DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	1	126

(2) BROAD ST. STR. & APPRS. (TEXARKANA) (S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

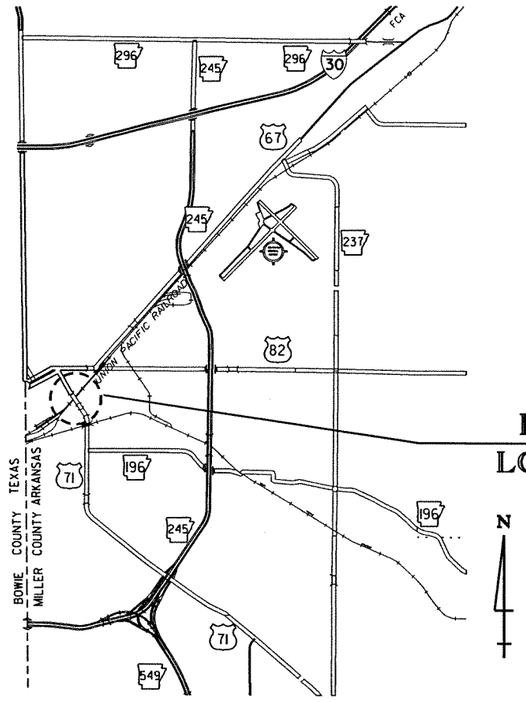
BROAD ST. STR. & APPRS. (TEXARKANA) (S)

MILLER COUNTY

ROUTE 71 SECTION 2

JOB 030388

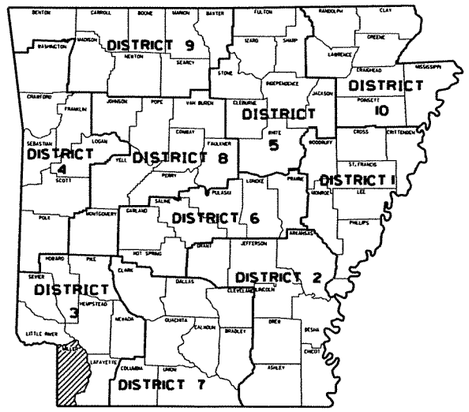
FED. AID PROJ. NHPP-9414(25)



VICINITY MAP

PROJECT LOCATION

NOT TO SCALE



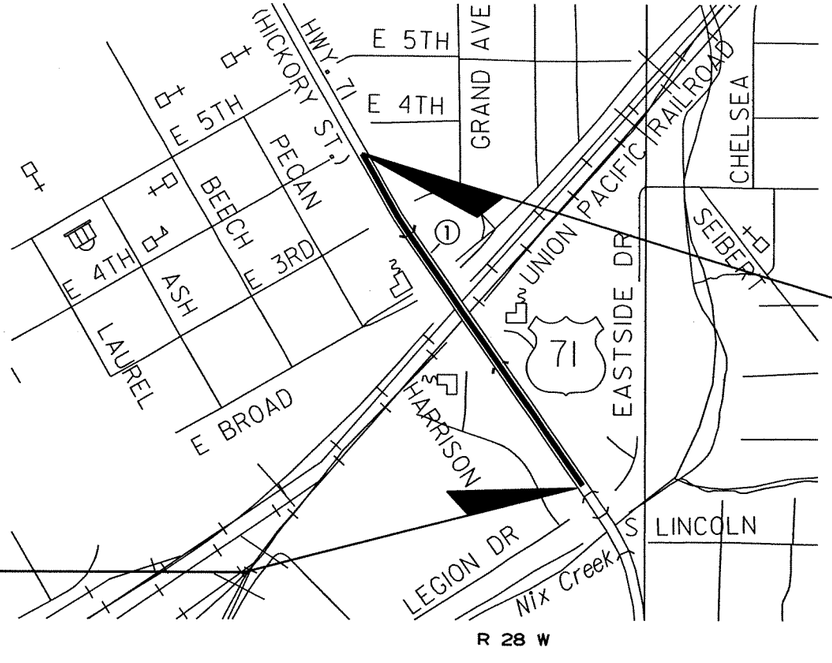
ARK. HWY. DIST. NO. 3

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2033
2013 ADT	18,000
2033 ADT	22,500
2033 DHV	2,475
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	4%
DESIGN SPEED	40 MPH

BRIDGE INFO.

(1) STA. 107+09.13 BRIDGE END
BR. NO. 07249
85'-0" SIMPLE SPAN GIRDER UNIT &
498'-0" CONT. COMP. PLATE GIRDER UNIT
58'-0" CLEAR ROADWAY
585'-1¾" TOTAL LENGTH
STA. 112+94.27 BRIDGE END



STA. 99+82.00 - BEGIN
JOB 030388
LOG MILE 14.39

STA. 119+57.00 - END
JOB 030388

N

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK NOZEL

11/8/13
DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 33°25'24"	N 33°25'34"	N 33°25'40"
LONGITUDE	W 94°01'51"	W 94°01'58"	W 94°02'04"

PROJECT LENGTH CALCULATED ALONG C.L. CONST.

GROSS LENGTH OF PROJECT	1975.00	FEET OR	0.374 MILES
NET LENGTH OF ROADWAY	1389.86	FEET OR	0.263 MILES
NET LENGTH OF BRIDGES	585.14	FEET OR	0.111 MILES
NET LENGTH OF PROJECT	1975.00	FEET OR	0.374 MILES

P.E. 030388
LICE-9414-025

8/19/2013

R030388.DGN

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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 TIMOTHY D. SMITH No. 11435

11-1-13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.
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(2) GOV. SPEC. & GEN. NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-5-13

GOVERNING SPECIFICATIONS

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

NUMBER **TITLE**

ERRATA_____ ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__ REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__ SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__ SUPPLEMENT - TRAINING PROGRAM - JOB 030388
FHWA-1273__ SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__ SUPPLEMENT - WAGE RATE DETERMINATION
100-2_____ MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1_____ BIDDING REQUIREMENTS AND CONDITIONS
103-1_____ DETERMINATION OF DBE PARTICIPATION
105-1_____ CONSTRUCTION CONTROL MARKINGS
105-2_____ EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3_____ CONTROL OF WORK
107-1_____ WORKER VISIBILITY
108-1_____ LIQUIDATED DAMAGES
110-1_____ PROTECTION OF WATER QUALITY AND WETLANDS
303-1_____ AGGREGATE BASE COURSE
404-1_____ PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2_____ DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
409-1_____ MINERAL AGGREGATES
410-3_____ DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1_____ ASPHALT CONCRETE COLD PLANT MIX
600-1_____ WATER FOR VEGETATION
603-1_____ MAINTENANCE OF TRAFFIC
604-1_____ RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-2_____ INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____ PIPE CULVERTS FOR SIDE DRAINS
606-2_____ PIPE CULVERTS
620-1_____ MULCH COVER
718-2_____ REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2_____ THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1_____ INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 030388__ AIRPORT CLEARANCE REQUIREMENTS
JOB 030388__ ARMORED JOINT WITH NEOPRENE STRIP SEAL
JOB 030388__ BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 030388__ BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 030388__ CONCRETE FOR STRUCTURES
JOB 030388__ DECORATIVE CONCRETE BRIDGE RAILING
JOB 030388__ DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB 030388__ DRILLED SHAFT FOUNDATIONS
JOB 030388__ GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 030388__ GRADE HPS70W STRUCTURAL STEEL
JOB 030388__ HIGH PERFORMANCE PAVEMENT MARKING
JOB 030388__ INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (UPRR)
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JOB 030388__ NEMA ENCLOSURE
JOB 030388__ NESTING SITES OF MIGRATORY BIRDS
JOB 030388__ NONDESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB 030388__ ORNAMENTAL FENCING
JOB 030388__ PARTNERING REQUIREMENTS
JOB 030388__ PROSECUTION AND PROGRESS
JOB 030388__ REMOVAL OF HISTORIC BRIDGE NO. 02020
JOB 030388__ RETAINING WALLS
JOB 030388__ SHORING
JOB 030388__ SILICONE JOINT SEALANT
JOB 030388__ SITE USE (A + C METHOD)
JOB 030388__ SOIL STABILIZATION
JOB 030388__ SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 030388__ STORM WATER POLLUTION PREVENTION PLAN
JOB 030388__ SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 030388__ SUBMISSION OF CONTRACTOR MATERIALS TEST RESULTS
JOB 030388__ TEXTURED COATING FINISH
JOB 030388__ UTILITY ADJUSTMENTS
JOB 030388__ VALUE ENGINEERING
JOB 030388__ WARM MIX ASPHALT

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. 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.
9. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.

