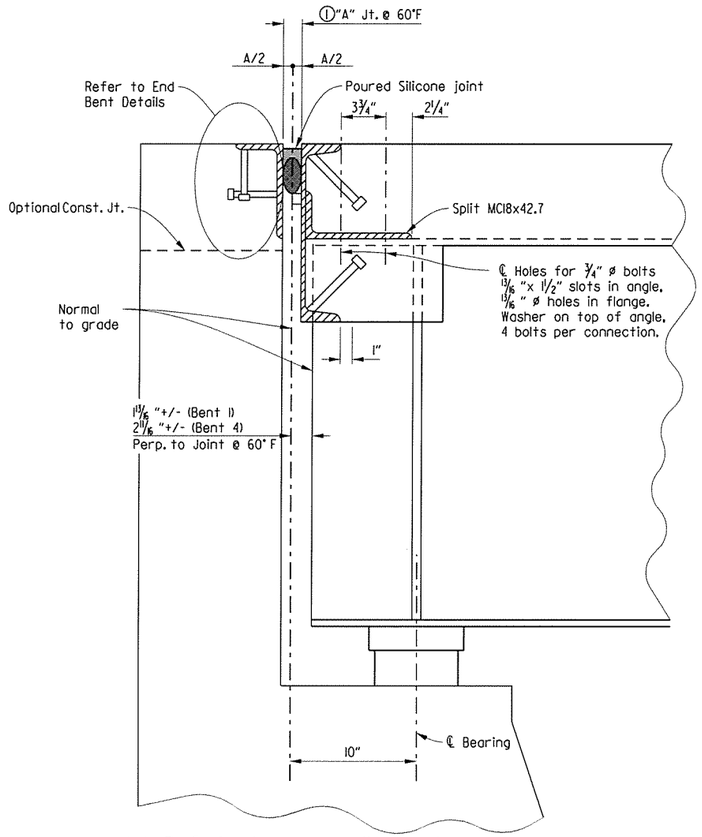
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 8 OF 9
DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412
ROUTE 49 Sec. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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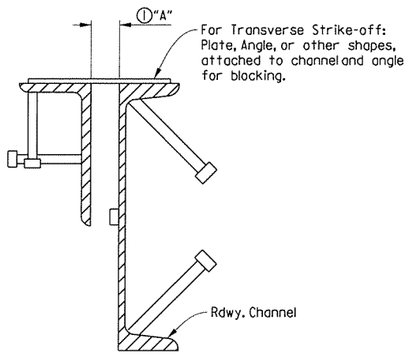
PARSONS TRANSPORTATION GROUP	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	165	338
					(1) A&B5922		SPAN DETAILS		56583



Note: The ℄ of Jt. is normal to profile grade line to match the existing bridge. See Existing Plans.

SECTION THRU JOINT AT END BENTS

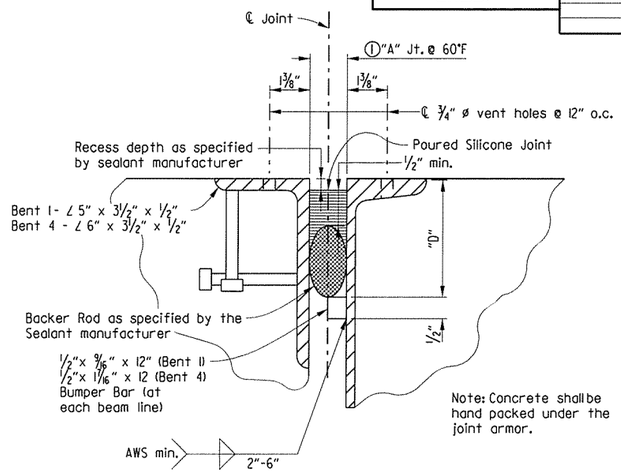
No Scale



Note: Each expansion joint device shall be blocked in the shop by the Fabricator and the blocking details shall be shown on the Shop Drawings. Blocking shall not be removed until the slab is complete. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

No Scale



DETAIL OF POURED SILICONE JOINT

No Scale

JOINT ERECTION DIMENSIONS

"A" Width perpendicular to joint at 24 hour average temperature of:				"D"
Bent No.	40° F	60° F	80° F	
1	1 3/16"	1⅛"	1 1/16"	2½"
4	3⅛"	2⅞"	2⅝"	4½"

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.

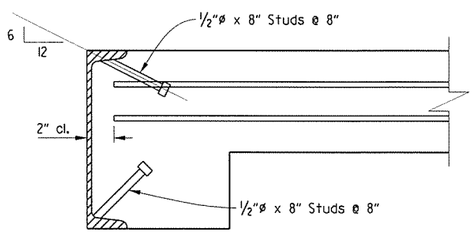
The contractor shall verify separation of the backer rod from the joint material after the material has set.

EXPANSION DEVICE INSTALLATION

The Contractor may elect to install the expansion device 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 tightended prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, the opening adjusted for temperature, and the backwall constructed.

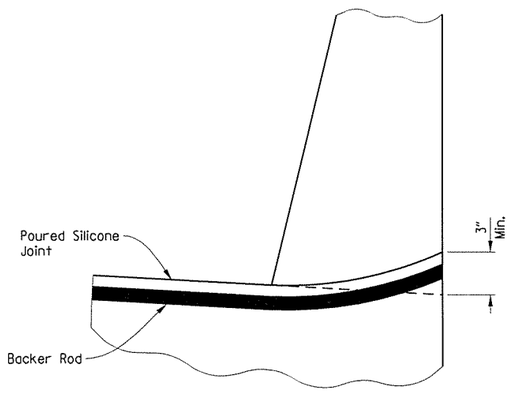
2) The backwall shall be poured to the optional construction joint after beams are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.



Note: As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝" stud as basis of measurement of structure steel in anchors.

DETAILS OF ALTERNATE ANCHORS

No Scale



JOINT SEAL PLACEMENT AT PARAPET

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 9 OF 9

DETAILS OF 208'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT OVER HWY. 412

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

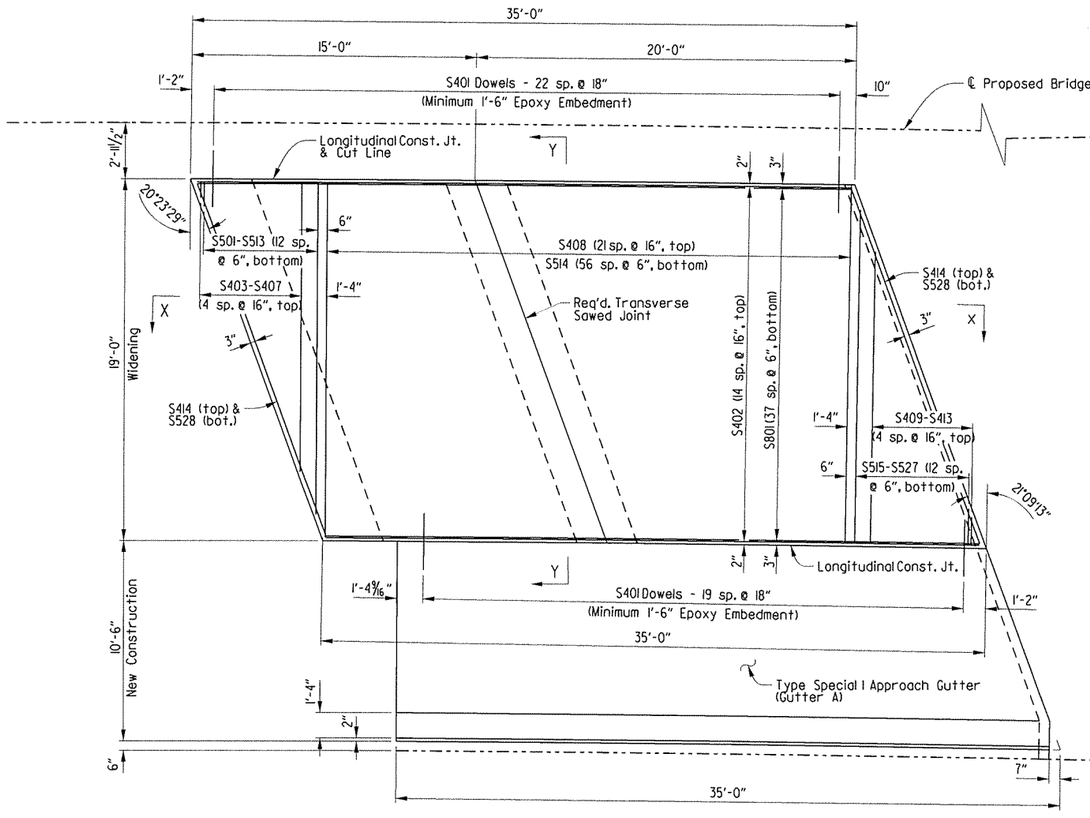
LITTLE ROCK, ARK.

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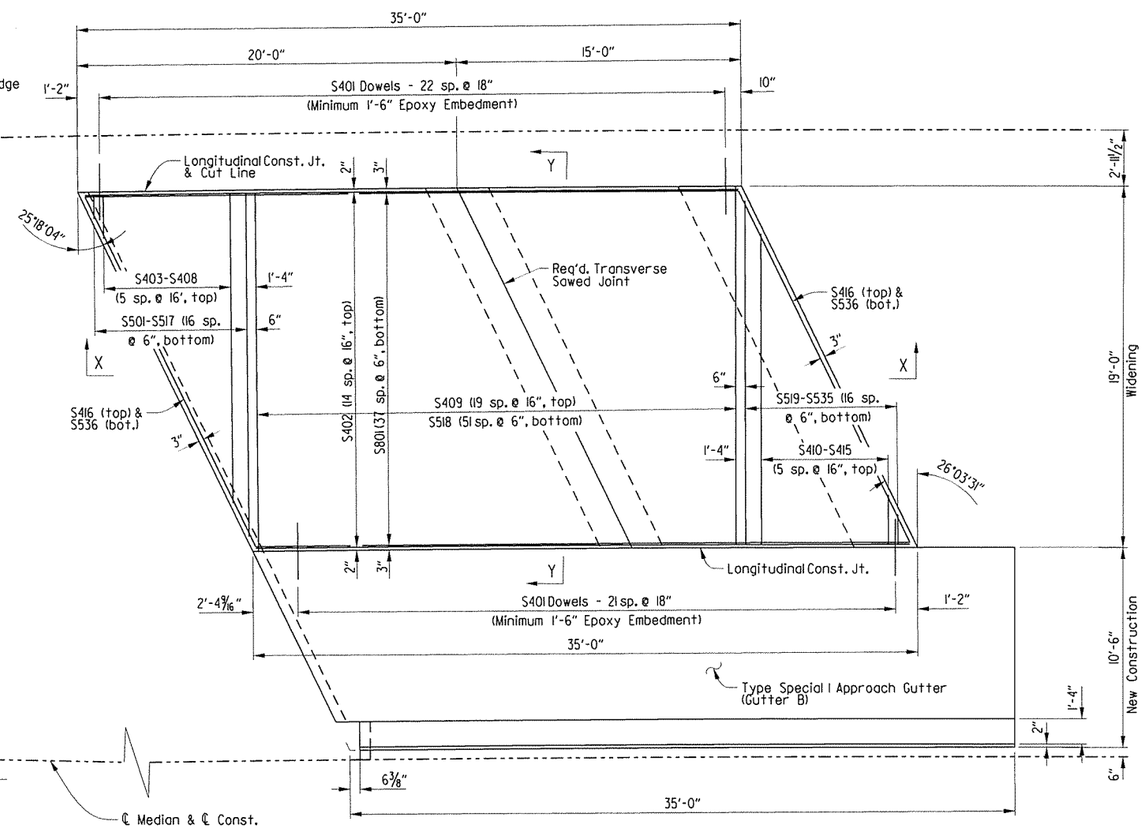
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					6	ARK.			
					JOB NO.		CA0401	166	338
					(1) A5922		APPR. SLAB		56584



PLAN - APPROACH SLAB
(BEGIN BRIDGE A)



PLAN - APPROACH SLAB
(END BRIDGE A)

Note: All longitudinal line and longitudinal reinforcing steel shall be placed on curves concentric with ℄ Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Existing GutterLine

Notes: 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. 56586.

For details of Type Special I Approach Gutters, see Dwg. No. 56587.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/27/15
No. 7673
DAVID R. NOLTE

SHEET 1 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

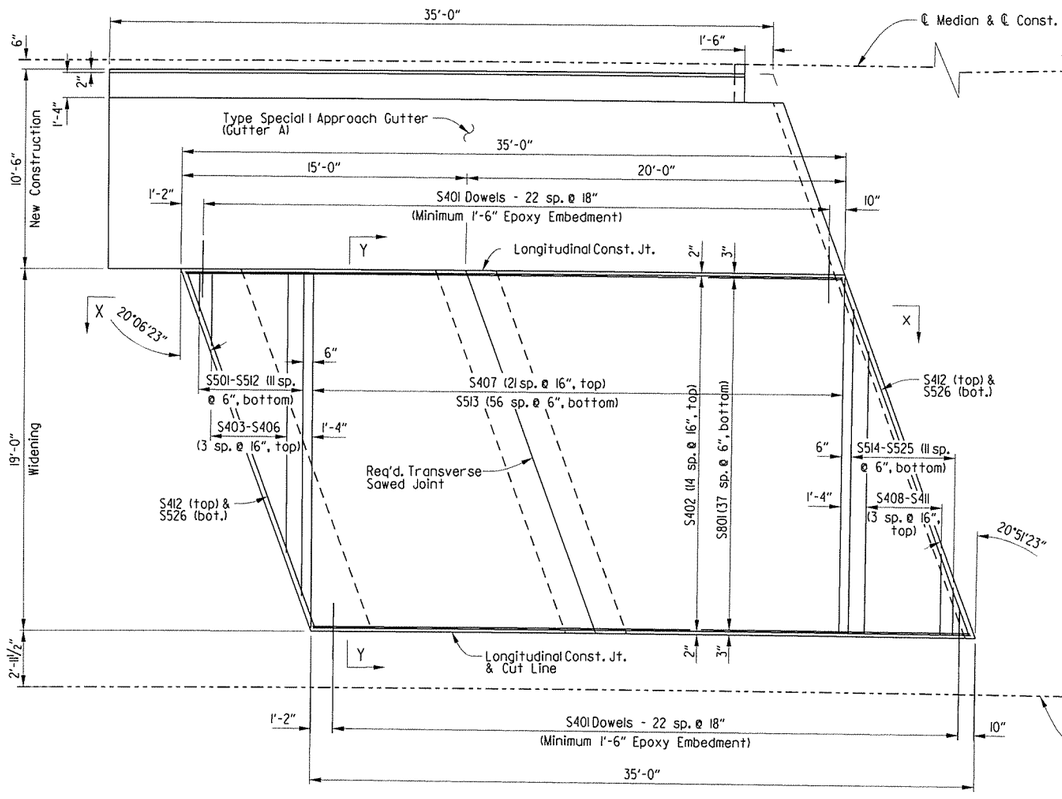
LITTLE ROCK, ARK.

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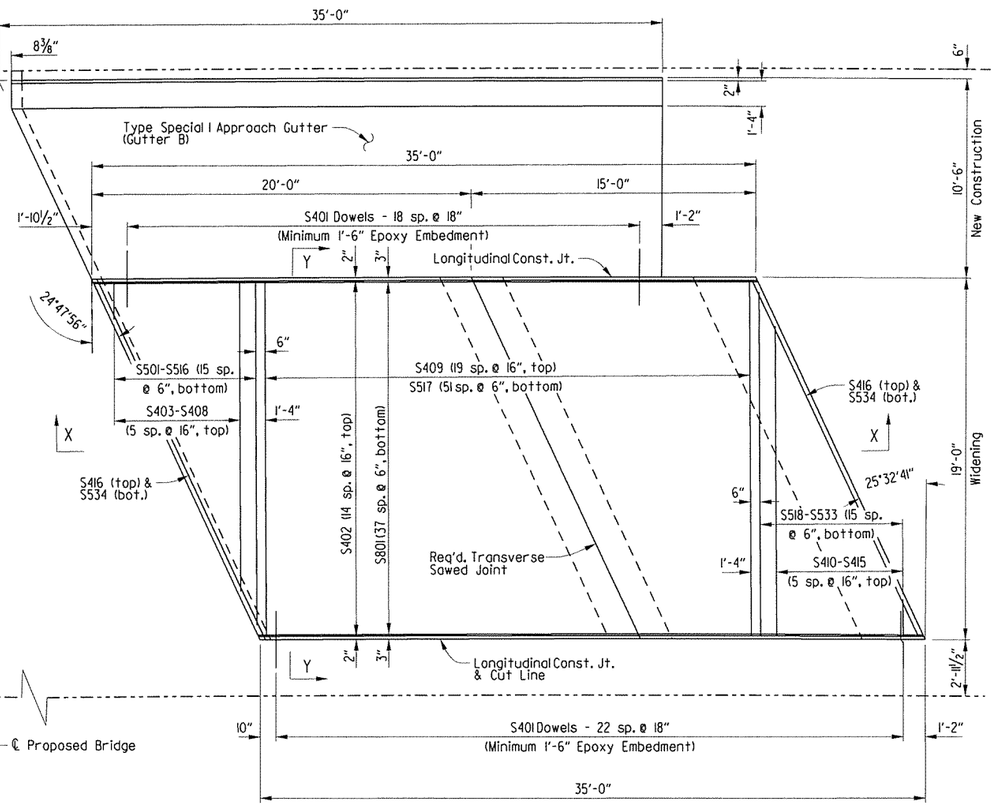
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					6	ARK.			
					JOB NO.		CA0401	167	338
					(1) B5922		APPR. SLAB		56585



PLAN - APPROACH SLAB
(BEGIN BRIDGE B)



PLAN - APPROACH SLAB
(END BRIDGE B)

Note: All longitudinal line and longitudinal reinforcing steel shall be placed on curves concentric with ℄ Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Existing GutterLine

Notes: 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. 56586.

For details of Type Special I Approach Gutters, see Dwg. No. 56588.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
3/27/15
No. 7673
DAVID R. NOLTE

SHEET 2 OF 3

DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28

ARKANSAS STATE HIGHWAY COMMISSION

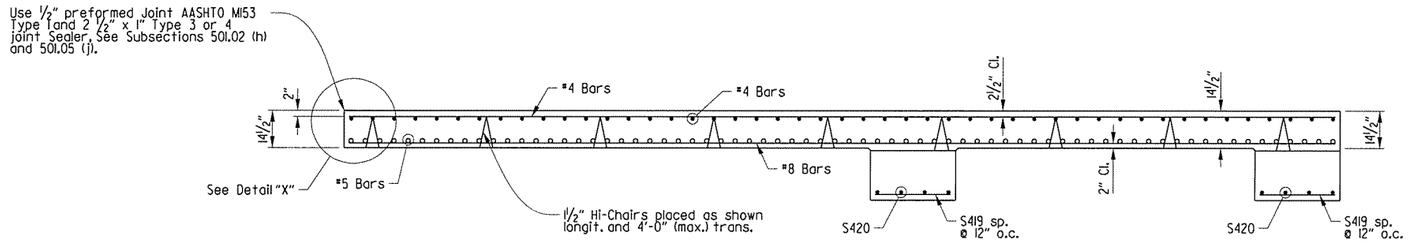
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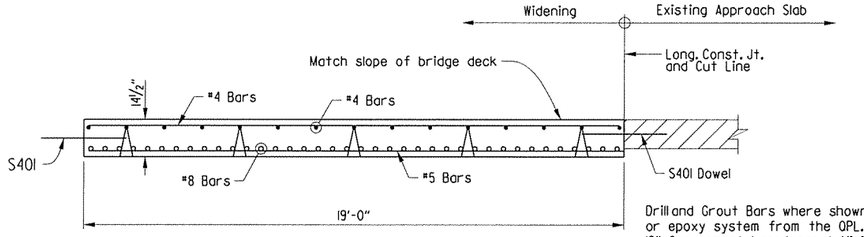
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					JOB NO.		CA0401	168	338
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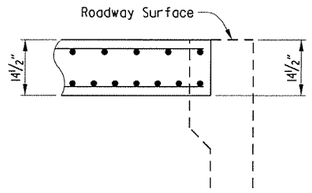


SECTION X-X
Not to Scale



SECTION Y-Y
Not to Scale

Drill and Grout Bars where shown using an approved cement or epoxy system from the QPL. Minimum embedment shall be 12" for cement based grout. Minimum embedment shall be per the manufacturer's recommendations for epoxy based grout.



DETAIL X
Not to Scale

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

Preformed Joint and Joint Sealer included in the pay item "Approach Slabs".

BAR LIST
Bridge A

MARK	NO. REQ'D. Beg. Br.	LENGTH
S401	43	3'-0"
S402	15	34'-6"
S403 to S407	5	1'-0" to 15'-3"
S408	22	18'-8"
S409 to S413	5	15'-4" to 1'-6"
S414	2	19'-10"
S419	19	2'-8"
S420	8	19'-10"
S501 to S513	13	1'-4" to 17'-6"
S514	57	18'-8"
S515 to S527	13	17'-6" to 1'-11"
S528	2	19'-10"
S801	38	34'-6"

BAR LIST
Bridge A

MARK	NO. REQ'D. End Br.	LENGTH
S401	45	3'-0"
S402	15	34'-6"
S403 to S408	6	2'-4" to 16'-4"
S409	20	18'-8"
S410 to S415	6	16'-4" to 2'-7"
S416	2	20'-6"
S419	19	2'-8"
S420	8	20'-6"
S501 to S517	17	1'-3" to 18'-0"
S518	52	18'-8"
S519 to S535	17	18'-0" to 1'-7"
S536	2	20'-6"
S801	38	34'-6"

QUANTITIES FOR TYPE SPECIAL I APPROACH SLABS
(FOR INFORMATION ONLY)

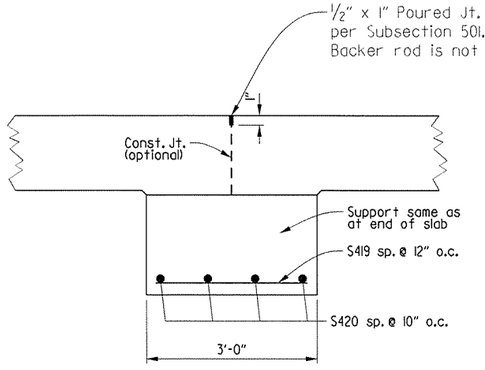
		Slab Width	Reinforcing Steel (lbs.)	Concrete (cu. yds.)
Bridge A	Beg. of Bridge	19'-0"	5839	37.7
	End of Bridge	19'-0"	5849	37.7
Bridge B	Beg. of Bridge	19'-0"	6049	37.7
	End of Bridge	19'-0"	5832	37.7

BAR LIST
Bridge B

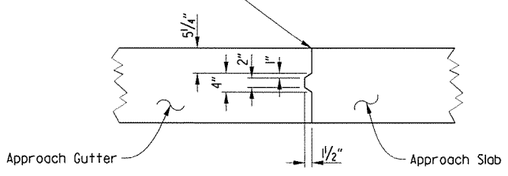
MARK	NO. REQ'D. Beg. Br.	LENGTH
S401	46	3'-0"
S402	15	34'-6"
S403 to S406	4	3'-11" to 14'-9"
S407	22	18'-8"
S408 to S411	4	14'-10" to 4'-3"
S412	2	19'-11"
S419	19	2'-8"
S420	8	19'-11"
S501 to S512	12	2'-1" to 17'-0"
S513	57	18'-8"
S514 to S525	12	17'-0" to 2'-6"
S526	2	19'-11"
S801	38	34'-6"

BAR LIST
Bridge B

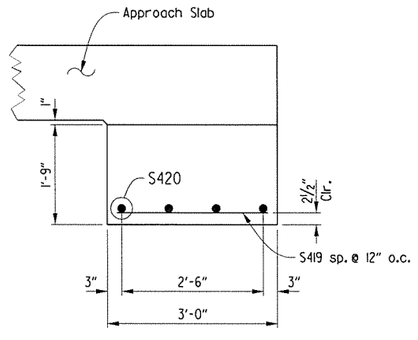
MARK	NO. REQ'D. End Br.	LENGTH
S401	42	3'-0"
S402	15	34'-6"
S403 to S408	6	2'-0" to 16'-3"
S409	20	18'-8"
S410 to S415	6	16'-3" to 1'-11"
S416	2	20'-7"
S419	19	2'-8"
S420	8	20'-7"
S501 to S516	16	2'-0" to 18'-1"
S517	52	18'-8"
S518 to S533	16	18'-1" to 1'-11"
S534	2	20'-7"
S801	38	34'-6"



DETAILS OF TRANSVERSE SAWED JOINT
Not to Scale



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT
Not to Scale



DETAILS OF SUPPORT AT END OF SLAB
Not to Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 3 OF 3
DETAILS OF TYPE SPECIAL I APPROACH SLABS

ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DR DATE: 11-20-14 FILENAME: bca0401x3_a3.dgn
CHECKED BY: JBM DATE: 11-20-14 SCALE: 1/4" - 1'-0"
DESIGNED BY: DRN DATE: 11-20-14

BRIDGE NO. A&B5922 DRAWING NO. 56586

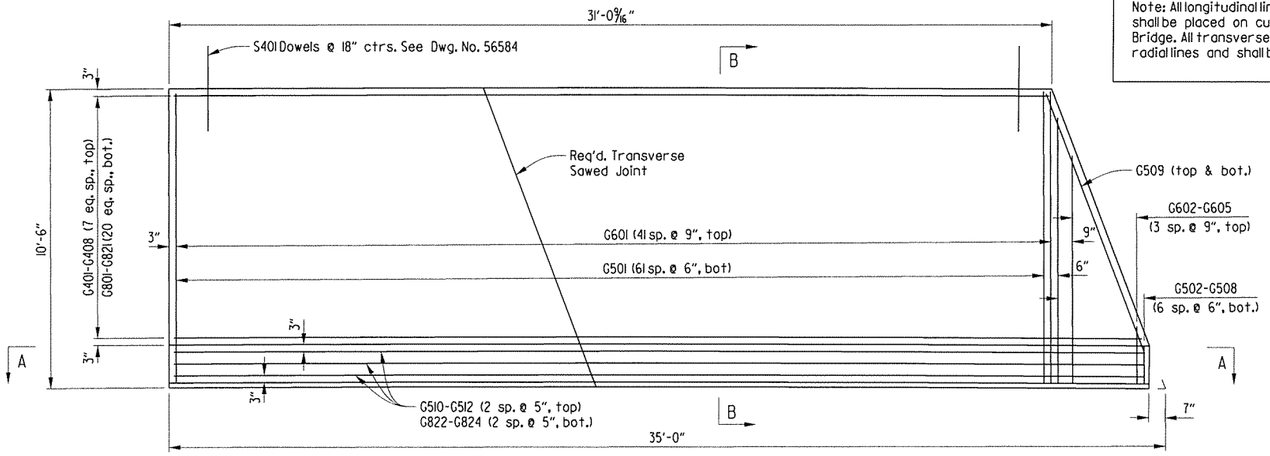
USER: PARSONS
DESIGN FILE: R:\BRIDGES 1540\BRIDGE 5922 ca401\Approach Slab details.dgn
PLOTTED: 3/30/2015 11:19:26 AM SCALE: 5:4 " / in.

R:\BRIDGES 1540\BRIDGE 5922 ca401\Approach Slab details.dgn 3/30/2015 11:19:26 AM

PARSONS TRANSPORTATION GROUP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	169	338
				(1) A5922		APPR. SLAB		56587

Note: All longitudinal line and longitudinal reinforcing steel shall be placed on curves concentric with ℄ Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Existing GutterLine



GUTTER A
(Beg. Bridge A)

QUANTITIES FOR TYPE SPECIAL I APPROACH GUTTERS
(FOR INFORMATION ONLY)

Location	Gutter	Reinforcing Steel (lbs.)	Concrete (cu. yds.)	Textured Coating Finish (sq. yds.)
Bridge A	Gutter A	4475	15.5	38.6
	Gutter B	4979	17.7	43.9
Bridge B	Gutter A	4886	17.2	42.7
	Gutter B	4398	15.3	37.9

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.

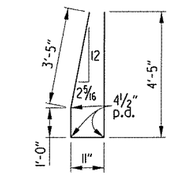
Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

Concrete Ditch Paving shall be Subsidiary to other bid items.

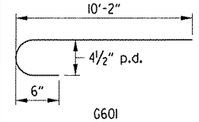
BAR LIST

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
G401-G408	8	---	30'-9" to 34'-0"
G409-G416	---	8	39'-8" to 35'-6"
G501	62	69	10'-2"
G502-G508	7	---	9'-4" to 1'-4"
G509	2	---	9'-9"
G510-G512	3	---	34'-1"
G513-G519	---	7	7'-11" to 1'-10"
G520-G522	---	3	34'-1"
G523	---	2	9'-7"
G524	---	3	8'-8"
G601	42	46	10'-10"
G602-G605	4	---	7'-11" to 2'-0"
G606-G610	---	5	1'-4" to 7'-5"
G611	---	2	9'-4"
G801-G821	21	---	30'-9" to 34'-0"
G822-G824	3	---	34'-1"
G825-G845	---	21	39'-8" to 35'-6"
G846-G848	---	3	34'-1"
R401	8	8	34'-1"
R601	35	35	9'-5"

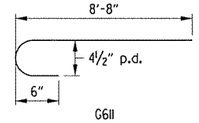
BENDING DIAGRAMS



R601

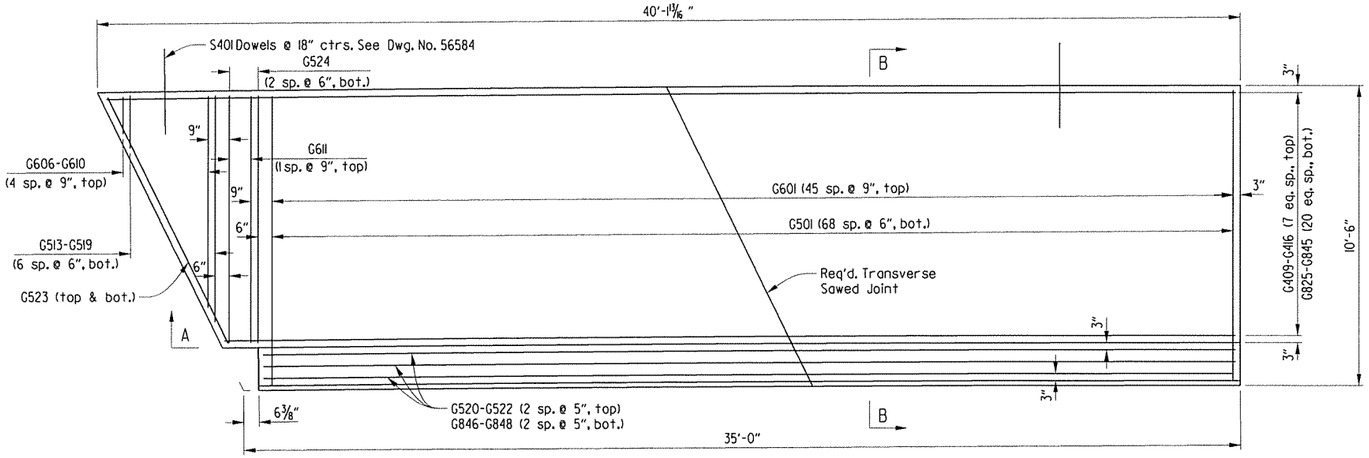


G601

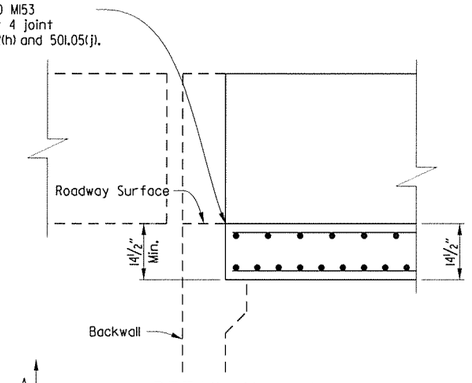


G611

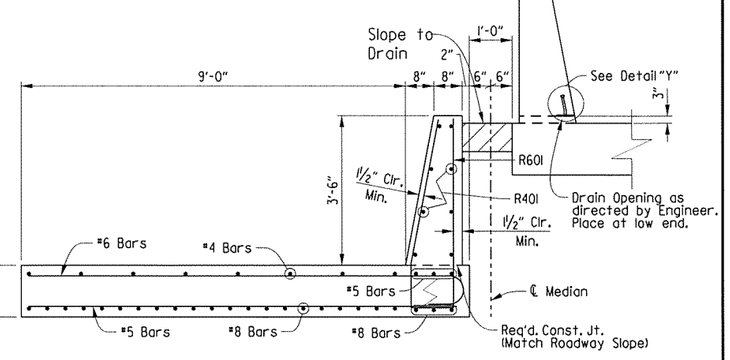
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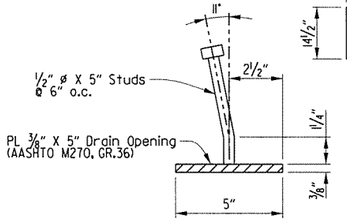
GUTTER B
(End Bridge A)



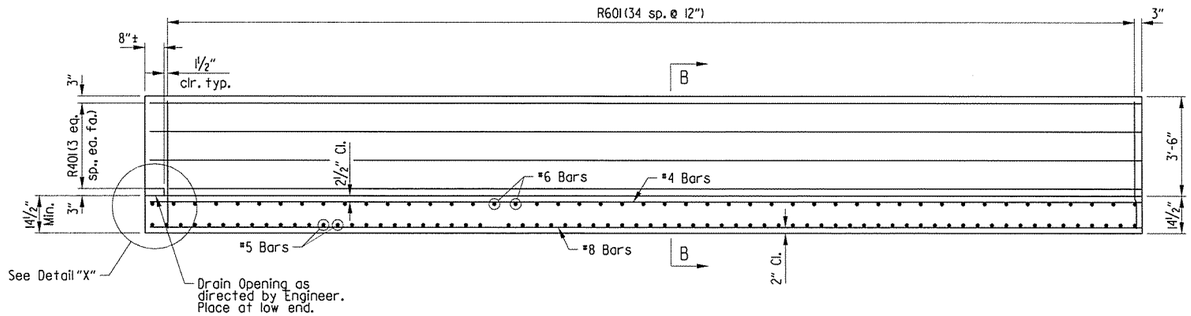
DETAIL X
Scale: N.T.S.



SECTION B-B
Scale: N.T.S.



DETAIL Y
Scale: N.T.S.



SECTION A-A
Scale: N.T.S.

Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. painting will not be paid for directly, but will be considered subsidiary to other bid items.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 1 OF 2
DETAILS OF TYPE SPECIAL I APPROACH GUTTERS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

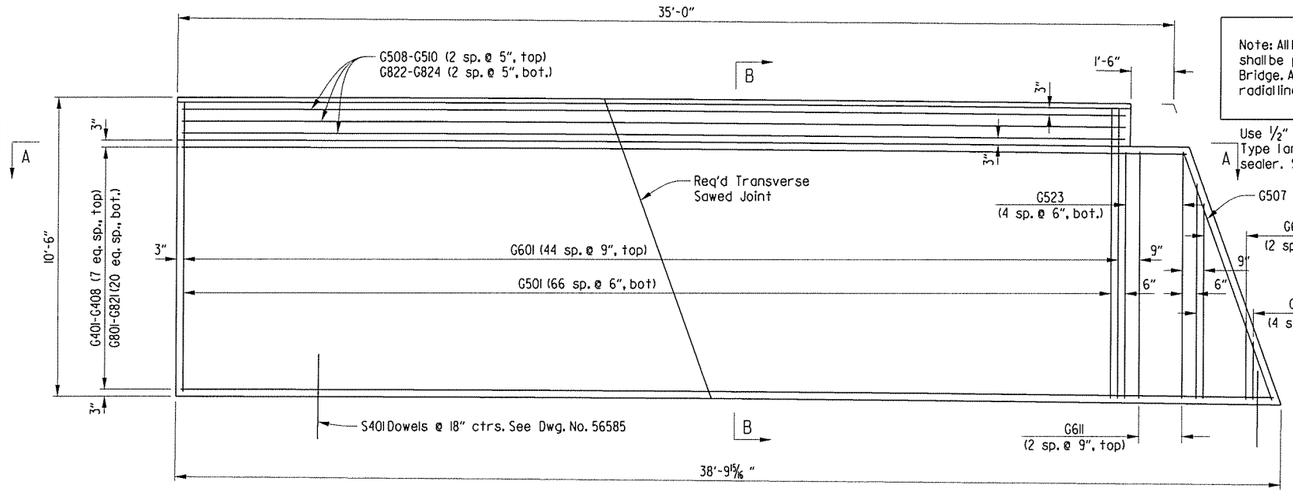
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DESIGNED BY: DRN DATE: 11-20-14
BRIDGE NO. A5922 DRAWING NO. 56587

USER: PARSONS
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PARSONS TRANSPORTATION GROUP

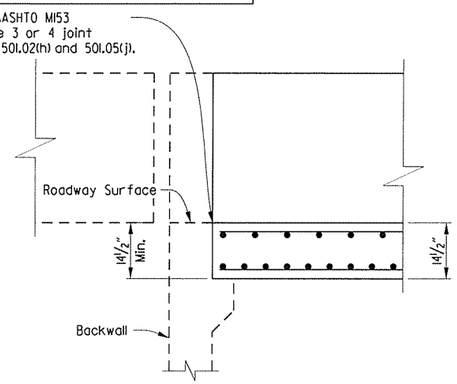
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6	ARK.			
	JOB NO.	CA0401	170	338
(1)	B5922	APPR. SLAB		56588



GUTTER A
(Beg. Bridge B)

Note: All longitudinal line and longitudinal reinforcing steel shall be placed on curves concentric with ℄ Existing Bridge. All transverse reinforcing steel shall be placed on radial lines and shall be measured along Existing GutterLine

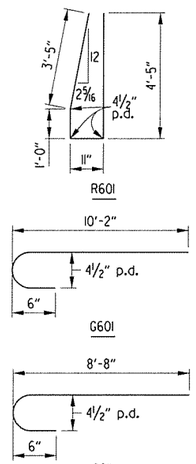


DETAIL X
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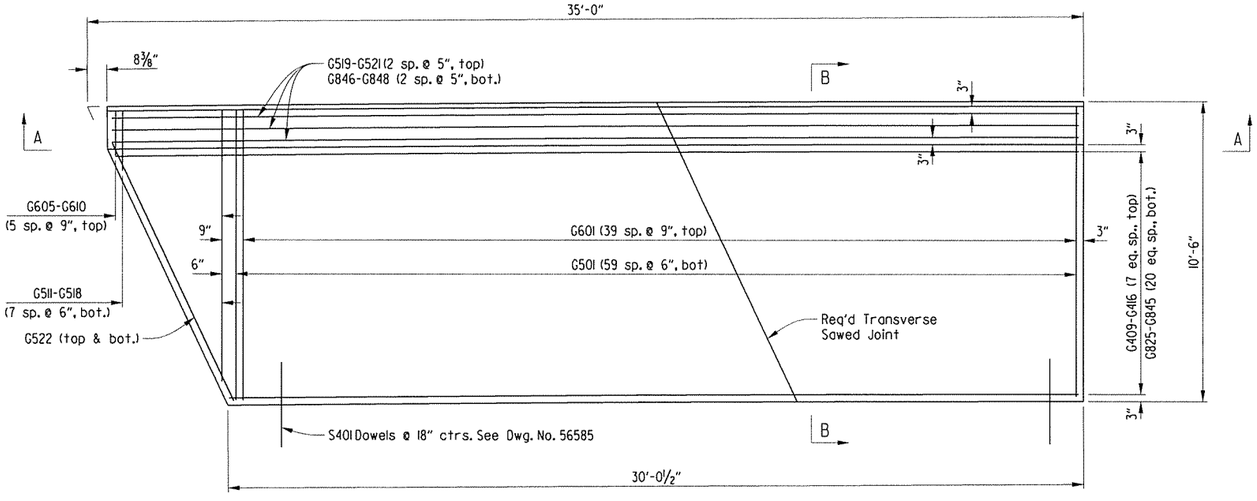
BAR LIST

MARK	NO. REQ'D. Beg. Br.	NO. REQ'D. End Br.	LENGTH
G401-G408	8	---	35'-3" to 38'-5"
G409-G416	---	8	33'-10" to 29'-10"
G501	67	60	10'-2"
G502-G506	5	---	7'-6" to 2'-0"
G507	2	---	9'-3"
G508-G510	3	---	33'-2"
G511-G518	---	8	9'-6" to 2'-1"
G519-G521	---	3	33'-11"
G522	---	2	10'-0"
G523	5	---	8'-8"
G601	45	40	10'-10"
G602-G604	3	---	6'-10" to 2'-9"
G605-G610	---	6	1'-7" to 9'-6"
G611	3	---	9'-4"
G801-G821	21	---	35'-3" to 38'-5"
G822-G824	3	---	33'-2"
G825-G845	---	21	33'-10" to 29'-10"
G846-G848	---	3	33'-11"
R401	8	---	33'-2"
R402	---	8	33'-11"
R601	35	35	9'-5"

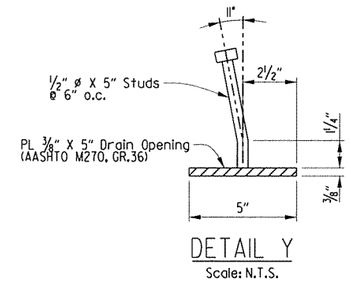
BENDING DIAGRAMS



Dimensions are out to out of bars.



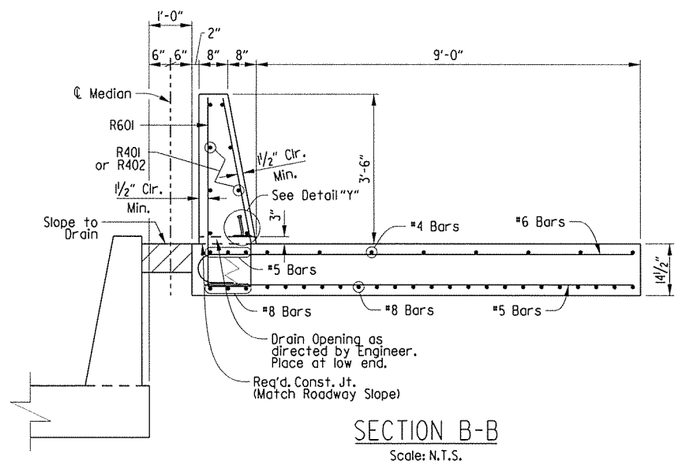
GUTTER B
(End Bridge B)



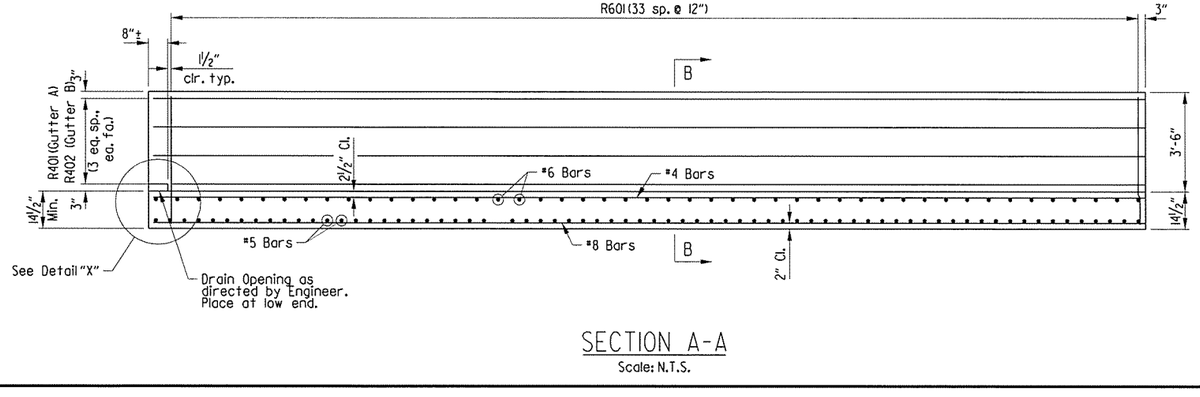
DETAIL Y
Scale: N.T.S.

Parapet studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be subsidiary to other bid items.

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SECTION B-B
Scale: N.T.S.



SECTION A-A
Scale: N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7673
DAVID R. NOLTE

SHEET 2 OF 2
DETAILS OF TYPE SPECIAL I APPROACH GUTTERS
ROUTE 49 SEC. 28
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY:	JBM	DATE:	11-25-14
DESIGNED BY:	DRN	DATE:	11-20-14

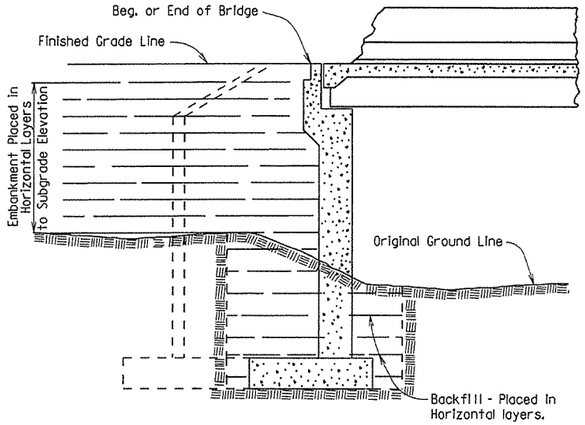
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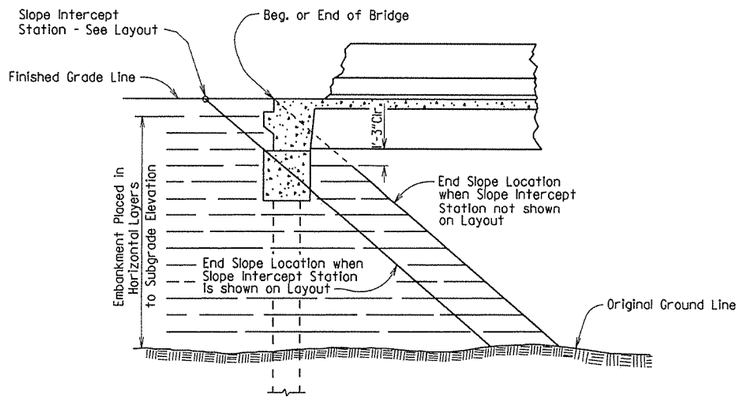
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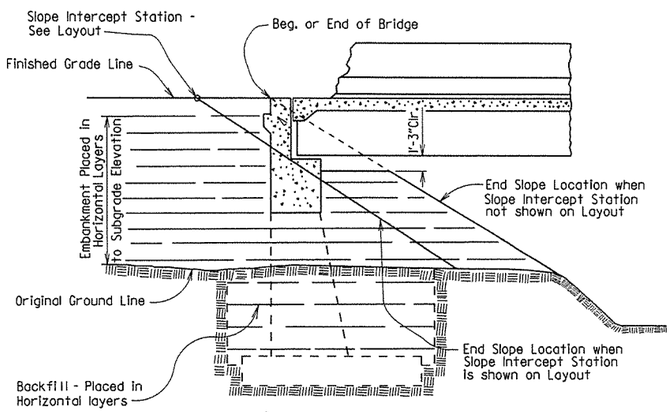
1 EMBANKMENT & BACKFILL 55000



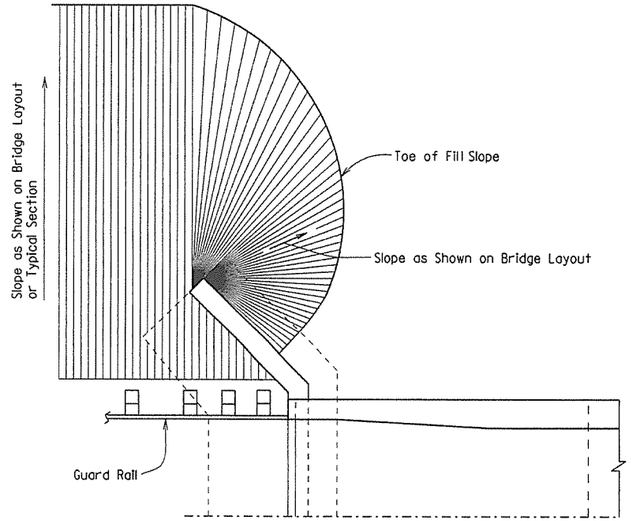
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



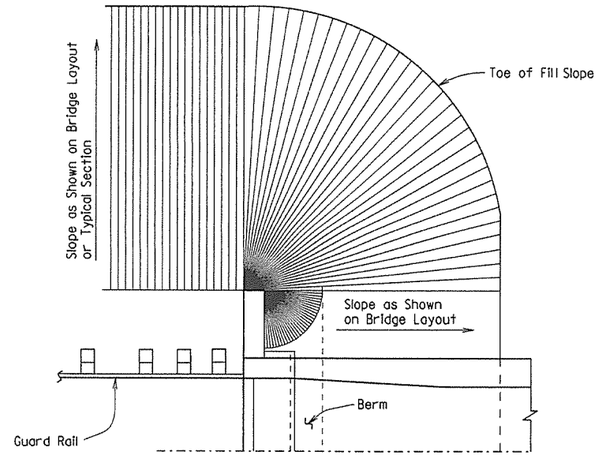
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



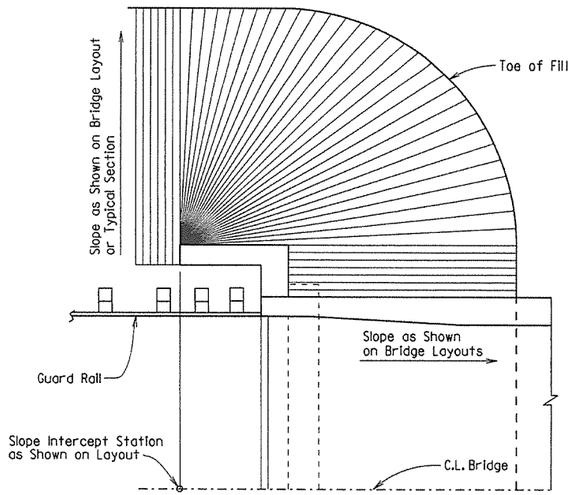
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



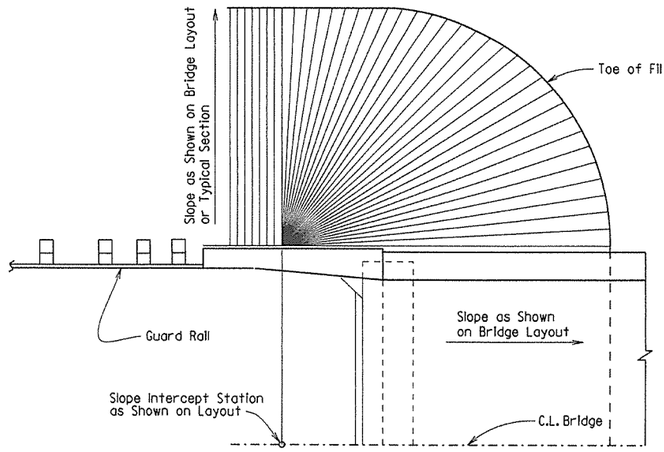
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 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 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

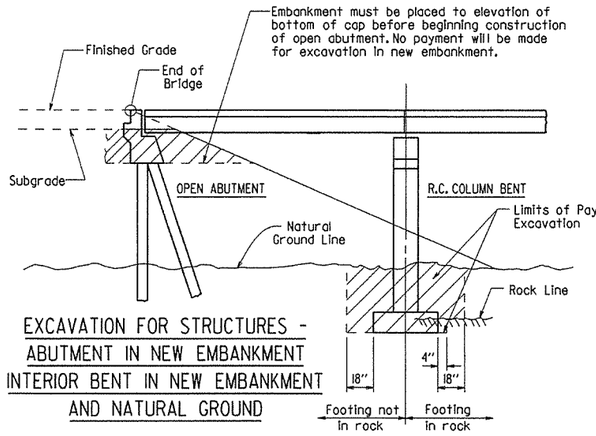
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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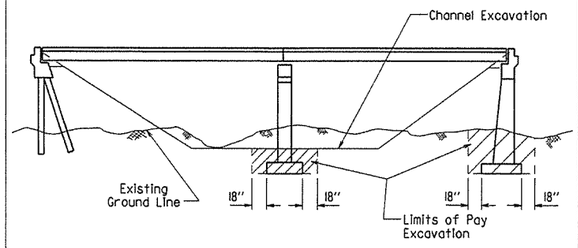
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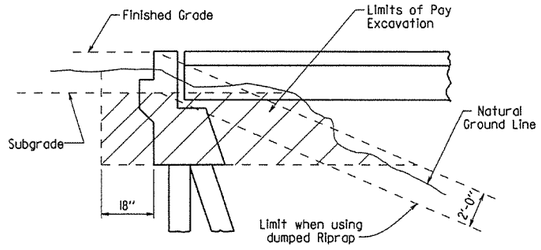
(1) RIPRAP & EXCAV. 55001



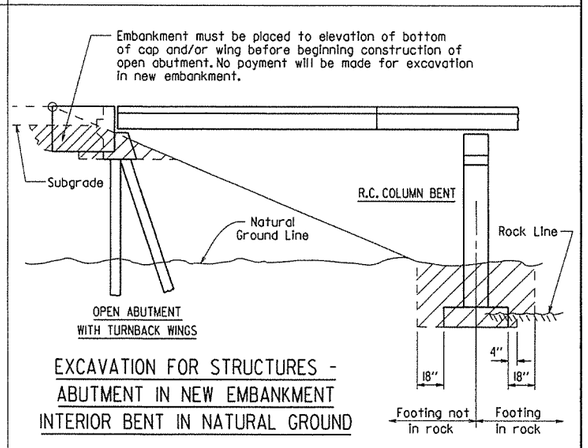
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



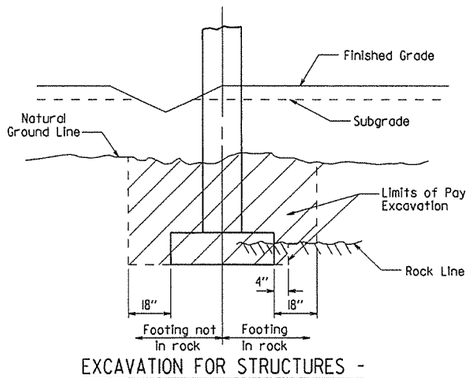
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



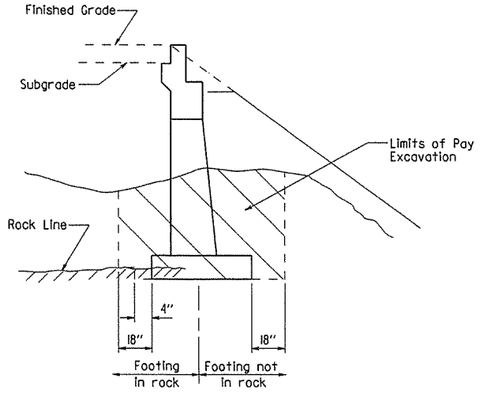
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



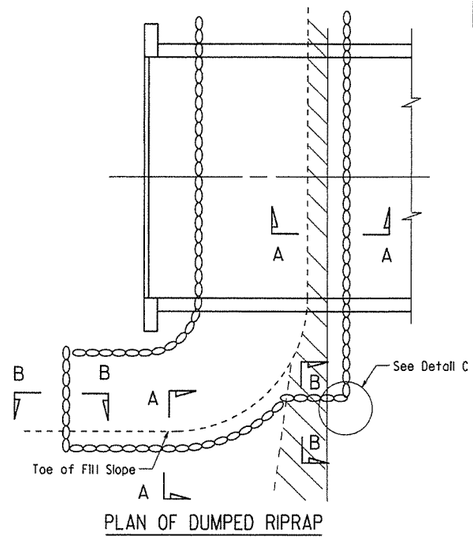
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



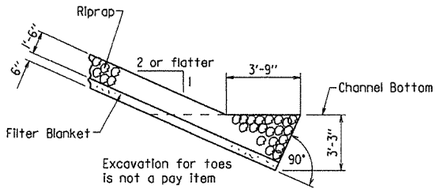
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



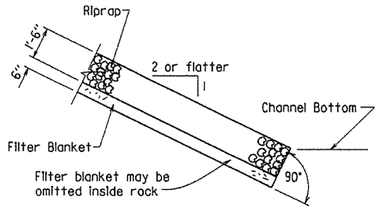
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



PLAN OF DUMPED RIPRAP



SECTION A-A
(Toe Excavation in Soil)

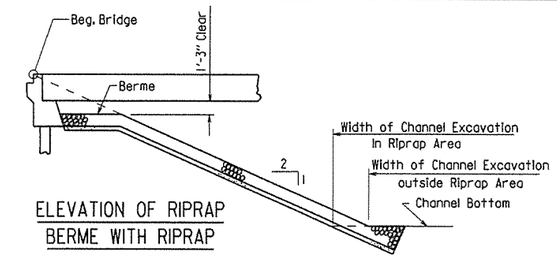


SECTION A-A
(Toe Excavation in Rock)

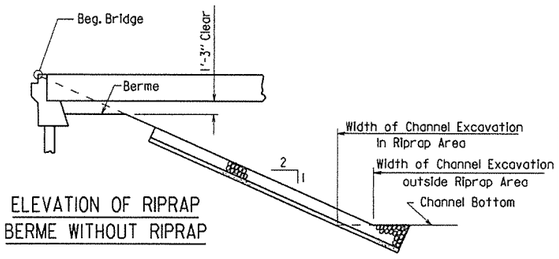
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

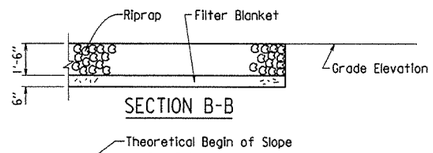
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



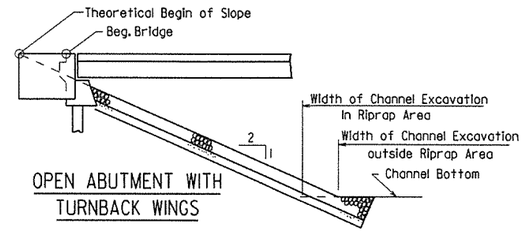
ELEVATION OF RIPRAP BERME WITH RIPRAP



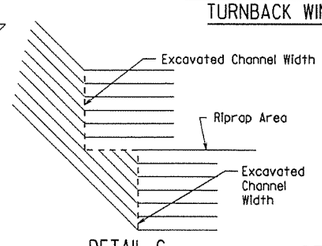
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

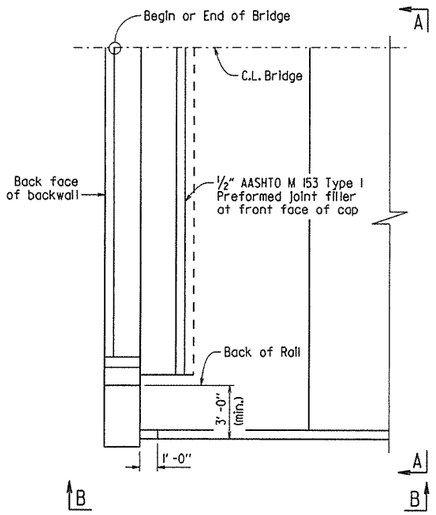
DESIGNED BY: STD. DATE:

DRAWING NO. 55001

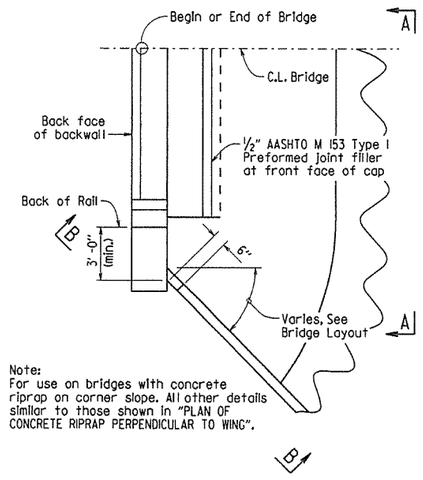
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		173	
				JOB NO.				

① CONCRETE RIPRAP 55002

Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



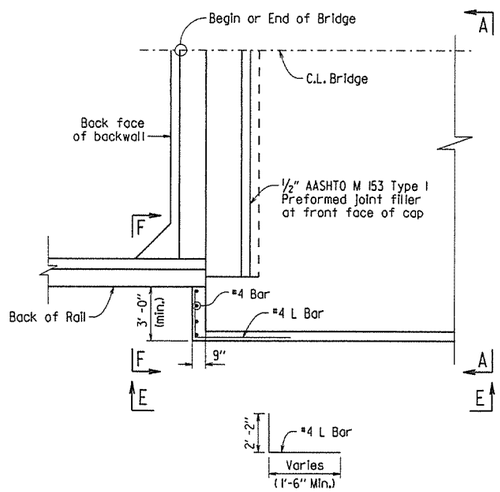
PLAN OF CONCRETE RIPRAP
PERPENDICULAR TO WING
¼" = 1'-0"



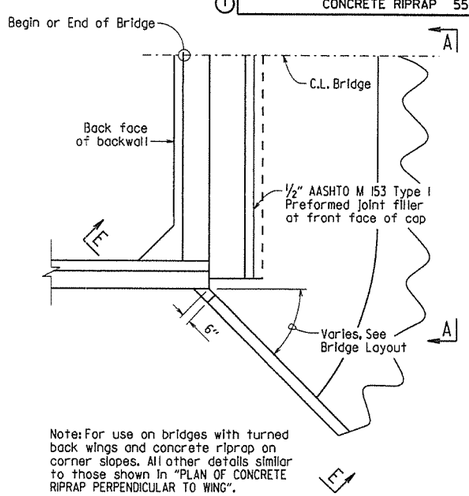
Note:
For use on bridges with concrete riprap on corner slope. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

PLAN OF CONCRETE RIPRAP
AT ANGLE TO WING
¼" = 1'-0"

Note:
For use on bridges with turned back wings. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".



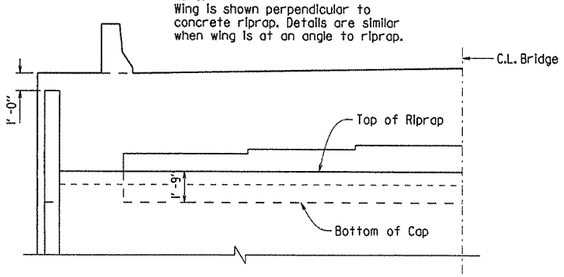
PLAN OF CONCRETE RIPRAP
PERPENDICULAR TO TURNED BACK WING
¼" = 1'-0"



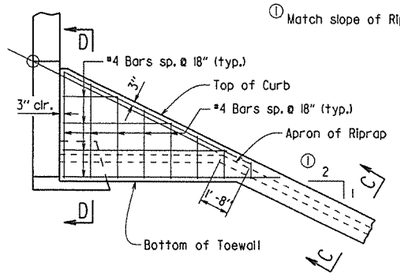
Note: For use on bridges with turned back wings and concrete riprap on corner slopes. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

PLAN OF CONCRETE RIPRAP
AT ANGLE FROM TURNED BACK WING
¼" = 1'-0"

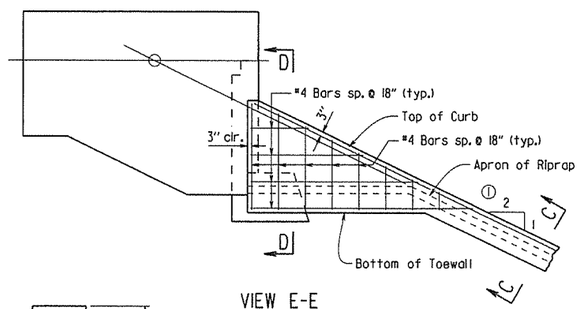
Note:
Wing is shown perpendicular to concrete riprap. Details are similar when wing is at an angle to riprap.



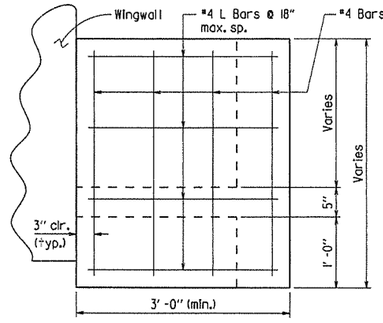
VIEW A-A
¼" = 1'-0"



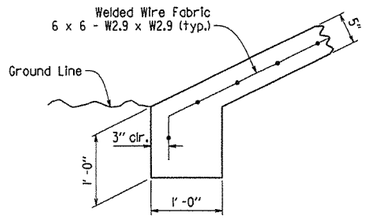
VIEW B-B
¼" = 1'-0"



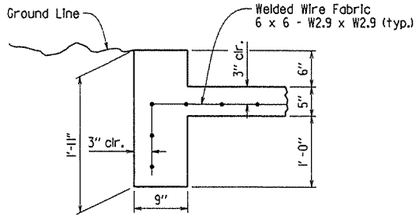
VIEW E-E
¼" = 1'-0"



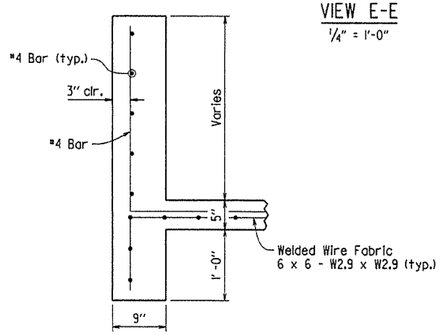
VIEW F-F
1" = 1'-0"



TOE OF CONCRETE RIPRAP
1" = 1'-0"



SECTION C-C
1" = 1'-0"



SECTION D-D
1" = 1'-0"

GENERAL NOTES

All concrete shall be Class A with a minimum compressive strength, f'c = 2,100 psi.

Welded wire fabric shall conform to AASHTO M55 or M221.

STANDARD DETAILS FOR CONCRETE RIPRAP

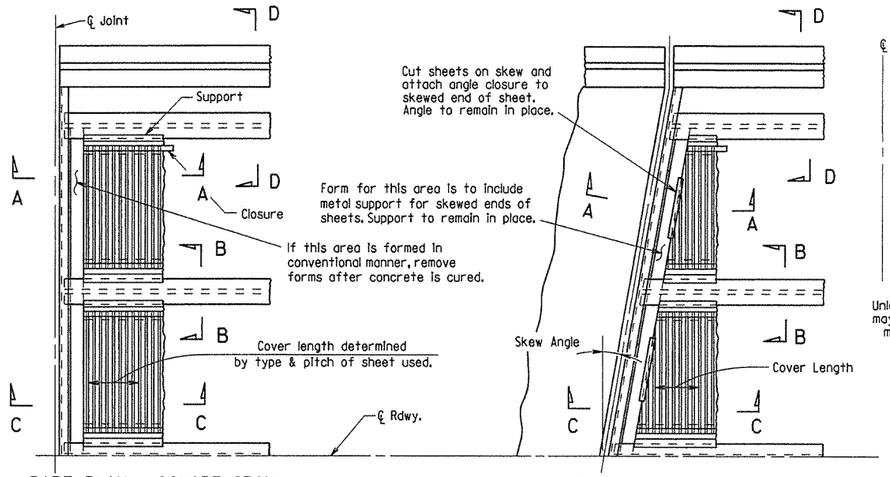
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 2/27/2014 FILENAME: b55002.dgn
CHECKED BY: BEF DATE: 2/27/2014 SCALE: AS SHOWN
DESIGNED BY: Std. DATE: ---

DRAWING NO. 55002

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		174	
				JOB NO.				
				①	BRIDGE DECK FORMS		55005	

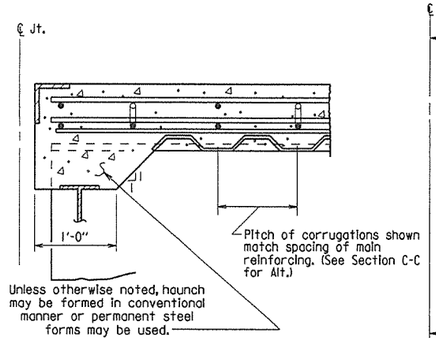


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

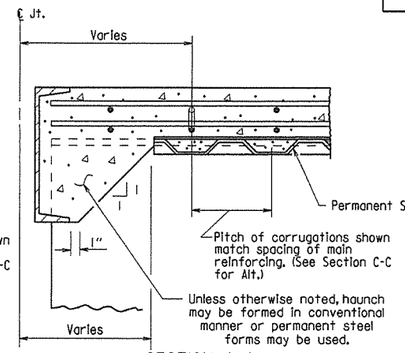
3/8" = 1'-0"



SECTION A-A

N.T.S.

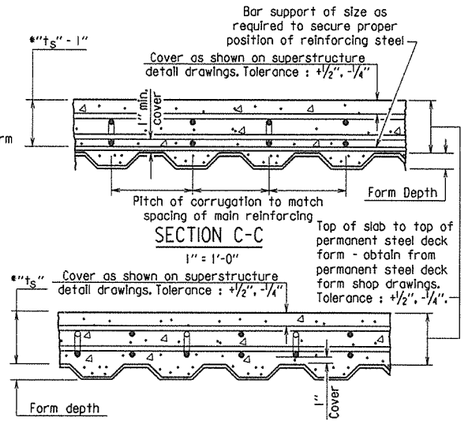
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



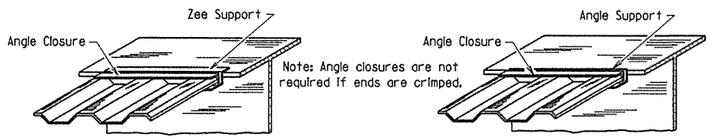
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

1" = 1'-0"

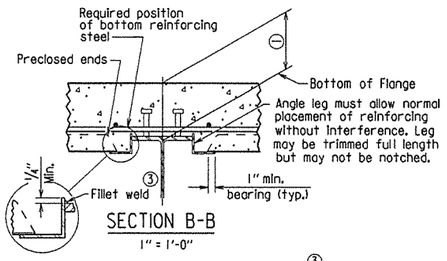
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

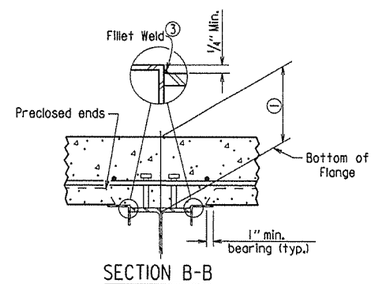


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

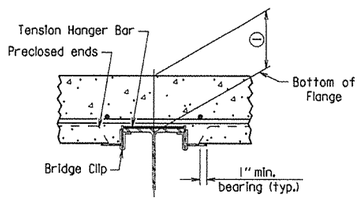
③ Minimum weld: 1/8" x 1' @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

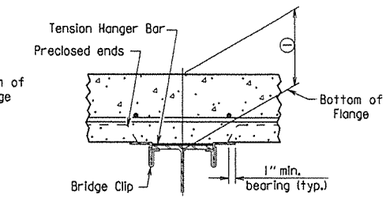
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

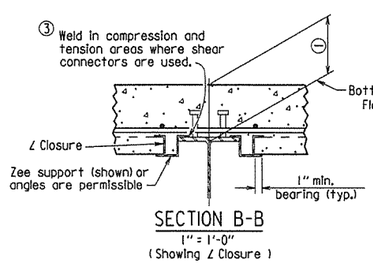
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

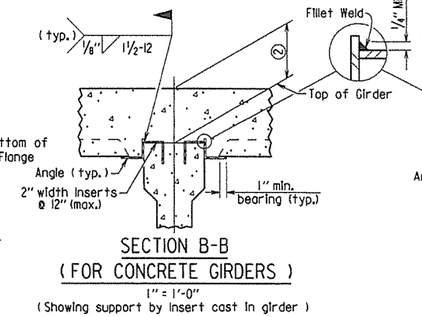
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

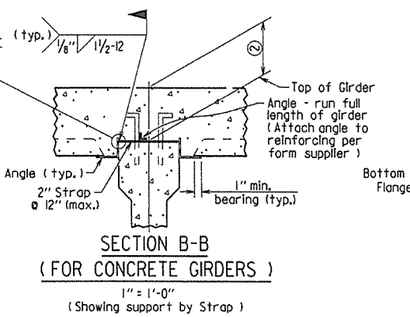


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

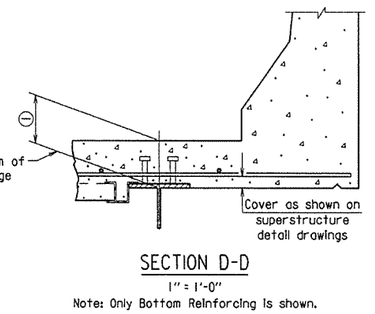


SECTION B-B

(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.

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). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the 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 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 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.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE

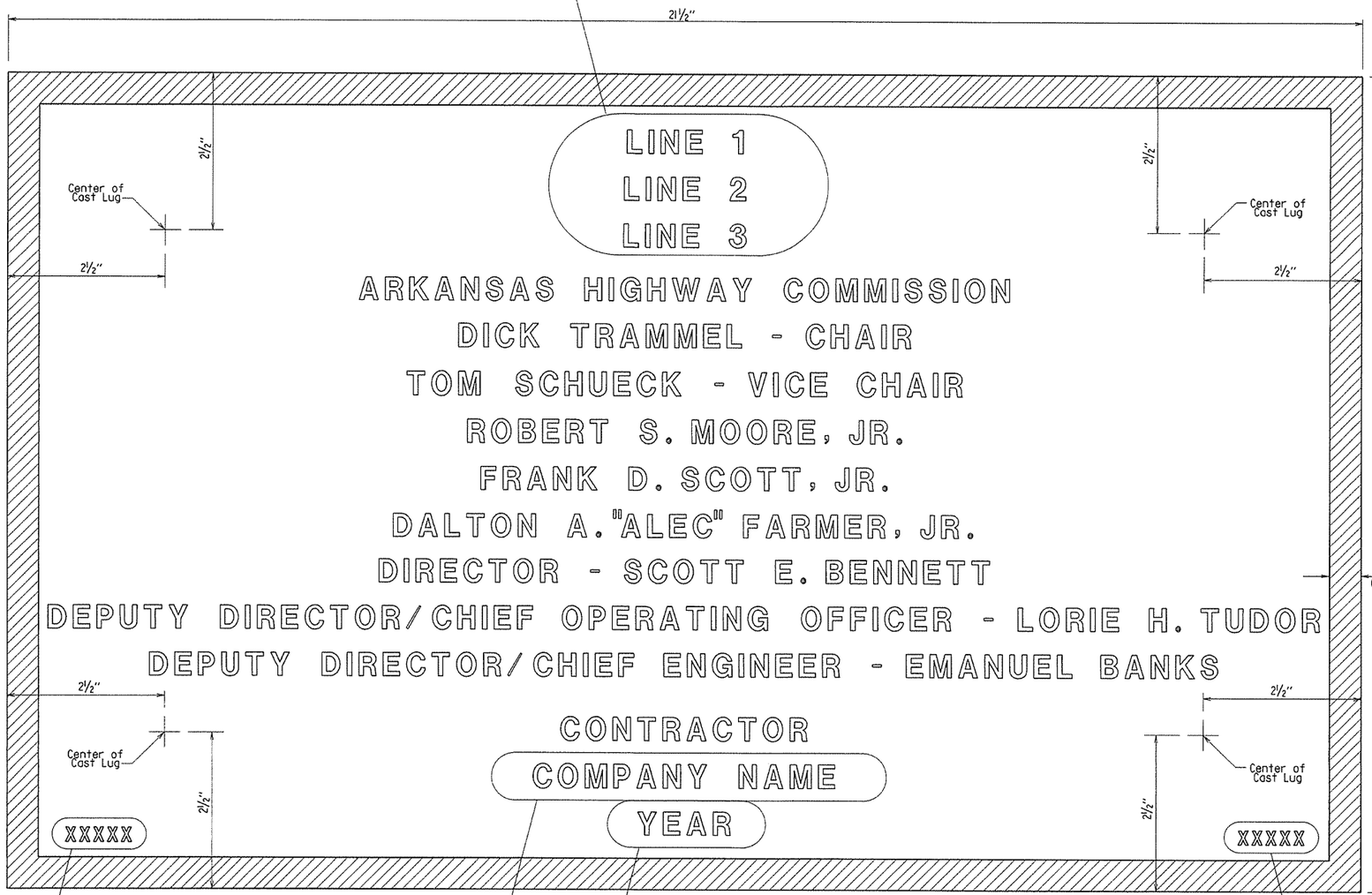
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

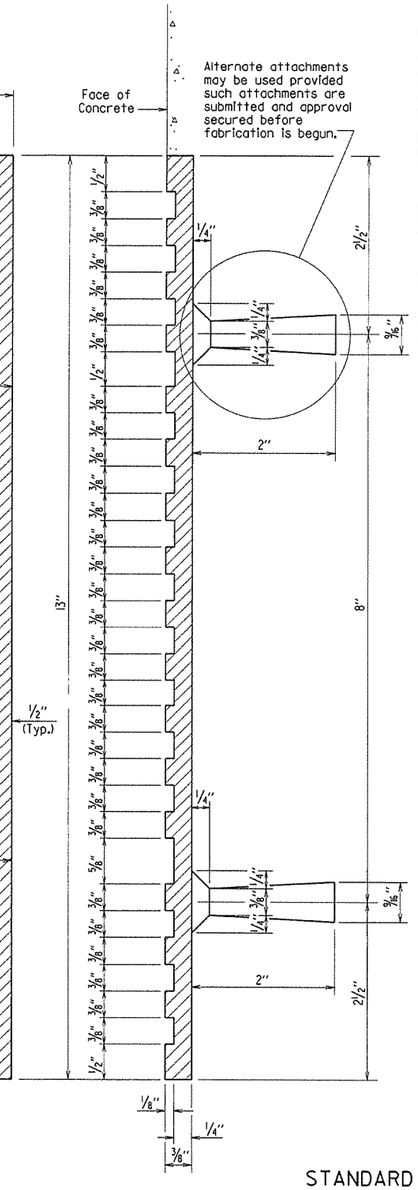
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14				6	ARK.		178	
1-14-15				JOB NO.				
				① TYPE D NAME PLATE			55010	

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	



TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 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.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 9/16" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

② Revised Chair and Vice Chair
Added New Commissioner
1-14-15 KDH Checked By: CRE

① Revised Deputy Director/
Chief Engineer
Added Deputy Director/
Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		176	
				JOB NO.				
				①	STEEL H-PILES		55020	

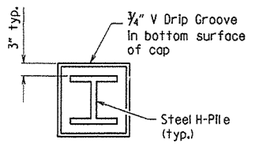
GENERAL NOTES FOR STEEL H-PILES:

Steel H-Piles shall conform to AASHTO M 270, Grade 36 or greater.

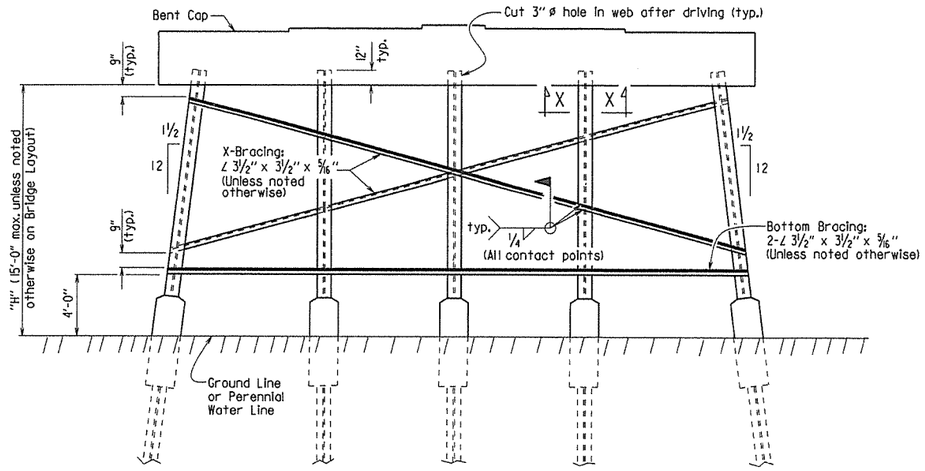
See Bridge Layout and Bent Details for pile size, estimated length, spacing, pile anchorage (if required) and for driving information.

Steel H-Piles that extend above the ground and are not protected by pile encasement shall be painted in accordance with Subsection 805.02.

Brackets, lugs, cap plates, pile tips, driving points, pile painting, splicing and welding shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".



VIEW X-X



Notes:
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.

Unless noted otherwise, omit X-Bracing when "H" is less than 8 feet.

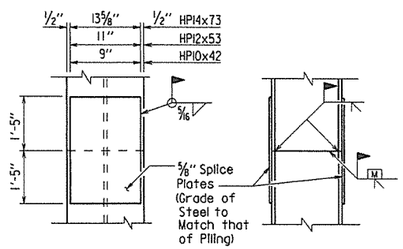
Omit X-Bracing and Bottom Bracing when "H" is 5 feet or less.

When required on the Bridge Layout sheet, pile encasements shall be constructed. See Notes and Details for H-Pile Encasements.

Omit all bracing (and V-groove in cap) when pile encasement is extended to bottom of bent cap.

TYPICAL DETAILS OF H-PILE TRESTLE INTERMEDIATE BENT

(Shown with Partial Height Encasement)

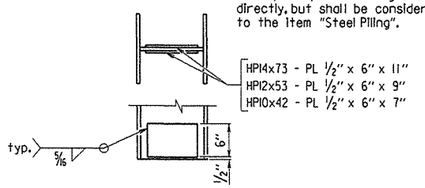


Note:
The Contractor may for his own convenience and at his own expense provide as many as three splices per pile. Minimum spacing between splices shall be 5 feet.

TYPICAL SPLICE DETAILS

Notes:
Steel pile tip reinforcing not required when approved H-Pile driving points are used.

Steel pile tip reinforcing shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".



REINFORCING DETAIL FOR STEEL H-PILE TIP

GENERAL NOTES FOR H-PILE ENCASEMENTS:

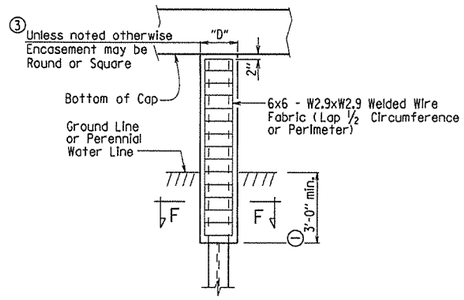
See Bridge Layout for additional notes and required location of pile encasements.

All concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

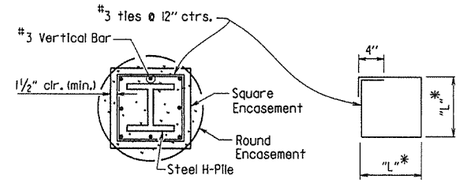
Welded Wire Fabric shall conform to AASHTO M 55 or M 221. Galvanized Corrugated Steel Pipe shall conform to AASHTO M 36 and M 218.

Concrete, welded wire fabric or reinforcing steel and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".



PILE ENCASEMENT DETAIL FOR STEEL H-PILES

④ (Shown with Encasement to Bottom of Cap)

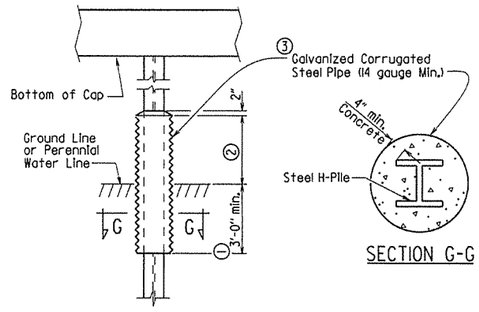


SECTION F-F

*Measured out-to-out of bar.

TABLE OF VARIABLES FOR PILE ENCASEMENT

Pile Size	"D" Square Encsmt.	"D" Round Encsmt.	"L"*
HP10x42	1'-7"	2'-0"	1'-4"
HP12x53	1'-8"	2'-2"	1'-5"
HP14x73	1'-11"	2'-6"	1'-8"



SECTION G-G

⑤ ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL H-PILES

(Shown with Partial Height Encasement)

① Unless otherwise noted on Bridge Layout.

② 3'-0" minimum or as shown on Bridge Layout.

③ Encasement dimensions shall be sized to maintain a minimum concrete cover of 4" from the H-Pile. Reinforcement shall be sized to provide a minimum concrete cover of 1½" and a minimum clearance of 1¼" from the pile.

④ Alternate pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the Partial Height Encasement detail.

⑤ Alternate pile encasement may not be allowed. See Bridge Layout.

This document was originally issued and sealed by Carl J. Fuselier, PE No. 7510, on February 27, 2014. This copy is not a signed and sealed document.

STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 7510 CARL J. FUSELIER

BRIDGE ENGINEER

STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASEMENTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

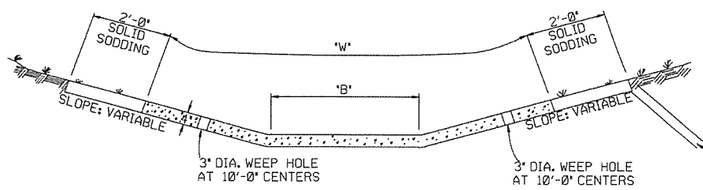
DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55020.dgn

CHECKED BY: B.E.F. DATE: 2/27/2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: —

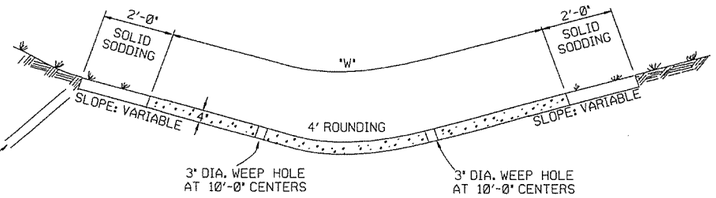
DRAWING NO. 55020

REFER TO TABULATION OF QUANTITIES
FOR 'W' & 'B' DIMENSIONS



TYPE A

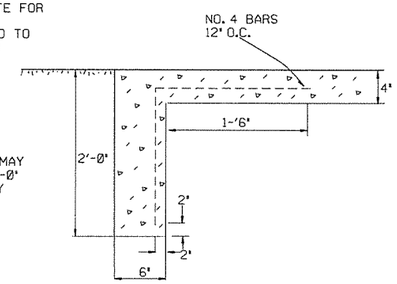
REFER TO TABULATION OF QUANTITIES
FOR 'W' DIMENSIONS



EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

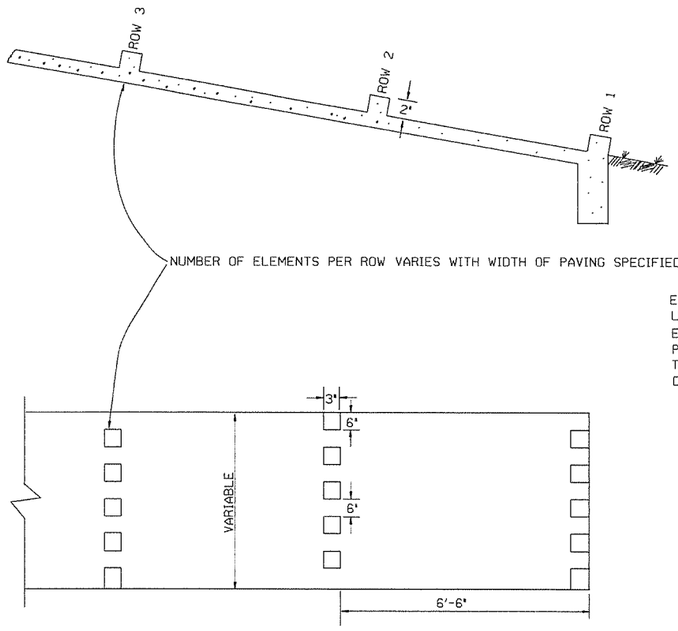
TYPE B

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



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

TOE WALL DETAIL FOR
CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

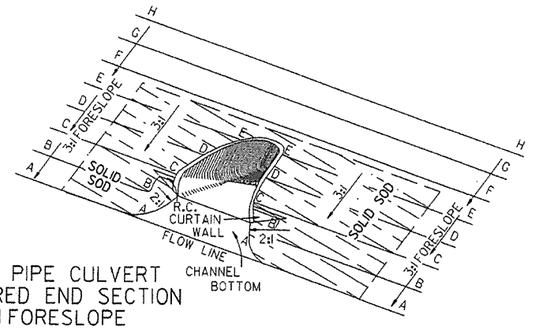
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

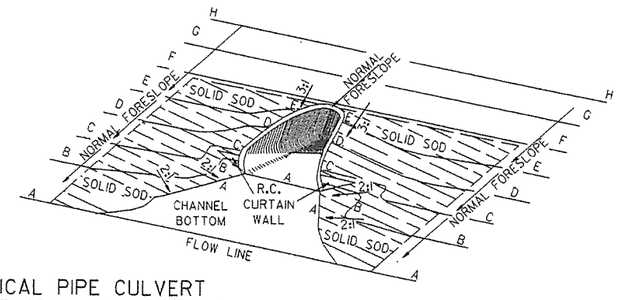
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

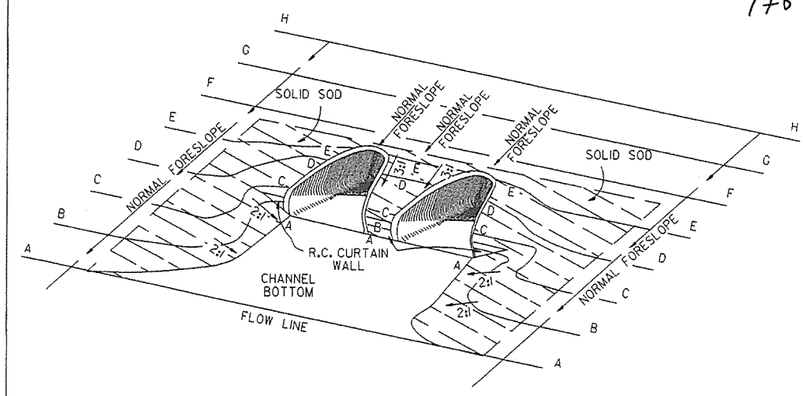
STANDARD DRAWING CDP-1



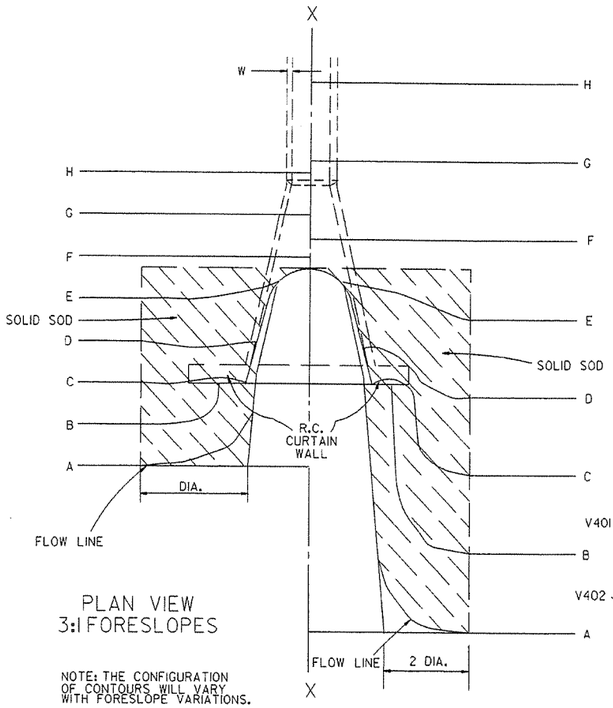
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

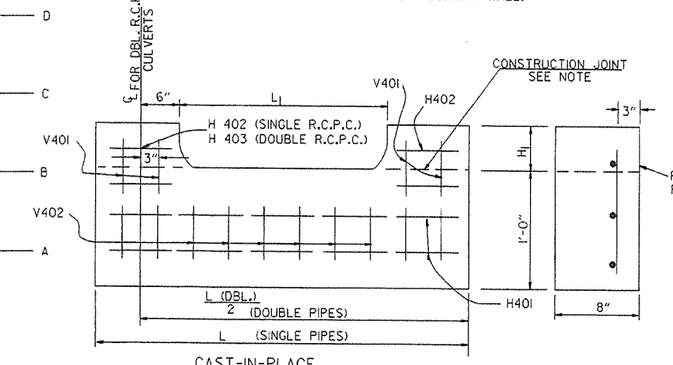
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

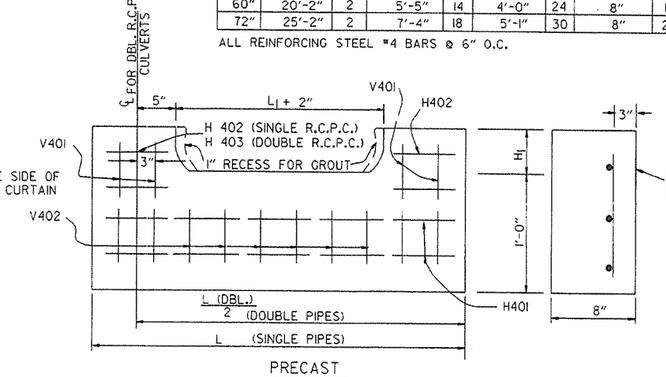
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45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

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



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

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

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

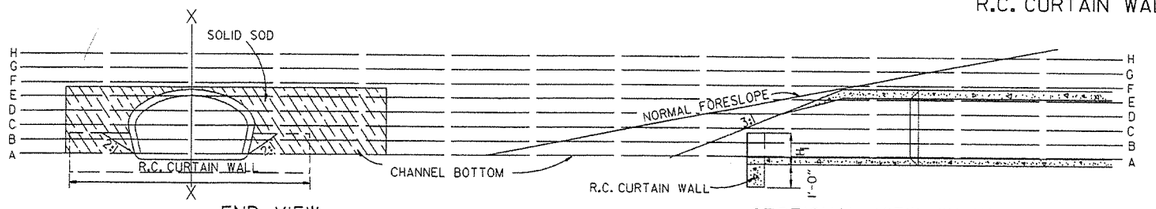
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

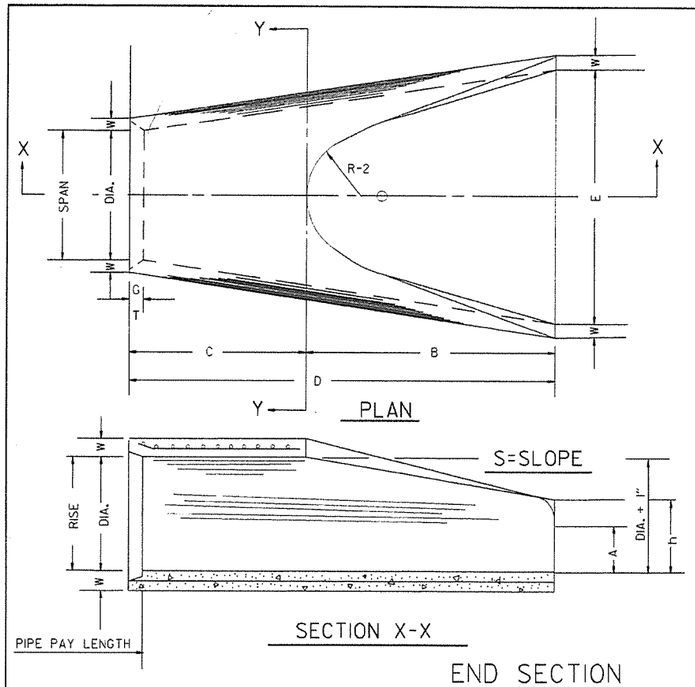
SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

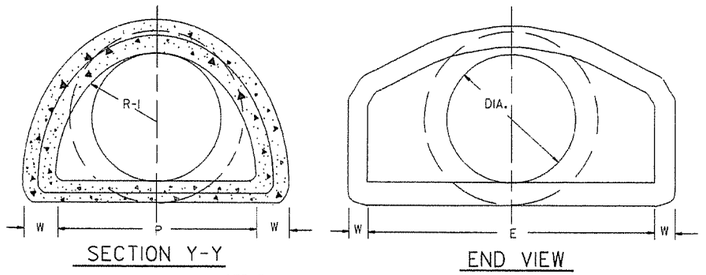
STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. ± 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 1/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/16"	38 15/16"	24"	5"	13250	4'-6"

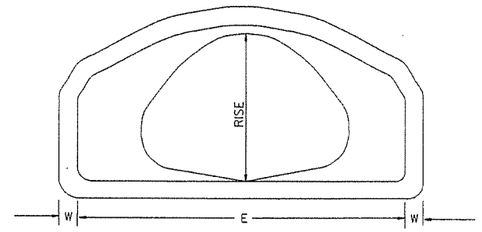


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

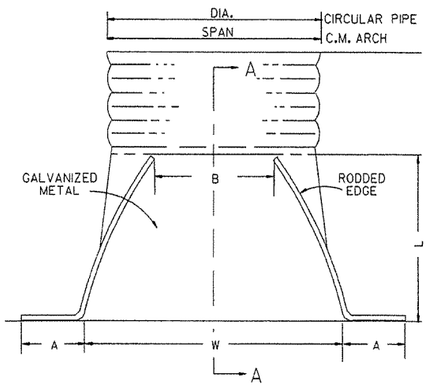
ARCH PIPE

EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 1/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/16"	24"	5"	2¼:1

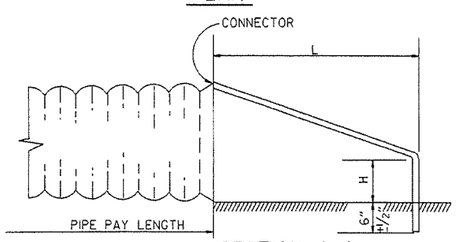
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW
CONCRETE ARCH PIPE

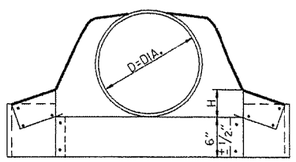


PLAN

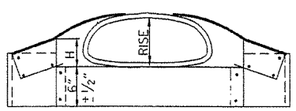


SECTION A-A

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



CIRCULAR PIPE



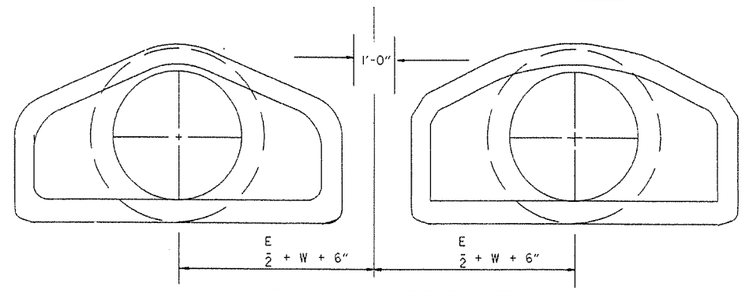
C.M. ARCH PIPE

CIRCULAR PIPE

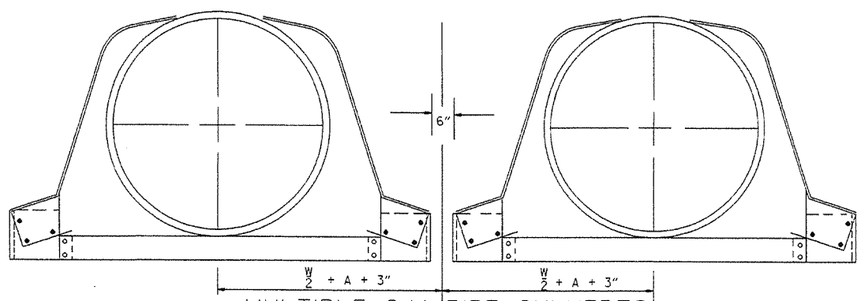
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

C.M. ARCH PIPE

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



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

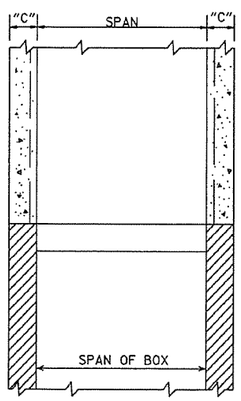
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74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

ARKANSAS STATE HIGHWAY COMMISION

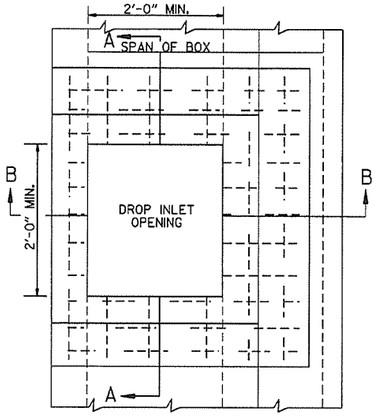
FLARED END SECTION

STANDARD DRAWING FES-2

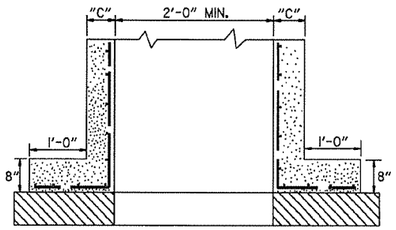
stdfes2.dgn



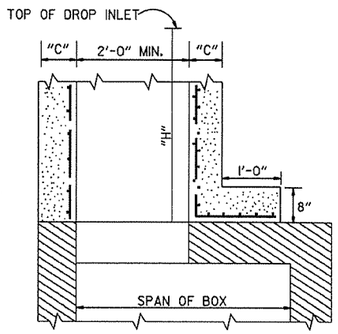
SECTION B-B



PLAN

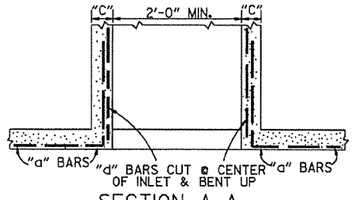


SECTION A-A

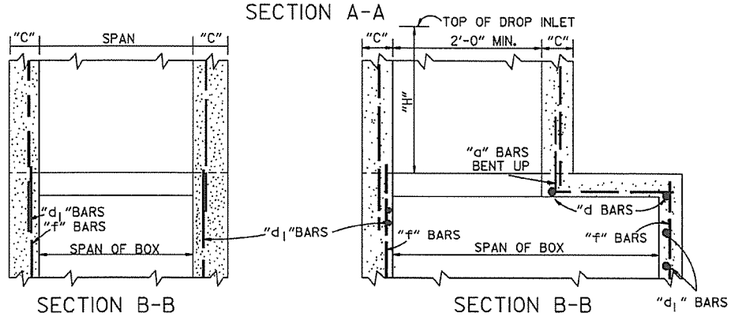


SECTION B-B

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



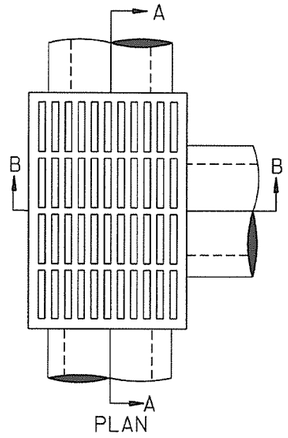
SECTION A-A



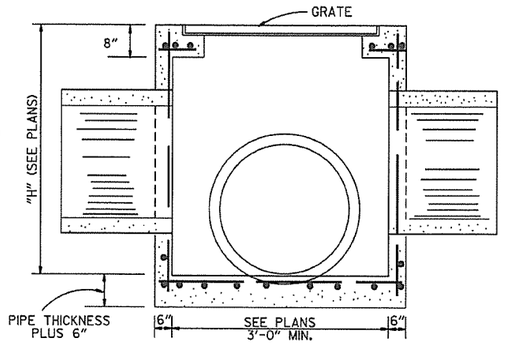
SECTION B-B SECTION B-B

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

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

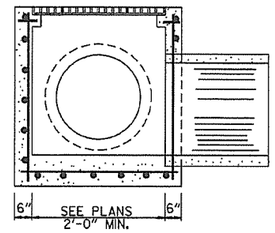


PLAN



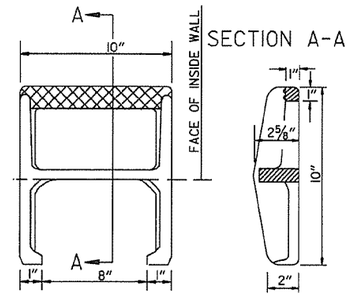
SECTION A-A

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



SECTION B-B

DROP INLET (TYPE E)



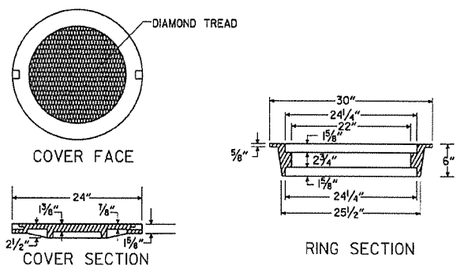
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

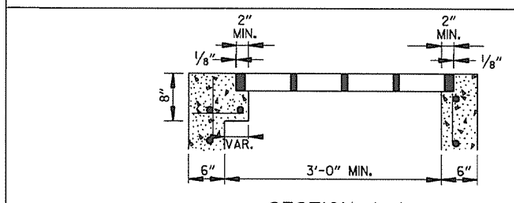
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

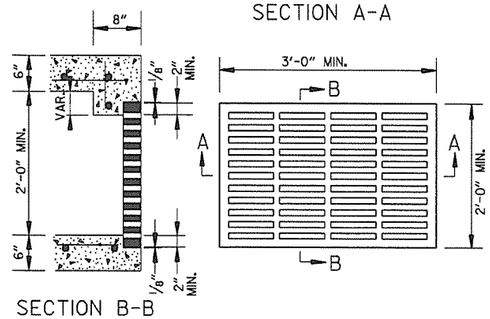


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



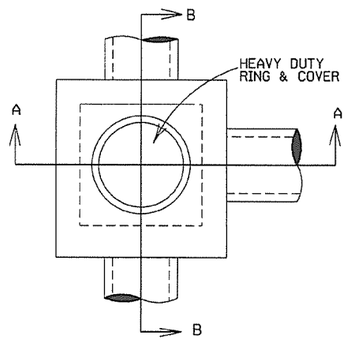
SECTION A-A



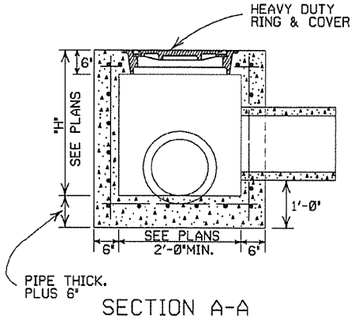
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

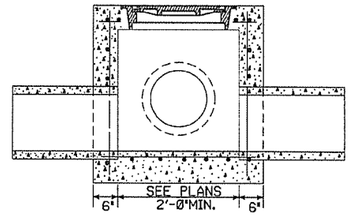


PLAN



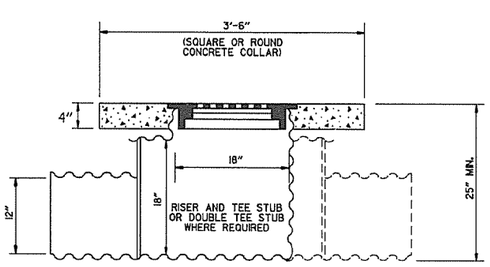
SECTION A-A

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

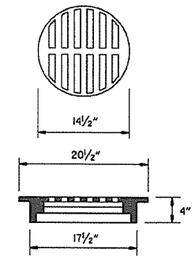


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

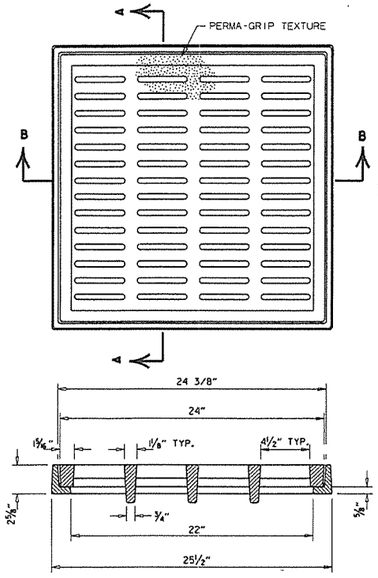
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS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

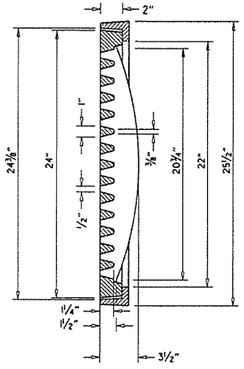
DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9





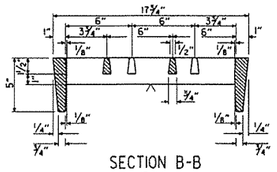
SECTION A-A

SECTION B-B

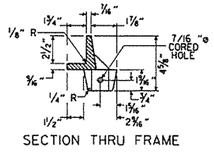
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

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

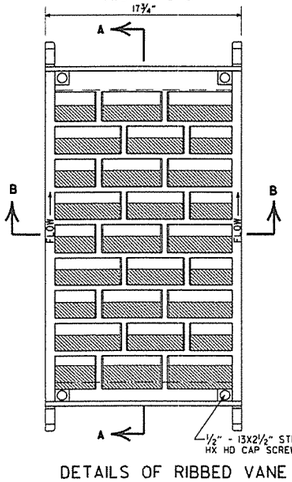
DETAILS OF PEDESTRIAN GRATE AND FRAME

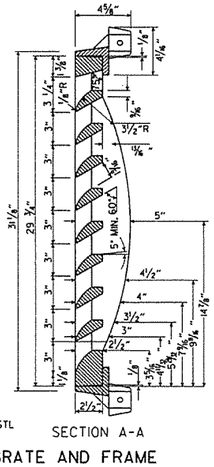


SECTION B-B



SECTION THRU FRAME



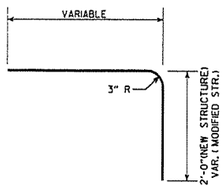


SECTION A-A

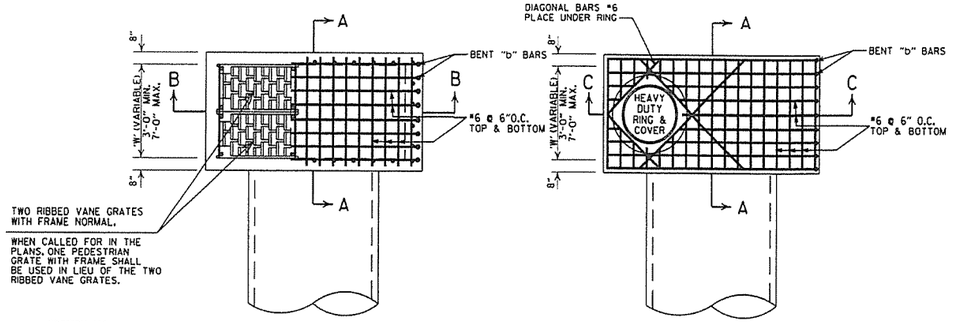
DETAILS OF RIBBED VANE GRATE AND FRAME

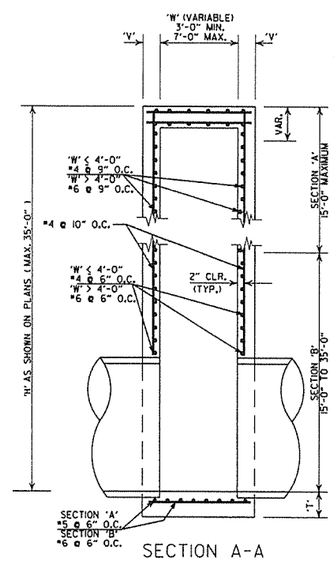
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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.

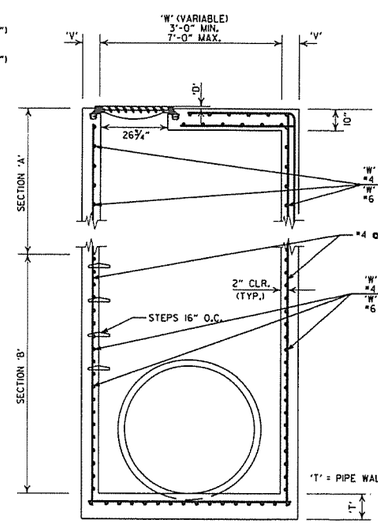


DETAIL OF BENT "b" BAR

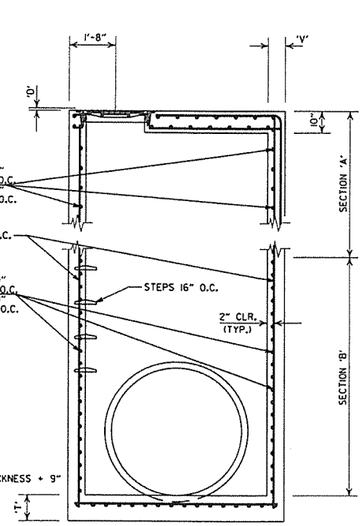




SECTION A-A

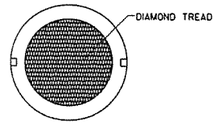


SECTION B-B

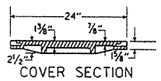


SECTION C-C

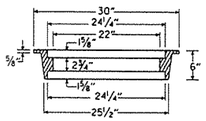
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

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

GENERAL NOTES (HEAVY DUTY RING & COVER):

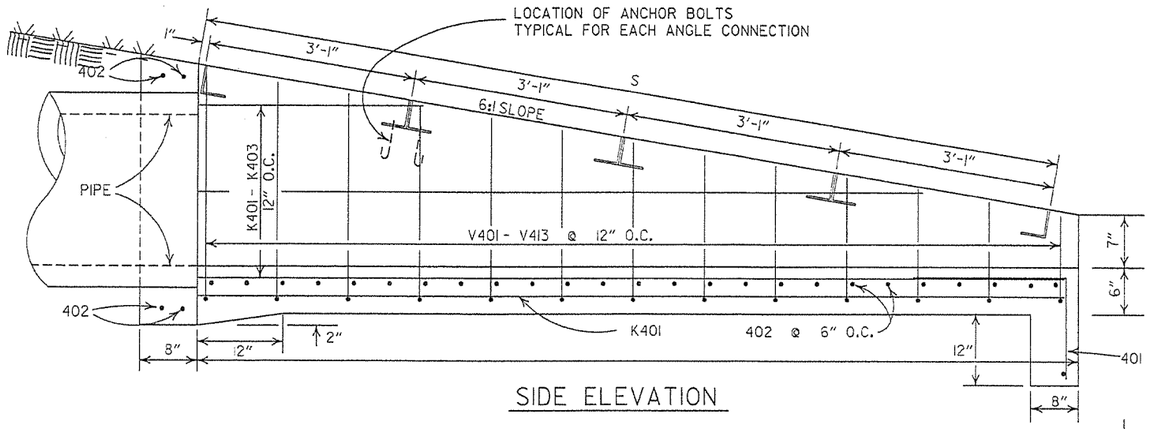
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE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

DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

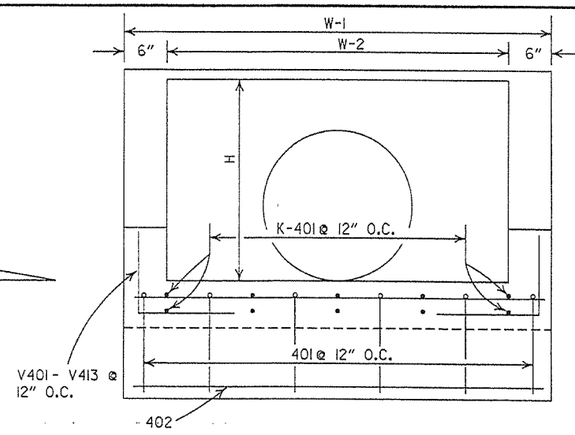
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

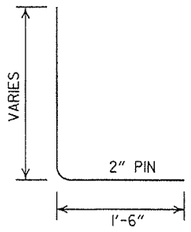
STANDARD DRAWING FPC-9S



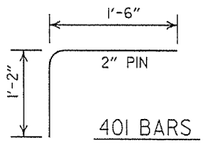
SIDE ELEVATION



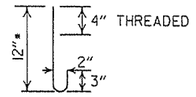
END ELEVATION



V BARS



401 BARS



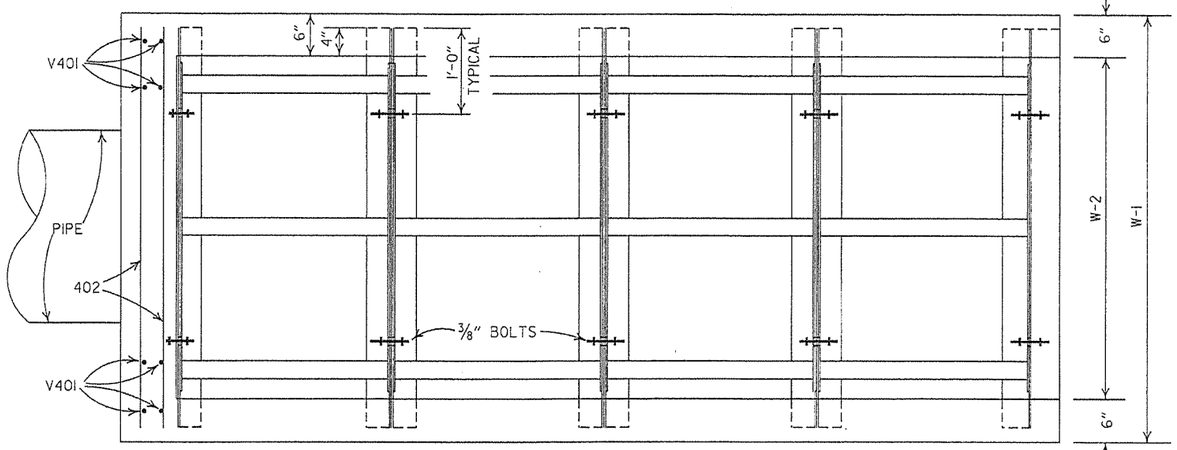
(TWO BOLTS PER ANGLE)

ANCHOR BOLTS

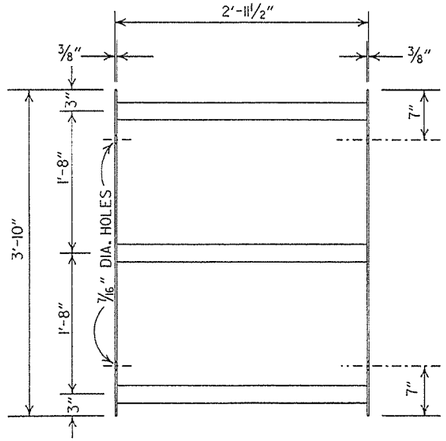
BENDING DIAGRAM

(DIMENSIONS ARE OUTSIDE TO OUTSIDE)

* NOTE: USE 5" ANCHOR BOLTS ON FIRST ANGLE ON LOW END ONLY. BOLTS EMBEDDED IN CONCRETE NEED NOT BE GALVANIZED.

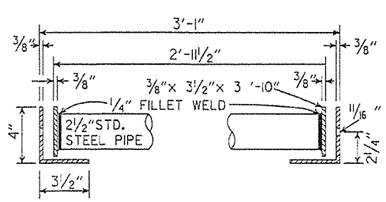


PLAN



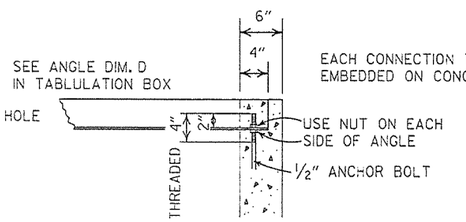
STANDARD GRATE PANEL

NOTE: 2½" STANDARD STEEL PIPE TO BE VENTED FOR GALVANIZING.



TYPICAL SECTION

FURNISH WASHERS WITH BOLTS



DETAIL OF ANGLE CONNECTION

QUANTITIES & DIMENSIONS - ONE GRATE COMPLETE

PIPE DIA.	W - 1	W - 2	L	S	H	PANEL SIZE	NUMBER OF PANELS	ANGLE DIMEN. D	APPROX. CONC. QUANT. CU. YDS.
24"	5'-0"	4'-0"	12'-6"	12'-8"	2'-8"	2'-11½"x 3'-10"	4	4" x 3½" x⅜"	2.35
30"	5'-0"	4'-0"	15'-6"	15'-8½"	3'-2"	2'-11½"x 3'-10"	5	4" x 3½" x⅜"	3.09
18"	5'-0"	4'-0"	9'-6"	9'-7½"	2'-2"	2'-11½"x 3'-10"	3	4" x 3½" x⅜"	1.77

BAR LISTS - ONE HEADWALL

24" PIPE

MRK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	30
K401	12'-2"	10
K402	10'-3"	2
K403	4'-3"	2
V401	4'-5"	10
V402	4'-1"	2
V403	3'-11"	2
V404	3'-9"	2
V405	3'-7"	2
V406	3'-5"	2
V407	3'-3"	2
V408	3'-1"	2
V409	2'-11"	2
V410	2'-9"	2
V411	2'-7"	2
V412	2'-5"	2
V413	2'-3"	2

30" PIPE

MRK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	36
K401	15'-2"	10
K402	13'-3"	2
K403	7'-3"	2
K404	1'-3"	2
V401	4'-11"	10
V402	4'-7"	2
V403	4'-5"	2
V404	4'-3"	2
V405	4'-1"	2
V406	3'-11"	2
V407	3'-9"	2
V408	3'-7"	2
V409	3'-5"	2
V410	3'-3"	2
V411	3'-1"	
V412	2'-11"	
V413	2'-9"	
V414	2'-7"	
V415	2'-5"	
V416	2'-3"	

18" PIPE

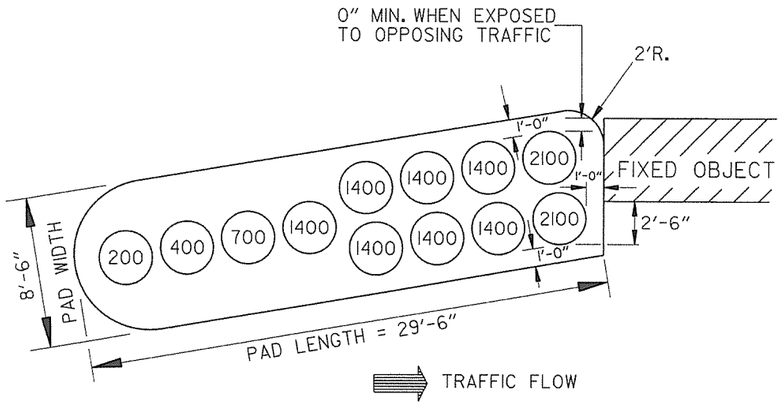
MARK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	24
K401	9'-2"	10
K402	7'-3"	2
K403	1'-3"	2
V401	3'-11"	10
V402	3'-7"	2
V403	3'-5"	2
V404	3'-3"	2
V405	3'-1"	2
V406	2'-11"	2
V407	2'-9"	2
V408	2'-7"	2
V409	2'-5"	2
V410	2'-3"	2

DATE	REVISION	DATE FILMED
8-15-91	REVISED GRATE PANEL	8-15-91
2-16-89	ADDED (TYPE I) TO TITLE	581-2-16-89
7-15-88	CHANGED TITLE	641-7-15-88
2-18-75	ADDED QTYS. & DIMENSIONS FOR 18" PIPE	985-2-18-75
10-2-72	REVISED & REDRAWN	761-10-2-72

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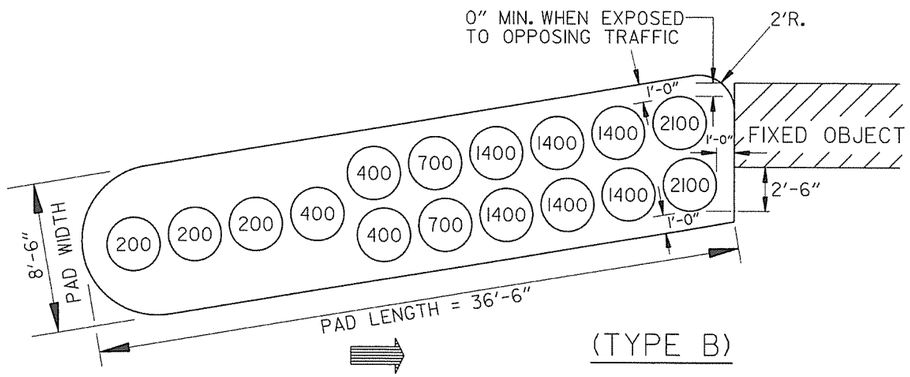
STEEL GRATE ASSEMBLY (TYPE I)

STANDARD DRAWING G-1



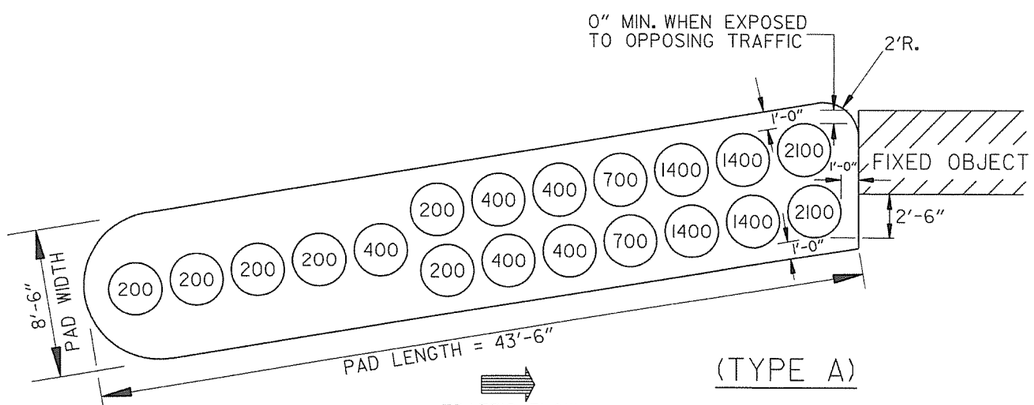
(TYPE C)

BARRIER LENGTH = 27'-6"
DESIGN IMPACT SPEED = 50 M.P.H.= 73.3 fps



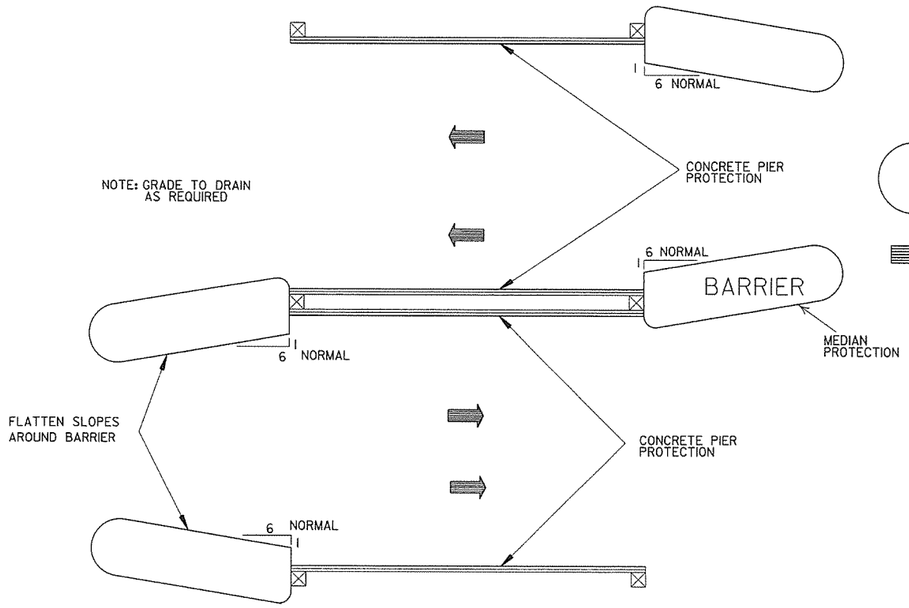
(TYPE B)

BARRIER LENGTH = 34'-6"
DESIGN IMPACT SPEED = 60 M.P.H.= 88 fps

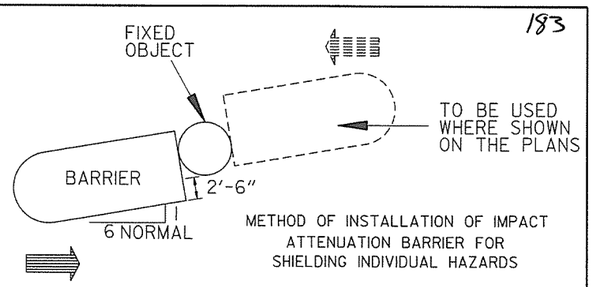


(TYPE A)

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

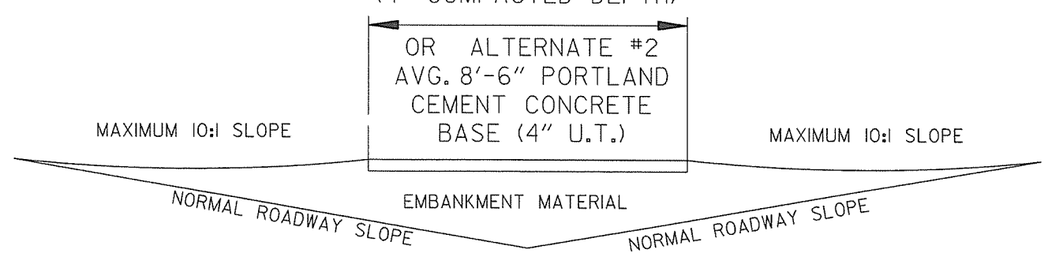
APPROXIMATE QUANTITIES PER PAD

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.

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).



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	96⅜	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

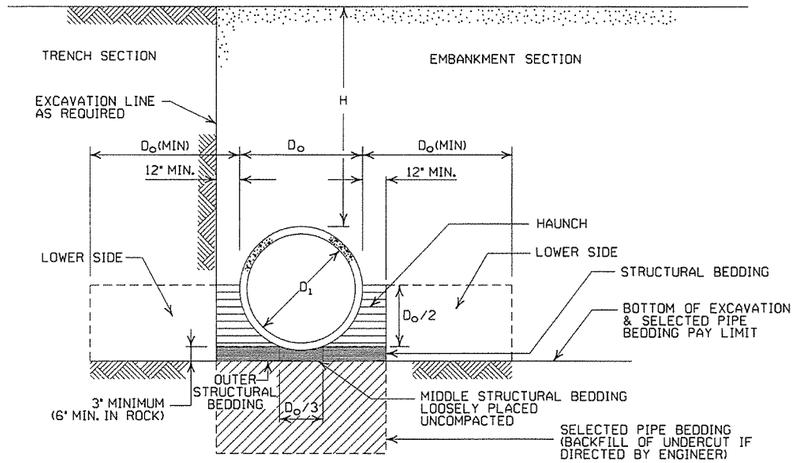
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT 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
2-27-14	REVISED GENERAL NOTE 1.	
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	

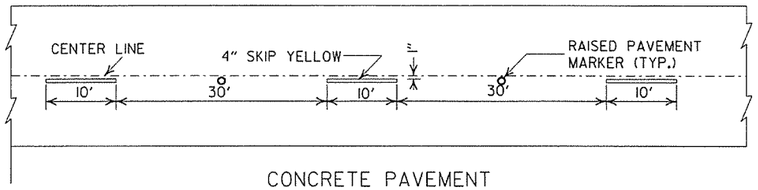
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

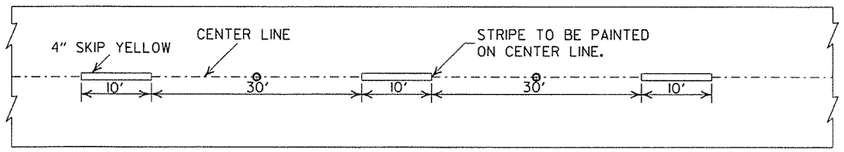
STANDARD DRAWING PCC-1

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.

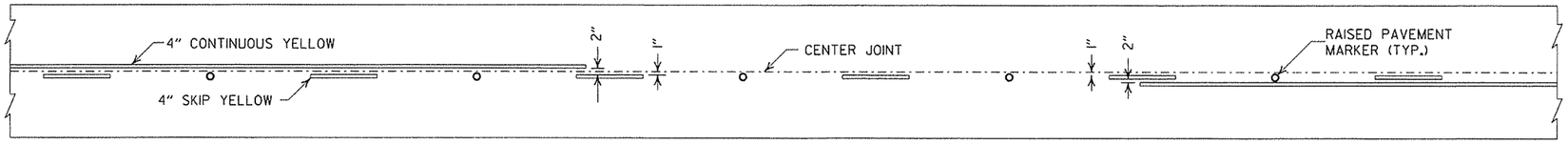


CONCRETE PAVEMENT

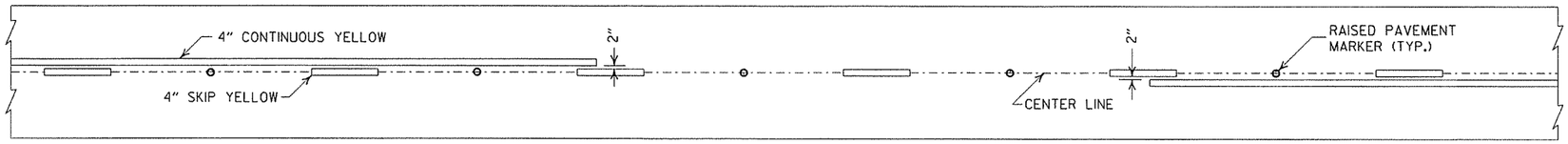


ASPHALT PAVEMENT

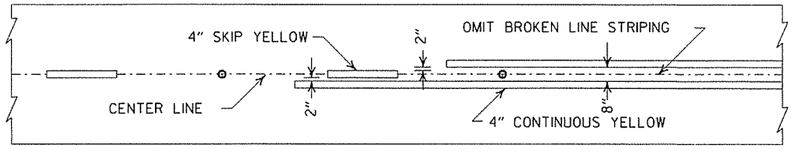
BROKEN LINE STRIPING



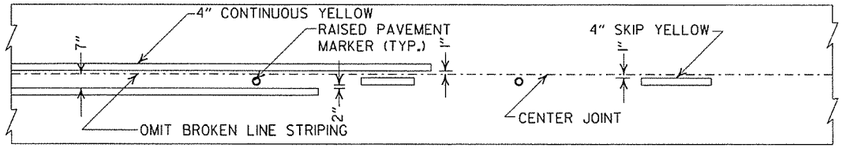
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT



CONCRETE PAVEMENT

GENERAL NOTES:

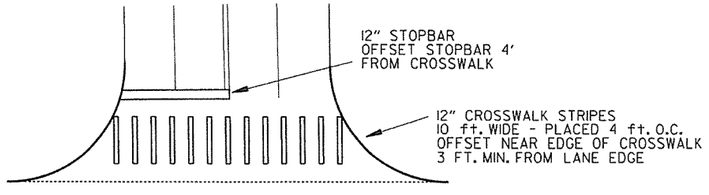
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

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

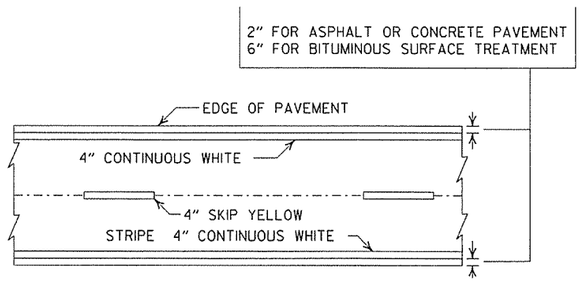
NOTE:

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.

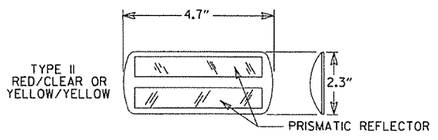
STRIPING AT ADJACENT NO PASSING LANES



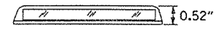
CROSSWALK AND STOPBAR DETAILS



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	I-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

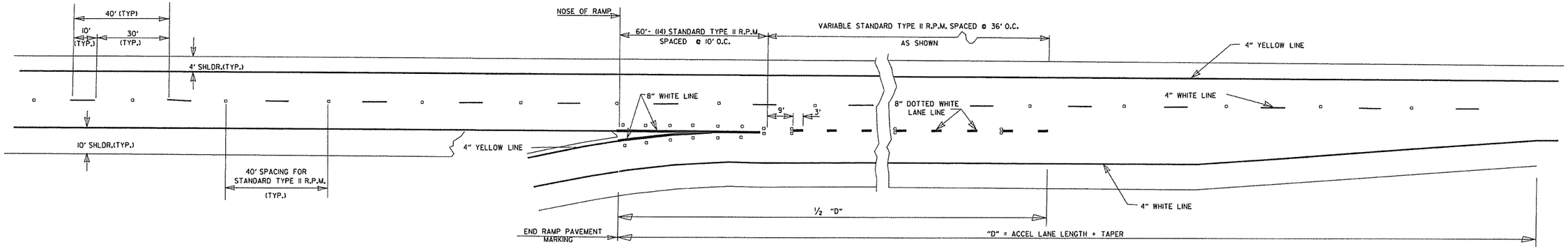
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

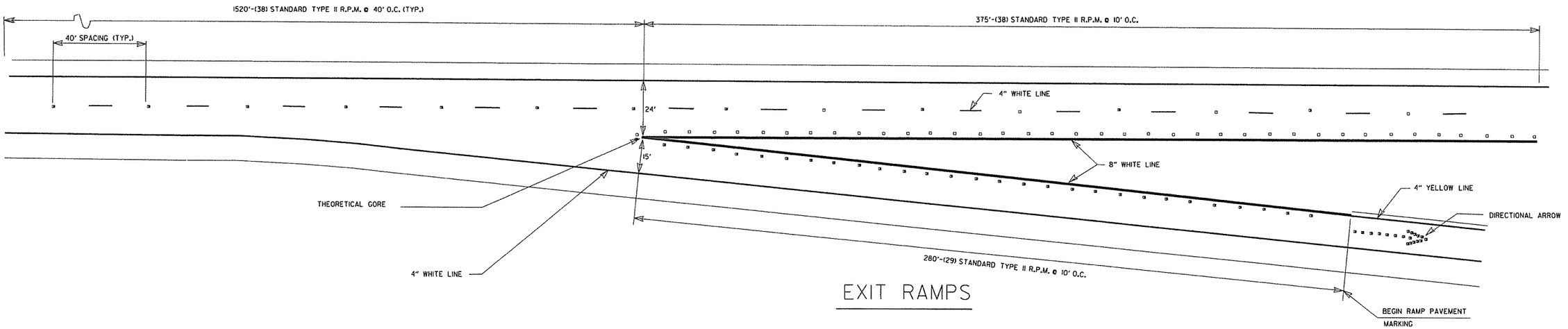
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

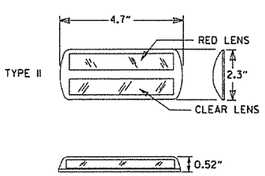
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

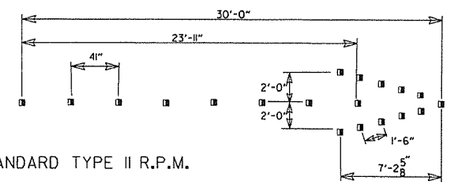


EXIT RAMPS



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

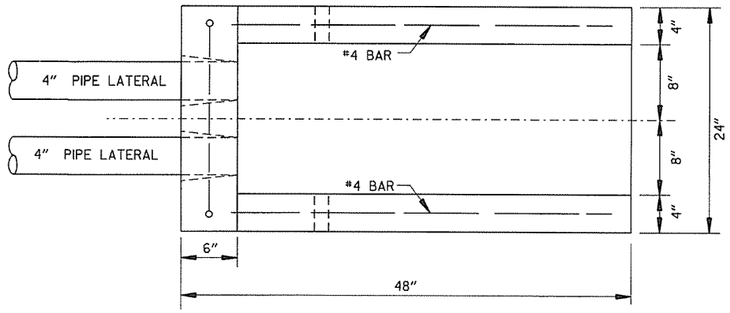
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

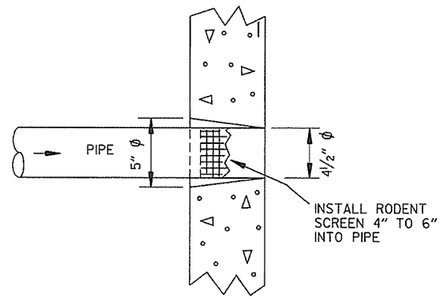
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

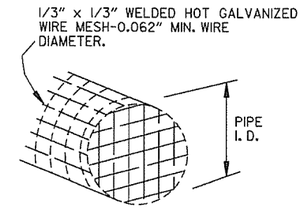
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



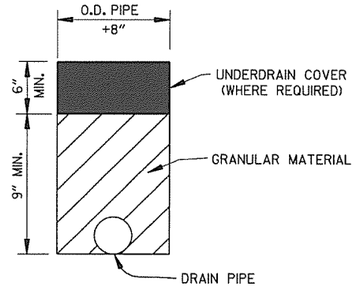
PLAN VIEW

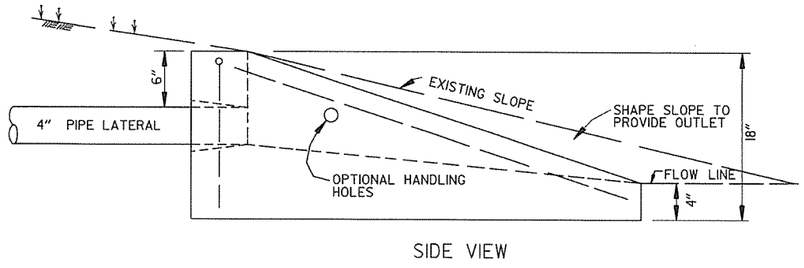


DETAIL OF HOLE FOR 4" PIPE

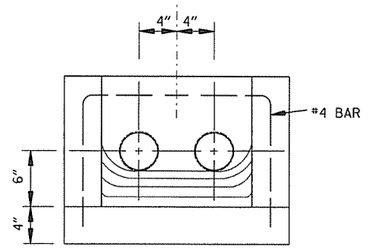


DETAIL OF RODENT SCREEN

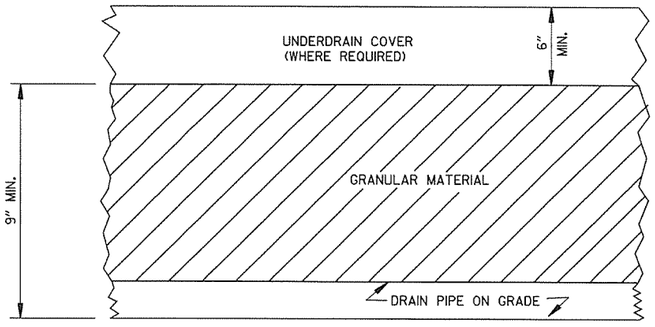




SIDE VIEW

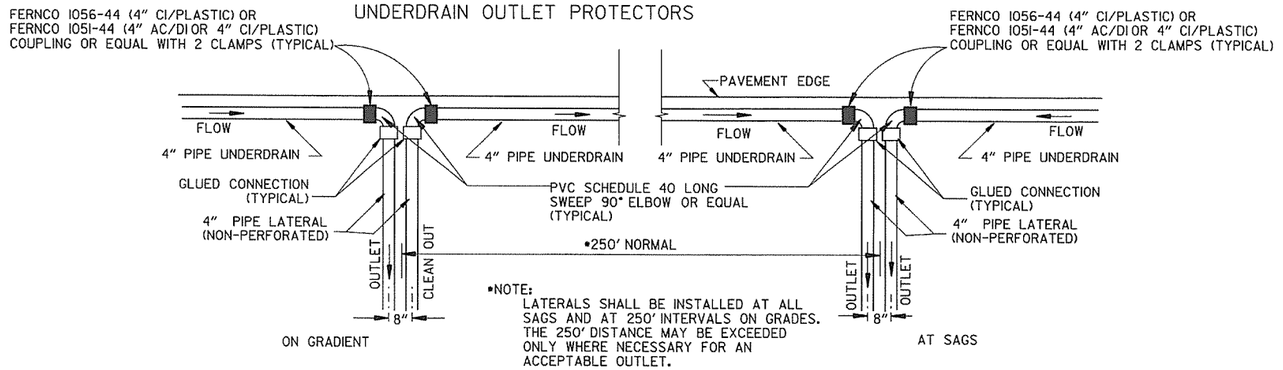


FRONT VIEW



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

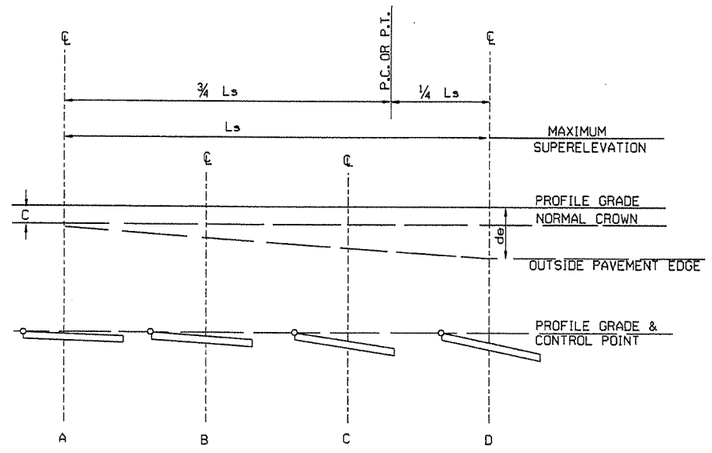
STANDARD DRAWING PU-1

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.			0.022			0.023			0.025			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.033			0.037		
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N.C.			0.021			0.031			0.037			0.043			0.048			0.054		
1° 45′	N.C.			0.025			0.036			0.043			0.049			0.055			0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.062			0.070		
2° 15′	R.C.			0.031			0.045			0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025	150		0.040	175		0.057	200		0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027			0.043			0.061			0.072	245		0.082	275		0.090	325		0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295		0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305		0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300										
6° 00′	0.046			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280		0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220		0.100	290													
8° 30′	0.061			0.087	225																
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
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 = $S = -\frac{L(de-C)}{Ls} - C$

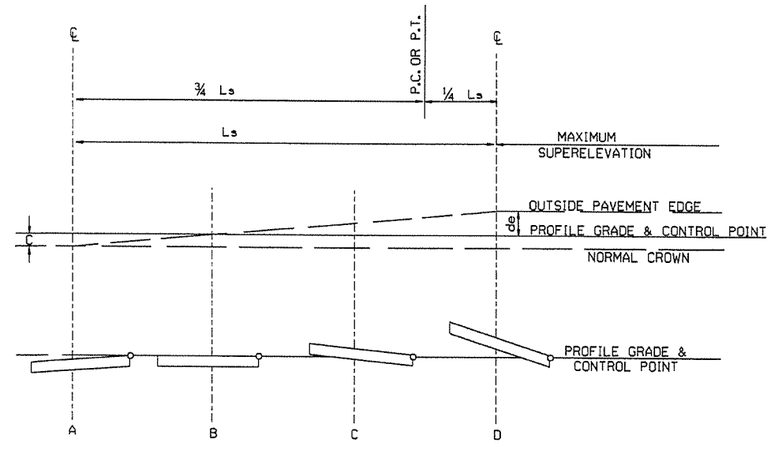
GENERAL NOTES

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%

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.)



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

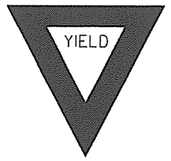
STANDARD DRAWING SE-1

R1-1



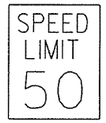
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



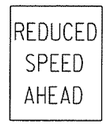
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

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



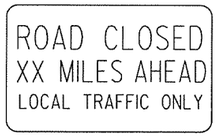
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



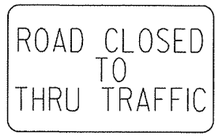
48"X30"

RII-3A



60"X30"

RII-4



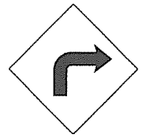
60"X30"

RSP-1



48"X30"

WI-1



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

WI-2



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

WI-3



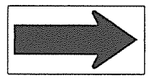
STD. 48"X48"

WI-4



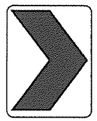
STD. 48"X48"

WI-6



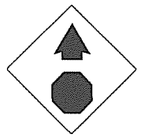
STD. 48"X24"
SPECIAL 60"X30"

WI-8



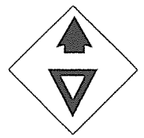
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



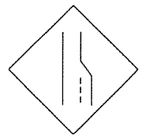
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



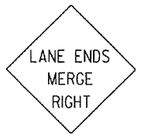
EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



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

W9-2



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

WI3-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



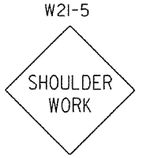
STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

WI-4b



STD. 48"X48"

R56-1



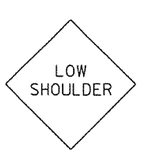
STD. 18"X18"

W8-11



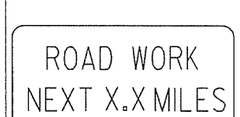
STD. 36"X36"
FWY. 48"X48"

W8-9



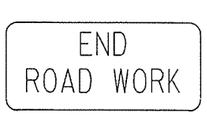
STD. 36"X36"
FWY. 48"X48"

G20-1



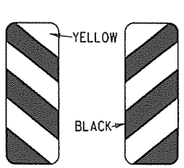
60"X24"

G20-2



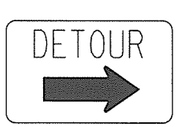
48"X24"

OM-3L OM-3R



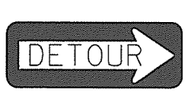
12"X36"

M4-9



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

M4-10



48"X18"

R55-1

FINES DOUBLE IN WORK ZONES *
WHEN WORKERS ARE PRESENT **

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

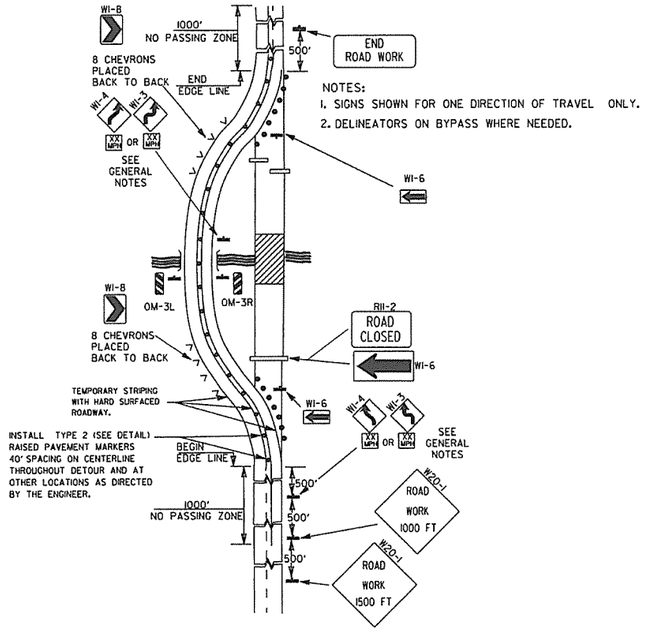
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

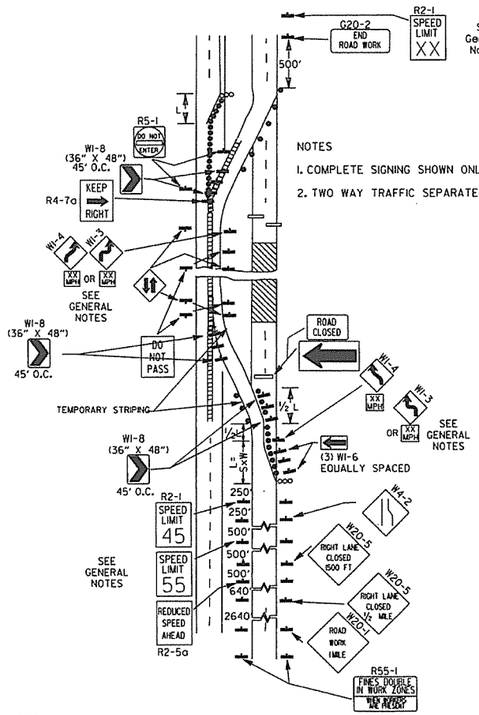
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



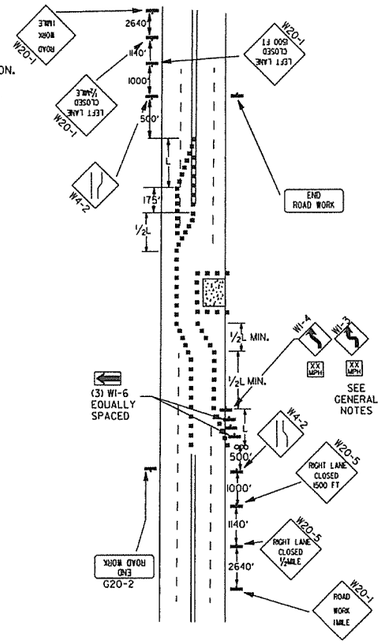
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

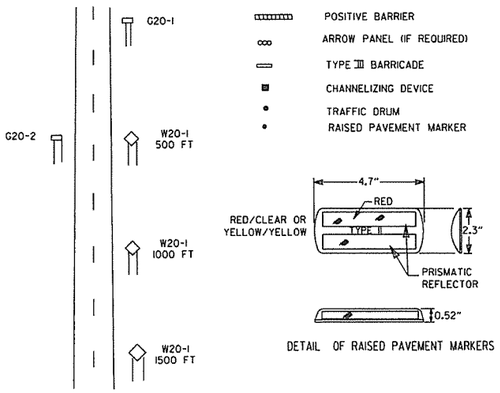


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

KEY:
- FLAGGER
- POSITIVE BARRIER
- ARROW PANEL (IF REQUIRED)
- TYPE III BARRICADE
- CHANNELIZING DEVICE
- TRAFFIC DRUM
- RAISED PAVEMENT MARKER

DETAIL OF RAISED PAVEMENT MARKERS

TAPER FORMULAE:

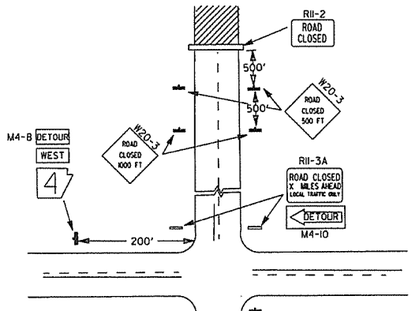
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L=\frac{WS^2}{60}$ 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.

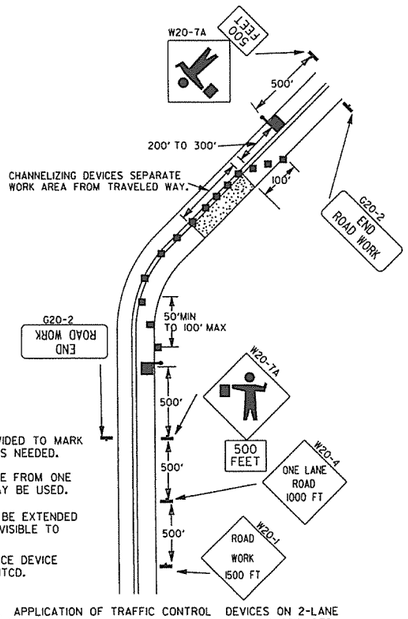
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(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 R2-155MPH 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.



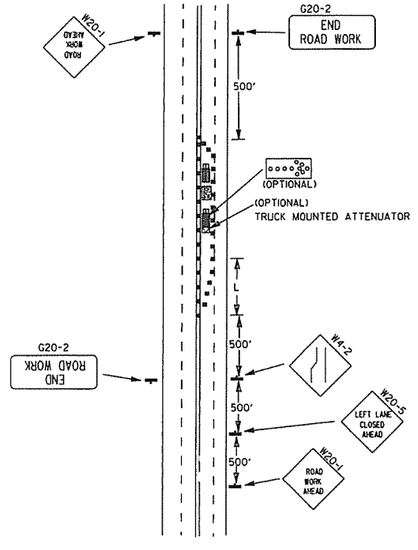
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



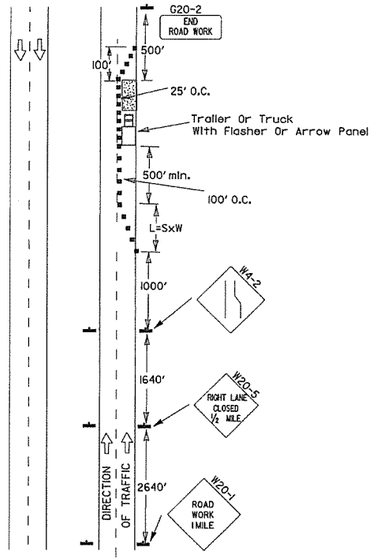
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
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 WI-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

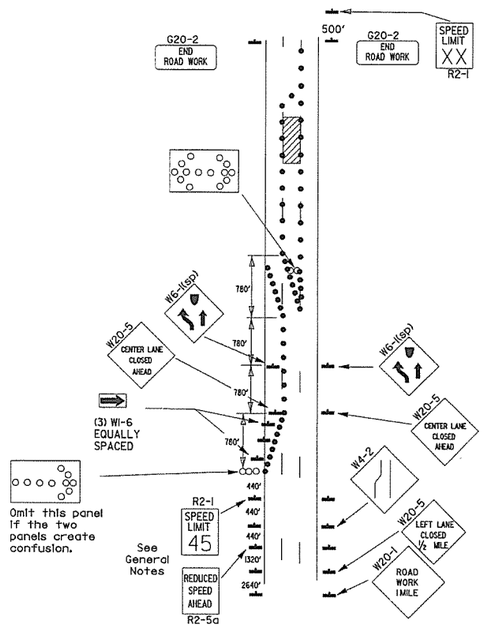
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

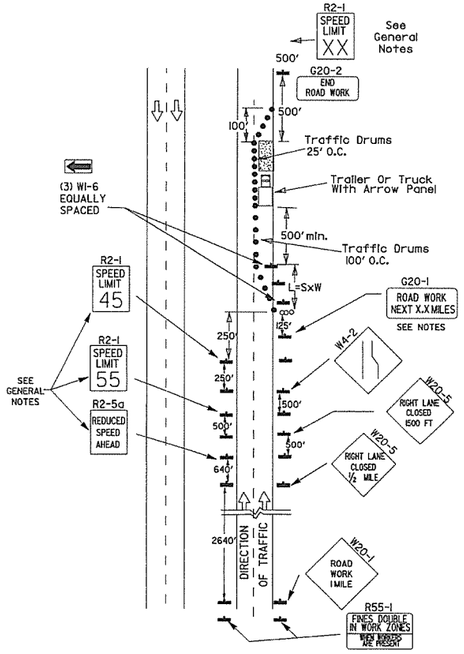
STANDARD DRAWING TC-2



(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.

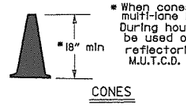
KEY:

- ○○○ Arrow Panel (If Required)
- ■ Channelizing Device
- ● Traffic drum

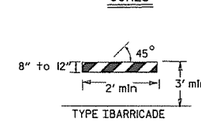
GENERAL NOTES:

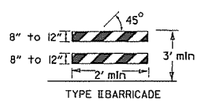
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional 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.

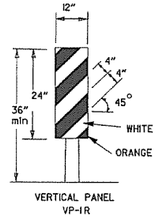
Channelizing devices

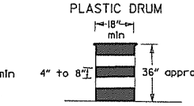


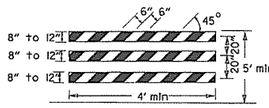
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



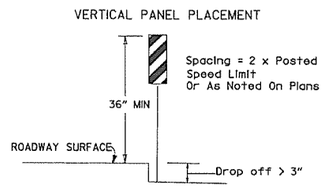








NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

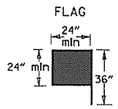


TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

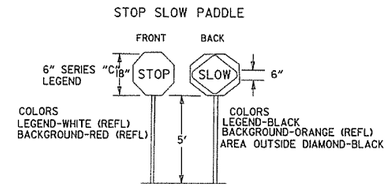
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

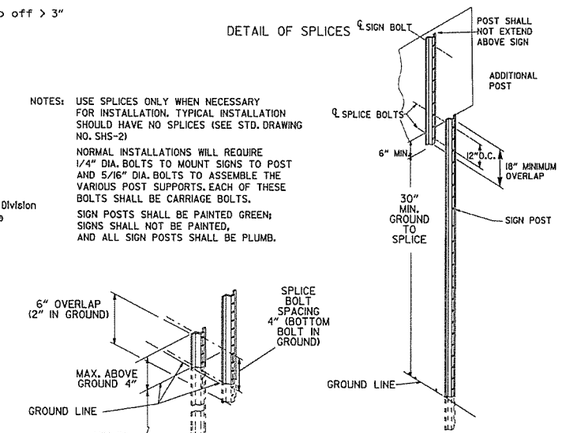
* When shown on the plans concrete barrier will be used.

When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



Flag shall be of good grade red material

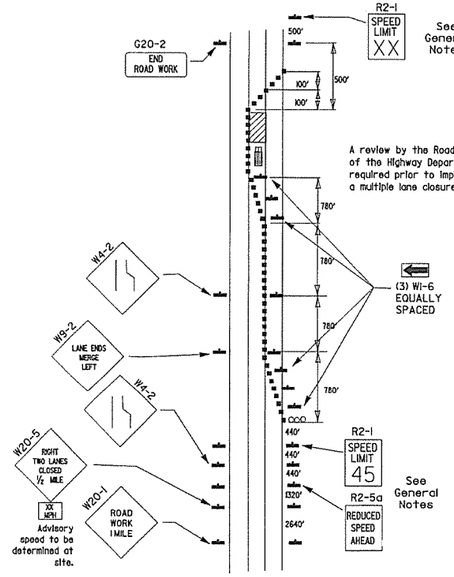




NOTES:
USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

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.



(D) Typical application - closing multiple lanes of a multilane highway.

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

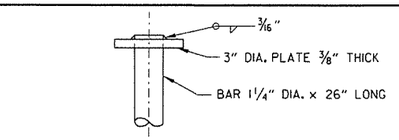
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

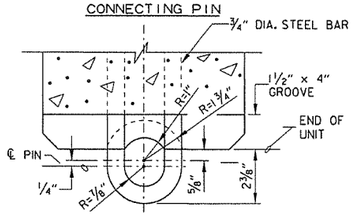
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

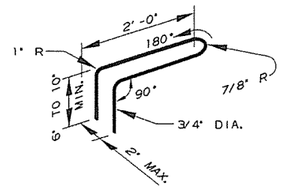


CONNECTING PIN

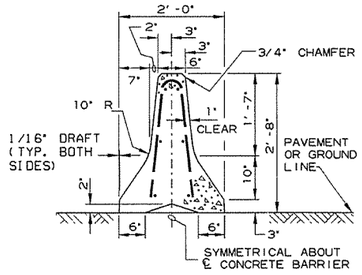


SECTION E-E

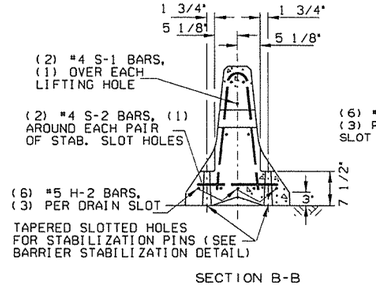
CONNECTION DETAILS



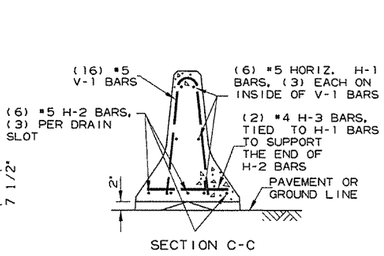
CONNECTION LOOP



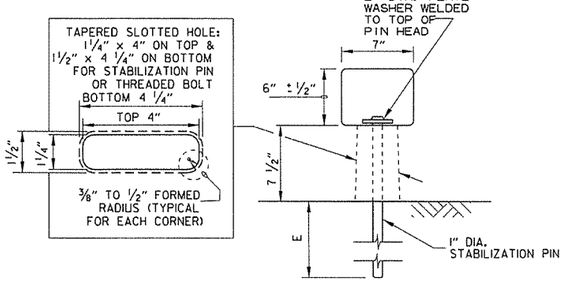
SECTION A-A



SECTION B-B



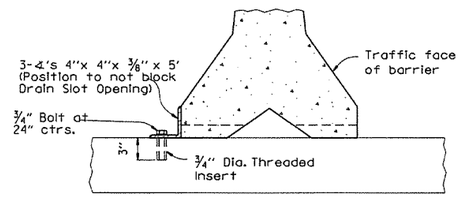
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

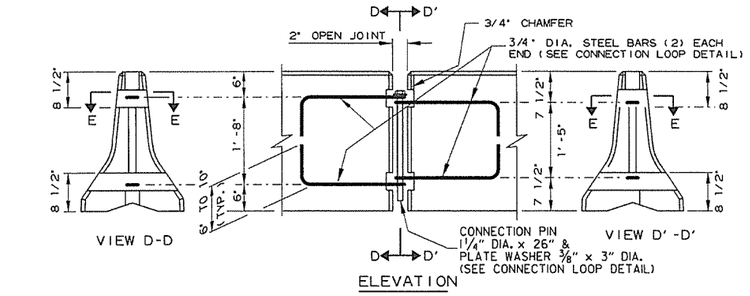
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

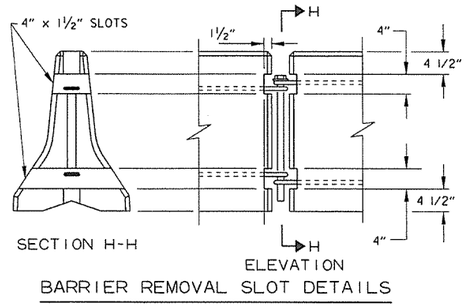
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

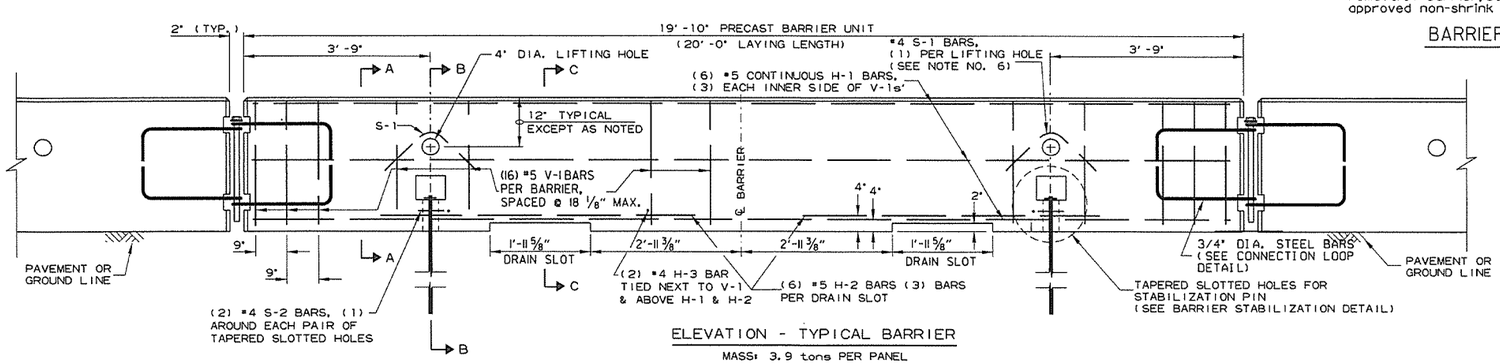
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

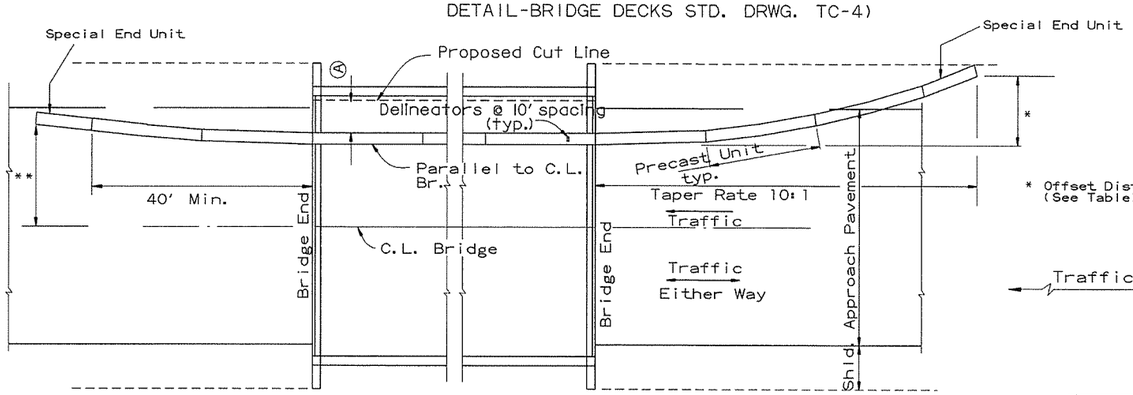
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

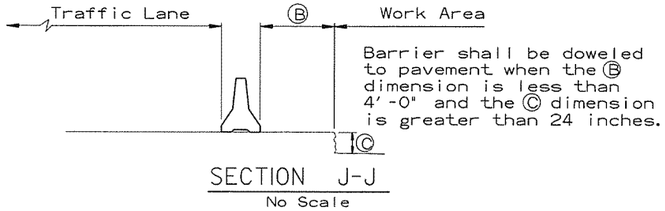
STANDARD DRAWING TC-4

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



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

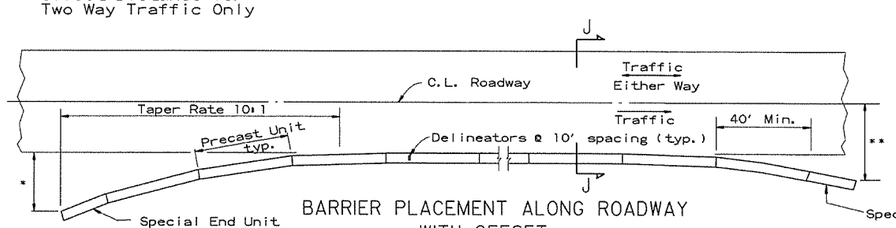


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

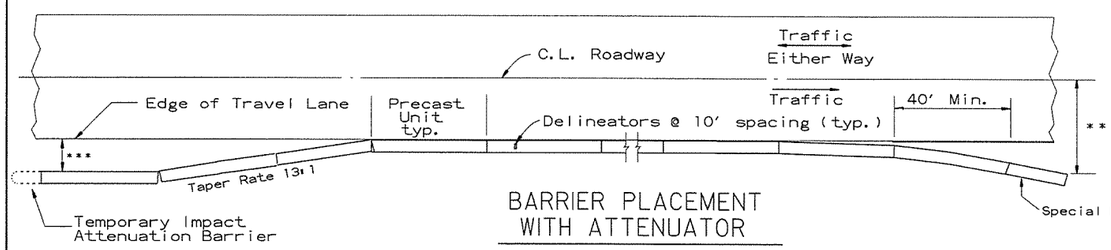
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

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

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

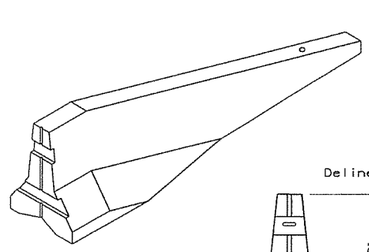


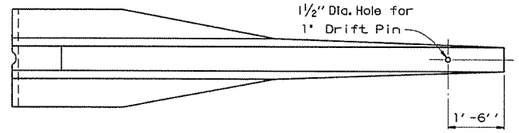
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only





SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

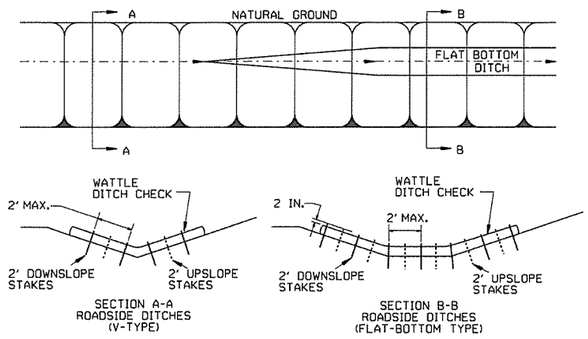
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

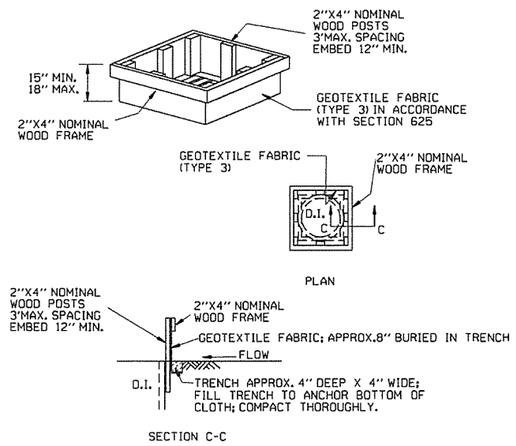
STANDARD DRAWING TC-5

GENERAL NOTES

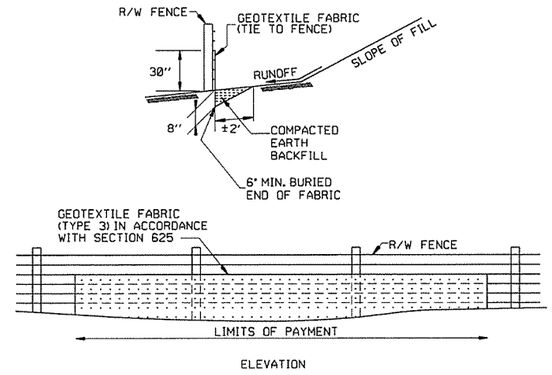
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

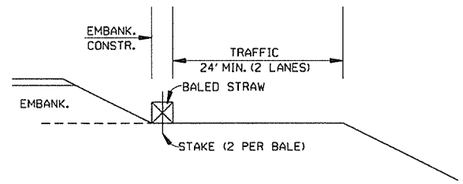
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

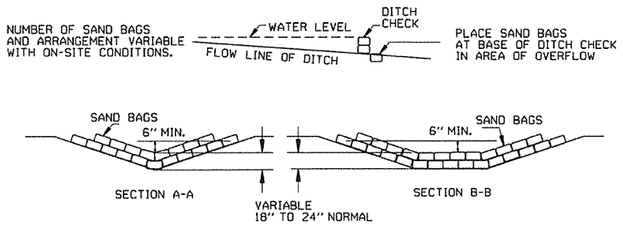
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

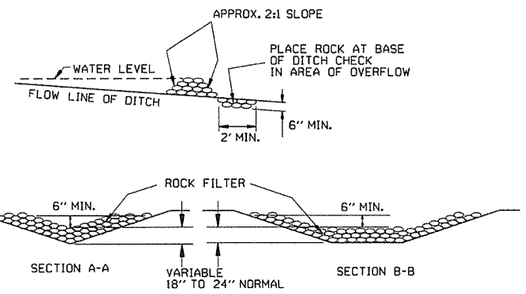
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



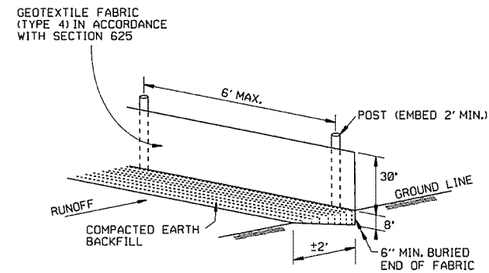
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

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

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

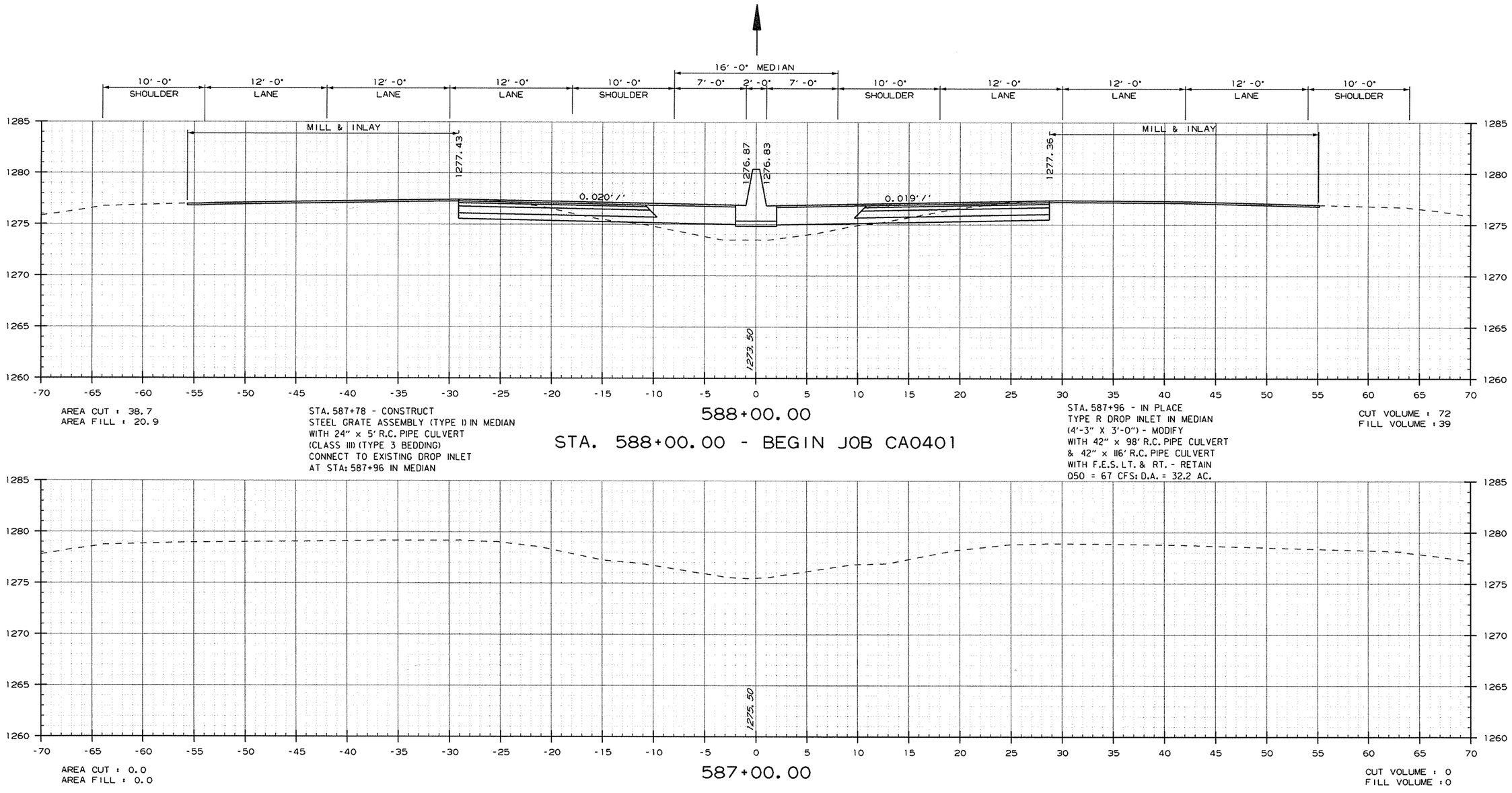
STANDARD DRAWING TEC-1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	195	338

(2) CROSS SECTIONS



AREA CUT : 38.7
AREA FILL : 20.9

STA. 587+78 - CONSTRUCT
STEEL GRATE ASSEMBLY (TYPE I) IN MEDIAN
WITH 24" x 5' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA: 587+96 IN MEDIAN

588+00.00

STA. 588+00.00 - BEGIN JOB CA0401

STA. 587+96 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-3" X 3'-0") - MODIFY
WITH 42" x 98' R.C. PIPE CULVERT
& 42" x 116' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT. - RETAIN
050 = 67 CFS: D.A. = 32.2 AC.