10/3/2013
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GOVERNING SPECIFICATIONS AND GENERAL NOTES

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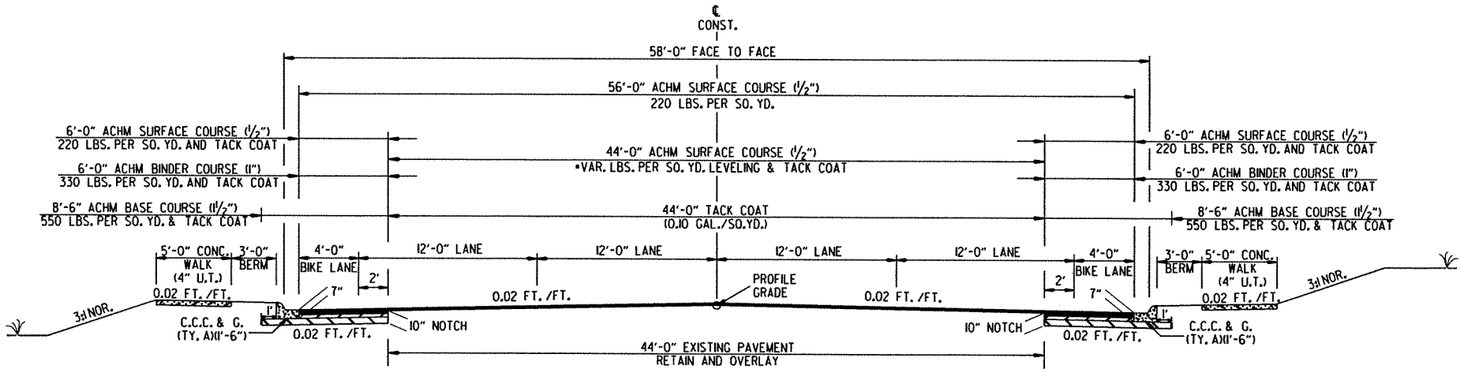
				6	ARK.			
				JOB NO.		030388	4	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13



*TO BE USED IF & WHERE BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT - NOTCH & WIDENING
TANGENT SECTION

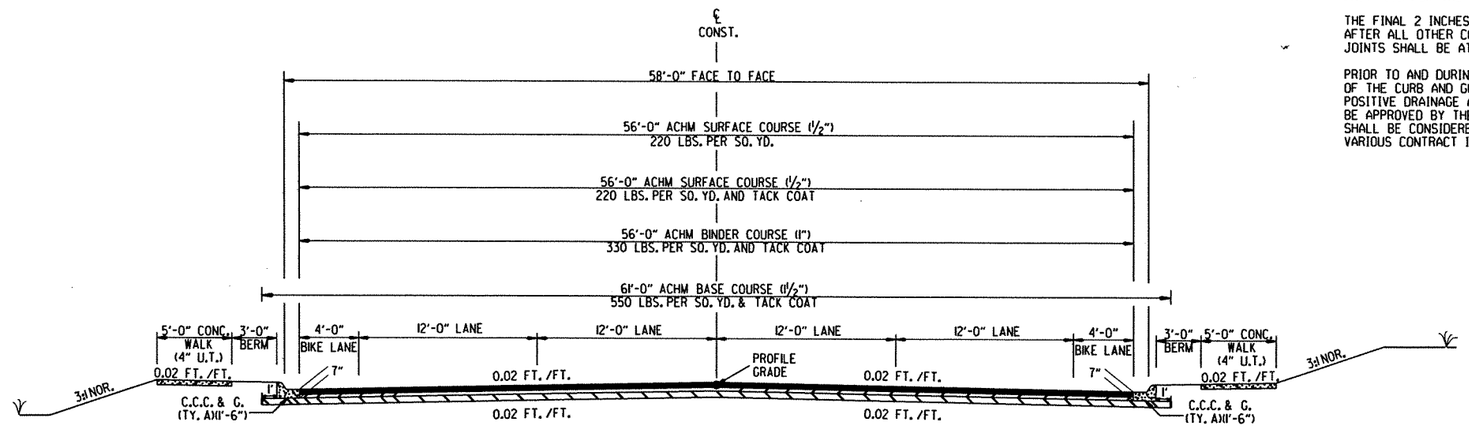
NOTES:

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

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. PAYMENT FOR CALCULATIONS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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

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



TYPICAL SECTION OF IMPROVEMENT - FULL DEPTH
TANGENT SECTION

10/11/2013

R030388.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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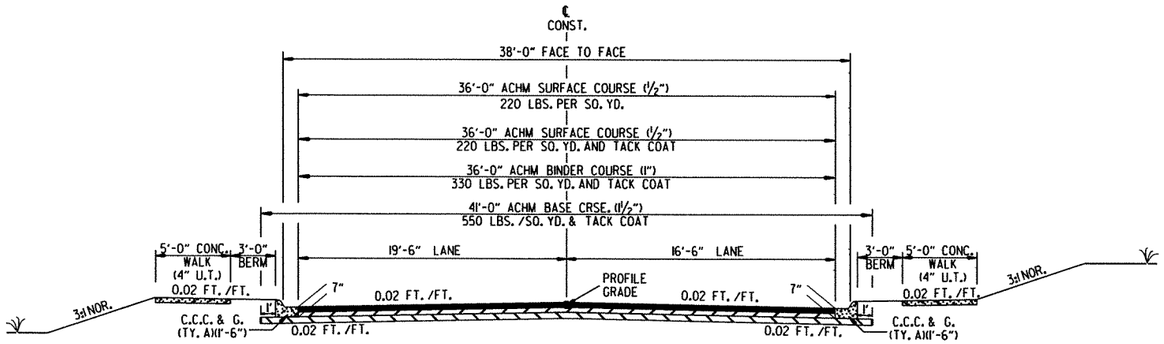
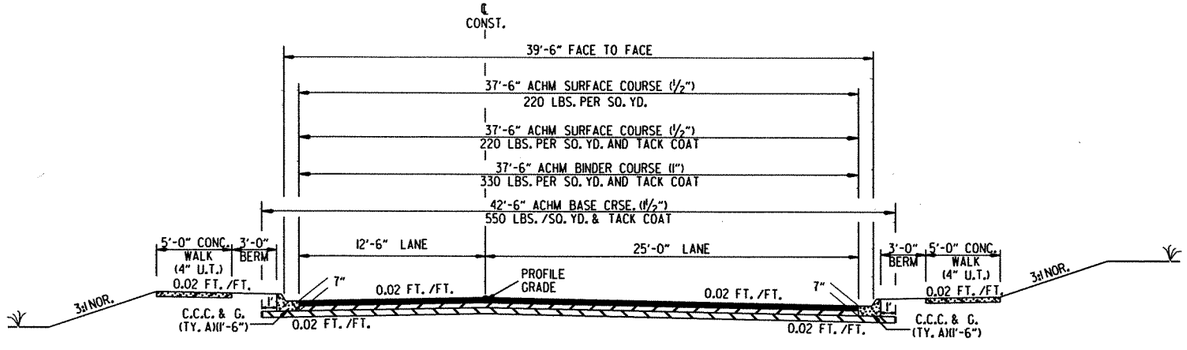
				JOB NO.		030388	5	126

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13



TYPICAL SECTION OF IMPROVEMENT - FULL DEPTH
E. 3RD STREET LT. OF HWY. 71



TYPICAL SECTION OF IMPROVEMENT - FULL DEPTH
E. 3RD STREET RT. OF HWY. 71

NOTES:

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

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

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

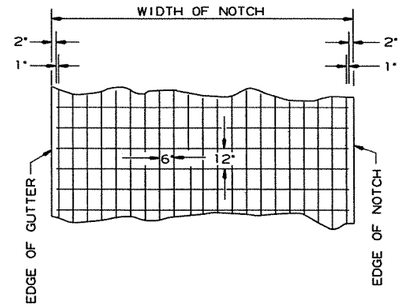
10/11/2013

R030388.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	6	126

(2) SPECIAL DETAILS

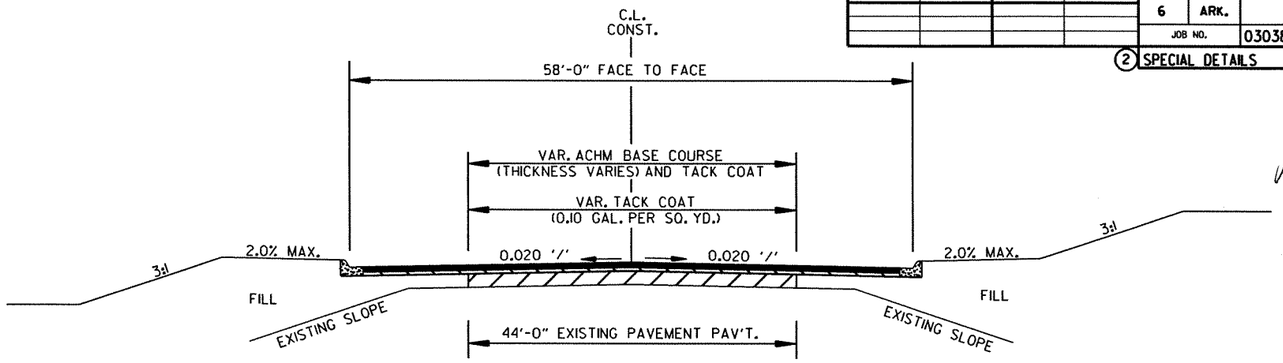


DETAIL OF REINFORCING STEEL FOR PAVEMENT (WIRE MESH TYPE 3)

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

NOTES:

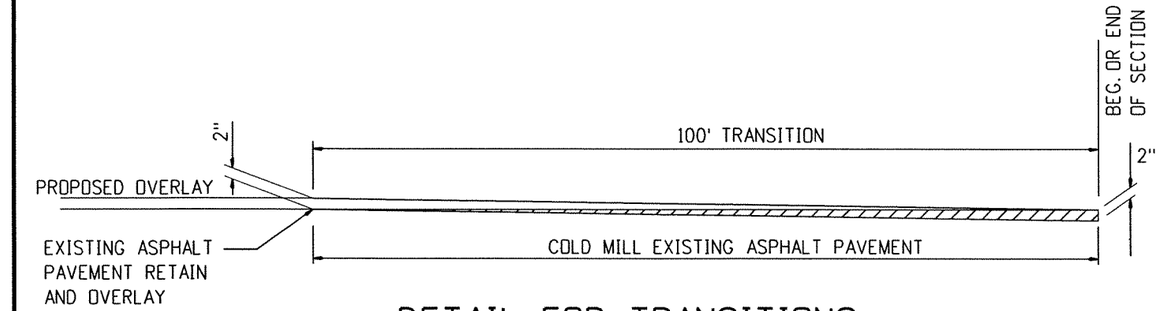
1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID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



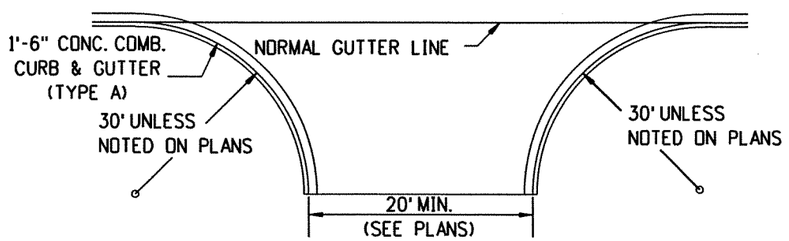
METHOD OF RAISING GRADE

NOTES:

1. THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
2. QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
3. IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003.

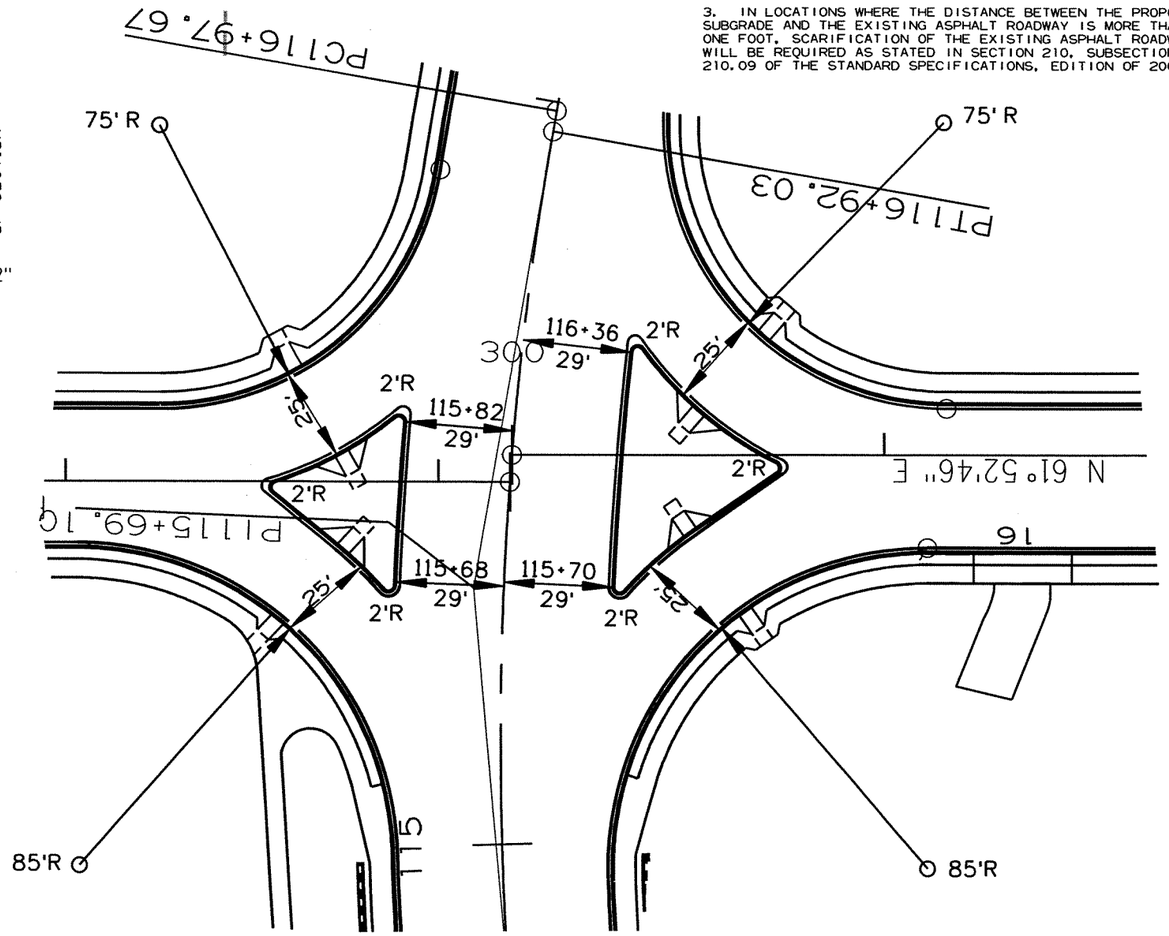


DETAIL FOR TRANSITIONS



DETAIL OF TURNOUTS ASPHALT STREETS

NOTE: THE TYPICAL SECTION FOR THE CITY STREET CONNECTIONS IN THE CURB & GUTTER SECTION SHALL MATCH THE PROPOSED WIDENING SECTION SHOWN FOR THE MAIN LANES.