CUT VOLUME : 72
FILL VOLUME : 39

AREA CUT : 0.0
AREA FILL : 0.0

587+00.00

CUT VOLUME : 0
FILL VOLUME : 0

CROSS SECTION STA. 587+00 TO STA. 588+00

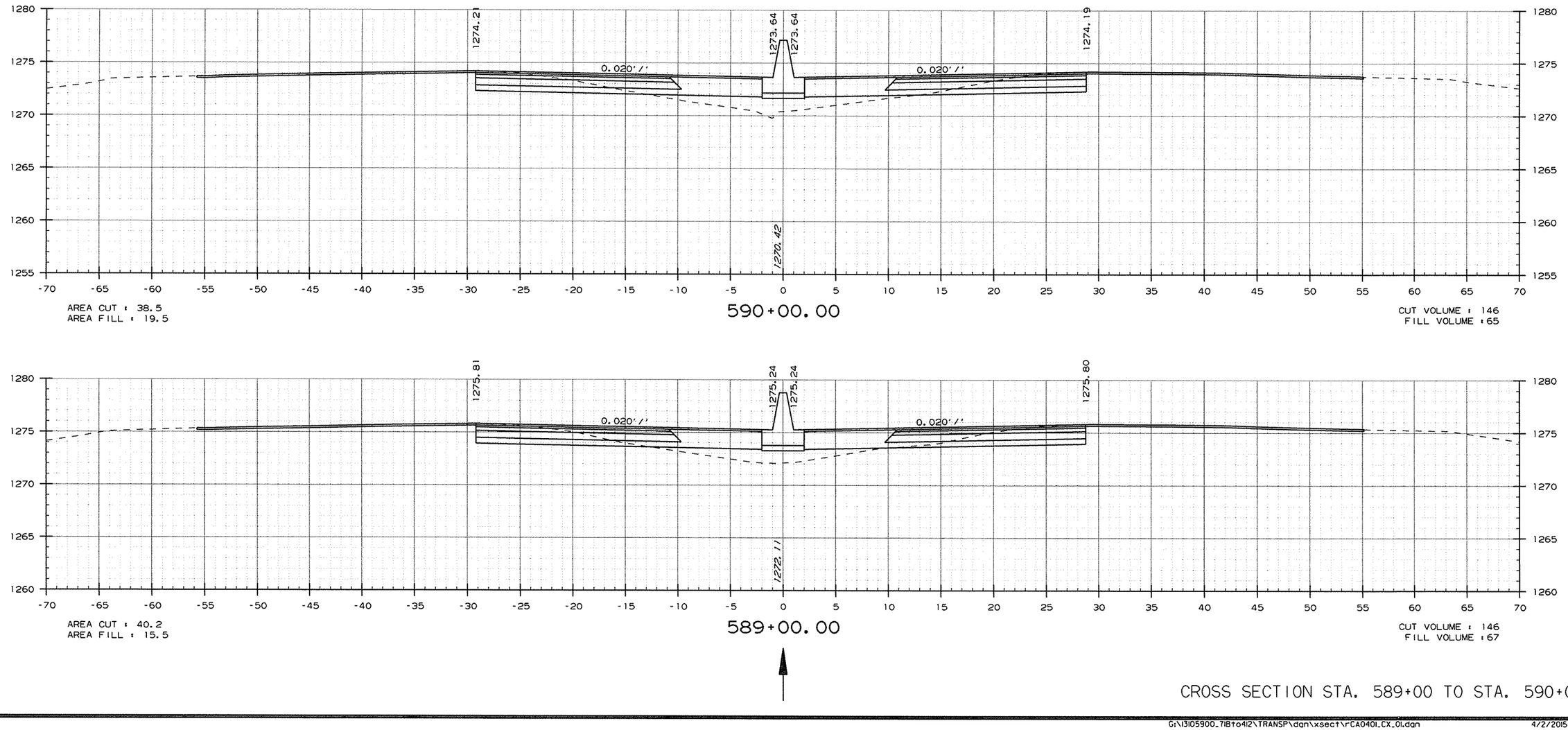
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PLOTTED: 4/2/2015 11:25
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	196	338

(2) CROSS SECTIONS



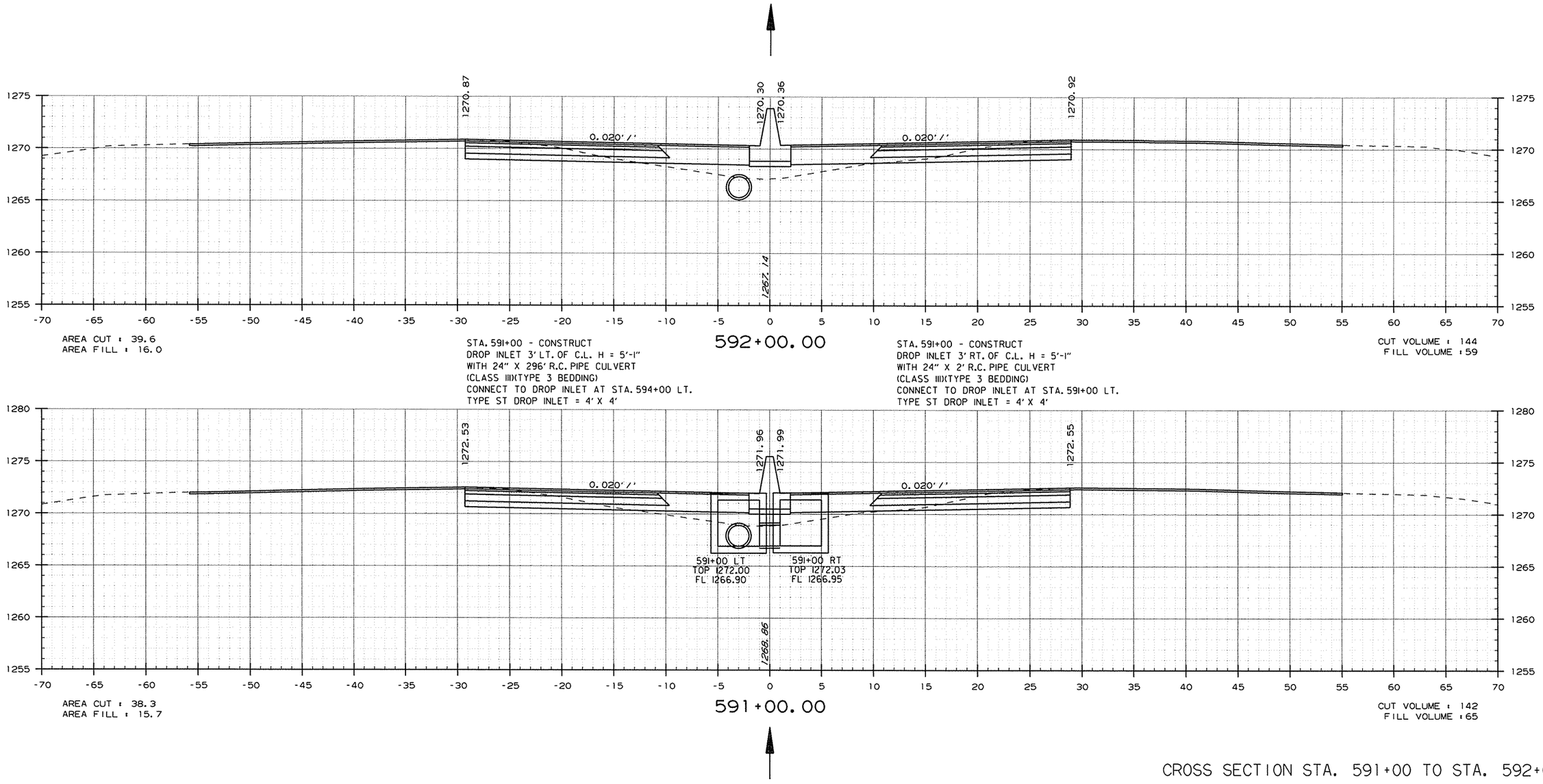
CROSS SECTION STA. 589+00 TO STA. 590+00

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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	197	338

2 CROSS SECTIONS



CROSS SECTION STA. 591+00 TO STA. 592+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
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Crafton, Tull & Associates Inc.

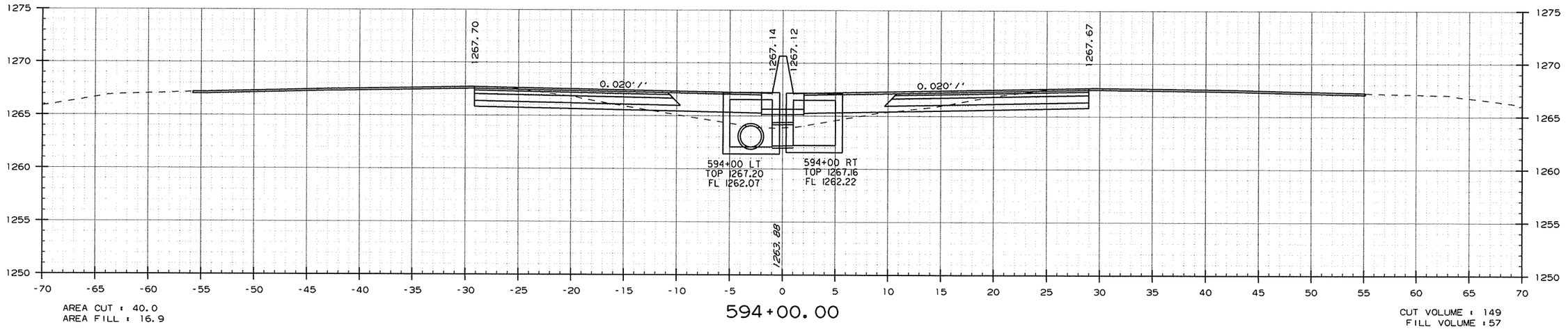
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	198	338

(2) CROSS SECTIONS

STA. 594+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 597+00 LT.
TYPE ST DROP INLET = 4' X 4'

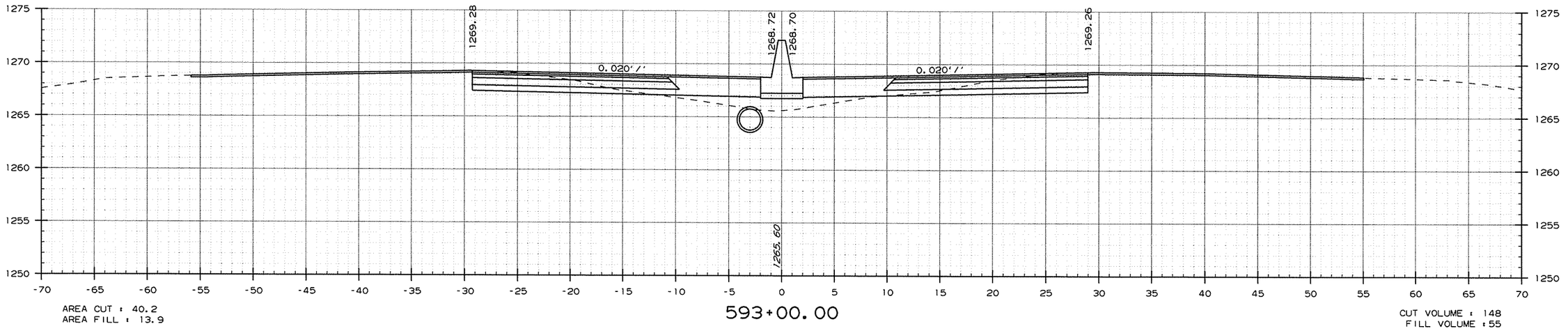
STA. 594+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 594+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 40.0
AREA FILL : 16.9

594+00.00

CUT VOLUME : 149
FILL VOLUME : 57



AREA CUT : 40.2
AREA FILL : 13.9

593+00.00

CUT VOLUME : 148
FILL VOLUME : 55

CROSS SECTION STA. 593+00 TO STA. 594+00

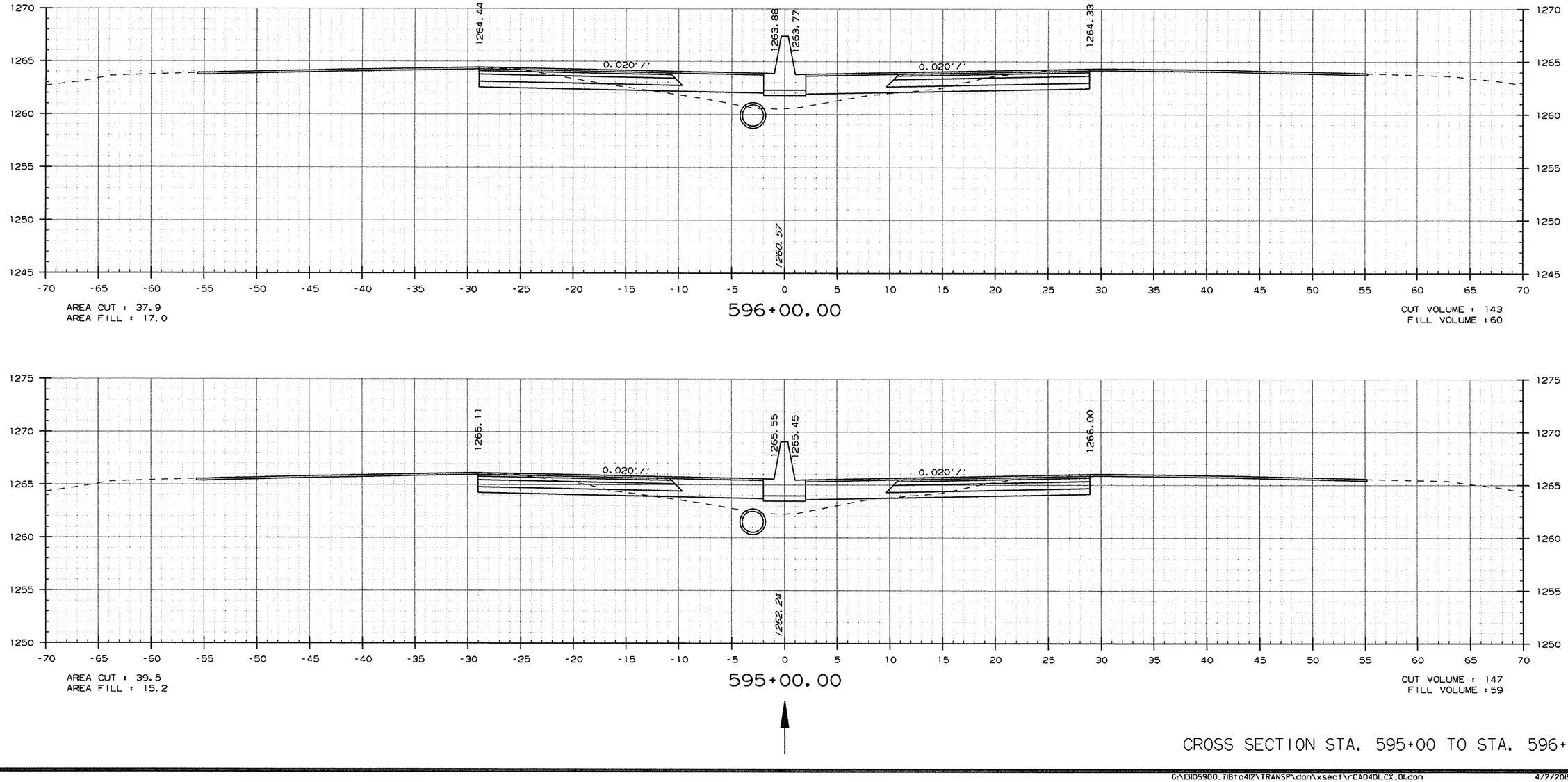
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	199	338

(2) CROSS SECTIONS



CROSS SECTION STA. 595+00 TO STA. 596+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto4i2\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 101
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Crafton, Tull & Associates Inc.

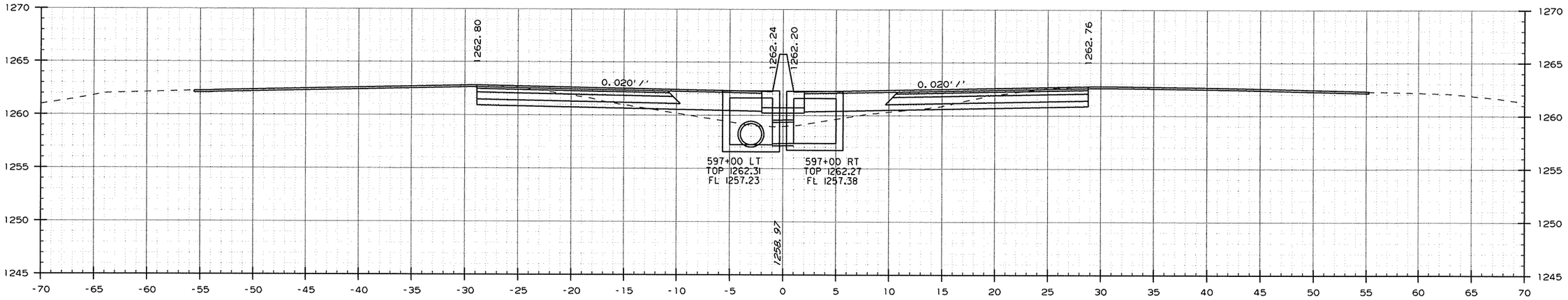
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	200	338

(2) CROSS SECTIONS

STA. 597+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+00 LT.
TYPE ST DROP INLET = 4' X 4'

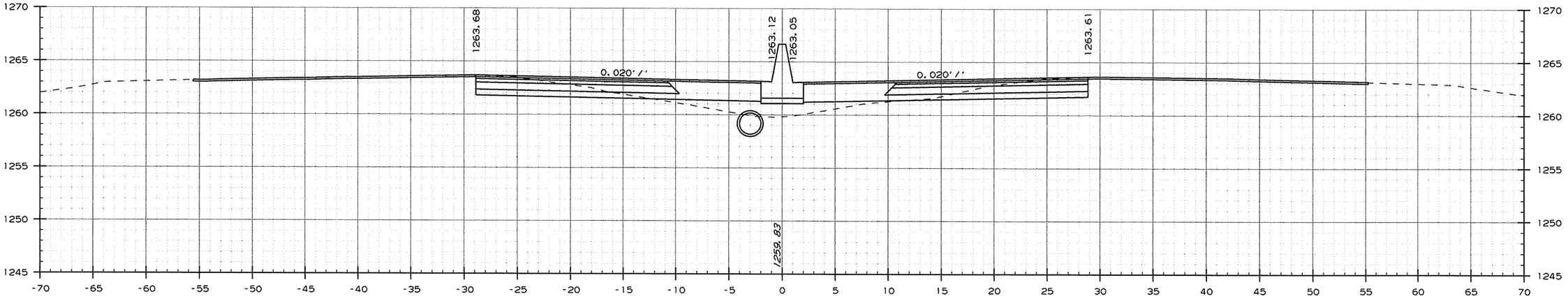
STA. 597+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 597+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 37.8
AREA FILL : 17.6

597+00.00

CUT VOLUME : 76
FILL VOLUME : 34



AREA CUT : 38.4
AREA FILL : 16.7

596+46.00

STA. 596+46 - IN PLACE
36" x 397' R.C. PIPE CULVERT
(45° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
RETAIN
Q50 = 43 CFS: D.A. = 17.3 AC.

CUT VOLUME : 65
FILL VOLUME : 29

CROSS SECTION STA. 596+46 TO STA. 597+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 1"=1'
PLOTTED: 4/2/2015 11:25

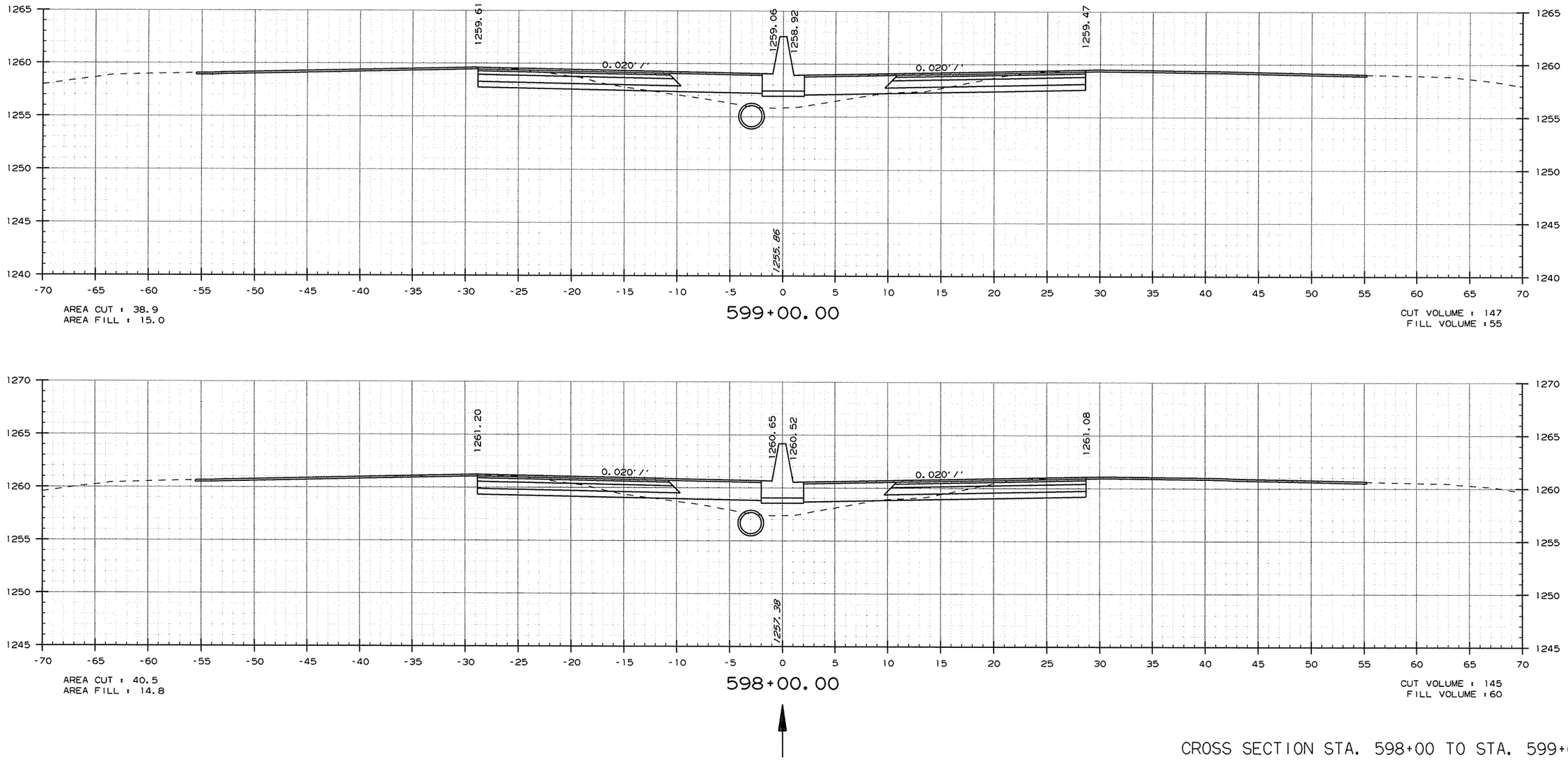
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	201	338

(2) CROSS SECTIONS



CROSS SECTION STA. 598+00 TO STA. 599+00

USER: dd5109
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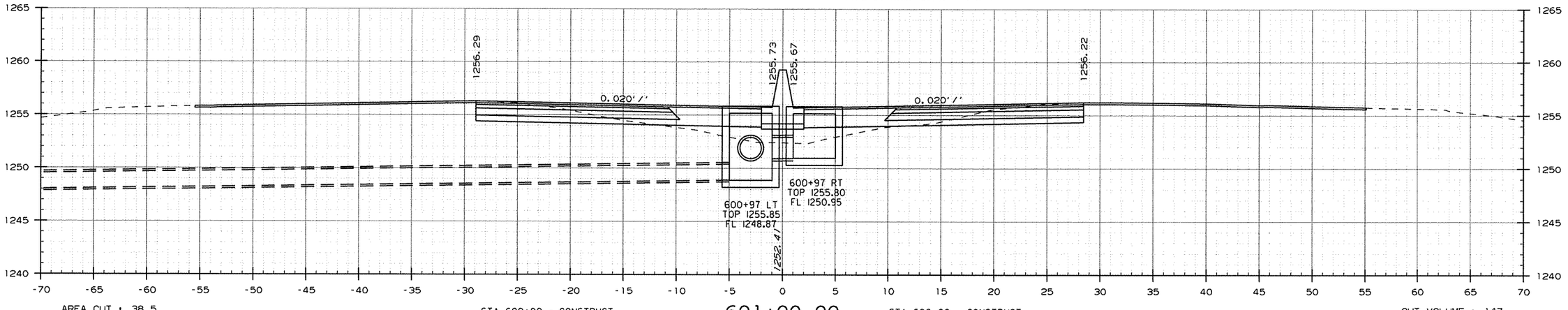
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	202	338

(2) CROSS SECTIONS

STA. 600+97 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 100' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN
CONSTRUCT DROP INLET
3' LT. OF C.L. H = 7'-0"
CONNECT TO EXISTING 18" R.C. PIPE
WITH CONCRETE COLLAR
TYPE ST DROP INLET = 4' X 4'

STA. 600+97 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+97 LT.
TYPE ST DROP INLET = 4' X 4'



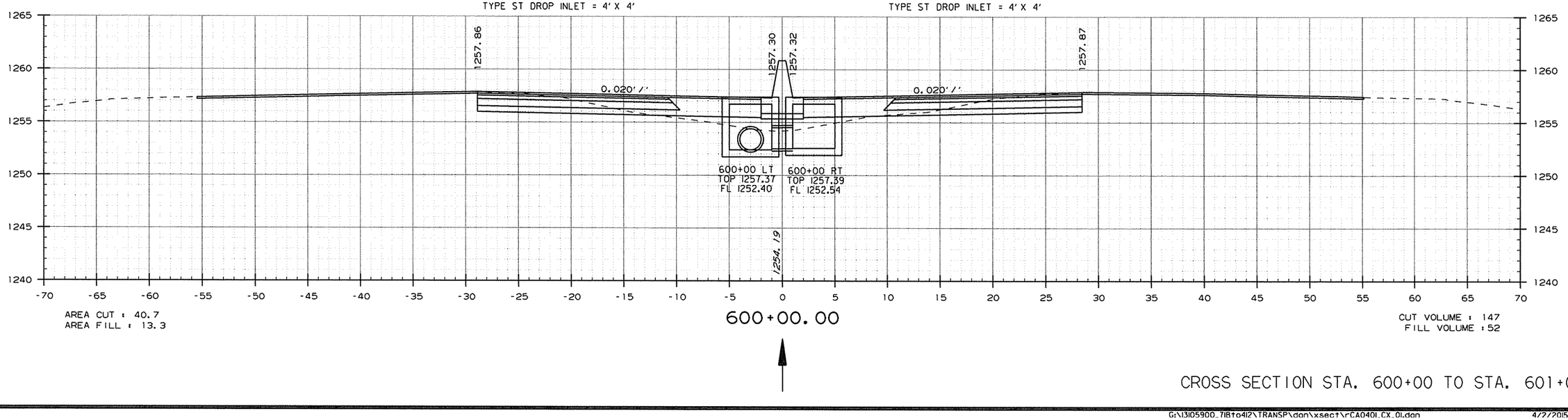
AREA CUT : 38.5
AREA FILL : 18.0

601+00.00

CUT VOLUME : 147
FILL VOLUME : 58

STA. 600+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 93' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+97 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 600+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 600+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 40.7
AREA FILL : 13.3

600+00.00

CUT VOLUME : 147
FILL VOLUME : 52

CROSS SECTION STA. 600+00 TO STA. 601+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 11:25
SCALE: 10:1

Crafton, Tull & Associates Inc.

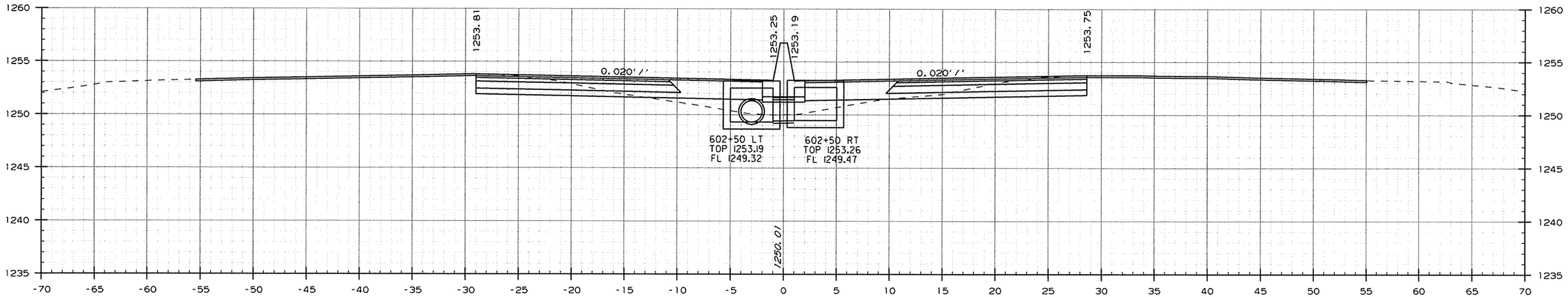
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	203	338

(2) CROSS SECTIONS

STA. 602+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 605+50 LT.
TYPE ST DROP INLET = 4' X 4'

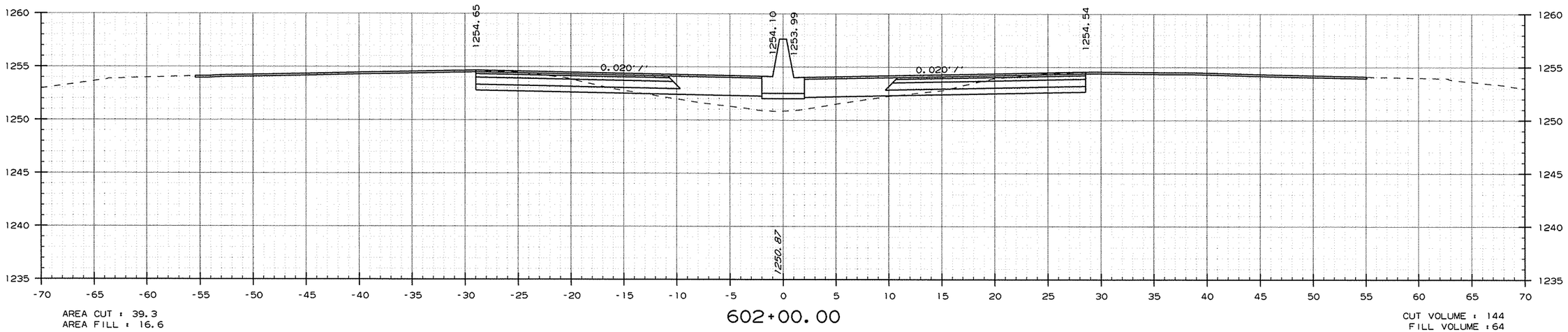
STA. 602+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 602+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 38.5
AREA FILL : 16.7

602+50.00

CUT VOLUME : 72
FILL VOLUME : 31



AREA CUT : 39.3
AREA FILL : 16.6

602+00.00

CUT VOLUME : 144
FILL VOLUME : 64

CROSS SECTION STA. 602+00 TO STA. 602+50

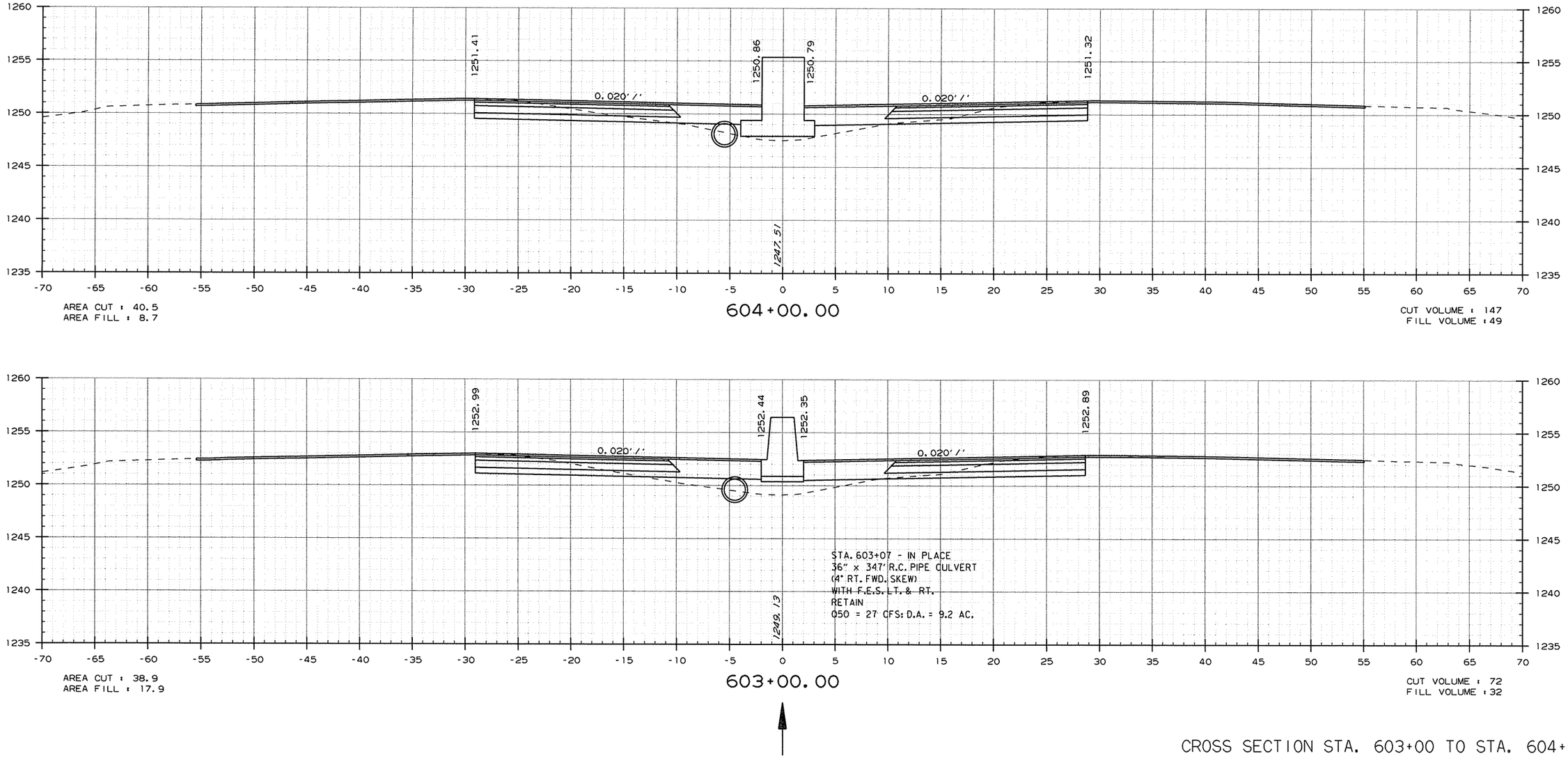
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PLOTTED: 4/2/2015 11:25
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	204	338

(2) CROSS SECTIONS



CROSS SECTION STA. 603+00 TO STA. 604+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
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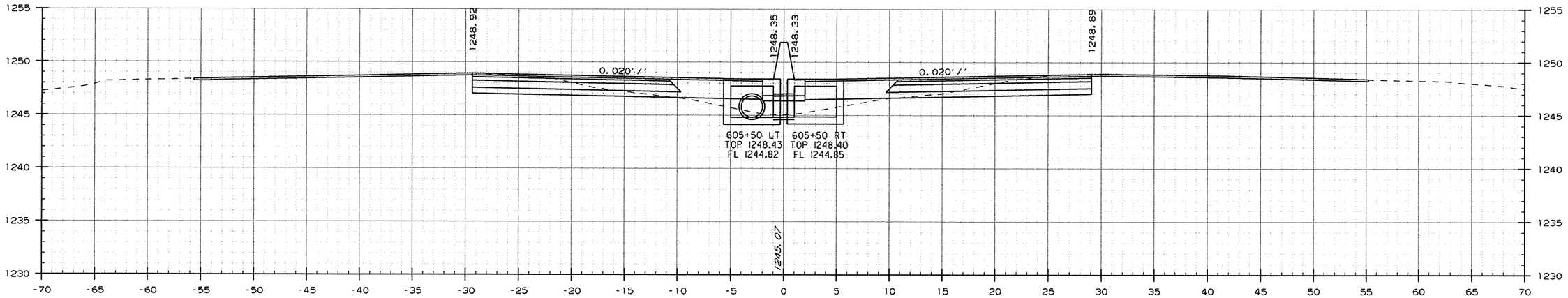
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	205	338

(2) CROSS SECTIONS

STA. 605+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-8"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 608+50 LT.
TYPE ST DROP INLET = 4' X 4'

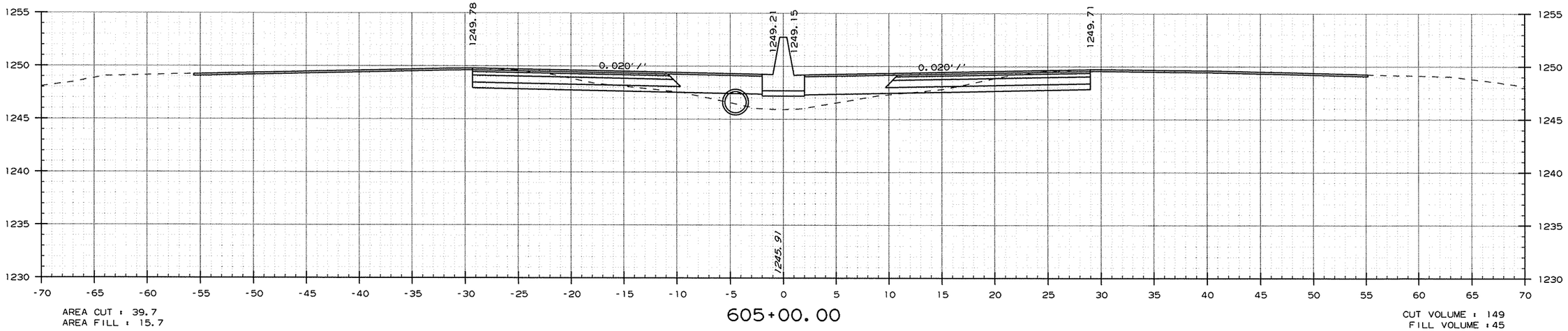
STA. 605+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-5"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 605+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 40.9
AREA FILL : 15.1

605+50.00

CUT VOLUME : 75
FILL VOLUME : 29



AREA CUT : 39.7
AREA FILL : 15.7

605+00.00

CUT VOLUME : 149
FILL VOLUME : 45

CROSS SECTION STA. 605+00 TO STA. 605+50

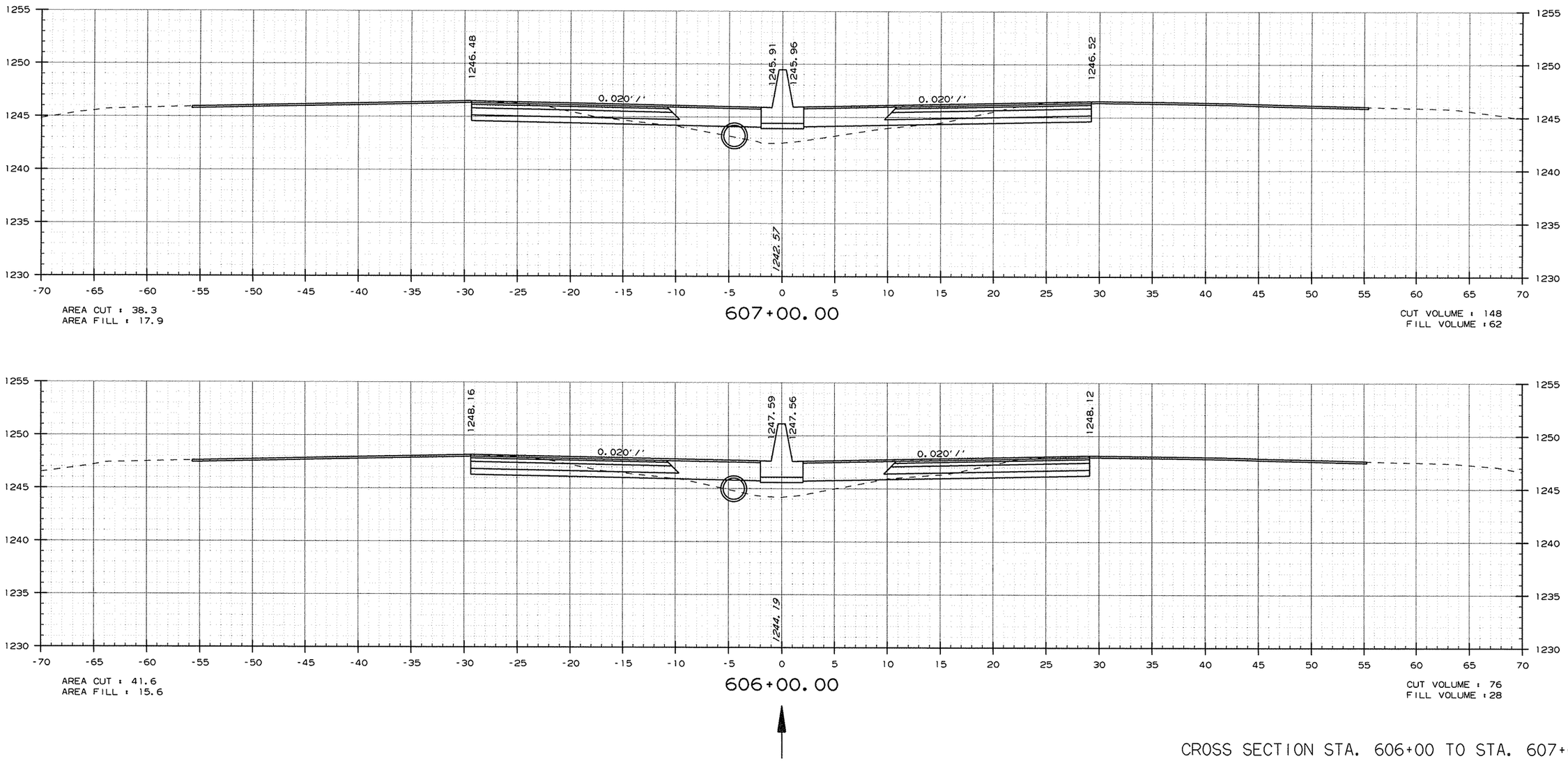
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	206	338

(2) CROSS SECTIONS



CROSS SECTION STA. 606+00 TO STA. 607+00

USER: dd5109
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PLOTTED: 4/2/2015 11:25

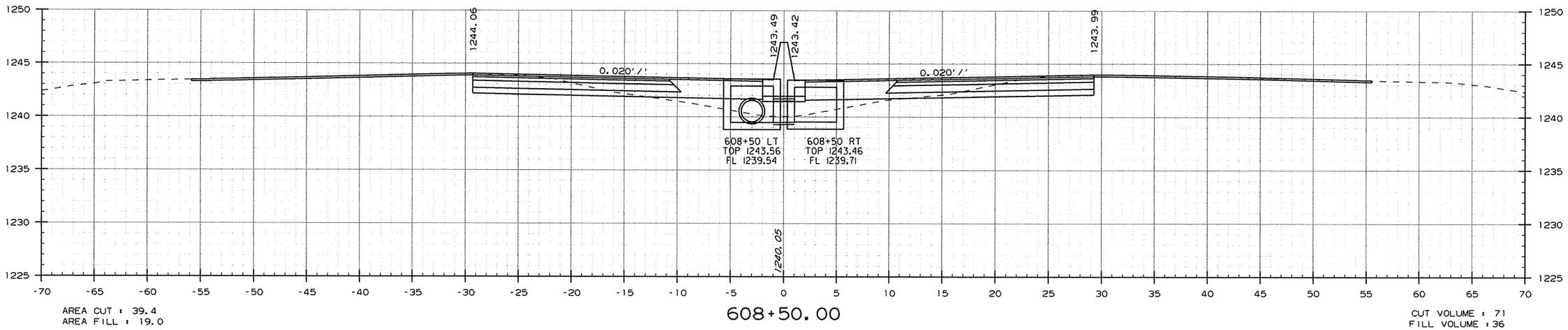
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	207	338

2 CROSS SECTIONS

STA. 608+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-0"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 611+50 LT.
TYPE ST DROP INLET = 4' X 4'

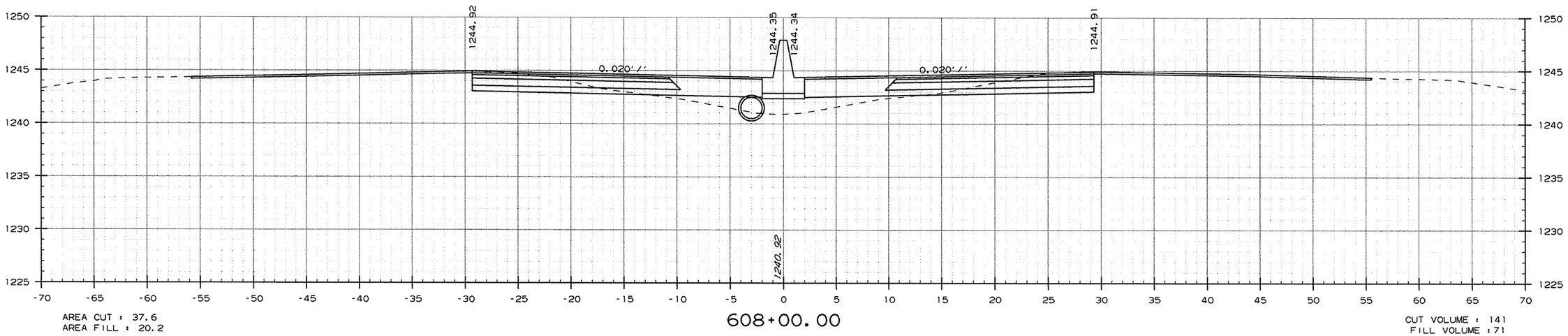
STA. 608+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 608+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 39.4
AREA FILL : 19.0

608+50.00

CUT VOLUME : 71
FILL VOLUME : 36



AREA CUT : 37.6
AREA FILL : 20.2

608+00.00

CUT VOLUME : 141
FILL VOLUME : 71

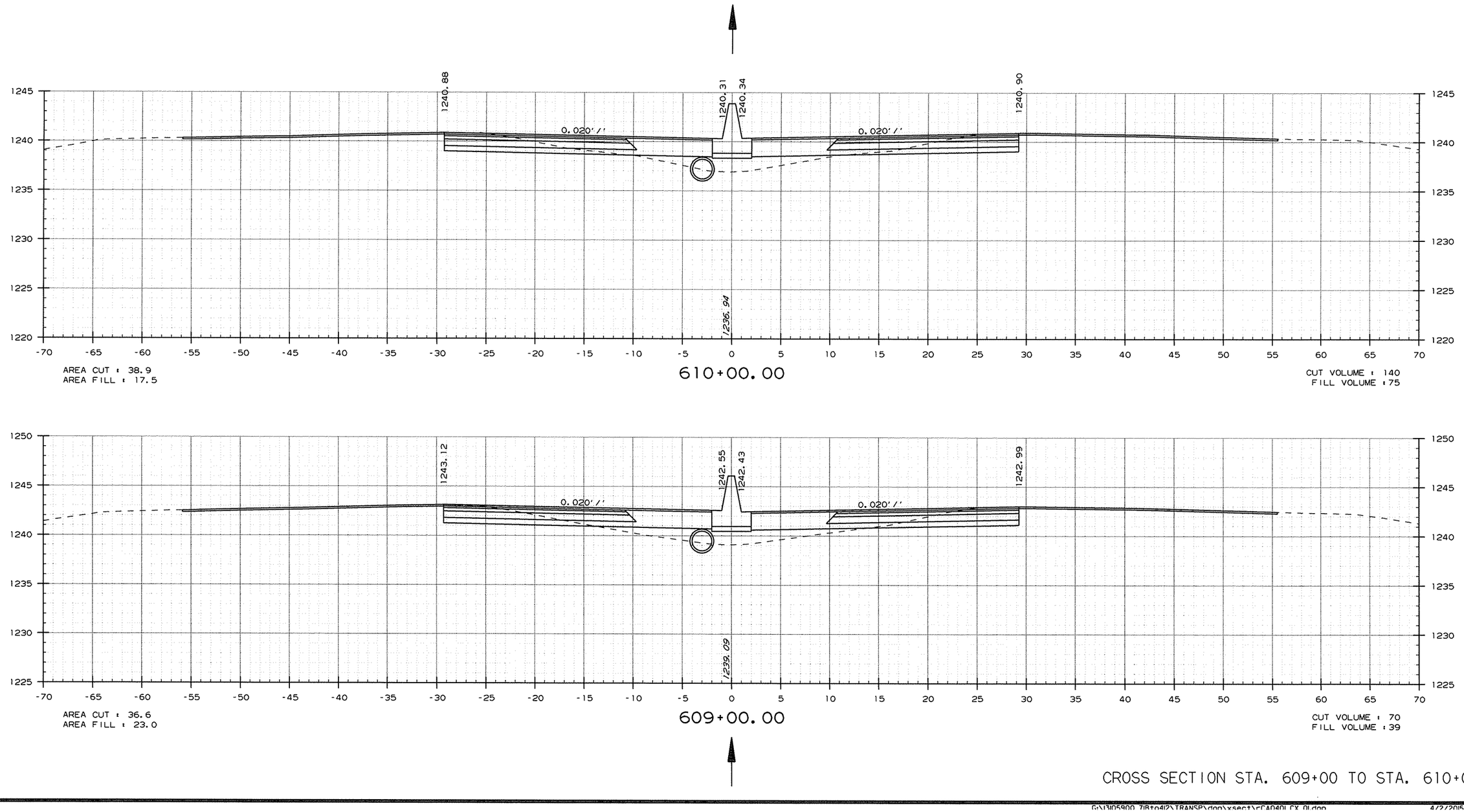
CROSS SECTION STA. 608+00 TO STA. 608+50

USER: dd5109
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PLOTTED: 4/2/2015 11:26
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	208	338

(2) CROSS SECTIONS



CROSS SECTION STA. 609+00 TO STA. 610+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401CX_01.dgn
PLOTTED: 4/2/2015 11:26
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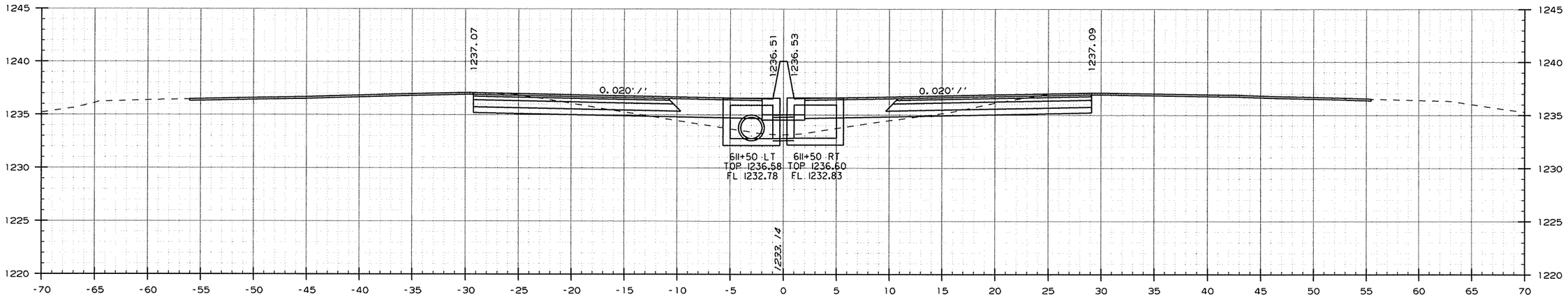
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	209	338

(2) CROSS SECTIONS

STA. 611+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 614+50 LT.
TYPE ST DROP INLET = 4' X 4'

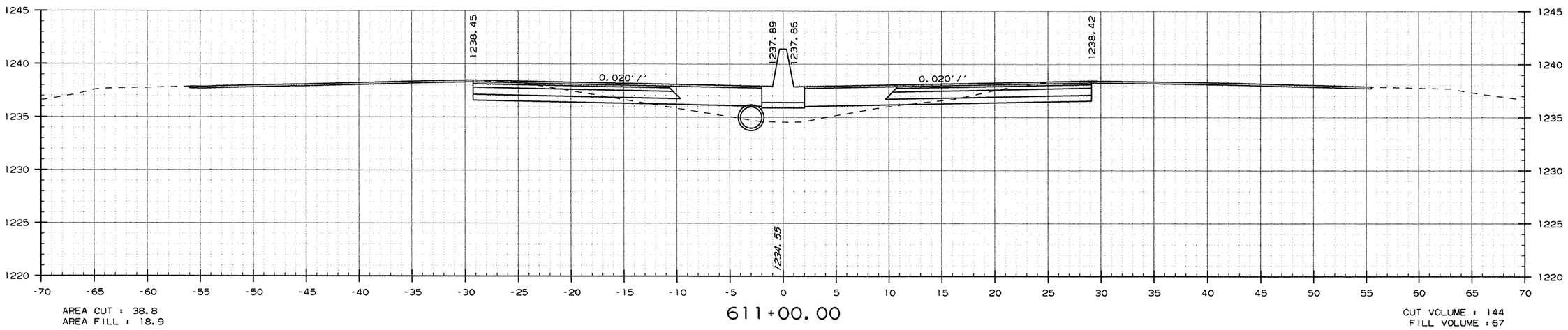
STA. 611+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 611+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 37.7
AREA FILL : 20.3

611+50.00

CUT VOLUME : 71
FILL VOLUME : 36



AREA CUT : 38.8
AREA FILL : 18.9

611+00.00

CUT VOLUME : 144
FILL VOLUME : 67

CROSS SECTION STA. 611+00 TO STA. 611+50

USER: dd5109
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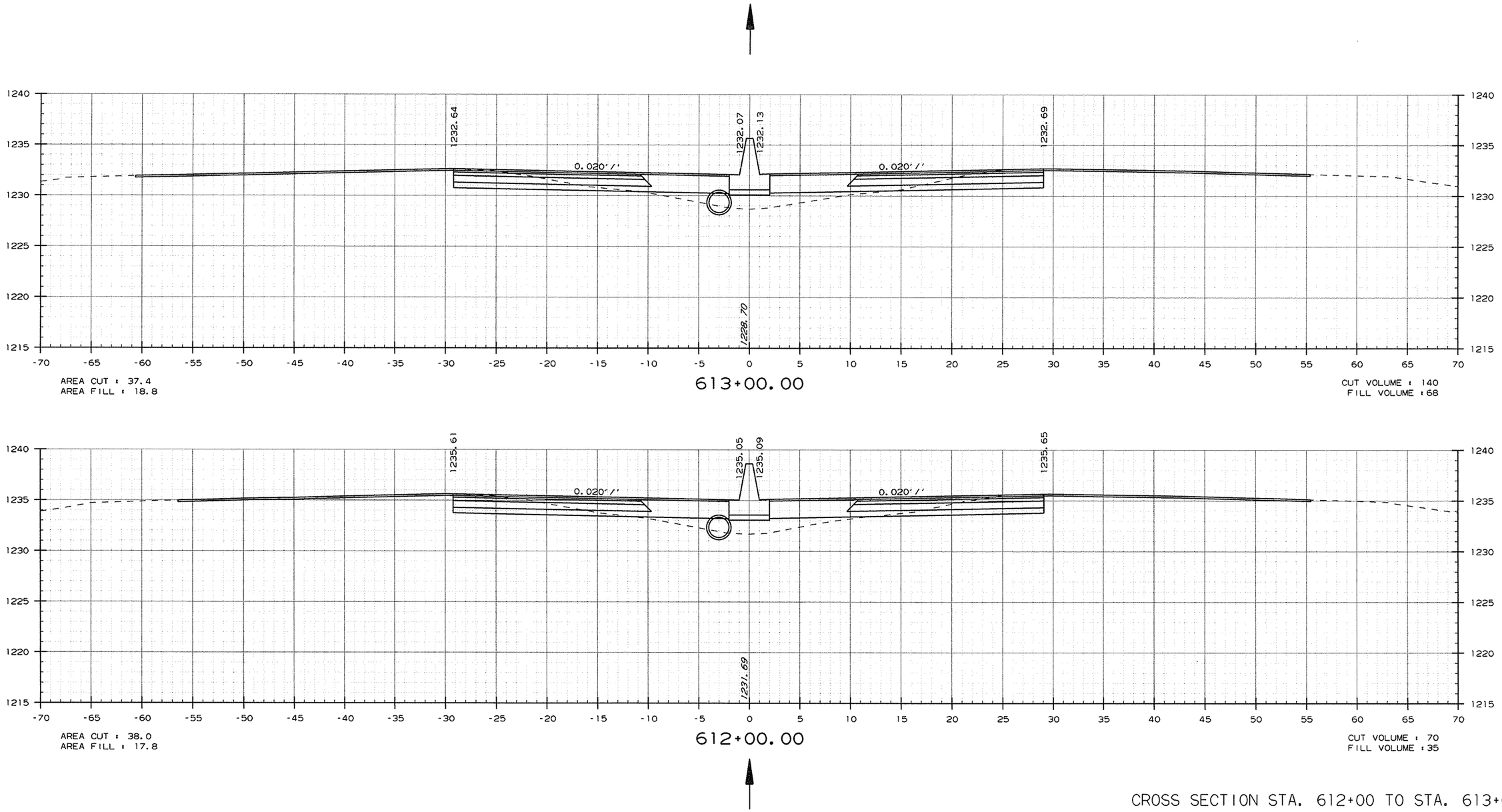
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	210	338

(2) CROSS SECTIONS



CROSS SECTION STA. 612+00 TO STA. 613+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 11:26
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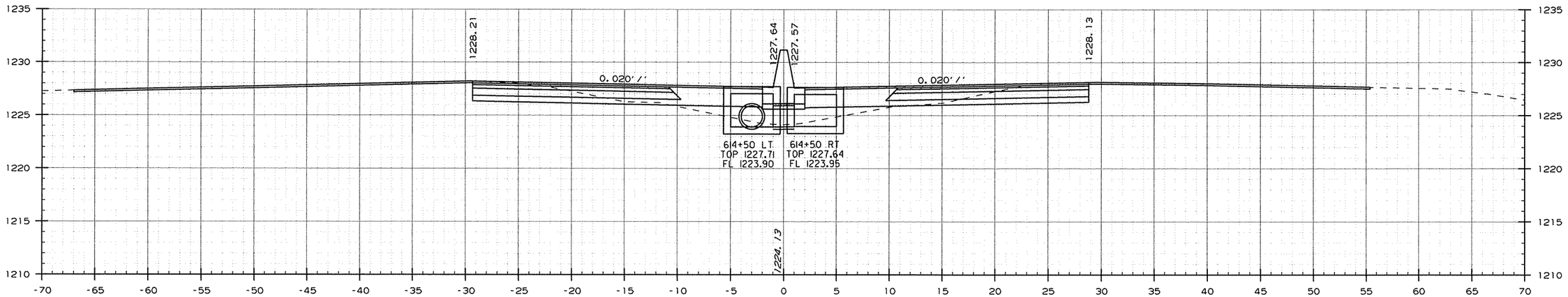
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	211	338

(2) CROSS SECTIONS

STA. 614+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-11"
WITH 24" X 303' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 617+57 LT.
TYPE ST DROP INLET = 4' X 4'

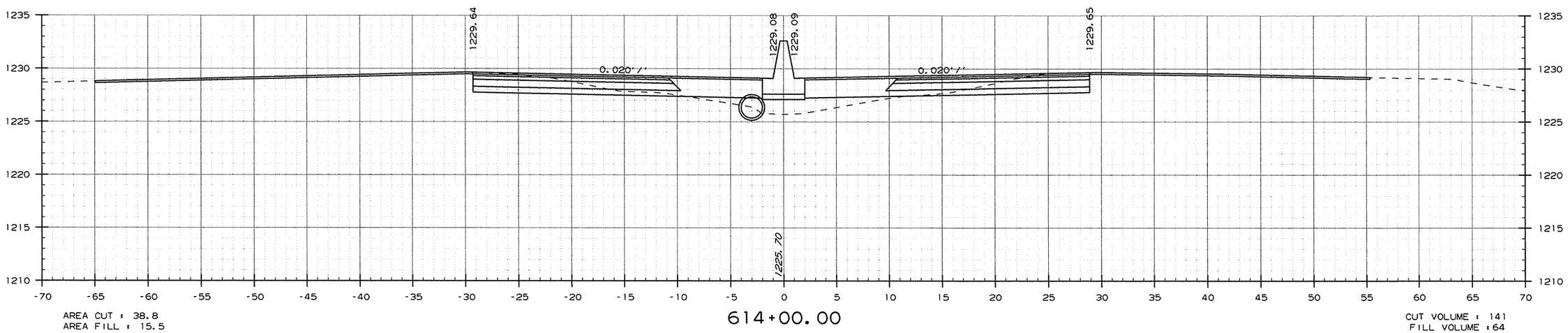
STA. 614+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 614+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 38.8
AREA FILL : 18.2

614+50.00

CUT VOLUME : 72
FILL VOLUME : 31



AREA CUT : 38.8
AREA FILL : 15.5

614+00.00

CUT VOLUME : 141
FILL VOLUME : 64

CROSS SECTION STA. 614+00 TO STA. 614+50

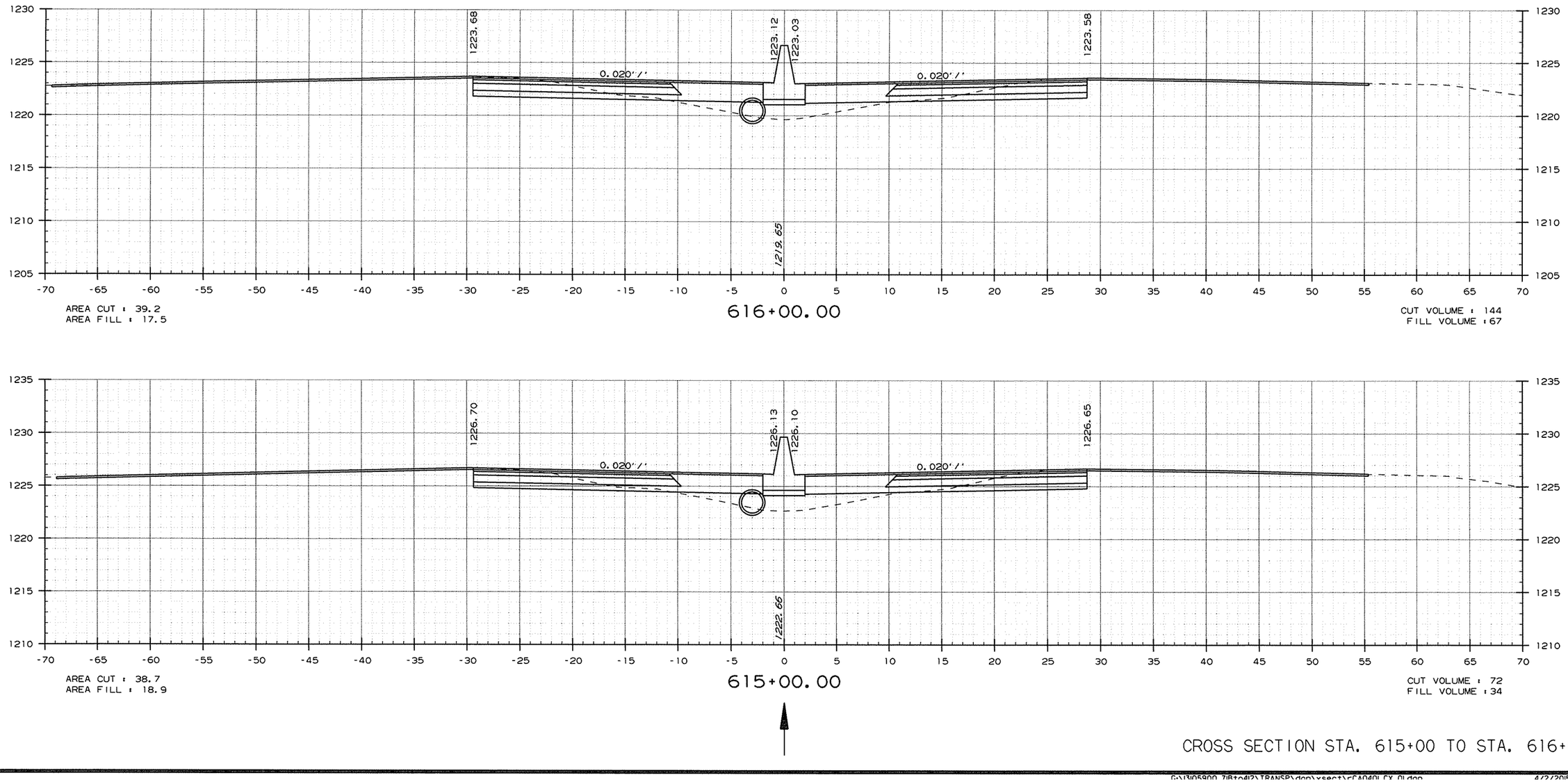
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	212	338

(2) CROSS SECTIONS



CROSS SECTION STA. 615+00 TO STA. 616+00

USER: dd5109
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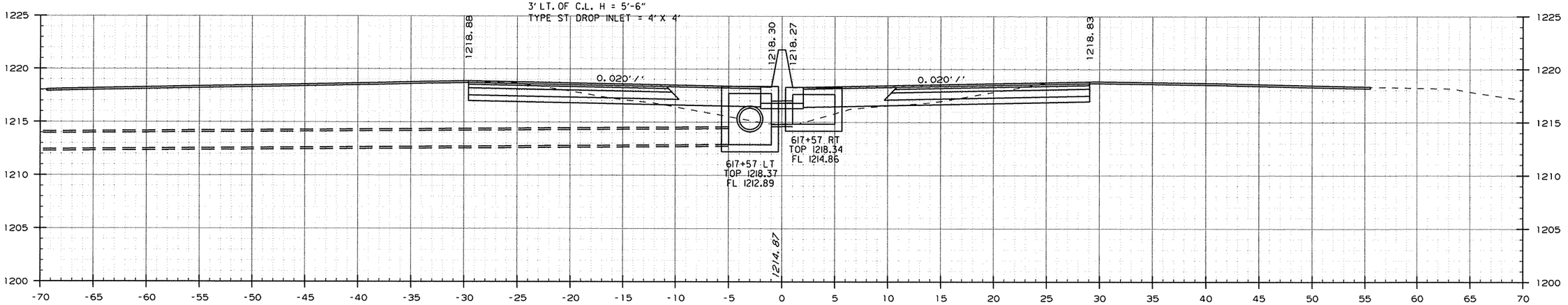
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	213	338

(2) CROSS SECTIONS

STA. 617+57 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 98' R.C. PIPE OUTLET
TO LT. WITH F.E.S. - RETAIN
CONSTRUCT DROP INLET
3' LT. OF C.L. H = 5'-6"
TYPE ST DROP INLET = 4' X 4'

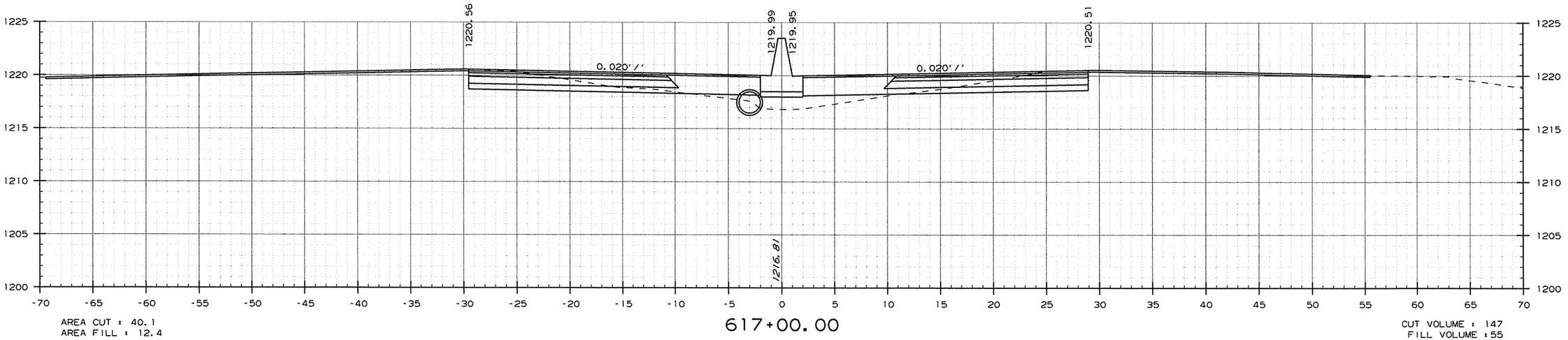
STA. 617+57 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 617+57 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 39.5
AREA FILL = 16.4

617+57.00

CUT VOLUME = 84
FILL VOLUME = 30



AREA CUT = 40.1
AREA FILL = 12.4

617+00.00

CUT VOLUME = 147
FILL VOLUME = 55

CROSS SECTION STA. 617+00 TO STA. 617+57

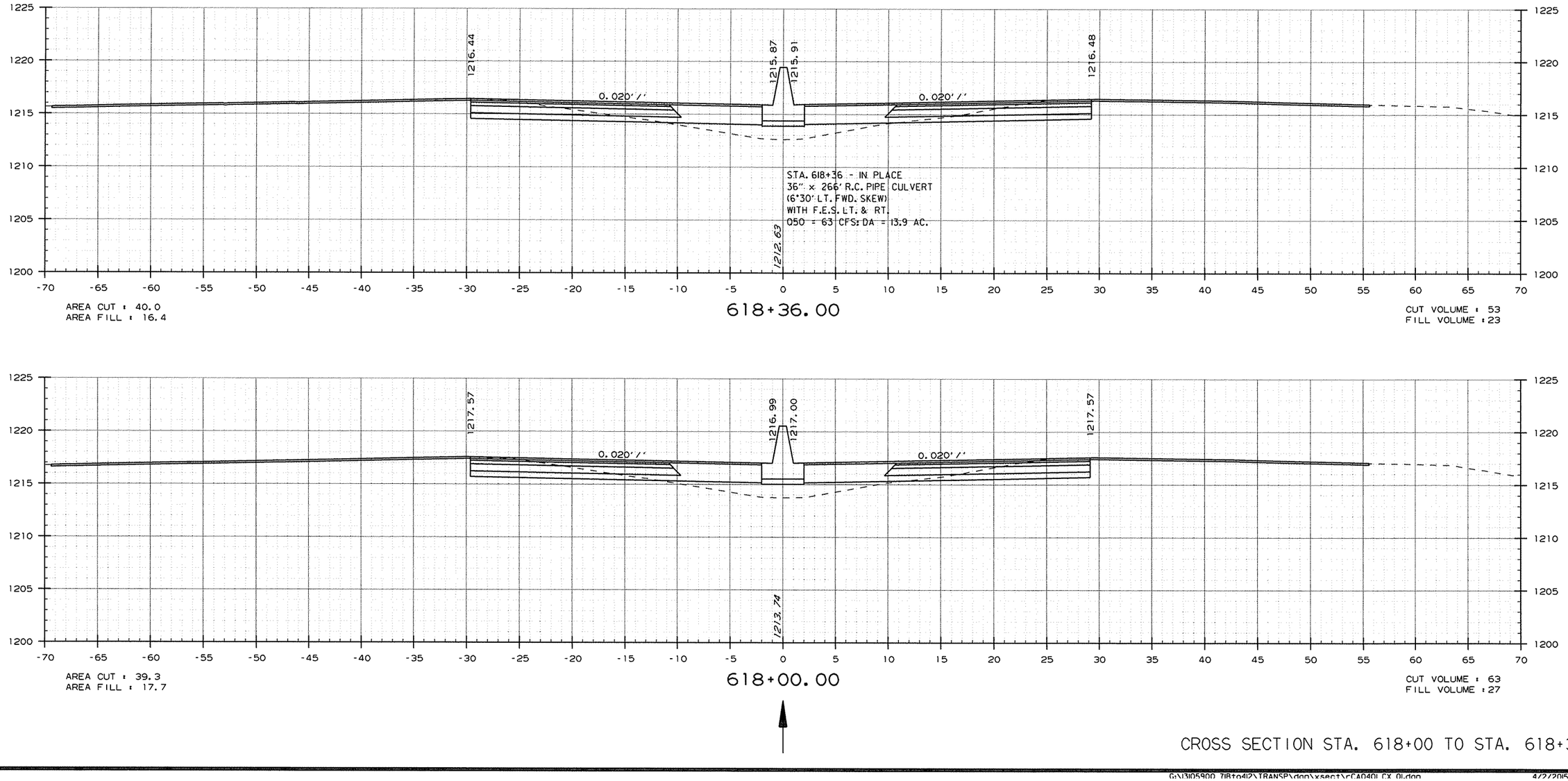
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G:\13105900_7(8to12)\TRANSP\dgn\xsect\rCA0401_CX_01.dgn 4/2/2015 11:26

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	214	338

2 CROSS SECTIONS



CROSS SECTION STA. 618+00 TO STA. 618+36

USER: dd5109
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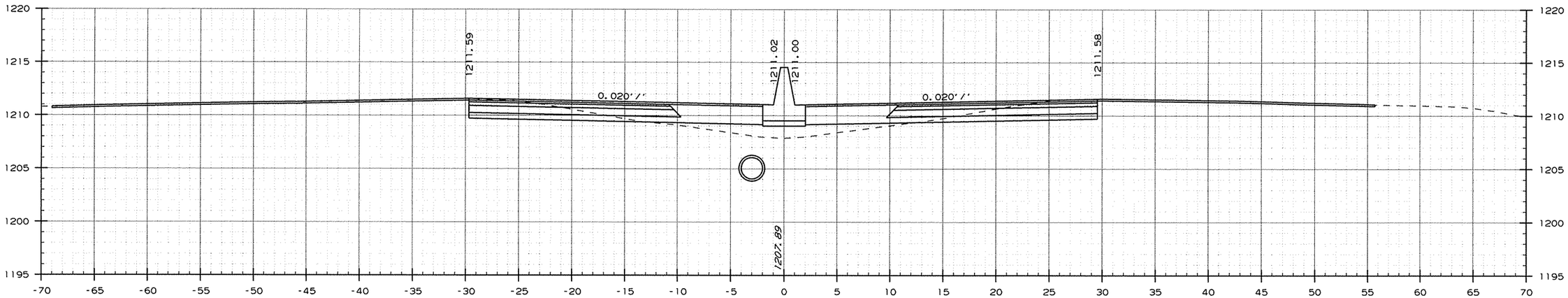
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	215	338

(2) CROSS SECTIONS

STA. 620+10.00 BEGIN TRANSITION (N.C.)
STA. 623+60.00 END TRANSITION (+0.020'/')
STA. 628+05.00 BEGIN TRANSITION (+0.020'/')
STA. 631+55.00 END TRANSITION (N.C.)



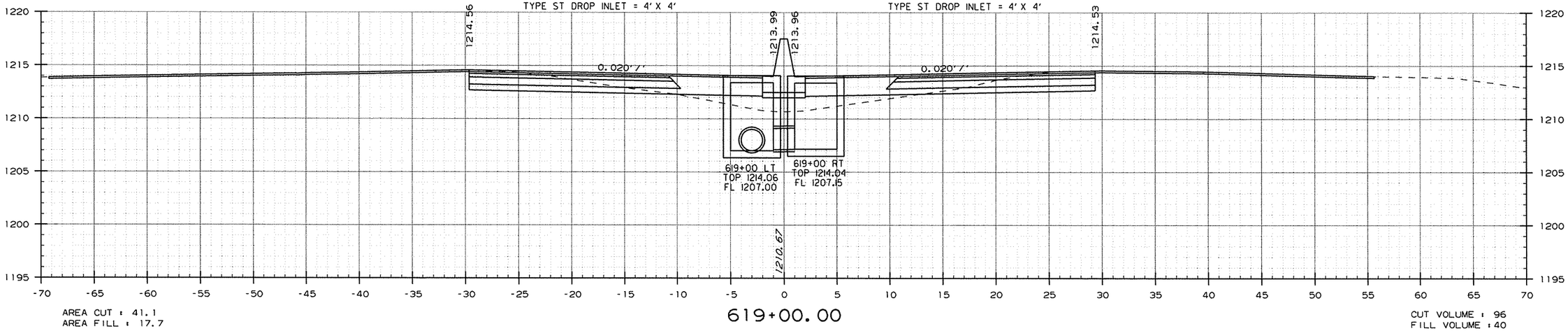
AREA CUT = 39.3
AREA FILL = 15.9

STA. 619+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-0"
WITH 24" X 171' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 620+75 LT.
TYPE ST DROP INLET = 4' X 4'

620+00.00

STA. 619+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 619+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME = 149
FILL VOLUME = 62



AREA CUT = 41.1
AREA FILL = 17.7

619+00.00

CUT VOLUME = 96
FILL VOLUME = 40

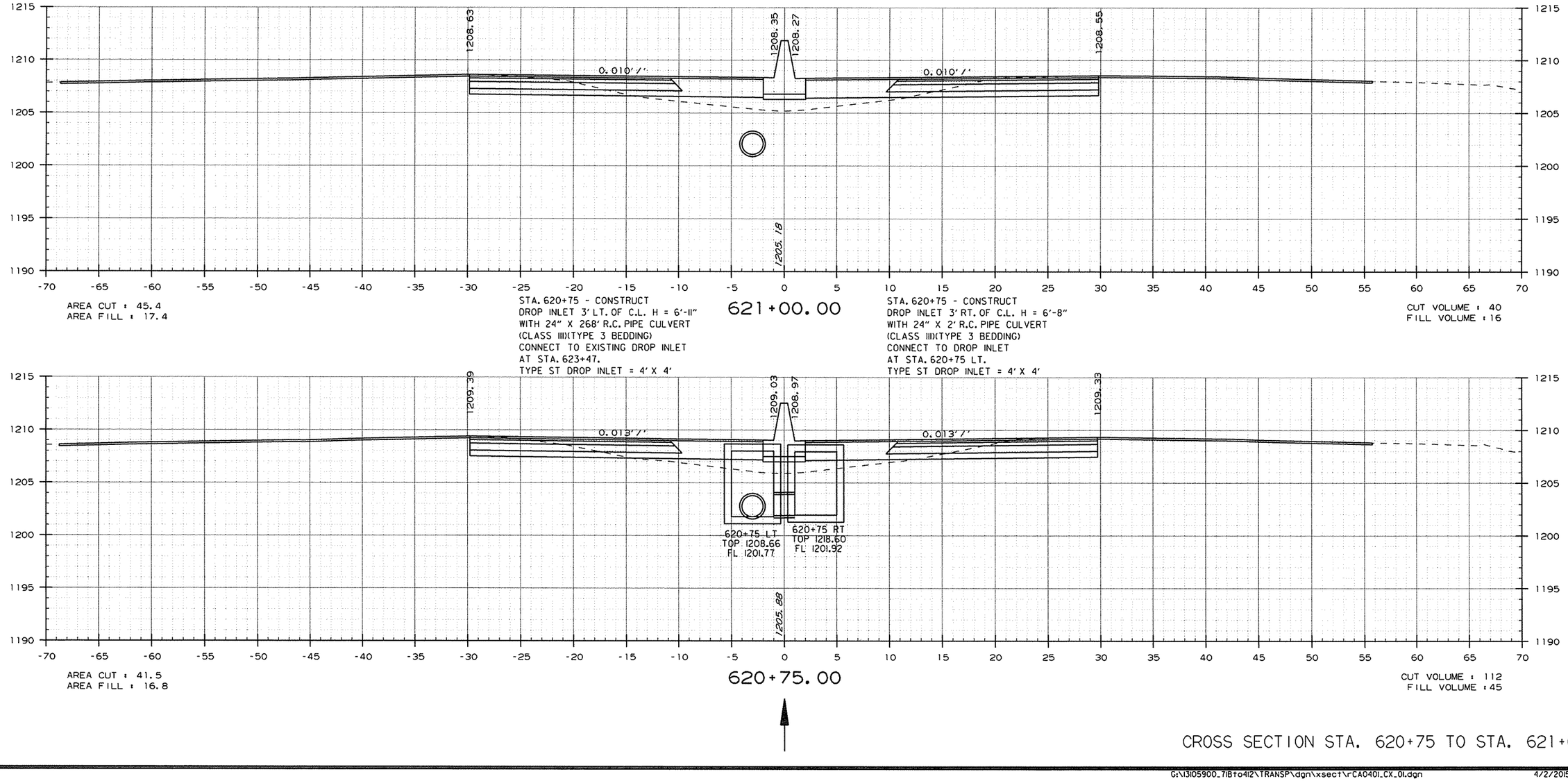
CROSS SECTION STA. 619+00 TO STA. 620+00

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PLOTTED: 4/2/2015 13:07
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	216	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 620+75 TO STA. 621+00

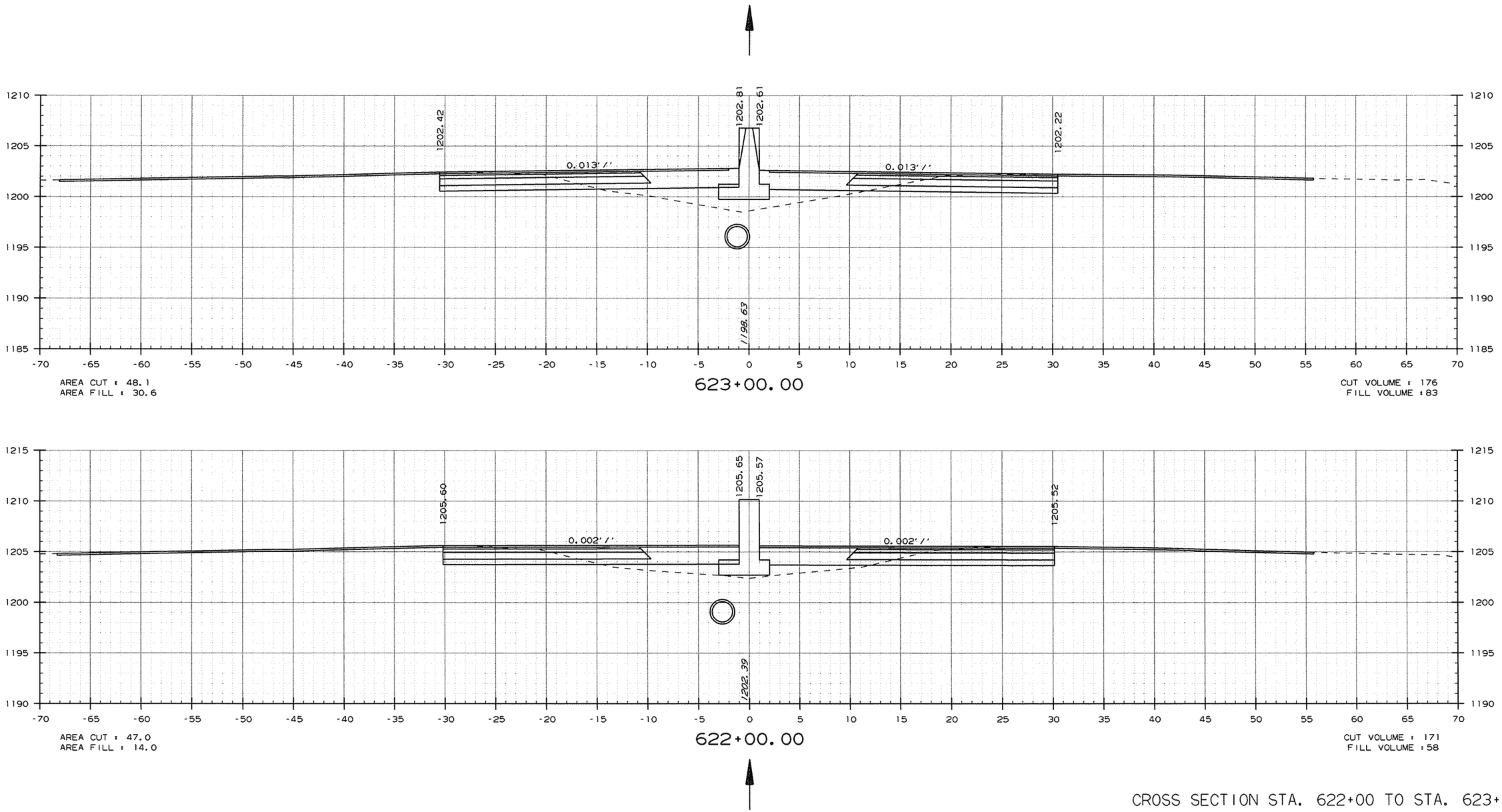
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	217	338

(2) CROSS SECTIONS



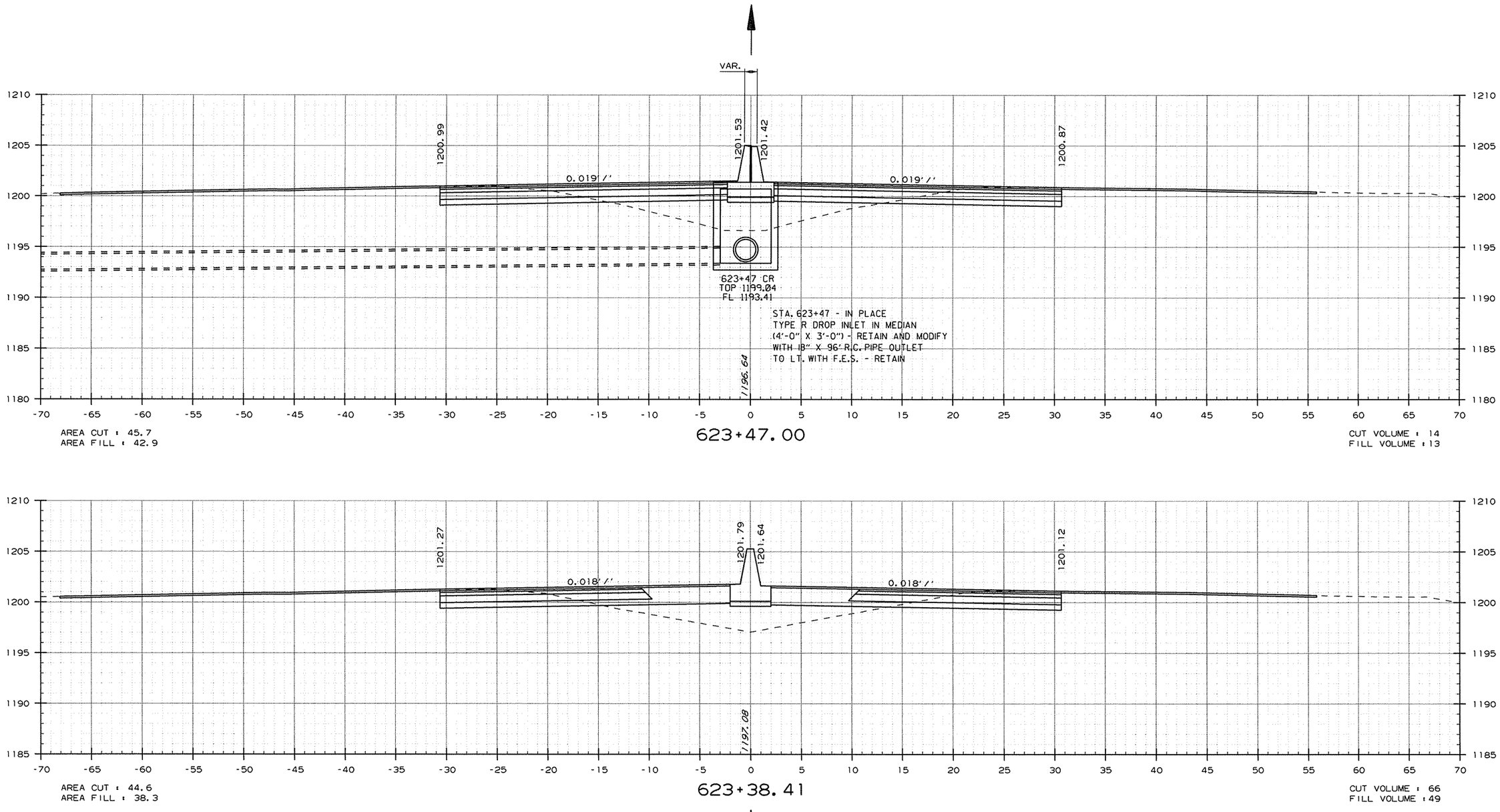
CROSS SECTION STA. 622+00 TO STA. 623+00

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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	218	338

(2) CROSS SECTIONS



CROSS SECTION STA. 623+38 TO STA. 623+47

USER: dd5109
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PLOTTED: 4/2/2015 13:08
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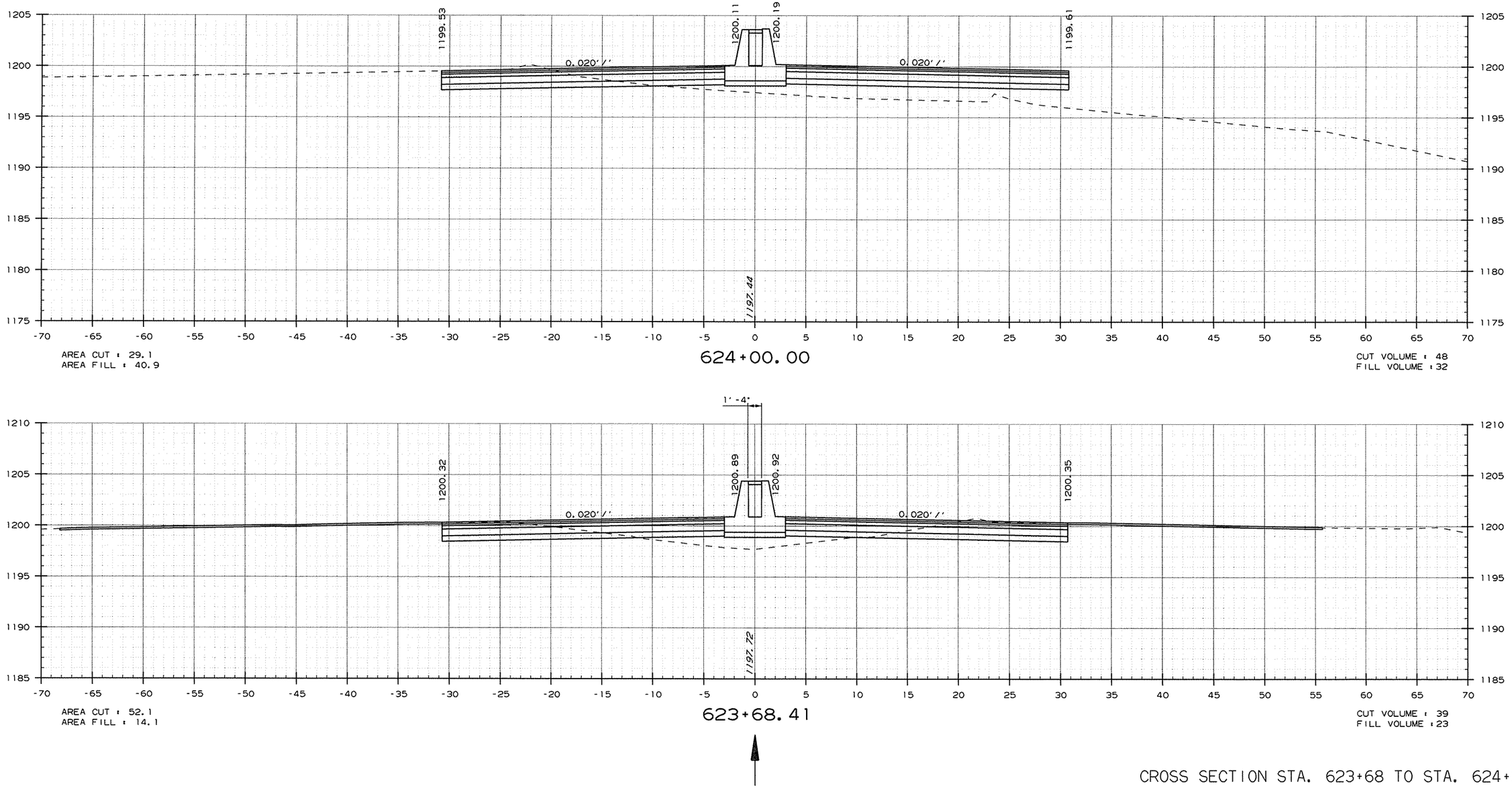
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	219	338

(2) CROSS SECTIONS



CROSS SECTION STA. 623+68 TO STA. 624+00

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Crafton, Tull & Associates Inc.