THIRD ST. INTERSECTION DETAILS

SPECIAL DETAILS

8/19/2013

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TEMPORARY EROSION CONTROL GENERAL NOTES

DROP INLET SILT FENCE IS ESTIMATED AT 25 LIN. FT. PER DROP INLET.

SAND BAG DITCH CHECKS (TYPE E-5) ARE ESTIMATED AT 25 BAGS PER DITCH CHECK.

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

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

TEMPORARY EROSION CONTROL QUANTITIES (STAGE 1):
SAND BAG DITCH CHECKS (E-5) = 50 BAGS
DROP INLET SILT FENCE (E-7) = 325 LIN.FT.
SILT FENCE (E-11) = 1645 LIN.FT.
SEDIMENT BASIN (E-14) = 135 CU.YDS.
OBLITERATION OF SEDIMENT BASIN = 135 CU.YDS.
SEDIMENT REMOVAL AND DISPOSAL = 200 CU.YDS.

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

LEGEND

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	7	126

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

N

(E-14) SEDIMENT BASIN
NOTE: SEDIMENT BASINS SHALL BE CONSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

STA. 99+82.00
BEGIN JOB 030388
LOG MILE = 14.39

PI = 103+47.16
Δ = 10° 12' 14.3" LT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

PI = 95+71.79
Δ = 35° 25' 51" LT.
D = 4° 00'00"
T = 457.56'
L = 885.77'
PC = 91+14.23
PT = 100+00.00
NO SUPER

STA. 100+00 - STA. 100+90 LT.
SILT FENCE (E-11) = 90 LIN.FT.

STA. 101+10 - STA. 108+35 LT.
SILT FENCE (E-11) = 850 LIN.FT.

PI 105+49.92
BRIDGE END STA. 107+09.13
PT 104+31.97
PC 102+61.90
PT 100+00.00
PC 91+14.23
PI 95+71.79
PI 103+47.16
PC 104+64.66
PT 106+34.73

EXIST. ROW
CONST. LIMITS
P.C.E
UNION PACIFIC RAILROAD OVERPASS BRIDGE
C.L. CONST. (HWY. 71/HICKORY ST.)
N 2°21'28" E
N 33°04'24" W
N 43°16'36" W
N 38°04'24" W
TOP OF MANHOLE
POLE/GUY/REAR W/2-CAP

PI = 105+49.92
Δ = 10° 12' 14.3" RT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

DATE OF REVISION	REVISION

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TEMPORARY EROSION CONTROL DETAILS (STAGE I)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	8	126

(2) TEMPORARY EROSION CONTROL DETAILS

E-5 SAND BAG CHECKS
E-7 DROP INLET SILT FENCE
E-11 SILT FENCE
E-14 SEDIMENT BASIN

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
TRINITY D. SMITH
11-1-13

P.O.B. 10+03.41
N 19°44'45" E
BROAD ST.
EXIST. ROW
P.I. 200+00.00
SILT FENCE (E-11) = 45 LIN.FT.
PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER
STA. 112+65 - STA. 115+50 LT.
SILT FENCE (E-11) = 395 LIN.FT.
BRIDGE END STA. 112+94.32
PC 115+69.10 EAST 3RD STREET
N 61°57'05" E
HWY. 71
SILT FENCE (E-11) = 80 LIN.FT.
STA. 115+97.36 C.L. CONST. HWY. 71 =
STA. 203+19.14 C.L. 3RD ST.
Δ = 90° 00'00"
STA. 116+35 - STA. 117+40 LT.
SILT FENCE (E-11) = 185 LIN.FT.
PC 116+97.67
PT 118+60.82
Δ = 90°05'31" RT.
100' TRANSITION
4TH STREET
RETAINING WALL
.75 - END RET. WALL
T.C.E.
24'
40'
28'
14+07
14+00
N 33°04'24" W
PI 114+71.07
PC 114+49.78
PT 115+59.72
ST. ROW
N 47°30'11" E
PC 301+74.46
PT 304+60.55
305
S 41°52'39" E
P.I. 305+98.37
N 61°52'46" E
PT 116+92.03
EXIST. ROW
PI 117+79.45
PT 117+79.45
N 19°14'18" W
C.L. CONST. (HWY. 71/HICKORY ST.)
N 28°01'39" W
120
125
STA. 119+57.00
END JOB 030388
PI = 117+79.45
Δ = 91°47'20.6" LT.
D = 6° 00' 00"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER
STA. 116+04.65 C.L. CONST. HWY. 71 =
STA. 300+00.00 C.L. 3RD ST.
Δ = 90°00'00"
P.I. = 303+43.17
Δ = 76°14'34" RT.
D = 26°38'57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER
P.I. 303+43.17
EAST
WEST

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TEMPORARY EROSION CONTROL DETAILS (STAGE I)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	9	126

(2) TEMPORARY EROSION CONTROL DETAILS

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

TEMPORARY EROSION CONTROL QUANTITIES (STAGE 2):
SAND BAG DITCH CHECKS (E-5) = 50 BAGS
DROP INLET SILT FENCE (E-7) = 325 LIN.FT.
SILT FENCE (E-11) = 1810 LIN.FT.
SEDIMENT BASIN (E-14) = 135 CU.YDS.
OBLITERATION OF SEDIMENT BASIN = 135 CU.YDS.
SEDIMENT REMOVAL AND DISPOSAL = 215 CU.YDS.

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

LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

STA. 99+82.00
BEGIN JOB 030388
LOG MILE 14.39

PI = 95+71.79
Δ = 35° 25' 51" LT.
D = 4° 00'00"
T = 457.56'
L = 885.77'
PC = 91+14.23
PT = 100+00.00
NO SUPER

PI = 103+47.16
Δ = 10° 12' 14.3" LT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

PI = 105+49.92
Δ = 10° 12' 14.3" RT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

STA. 100+00 - STA. 101+00 RT.
SILT FENCE (E-11) = 135 LIN.FT.

STA. 101+20 - STA. 108+20 RT.
SILT FENCE (E-11) = 825 LIN.FT.

(E-14) SEDIMENT BASIN

NOTE: SEDIMENT BASINS SHALL BE CONSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

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TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	10	126

(2) TEMPORARY EROSION CONTROL DETAILS

(E-5) SAND BAG CHECKS
(E-7) DROP INLET SILT FENCE
(E-11) SILT FENCE
(E-14) SEDIMENT BASIN
LEGEND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

POB 10+03.41
N 61°45'44" E
EXIST. ROW
P.I. 200+00.00
EXIST. ROW
T.C.E.
24'
40'
CANOPY
K
B/K
B
PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER
N 61°57'05" E
EAST 3RD STREET
EAST OF HWY. 71
PI 115+69.10
STA 115+97.36 C.L. CONST. HWY. 71 •
STA 203+19.14 C.L. 3RD ST.
Δ = 90° 00' 00"
PC 116+97.67
PT 118+60.82
T.C.E.
28'
40'
RET. WALL
4TH STREET
C.L. CONST.
(HWY. 71/HICKORY ST.)
N 28°01'39" W
PC 113+87.49
RETAINING WALL
115
N 33°04'24" W
N 33°04'24" W
N 18°14'18" W
E-7
E-11
E-14
PI 114+71.07
PC 114+44.78
PT 115+59.72
ST. ROW
STA. 112+65 - STA. 115+50 RT.
SILT FENCE (E-11) = 325 LIN.FT.
VACANT
N 47°30'11" E
PC 301+74.46
SILT FENCE (E-11) = 130 LIN.FT.
PT 304+60.55
305
S 41°52'39" E
PI 305+98.37
N 61°52'46" W
EAST OF WEST 3RD
PI 303+43.17
EXIST. ROW
T.C.E.
16'
18'
PI 116+92.03
PI 117+79.45
STA. 116+40 - STA. 117+80 RT.
SILT FENCE (E-11) = 525+79.46 LIN.FT.
CANOPY
Δ = 9° 47' 20.6" LT.
D = 6° 00' 00"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER
STA. 116+04.65 C.L. CONST. HWY. 71 •
STA. 300+00.00 C.L. 3RD ST.
Δ = 90°00'00"
SILT FENCE (E-11) = 140 LIN.FT.
STA. 119+57.00
END JOB 030388
P. I. = 303+43.17
Δ = 76° 14' 34" RT.
D = 26° 38' 57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

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TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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.		030388	11	126

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

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

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

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

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

DETAIL OF SIGN PLACEMENT AT BEGINNING AND END OF JOB

DO NOT PASS

NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

MAINTENANCE OF TRAFFIC QUANTITIES (STAGE I):
SIGNS = 530.9 SQ. FT.
TRAFFIC DRUMS = 99 EACH
BARRICADES (TY. III) = 56 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 7000 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 500 LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3425 LIN. FT.

PI = 103+47.16
Δ = 10° 12' 14.3" LT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

PI = 95+71.79
Δ = 35° 25' 51" LT.
D = 4° 00'00"
T = 457.56'
L = 885.77'
PC = 91+14.23
PT = 100+00.00
NO SUPER

STA. 99+82.00
BEGIN JOB 030388
LOG MILE 14.39

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

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

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

16' BARR. TYP. III LT.

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

8' BARR. TYP. III RT.

TRAFFIC DRUMS 40 SPACING

TRAFFIC DRUMS (6) EACH PER TURNOUT

P.I. 100+00.00

P.C. 102+61.90

P.T. 104+31.97

P.I. 105+49.92

CONST. LIMITS

BRIDGE END STA. 107+09.13

95

100

105

110

N 2°21'28" E

23'

23'

P.I. 95+71.79

N 33°04'24" W

N 43°16'36" W

12'

12'

C.L. CONST. (HWY. 71/HICKORY ST.)

C.L. CONST. (HWY. 71/HICKORY, STA. 33+04.24 W)

UNION PACIFIC RAILROAD OVERPASS BRIDGE

E. 3RD ST.

P.I. 103+47.16

P.C. 104+64.66

P.T. 106+34.73

TRAFFIC DRUMS 40' SPACING

(I) W4-2 LT. (48" X 48") 500' BEFORE STARTING LANE CLOSURE

+80

320' TAPER

+00

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

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

PI = 105+49.92
Δ = 10° 12' 14.3" RT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

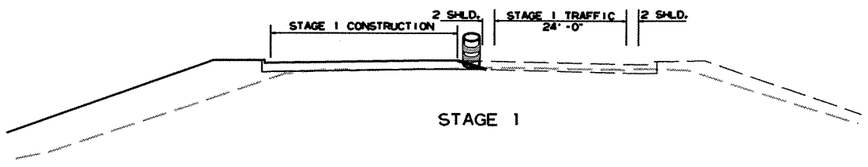
STAGE I:

TRAFFIC IS TO BE NARROWED TO ONE LANE IN EACH DIRECTION. SHIFT TRAFFIC TO THE RIGHT ON THE EXISTING LANES AS SHOWN ON THE PLANS.
CLOSE E. 3RD ST. (LT) AND DETOUR TRAFFIC AS SHOWN ON PLANS AND AS STATED IN SPECIAL PROVISION "MAINTENANCE OF TRAFFIC".

CONSTRUCT ROADWAY AND BRIDGE TO THE LEFT OF THE EXISTING ROADWAY AND BRIDGE.

CONSTRUCTION PAVEMENT MARKING QUANTITIES BASED ON RT. AND LT. EDGE LINES AND DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.

CITY STREET INTERSECTIONS AND DRIVEWAYS ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH).



STAGE 1

8/19/2013

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MAINTENANCE OF TRAFFIC DETAILS (STAGE I)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	12	126

(2) MAINTENANCE OF TRAFFIC DETAILS

NOTE: MAINTENANCE OF TRAFFIC ITEMS CLOSING 3RD ST. WILL BE INSTALLED IF AND WHERE DIRECTED BY THE ENGINEER. REFER TO SPECIAL PROVISION "MAINTENANCE OF TRAFFIC" AND 3RD ST. DETOUR.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

ROAD WORK AHEAD (I) W20-1 (48" X 48")
LEFT LANE CLOSED AHEAD (I) W20-5L (48" X 48")
(I) W4-2 LT. (48" X 48")
END ROAD WORK (I) G20-2 (48" X 24")

500' 500' 500'

P. I. 200+00.00

PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER

N 61°45'44" E
N 61°57'05" E
EAST OF HWY. 71
EAST 3RD STREET
T.C.E.
24'
40'
CANOPY
B/K
PC 112+94.32 BRIDGE END STA.
200' TAPER
RETAINING WALL
.75' RET. WALL
R=85'
PC 113+87.49
PT 115+69.10
R=75'
T.C.E.
28'
40'
PT 118+60.82
TRAFFIC DRUMS (6) EACH PER TURNOUT
STA. 115+97.36 C.L. CONST. HWY. 71 = STA. 203+19.14 C.L. 3RD ST.
Δ = 90° 00' 00"
+20
320' TAPER
+40
0°05'31" RT.
4TH STREET
(I) W4-2 LT. (48" X 48")
ROAD WORK AHEAD (I) W20-1 (48" X 48")
END ROAD WORK (I) G20-2 (48" X 24")
C.L. CONST. (HWY. 71/HICKORY ST.)
25' 25'
N 28°01'39" W
N 33°04'24" W
N 18°14'16" W
12' 12'
115 120 125
P 114+71.07
P 115+59.72
PC 114+44.78
R=85'
N 47°30'11" E
500'
5'
F
VACANT
C
EXIST. ROW
N 61°52'46" E
PC 301+74.46
CONST. LIMITS
PT 304+60.55
305
S 41°52'39" E
P 305+98.37
PT 116+92.03
R=75'
TRAFFIC DRUMS 40' SPACING
P 117+79.45
CANOPY
PI = 117+79.45
Δ = 9° 47' 20.6" LT.
D = 6° 00' 00"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER
STA. 119+57.00
END JOB 030388
STA. 116+04.65 C.L. CONST. HWY. 71 = STA. 300+00.00 C.L. 3RD ST.
Δ = 90° 00'00"
END ROAD WORK (I) G20-2 (48" X 24")
WEST
P 303+43.17
ROAD WORK AHEAD (I) W20-1 (48" X 48")
END ROAD WORK (I) G20-2 (48" X 24")
ROAD WORK AHEAD (I) W20-1 (48" X 48")
END ROAD WORK (I) G20-2 (48" X 24")

P. I. = 303+43.17
Δ = 76° 14' 34" RT.
D = 26° 38' 57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

MAINTENANCE OF TRAFFIC DETAILS (STAGE I)