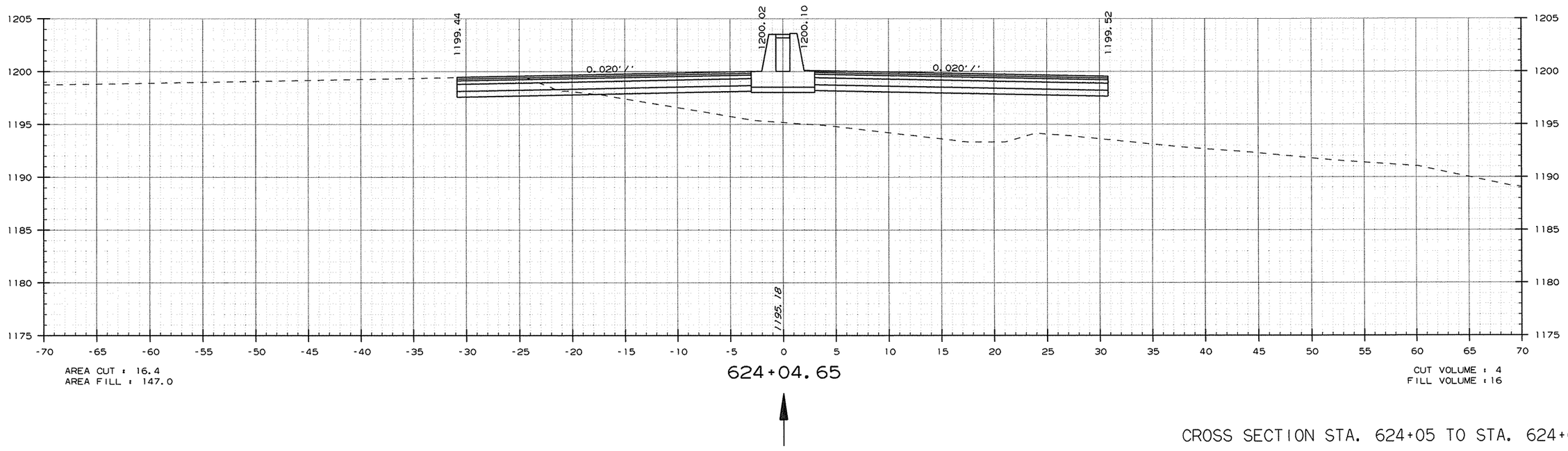
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	220	338

(2) CROSS SECTIONS

STA.623+95.12 - BRIDGE END
I-540 RML BRIDGE (N.B.)
355'-0" COMPOSITE PRESTRESSED
CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
62'-0" CLEAR ROADWAY
BRIDGE NO. B5919
STA.627+52.17 - BRIDGE END

STA.624+14.17 - BRIDGE END
I-540 LML BRIDGE (S.B.)
355'0" COMPOSITE PRESTRESSED
CONC. I-BEAM UNIT
(71'- 71'- 71'- 71'- 71')
70'-0" CLEAR ROADWAY
BRIDGE NO. A5919
STA.627+71.22 - BRIDGE END



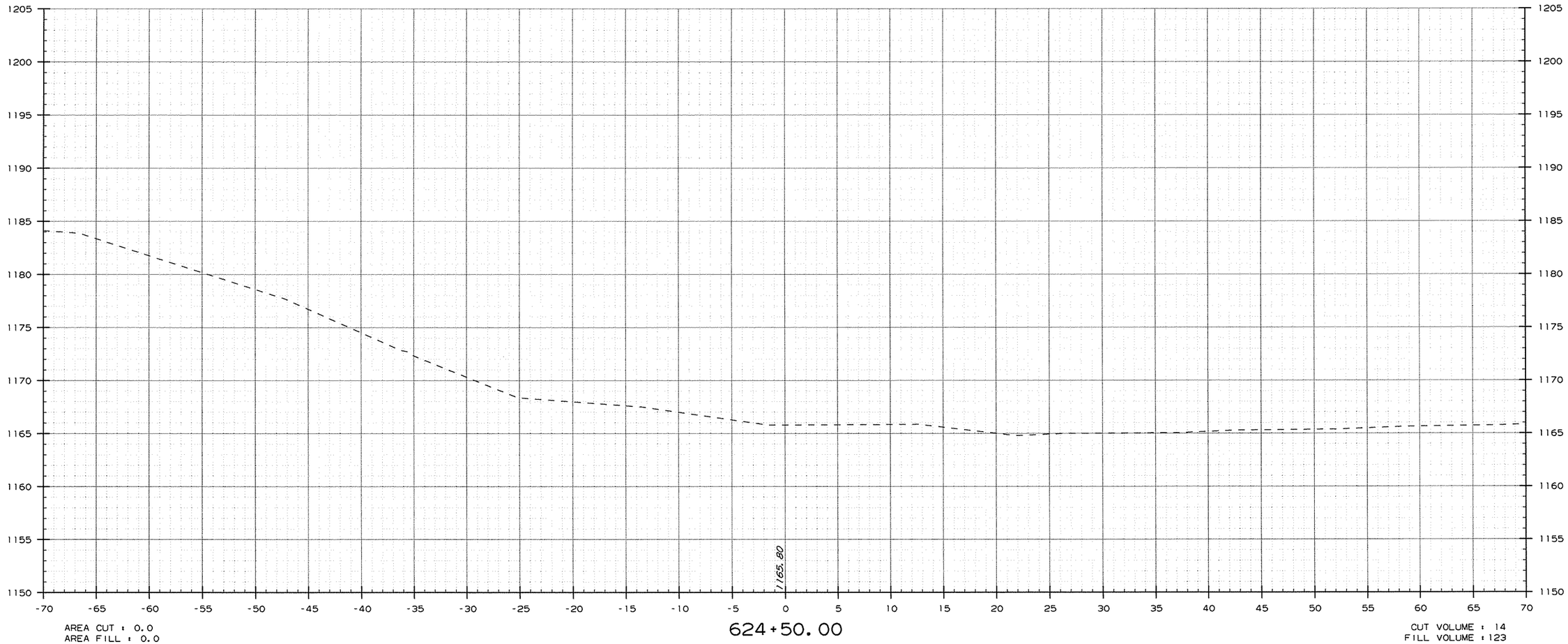
CROSS SECTION STA. 624+05 TO STA. 624+05

USER: dd5109
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PLOTTED: 4/2/2015 13:08

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	221	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 624+50 TO STA. 624+50

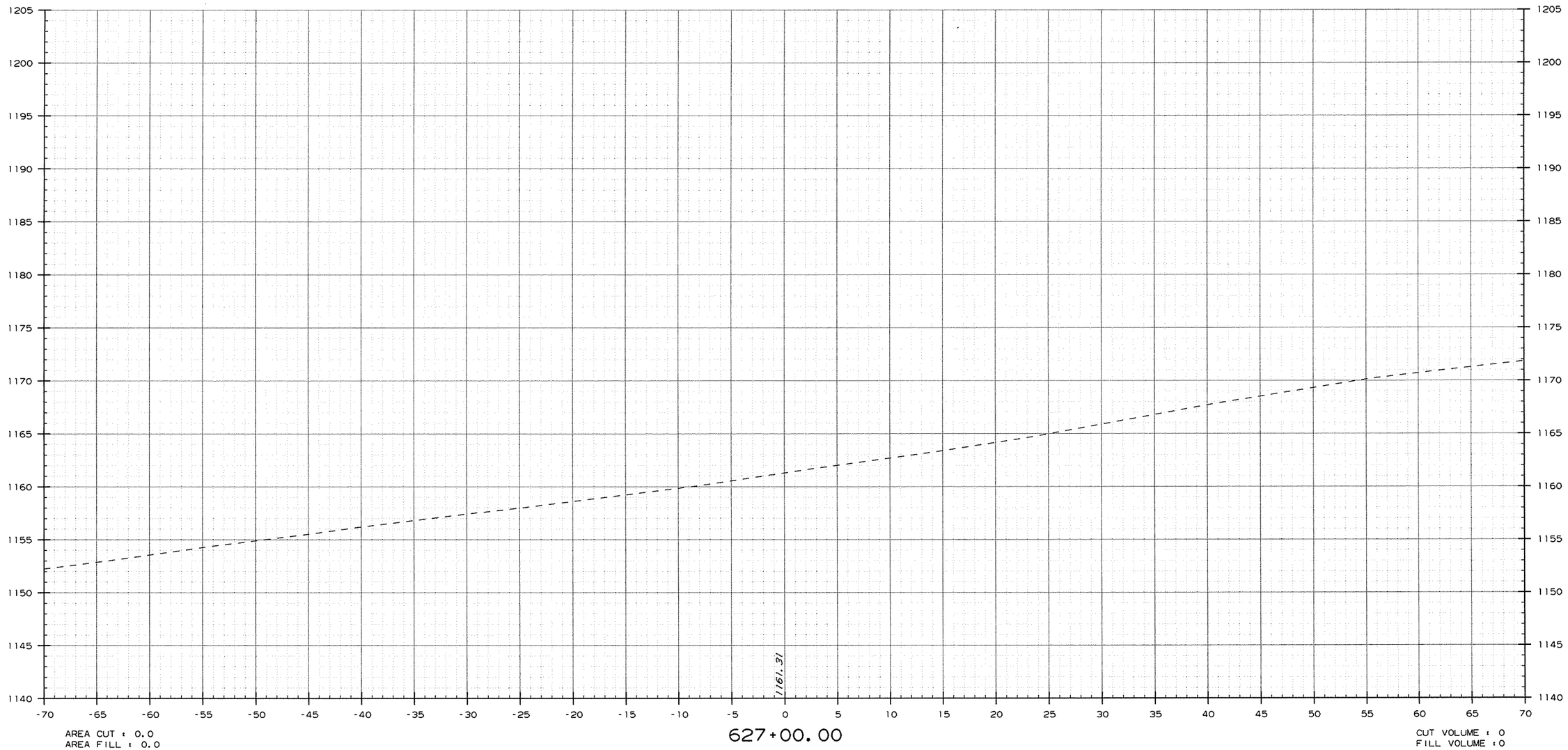
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	222	338

(2) CROSS SECTIONS



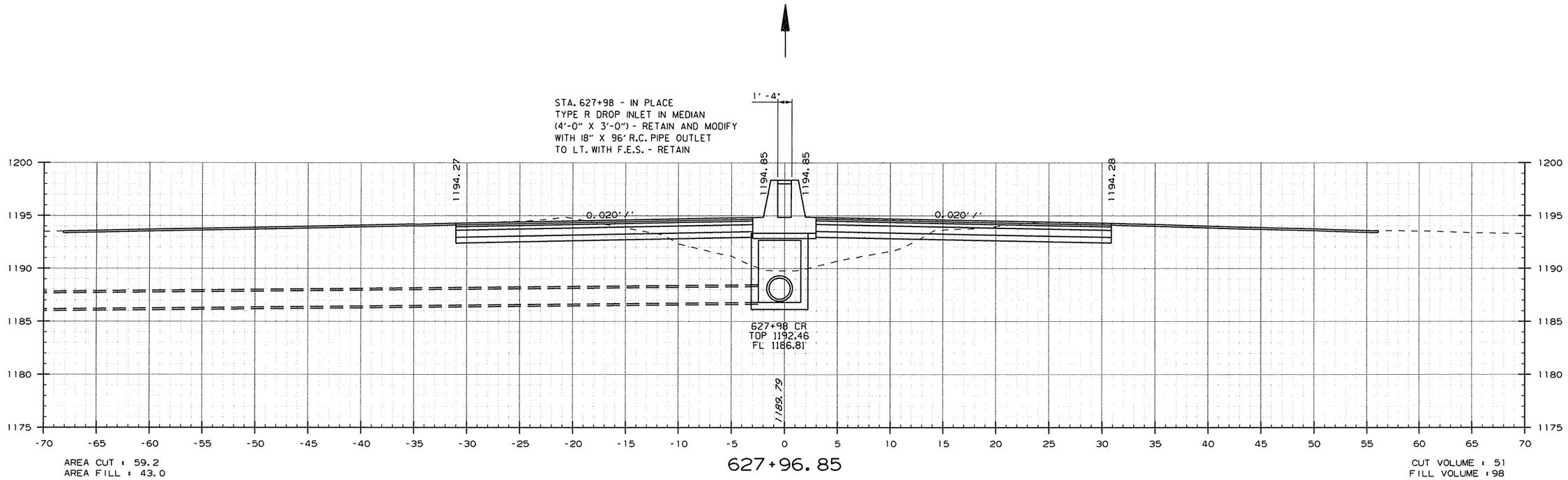
CROSS SECTION STA. 627+00 TO STA. 627+00

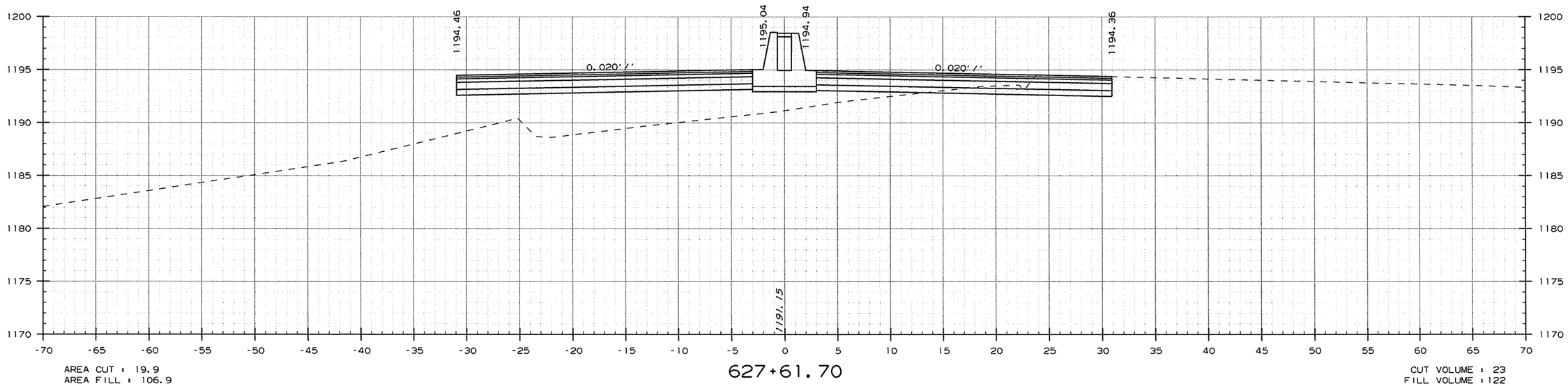
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PLOTTED: 4/2/2015 13:08
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	223	338

(2) CROSS SECTIONS





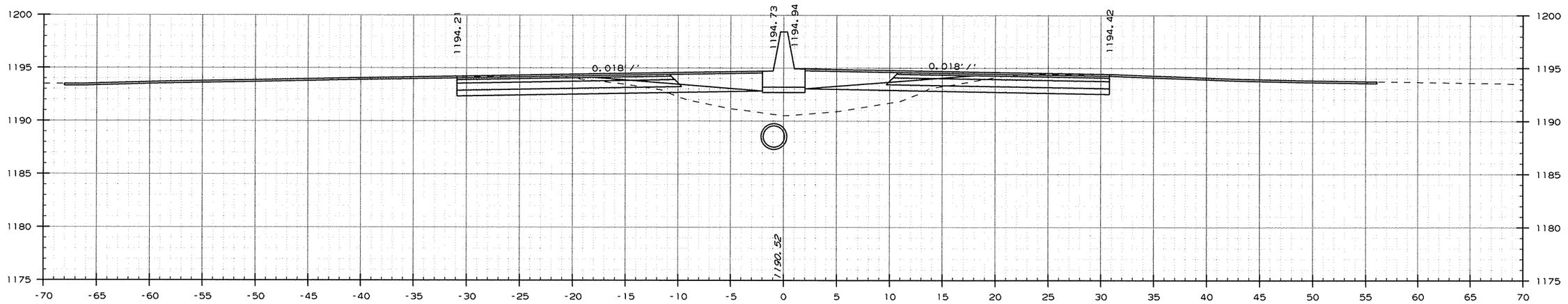
CROSS SECTION STA. 627+62 TO STA. 627+97

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	224	338

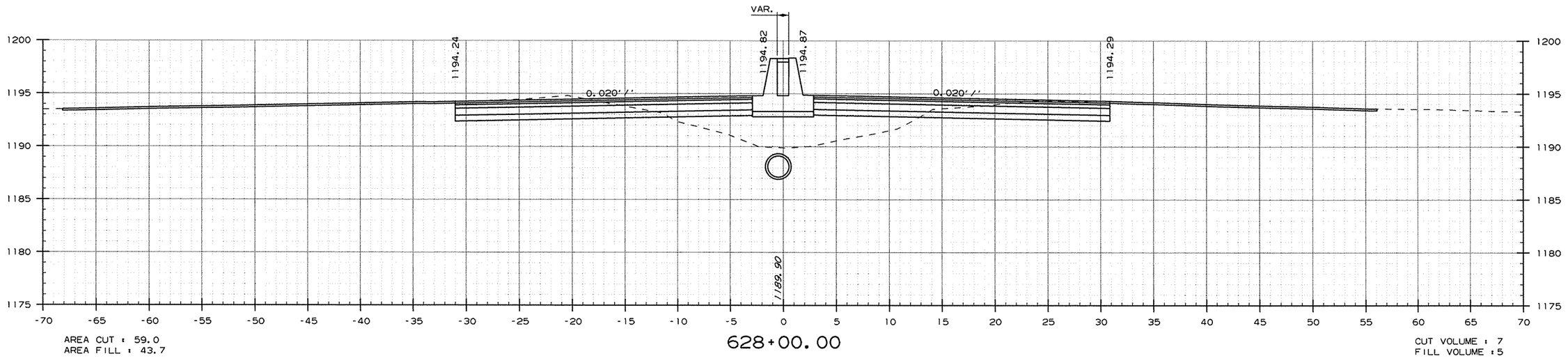
(2) CROSS SECTIONS



AREA CUT : 51.4
AREA FILL : 36.5

628+26.85

CUT VOLUME : 55
FILL VOLUME : 40



AREA CUT : 59.0
AREA FILL : 43.7

628+00.00

CUT VOLUME : 7
FILL VOLUME : 5

CROSS SECTION STA. 628+00 TO STA. 628+27

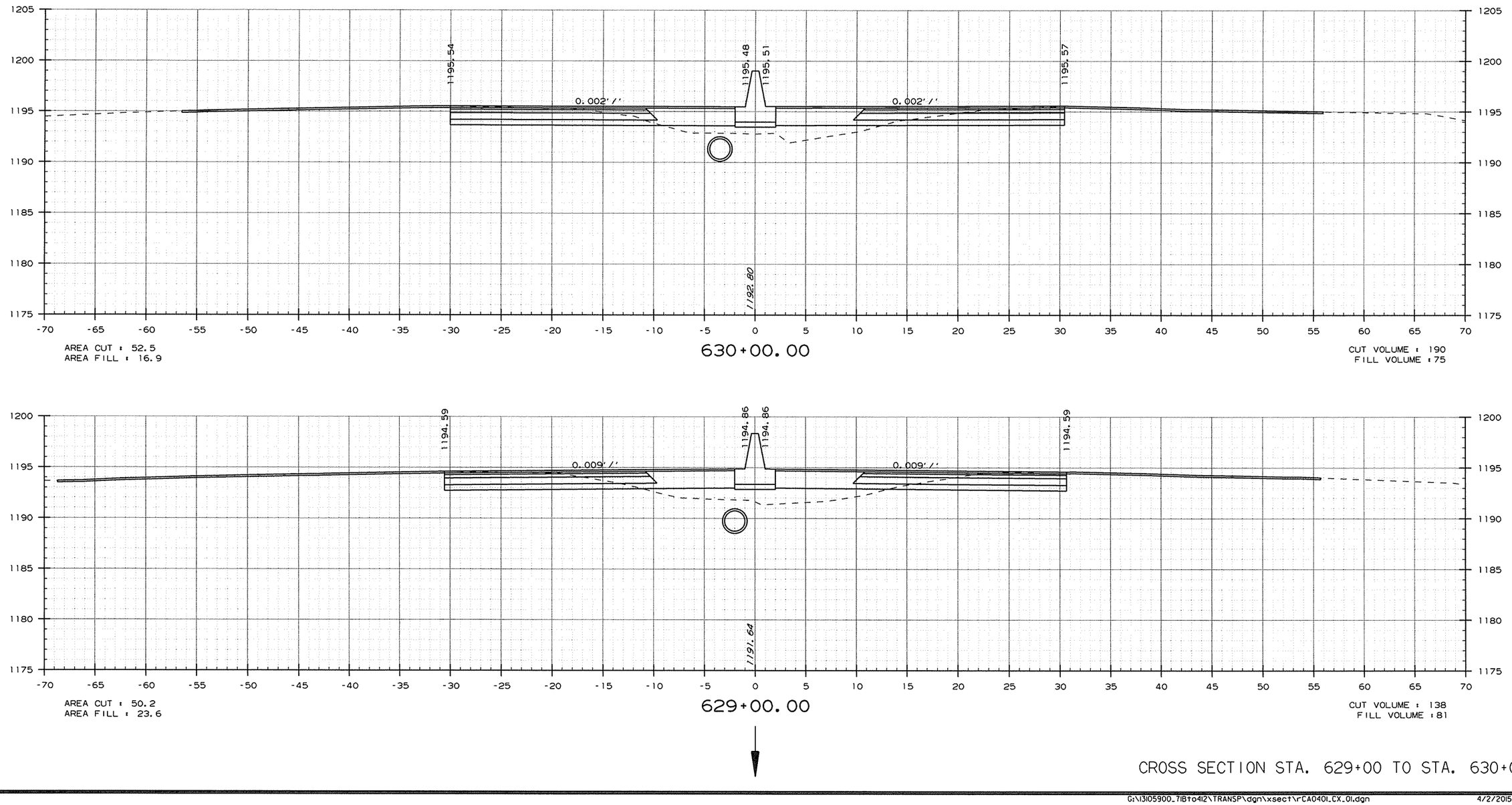
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	225	338

(2) CROSS SECTIONS

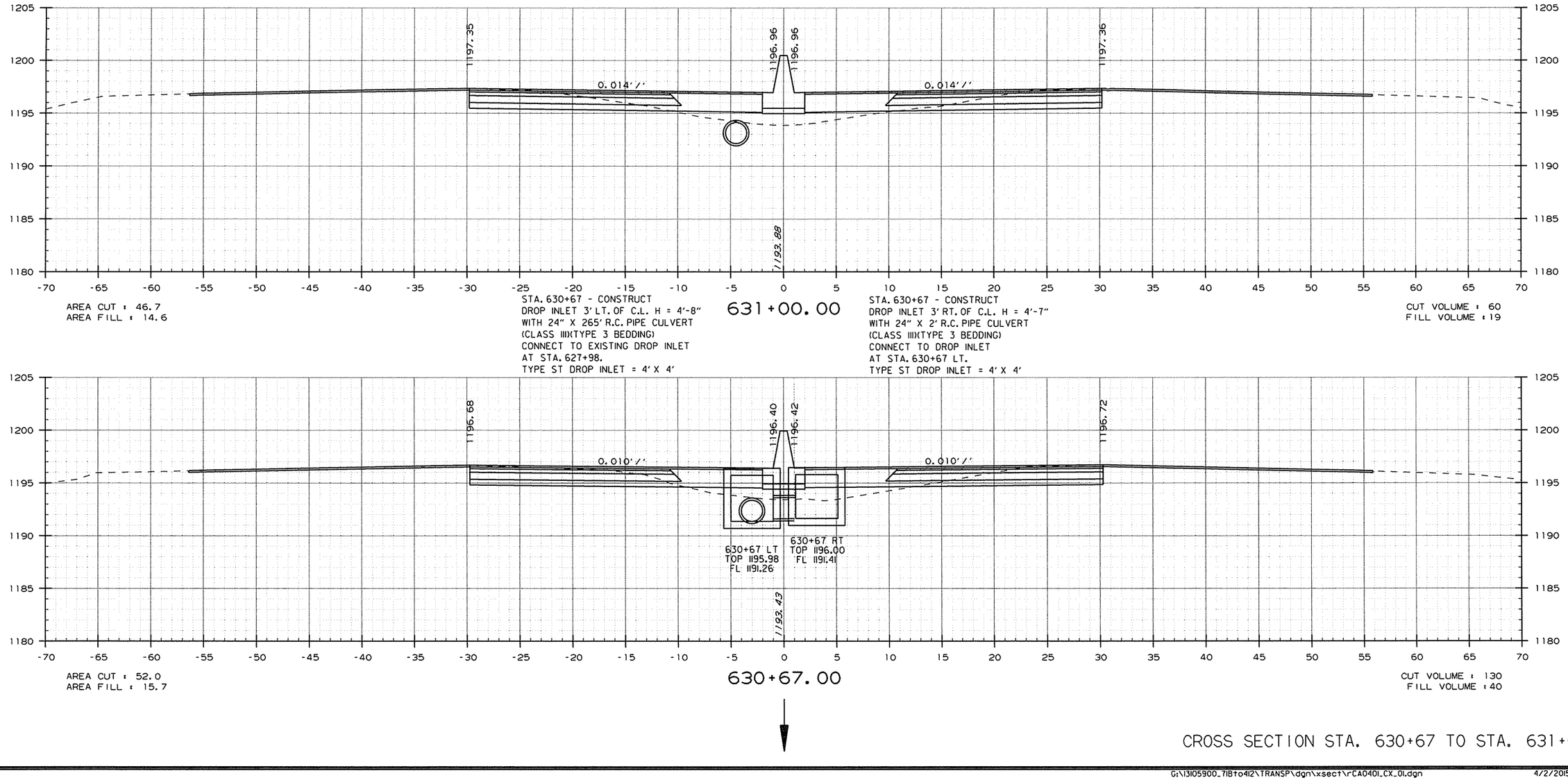


CROSS SECTION STA. 629+00 TO STA. 630+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	226	338
				(2)	CROSS SECTIONS			



CROSS SECTION STA. 630+67 TO STA. 631+00

USER: dd5109
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PLOTTED: 4/2/2015 13:08
SCALE: 10:1

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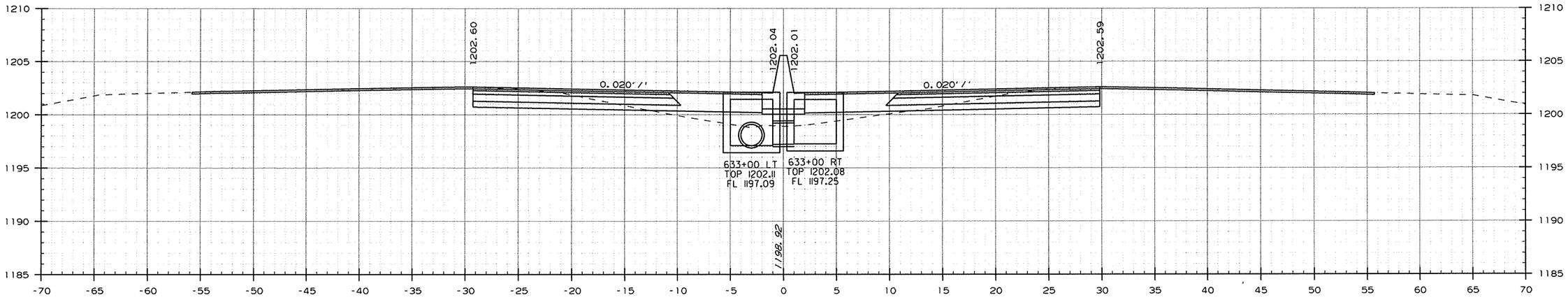
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	227	338
(2)	CROSS SECTIONS			

STA. 633+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 229' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 630+67 LT.
TYPE ST DROP INLET = 4' X 4'

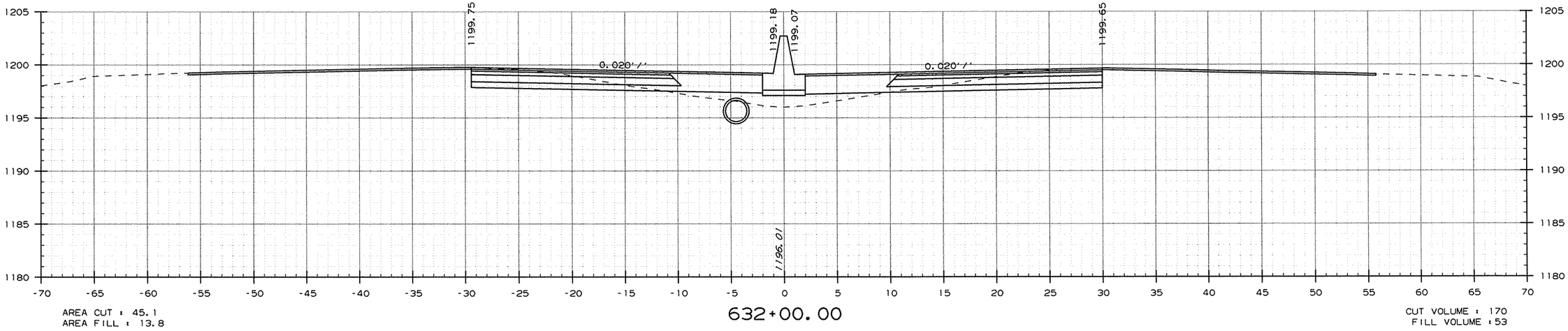
STA. 633+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 633+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 42.1
AREA FILL : 18.3

633+00.00

CUT VOLUME : 161
FILL VOLUME : 59



AREA CUT : 45.1
AREA FILL : 13.8

632+00.00

CUT VOLUME : 170
FILL VOLUME : 53

CROSS SECTION STA. 632+00 TO STA. 633+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:08

Crafton, Tull & Associates Inc.

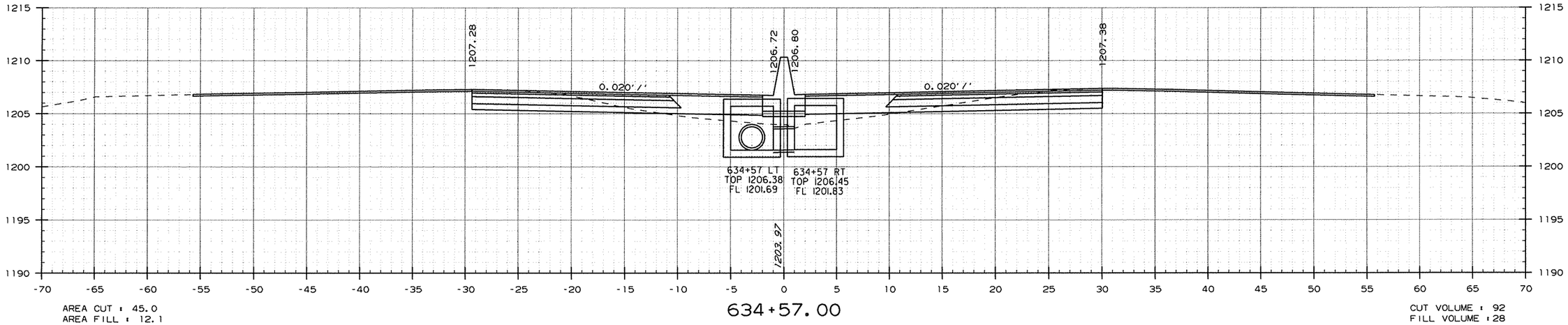
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	228	338

(2) CROSS SECTIONS

STA. 634+57.00 BEGIN TRANSITION (N.C.)
STA. 638+07.00 END TRANSITION (+0.020'/')
STA. 641+08.00 BEGIN TRANSITION (+0.020'/')
STA. 644+58.00 END TRANSITION (N.C.)

STA. 634+57 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 153' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 633+00 LT.
TYPE ST DROP INLET = 4' X 4'

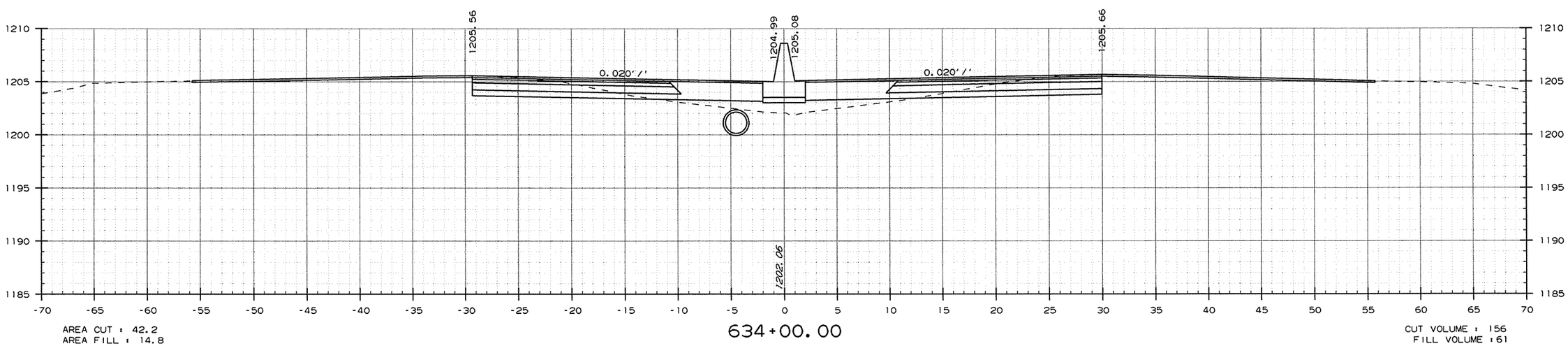
STA. 634+57 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 634+57 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 45.0
AREA FILL = 12.1

634+57.00

CUT VOLUME = 92
FILL VOLUME = 28



AREA CUT = 42.2
AREA FILL = 14.8

634+00.00

CUT VOLUME = 156
FILL VOLUME = 61

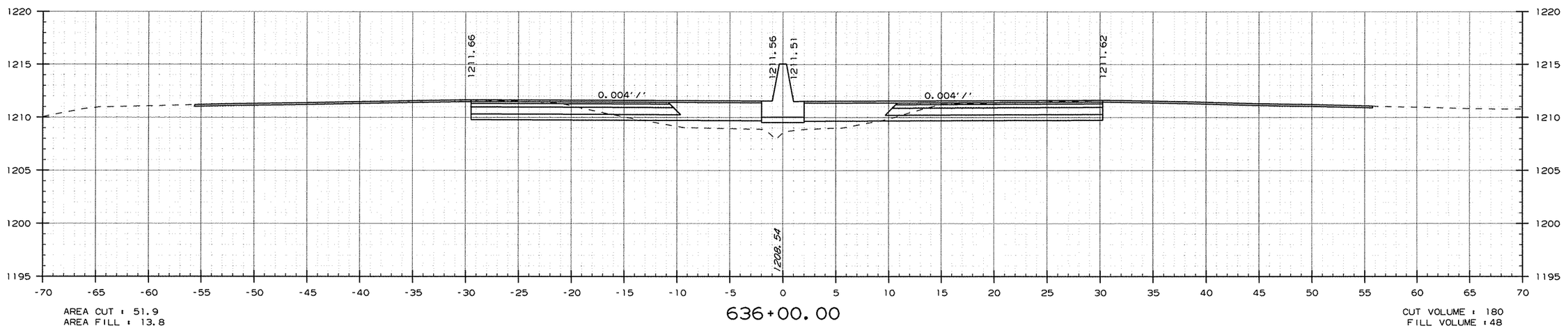
CROSS SECTION STA. 634+00 TO STA. 634+57

USER: dd5109
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PLOTTED: 4/2/2015 13:08

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	229	338

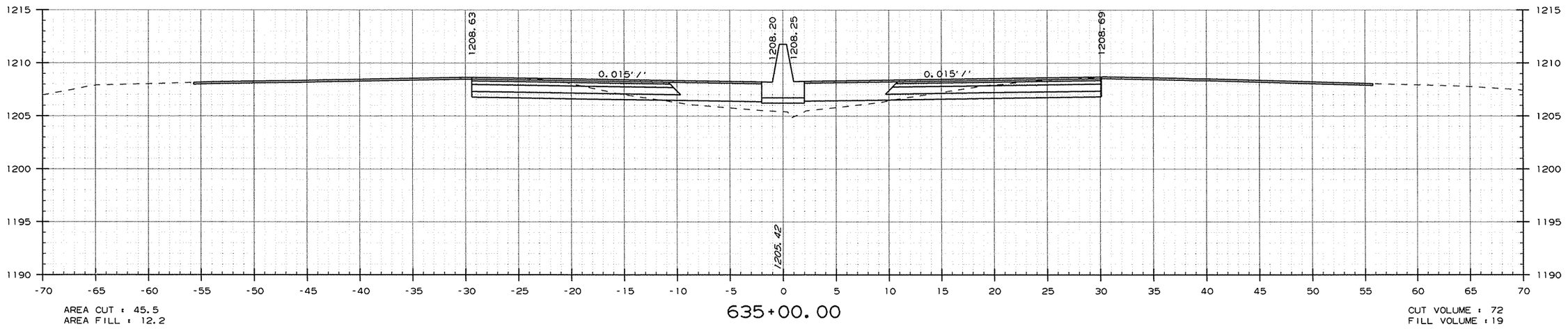
(2) CROSS SECTIONS



AREA CUT : 51.9
AREA FILL : 13.8

636+00.00

CUT VOLUME : 180
FILL VOLUME : 48



AREA CUT : 45.5
AREA FILL : 12.2

635+00.00

CUT VOLUME : 72
FILL VOLUME : 19

CROSS SECTION STA. 635+00 TO STA. 636+00

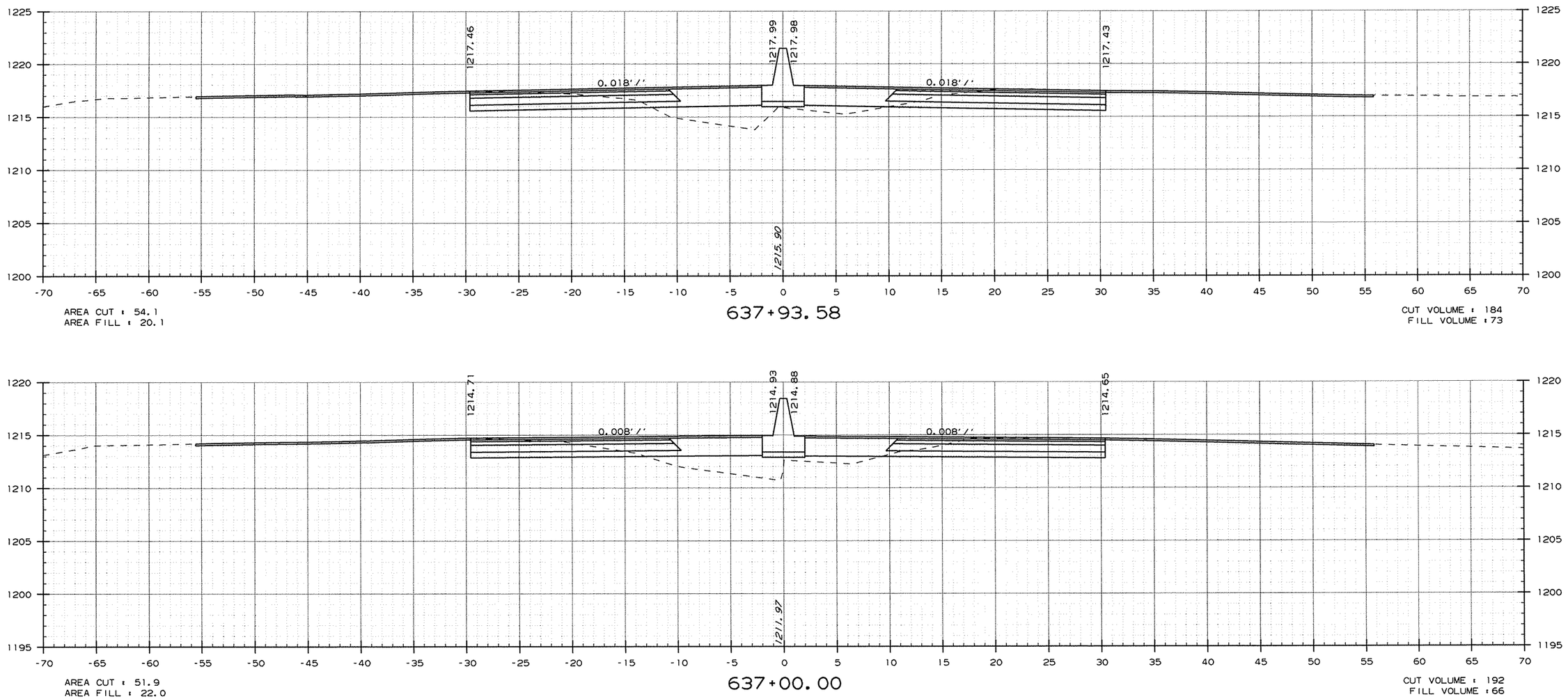
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SCALE: 10:1

G:\13105900_718to412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn 4/2/2015 13:08

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	230	338
2	CROSS SECTIONS			



CROSS SECTION STA. 637+00 TO STA. 637+94

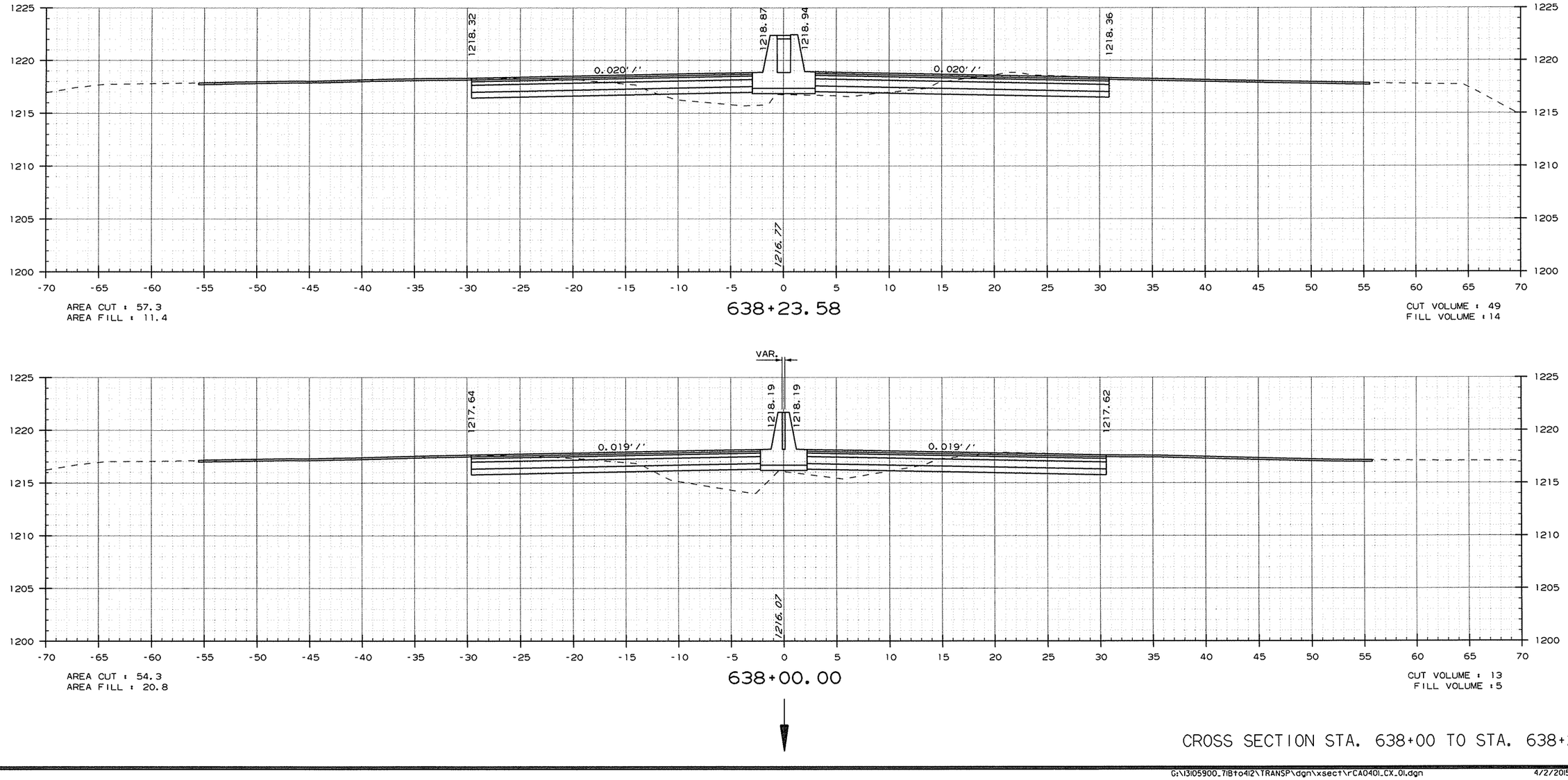
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PLOTTED: 4/2/2015 13:09
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	231	338

2 CROSS SECTIONS



CROSS SECTION STA. 638+00 TO STA. 638+24

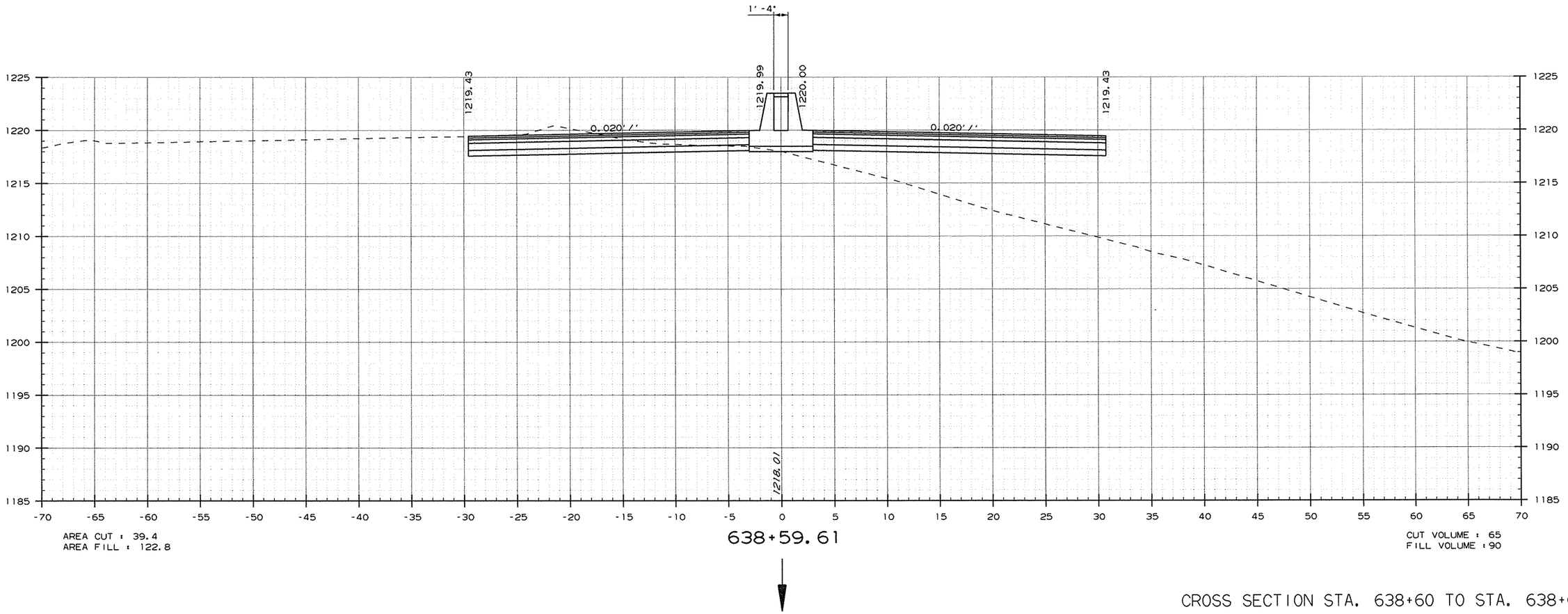
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	232	338
				(2)	CROSS SECTIONS			

STA. 638+77.96 BR. END
I-540 LML BRIDGE (S.B.)
194'-0" CONT. COMPOSITE
W-BEAM UNIT (49'- 86' - 59')
62'-0" CLEAR ROADWAY
BR. NO. A5920
STA. 640+74.45 - BRIDGE END

STA. 638+41.25 BR. END
I-540 RML BRIDGE (N.B.) IN PLACE
194'-0" CONT. COMPOSITE
W-BEAM UNIT (49' - 86' - 59')
62'-0" CLEAR ROADWAY
BR. NO. B5920
STA. 640+37.74 - BRIDGE END



CROSS SECTION STA. 638+60 TO STA. 638+60

USER: dd5109
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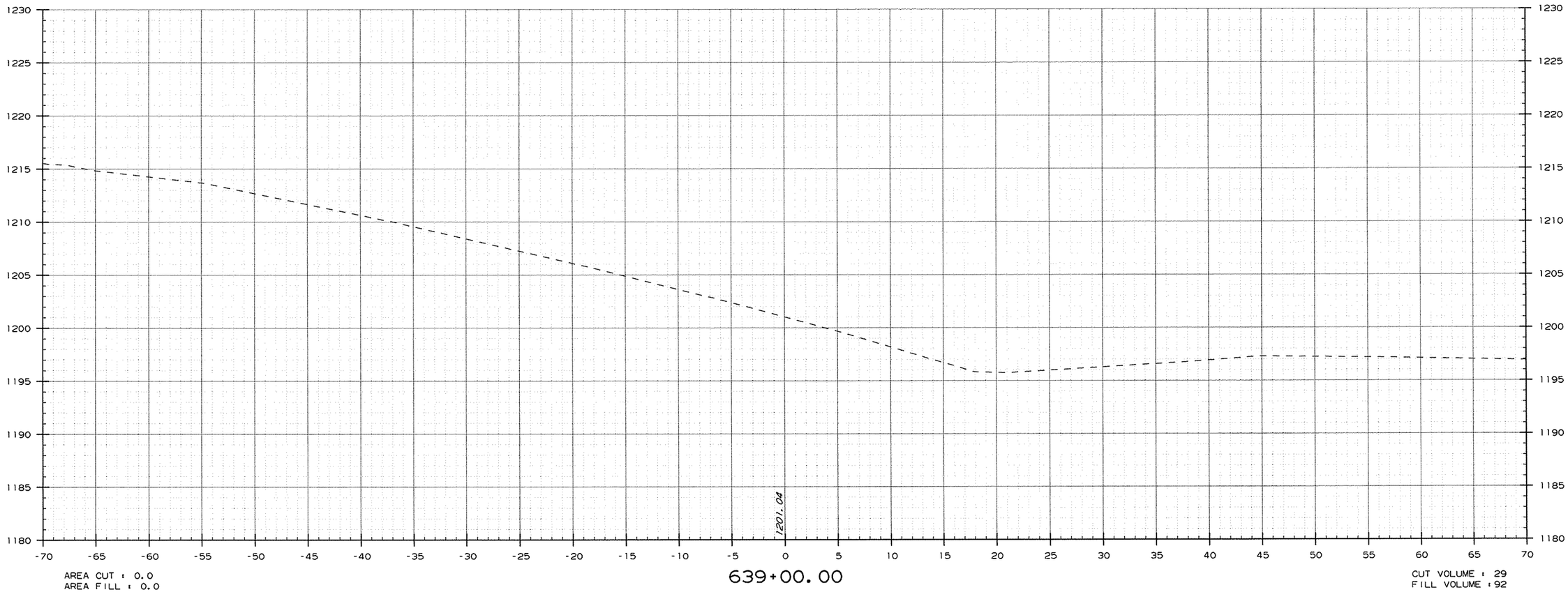
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	233	338

(2) CROSS SECTIONS



CROSS SECTION STA. 639+00 TO STA. 639+00

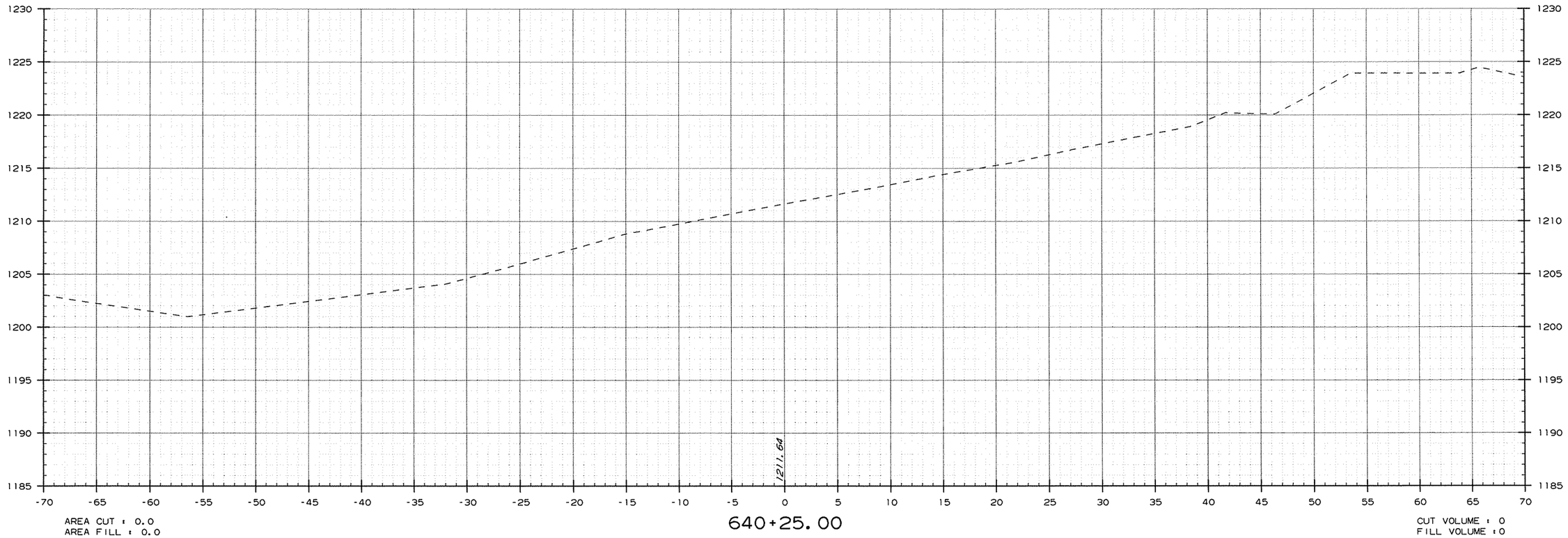
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	234	338

(2) CROSS SECTIONS



CROSS SECTION STA. 640+25 TO STA. 640+25

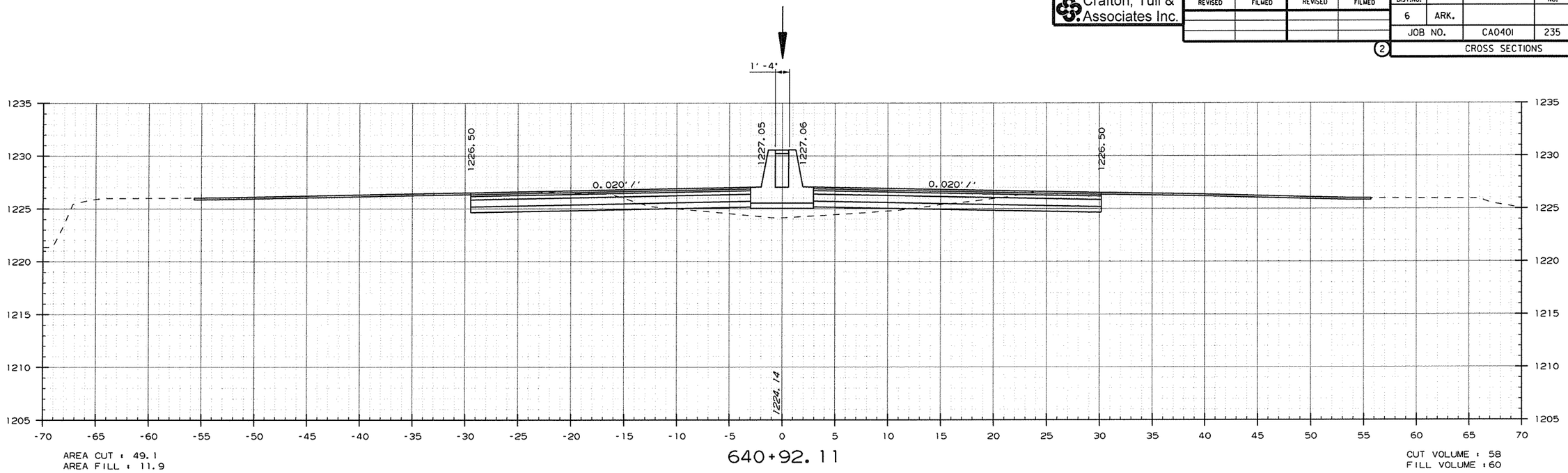
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	235	338

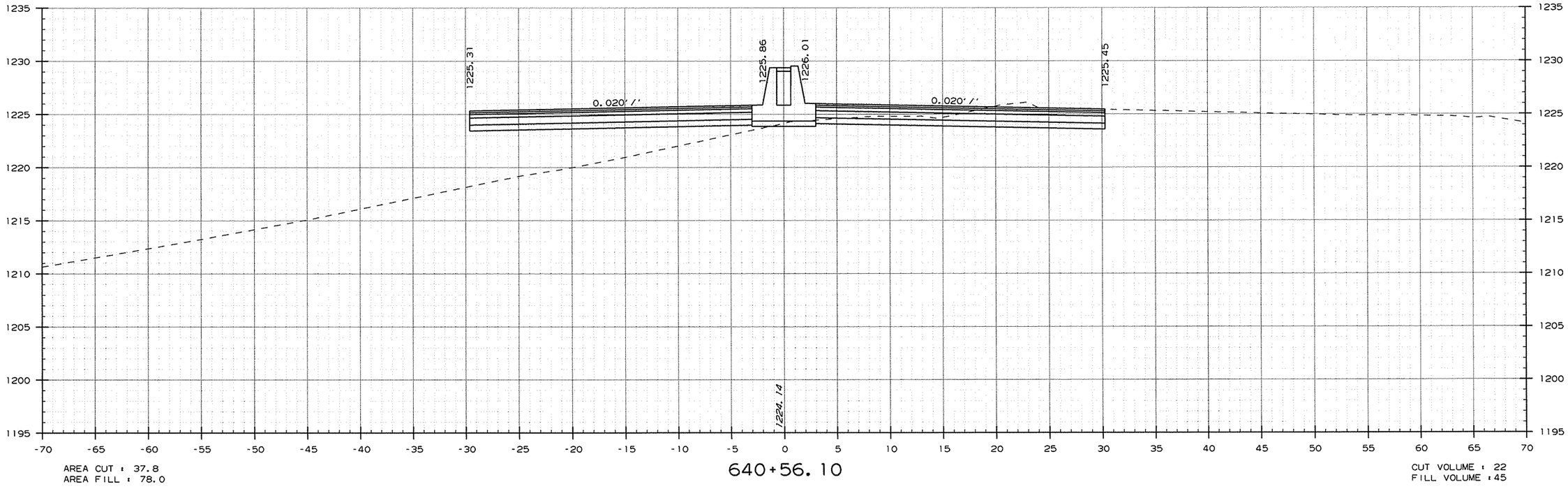
(2) CROSS SECTIONS



AREA CUT : 49.1
AREA FILL : 11.9

640+92.11

CUT VOLUME : 58
FILL VOLUME : 60



AREA CUT : 37.8
AREA FILL : 78.0

640+56.10

CUT VOLUME : 22
FILL VOLUME : 45

CROSS SECTION STA. 640+56 TO STA. 640+92

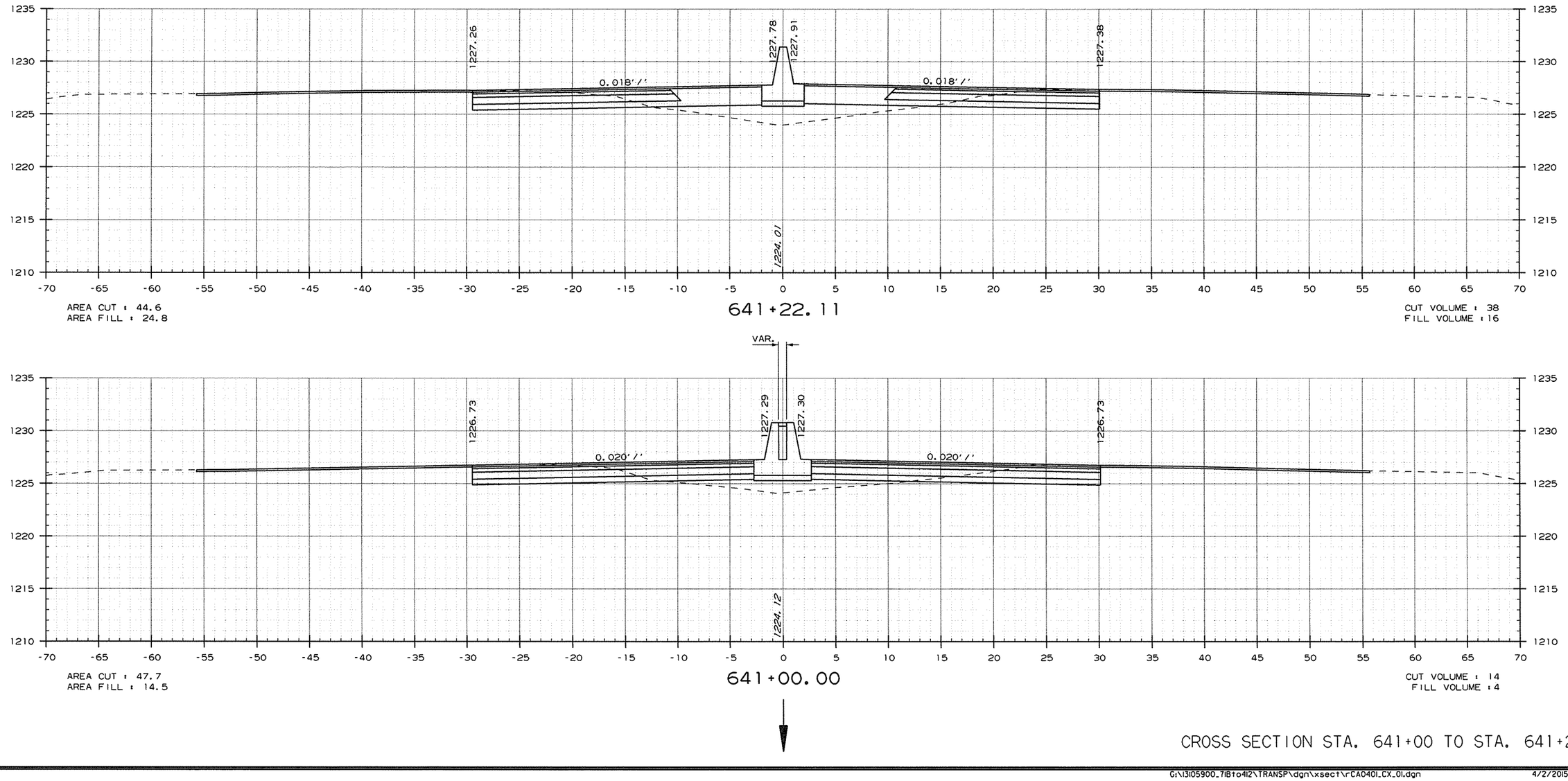
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	236	338

(2) CROSS SECTIONS



CROSS SECTION STA. 641+00 TO STA. 641+22

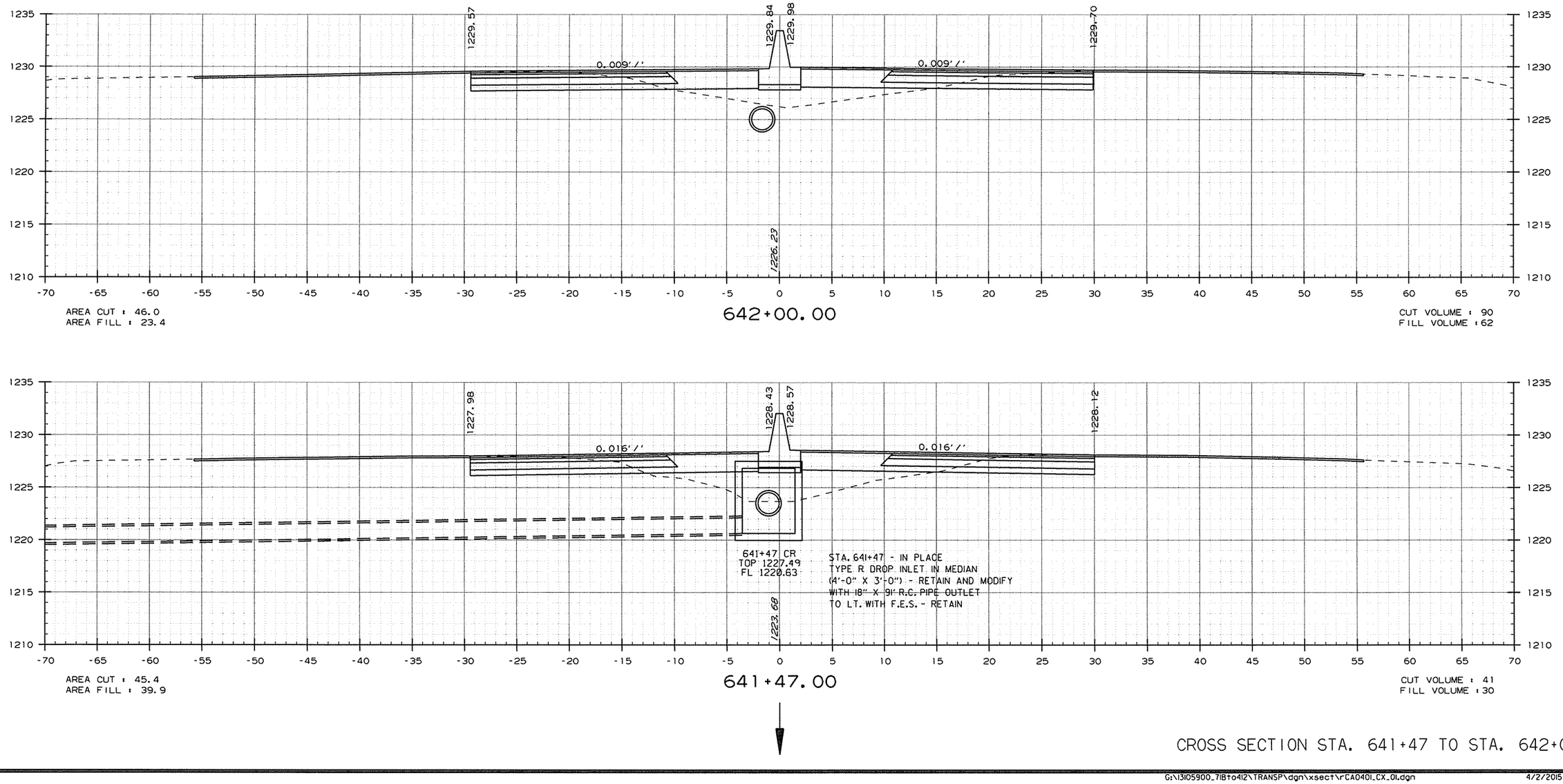
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	237	338

(2) CROSS SECTIONS



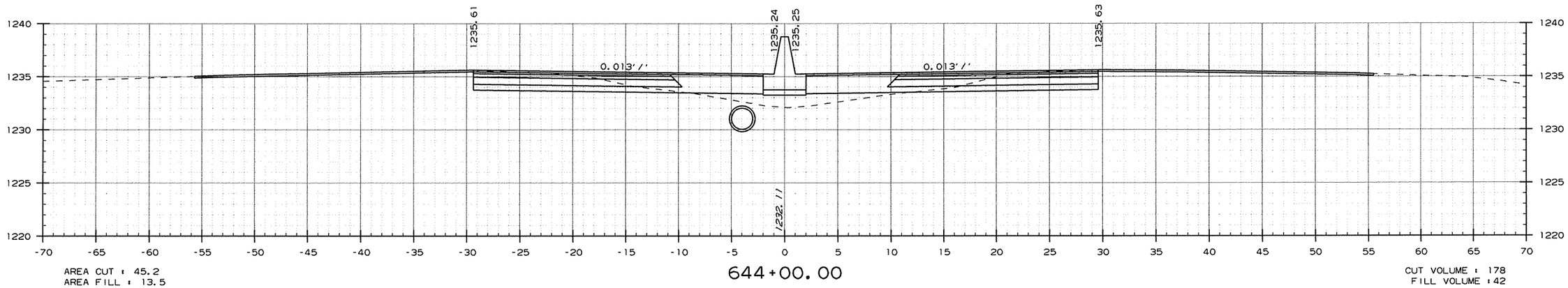
CROSS SECTION STA. 641+47 TO STA. 642+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

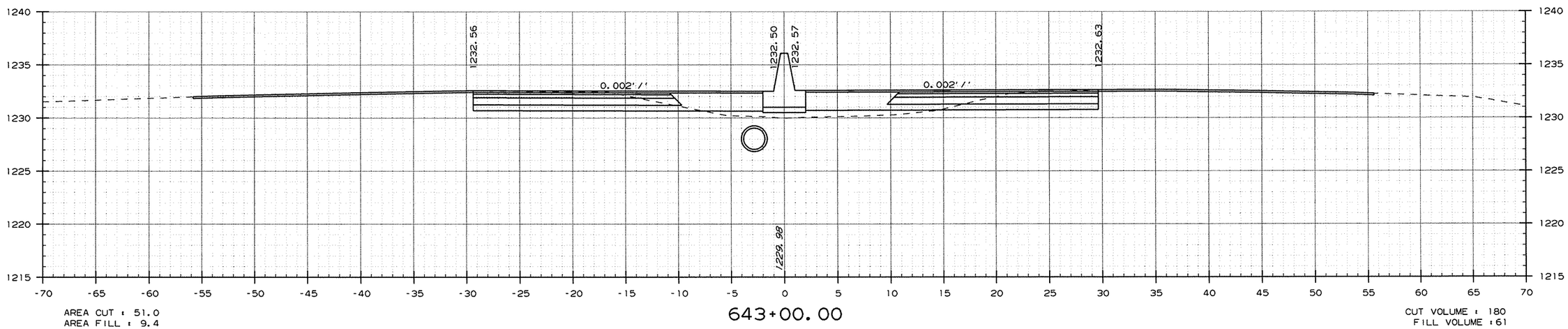
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	238	338
(2)	CROSS SECTIONS			



AREA CUT : 45.2
AREA FILL : 13.5

644+00.00

CUT VOLUME : 178
FILL VOLUME : 42



AREA CUT : 51.0
AREA FILL : 9.4

643+00.00

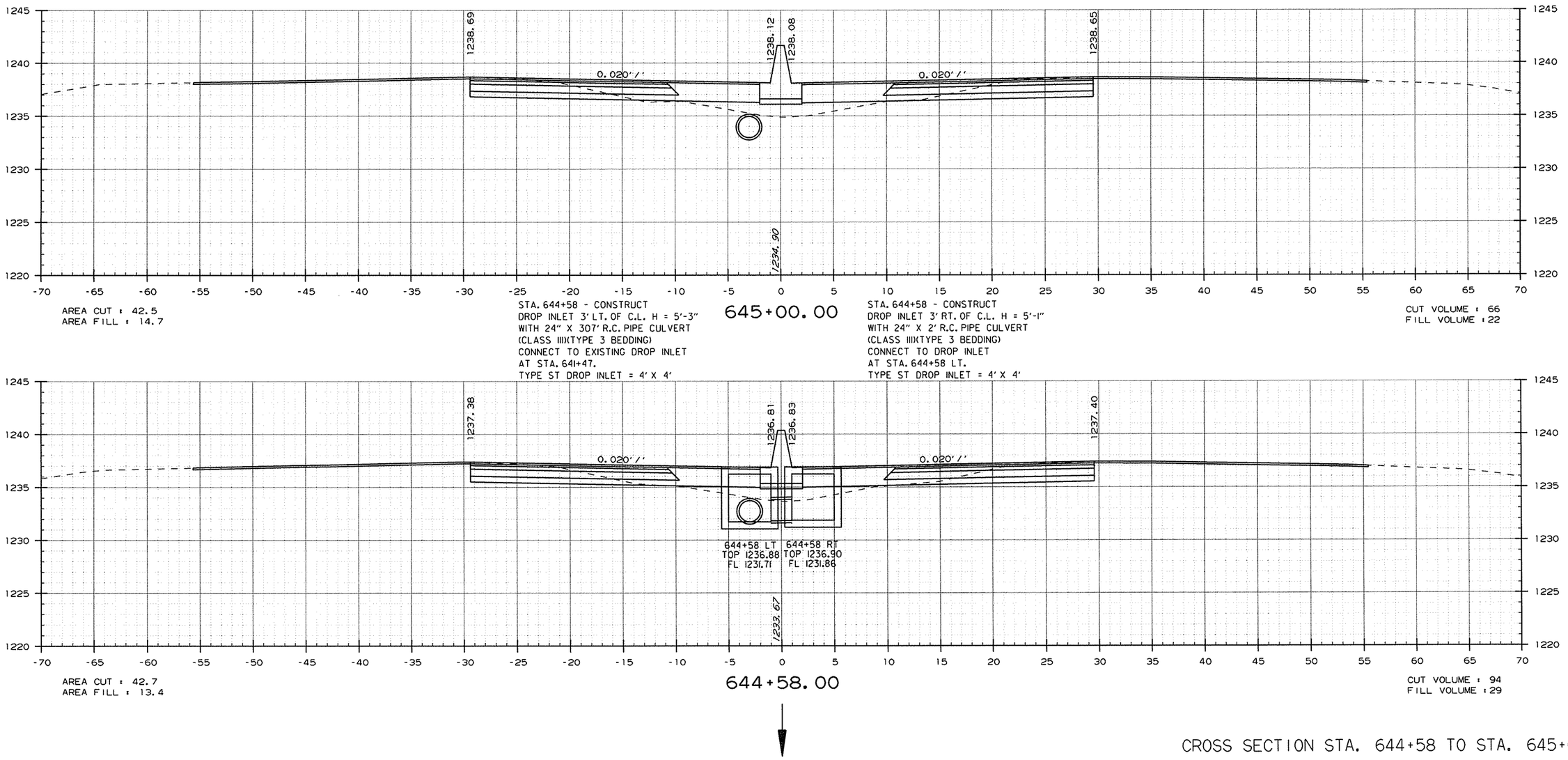
CUT VOLUME : 180
FILL VOLUME : 61

CROSS SECTION STA. 643+00 TO STA. 644+00

USER: ds109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 13:09
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	239	338
				(2)	CROSS SECTIONS			



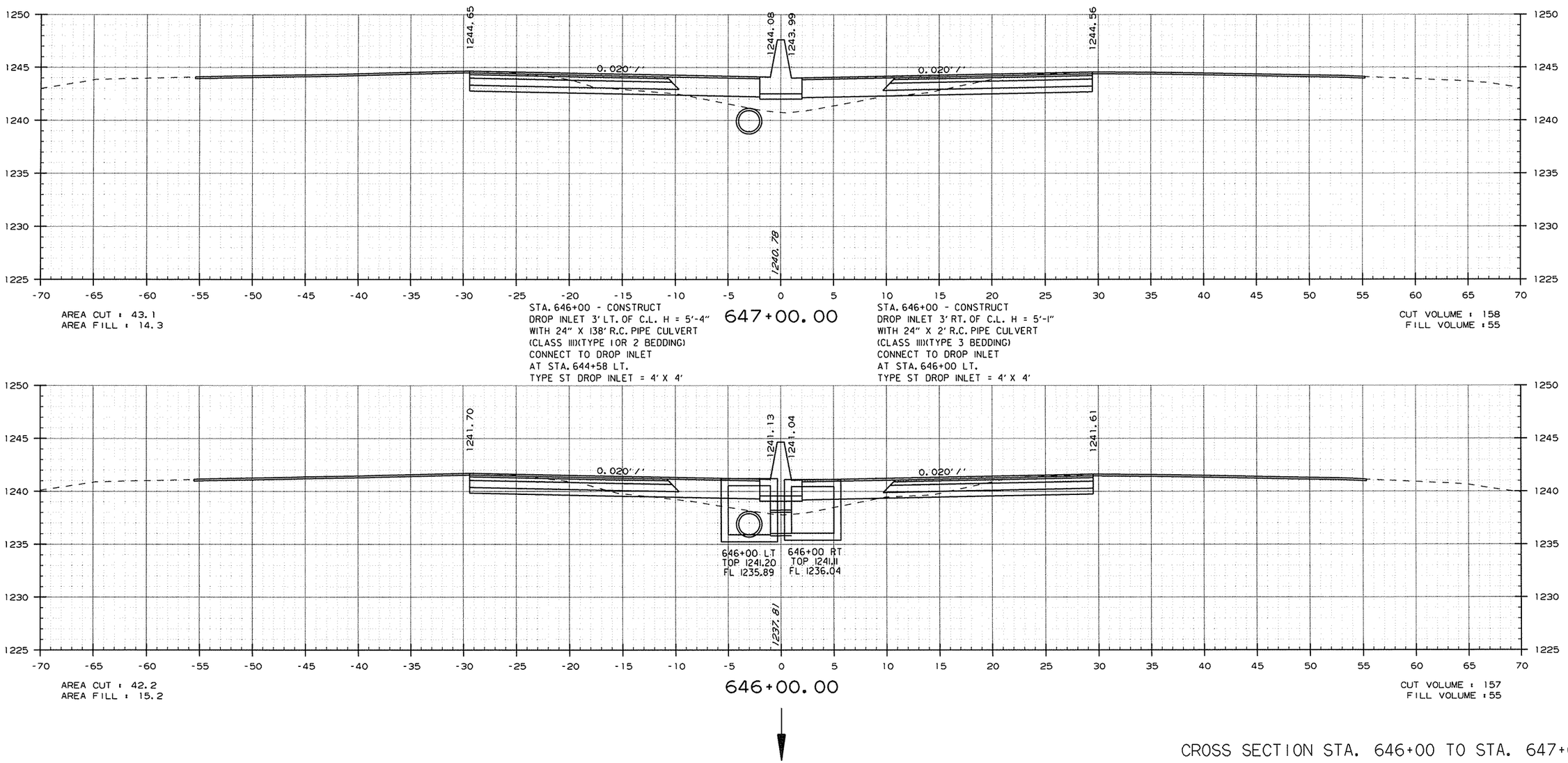
CROSS SECTION STA. 644+58 TO STA. 645+00

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	240	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 646+00 TO STA. 647+00

USER: dd5109
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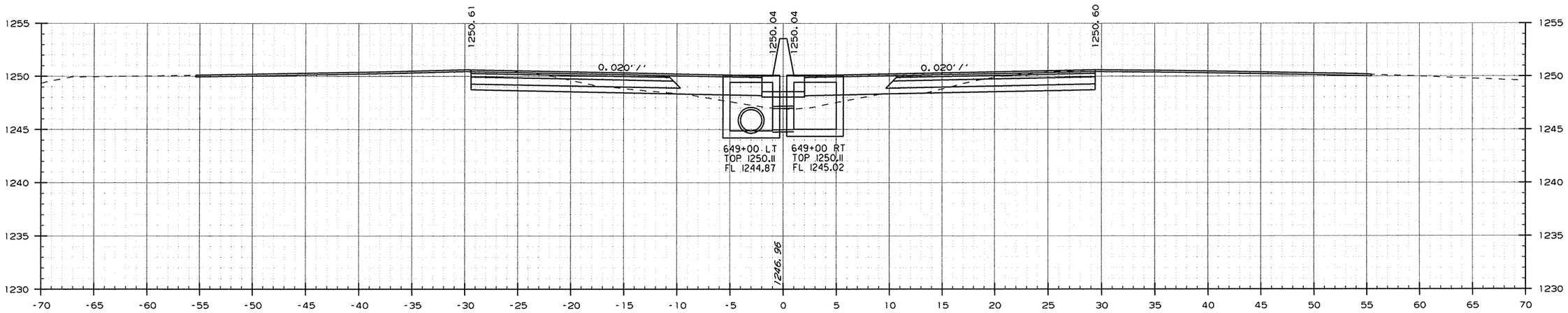
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	241	338

2 CROSS SECTIONS

STA. 649+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 646+00 LT.
TYPE ST DROP INLET = 4' X 4'

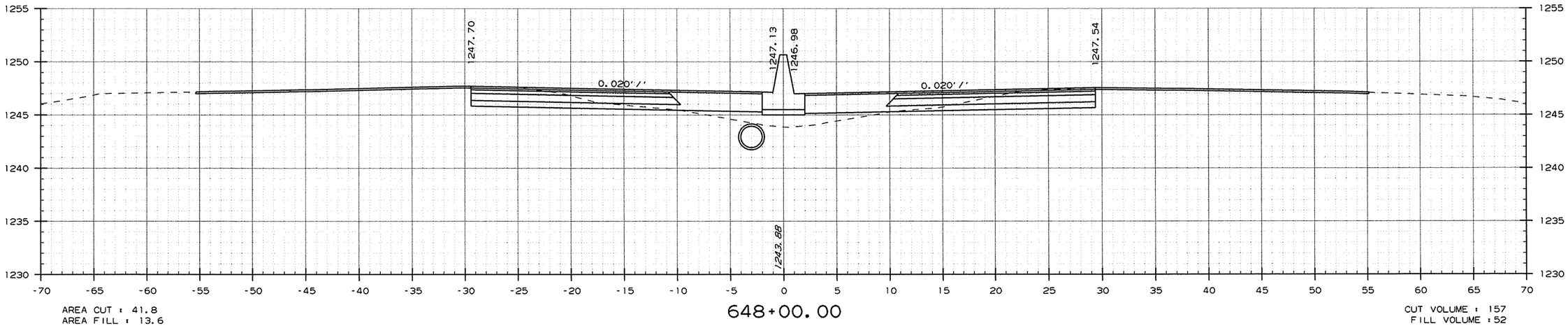
STA. 649+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 649+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 41.5
AREA FILL : 12.3

649+00.00

CUT VOLUME : 154
FILL VOLUME : 48



AREA CUT : 41.8
AREA FILL : 13.6

648+00.00

CUT VOLUME : 157
FILL VOLUME : 52

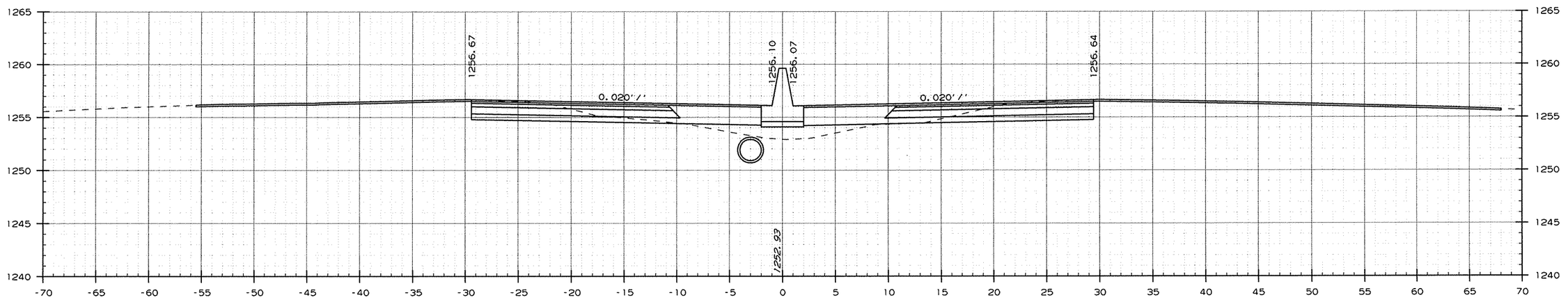
CROSS SECTION STA. 648+00 TO STA. 649+00

USER: dd5109
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Crafton, Tull & Associates Inc.