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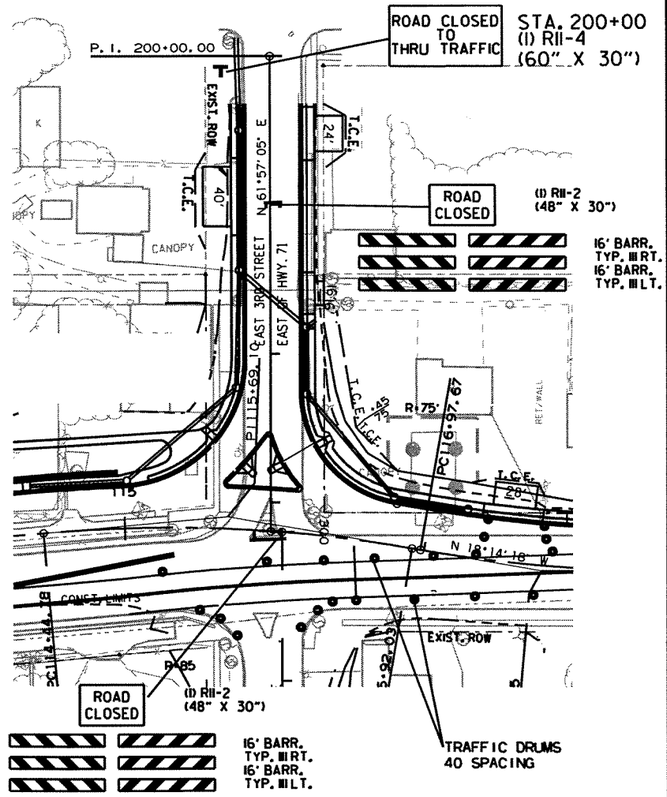
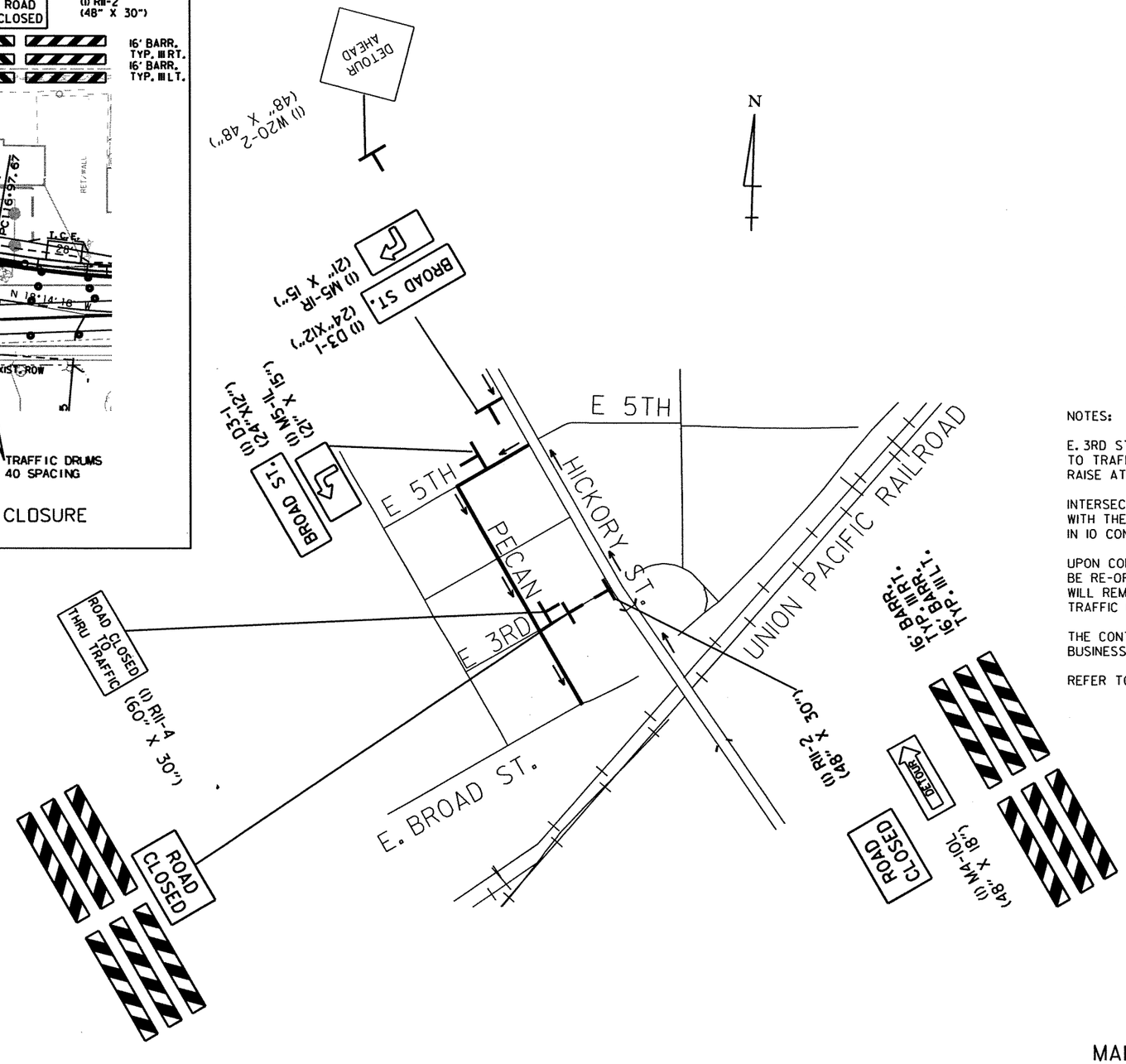
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	13	126

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13



DETAIL OF TEMPORARY STREET CLOSURE
(THIRD STREET - LT.)



NOTES:

E. 3RD ST., FROM HICKORY ST. TO PECAN ST., WILL REMAIN OPEN TO TRAFFIC UNTIL ACTUAL CONSTRUCTION BEGINS ON THE GRADE RAISE AT THE E. 3RD/HICKORY INTERSECTION.

INTERSECTION CONSTRUCTION AND CLOSURE OF E. 3RD ST. WILL BEGIN WITH THE APPROVAL OF THE ENGINEER AND IS TO BE COMPLETED IN 10 CONSECUTIVE CALENDAR DAYS.

UPON COMPLETION OF INTERSECTION CONSTRUCTION, E. 3RD ST. WILL BE RE-OPENED TO THROUGH TRAFFIC ONLY AND THE DETOUR WILL REMAIN OPERATIONAL UNTIL THE CONTRACTOR HAS SHIFTED TRAFFIC ON HICKORY ST. TO STAGE 2 TRAFFIC LANES.

THE CONTRACTOR WILL MAINTAIN TEMPORARY DRIVEWAY ACCESS TO THE BUSINESSES ON 3RD ST. DURING CONSTRUCTION.

REFER TO SPECIAL PROVISION "MAINTENANCE OF TRAFFIC".

MAINTENANCE OF TRAFFIC DETAILS
(STAGE I) CLOSURE OF E. 3RD ST. (LT.)

8/19/2013

R030388.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	14	126

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

DETAIL OF SIGN PLACEMENT AT BEGINNING AND END OF JOB

END ROAD WORK — (1) G20-2 (48" X 24")

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

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

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

DO NOT PASS — NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

MAINTENANCE OF TRAFFIC QUANTITIES (STAGE 2½)
SIGNS = 558.3 SQ. FT.
TRAFFIC DRUMS = 126 EACH
BARRICADES (TY. III) = 56 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 7860 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 2840 LIN. FT.
FURNISHING & INSTALLING PRECAST CONCRETE BARRIER = 766 LIN. FT.
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS = 3200 LIN. FT.

END ROAD WORK — (1) G20-2 (48" X 24")

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

PI = 103+47.16
Δ = 10° 12' 14.3" LT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

STA. 98+82.00
BEGIN JOB 030388
LOG MILE 14.39

PI = 95+71.79
Δ = 35° 25' 51" LT.
D = 4° 00'00"
T = 457.56'
L = 885.77'
PC = 91+14.23
PT = 100+00.00
NO SUPER

320' TAPER

TRAFFIC DRUMS (6) EACH PER TURNOUT

430' LANE SHIFT

LEGION DR

BOTTOM OF MANHOLE

CONST. LIMITS

SPECIAL END UNIT

FURNISHING & INSTALLING PRECAST CONCRETE BARRIER - 766 LIN. FT.