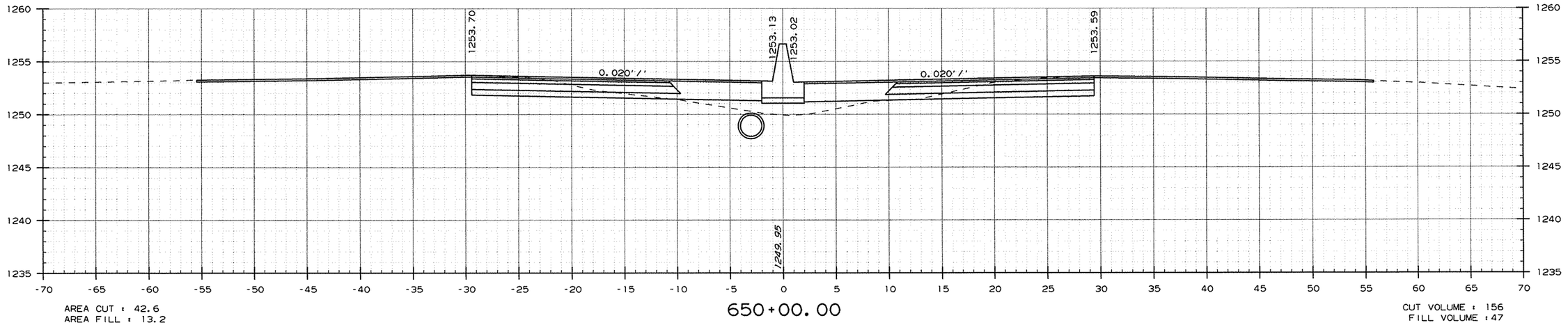
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	242	338
				(2)	CROSS SECTIONS			



AREA CUT : 42.7
AREA FILL : 13.3

651+00.00

CUT VOLUME : 158
FILL VOLUME : 49



AREA CUT : 42.6
AREA FILL : 13.2

650+00.00

CUT VOLUME : 156
FILL VOLUME : 47

CROSS SECTION STA. 650+00 TO STA. 651+00

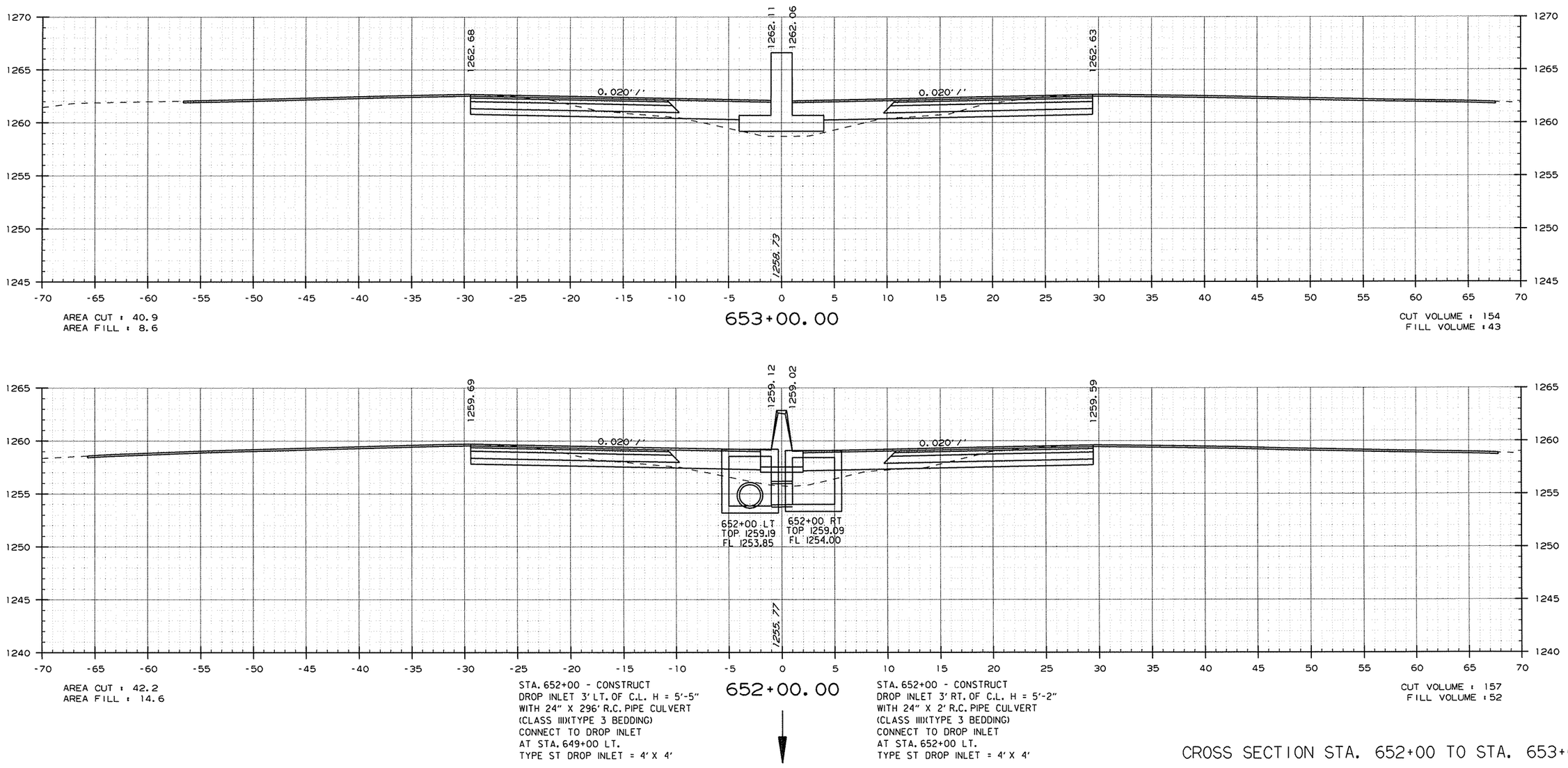
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	243	338

(2) CROSS SECTIONS



CROSS SECTION STA. 652+00 TO STA. 653+00

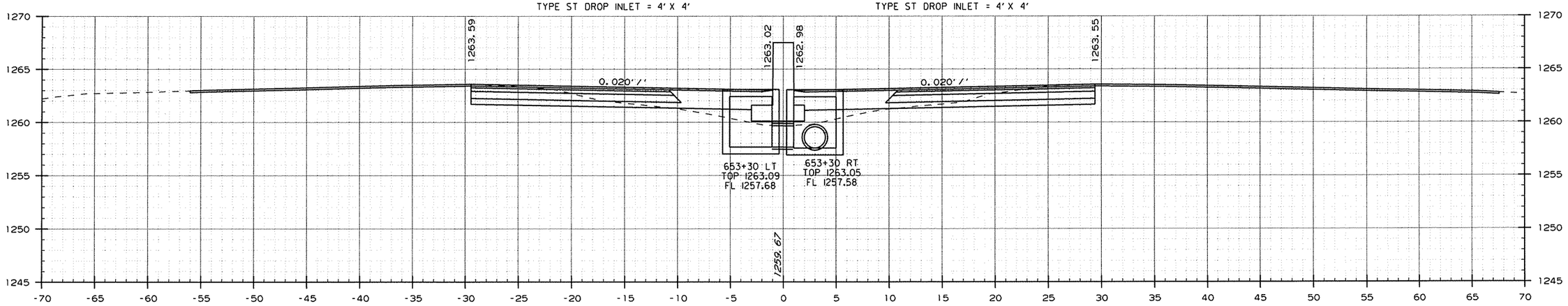
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	244	338
				(2)	CROSS SECTIONS			

STA. 653+30 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-5"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 653+30 RT.
TYPE ST DROP INLET = 4' X 4'

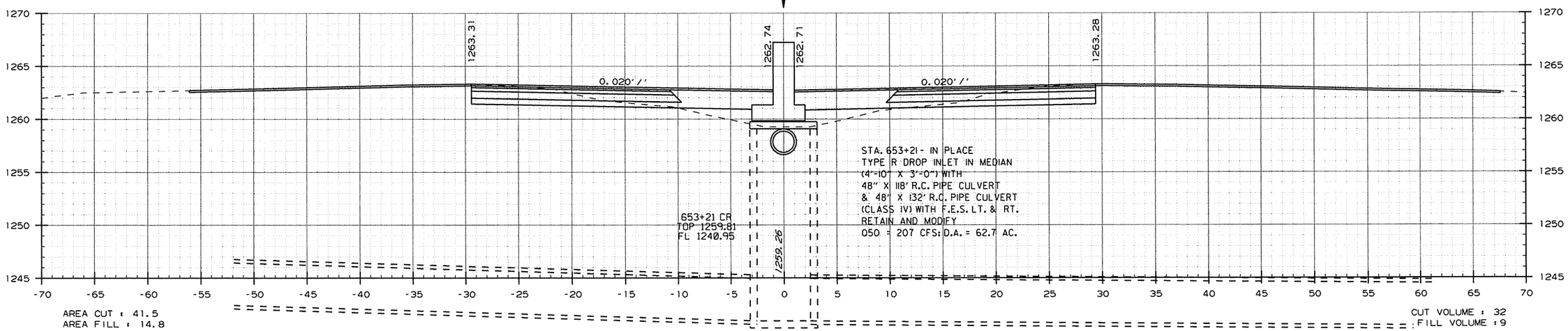
STA. 653+30 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-6"
WITH 24" X 9' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 653+21
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 40.8
AREA FILL = 18.1

653+30.00

CUT VOLUME = 14
FILL VOLUME = 5



AREA CUT = 41.5
AREA FILL = 14.8

653+21.00

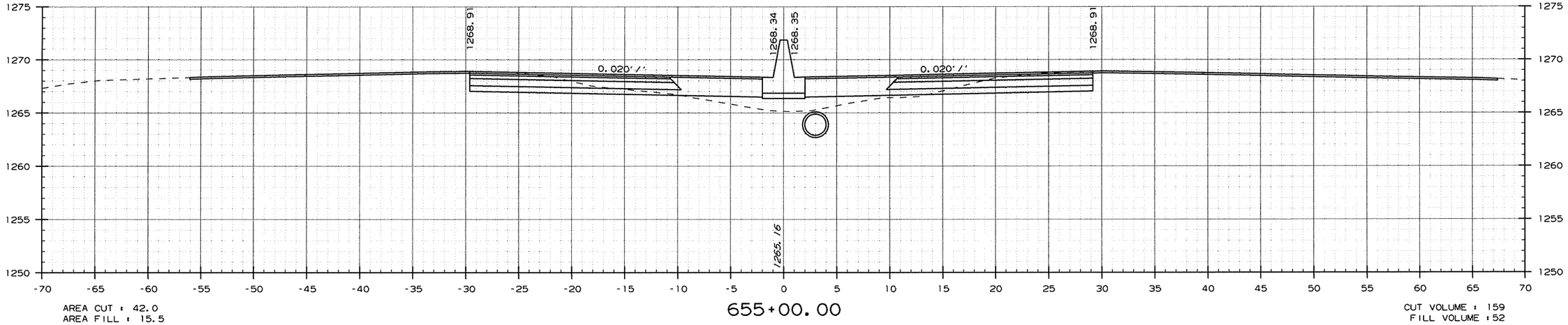
CUT VOLUME = 32
FILL VOLUME = 9

CROSS SECTION STA. 653+21 TO STA. 653+30

USER: dd5109
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PLOTTED: 4/2/2015 13:09
SCALE: 101

Crafton, Tull & Associates Inc.

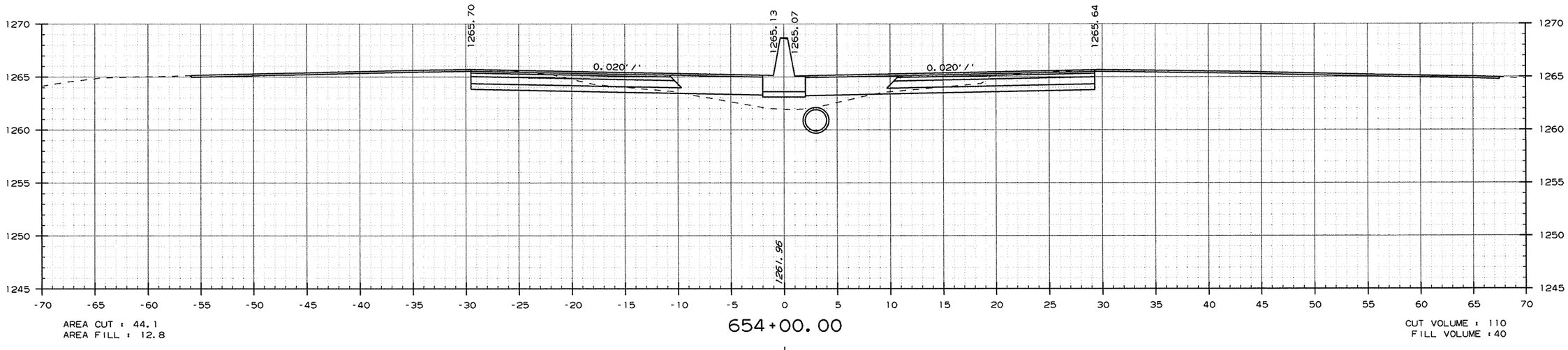
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	245	338
				(2)	CROSS SECTIONS			



AREA CUT : 42.0
AREA FILL : 15.5

655+00.00

CUT VOLUME : 159
FILL VOLUME : 52



AREA CUT : 44.1
AREA FILL : 12.8

654+00.00

CUT VOLUME : 110
FILL VOLUME : 40

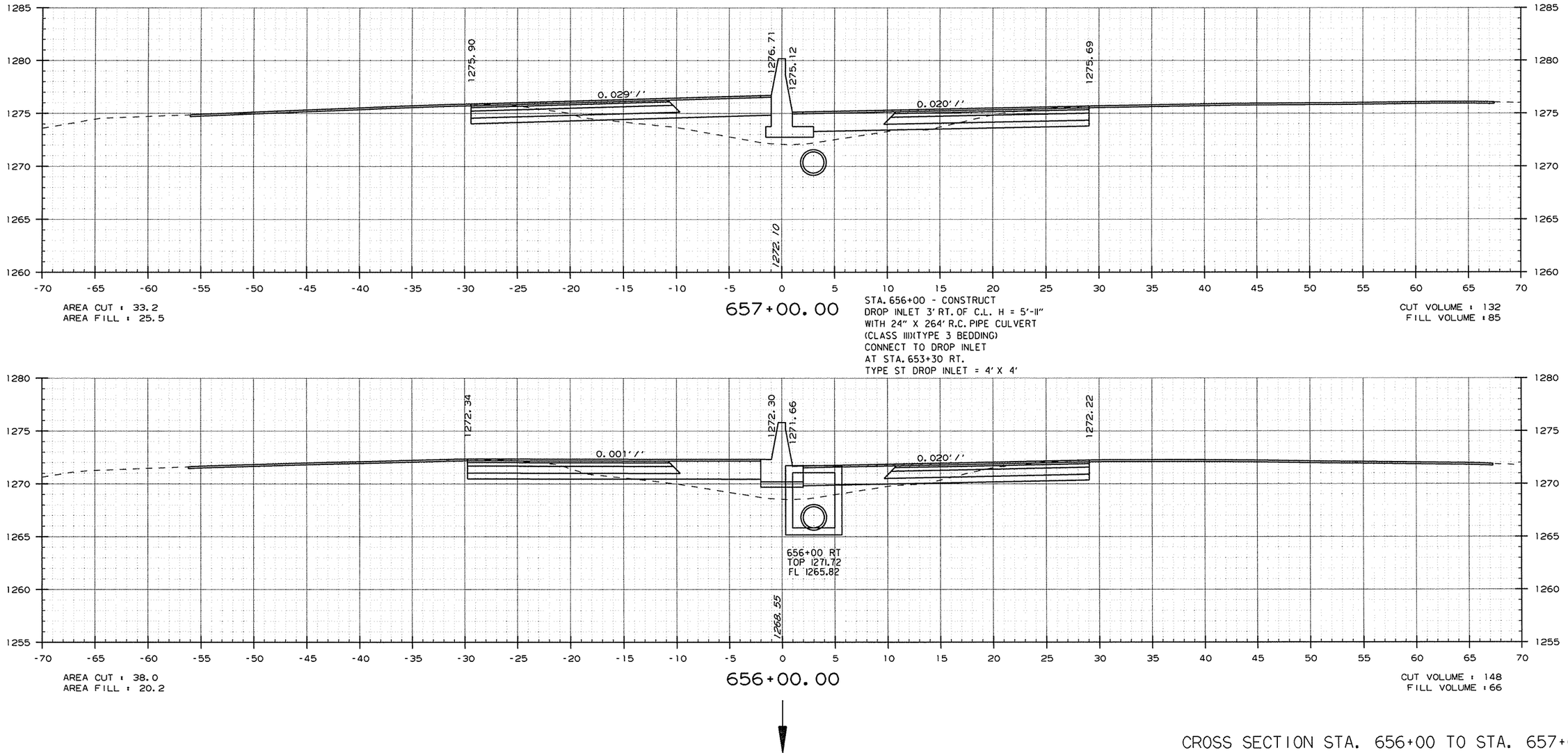
CROSS SECTION STA. 654+00 TO STA. 655+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:11

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	246	338
(2)	CROSS SECTIONS			



AREA CUT : 33.2
AREA FILL : 25.5

657+00.00

STA. 656+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-11"
WITH 24" X 264' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 653+30 RT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 132
FILL VOLUME : 85

AREA CUT : 38.0
AREA FILL : 20.2

656+00.00

CUT VOLUME : 148
FILL VOLUME : 66

CROSS SECTION STA. 656+00 TO STA. 657+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:11

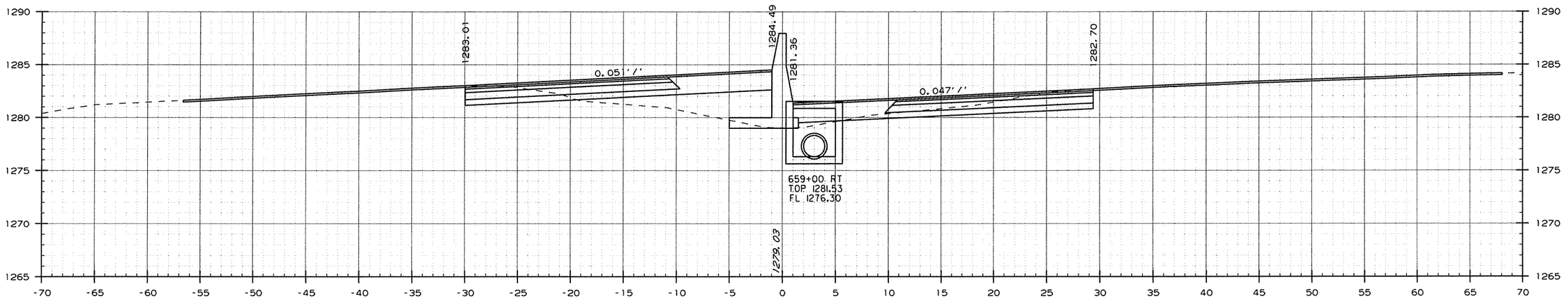
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	247	338

(2) CROSS SECTIONS

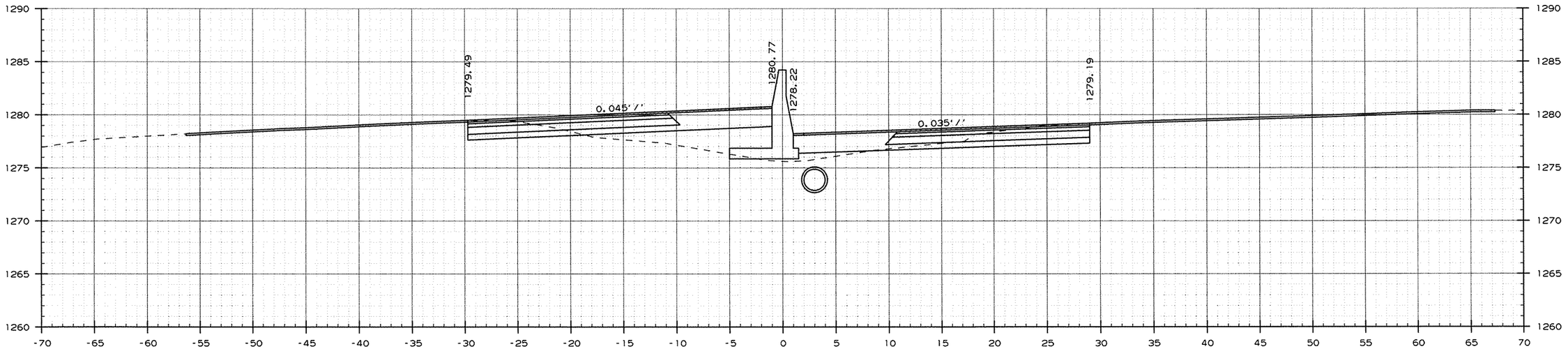
STA. 659+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 656+00 RT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 37.3
AREA FILL = 28.9

659+00.00

CUT VOLUME = 134
FILL VOLUME = 106



AREA CUT = 35.1
AREA FILL = 28.6

658+00.00

CUT VOLUME = 126
FILL VOLUME = 100

CROSS SECTION STA. 658+00 TO STA. 659+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 13:11
SCALE: 10:1

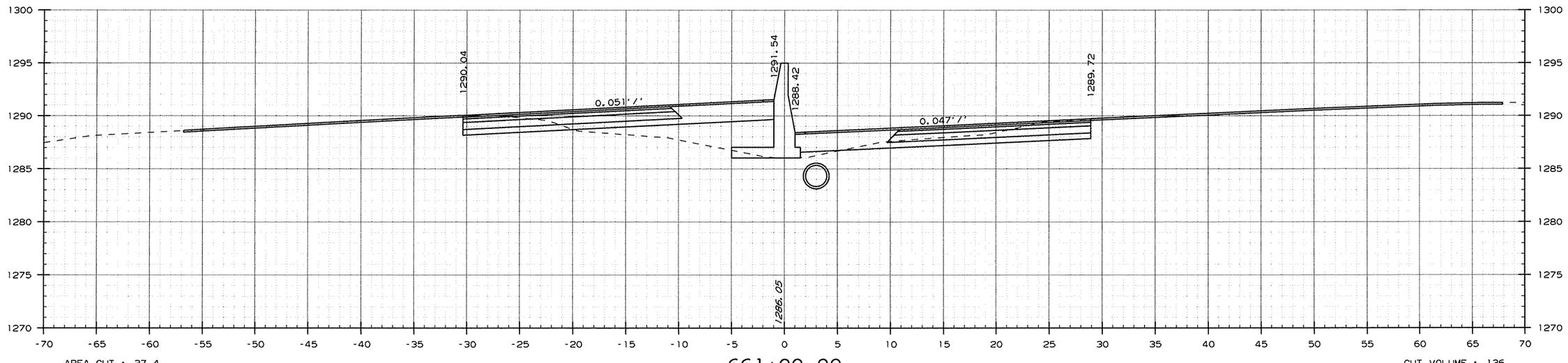
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	248	338

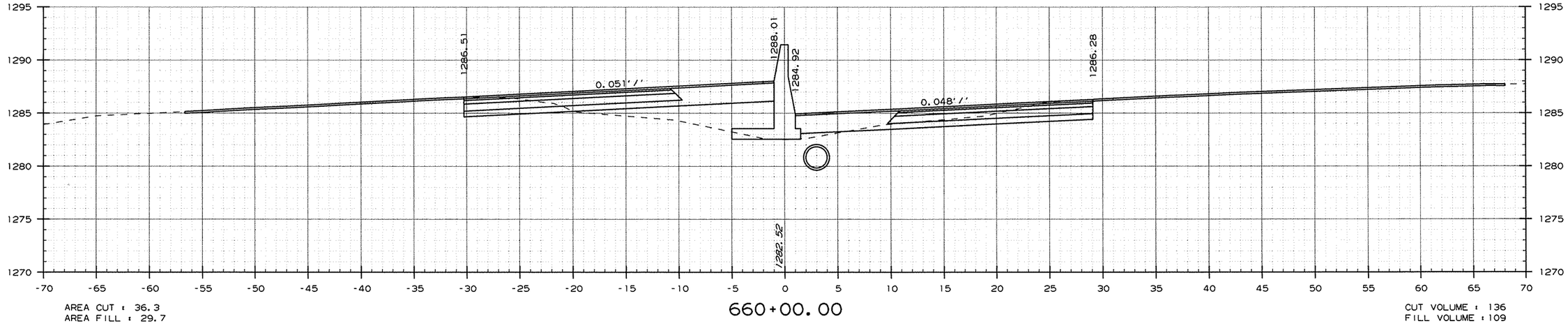
(2) CROSS SECTIONS



AREA CUT : 37.4
AREA FILL : 30.2

661+00.00

CUT VOLUME : 136
FILL VOLUME : 111



AREA CUT : 36.3
AREA FILL : 29.7

660+00.00

CUT VOLUME : 136
FILL VOLUME : 109

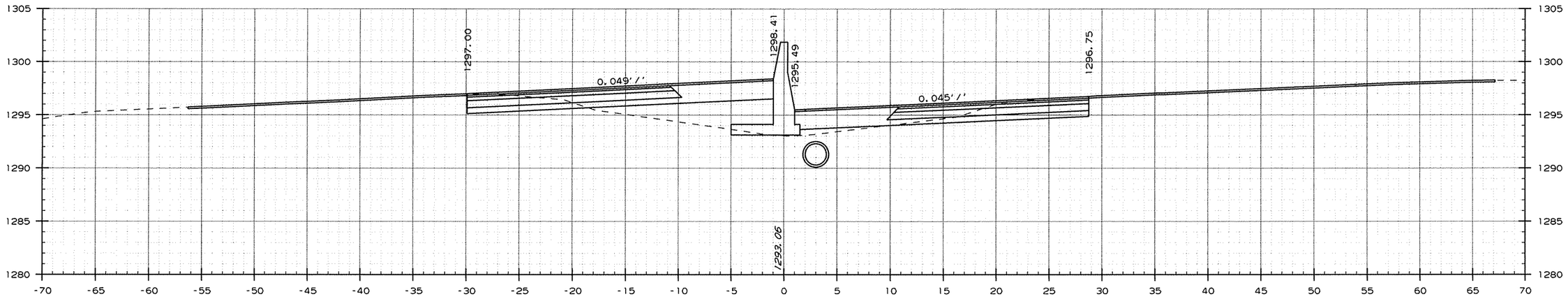
CROSS SECTION STA. 660+00 TO STA. 661+00

USER: dd5109
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PLOTTED: 4/2/2015 13:11
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	249	338

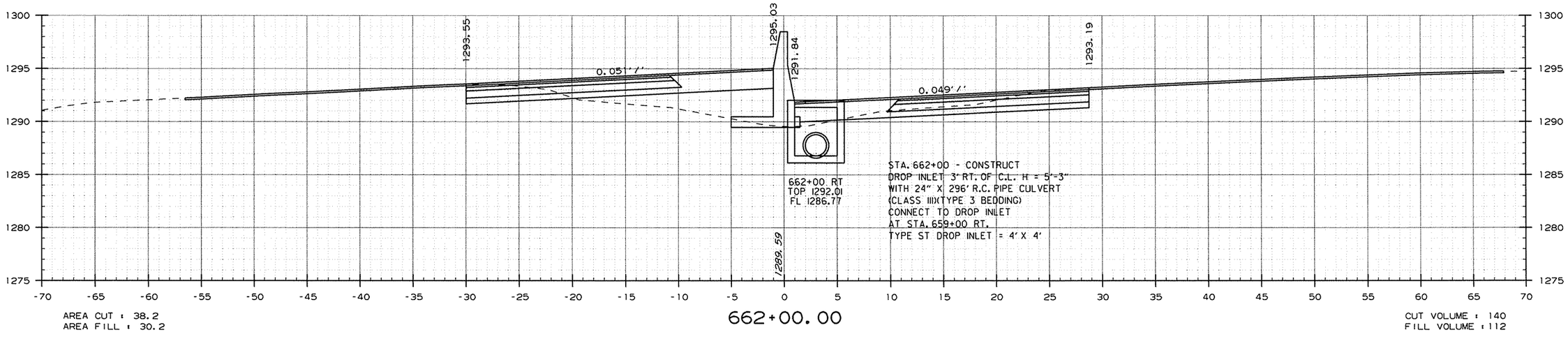
(2) CROSS SECTIONS



AREA CUT : 35.6
AREA FILL : 32.3

663+00.00

CUT VOLUME : 137
FILL VOLUME : 116



662+00 RT
TOP 1292.01
FL 1286.77

STA. 662+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-3"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 659+00 RT.
TYPE ST DROP INLET = 4' X 4'

AREA CUT : 38.2
AREA FILL : 30.2

662+00.00

CUT VOLUME : 140
FILL VOLUME : 112

CROSS SECTION STA. 662+00 TO STA. 663+00

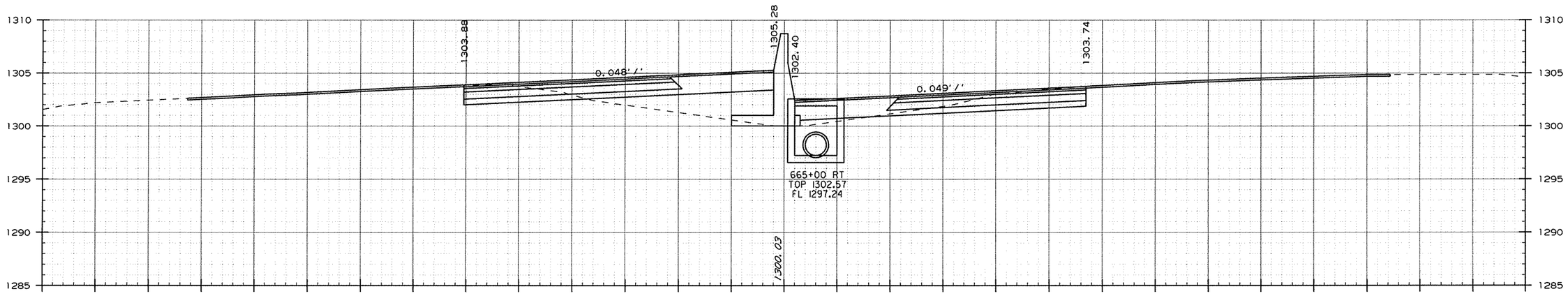
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PLOTTED: 4/2/2015 13:11
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	250	338

(2) CROSS SECTIONS

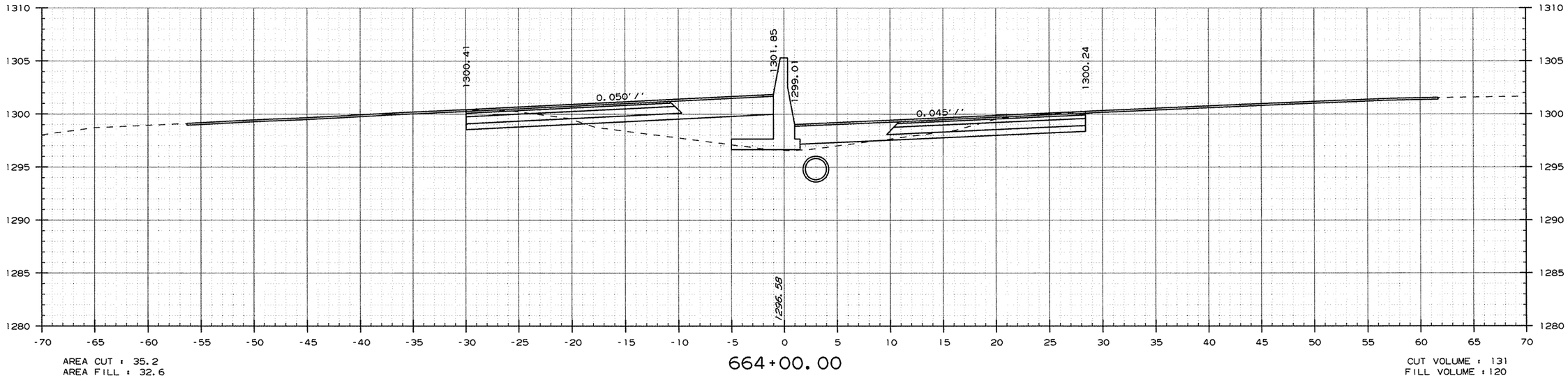
STA. 665+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-4"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 662+00 RT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 37.4
AREA FILL = 30.7

665+00.00

CUT VOLUME = 134
FILL VOLUME = 117



AREA CUT = 35.2
AREA FILL = 32.6

664+00.00

CUT VOLUME = 131
FILL VOLUME = 120

CROSS SECTION STA. 664+00 TO STA. 665+00

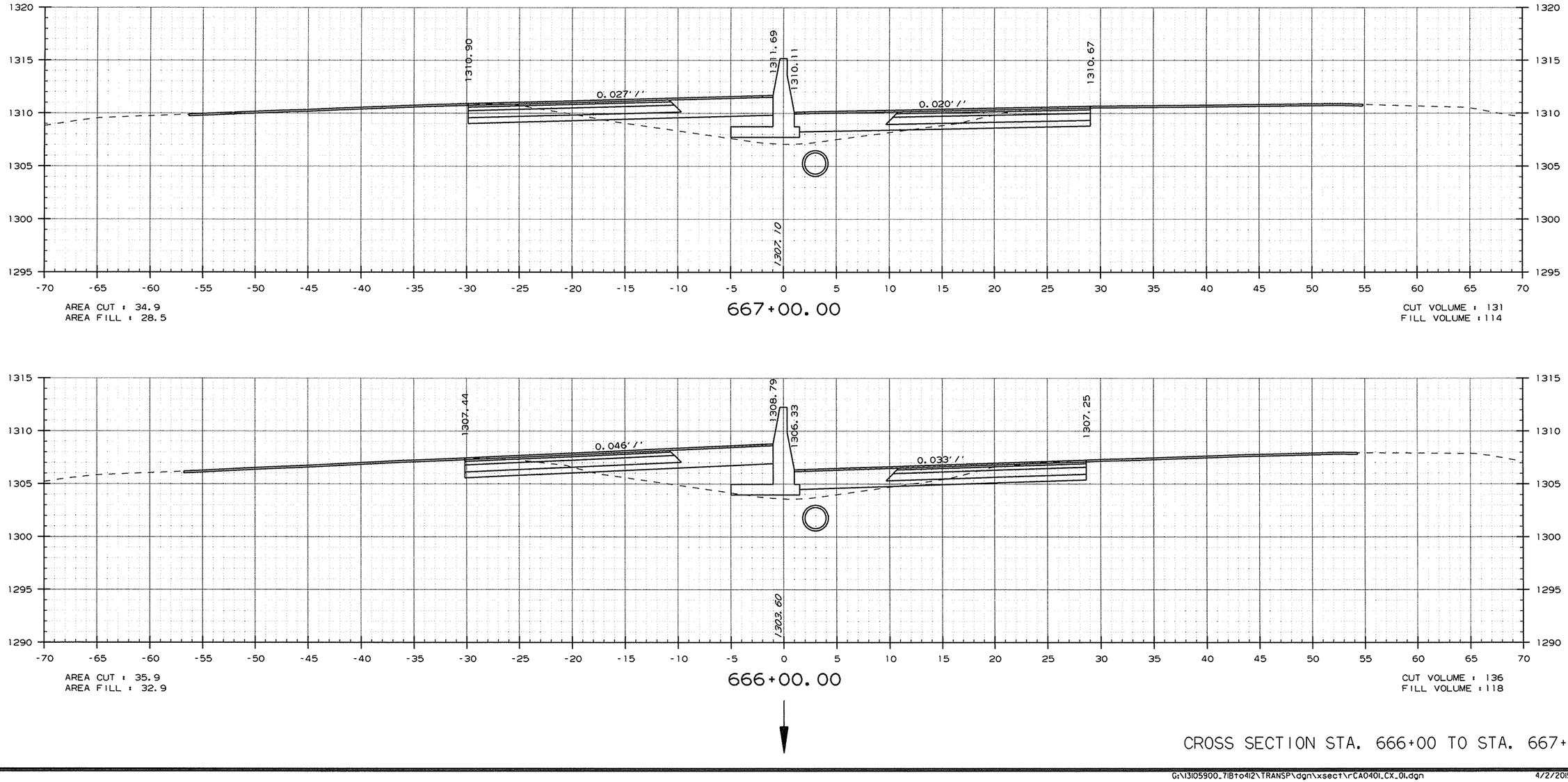
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PLOTTED: 4/2/2015 13:11
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	251	338

(2) CROSS SECTIONS

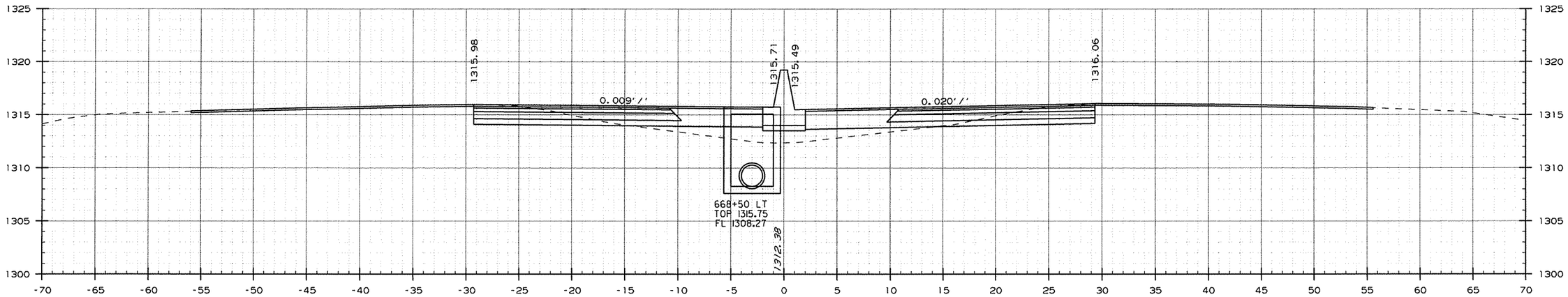


CROSS SECTION STA. 666+00 TO STA. 667+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:11

Crafton, Tull & Associates Inc.	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
					6	ARK.			
					JOB NO.		CA0401	252	338
					(2)	CROSS SECTIONS			

STA. 668+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-6"
WITH 24" X 46' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 668+00 RT.
TYPE ST DROP INLET = 4' X 4'

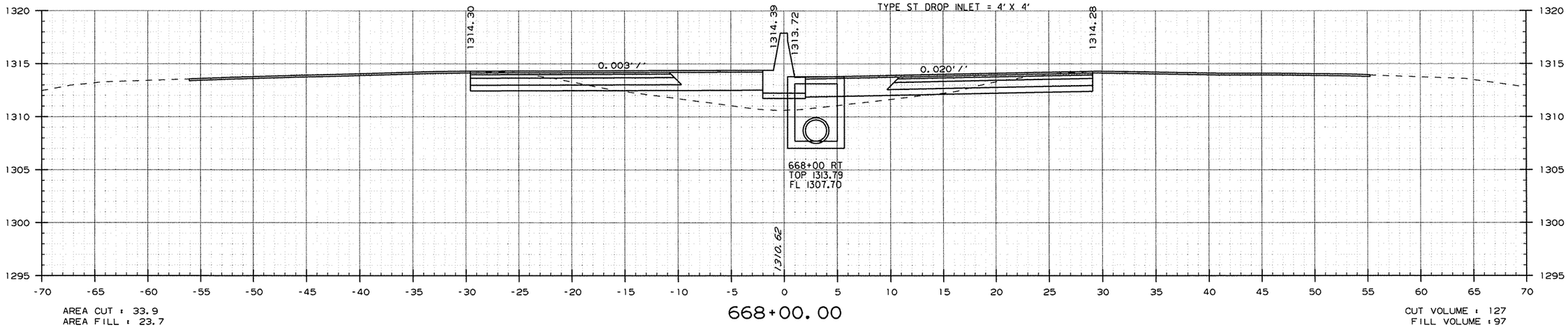


AREA CUT : 34.1
AREA FILL : 20.5

668+50.00

CUT VOLUME : 63
FILL VOLUME : 41

STA. 668+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-1"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 665+00 RT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 33.9
AREA FILL : 23.7

668+00.00

CUT VOLUME : 127
FILL VOLUME : 97

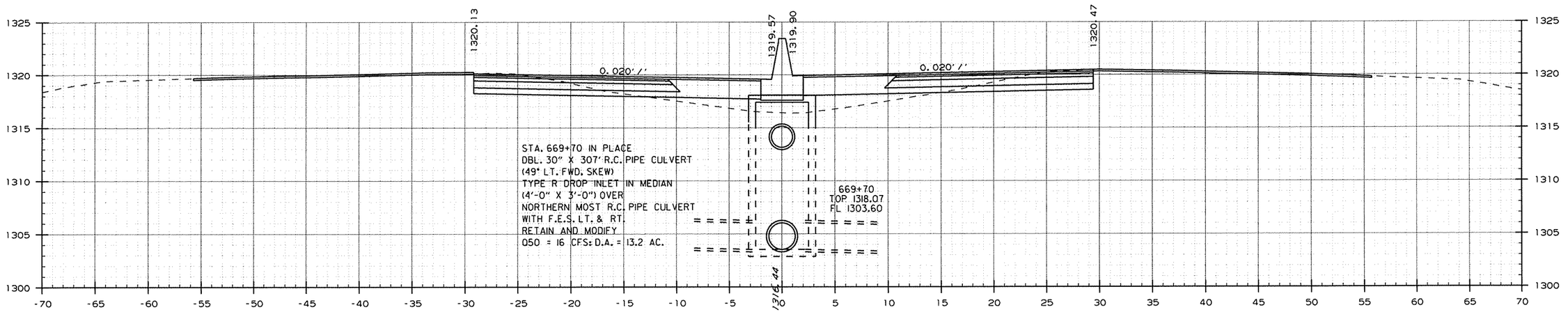
CROSS SECTION STA. 668+00 TO STA. 668+50

USER: dd5109
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PLOTTED: 4/2/2015 13:11

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	253	338

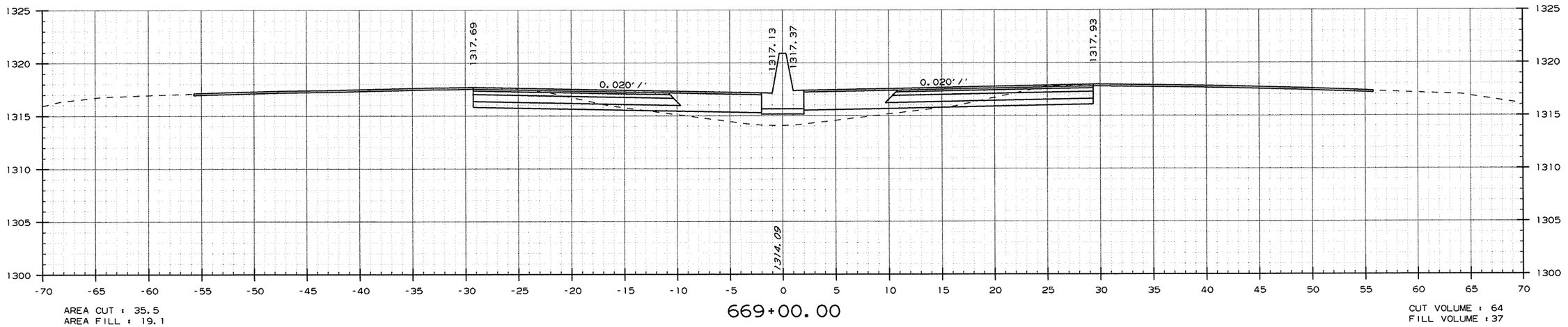
(2) CROSS SECTIONS



AREA CUT : 36.5
AREA FILL : 22.4

669+70.00

CUT VOLUME : 93
FILL VOLUME : 54



AREA CUT : 35.5
AREA FILL : 19.1

669+00.00

CUT VOLUME : 64
FILL VOLUME : 37

CROSS SECTION STA. 669+00 TO STA. 669+70

USER: dd5109
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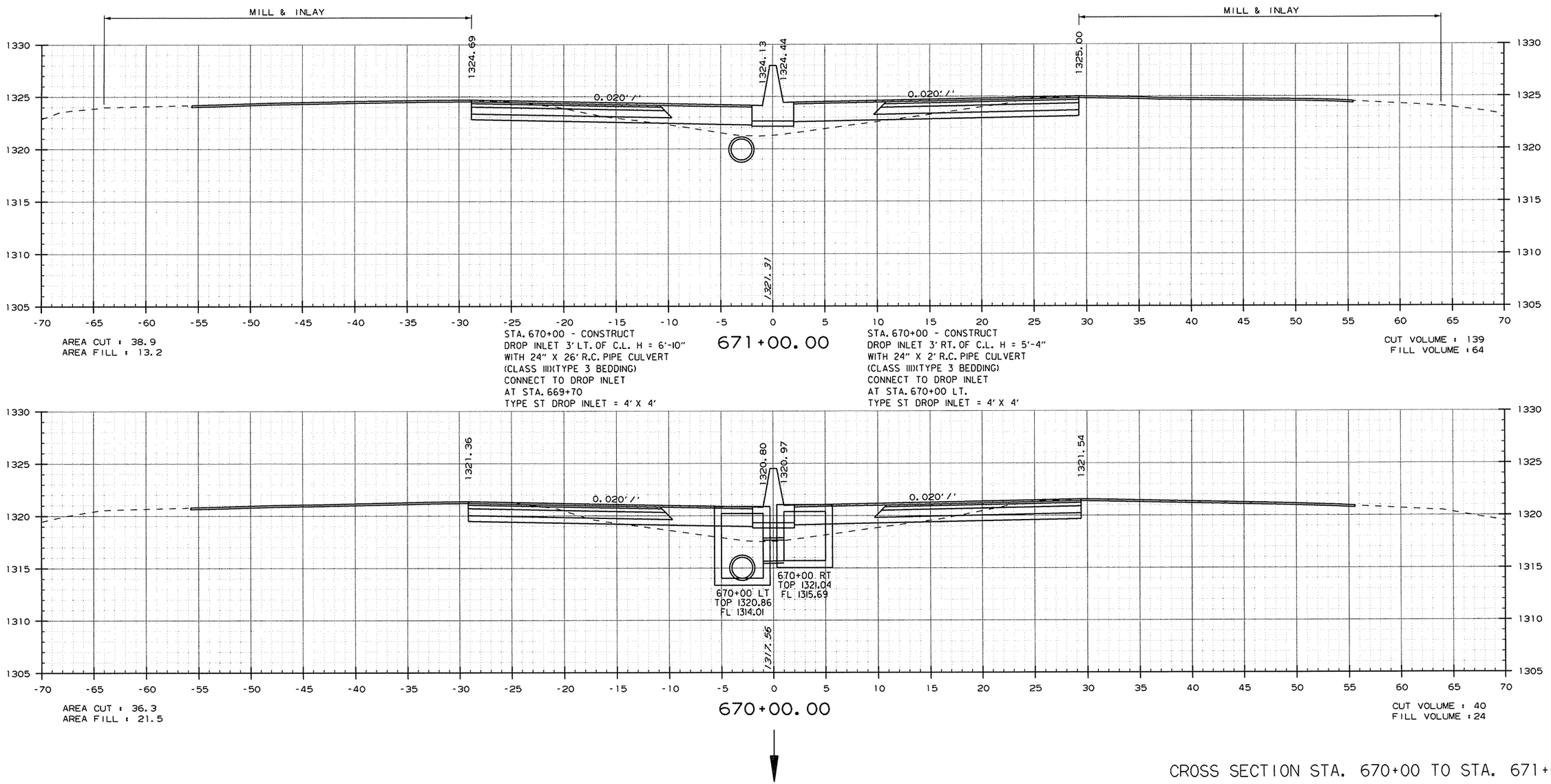
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	254	338

(2) CROSS SECTIONS



CROSS SECTION STA. 670+00 TO STA. 671+00

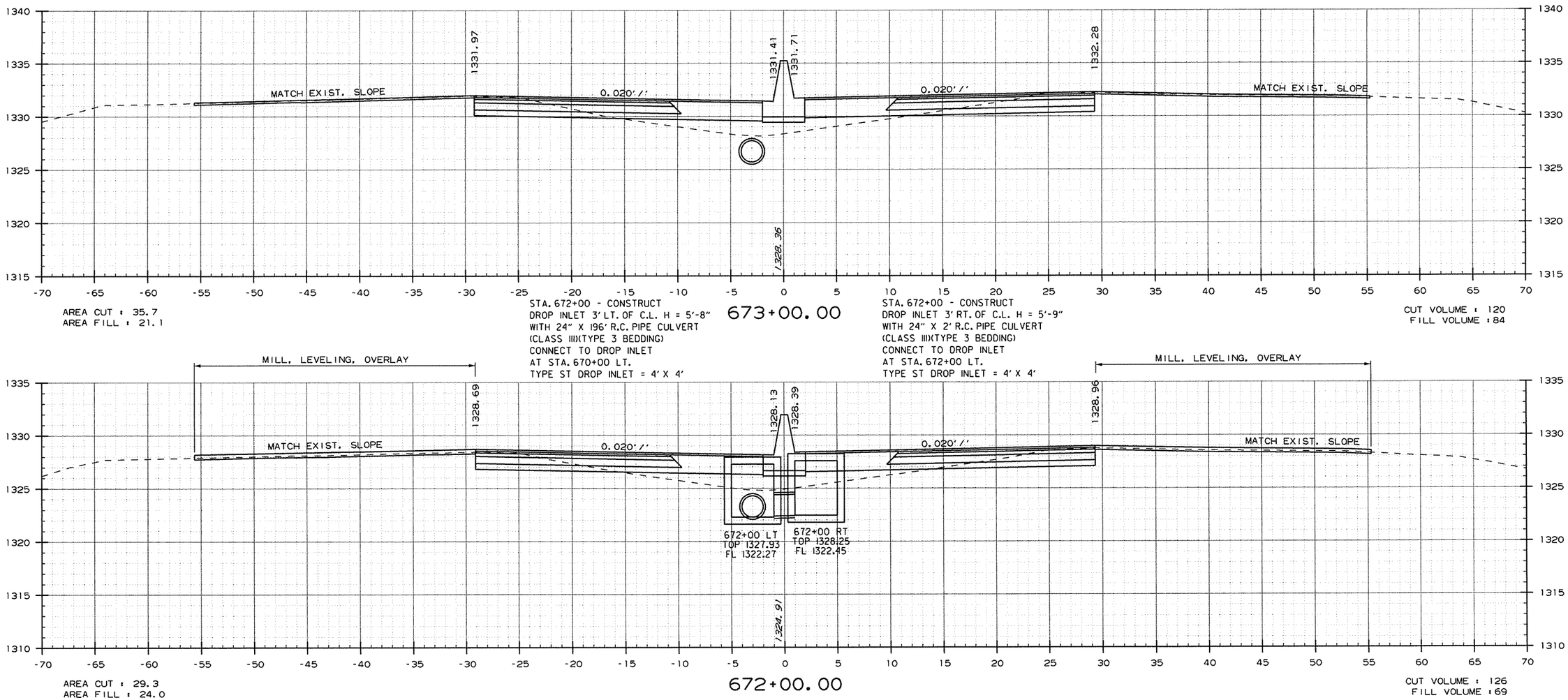
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	255	338
(2)	CROSS SECTIONS			

NOTE: APPROXIMATE LIMITS OF ABANDONED
LANDFILL WITHIN HIGHWAY RIGHT-OF-WAY
STA 672+00 - 680+00



STA. 672+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-8"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 670+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 672+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 672+00 LT.
TYPE ST DROP INLET = 4' X 4'

CROSS SECTION STA. 672+00 TO STA. 673+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 13:12
SCALE: 10:1

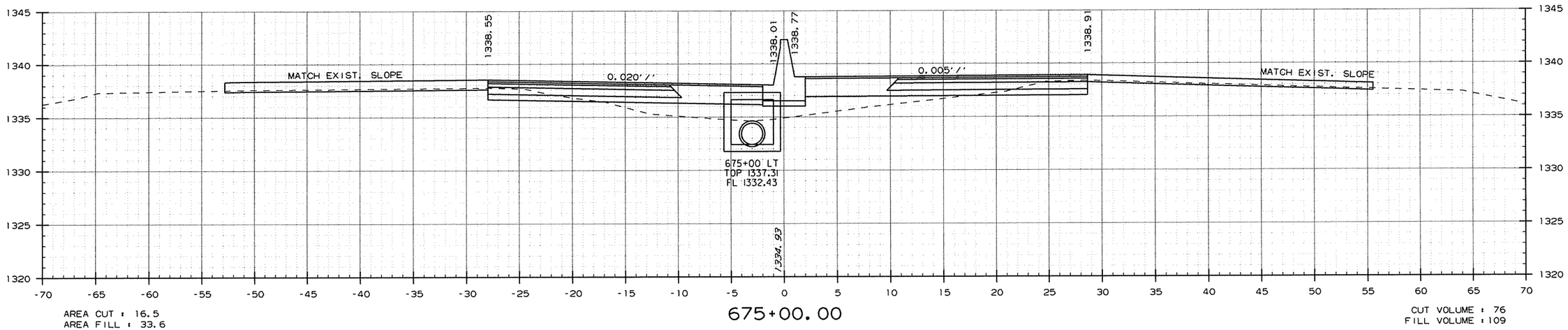
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	256	338
2	CROSS SECTIONS			

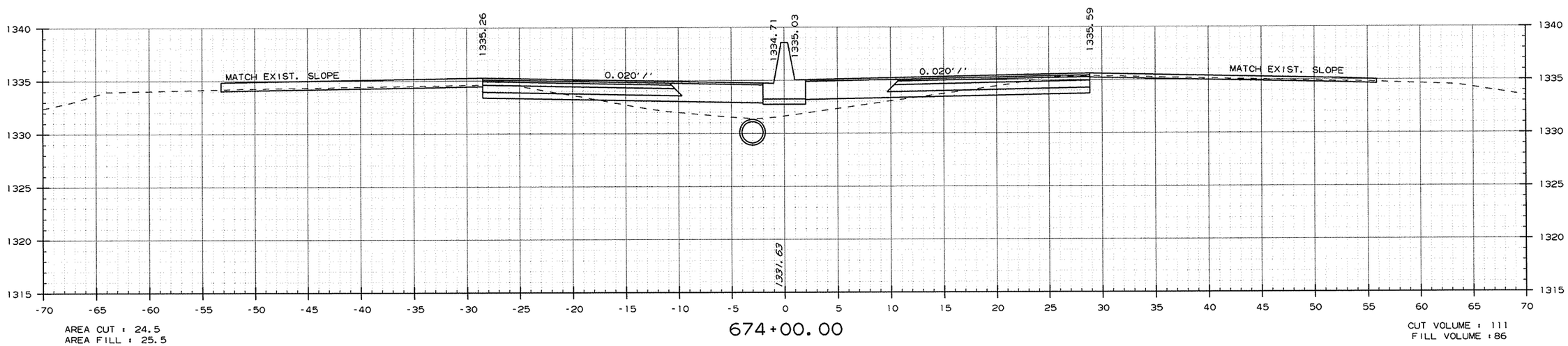
STA. 675+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-11"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 672+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 16.5
AREA FILL : 33.6

675+00.00

CUT VOLUME : 76
FILL VOLUME : 109



AREA CUT : 24.5
AREA FILL : 25.5

674+00.00

CUT VOLUME : 111
FILL VOLUME : 86

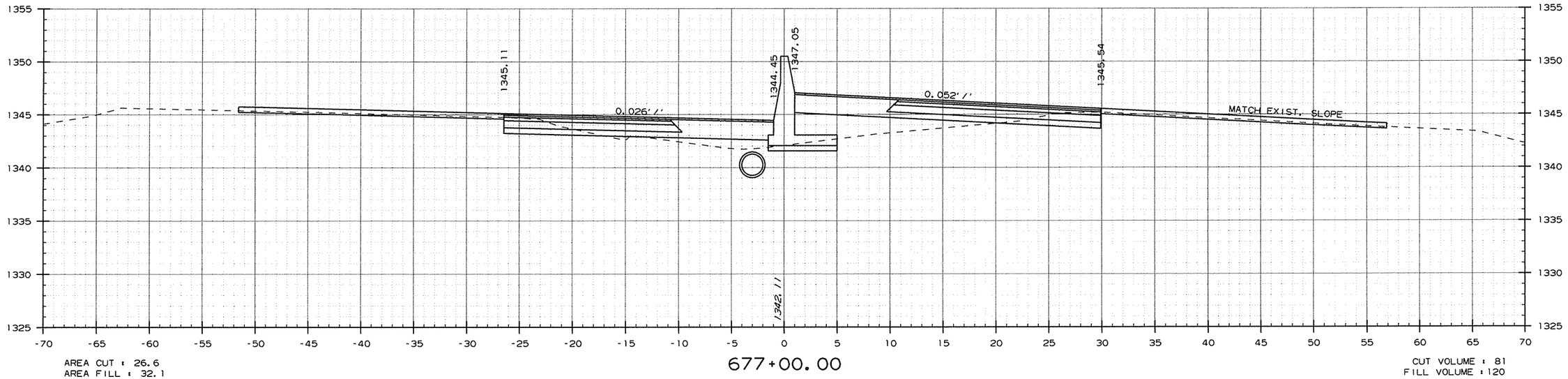
CROSS SECTION STA. 674+00 TO STA. 675+00

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

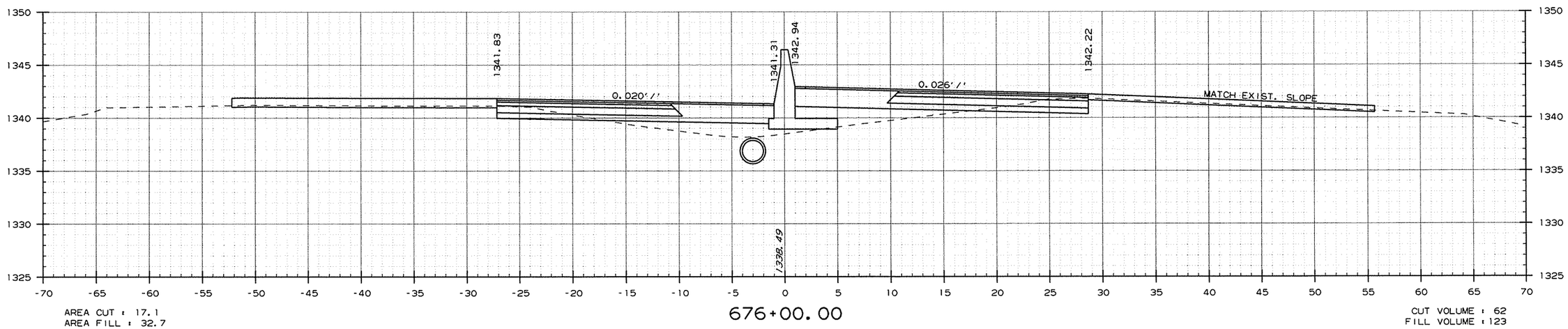
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6	ARK.			
JOB NO.		CA0401	257	338
(2)	CROSS SECTIONS			



AREA CUT : 26.6
AREA FILL : 32.1

677+00.00

CUT VOLUME : 81
FILL VOLUME : 120



AREA CUT : 17.1
AREA FILL : 32.7

676+00.00

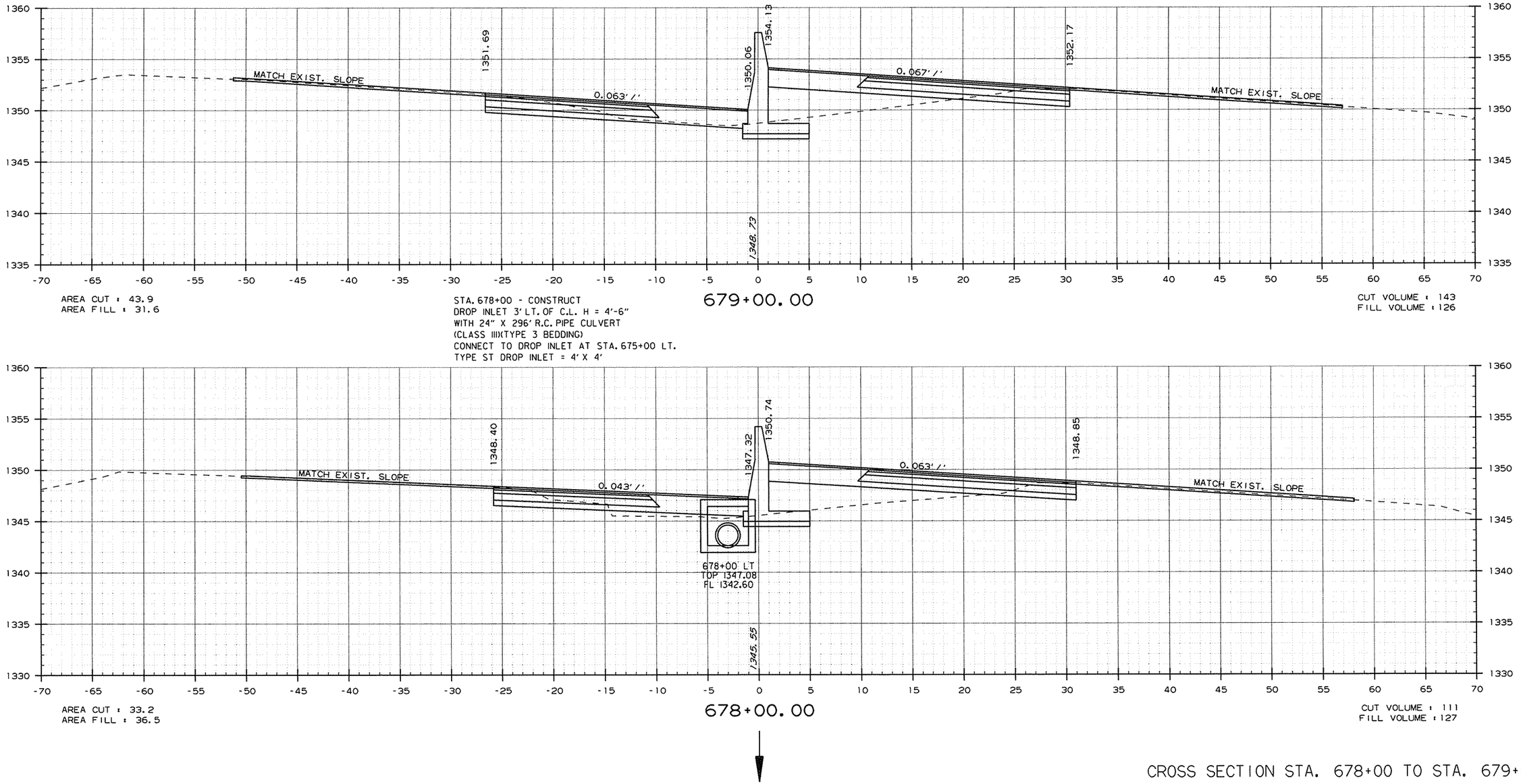
CUT VOLUME : 62
FILL VOLUME : 123

CROSS SECTION STA. 676+00 TO STA. 677+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
PLOTTED: 4/2/2015 13:12
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	258	338
				(2)	CROSS SECTIONS			



CROSS SECTION STA. 678+00 TO STA. 679+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_01.dgn
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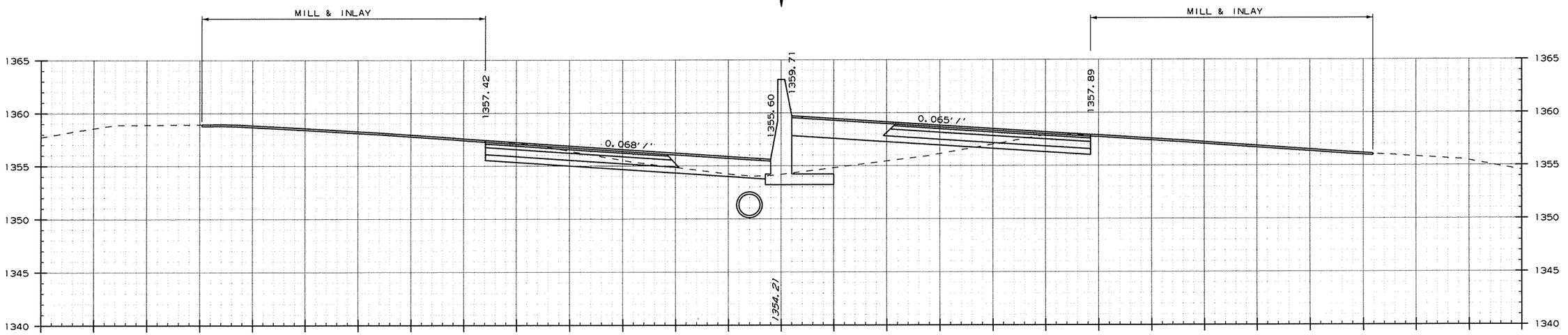
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	259	338

(2) CROSS SECTIONS

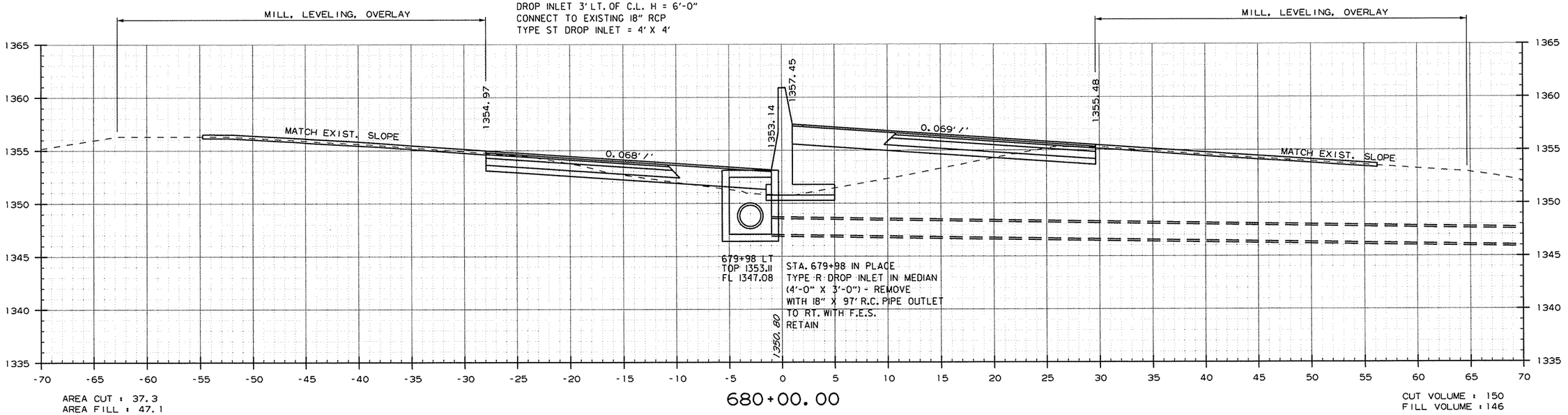


AREA CUT : 42.5
AREA FILL : 31.8

681+00.00

CUT VOLUME : 148
FILL VOLUME : 146

STA. 679+98 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-0"
CONNECT TO EXISTING 18" RCP
TYPE ST DROP INLET = 4' X 4'



679+98 LT
TOP 1353.11
FL 1347.08

STA. 679+98 IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 97' R.C. PIPE OUTLET
TO RT. WITH F.E.S.
RETAIN

AREA CUT : 37.3
AREA FILL : 47.1

680+00.00

CUT VOLUME : 150
FILL VOLUME : 146

CROSS SECTION STA. 680+00 TO STA. 681+00

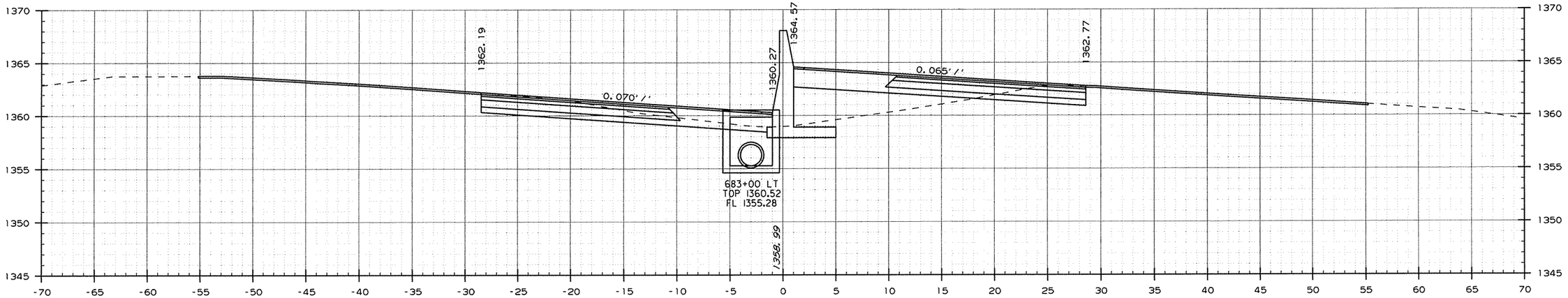
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	260	338

(2) CROSS SECTIONS

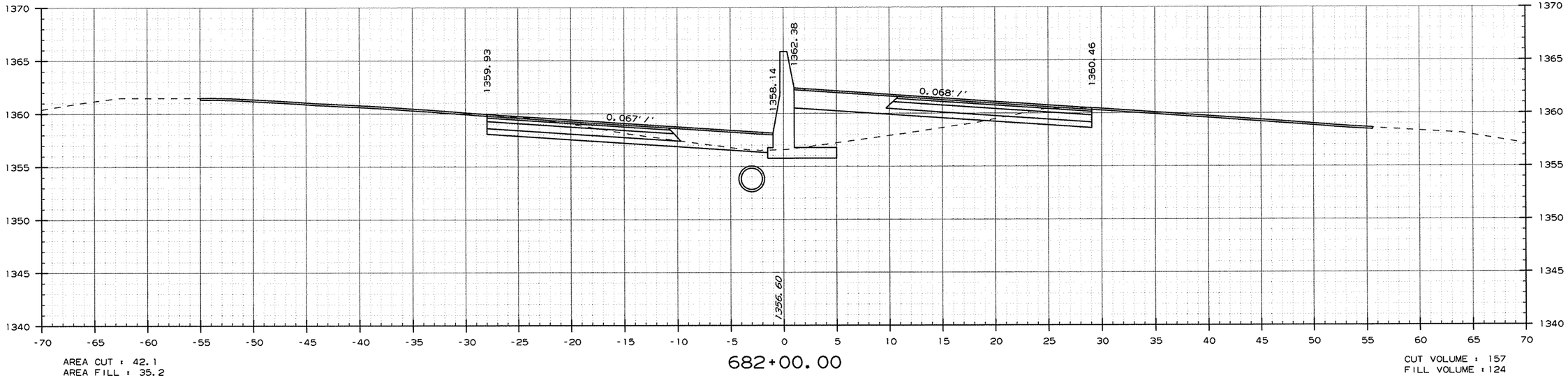
STA. 683+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-3"
WITH 24" X 298' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 679+98 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 48.7
AREA FILL : 31.8

683+00.00

CUT VOLUME : 168
FILL VOLUME : 124



AREA CUT : 42.1
AREA FILL : 35.2

682+00.00

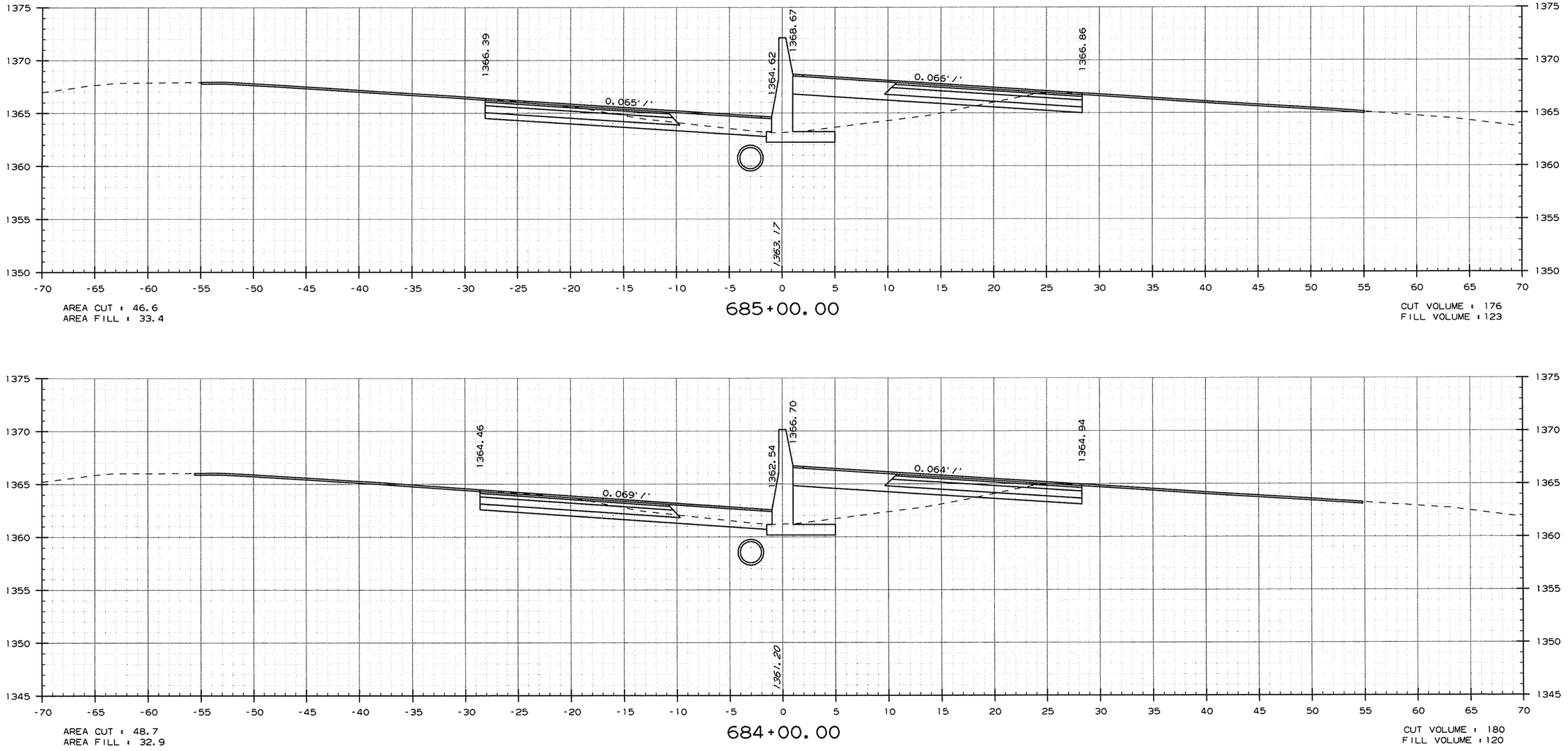
CUT VOLUME : 157
FILL VOLUME : 124

CROSS SECTION STA. 682+00 TO STA. 683+00

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	261	338
				(2)	CROSS SECTIONS			



CROSS SECTION STA. 684+00 TO STA. 685+00

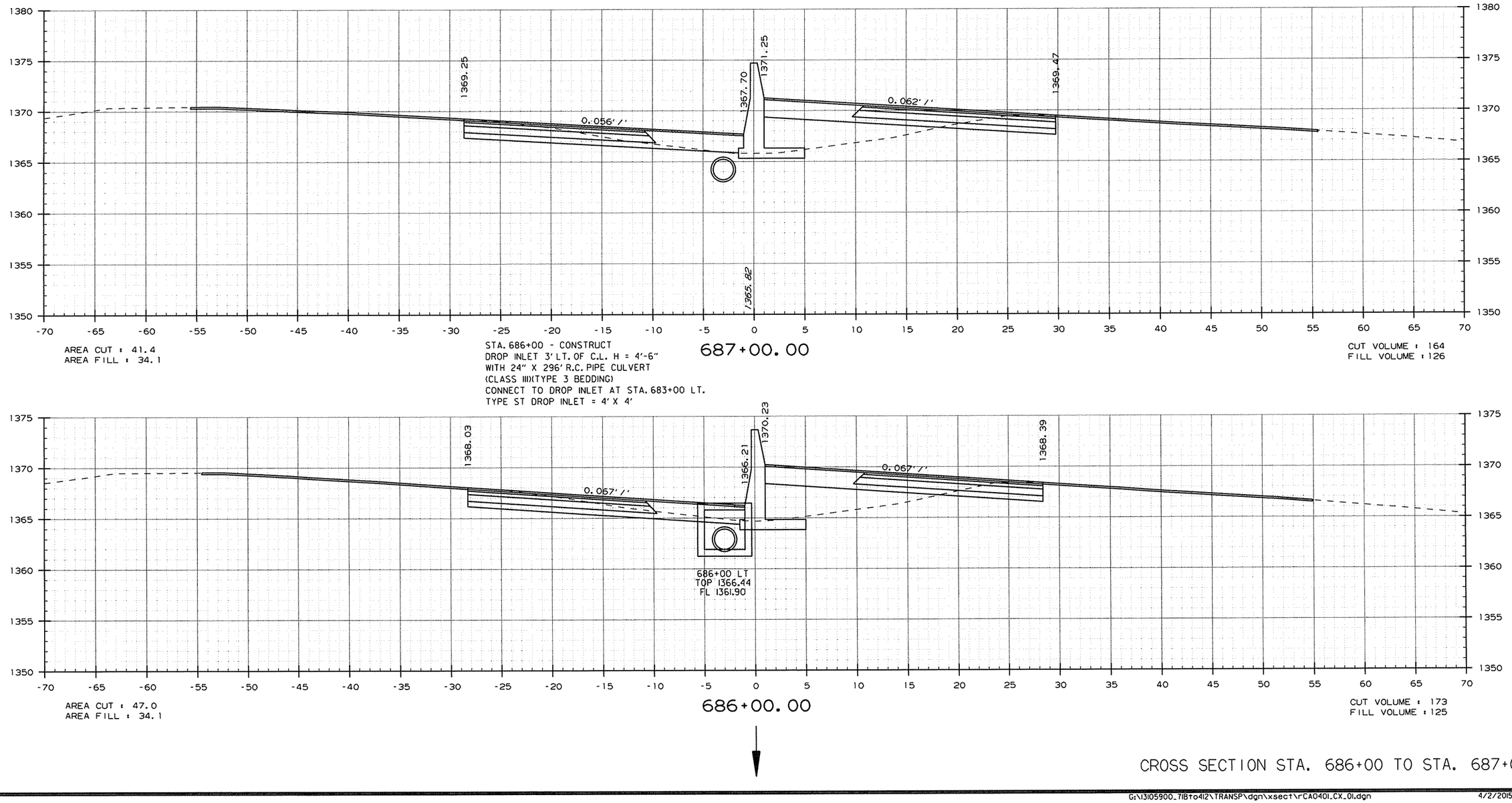
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	262	338

2 CROSS SECTIONS



AREA CUT = 41.4
AREA FILL = 34.1

STA. 686+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 683+00 LT.
TYPE ST DROP INLET = 4' X 4'

687+00.00

CUT VOLUME = 164
FILL VOLUME = 126

AREA CUT = 47.0
AREA FILL = 34.1

686+00.00

CUT VOLUME = 173
FILL VOLUME = 125

CROSS SECTION STA. 686+00 TO STA. 687+00

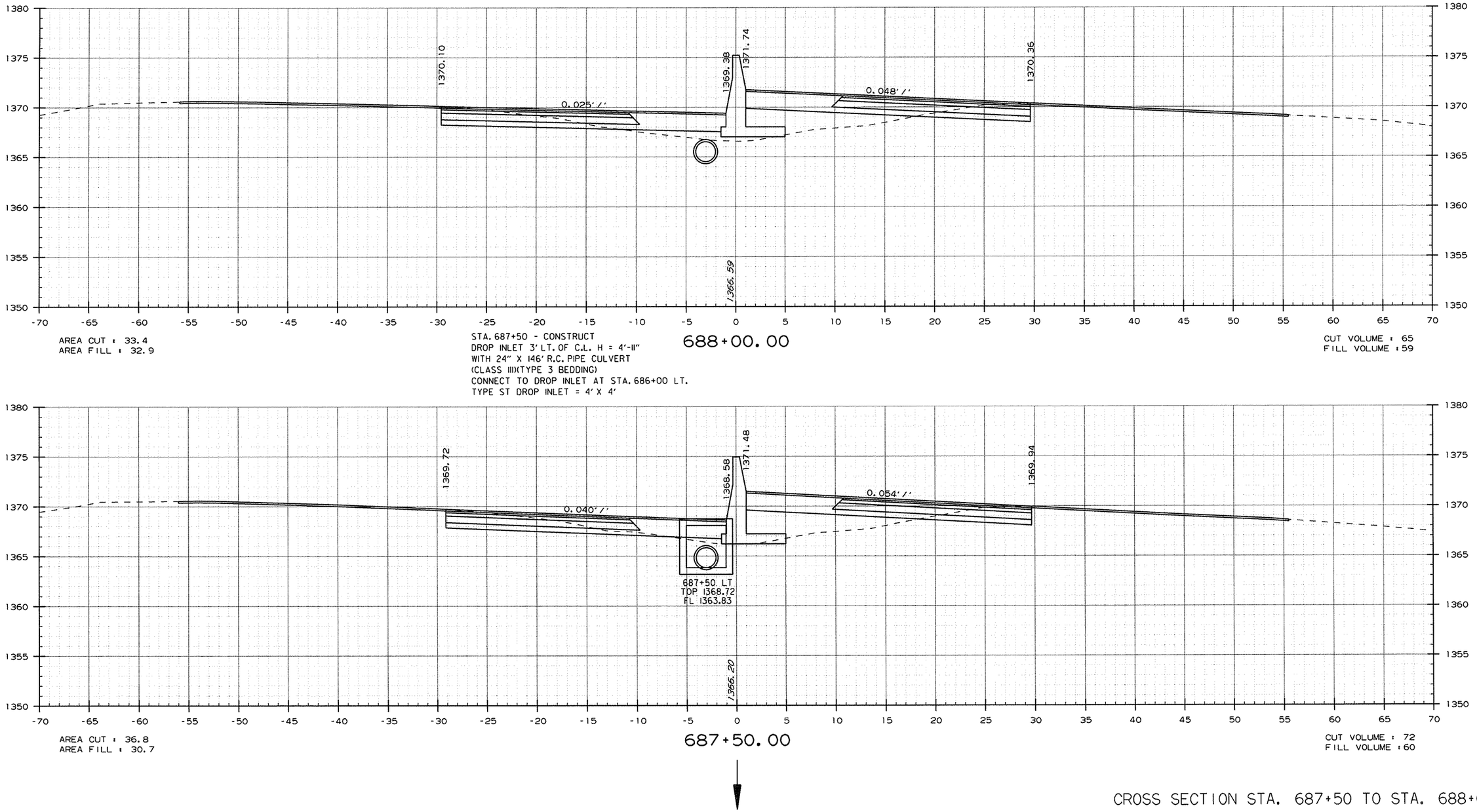
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Crafton, Tull & Associates Inc.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	263	338

(2) CROSS SECTIONS

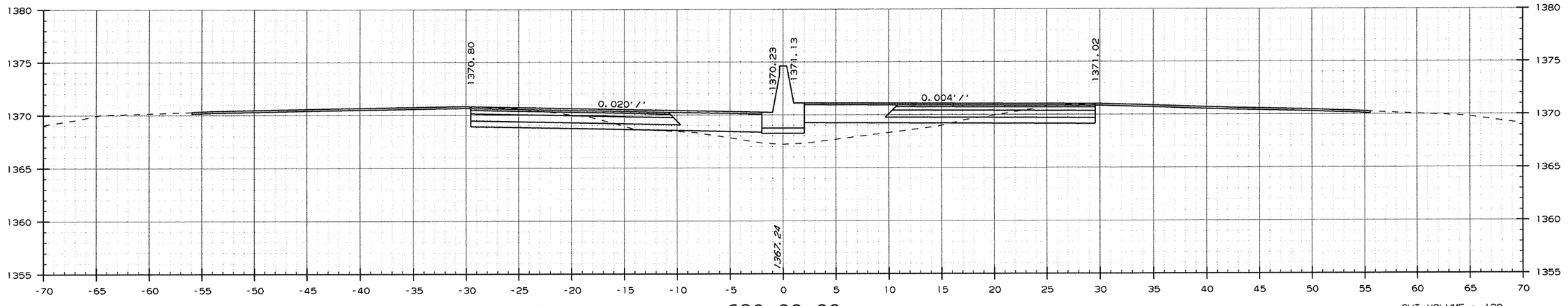


CROSS SECTION STA. 687+50 TO STA. 688+00

USER: dd5109
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PLOTTED: 4/2/2015 13:12
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	264	338
				(2)	CROSS SECTIONS			

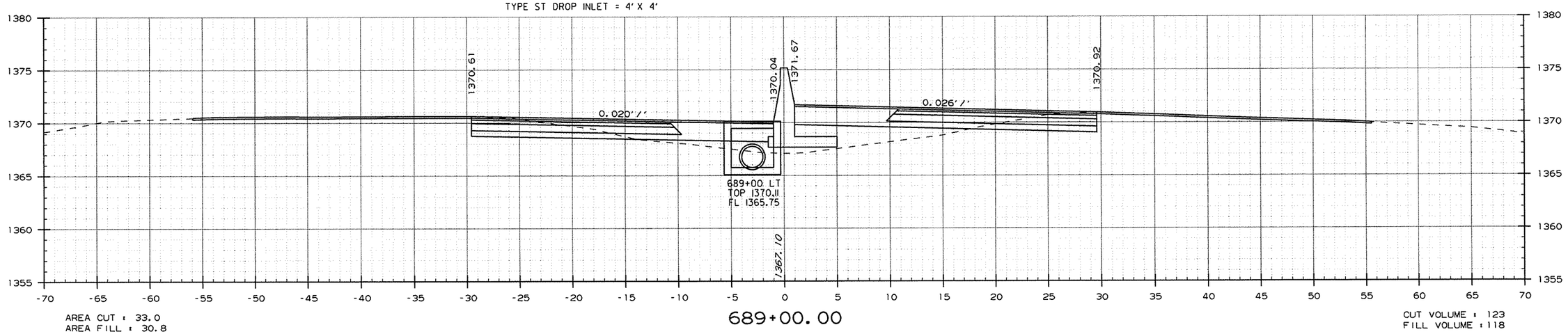


AREA CUT = 36.7
AREA FILL = 21.9

690+00.00

CUT VOLUME = 129
FILL VOLUME = 98

STA. 689+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-4"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 687+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 33.0
AREA FILL = 30.8

689+00.00

CUT VOLUME = 123
FILL VOLUME = 118

CROSS SECTION STA. 689+00 TO STA. 690+00

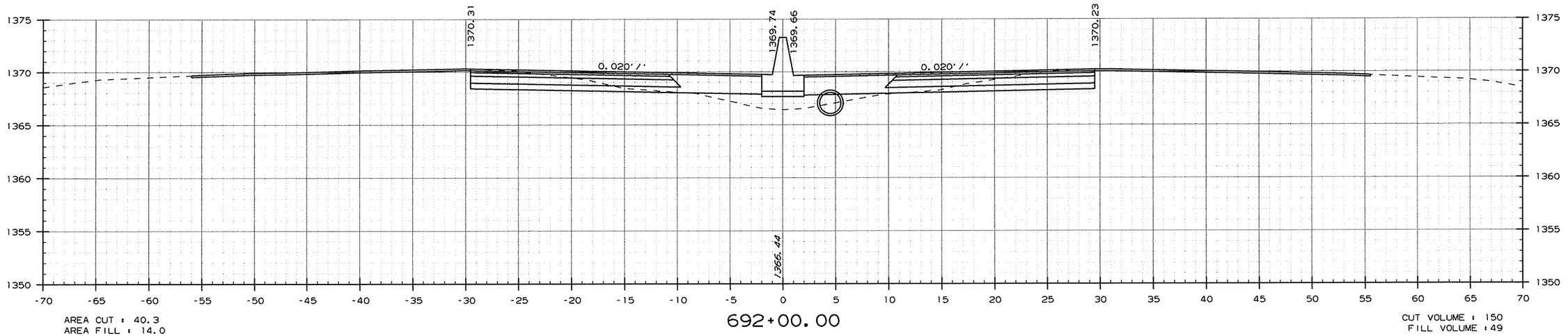
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	265	338

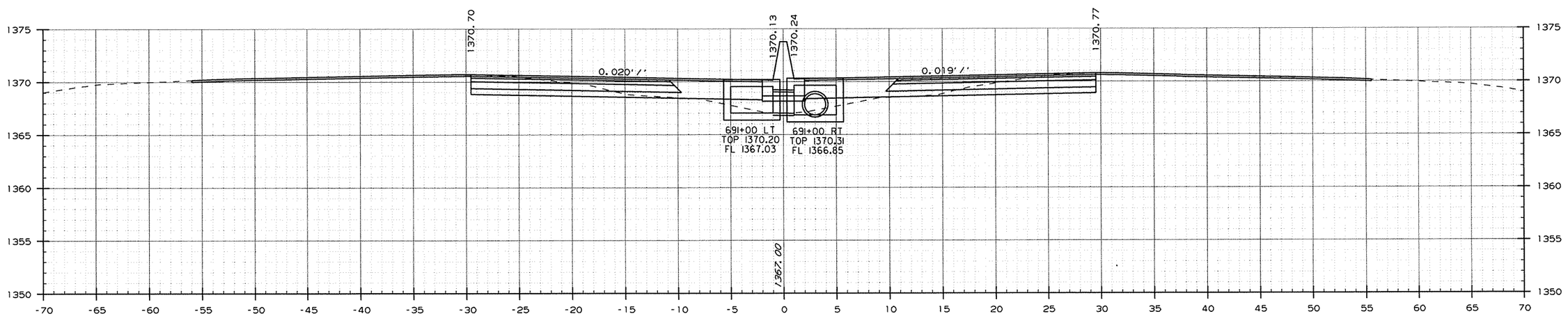
(2) CROSS SECTIONS



AREA CUT : 40.3
AREA FILL : 14.0

692+00.00

CUT VOLUME : 150
FILL VOLUME : 49



AREA CUT : 40.5
AREA FILL : 12.4

691+00.00

STA. 691+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-3"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 691+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 691+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 694+00 RT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 143
FILL VOLUME : 64

CROSS SECTION STA. 691+00 TO STA. 692+00

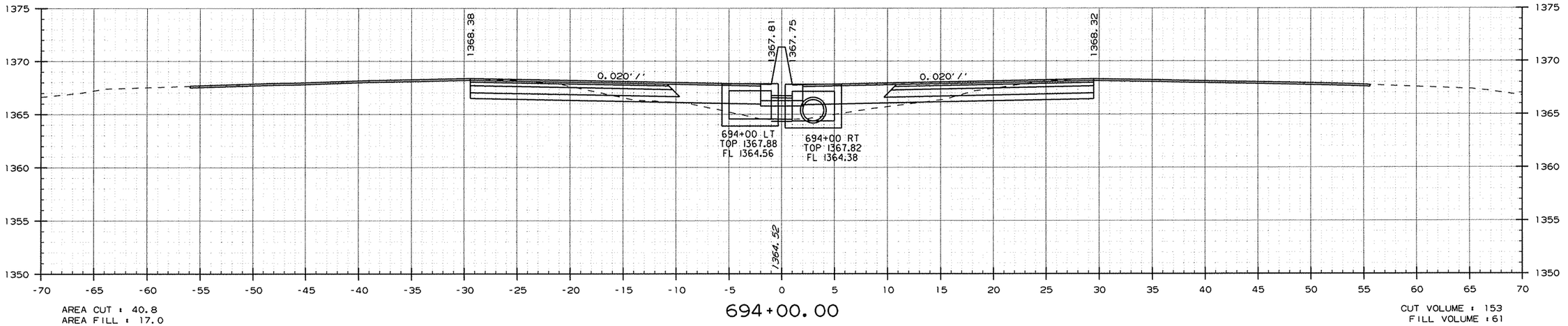
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Crafton, Tull & Associates Inc.

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				6	ARK.			
				JOB NO.		CA0401	266	338
				(2)	CROSS SECTIONS			

STA. 694+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-4"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 694+00 RT.
TYPE ST DROP INLET = 4' X 4'

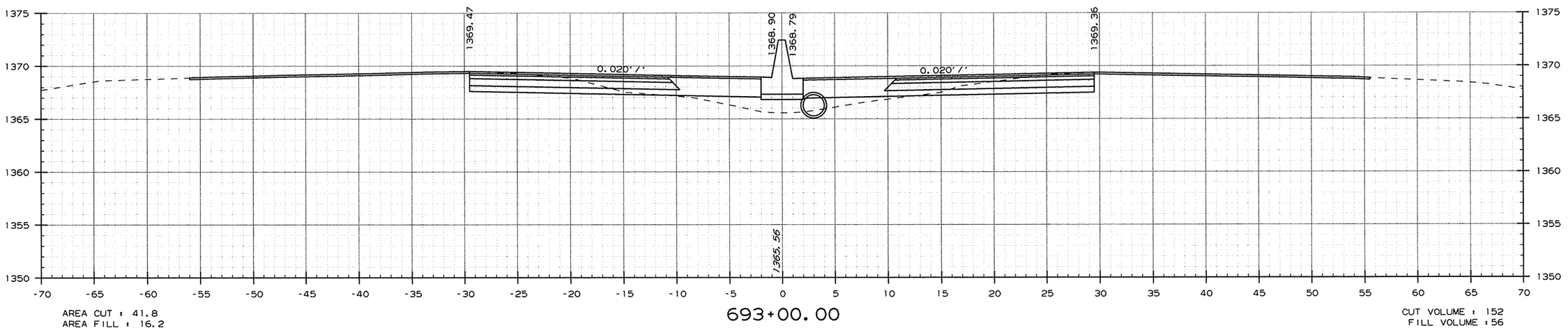
STA. 694+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-5"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 696+00 RT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 40.8
AREA FILL : 17.0

694+00.00

CUT VOLUME : 153
FILL VOLUME : 61



AREA CUT : 41.8
AREA FILL : 16.2

693+00.00

CUT VOLUME : 152
FILL VOLUME : 56

CROSS SECTION STA. 693+00 TO STA. 694+00

USER: dd5109
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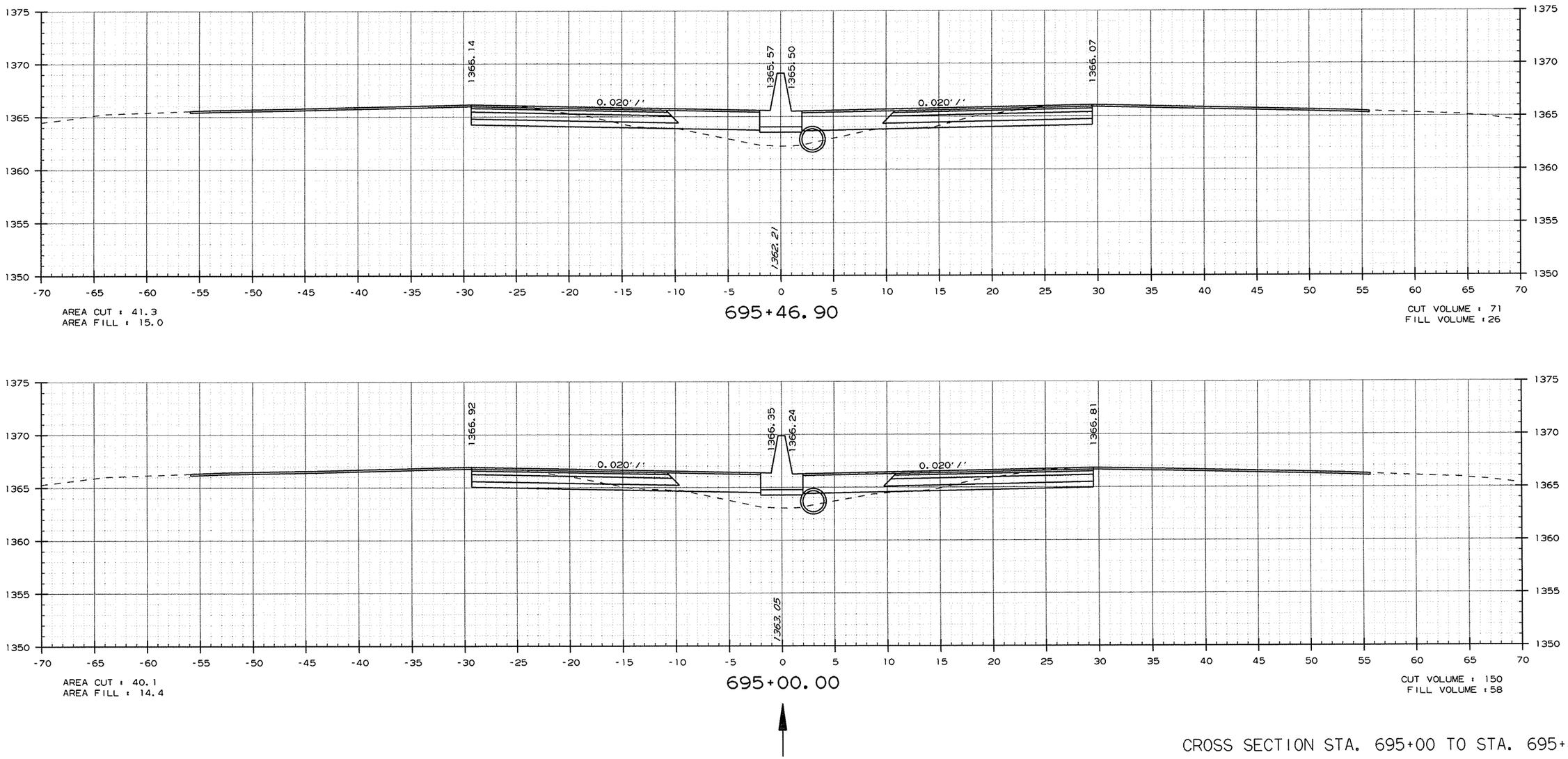
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	267	338

(2) CROSS SECTIONS



CROSS SECTION STA. 695+00 TO STA. 695+47

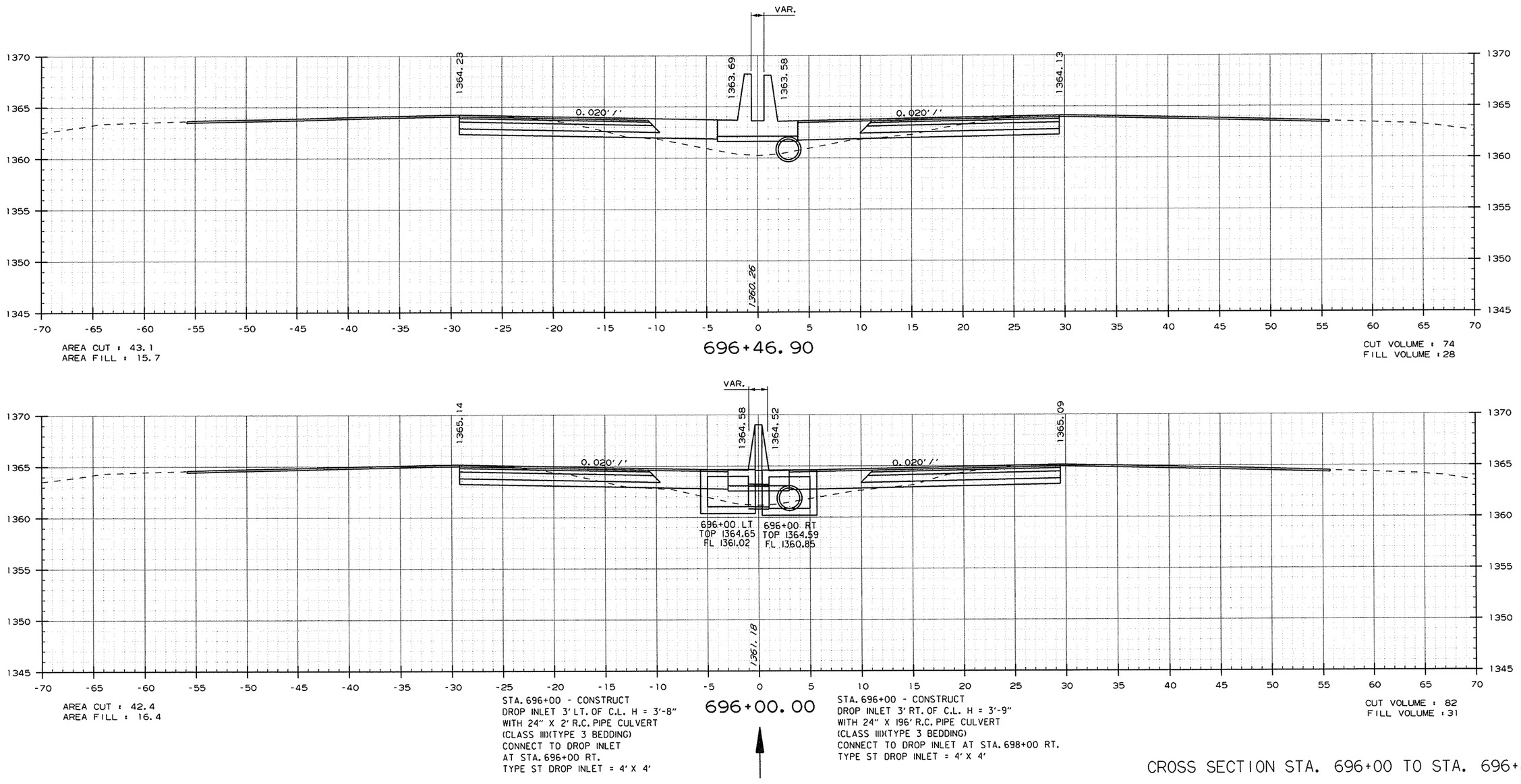
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Crafton, Tull & Associates Inc.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	268	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 696+00 TO STA. 696+47

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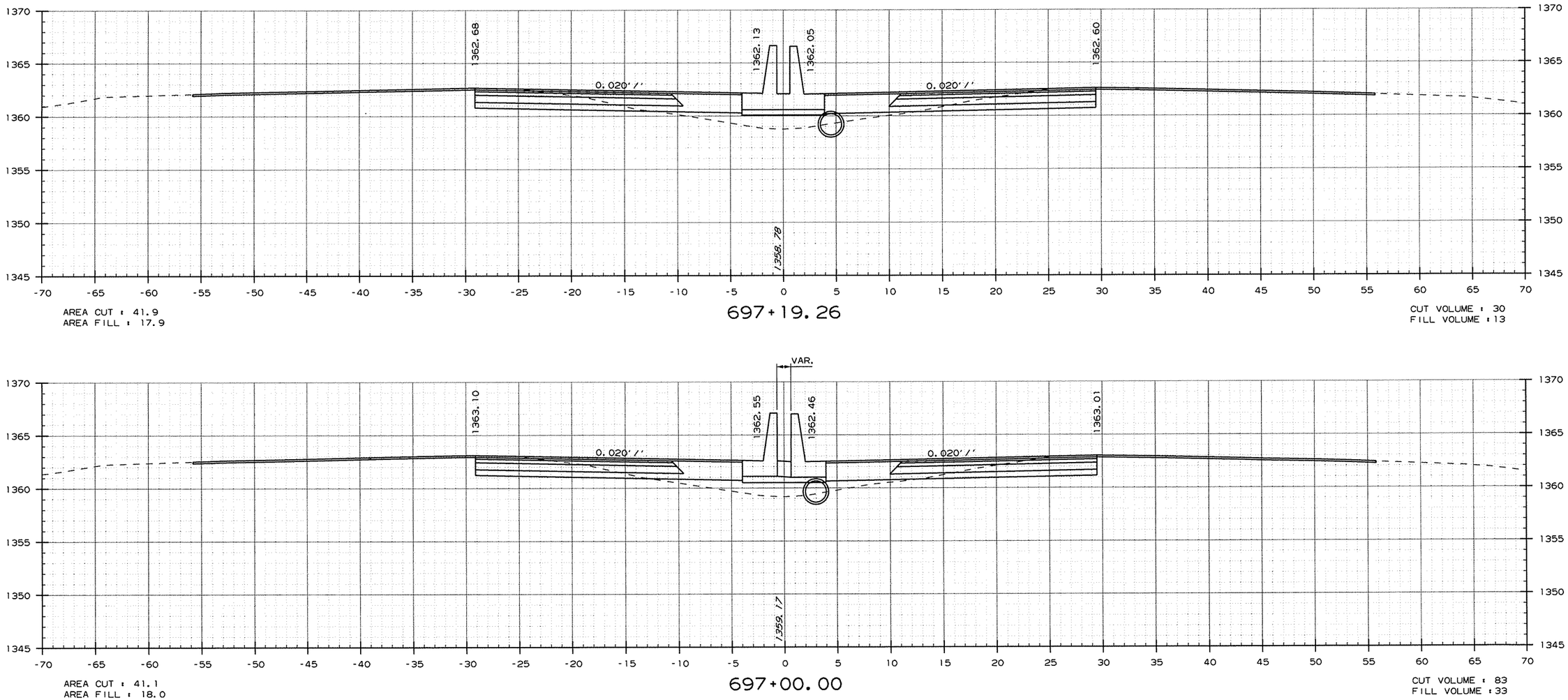
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Crafton, Tull & Associates Inc.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	269	338

(2) CROSS SECTIONS

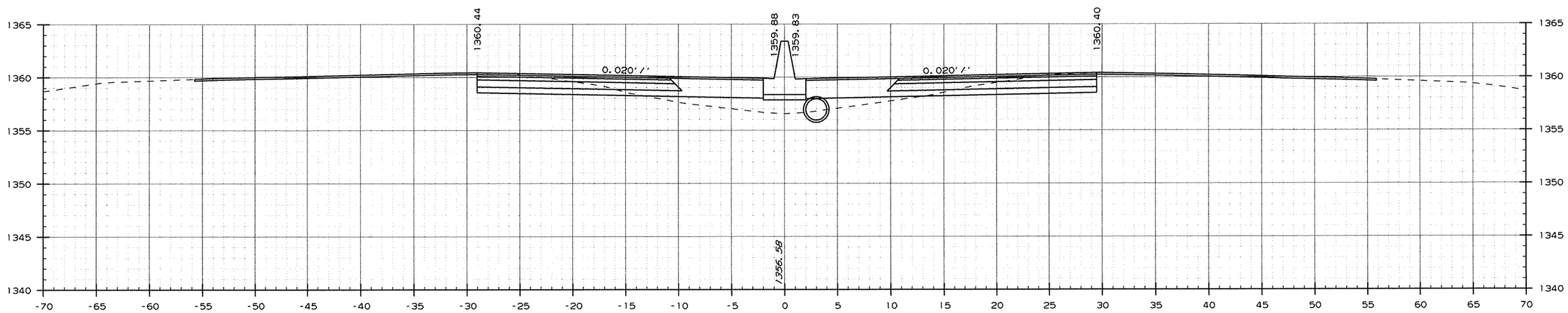


CROSS SECTION STA. 697+00 TO STA. 697+19

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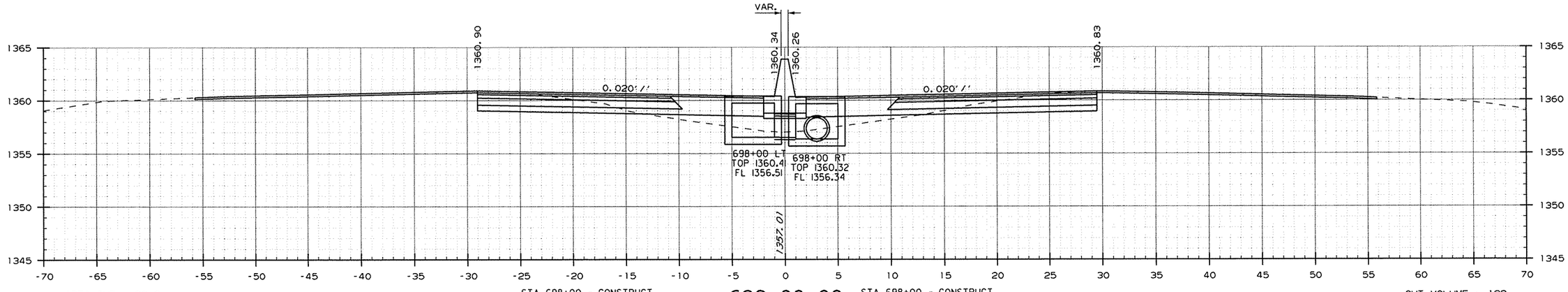
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				6	ARK.			
				JOB NO.		CA0401	270	338
				(2)	CROSS SECTIONS			



AREA CUT = 39.6
AREA FILL = 20.5

698+19.26

CUT VOLUME = 28
FILL VOLUME = 14



AREA CUT = 39.9
AREA FILL = 19.6

STA. 698+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 698+00 RT.
TYPE ST DROP INLET = 4' X 4'

698+00.00

STA. 698+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-0"
WITH 24" X 194' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 699+98 RT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME = 122
FILL VOLUME = 56

CROSS SECTION STA. 698+00 TO STA. 698+19

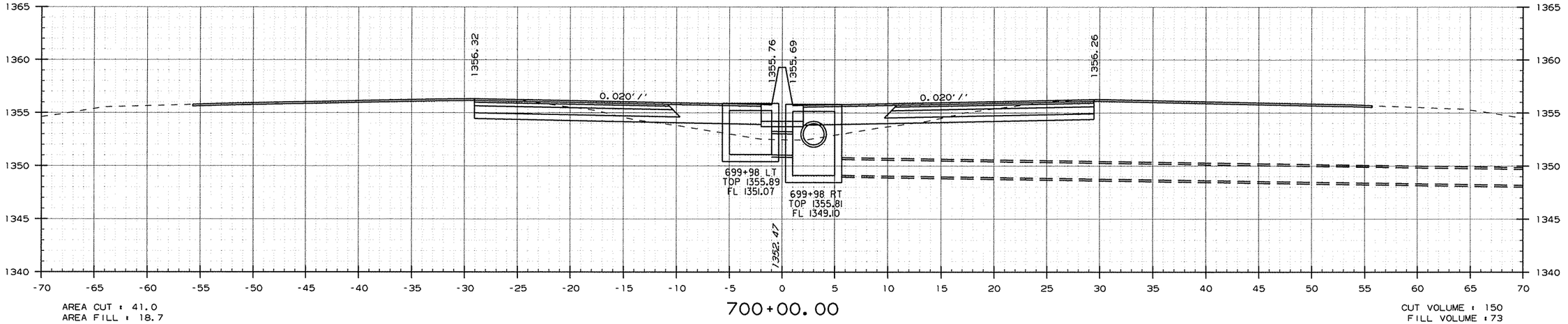
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	271	338
				(2)	CROSS SECTIONS			

STA. 699+98 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 699+98 RT.
TYPE ST DROP INLET = 4' X 4'

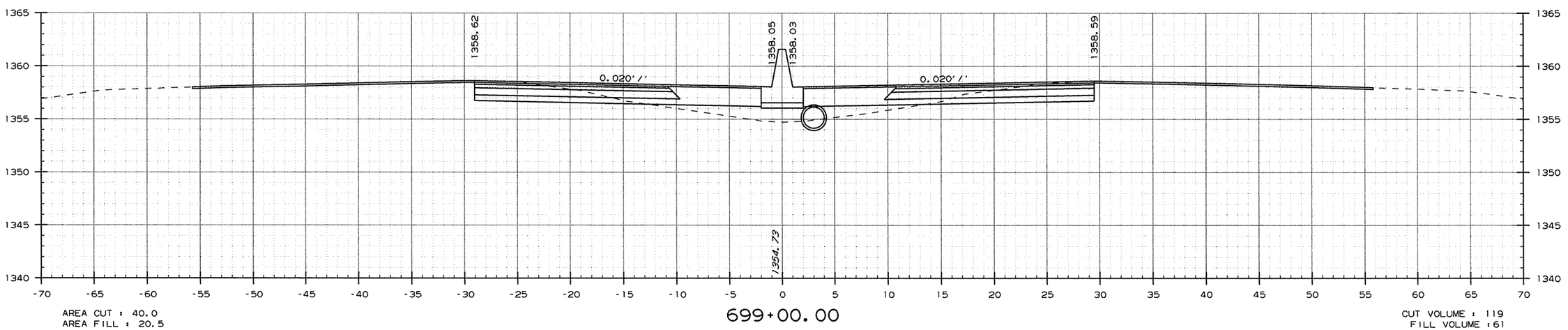
STA. 699+98 - IN PLACE
TYPE R DROP INLET IN MEDIAN
(4'-0" X 3'-0") - REMOVE
WITH 18" X 92' R.C. PIPE OUTLET
TO RT. WITH F.E.S. - RETAIN
CONSTRUCT - DROP INLET
3' RT. OF C.L. H = 8'-0"
CONNECT TO EXISTING 18" R.C. PIPE
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 41.0
AREA FILL : 18.7

700+00.00

CUT VOLUME : 150
FILL VOLUME : 73



AREA CUT : 40.0
AREA FILL : 20.5

699+00.00

CUT VOLUME : 119
FILL VOLUME : 61

CROSS SECTION STA. 699+00 TO STA. 700+00

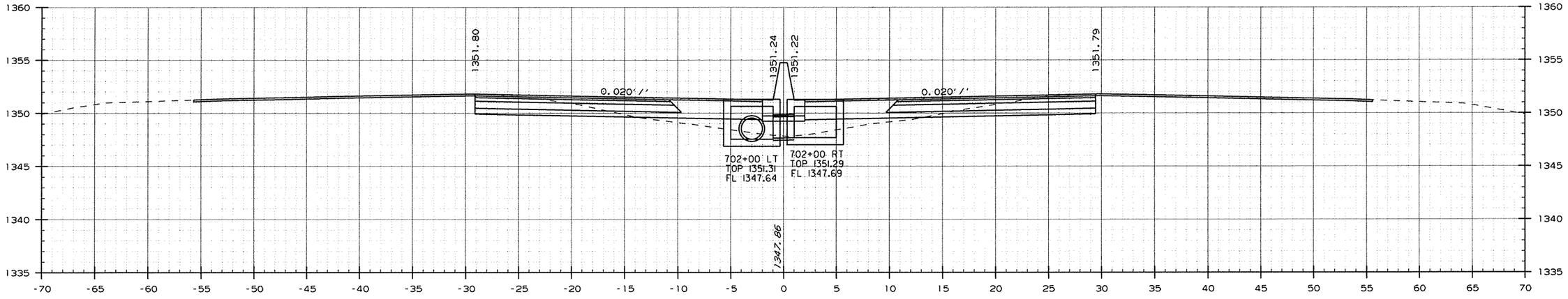
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	272	338
				(2)	CROSS SECTIONS			

STA. 702+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-8"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 705+00 LT.
TYPE ST DROP INLET = 4' X 4'

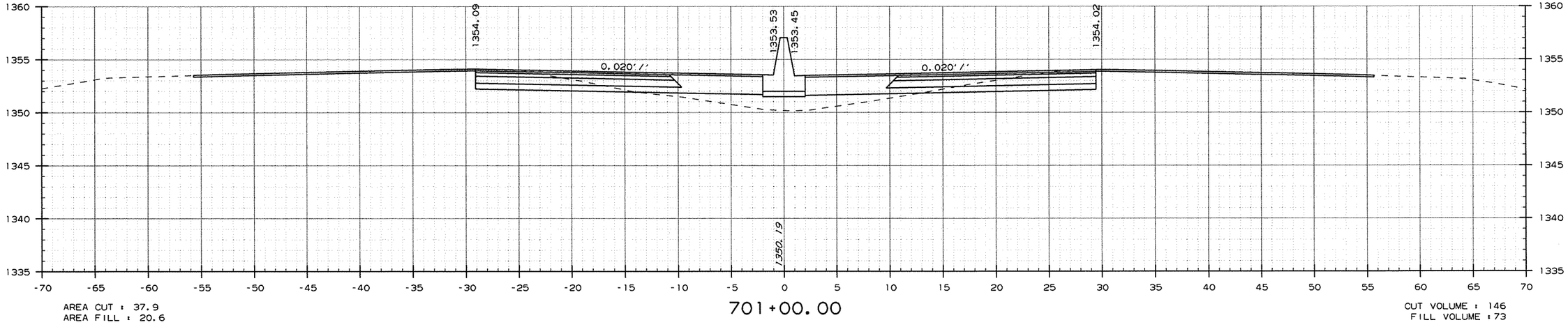
STA. 702+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET AT STA. 702+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 38.4
AREA FILL : 20.6

702+00.00

CUT VOLUME : 141
FILL VOLUME : 76



AREA CUT : 37.9
AREA FILL : 20.6

701+00.00

CUT VOLUME : 146
FILL VOLUME : 73

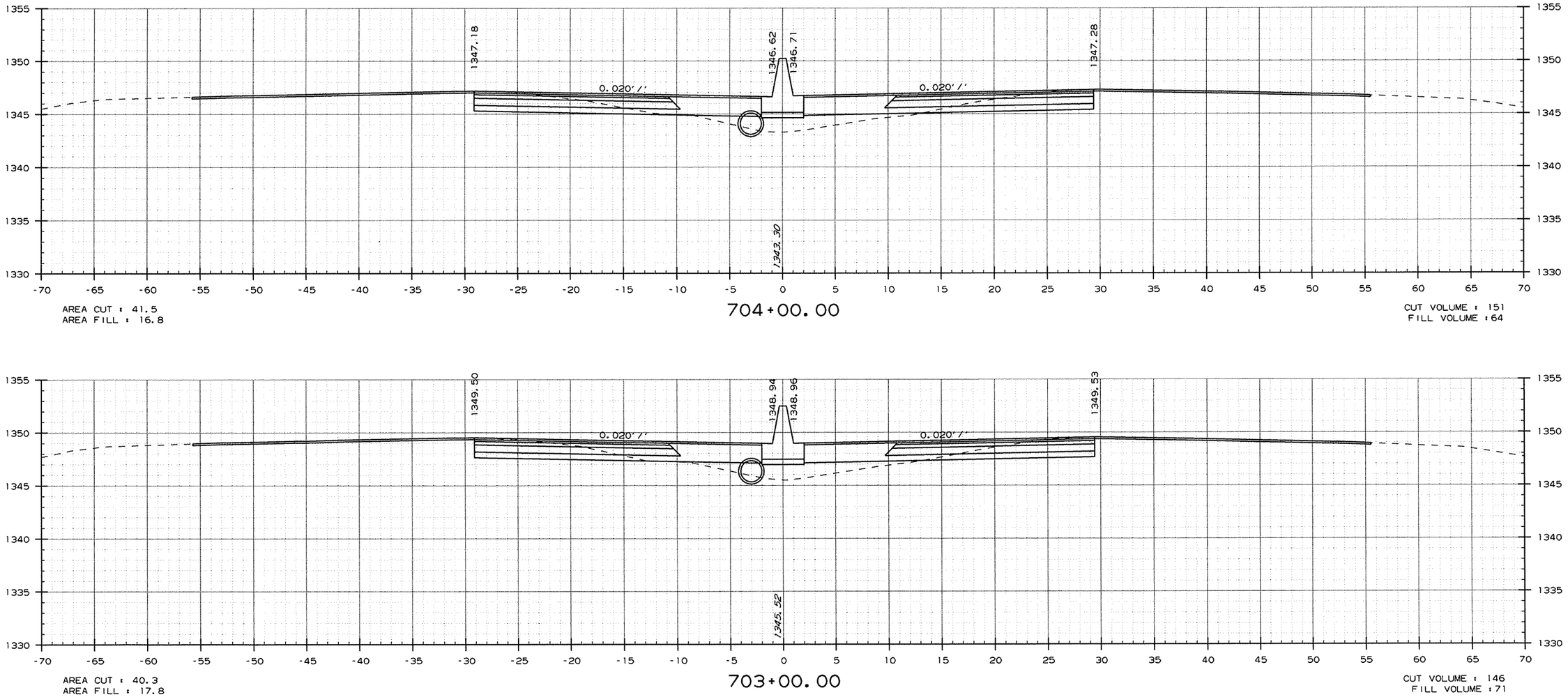
CROSS SECTION STA. 701+00 TO STA. 702+00

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	273	338
				(2)	CROSS SECTIONS			



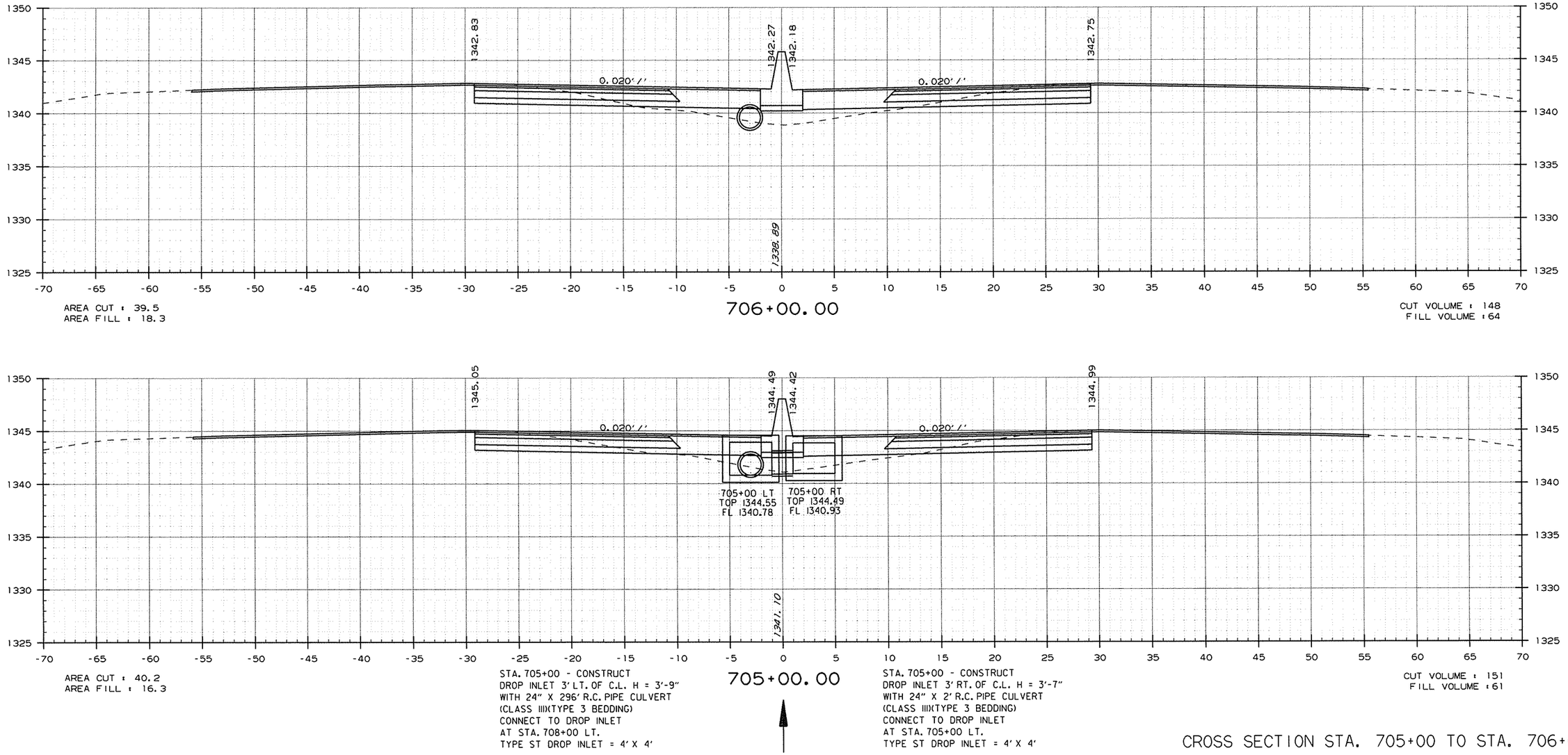
CROSS SECTION STA. 703+00 TO STA. 704+00

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	274	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 705+00 TO STA. 706+00

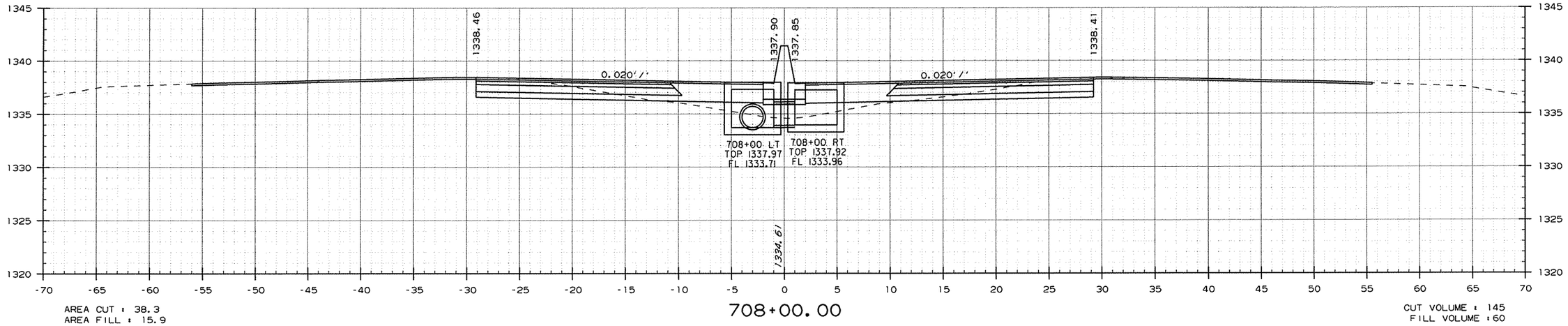
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	275	338
				(2)	CROSS SECTIONS			

STA. 708+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-3"
WITH 24" X 221' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+25 LT.
TYPE ST DROP INLET = 4' X 4'

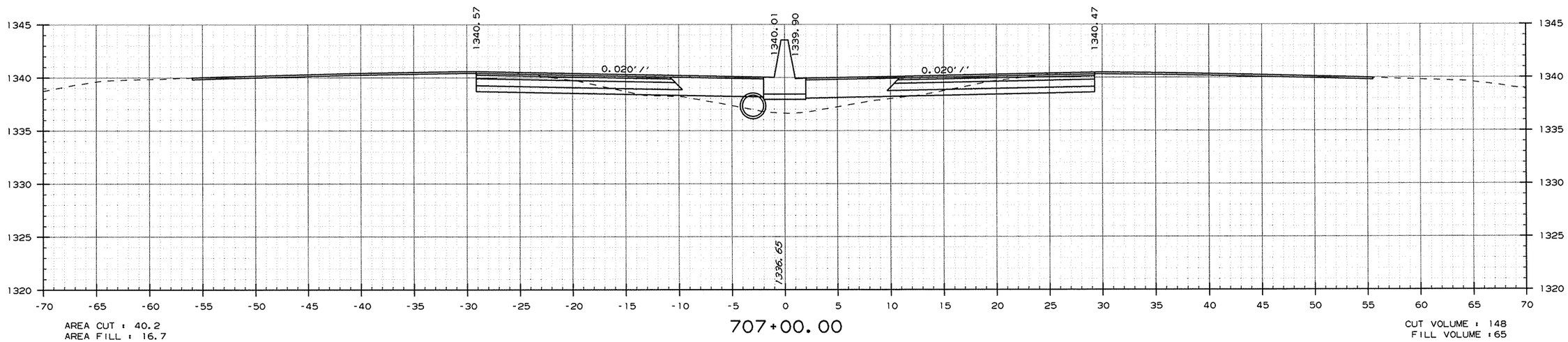
STA. 708+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 708+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 38.3
AREA FILL : 15.9

708+00.00

CUT VOLUME : 145
FILL VOLUME : 60



AREA CUT : 40.2
AREA FILL : 16.7

707+00.00

CUT VOLUME : 148
FILL VOLUME : 65

CROSS SECTION STA. 707+00 TO STA. 708+00

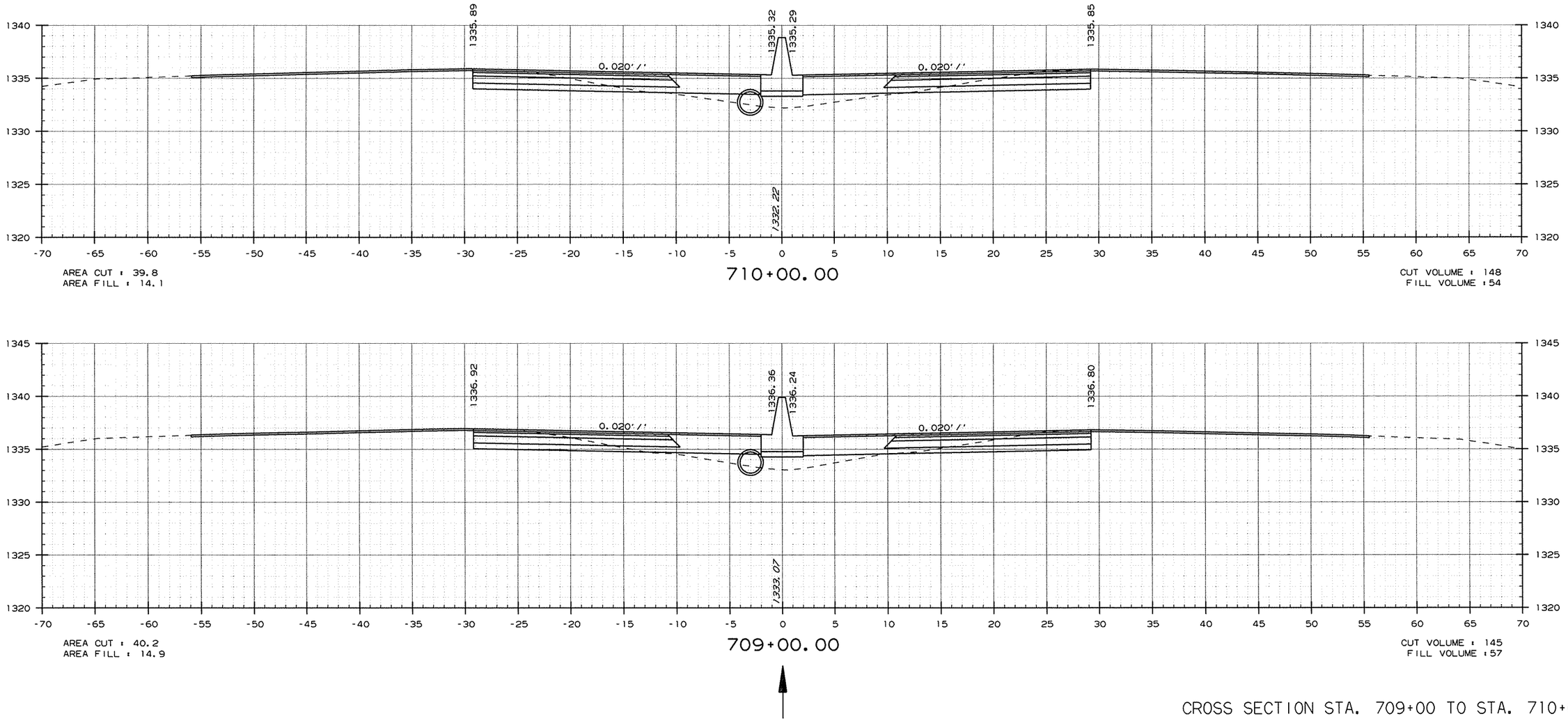
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	276	338

(2) CROSS SECTIONS



CROSS SECTION STA. 709+00 TO STA. 710+00

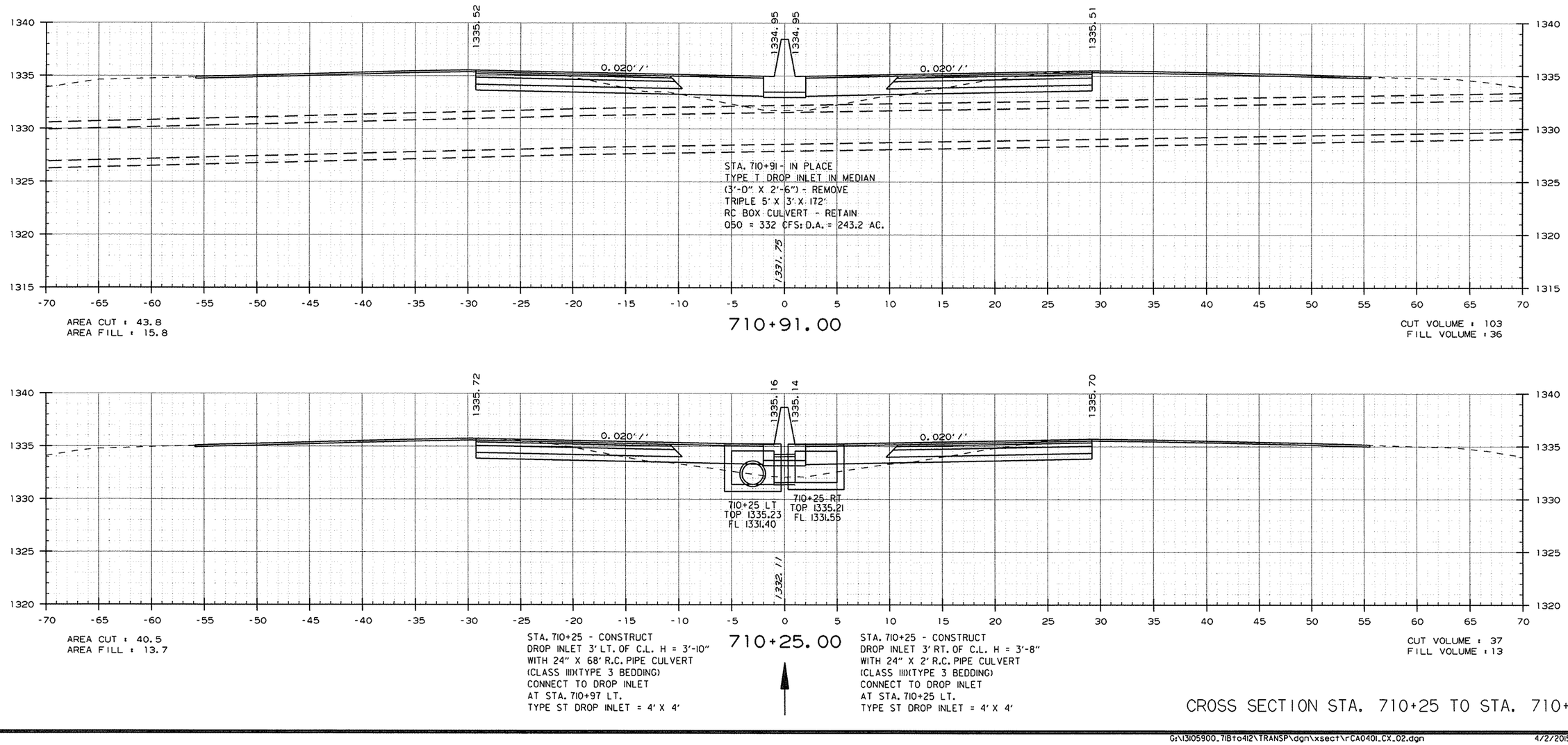
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	277	338

(2) CROSS SECTIONS



CROSS SECTION STA. 710+25 TO STA. 710+91

USER: dd5109
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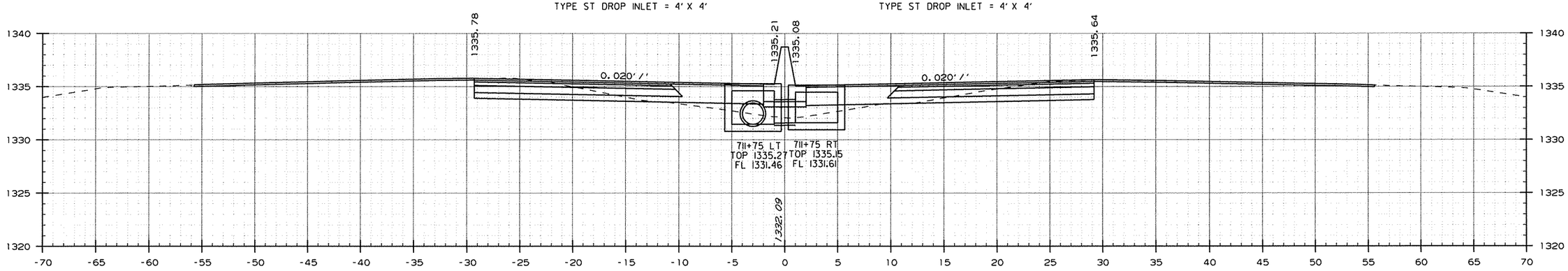
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	278	338
				(2)	CROSS SECTIONS			

STA. 711+75 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-10"
WITH 24" X 74' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 710+97 LT.
TYPE ST DROP INLET = 4' X 4'

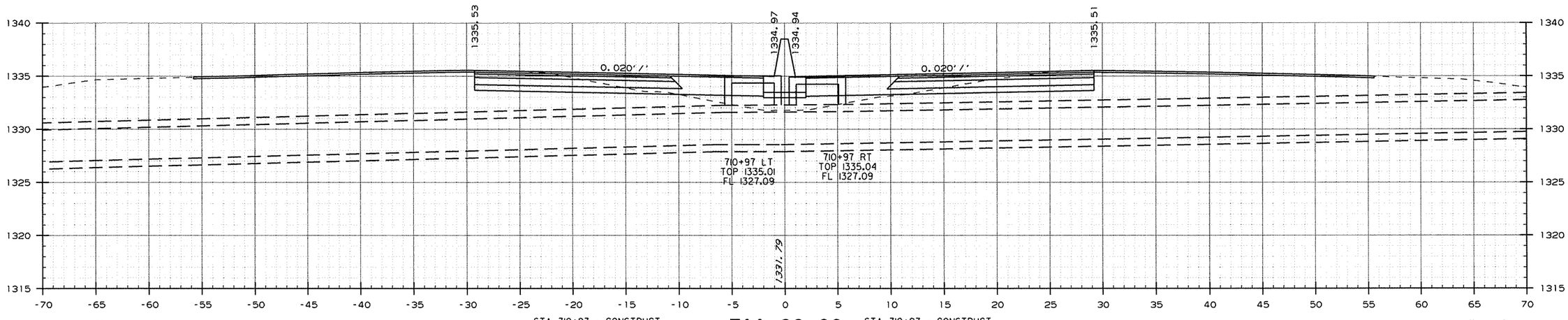
STA. 711+75 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-6"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 711+75 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 41.4
AREA FILL = 12.1

711+75.00

CUT VOLUME = 119
FILL VOLUME = 38



AREA CUT = 44.0
AREA FILL = 15.6

711+00.00

STA. 710+97 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 3'-4"
CONNECT TO EX. TRIPLE 5'X3'
R.C. BOX CULVERT STA. 710+97
DROP INLET = 4' X 4'

STA. 710+97 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-4"
CONNECT TO EX. TRIPLE 5'X3'
R.C. BOX CULVERT STA. 710+97
DROP INLET = 4' X 4'

CUT VOLUME = 15
FILL VOLUME = 5

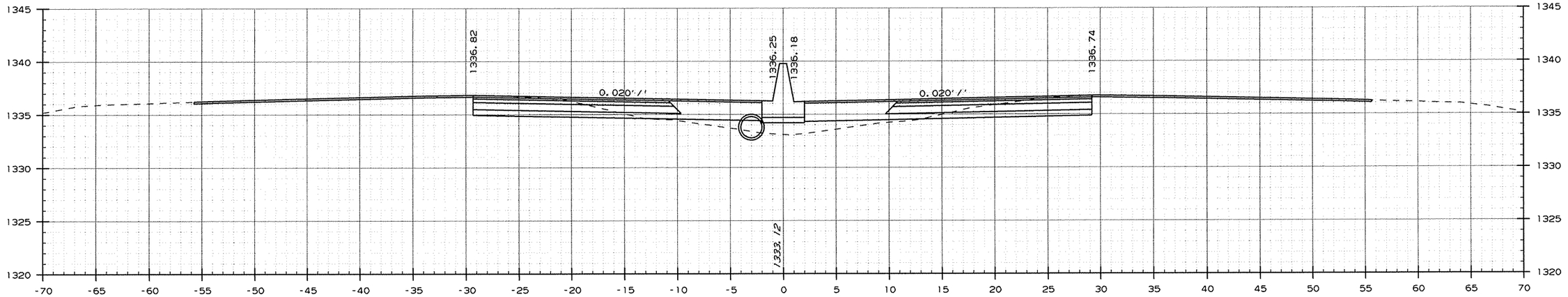
CROSS SECTION STA. 711+00 TO STA. 711+75

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

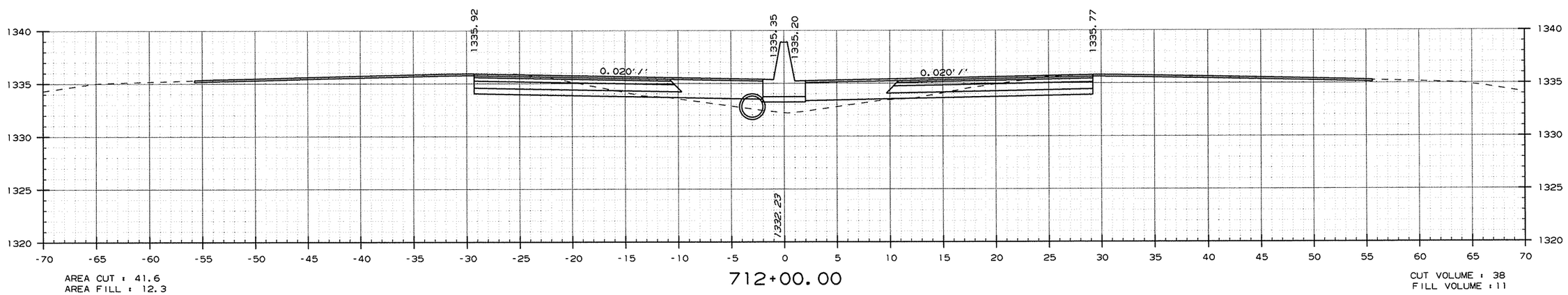
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	279	338
(2)	CROSS SECTIONS			



AREA CUT : 41.9
AREA FILL : 15.1

713+00.00

CUT VOLUME : 155
FILL VOLUME : 51



AREA CUT : 41.6
AREA FILL : 12.3

712+00.00

CUT VOLUME : 38
FILL VOLUME : 11

CROSS SECTION STA. 712+00 TO STA. 713+00

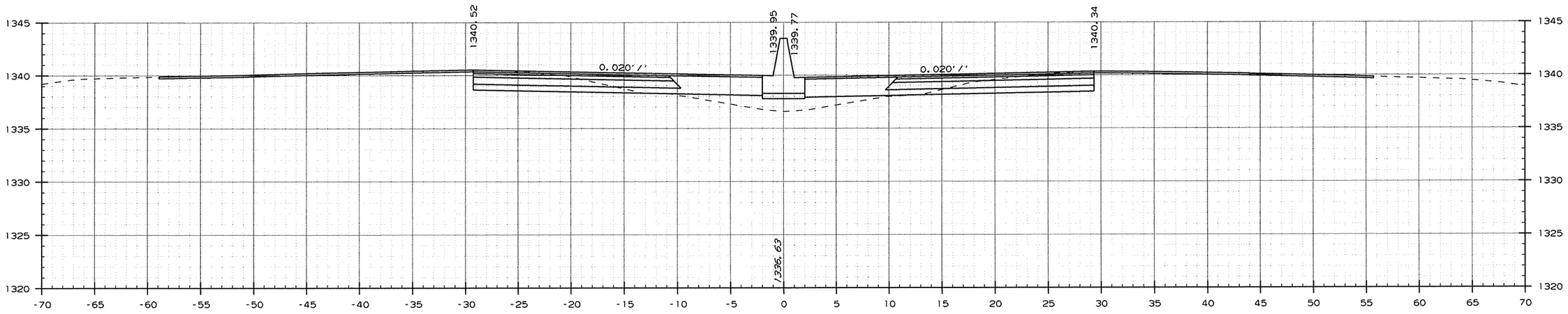
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

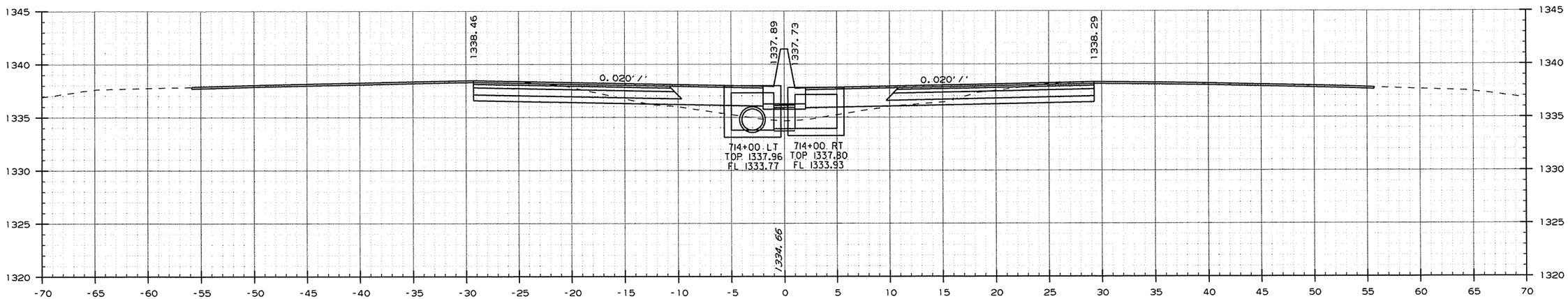
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	280	338
(2)	CROSS SECTIONS			



AREA CUT : 42.2
AREA FILL : 15.2

715+00.00

CUT VOLUME : 156
FILL VOLUME : 55



AREA CUT : 42.3
AREA FILL : 14.6

STA. 714+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-2"
WITH 24" X 22' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 711+75 LT.
TYPE ST DROP INLET = 4' X 4'

714+00.00

STA. 714+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 714+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 156
FILL VOLUME : 55

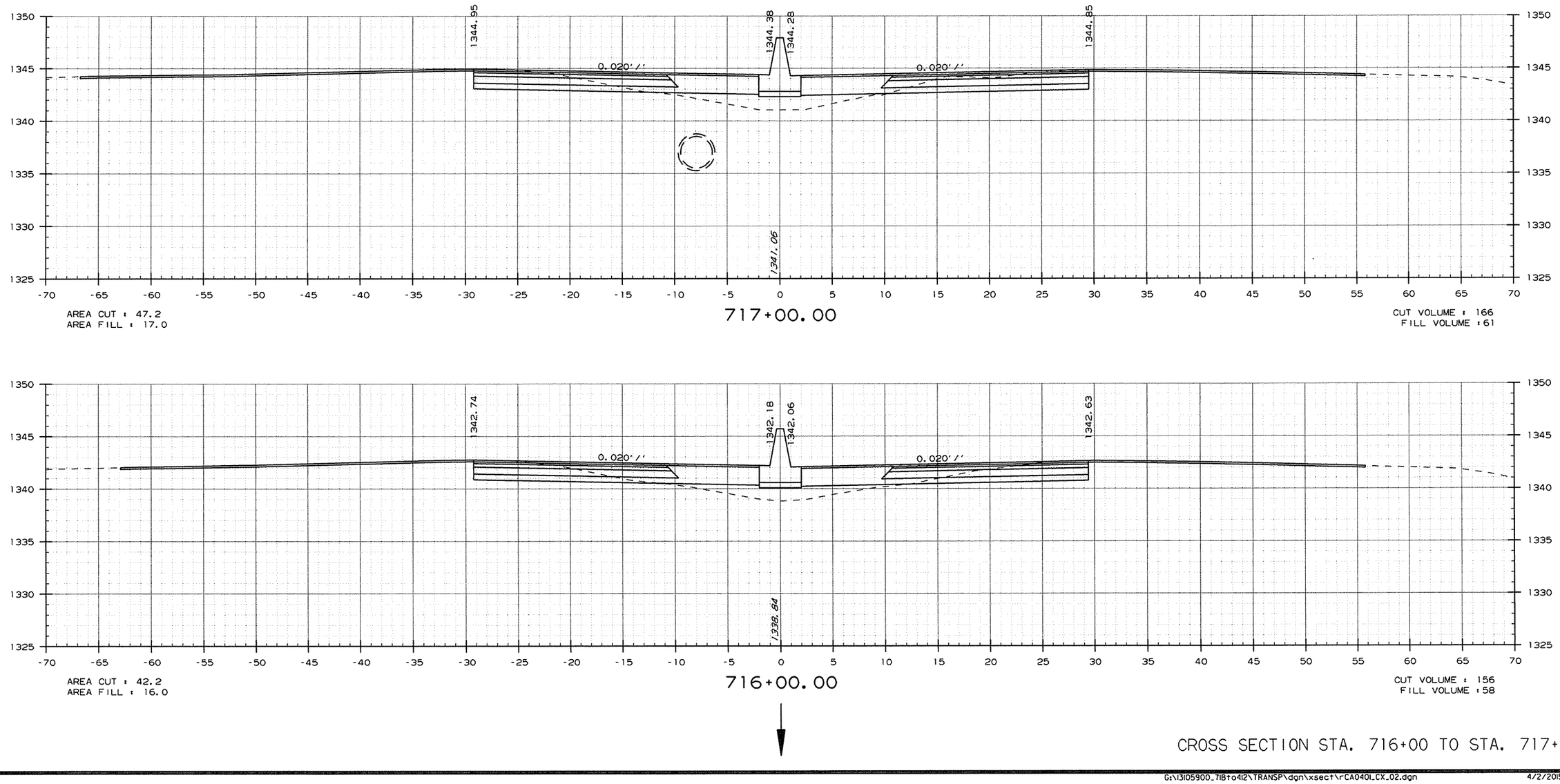
CROSS SECTION STA. 714+00 TO STA. 715+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	281	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 716+00 TO STA. 717+00

USER: dd5109
DESIGN FILE: G:\13105900_718to412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
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Crafton, Tull & Associates Inc.

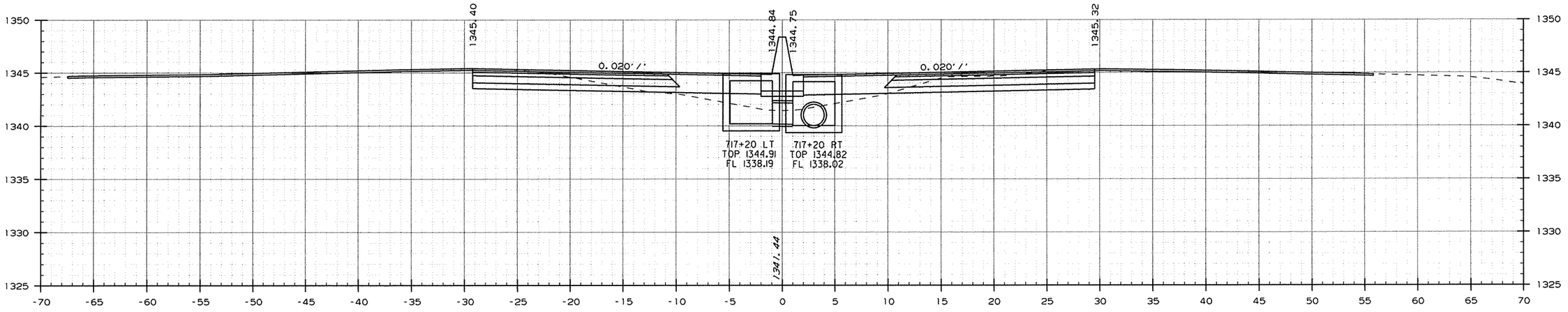
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	282	338

(2) CROSS SECTIONS

STA. 717+20 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-7"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 717+20 RT.
TYPE ST DROP INLET = 4' X 4'

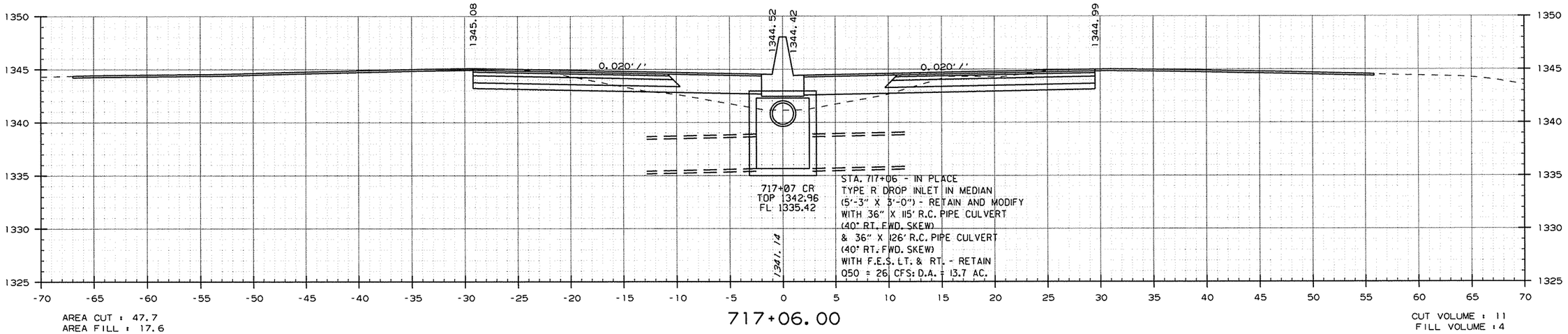
STA. 717+20 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 24" X 10' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING INLET
AT STA. 717+06.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 47.7
AREA FILL : 16.6

717+20.00

CUT VOLUME : 25
FILL VOLUME : 9



AREA CUT : 47.7
AREA FILL : 17.6

717+06.00

CUT VOLUME : 11
FILL VOLUME : 4

CROSS SECTION STA. 717+06 TO STA. 717+20

USER: dd5109
DESIGN FILE: G:\13105900_718to412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
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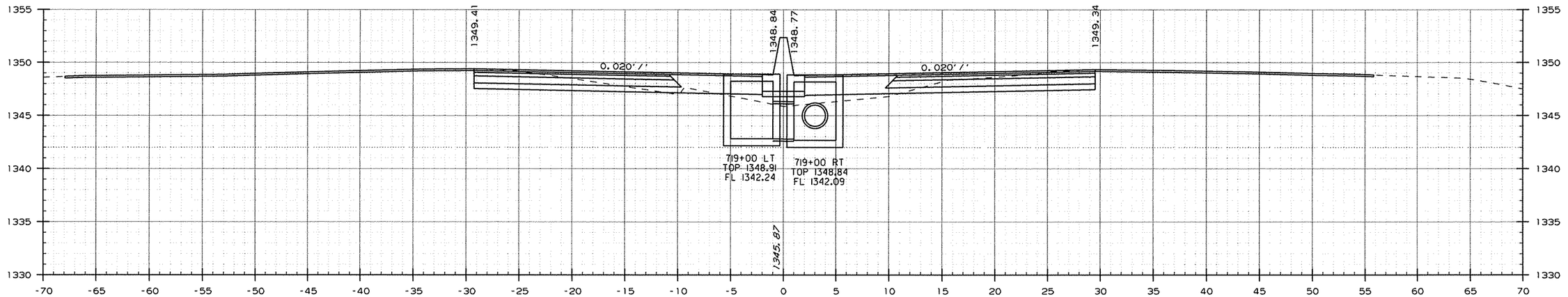
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	283	338
2	CROSS SECTIONS			

STA. 719+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 719+00 RT.
TYPE ST DROP INLET = 4' X 4'

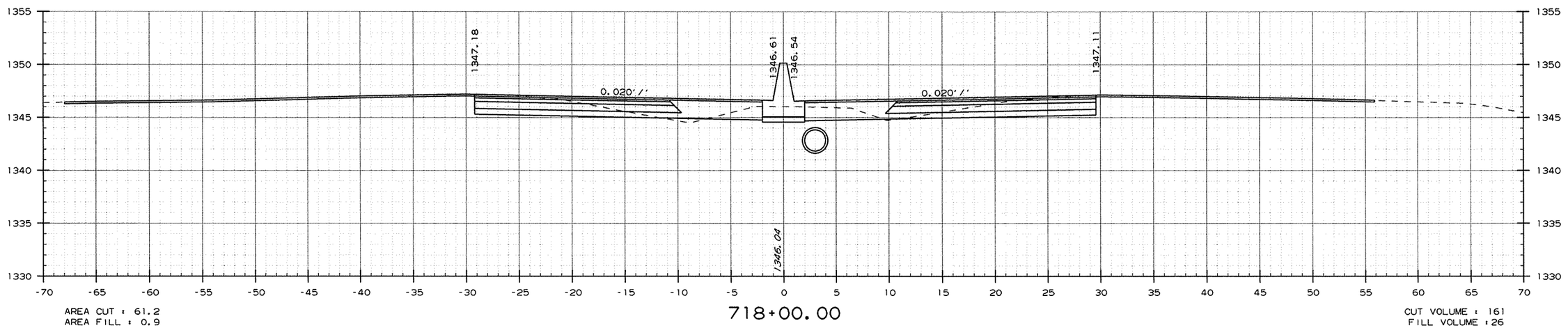
STA. 719+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 176' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 717+06.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 45.4
AREA FILL : 9.3

719+00.00

CUT VOLUME : 197
FILL VOLUME : 19



AREA CUT : 61.2
AREA FILL : 0.9

718+00.00

CUT VOLUME : 161
FILL VOLUME : 26

CROSS SECTION STA. 718+00 TO STA. 719+00

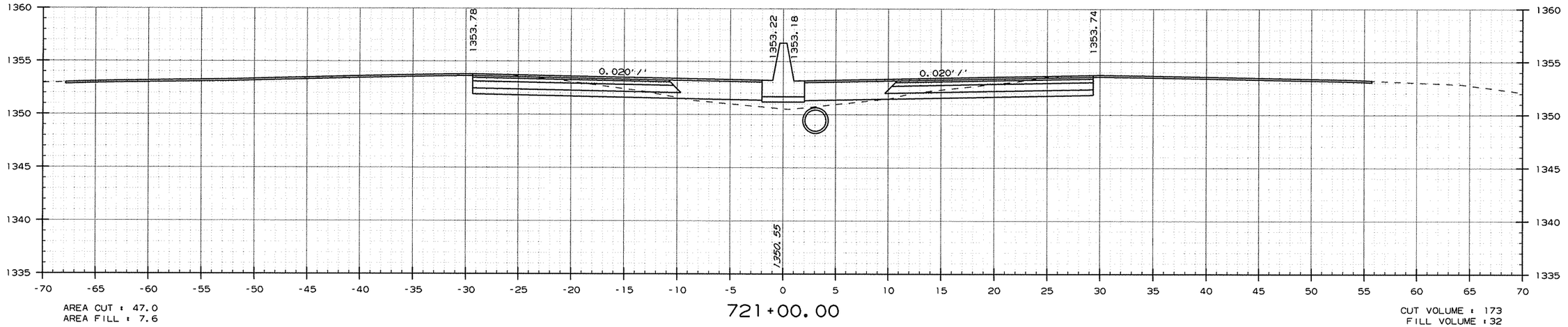
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	284	338

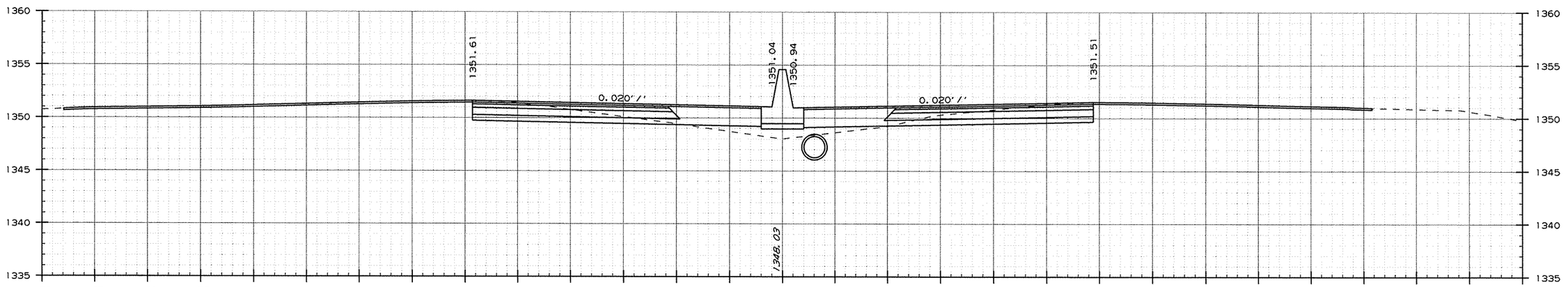
2 CROSS SECTIONS



AREA CUT = 47.0
AREA FILL = 7.6

721+00.00

CUT VOLUME = 173
FILL VOLUME = 32



AREA CUT = 46.5
AREA FILL = 9.8

720+00.00

CUT VOLUME = 170
FILL VOLUME = 35

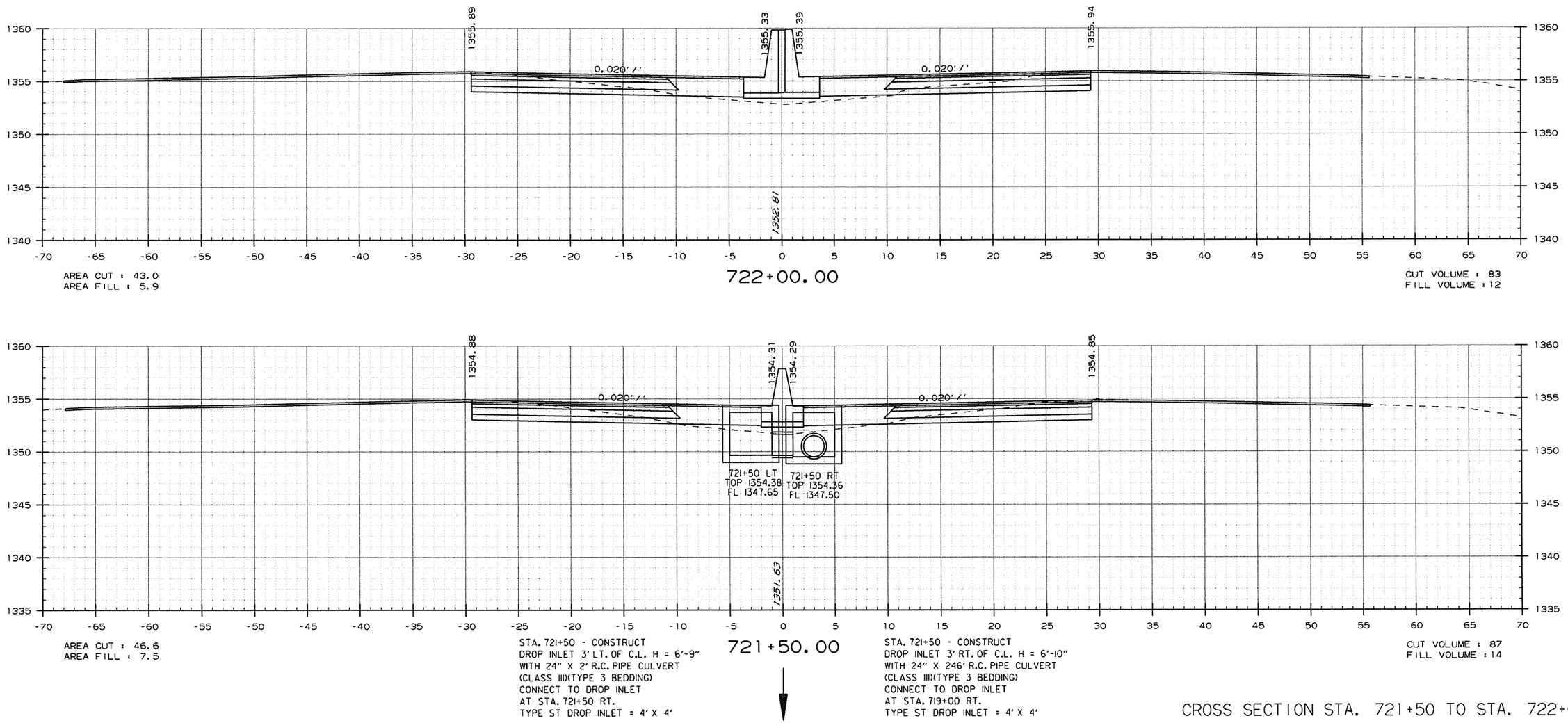
CROSS SECTION STA. 720+00 TO STA. 721+00

USER: dd5109
DESIGN FILE: G:\13105900_7iBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	285	338

(2) CROSS SECTIONS



AREA CUT : 43.0
AREA FILL : 5.9

722+00.00

CUT VOLUME : 83
FILL VOLUME : 12

AREA CUT : 46.6
AREA FILL : 7.5

STA. 721+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-9"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 721+50 RT.
TYPE ST DROP INLET = 4' X 4'

721+50.00

STA. 721+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-10"
WITH 24" X 246' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 719+00 RT.
TYPE ST DROP INLET = 4' X 4'

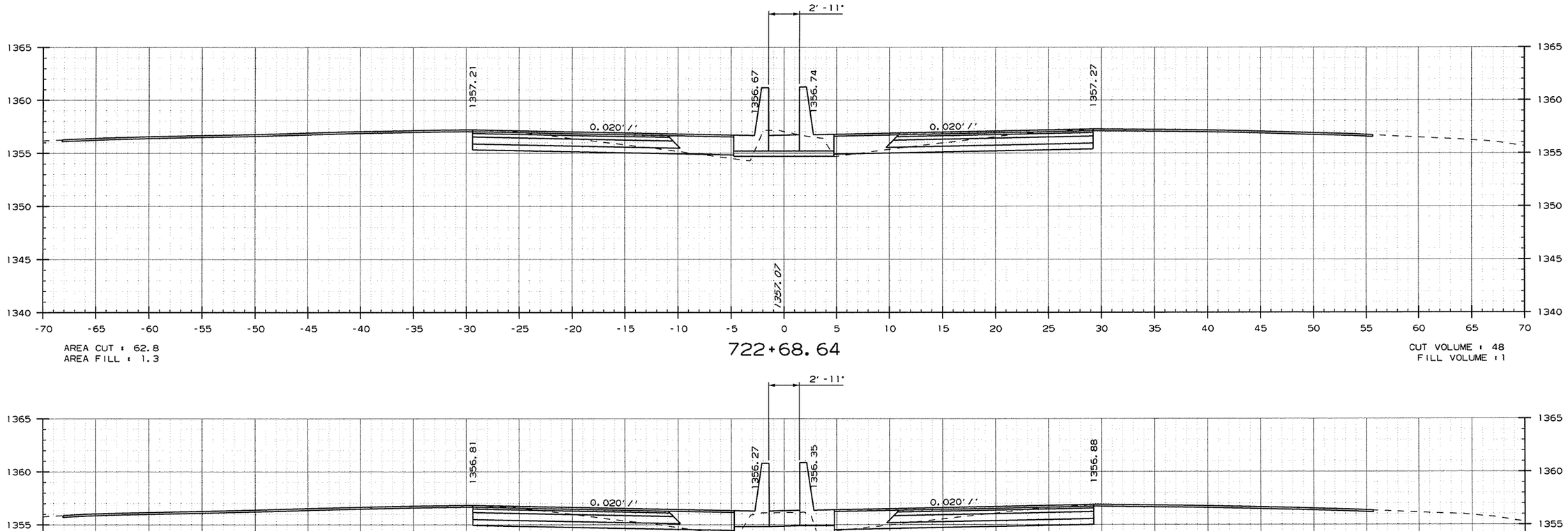
CUT VOLUME : 87
FILL VOLUME : 14

CROSS SECTION STA. 721+50 TO STA. 722+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
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Crafton, Tull & Associates Inc.

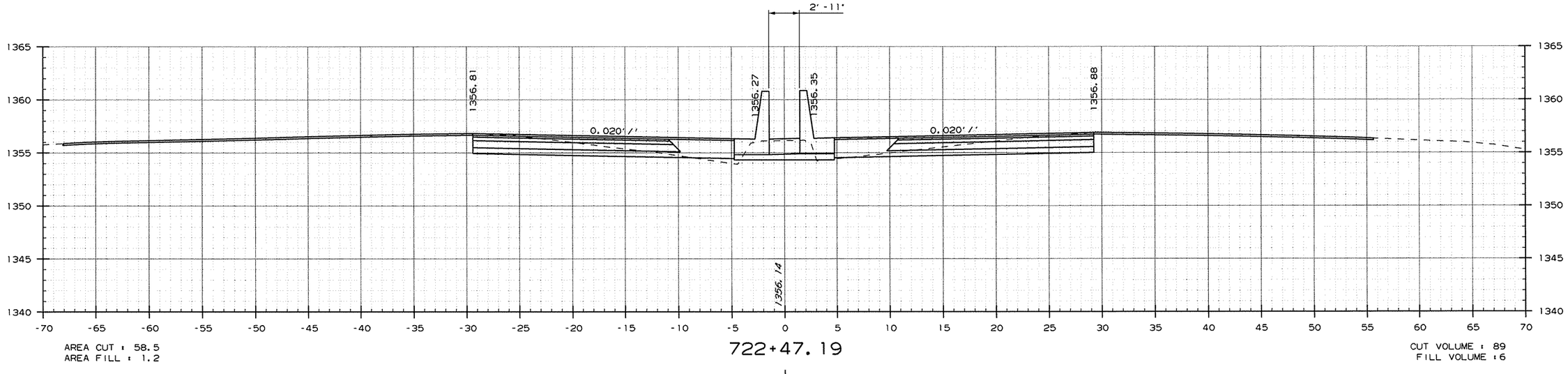
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	286	338
				(2)	CROSS SECTIONS			



AREA CUT : 62.8
AREA FILL : 1.3

722+68.64

CUT VOLUME : 48
FILL VOLUME : 1



AREA CUT : 58.5
AREA FILL : 1.2

722+47.19

CUT VOLUME : 89
FILL VOLUME : 6

CROSS SECTION STA. 722+47 TO STA. 722+69

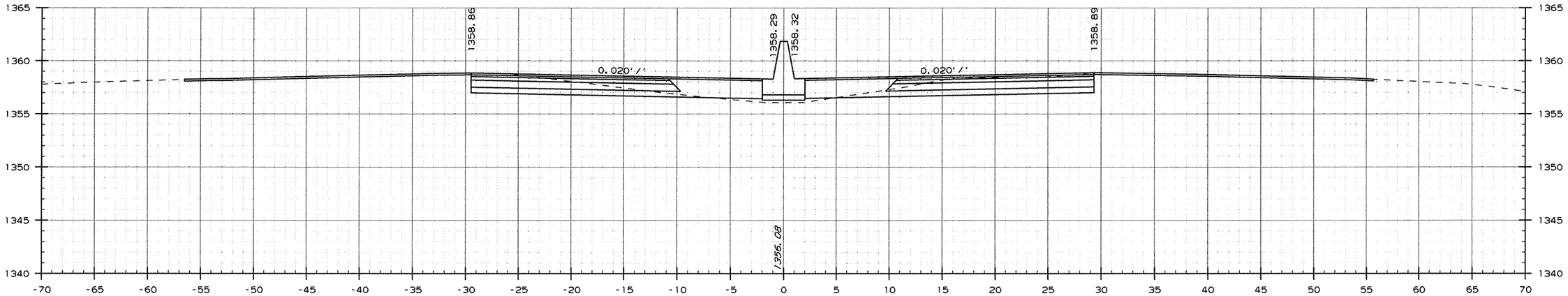
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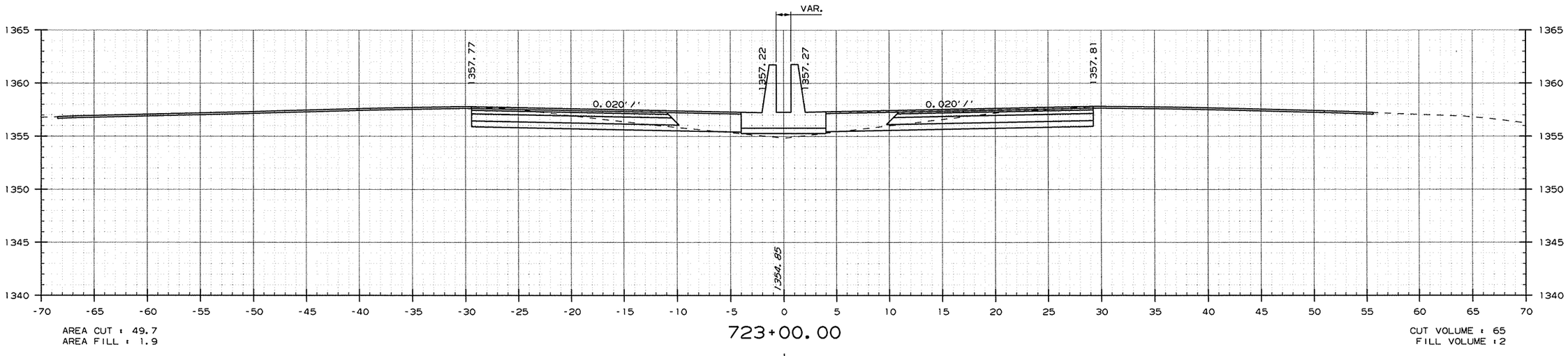
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	287	338
(2)	CROSS SECTIONS			





CROSS SECTION STA. 723+00 TO STA. 723+69

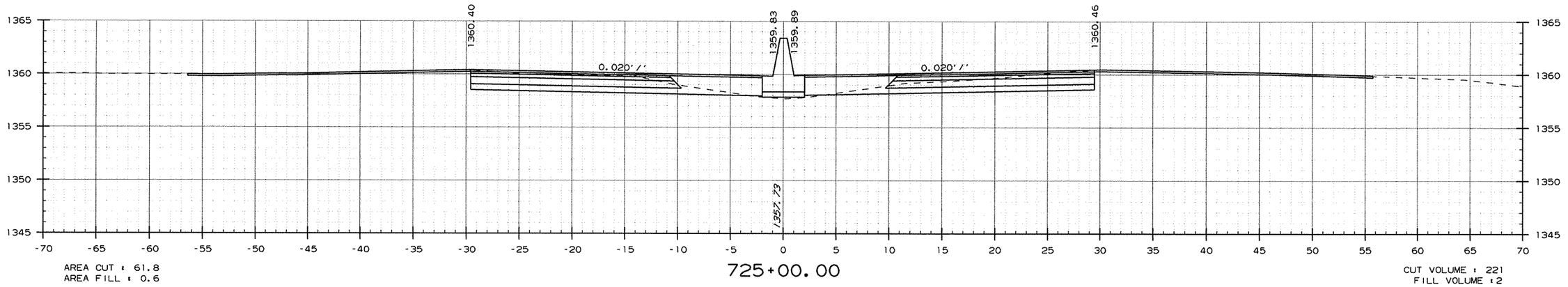
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PLOTTED: 4/2/2015 13:14
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	288	338

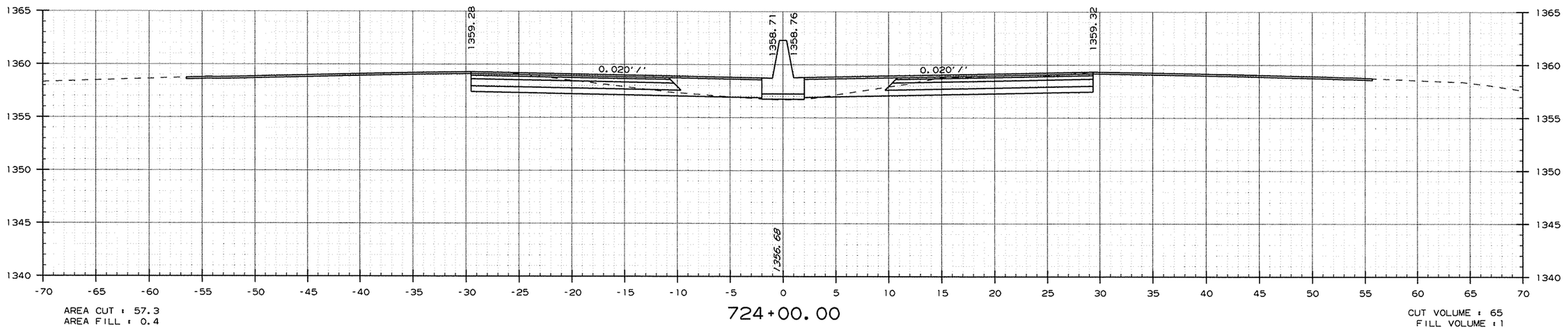
2 CROSS SECTIONS



AREA CUT : 61.8
AREA FILL : 0.6

725+00.00

CUT VOLUME : 221
FILL VOLUME : 2



AREA CUT : 57.3
AREA FILL : 0.4

724+00.00

CUT VOLUME : 65
FILL VOLUME : 1

CROSS SECTION STA. 724+00 TO STA. 725+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:14
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Crafton, Tull & Associates Inc.

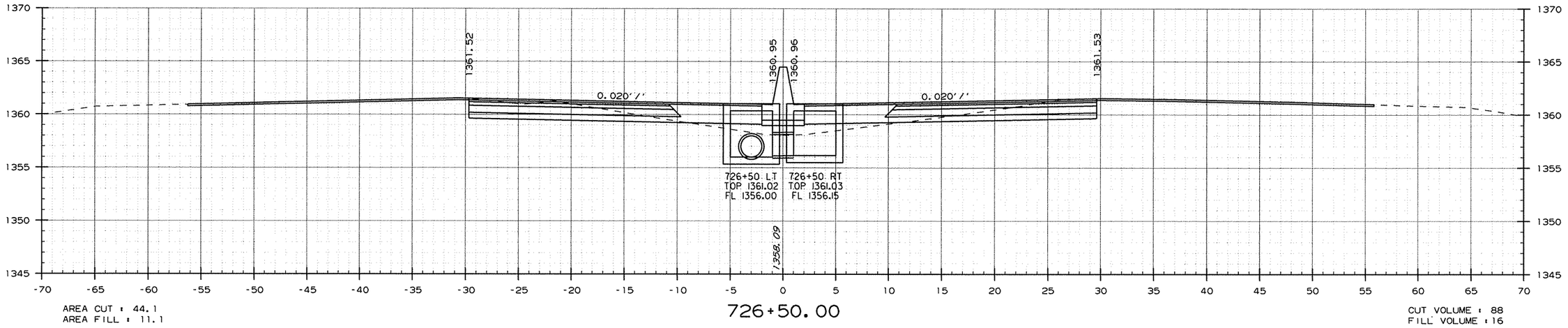
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	289	338

(2) CROSS SECTIONS

STA. 726+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 196' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 728+50 LT.
TYPE ST DROP INLET = 4' X 4'

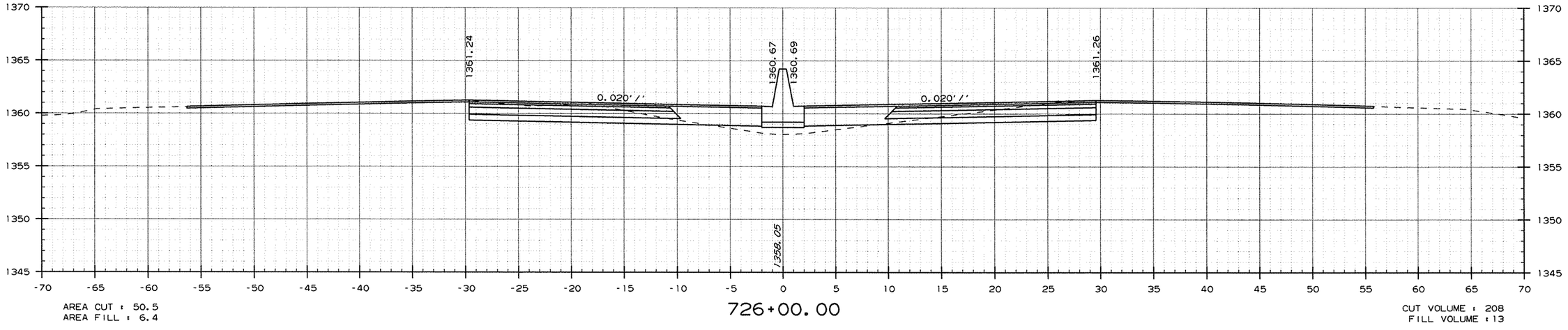
STA. 726+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-11"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 726+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 44.1
AREA FILL : 11.1

726+50.00

CUT VOLUME : 88
FILL VOLUME : 16



AREA CUT : 50.5
AREA FILL : 6.4

726+00.00

CUT VOLUME : 208
FILL VOLUME : 13

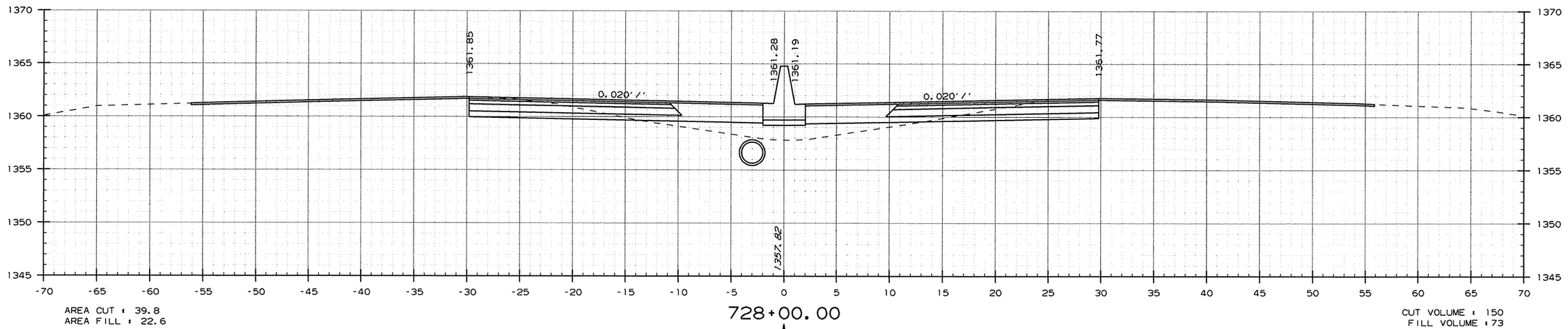
CROSS SECTION STA. 726+00 TO STA. 726+50

USER: dd5109
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PLOTTED: 4/2/2015 13:14
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

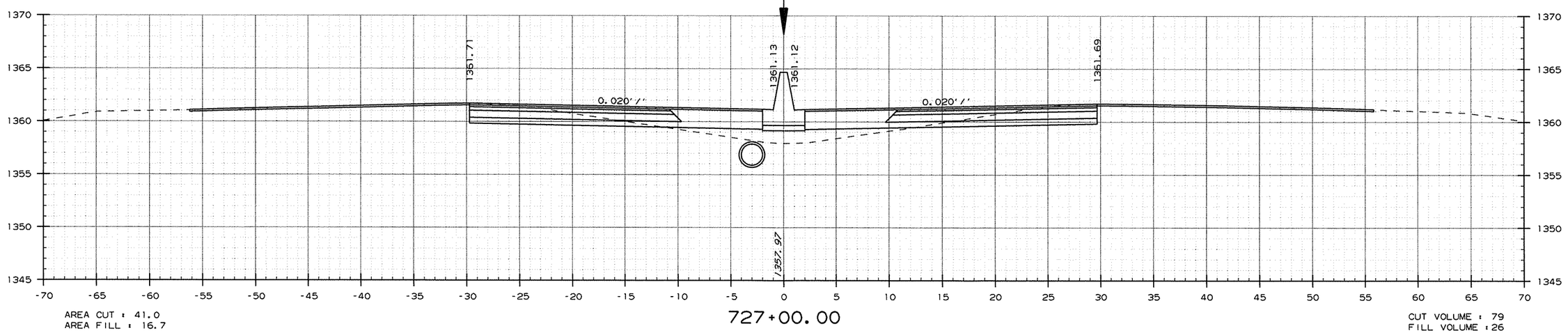
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	290	338
2	CROSS SECTIONS			



AREA CUT : 39.8
AREA FILL : 22.6

728+00.00

CUT VOLUME : 150
FILL VOLUME : 73



AREA CUT : 41.0
AREA FILL : 16.7

727+00.00

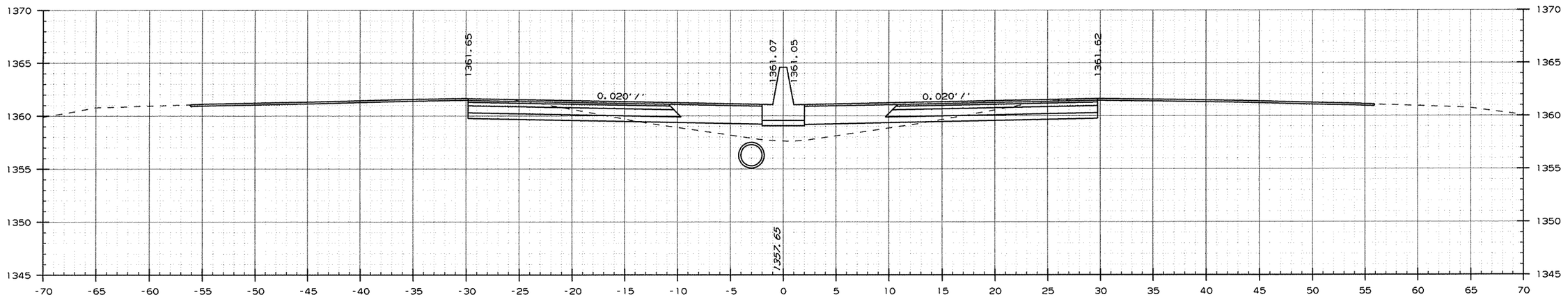
CUT VOLUME : 79
FILL VOLUME : 26

CROSS SECTION STA. 727+00 TO STA. 728+00

USER: dd5109
DESIGN FILE: G:\13105900_TIBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:14
SCALE: 10:1

Crafton, Tull & Associates Inc.