BRIDGE END STA. 107+09.13

C.L. CONST. (HWY. 71/HICKORY ST.)

TRAFFIC DRUMS 40' SPACING

(1) W4-2 RT. (48" X 48")

END ROAD WORK — (1) G20-2 (48" X 24")

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

15' BARR. TYP. III RT.

ROAD CLOSED

(1) M4-10L (48" X 18")

(1) R1-2 (48" X 30")

EASTSIDE DR

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

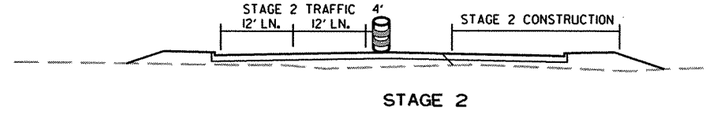
PI = 105+49.92
Δ = 10° 12' 14.3" RT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

STAGE 2:

TRAFFIC WILL REMAIN NARROWED TO ONE LANE IN EACH DIRECTION.
SHIFT TRAFFIC TO THE LEFT ONTO THE LANES CONSTRUCTED IN STAGE I AS SHOWN ON THE PLANS.
CLOSE E. 3RD ST. (RT.), DETOUR TRAFFIC AS SHOWN ON PLANS AND AS STATED IN THE SPECIAL PROVISION "MAINTENANCE OF TRAFFIC".

REMOVE AND DISPOSE OF THE EXISTING BRIDGE.
COMPLETE CONSTRUCTION ON ROADWAY AND BRIDGE TO THE RIGHT OF STAGE 2 TRAFFIC.

CONSTRUCTION PAVEMENT MARKING QUANTITIES ARE BASED ON RT. AND LT. EDGE LINES AND DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.



STAGE 2

8/19/2013

R030388.DGN

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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				6	ARK.			
				JOB NO.		030388	15	126

(2) MAINTENANCE OF TRAFFIC DETAILS

NOTE: MAINTENANCE OF TRAFFIC ITEMS CLOSING 3RD ST. WILL BE INSTALLED IF AND WHERE DIRECTED BY THE ENGINEER. REFER TO SPECIAL PROVISION "MAINTENANCE OF TRAFFIC" AND 3RD ST. DETOUR.

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

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

P. I. 200+00.00

PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER

N 61°45'44" E

N 61°57'05" E

STA. 115+97.36 C.L. CONST. HWY. 71 =
STA. 203+19.14 C.L. 3RD ST.
Δ = 90° 00' 00"

430' TRAFFIC SHIFT

320' TAPER

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

TRAFFIC DRUMS 40' SPACING

PC113+87.49

RETAINING WALL

EAST SIDE OF HWY. 71

3RD STREET

4TH STREET

PT118+60.82

100' TRANSITION

(I) W4-2 L.T. (48" X 48")

C.L. CONST. (HWY. 71/HICKORY ST.)

N 28°01'39" W

N 33°04'24" W

SPECIAL END UNIT

TRAFFIC DRUMS 20' SPACING

PC114+44.78

PT115+59.72

FURNISHING & INSTALLING PRECAST CONCRETE BARRIER = 766 LIN. FT.

VACANT

N 47°30'11" E

PC301+74.46

CONST. LIMITS

EAST SIDE OF HWY. 71

WEST OF HWY. 71

PT304+60.55

PI303+43.17

S 41°52'39" E

PI305+98.37

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

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

PI114+71.07

N 61°52'46" E

PI116+92.03

TRAFFIC DRUMS (6) EACH PER TURNOUT

ROAD CLOSED

(I) M4-10L (48" X 18")

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

16' BARR. TYP. MRT.

PI117+79.45

PI = 117+79.45
Δ = 9° 47' 20.6" LT.
D = 6° 00' 00"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER

STA. 119+57.00
END JOB 030388

STA. 116+04.65 C.L. CONST. HWY. 71 =
STA. 300+00.00 C.L. 3RD ST.
Δ = 90°00'00"

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

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

P. I. = 303+43.17
Δ = 76°14'34" RT.
D = 26°38'57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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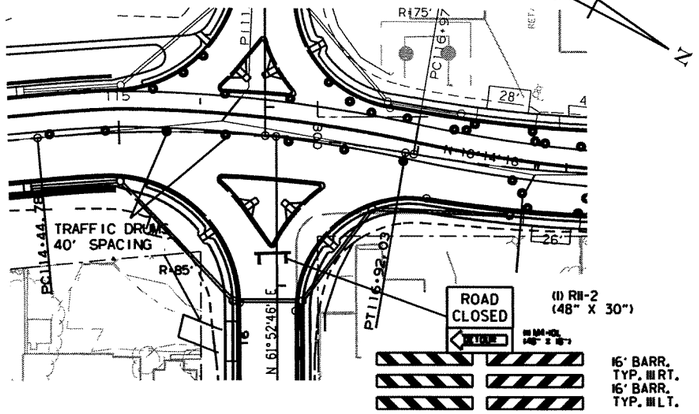
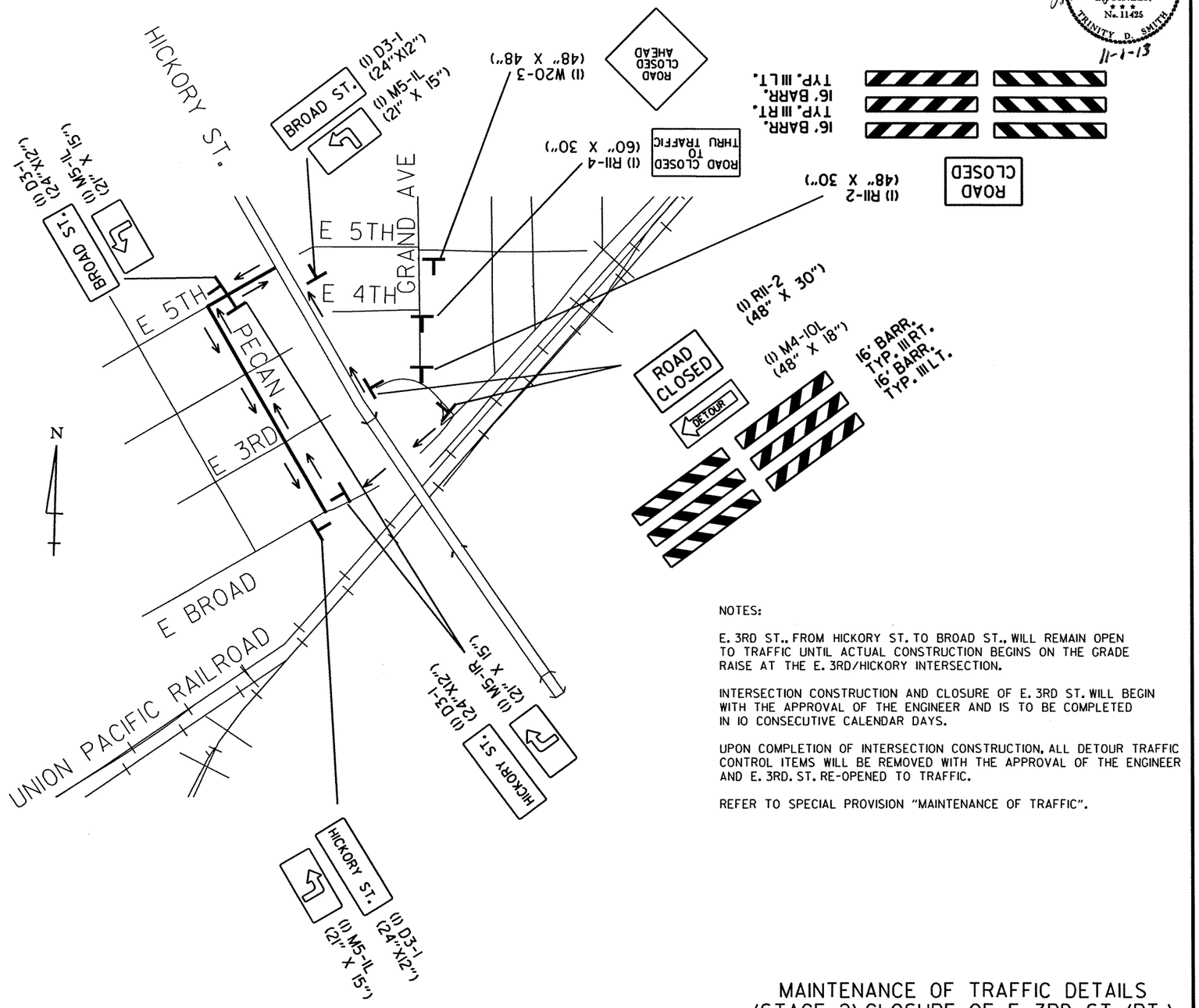
				6	ARK.			
				JOB NO.		030388	16	126