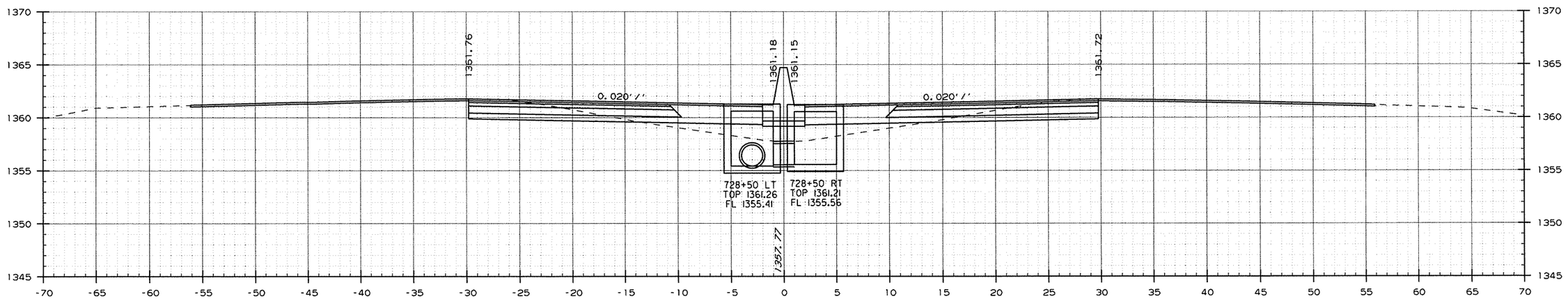
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	291	338
				(2)	CROSS SECTIONS			



AREA CUT : 38.7
AREA FILL : 22.9

729+00.00

CUT VOLUME : 71
FILL VOLUME : 42



AREA CUT : 38.5
AREA FILL : 22.5

STA. 728+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-10"
WITH 24" X 96' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 729+50 LT.
TYPE ST DROP INLET = 4' X 4'

728+50.00

STA. 728+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 728+50 LT.
TYPE ST DROP INLET = 4' X 4'

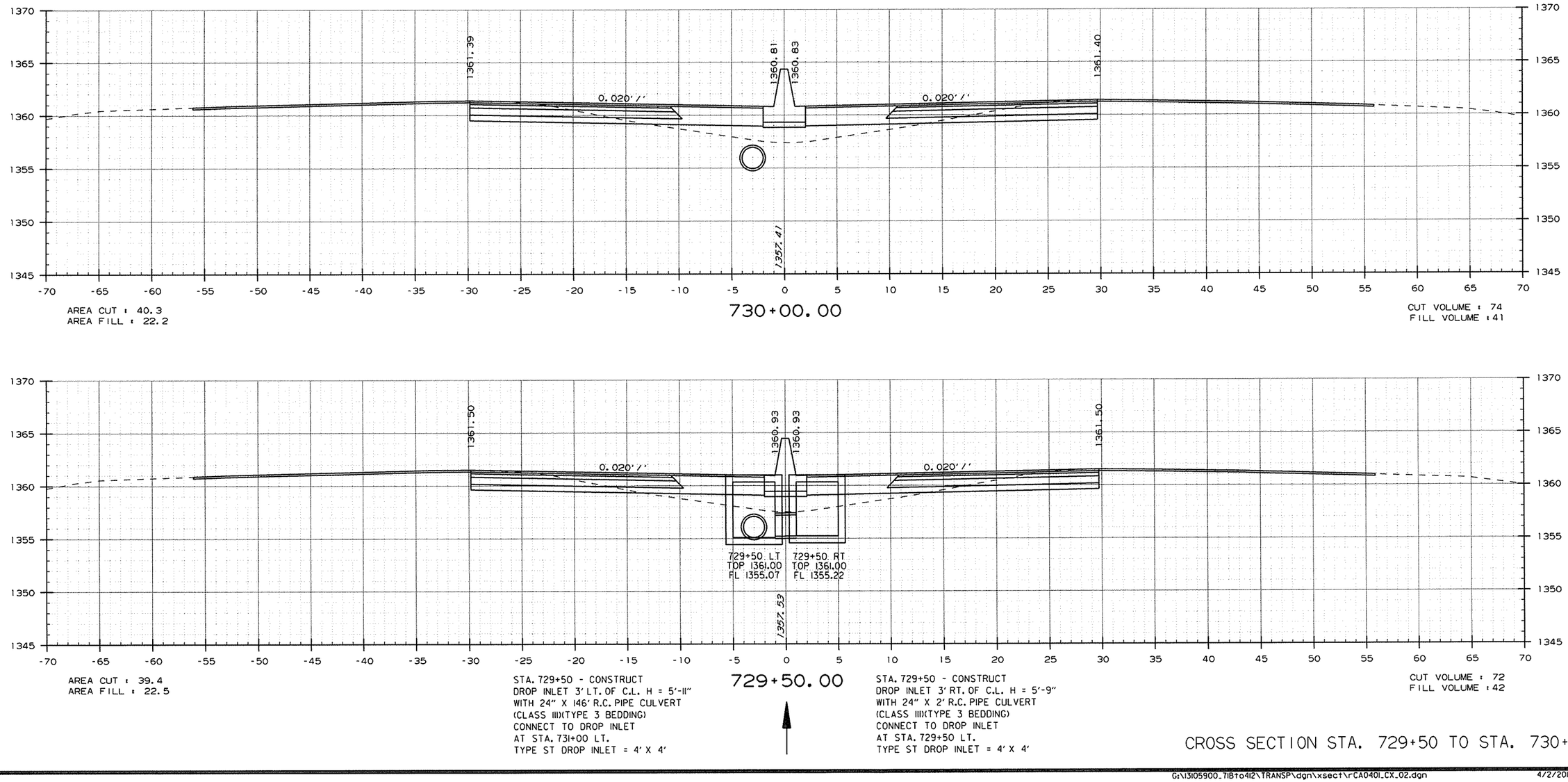
CUT VOLUME : 73
FILL VOLUME : 42

CROSS SECTION STA. 728+50 TO STA. 729+00

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:14
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	292	338
				(2)	CROSS SECTIONS			



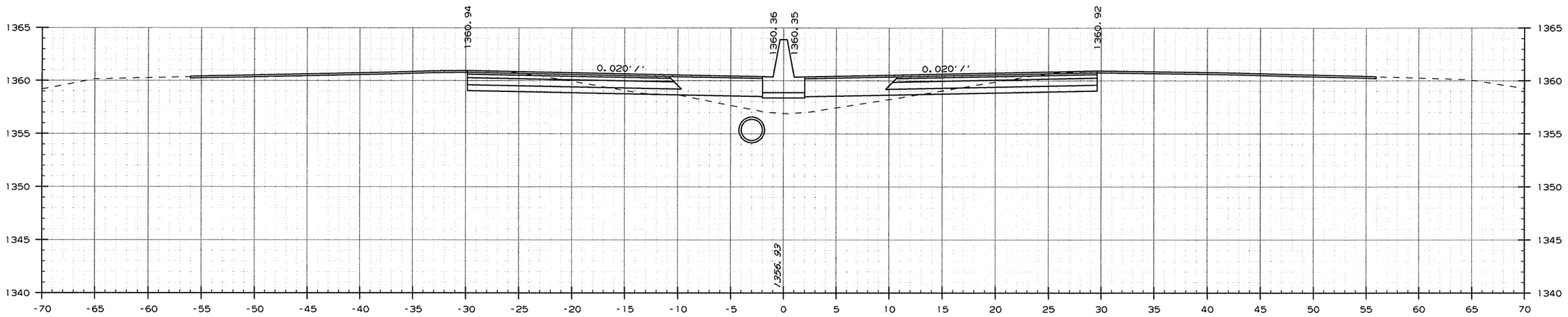
CROSS SECTION STA. 729+50 TO STA. 730+00

USER: dd5109
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PLOTTED: 4/2/2015 13:14
SCALE: 10:1

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Crafton, Tull & Associates Inc.

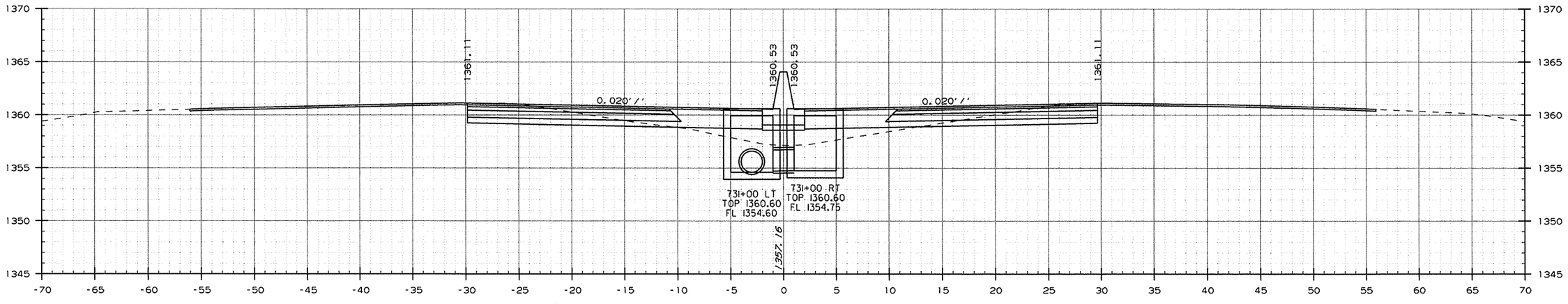
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	293	338
				(2)	CROSS SECTIONS			



AREA CUT : 39.5
AREA FILL : 19.4

732+00.00

CUT VOLUME : 151
FILL VOLUME : 71



AREA CUT : 42.1
AREA FILL : 18.8

731+00.00

STA. 731+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-0"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 732+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 731+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 731+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 153
FILL VOLUME : 76

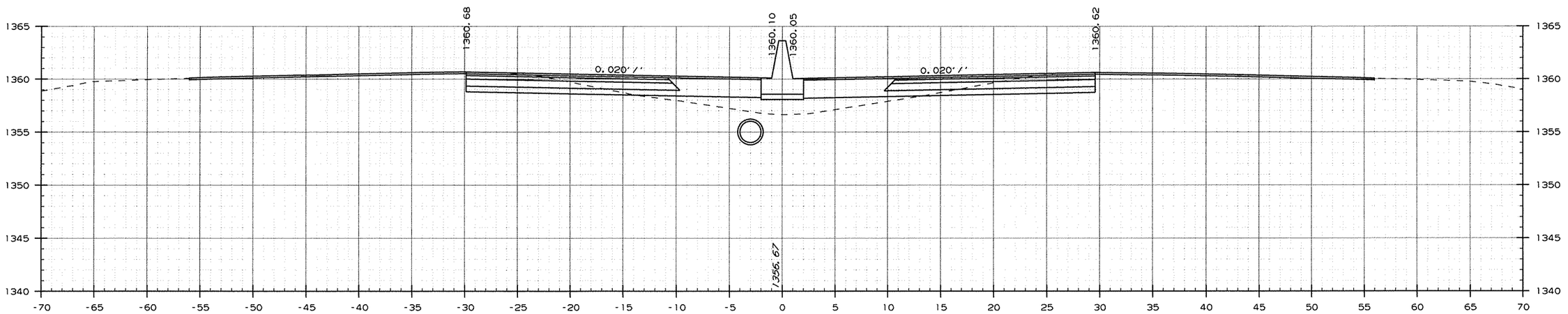
CROSS SECTION STA. 731+00 TO STA. 732+00

USER: dd5109
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PLOTTED: 4/2/2015 13:15
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	294	338

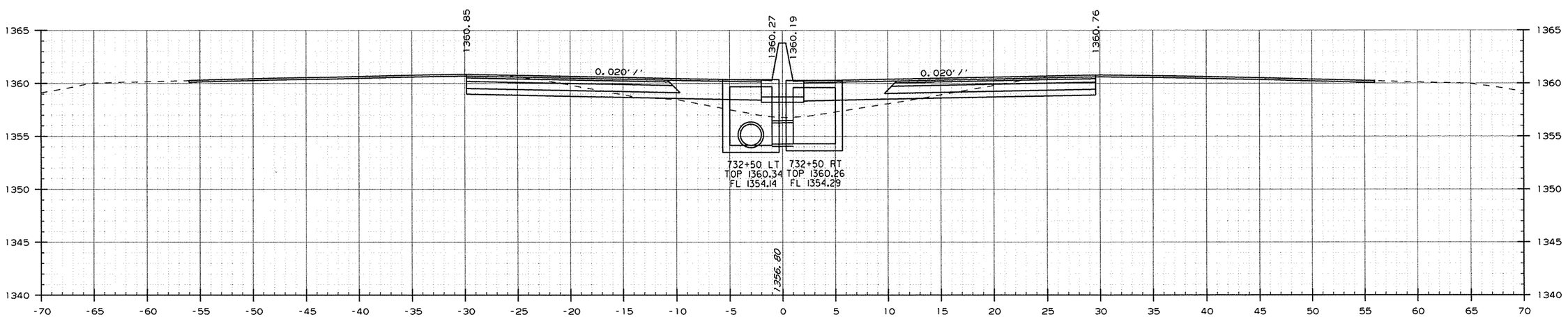
2 CROSS SECTIONS



AREA CUT : 40.0
AREA FILL : 22.0

733+00.00

CUT VOLUME : 74
FILL VOLUME : 39



AREA CUT : 39.5
AREA FILL : 20.0

STA. 732+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 734+00 LT.
TYPE ST DROP INLET = 4' X 4'

732+50.00

STA. 732+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 732+50 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 73
FILL VOLUME : 36

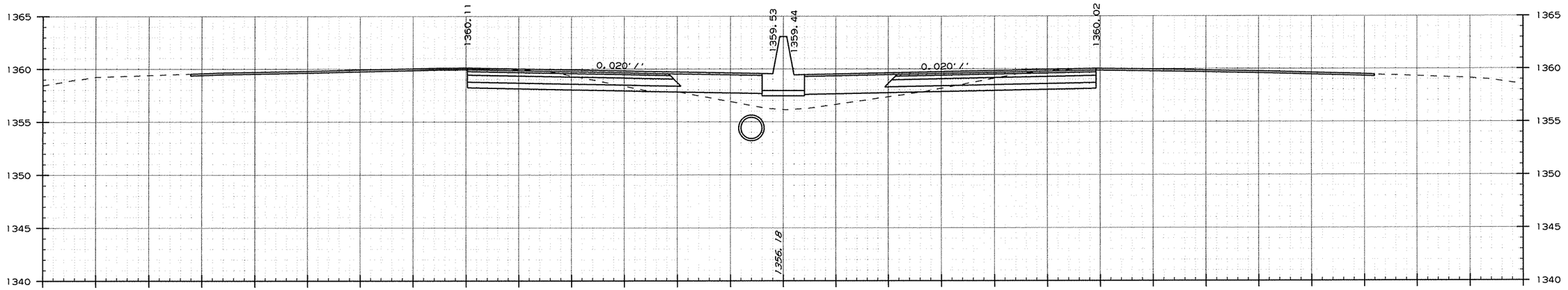
CROSS SECTION STA. 732+50 TO STA. 733+00

USER: dd5109
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PLOTTED: 4/2/2015 13:15
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	295	338

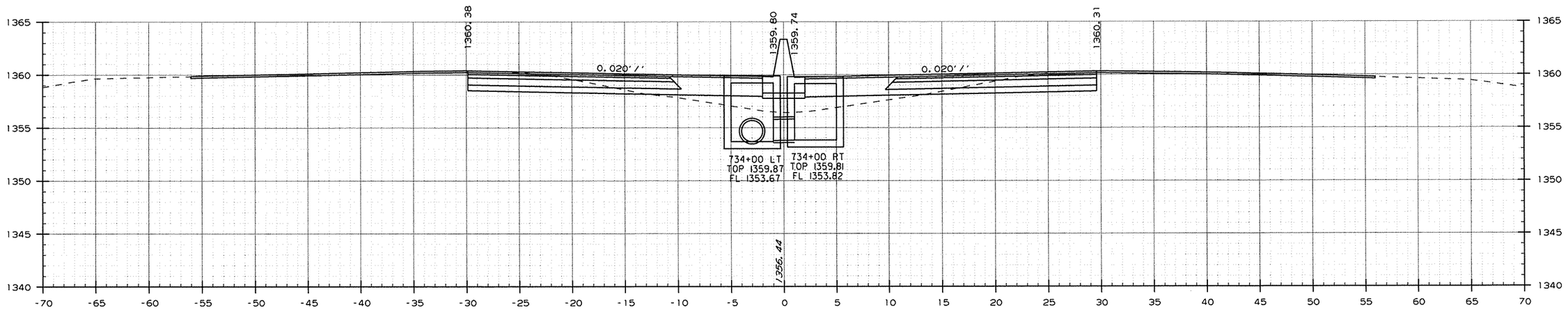
(2) CROSS SECTIONS



AREA CUT : 42.7
AREA FILL : 17.6

735+00.00

CUT VOLUME : 156
FILL VOLUME : 70



AREA CUT : 41.4
AREA FILL : 20.0

734+00.00

STA. 734+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 735+50 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 734+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 734+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 151
FILL VOLUME : 78

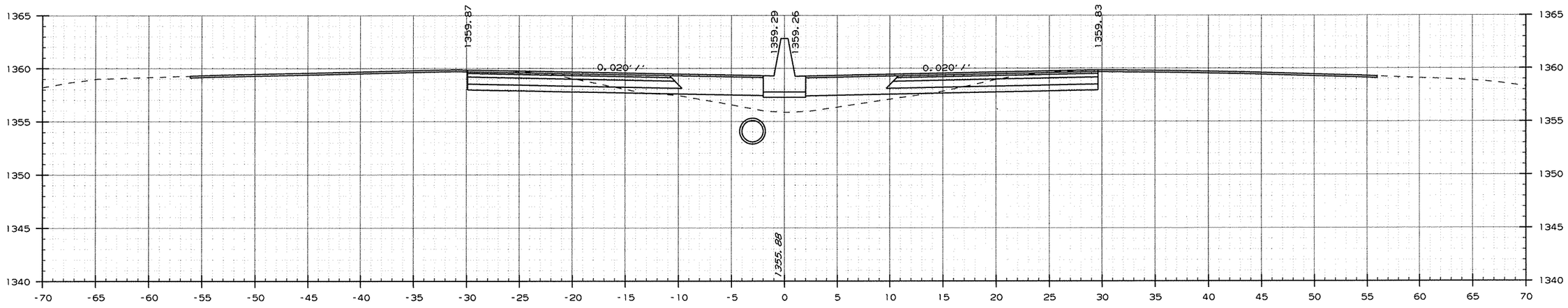
CROSS SECTION STA. 734+00 TO STA. 735+00

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

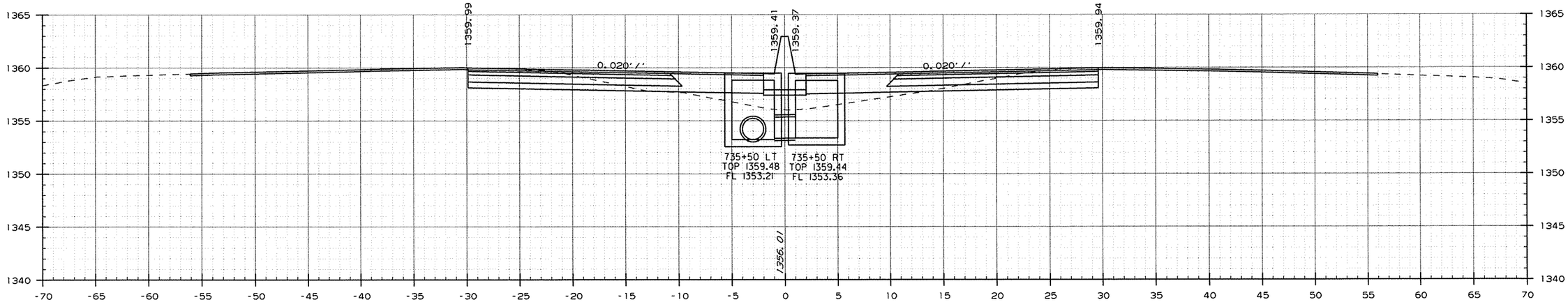
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	296	338
(2)	CROSS SECTIONS			



AREA CUT = 41.7
AREA FILL = 20.2

736+00.00

CUT VOLUME = 78
FILL VOLUME = 36



AREA CUT = 42.6
AREA FILL = 18.7

735+50.00

STA. 735+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-3"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+00 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 735+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-1"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 735+50 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME = 79
FILL VOLUME = 34

CROSS SECTION STA. 735+50 TO STA. 736+00

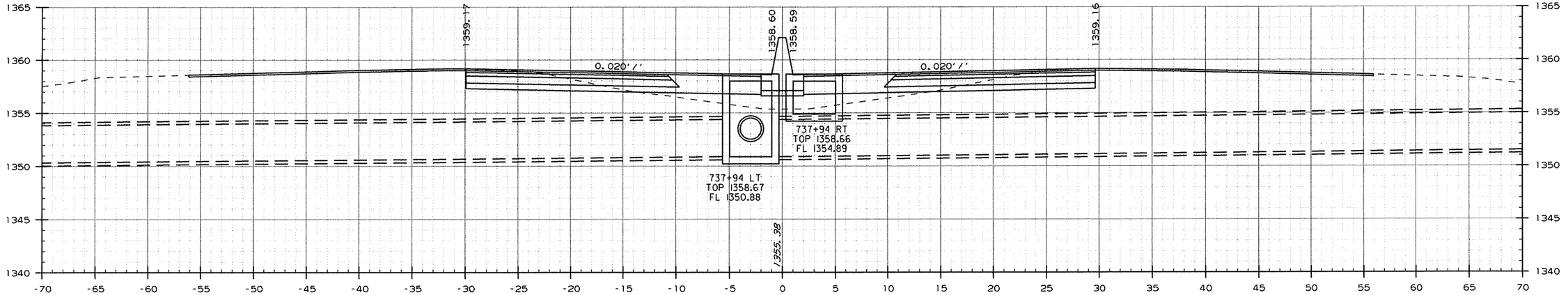
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	297	338
				(2)	CROSS SECTIONS			

STA. 737+94 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-9"
CONNECT TO EXISTING 42" R.C. PIPE
AT STA. 737+94.
TYPE ST DROP INLET = 5' X 5'

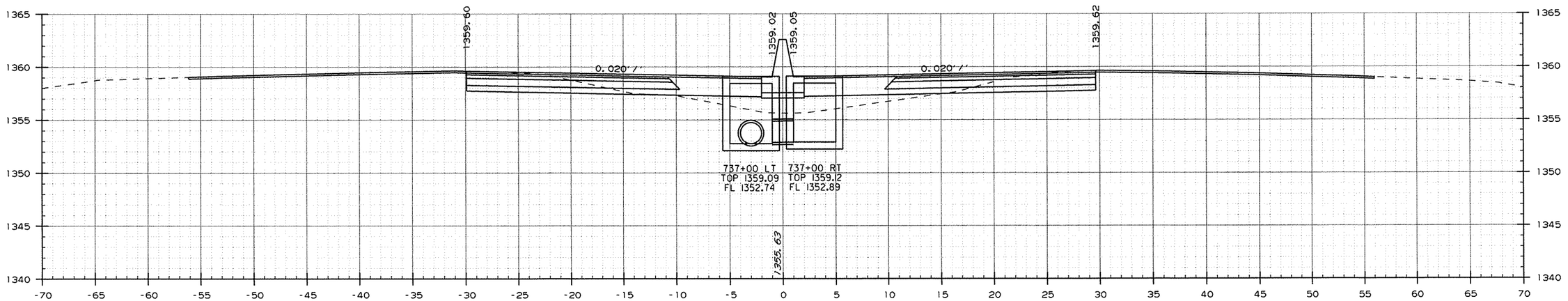
STA. 737+94 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 3'-9"
WITH 24" X 4' R.C. PIPE CULVERT
(CLASS V)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+94 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT = 39.1
AREA FILL = 20.9

737+94.00

CUT VOLUME = 137
FILL VOLUME = 74



AREA CUT = 39.4
AREA FILL = 21.6

737+00.00

CUT VOLUME = 150
FILL VOLUME = 77

STA. 737+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-4"
WITH 24" X 90' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+94 LT.
TYPE ST DROP INLET = 4' X 4'

STA. 737+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 6'-3"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 737+00 LT.
TYPE ST DROP INLET = 4' X 4'

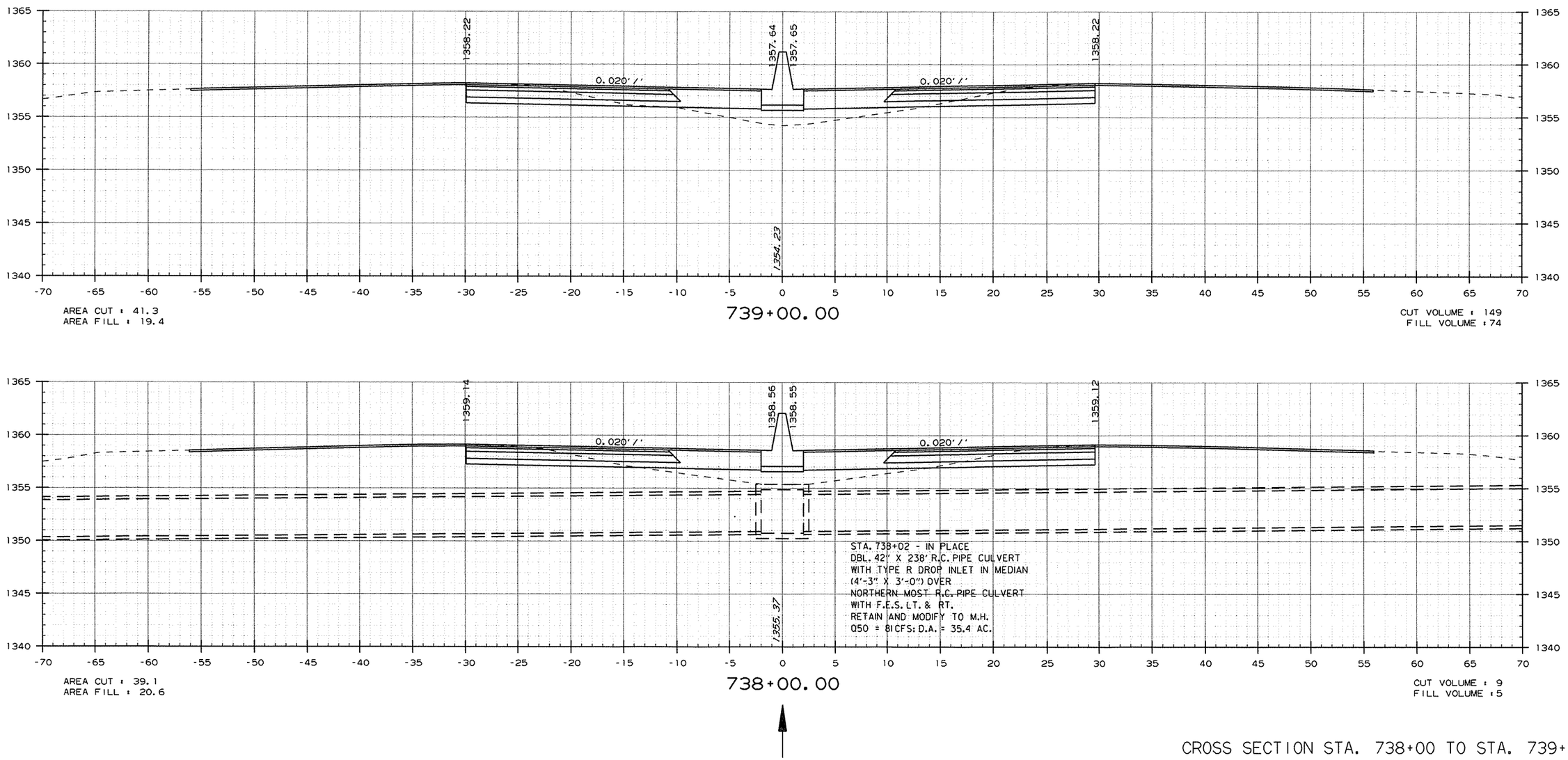
CROSS SECTION STA. 737+00 TO STA. 737+94

USER: dd5109
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	298	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 738+00 TO STA. 739+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
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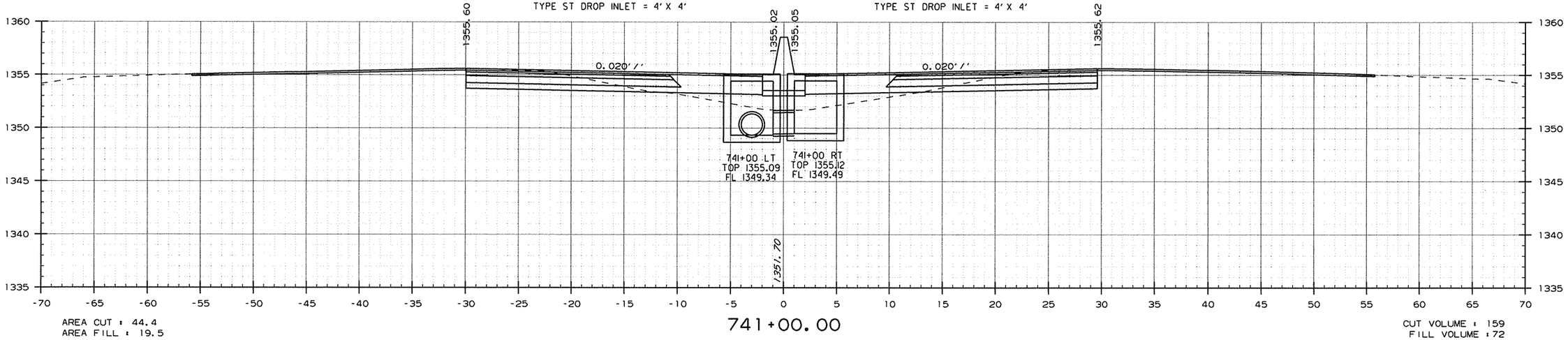
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	299	338

(2) CROSS SECTIONS

STA. 741+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-9"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 744+00 LT.
TYPE ST DROP INLET = 4' X 4'

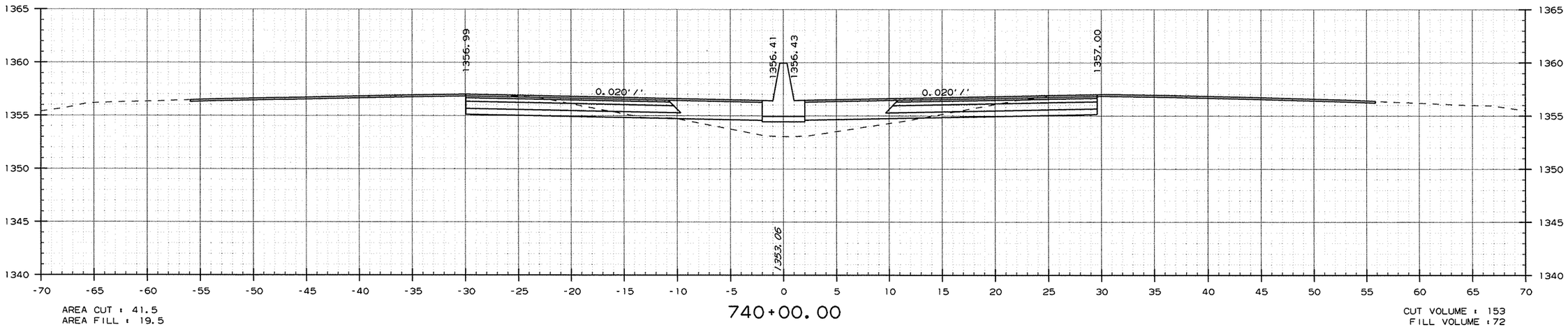
STA. 741+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 741+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 44.4
AREA FILL : 19.5

741+00.00

CUT VOLUME : 159
FILL VOLUME : 72



AREA CUT : 41.5
AREA FILL : 19.5

740+00.00

CUT VOLUME : 153
FILL VOLUME : 72

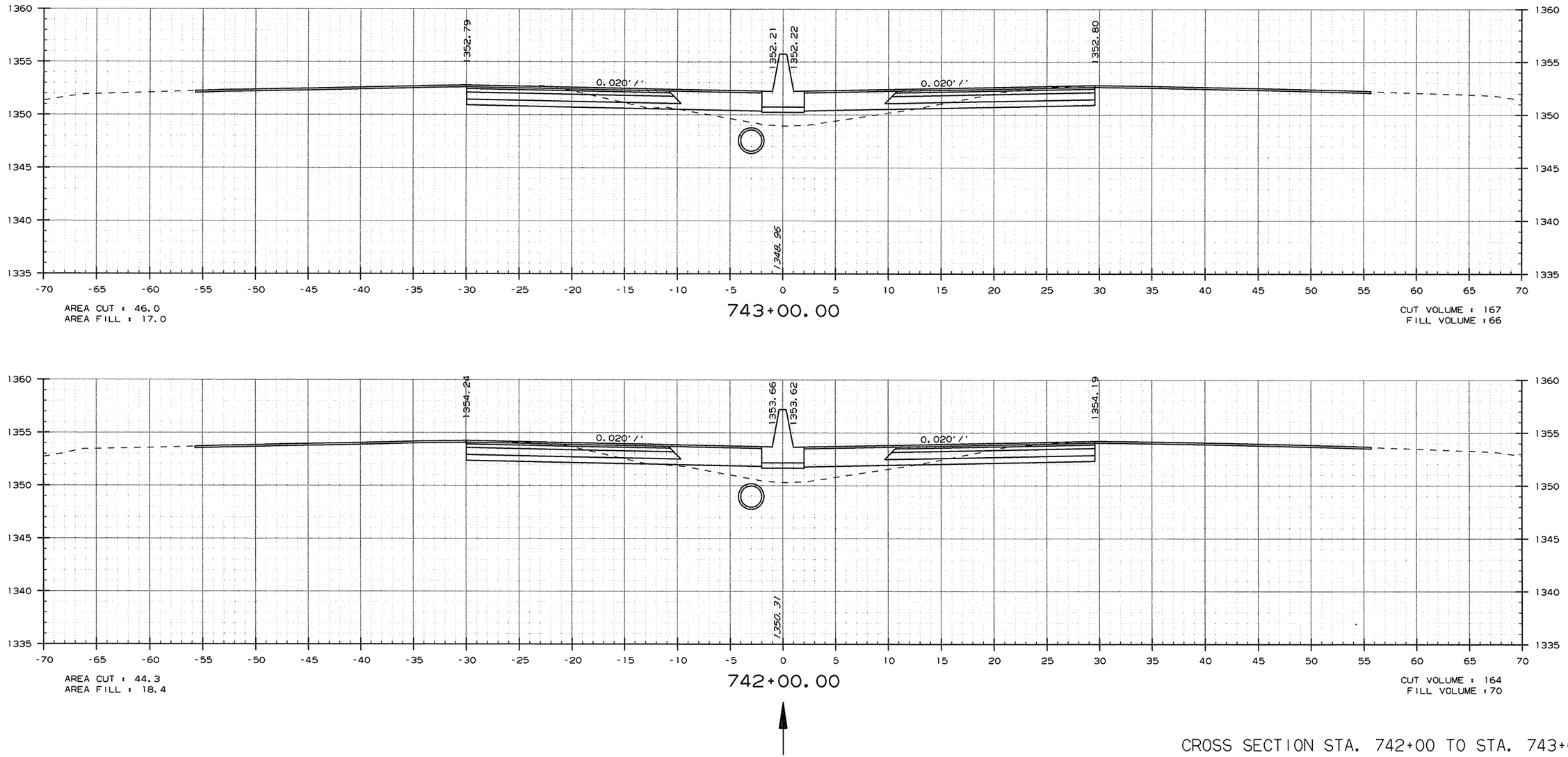
CROSS SECTION STA. 740+00 TO STA. 741+00

USER: dd5109
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PLOTTED: 4/2/2015 13:15

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	300	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 742+00 TO STA. 743+00

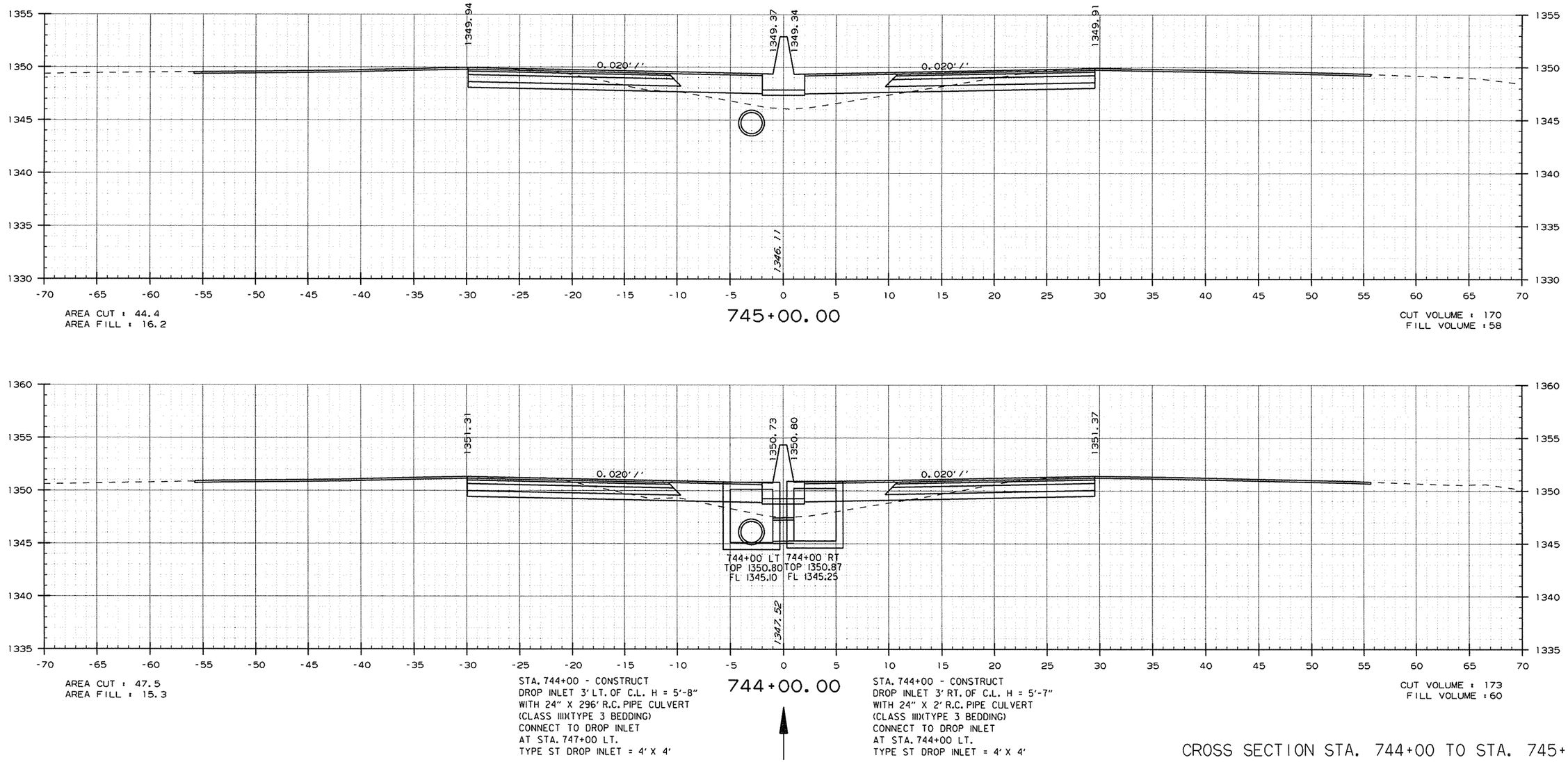
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PLOTTED: 4/2/2015 13:15
SCALE: 101

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	301	338

(2) CROSS SECTIONS



CROSS SECTION STA. 744+00 TO STA. 745+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
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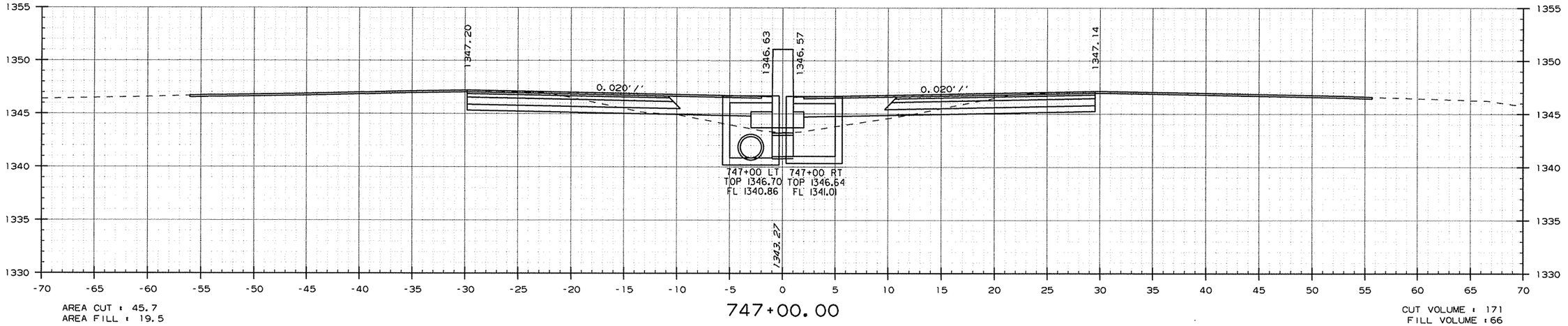
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	302	338

(2) CROSS SECTIONS

STA. 747+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-10"
WITH 24" X 239' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 749+51 LT.
TYPE ST DROP INLET = 4' X 4'

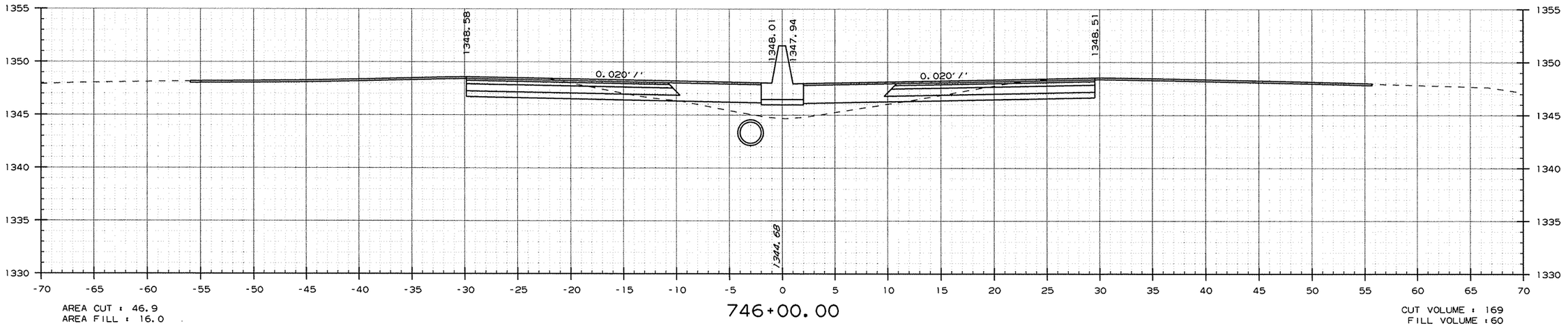
STA. 747+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 747+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 45.7
AREA FILL : 19.5

747+00.00

CUT VOLUME : 171
FILL VOLUME : 66



AREA CUT : 46.9
AREA FILL : 16.0

746+00.00

CUT VOLUME : 169
FILL VOLUME : 60

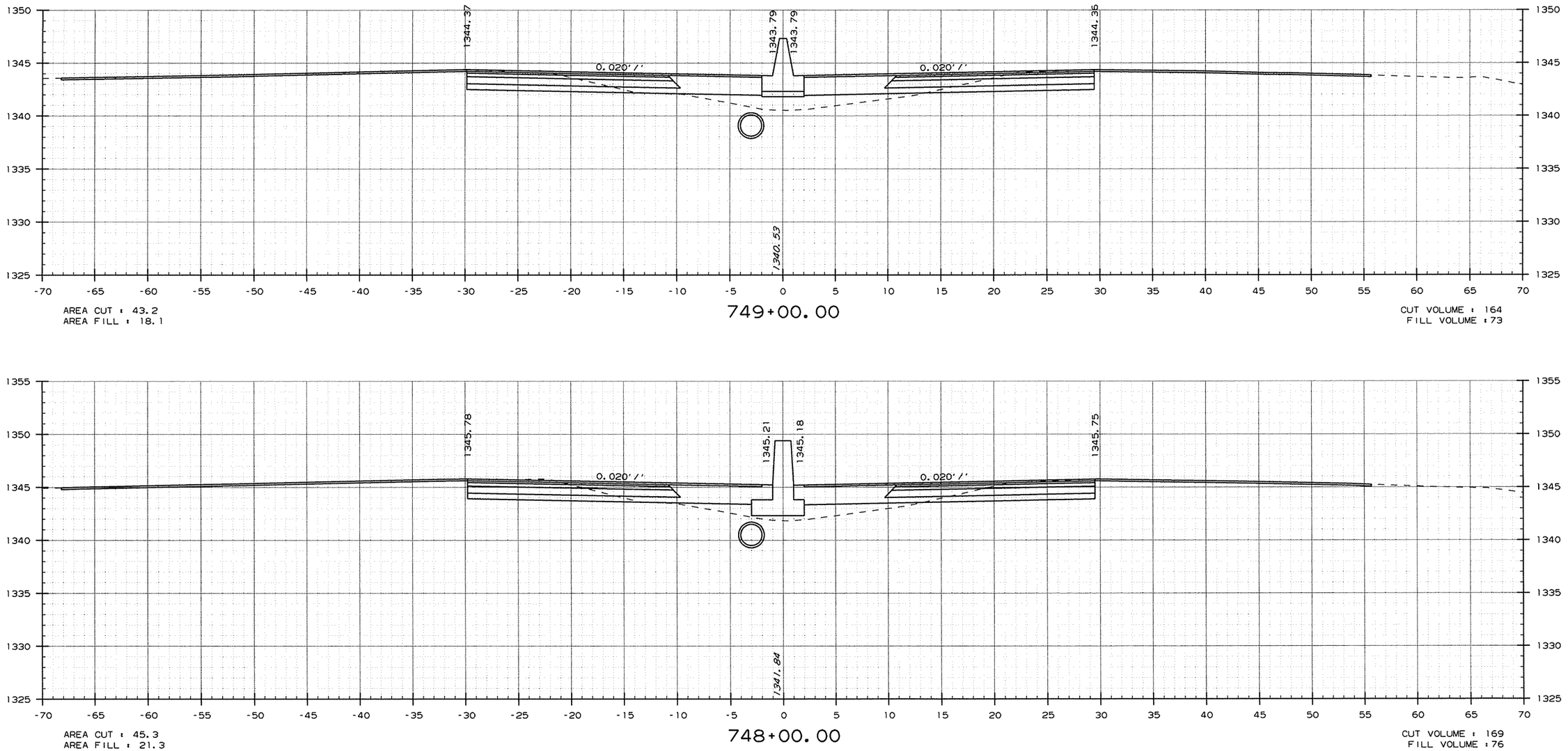
CROSS SECTION STA. 746+00 TO STA. 747+00

USER: dd5109
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PLOTTED: 4/2/2015 13:15
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	303	338

2 CROSS SECTIONS



CROSS SECTION STA. 748+00 TO STA. 749+00

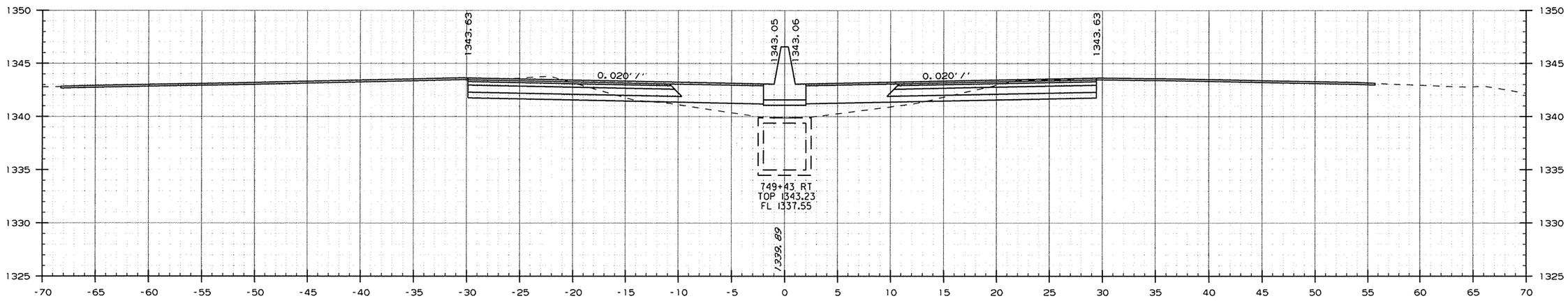
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PLOTTED: 4/2/2015 13:15
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	304	338
(2)	CROSS SECTIONS			

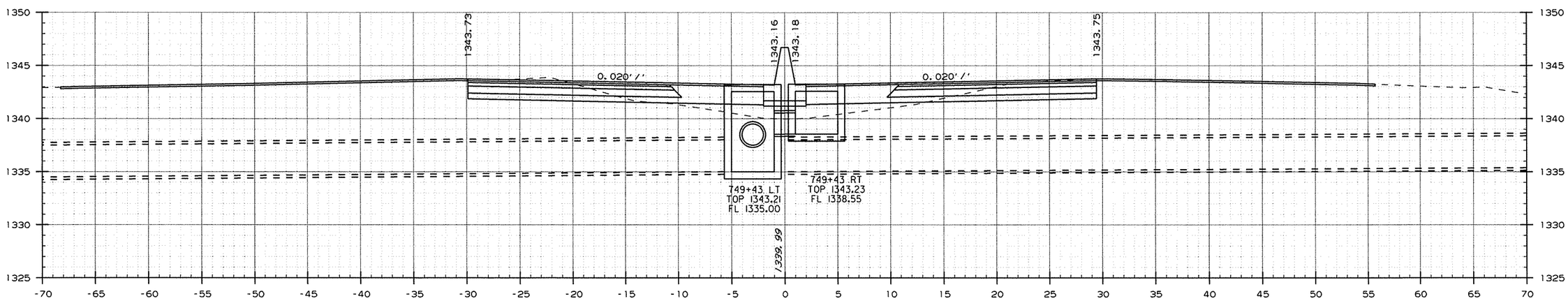
STA. 749+51 IN PLACE
DBL. 36" X 179' R.C. PIPE CULVERT
WITH TYPE R DROP INLET IN MEDIAN
(4'-3" X 3'-0") RETAIN AND MODIFY
OVER NORTHERN MOST R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
050 = 95 CFS: D.A. = 47.0 AC.



AREA CUT = 46.0
AREA FILL = 18.6

749+51.00

CUT VOLUME = 14
FILL VOLUME = 5



AREA CUT = 45.7
AREA FILL = 18.0

749+43.00

STA. 749+43 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-2"
CONNECT TO EXISTING 36" x 179' R.C.
PIPE CULVERT
AT STA. 749+43 LT.
TYPE ST DROP INLET = 5' X 5'

STA. 749+43 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 4'-8"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 749+43 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME = 71
FILL VOLUME = 29

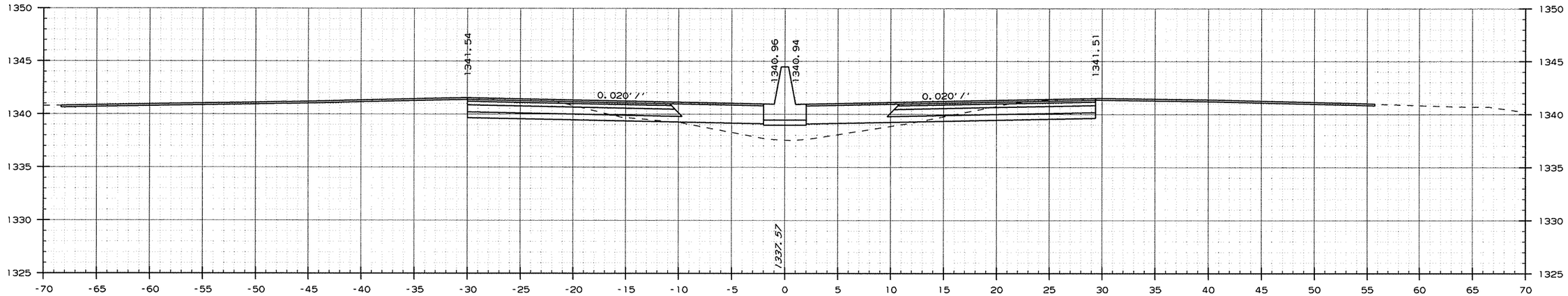
CROSS SECTION STA. 749+43 TO STA. 749+51

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

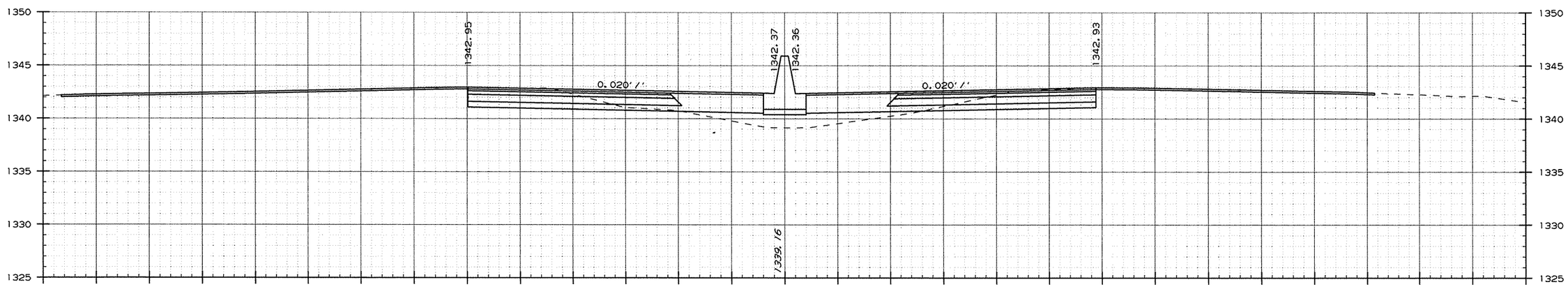
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	305	338
(2)	CROSS SECTIONS			



AREA CUT = 44.3
AREA FILL = 18.9

751+00.00

CUT VOLUME = 165
FILL VOLUME = 68



AREA CUT = 45.0
AREA FILL = 17.6

750+00.00

CUT VOLUME = 83
FILL VOLUME = 33

CROSS SECTION STA. 750+00 TO STA. 751+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:16

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Crafton, Tull & Associates Inc.

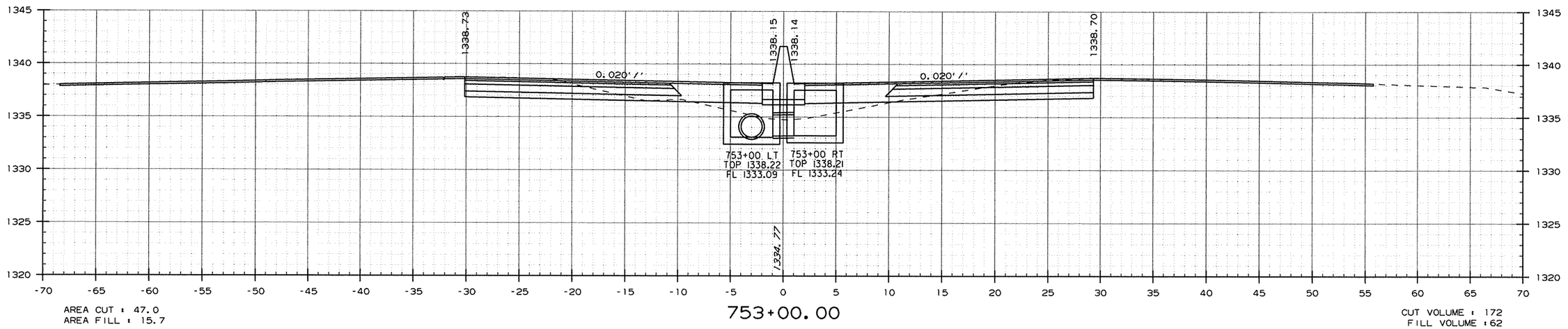
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	306	338

(2) CROSS SECTIONS

STA. 753+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 756+00 LT.
TYPE ST DROP INLET = 4' X 4'

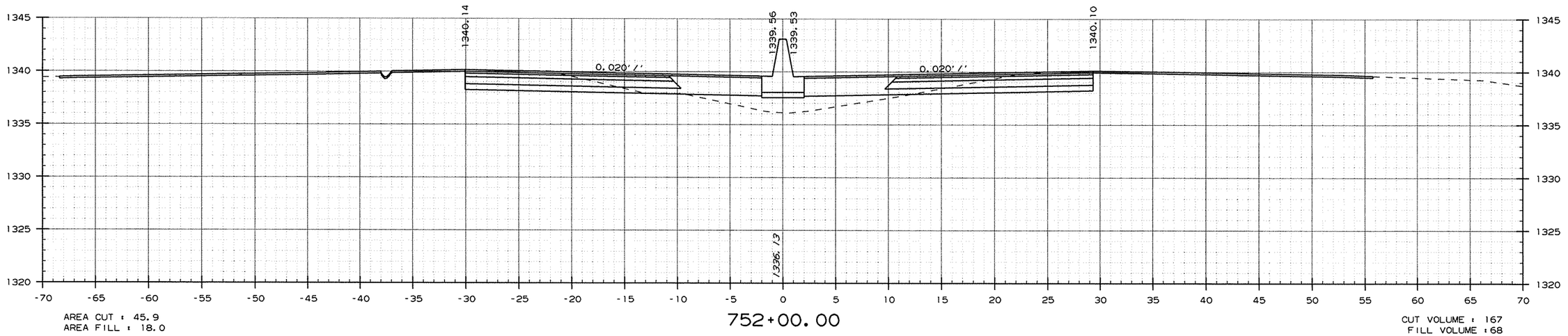
STA. 753+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 753+00 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 47.0
AREA FILL : 15.7

753+00.00

CUT VOLUME : 172
FILL VOLUME : 62



AREA CUT : 45.9
AREA FILL : 18.0

752+00.00

CUT VOLUME : 167
FILL VOLUME : 68

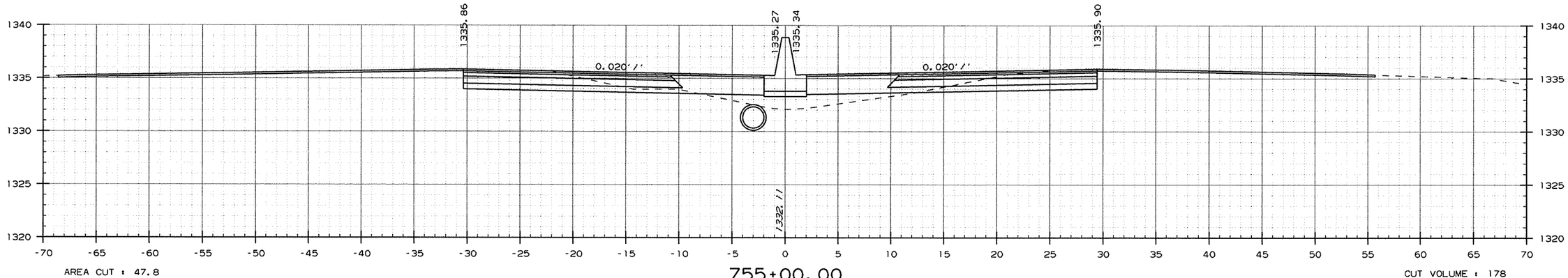
CROSS SECTION STA. 752+00 TO STA. 753+00

USER: dd5109
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

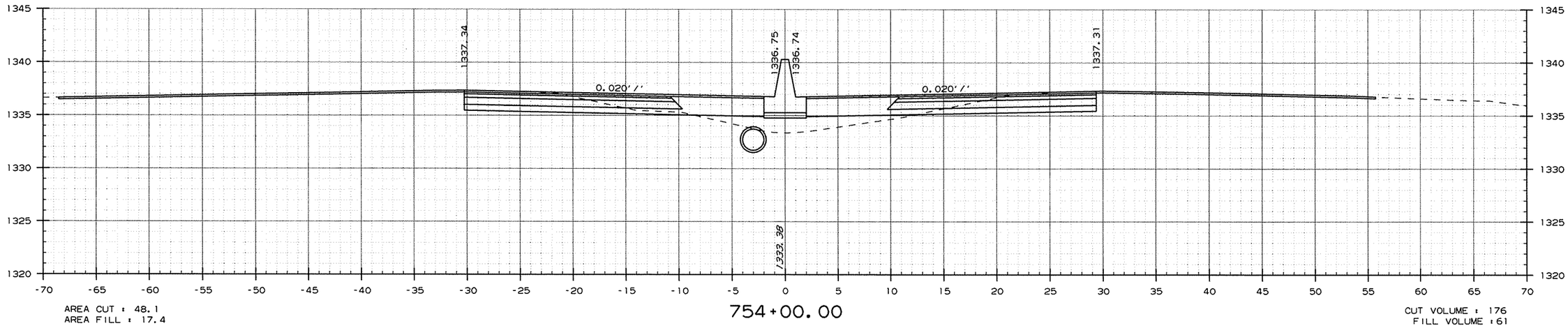
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	307	338
(2)	CROSS SECTIONS			



AREA CUT = 47.8
AREA FILL = 14.5

755+00.00

CUT VOLUME = 178
FILL VOLUME = 59



AREA CUT = 48.1
AREA FILL = 17.4

754+00.00

CUT VOLUME = 176
FILL VOLUME = 61

CROSS SECTION STA. 754+00 TO STA. 755+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:16
SCALE: 10:1

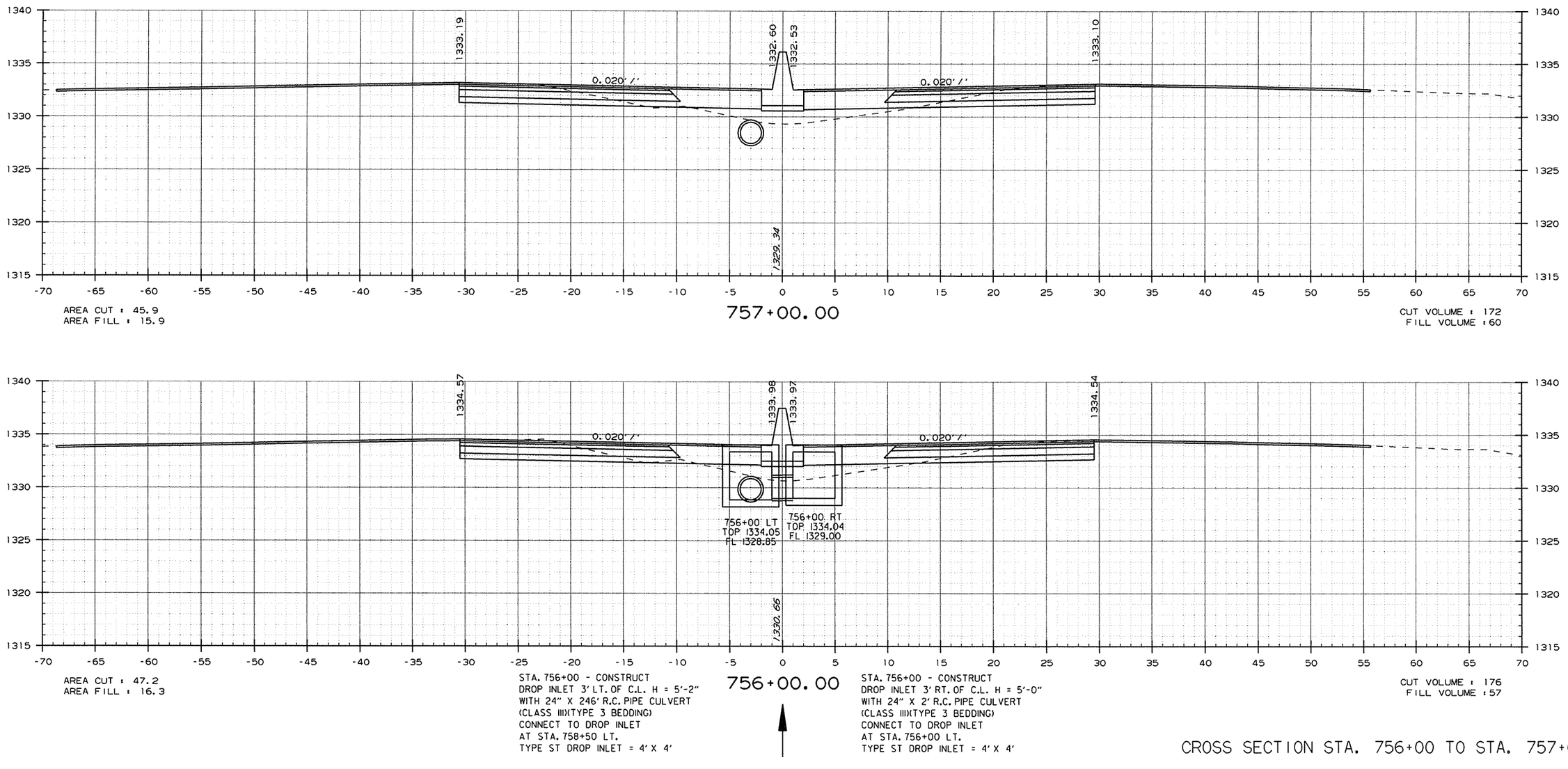
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	308	338

(2) CROSS SECTIONS



AREA CUT : 45.9
AREA FILL : 15.9

757+00.00

CUT VOLUME : 172
FILL VOLUME : 60

AREA CUT : 47.2
AREA FILL : 16.3

STA. 756+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 246' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 758+50 LT.
TYPE ST DROP INLET = 4' X 4'

756+00.00

STA. 756+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 756+00 LT.
TYPE ST DROP INLET = 4' X 4'

CUT VOLUME : 176
FILL VOLUME : 57

CROSS SECTION STA. 756+00 TO STA. 757+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
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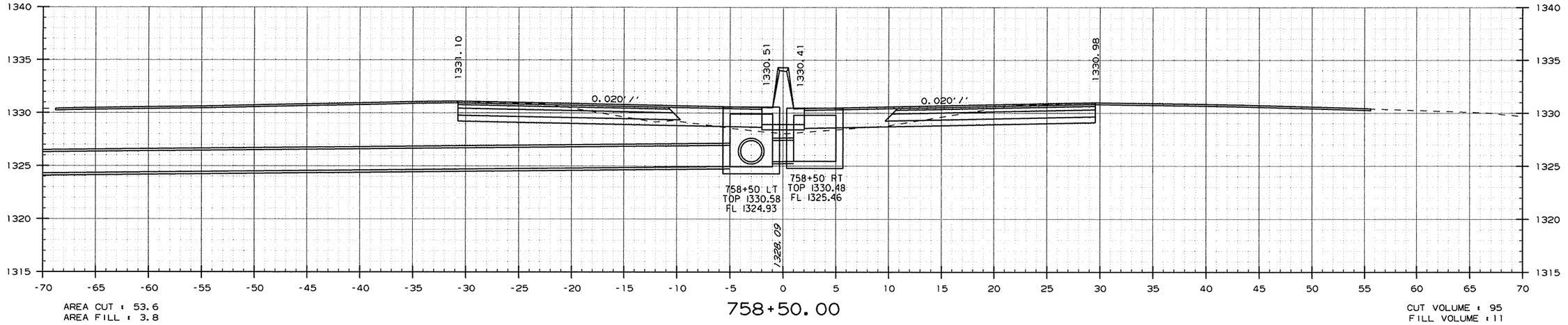
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	309	338

2 CROSS SECTIONS

STA. 758+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-8"
WITH 24" X 78' R.C. PIPE CULVERT
OUTLET W/FES ON LT.
(CLASS V)(TYPE 3 BEDDING)
TYPE ST DROP INLET = 4' X 4'
5 CU. YD. DUMPED RIPRAP
(JACK AND BORE)

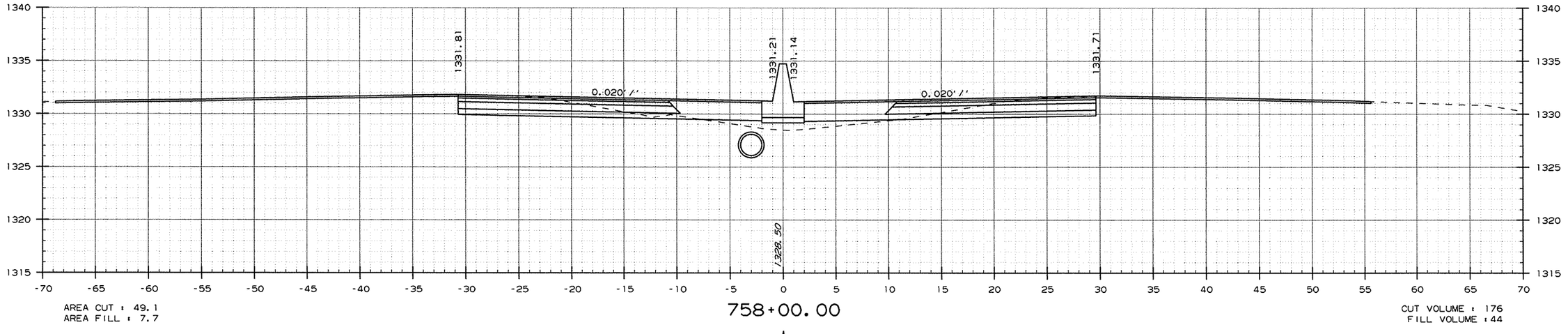
STA. 758+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-0"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 758+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 53.6
AREA FILL : 3.8

758+50.00

CUT VOLUME : 95
FILL VOLUME : 11



AREA CUT : 49.1
AREA FILL : 7.7

758+00.00

CUT VOLUME : 176
FILL VOLUME : 44

CROSS SECTION STA. 758+00 TO STA. 758+50

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:16
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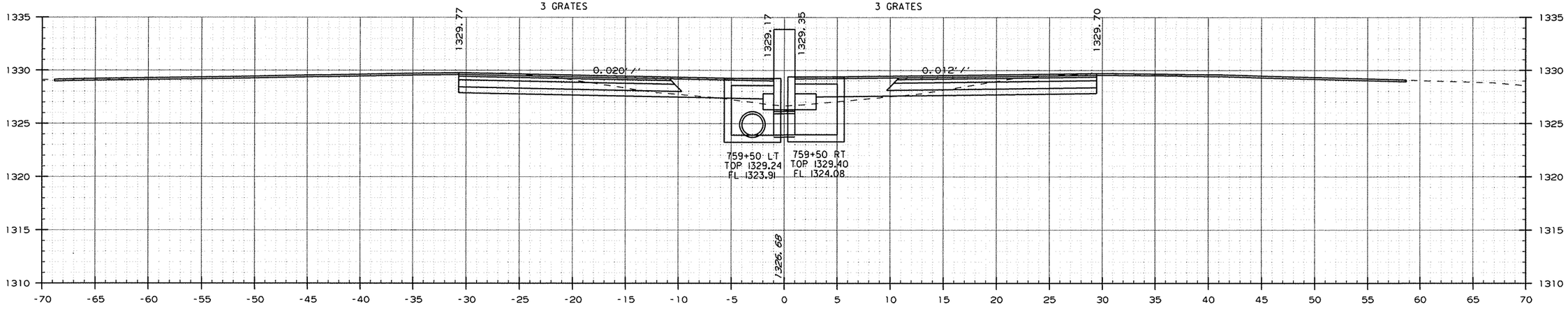
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	310	338
(2)	CROSS SECTIONS			

STA. 759+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
WITH 24" X 106' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 760+60 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

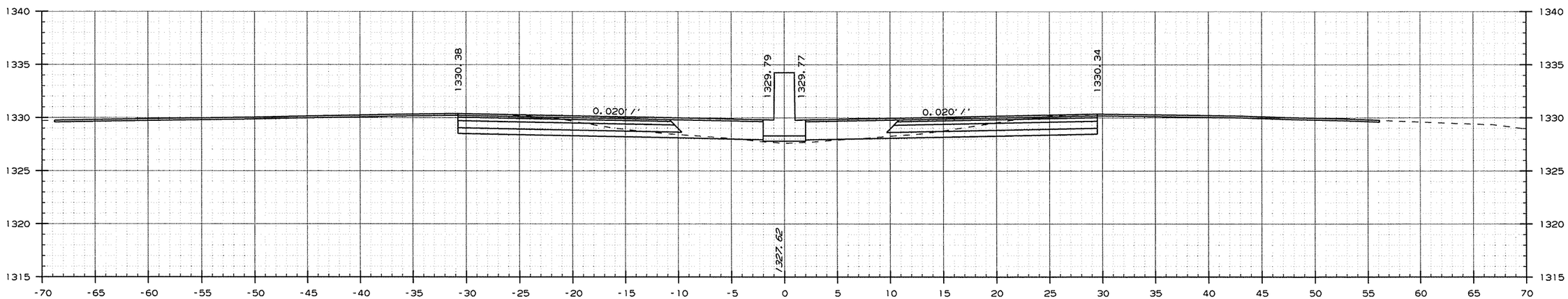
STA. 759+50 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-4"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 759+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES



AREA CUT : 51.4
AREA FILL : 3.3

759+50.00

CUT VOLUME : 94
FILL VOLUME : 6



AREA CUT : 50.6
AREA FILL : 3.2

STA. 758+97 - IN PLACE
TRIPLE 5' X 3' X 186'
R.C. BOX CULVERT
(24° LT. FWD SKEW)
Q50 = 171 CFS: D.A. = 175.4

759+00.00

CUT VOLUME : 96
FILL VOLUME : 6

CROSS SECTION STA. 759+00 TO STA. 759+50

USER: dd5109
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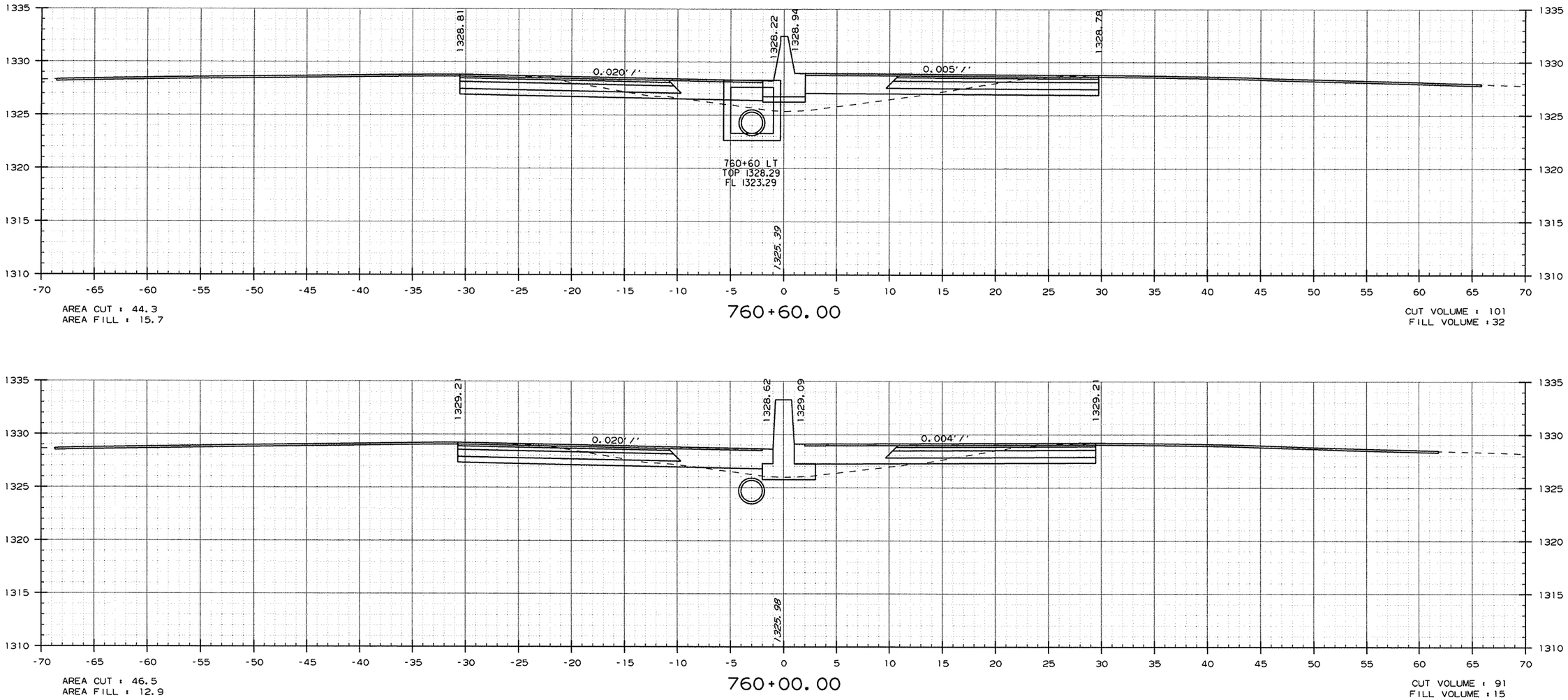
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	311	338
(2)	CROSS SECTIONS			

STA. 760+60 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-0"
WITH 24" X 86' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 761+50 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES



CROSS SECTION STA. 760+00 TO STA. 760+60

USER: dd5109
DESIGN FILE: G:\13105900_71Bto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn SCALE: 10:1
PLOTTED: 4/2/2015 13:16

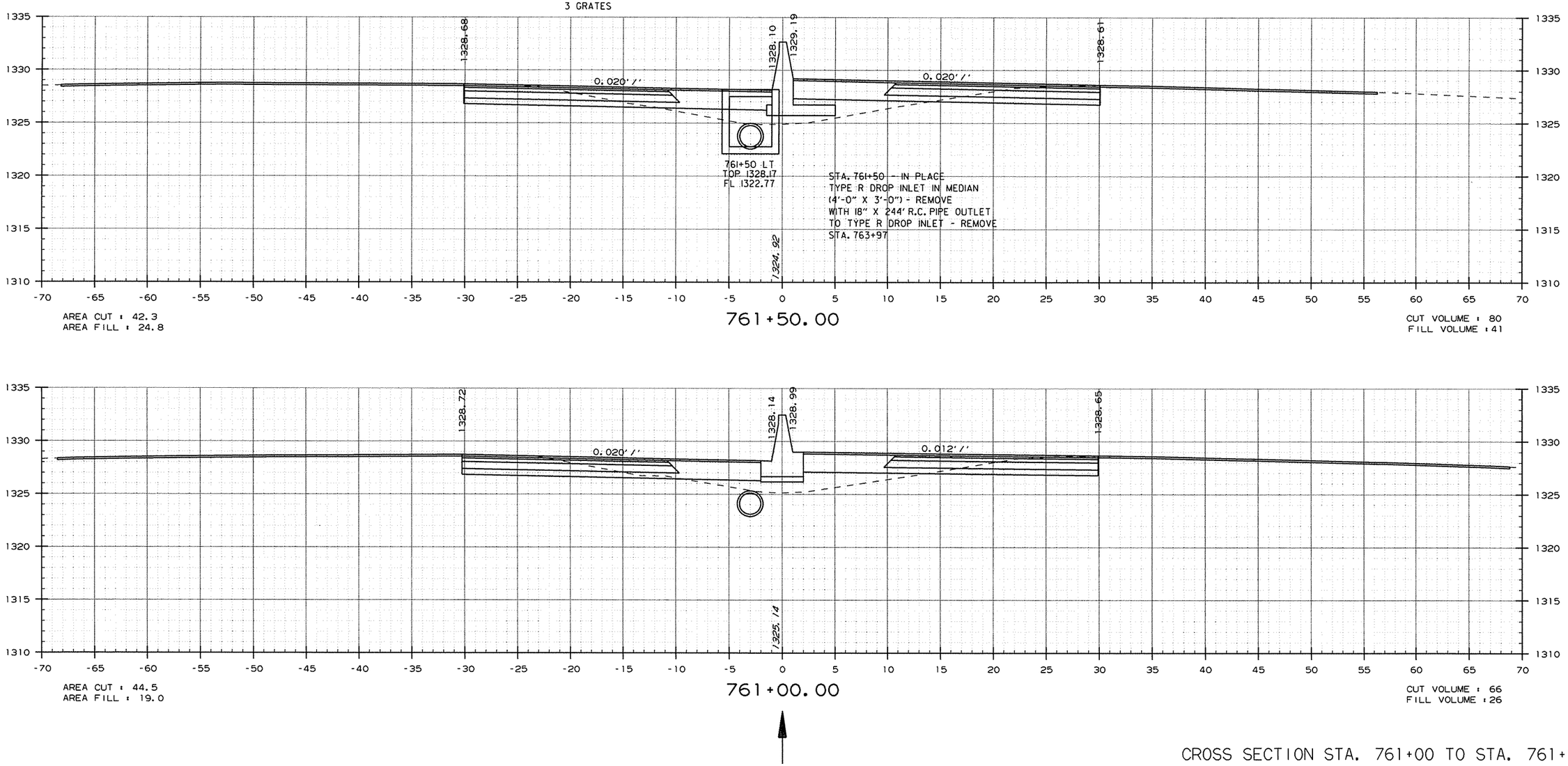
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	312	338

(2) CROSS SECTIONS

STA. 761+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-5"
WITH 24" X 60' R.C. PIPE CULVERT
(CLASS III(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 762+14 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES



CROSS SECTION STA. 761+00 TO STA. 761+50

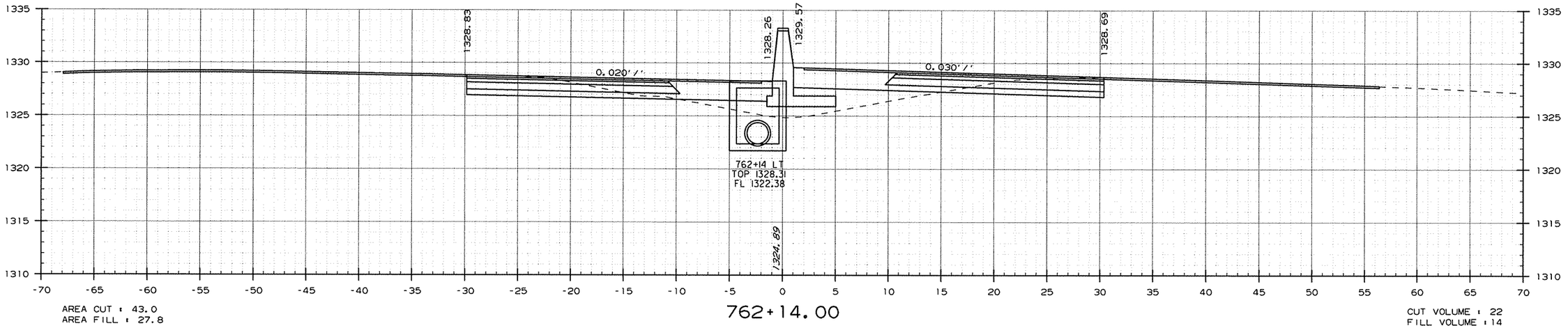
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	313	338

(2) CROSS SECTIONS

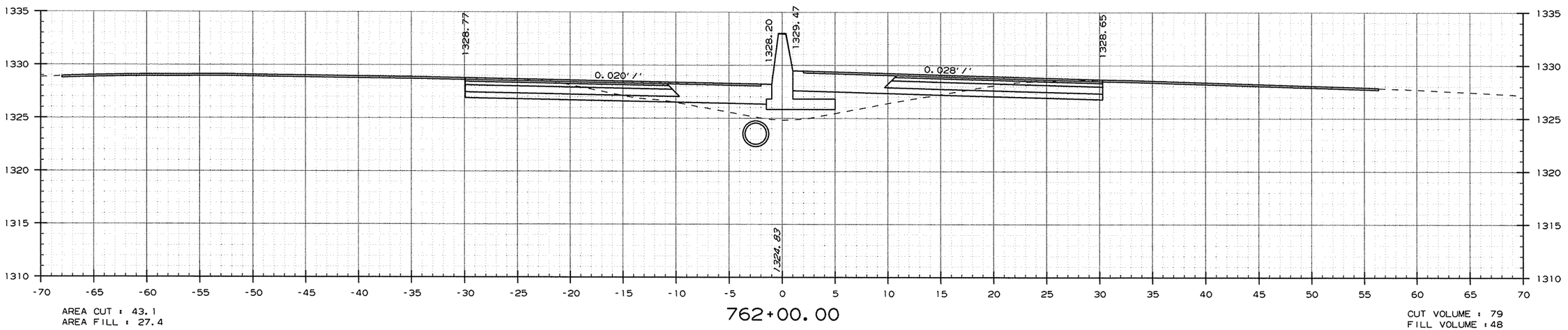
STA. 762+14 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-11"
WITH 24" X 182' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO EXISTING DROP INLET
AT STA. 763+97
TYPE ST DROP INLET = 4' X 6'
3 GRATES



AREA CUT : 43.0
AREA FILL : 27.8

762+14.00

CUT VOLUME : 22
FILL VOLUME : 14



AREA CUT : 43.1
AREA FILL : 27.4

762+00.00

CUT VOLUME : 79
FILL VOLUME : 48

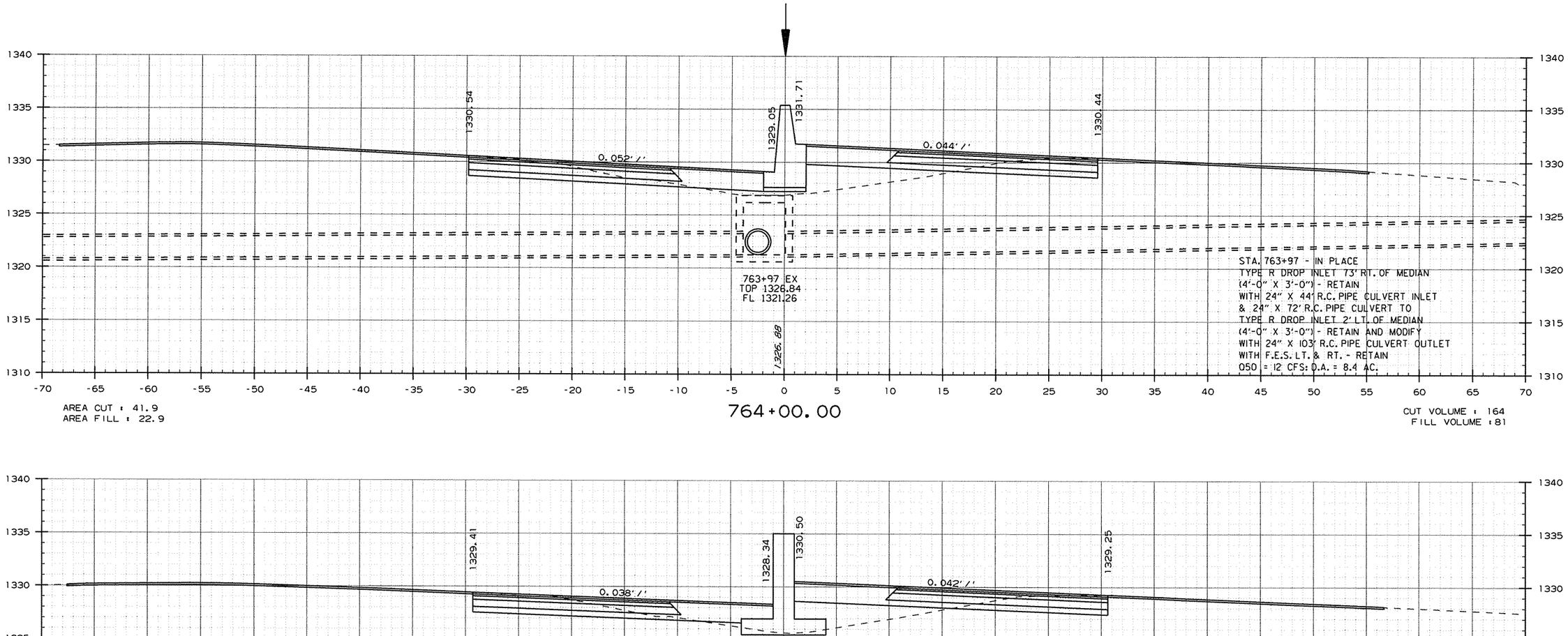
CROSS SECTION STA. 762+00 TO STA. 762+14

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PLOTTED: 4/2/2015 13:16
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	314	338

(2) CROSS SECTIONS



CROSS SECTION STA. 763+00 TO STA. 764+00

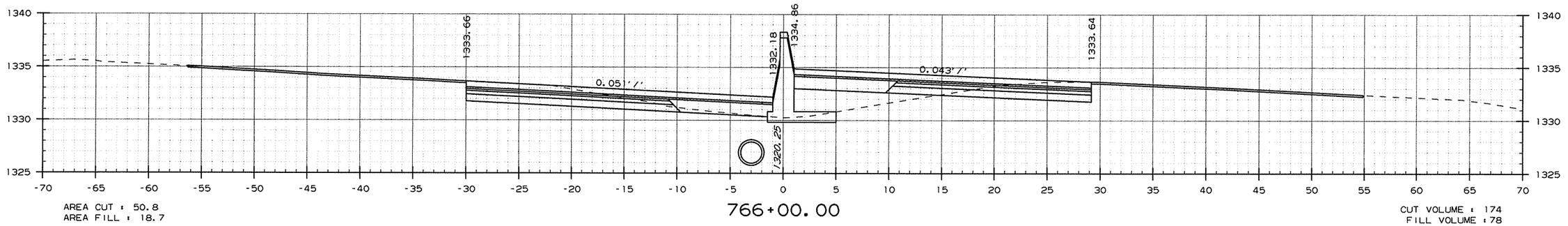
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	315	338

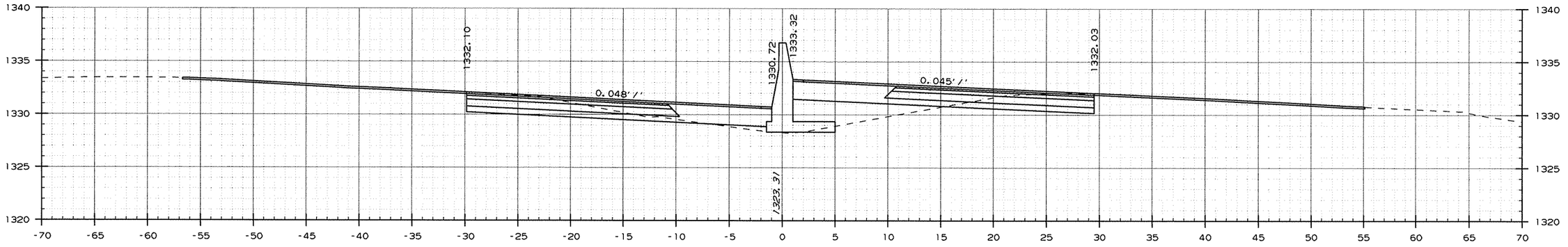
(2) CROSS SECTIONS



AREA CUT : 50.8
AREA FILL : 18.7

766+00.00

CUT VOLUME : 174
FILL VOLUME : 78

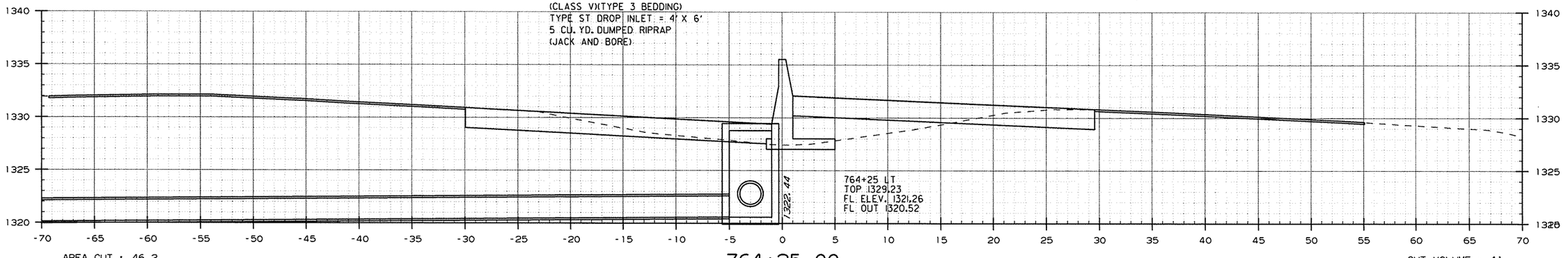


AREA CUT : 42.9
AREA FILL : 23.4

765+00.00

CUT VOLUME : 124
FILL VOLUME : 63

STA. 764+25 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 8'-9"
WITH 24" X 90' R.C. PIPE CULVERT
OUTLET W/FES ON LT.
(CLASS V)(TYPE 3 BEDDING)
TYPE ST DROP INLET = 4' X 6'
5 CU. YD. DUMPED RIPRAP
(JACK AND BORE)



AREA CUT : 46.2
AREA FILL : 22.1

764+25.00

CUT VOLUME : 41
FILL VOLUME : 21

CROSS SECTION STA. 764+25 TO STA. 766+00

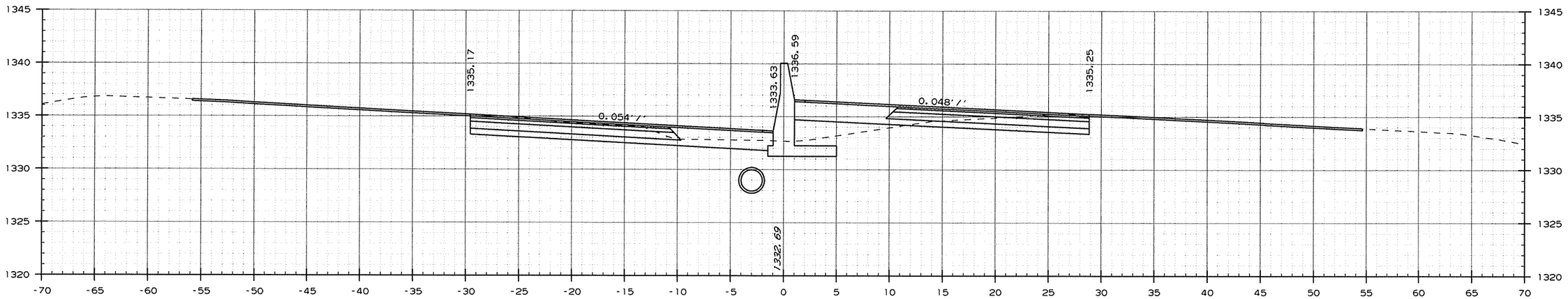
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	316	338

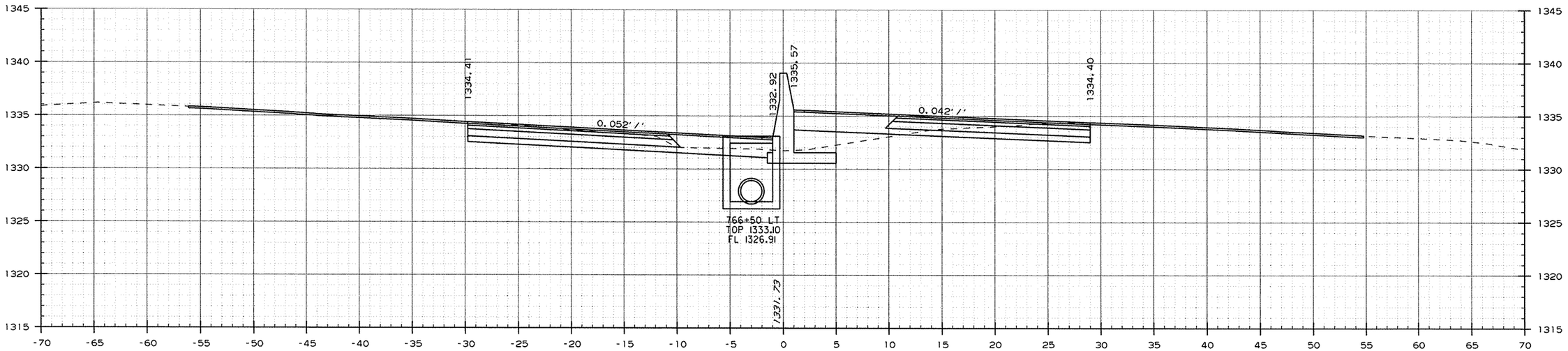
(2) CROSS SECTIONS



AREA CUT : 62.6
AREA FILL : 11.1

767+00.00

CUT VOLUME : 115
FILL VOLUME : 20



AREA CUT : 62.0
AREA FILL : 10.4

STA. 766+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-2"
WITH 24" X 246' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 764+00 LT.
TYPE ST DROP INLET = 4' X 6'
3 GRATES

766+50.00

CUT VOLUME : 104
FILL VOLUME : 27

CROSS SECTION STA. 766+50 TO STA. 767+00

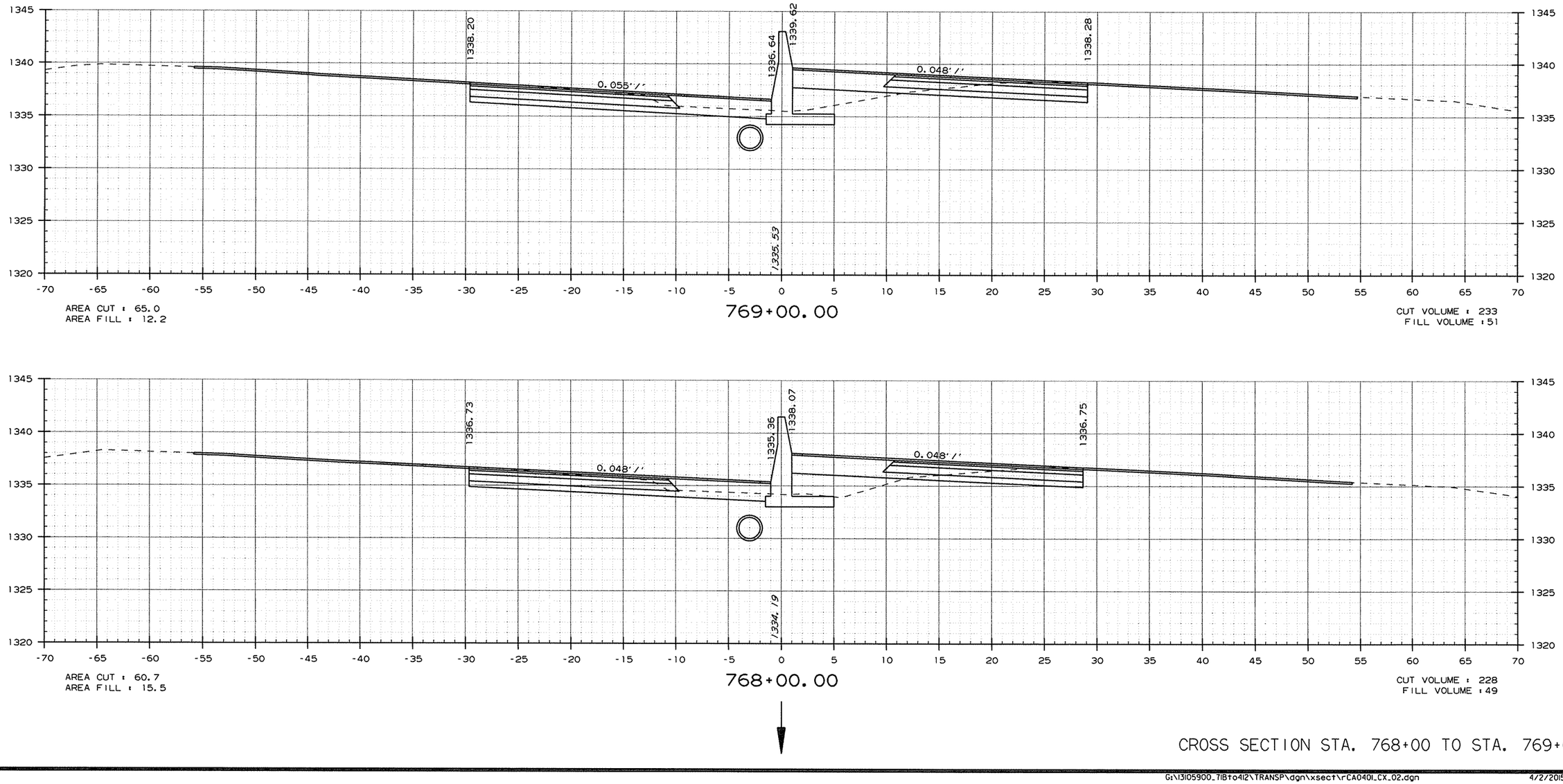
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	317	338

(2) CROSS SECTIONS



CROSS SECTION STA. 768+00 TO STA. 769+00

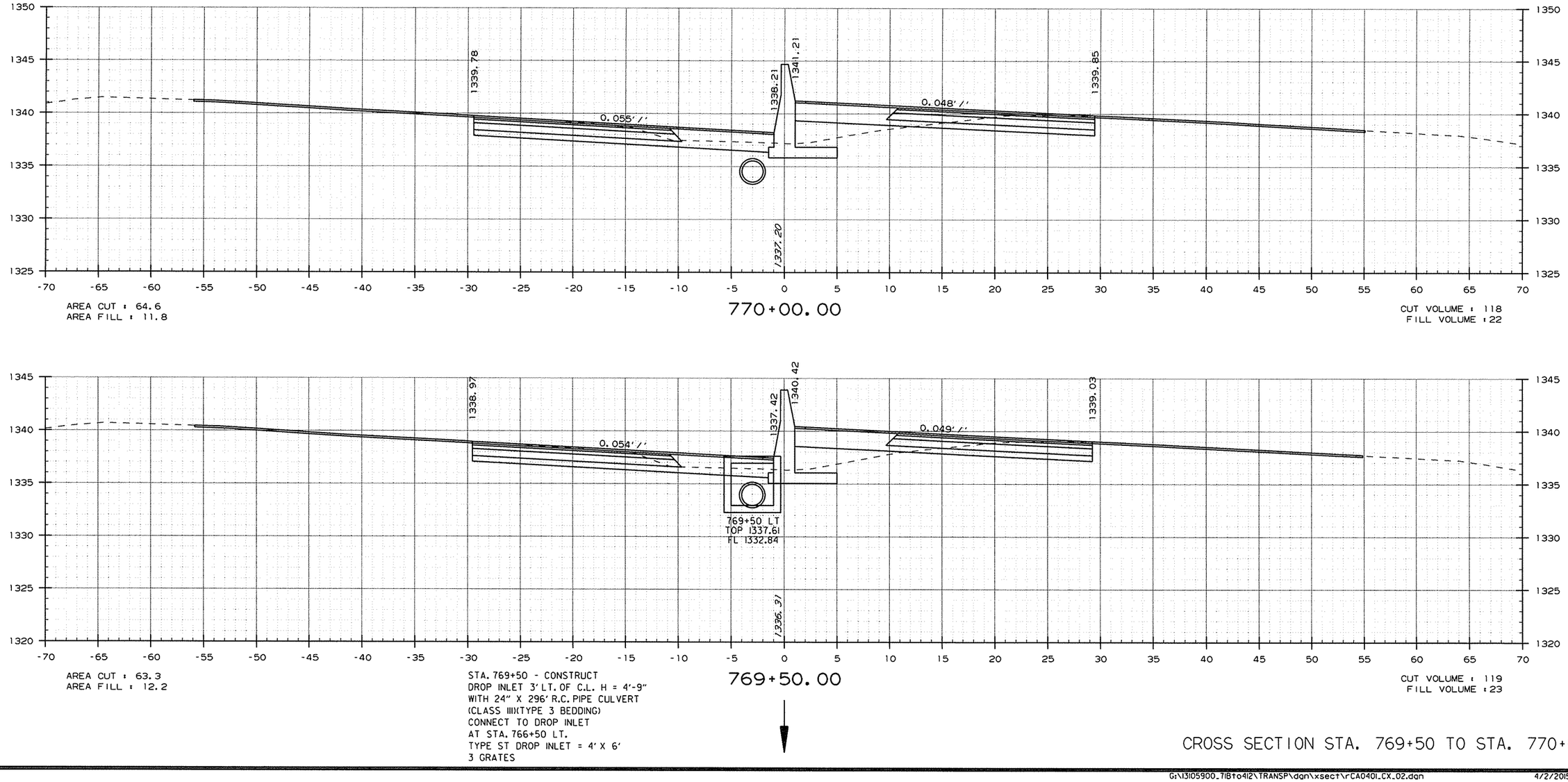
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	318	338

(2) CROSS SECTIONS



CROSS SECTION STA. 769+50 TO STA. 770+00

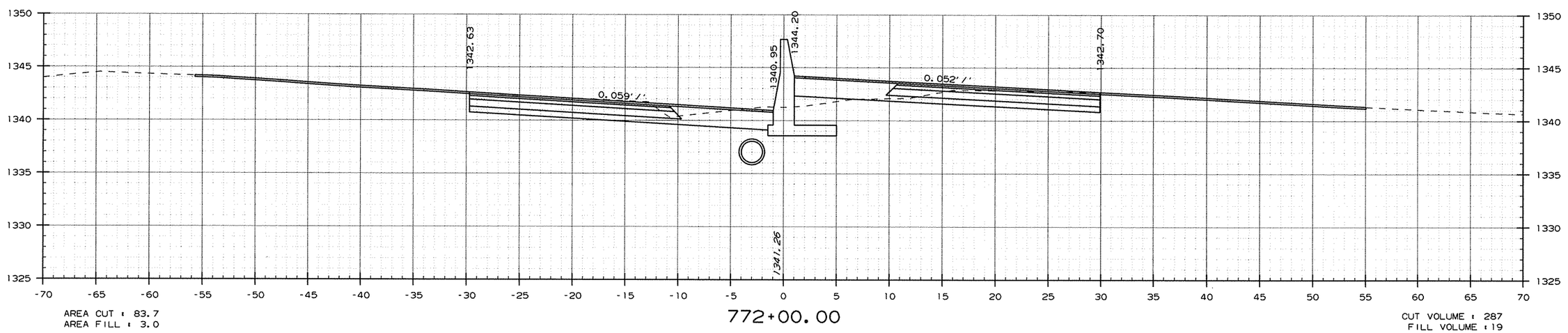
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SCALE: 10:1

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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	319	338

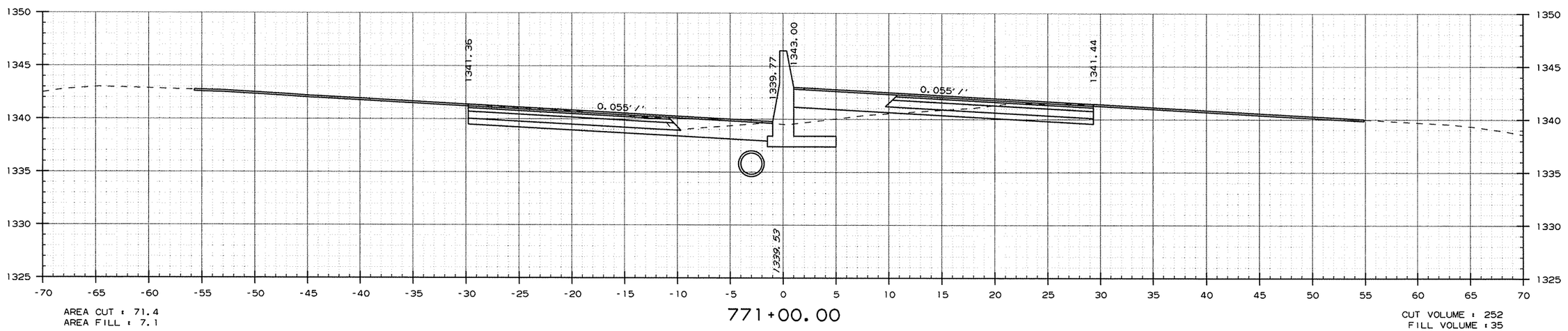
(2) CROSS SECTIONS



AREA CUT : 83.7
AREA FILL : 3.0

772+00.00

CUT VOLUME : 287
FILL VOLUME : 19



AREA CUT : 71.4
AREA FILL : 7.1

771+00.00

CUT VOLUME : 252
FILL VOLUME : 35

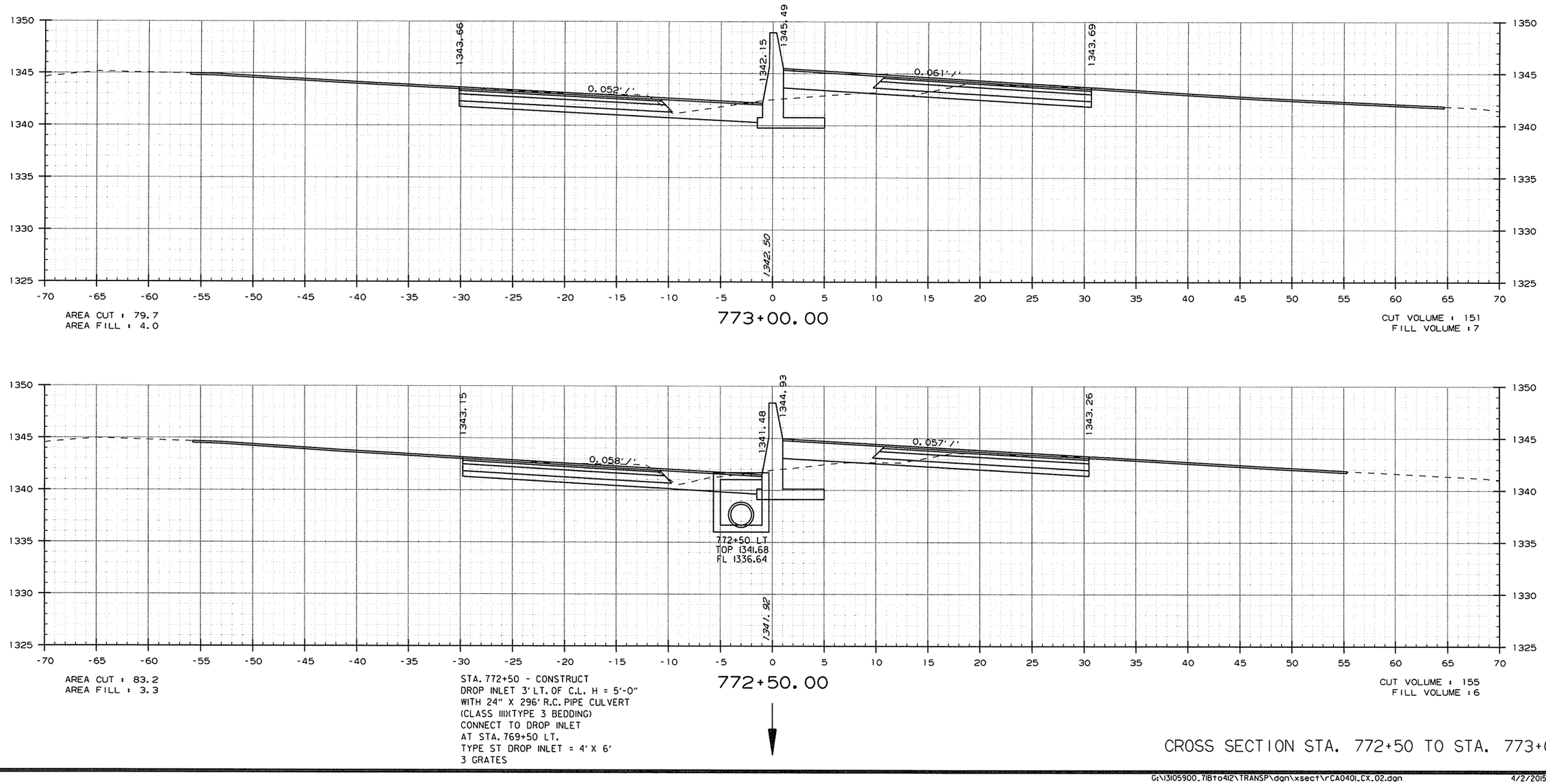
CROSS SECTION STA. 771+00 TO STA. 772+00

USER: dd5109
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	320	338

(2) CROSS SECTIONS



CROSS SECTION STA. 772+50 TO STA. 773+00

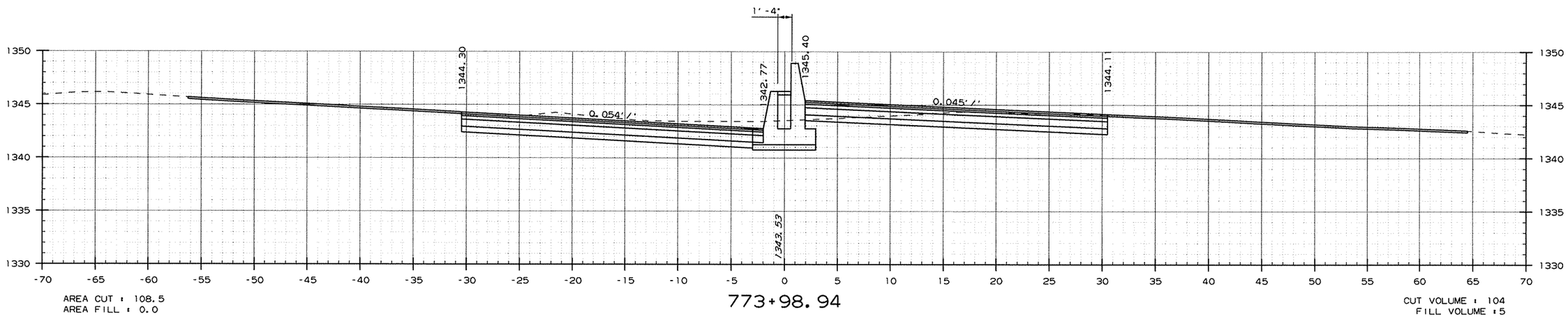
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	321	338

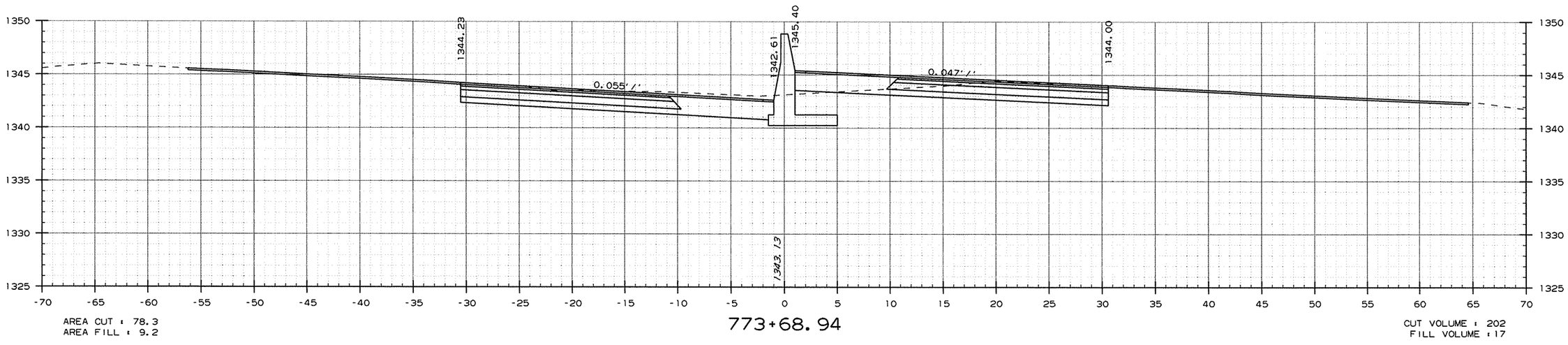
2 CROSS SECTIONS



AREA CUT : 108.5
AREA FILL : 0.0

773+98.94

CUT VOLUME : 104
FILL VOLUME : 5



AREA CUT : 78.3
AREA FILL : 9.2

773+68.94

CUT VOLUME : 202
FILL VOLUME : 17

CROSS SECTION STA. 773+69 TO STA. 773+99

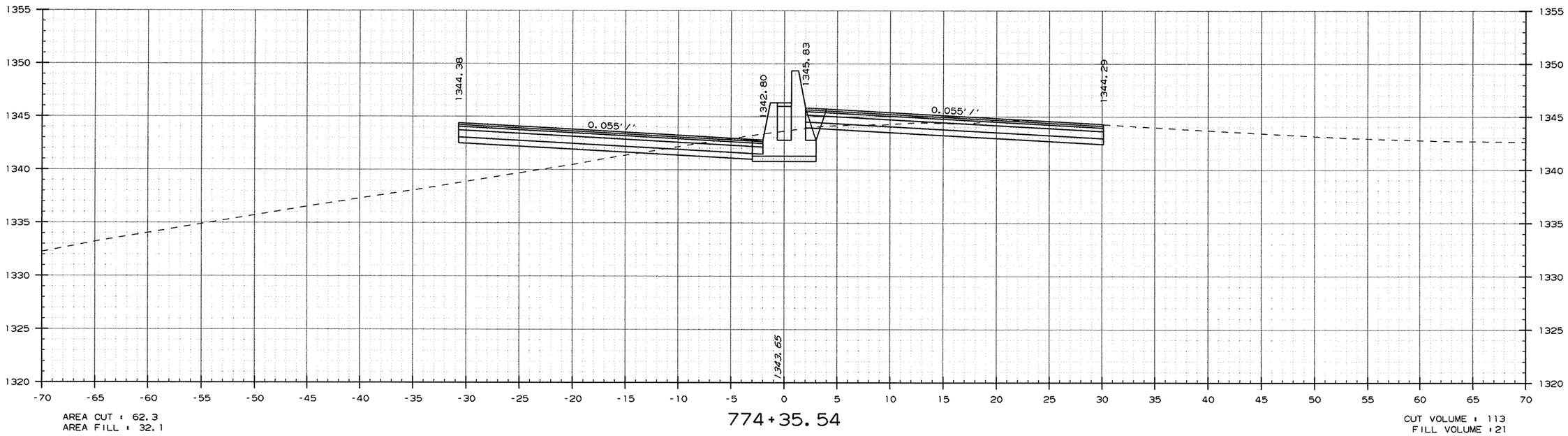
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	322	338
				(2)	CROSS SECTIONS			

STA. 774+18.44 - BRIDGE END
I-540 LML BRIDGE (S.B.) IN PLACE
208'-0" CONT. COMPOSITE PLATE GIRDER
UNIT
(52' - 104' - 52')
62'-0" CLEAR ROADWAY
BR. NO. A5922
STA. 776+25.61 - BRIDGE END

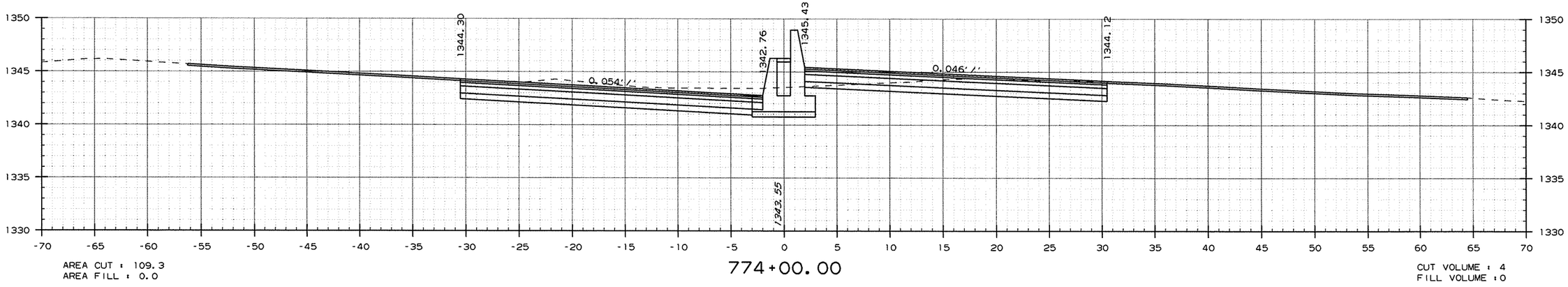
STA. 774+52.63 - BRIDGE END
I-540 RML BRIDGE (N.B.) IN PLACE
208'-0" CONT. COMPOSITE PLATE GIRDER
UNIT
(52' - 104' - 52')
62'-0" CLEAR ROADWAY
BR. NO. B5922
STA. 776+66.27 - BRIDGE END



AREA CUT : 62.3
AREA FILL : 32.1

774+35.54

CUT VOLUME : 113
FILL VOLUME : 21



AREA CUT : 109.3
AREA FILL : 0.0

774+00.00

CUT VOLUME : 4
FILL VOLUME : 0

CROSS SECTION STA. 774+00 TO STA. 774+36

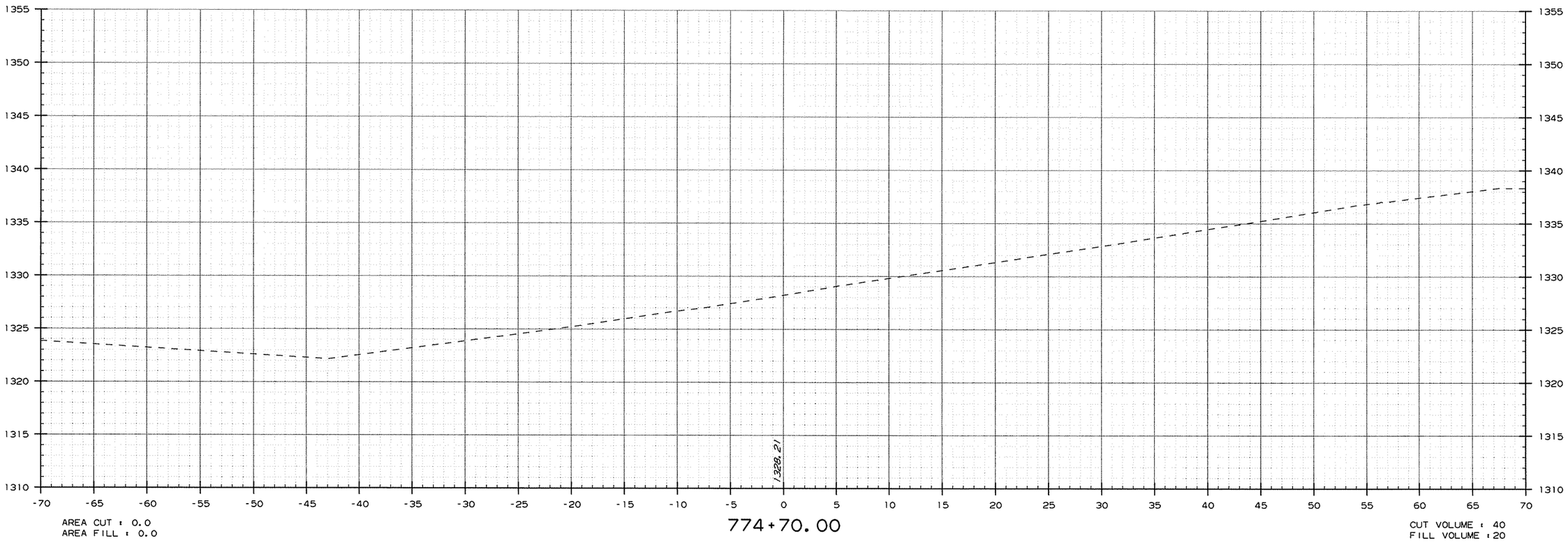
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	323	338

(2) CROSS SECTIONS



CROSS SECTION STA. 774+70 TO STA. 774+70

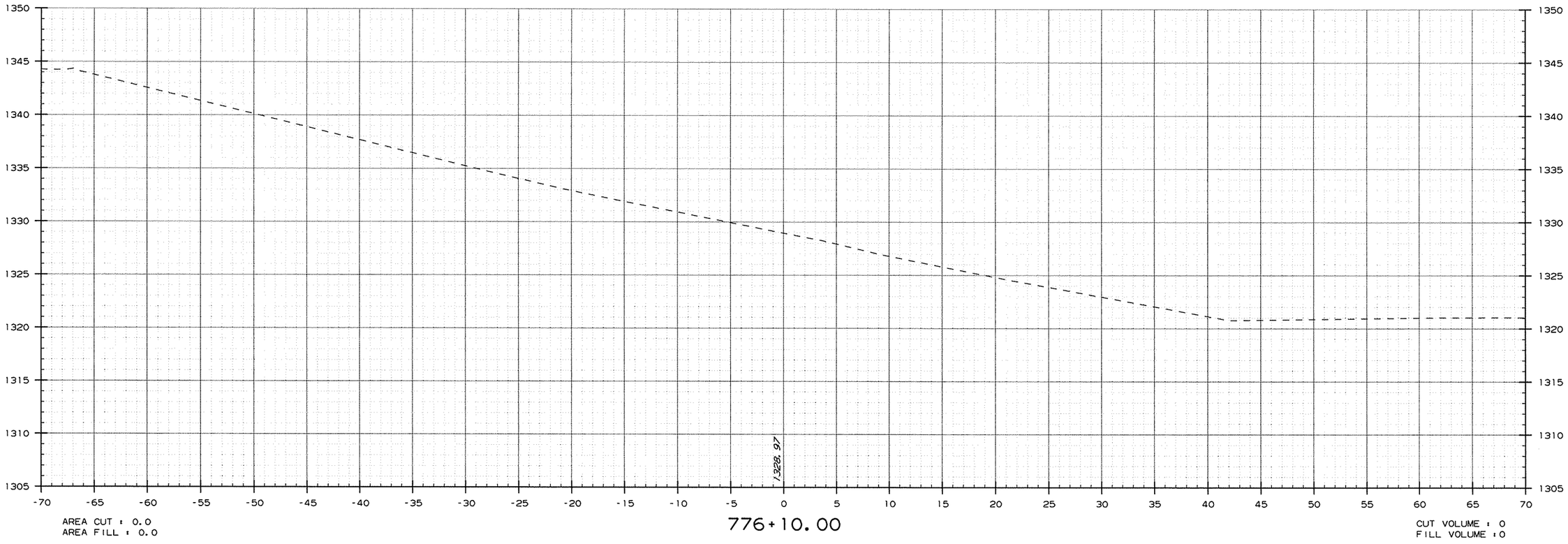
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	324	338

(2) CROSS SECTIONS



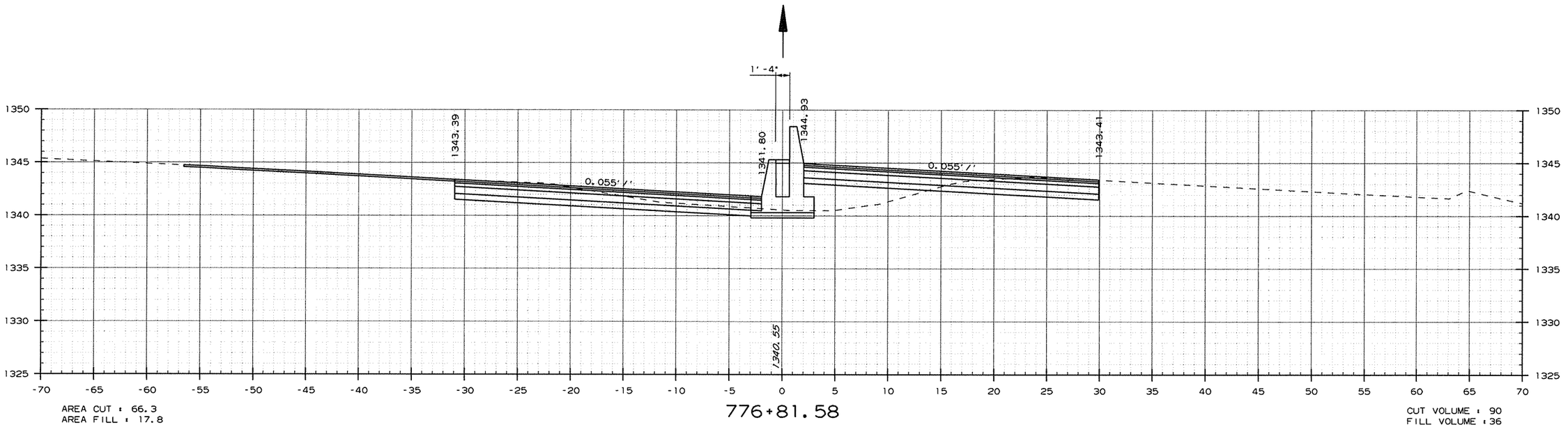
CROSS SECTION STA. 776+10 TO STA. 776+10

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Crafton, Tull & Associates Inc.

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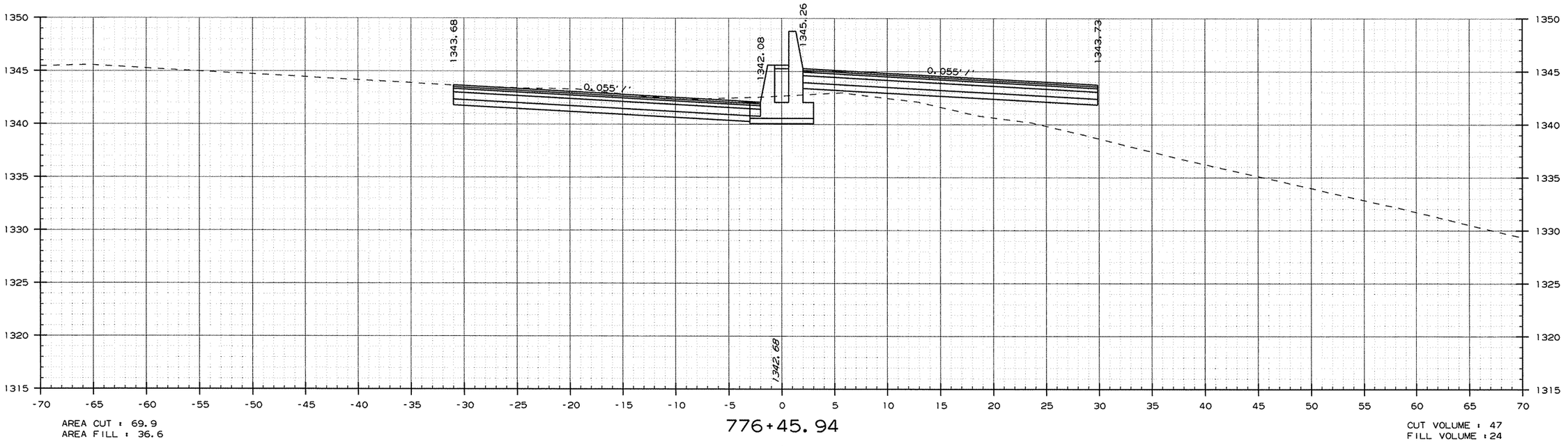
(2) CROSS SECTIONS



AREA CUT : 66.3
AREA FILL : 17.8

776+81.58

CUT VOLUME : 90
FILL VOLUME : 36



AREA CUT : 69.9
AREA FILL : 36.6

776+45.94

CUT VOLUME : 47
FILL VOLUME : 24

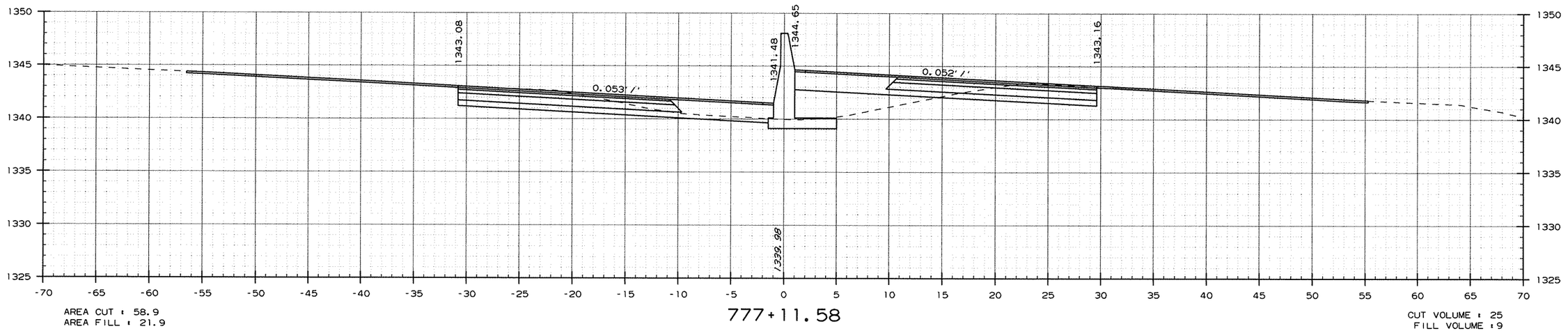
CROSS SECTION STA. 776+46 TO STA. 776+82

USER: dd5109
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PLOTTED: 4/2/2015 13:19
SCALE: 10:1

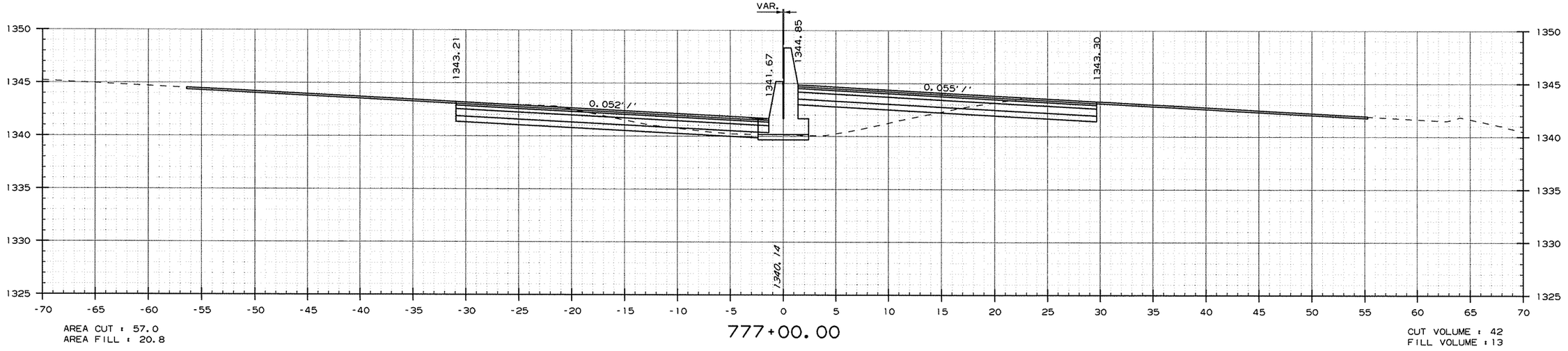
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	326	338

(2) CROSS SECTIONS



777+11.58



777+00.00

CROSS SECTION STA. 777+00 TO STA. 777+12

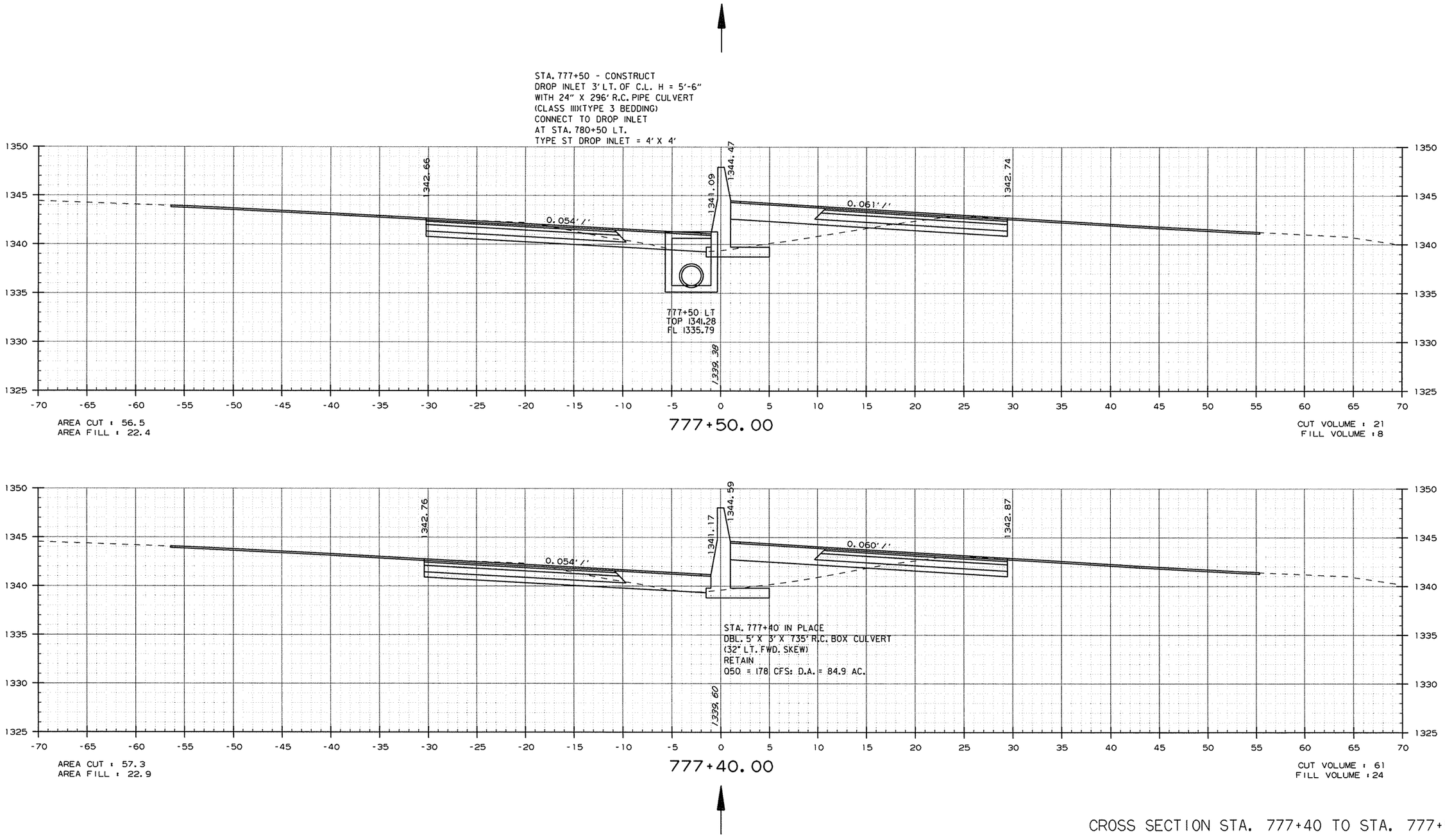
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	327	338

2 CROSS SECTIONS



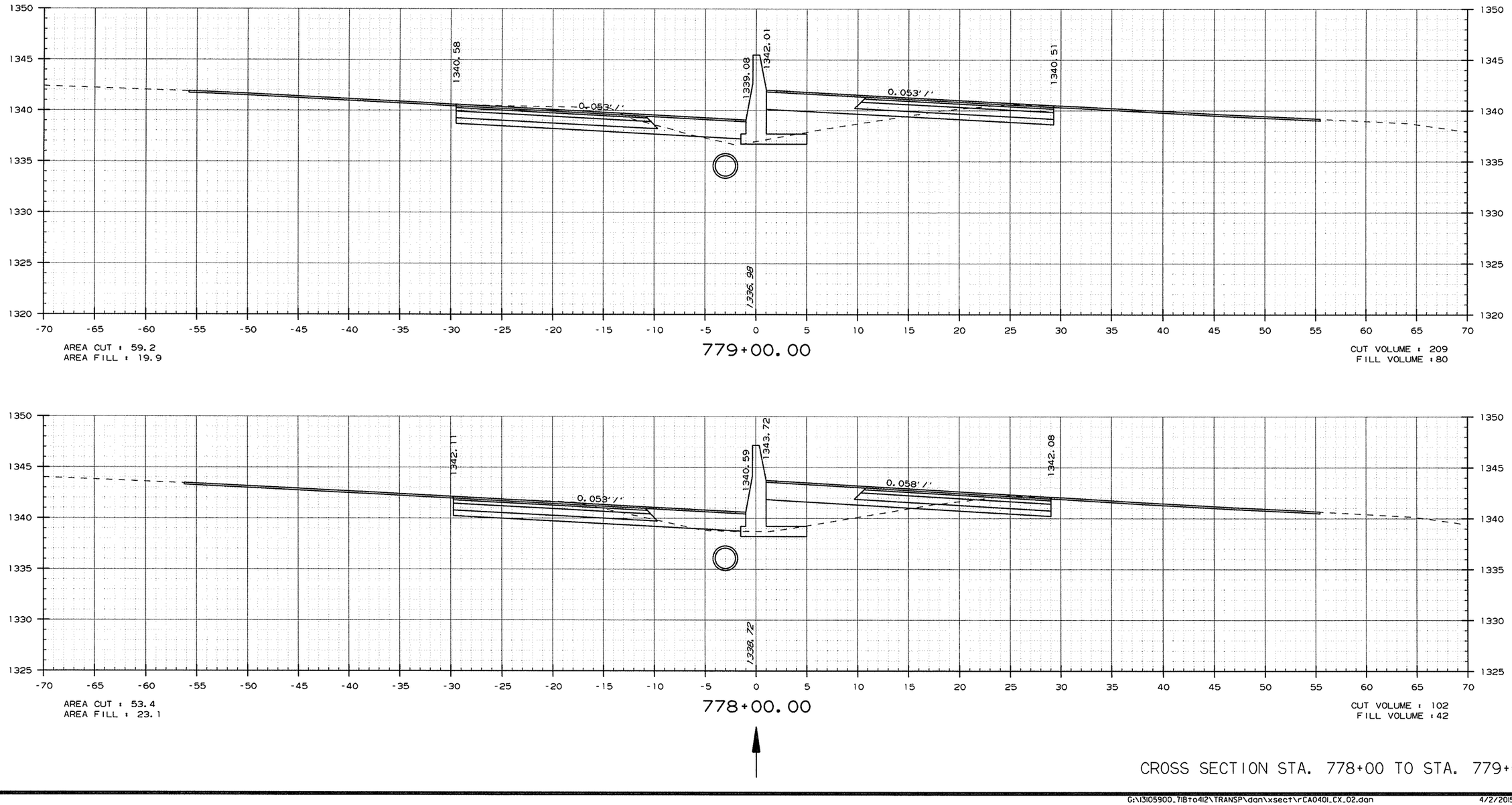
CROSS SECTION STA. 777+40 TO STA. 777+50

USER: dd5109
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PLOTTED: 4/2/2015 13:19 SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	328	338
(2)	CROSS SECTIONS			



CROSS SECTION STA. 778+00 TO STA. 779+00

USER: dd5109
DESIGN FILE: G:\13105900_7IBto412\TRANSP\dgn\xsect\rCA0401_CX_02.dgn
PLOTTED: 4/2/2015 13:19
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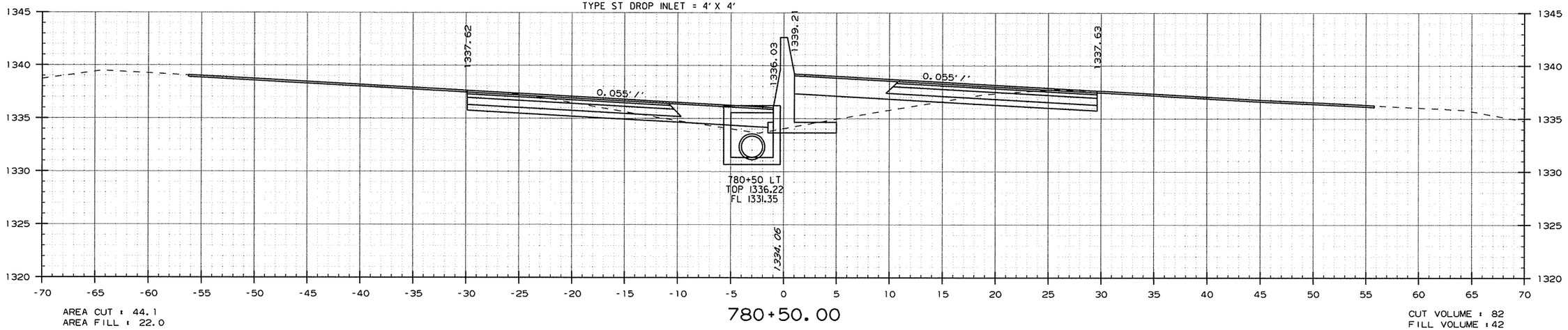
Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	329	338

(2) CROSS SECTIONS

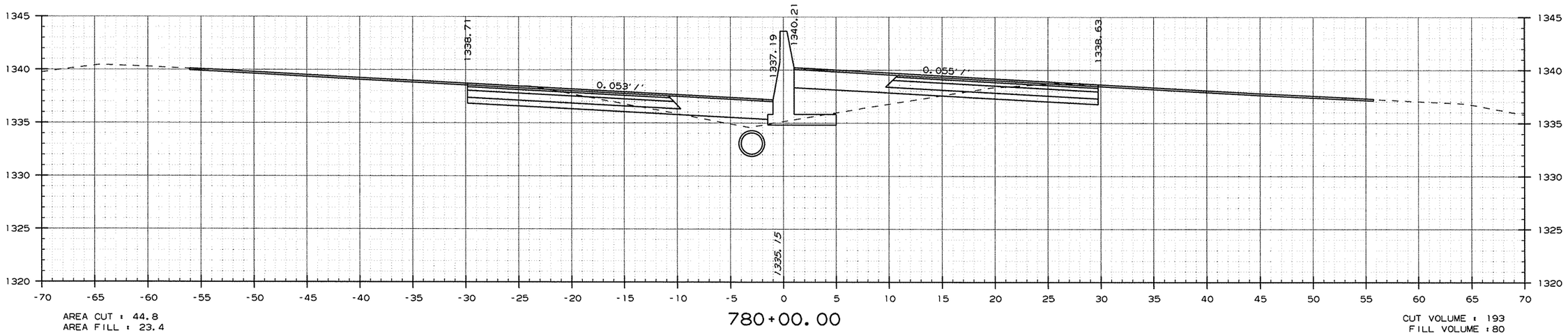
STA. 780+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 4'-10"
WITH 24" X 296' R.C. PIPE CULVERT
(CLASS V)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 783+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 44.1
AREA FILL : 22.0

780+50.00

CUT VOLUME : 82
FILL VOLUME : 42



AREA CUT : 44.8
AREA FILL : 23.4

780+00.00

CUT VOLUME : 193
FILL VOLUME : 80

CROSS SECTION STA. 780+00 TO STA. 780+50

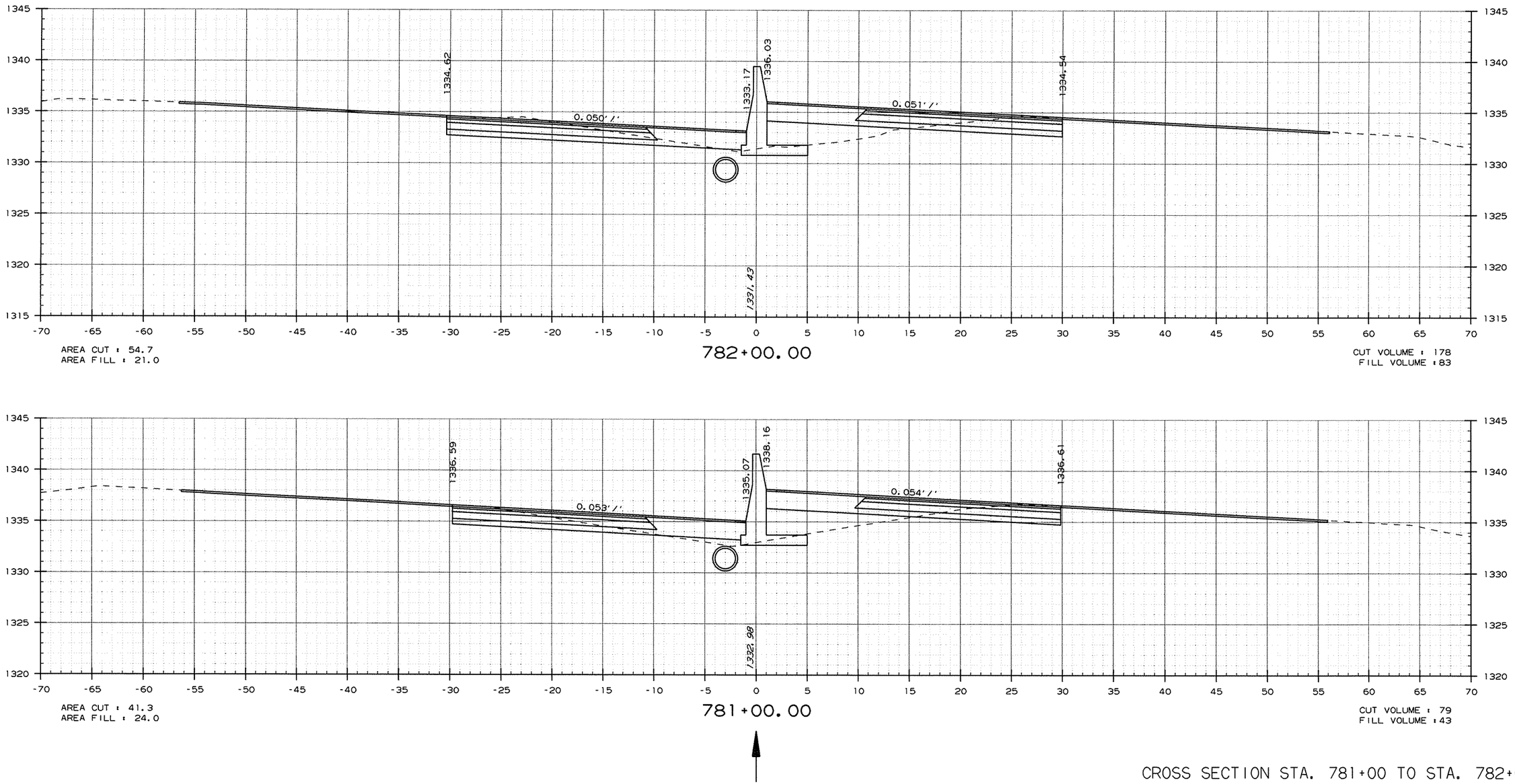
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	330	338

(2) CROSS SECTIONS



CROSS SECTION STA. 781+00 TO STA. 782+00

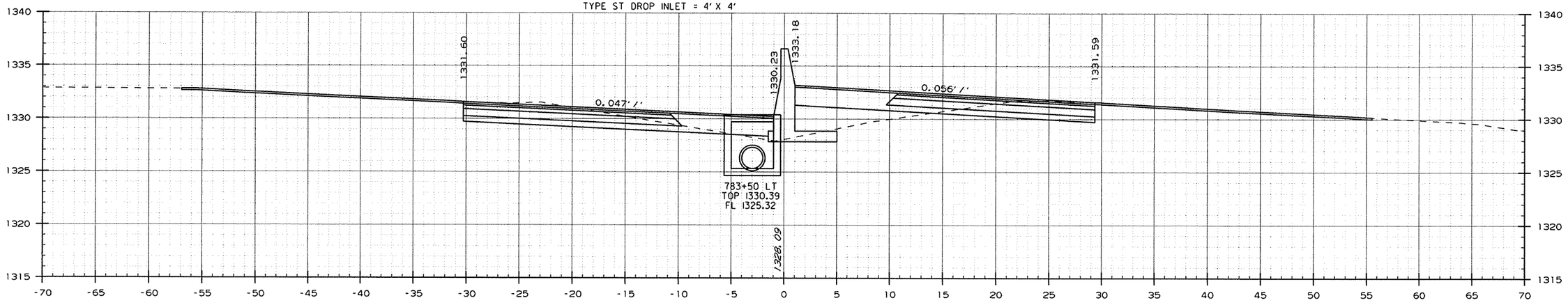
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SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	331	338

(2) CROSS SECTIONS

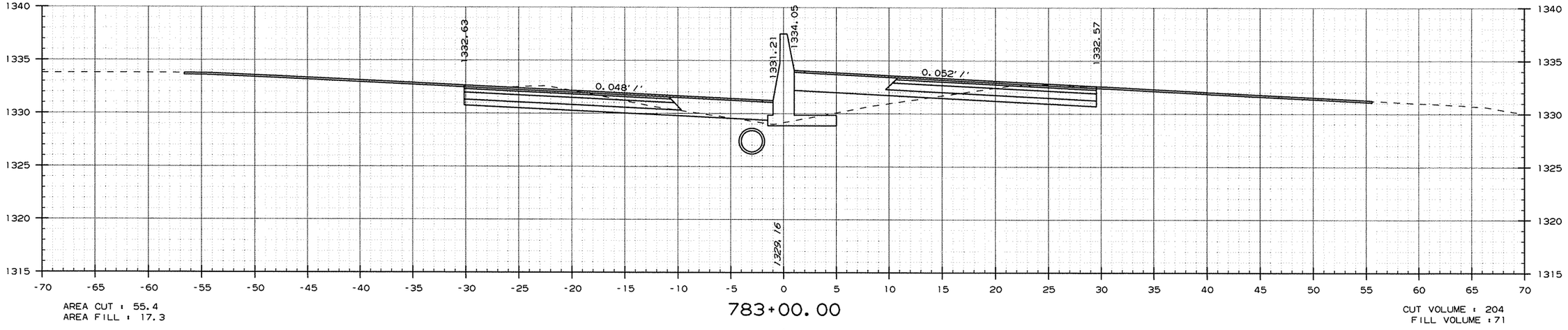
STA. 783+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-1"
WITH 24" X 293' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 786+47 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 55.5
AREA FILL : 18.2

783+50.00

CUT VOLUME : 103
FILL VOLUME : 33



AREA CUT : 55.4
AREA FILL : 17.3

783+00.00

CUT VOLUME : 204
FILL VOLUME : 71

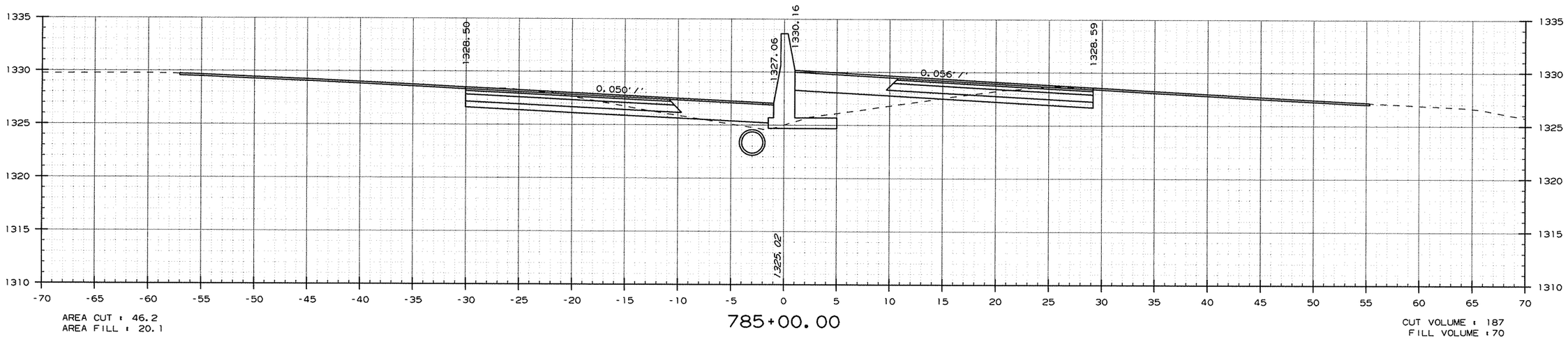
CROSS SECTION STA. 783+00 TO STA. 783+50

USER: dd5109
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PLOTTED: 4/2/2015 13:20
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	332	338

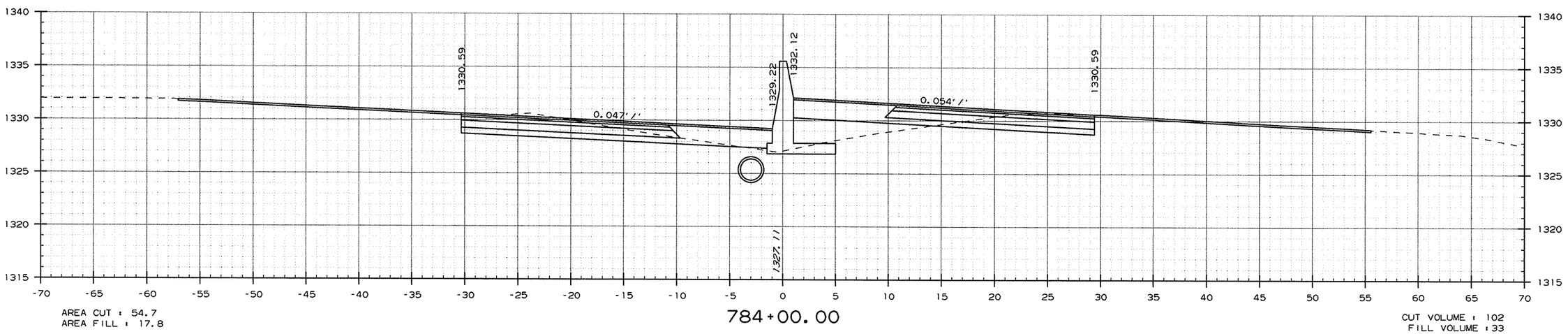
2 CROSS SECTIONS



AREA CUT : 46.2
AREA FILL : 20.1

785+00.00

CUT VOLUME : 187
FILL VOLUME : 70



AREA CUT : 54.7
AREA FILL : 17.8

784+00.00

CUT VOLUME : 102
FILL VOLUME : 33

CROSS SECTION STA. 784+00 TO STA. 785+00

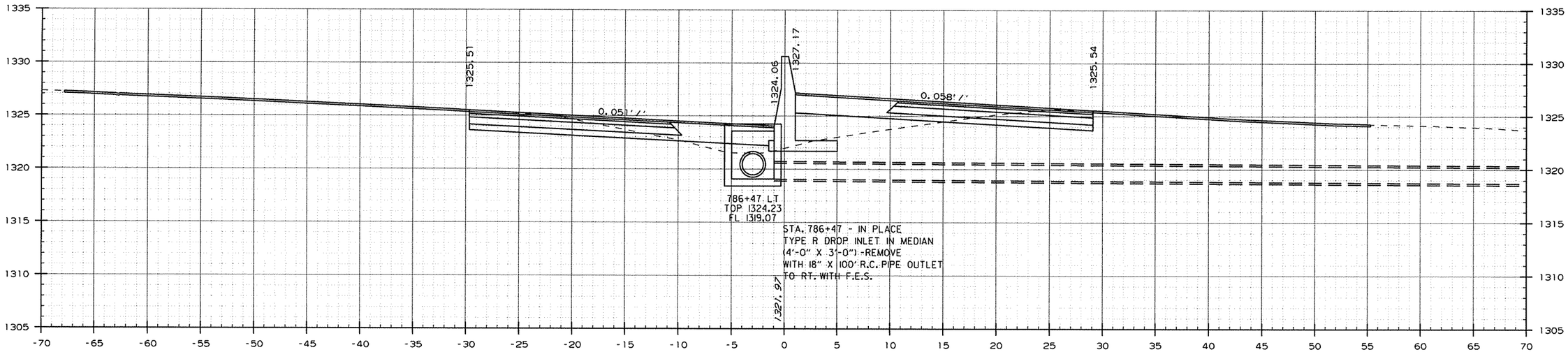
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	333	338
(2)	CROSS SECTIONS			

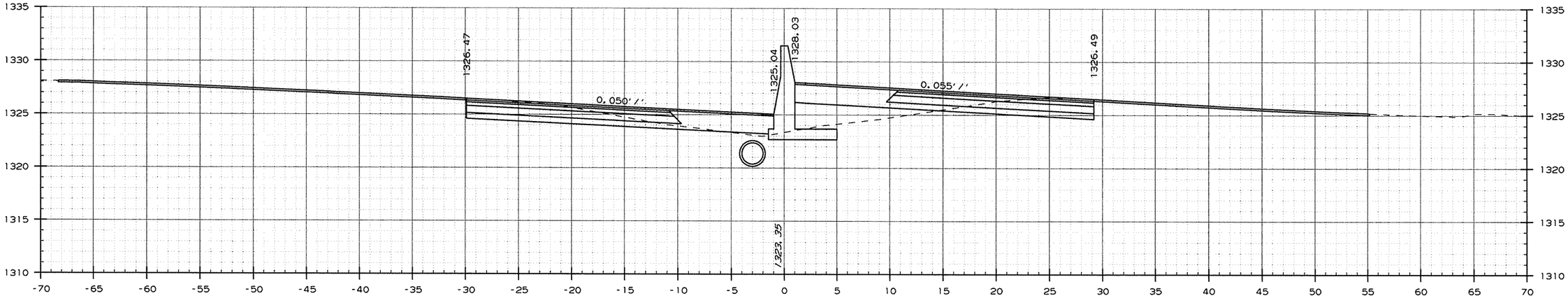
STA. 786+47 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-2"
CONNECT TO EXISTING 18"
R.C. PIPE CULVERT
AT STA. 786+47 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 43.1
AREA FILL : 23.7

786+47.00

CUT VOLUME : 80
FILL VOLUME : 36



AREA CUT : 48.6
AREA FILL : 17.8

786+00.00

CUT VOLUME : 176
FILL VOLUME : 70

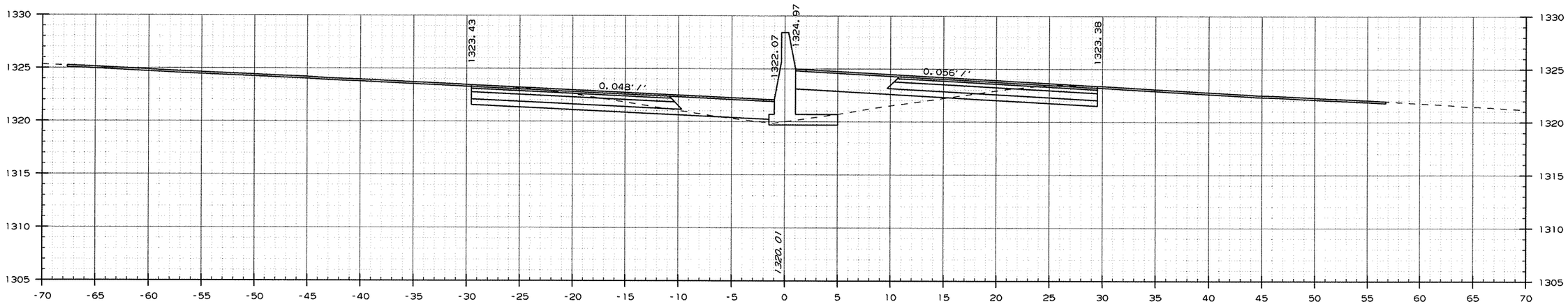
CROSS SECTION STA. 786+00 TO STA. 786+47

USER: dd5109
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PLOTTED: 4/2/2015 13:20
SCALE: 10:1

Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	334	338

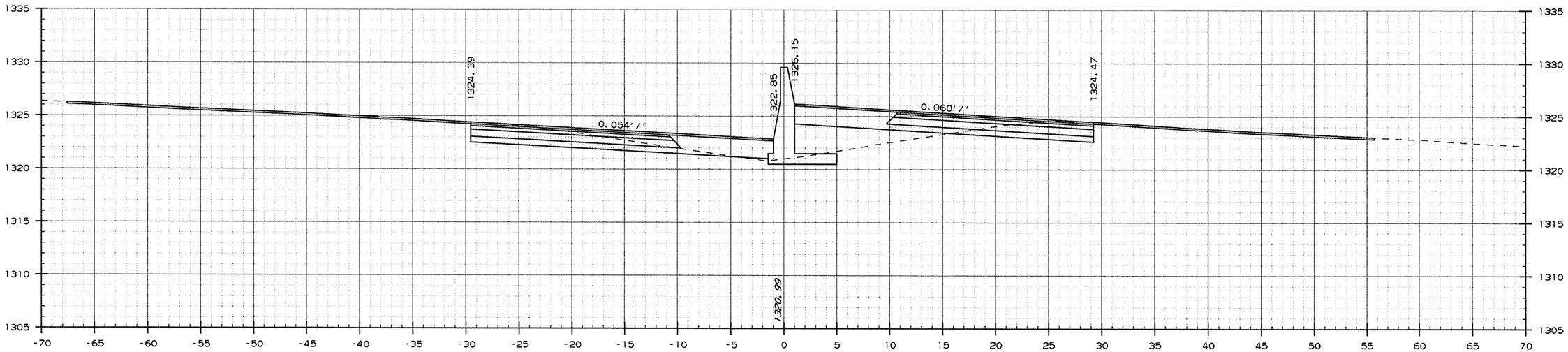
(2) CROSS SECTIONS



AREA CUT : 46.1
AREA FILL : 21.2

787+50.00

CUT VOLUME : 86
FILL VOLUME : 41



AREA CUT : 46.9
AREA FILL : 23.0

787+00.00

CUT VOLUME : 88
FILL VOLUME : 46

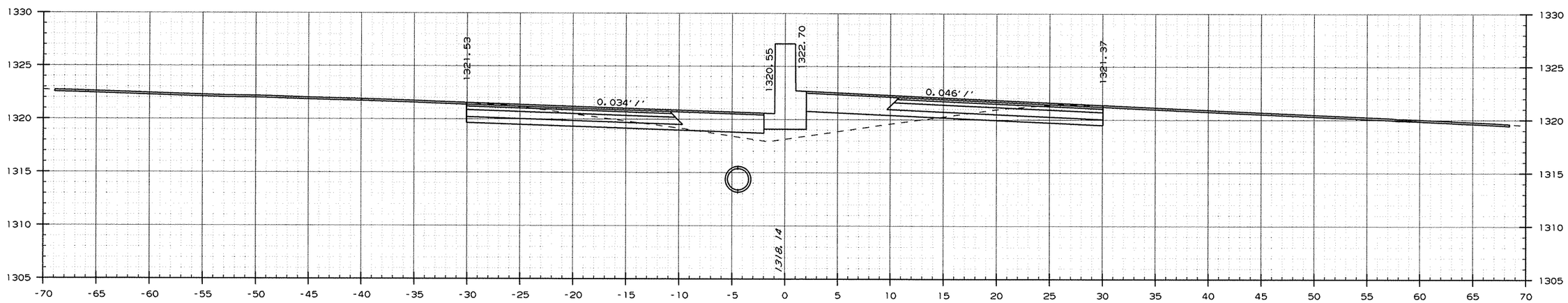
CROSS SECTION STA. 787+00 TO STA. 787+50

USER: dd509
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

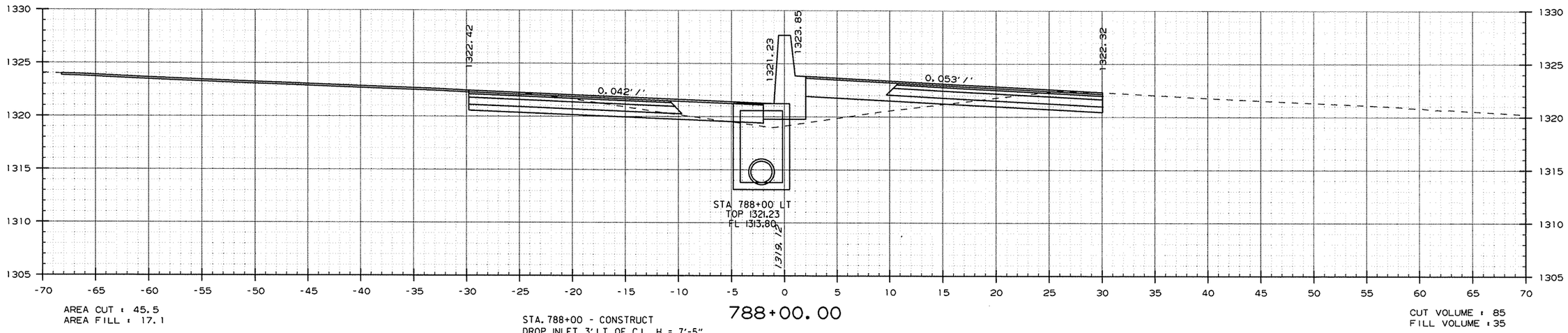
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0401	335	338
(2)	CROSS SECTIONS			



AREA CUT : 42.4
AREA FILL : 18.4

788+45.00

CUT VOLUME : 73
FILL VOLUME : 30



AREA CUT : 45.5
AREA FILL : 17.1

788+00.00

CUT VOLUME : 85
FILL VOLUME : 35

STA. 788+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 7'-5"
WITH 24" X 146' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 789+50 LT.
TYPE ST DROP INLET = 4' X 4'

CROSS SECTION STA. 788+00 TO STA. 788+45

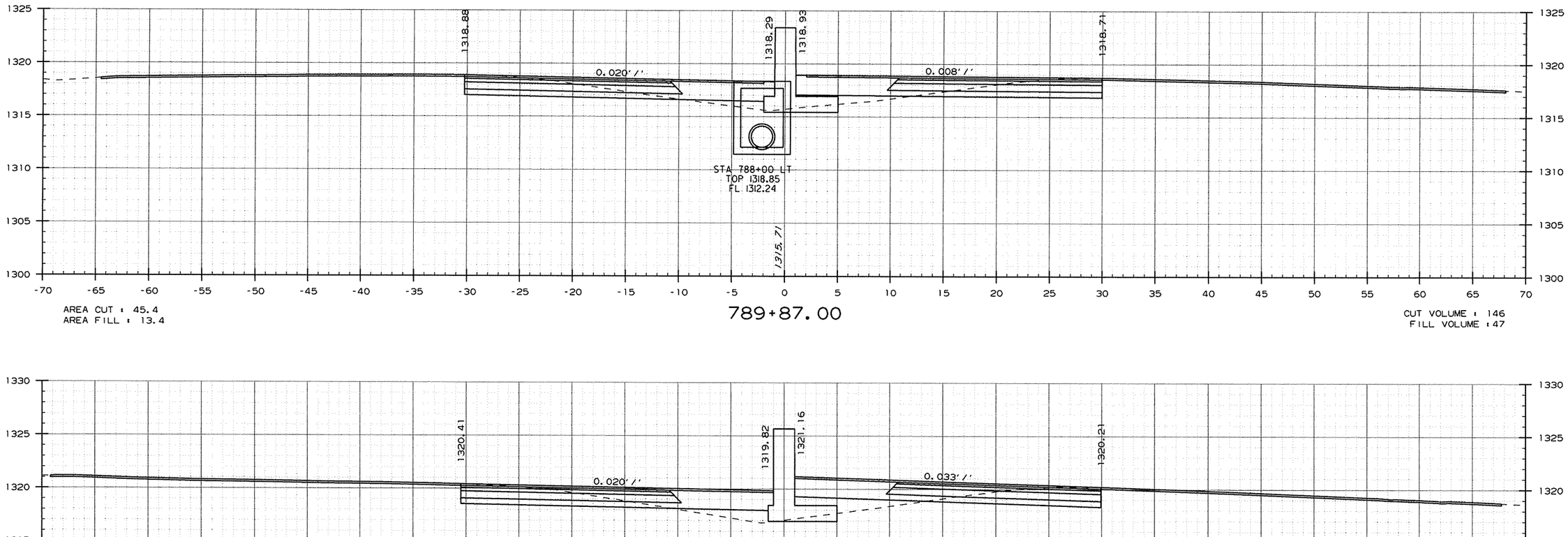
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	336	338

(2) CROSS SECTIONS

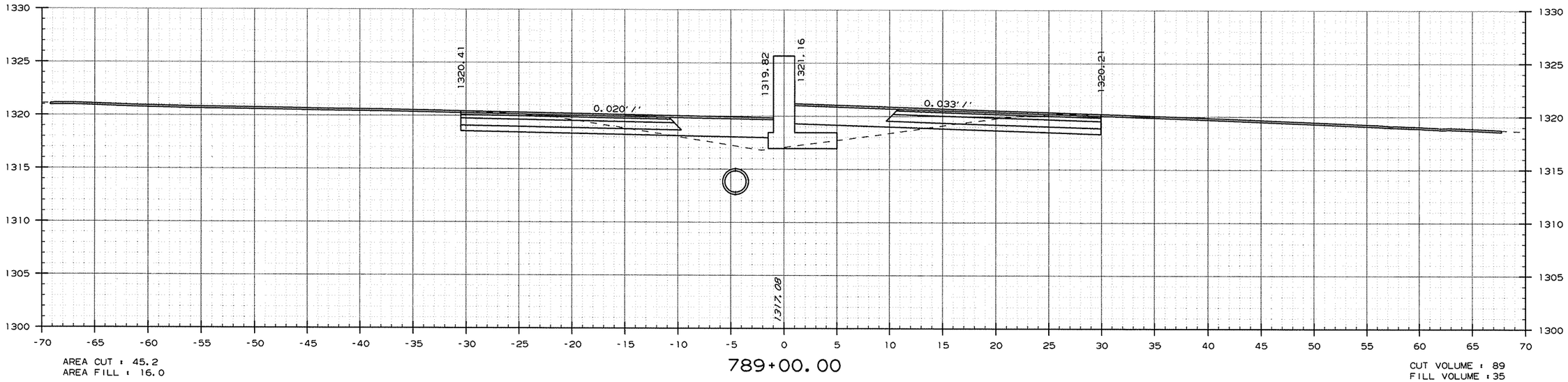
STA. 789+50 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 6'-7"
WITH 24" X 131' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 789+50 LT.
TYPE ST DROP INLET = 4' X 4'



AREA CUT : 45.4
AREA FILL : 13.4

789+87.00

CUT VOLUME : 146
FILL VOLUME : 47



AREA CUT : 45.2
AREA FILL : 16.0

789+00.00

CUT VOLUME : 89
FILL VOLUME : 35

CROSS SECTION STA. 789+00 TO STA. 789+87

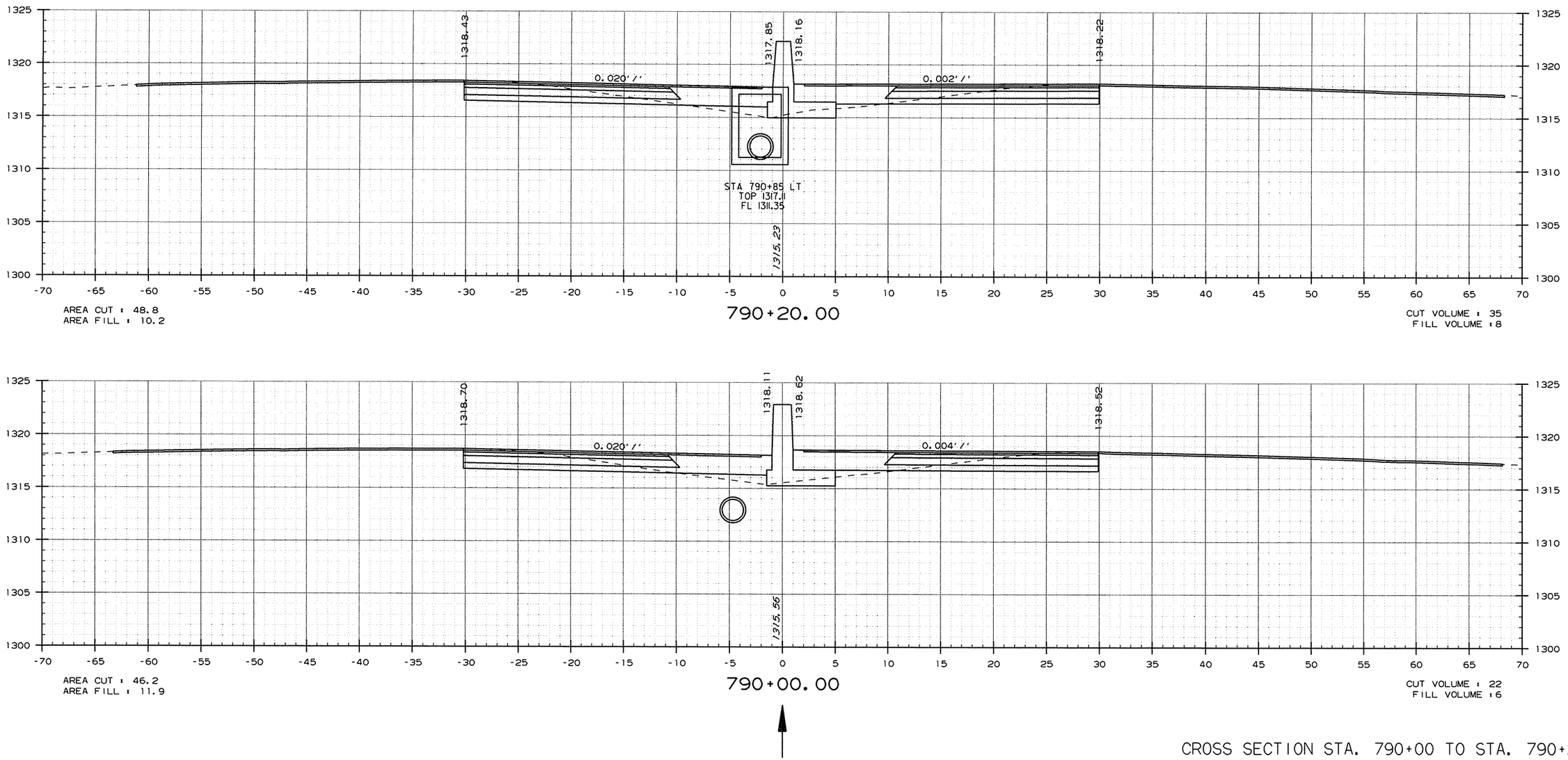
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	337	338

(2) CROSS SECTIONS

STA. 790+85 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-9"
WITH 24" X 11' R.C. PIPE CULVERT
(CLASS IIII(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 791+00 LT.
TYPE ST DROP INLET = 4' X 4'



CROSS SECTION STA. 790+00 TO STA. 790+20

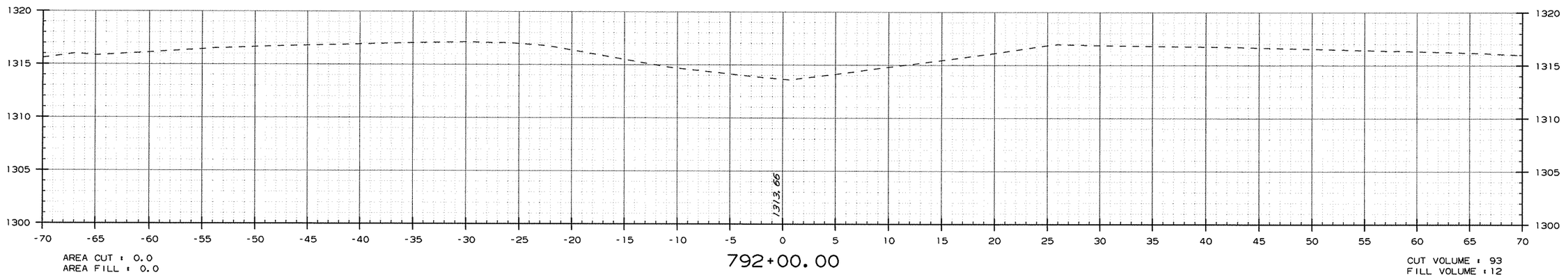
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Crafton, Tull & Associates Inc.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0401	338	338

2 CROSS SECTIONS

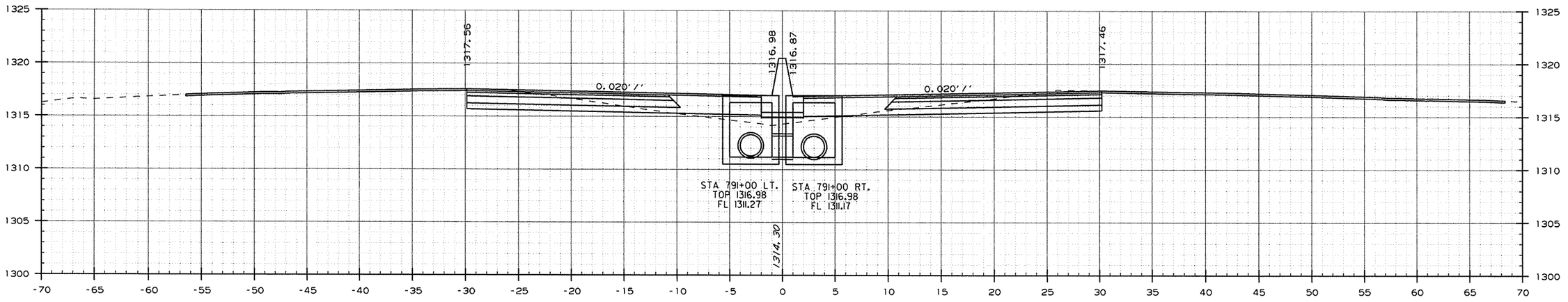


AREA CUT = 0.0
AREA FILL = 0.0

792+00.00

CUT VOLUME = 93
FILL VOLUME = 12

STA. 791+00.00 - END JOB CA0401



STA 791+00 LT.
TOP 1316.98
FL 1311.27

STA 791+00 RT.
TOP 1316.98
FL 1311.17

AREA CUT = 50.2
AREA FILL = 6.5

791+00.00

CUT VOLUME = 147
FILL VOLUME = 25

STA. 791+00 - CONSTRUCT
DROP INLET 3' LT. OF C.L. H = 5'-10"
WITH 24" X 2' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
CONNECT TO DROP INLET
AT STA. 791+00 RT.
TYPE ST DROP INLET = 4' X 4'

STA. 791+00 - CONSTRUCT
DROP INLET 3' RT. OF C.L. H = 5'-10"
WITH 24" X 4' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
STUB OUT AND CAP FOR FUTURE CONNECTION
TYPE ST DROP INLET = 4' X 6'
3 GRATES

CROSS SECTION STA. 791+00 TO STA. 792+00

USER: dd5109
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