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13



DETAIL OF TEMPORARY STREET CLOSURE
(THIRD STREET - RT.)



NOTES:

E. 3RD ST., FROM HICKORY ST. TO BROAD ST., WILL REMAIN OPEN TO TRAFFIC UNTIL ACTUAL CONSTRUCTION BEGINS ON THE GRADE RAISE AT THE E. 3RD/HICKORY INTERSECTION.

INTERSECTION CONSTRUCTION AND CLOSURE OF E. 3RD ST. WILL BEGIN WITH THE APPROVAL OF THE ENGINEER AND IS TO BE COMPLETED IN 10 CONSECUTIVE CALENDAR DAYS.

UPON COMPLETION OF INTERSECTION CONSTRUCTION, ALL DETOUR TRAFFIC CONTROL ITEMS WILL BE REMOVED WITH THE APPROVAL OF THE ENGINEER AND E. 3RD. ST. RE-OPENED TO TRAFFIC.

REFER TO SPECIAL PROVISION "MAINTENANCE OF TRAFFIC".

MAINTENANCE OF TRAFFIC DETAILS
(STAGE 2) CLOSURE OF E. 3RD ST. (RT.)

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				6	ARK.			
				JOB NO.		030388	17	126

(2) PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKING QUANTITIES:
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4") = 4608 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8") = 330 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS WHITE (12") = 240 LIN. FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4) = 3700 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") = 330 LIN. FT.
HIGH PERFORMANCE PAVEMENT CONTRAST MARKING WHITE (4") = 295 LIN. FT.
HIGH PERFORMANCE PAVEMENT CONTRAST MARKING YELLOW (4") = 1170 LIN. FT.
RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) = 50 EACH
RAISED PAVEMENT MARKERS (TYPE II) (YEL./YEL.) = 25 EACH

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
11-1-13

BIKE EMBLEMS

PI = 95+71.79
Δ = 35° 25' 51" LT.
D = 4° 00'00"
T = 457.56'
L = 885.77'
PC = 91+14.23
PT = 100+00.00
NO SUPER

STA. 99+82.00
BEGIN JOB 030388
LOG MILE 14.39

PI = 103+47.16
Δ = 10° 12' 14.3" LT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

4" DOUBLE YELLOW CENTERLINE
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
RAISED PAVEMENT MARKINGS
80' SPACING

4" SOLID WHITE EDGE LINE

BRIDGE END STA. 107+09.13

4" SOLID WHITE EDGE LINE

P.C.E.

UNION PACIFIC RAILROAD OVERPASS BRIDGE

BIKE EMBLEMS

4" WHITE SKIP LINES
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
RAISED PAVEMENT MARKERS
80' SPACING

4" DOUBLE YELLOW CENTERLINE
RAISED PAVEMENT MARKERS
80' SPACING

4" WHITE SKIP LINE
RAISED PAVEMENT MARKERS
80' SPACING

PI = 105+49.92
Δ = 10° 12' 14.3" RT.
D = 6° 00'00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

BOTTOM OF MANHOLE

PERMANENT PAVEMENT MARKING DETAILS

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				6	ARK.			
				JOB NO.		030388	18	126

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

BIKE EMBLEMS

POB 10+03.41

N 19°49'44" E 191.49'

P. I. 200+00.00

PI = 117+79.45
Δ = 9° 47' 20.6" LT.
D = 6° 00' 00"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER

4" DOUBLE YELLOW CENTERLINE
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
RAISED PAVEMENT MARKINGS
80' SPACING

4" DOUBLE YELLOW CENTERLINE
RAISED PAVEMENT MARKERS
80' SPACING

4" DOUBLE YELLOW CENTERLINE

STA. 115+97.36 C.L. CONST. HWY. 71 =
STA. 203+19.14 C.L. 3RD ST.
Δ = 90° 00' 00"

4" SOLID WHITE EDGE LINE

BRIDGE END STA. 112+94.32

PCI 1+81.49

BIKE EMBLEMS

P.C.E

PI 115+69.72 NORTH EAST 3RD STREET

N 61°57'05" E

EAST BOUND HWY. 71

R=75'

PT 118+60.82

4TH STREET

4" SOLID WHITE EDGE LINE

BIKE EMBLEMS

100' TRANSITION

N 33°04'24" W

C.L. CONST. (HWY. 71/HICKORY ST.)

N 28°01'39" W

PI 114+71.07

8" SOLID WHITE LINE AROUND ISLAND

PT 115+59.72

PC 114+44.78

10" WHITE REFLECTORIZED PAVEMENT MARKINGS ON CURB

PT 116+92.03

PI 117+79.45

R=75'

STA. 119+57.00
END JOB 030388

4" WHITE SKIP LINE
RAISED PAVEMENT MARKERS
80' SPACING

PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER

4" WHITE SKIP LINE
RAISED PAVEMENT MARKERS
80' SPACING

PC301+74.46

STA. 116+04.65 C.L. CONST. HWY. 71 =
STA. 300+00.00 C.L. 3RD ST.
Δ = 90°00'00"

4" DOUBLE YELLOW CENTERLINE

WEST OF HICKORY ST.

EAST 3RD STREET

N 61°52'46" E

PT304+60.55

PI303+43.17

S 41°52'39" E

PI 302+38.37

P. I. = 303+43.17
Δ = 76°14'34" RT.
D = 26°38'57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

PERMANENT PAVEMENT MARKING DETAILS

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				6	ARK.			
				JOB NO.		030388	19	126
				(2)	LIGHTING QUANTITIES SHEET			

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
2. UNDERGROUND CONDUIT INSTALLED UNDER PAVED SURFACES SHALL BE INSTALLED BY A PUSHING OR BORING METHOD.
3. ANY EXISTING EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE CITY.
4. CONDUIT DEFLECTION/EXPANSION FITTINGS SHALL BE INSTALLED AT EACH OF THE BRIDGE AND RETAINING WALL EXPANSION JOINTS. THE DEFLECTION/EXPANSION FITTING USED SHALL BE O-Z/GEDNEY TYPE DX-150 OR AS APPROVED BY THE JOB ENGINEER. THE DEFLECTION/EXPANSION FITTINGS AND STANDARD ADAPTERS SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM NON-METALLIC CONDUIT. THE FITTINGS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITIES TOTAL	UNIT
709	GALVANIZED STEEL CONDUIT (1.5")	45	LIN. FT.
710	NON-METALLIC CONDUIT (1.5")	1790	LIN. FT.
SP	NEMA 4X STAINLESS STEEL JUNCTION BOX	16	EACH

STATE OF ARKANSAS
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No. 5851
10/25/13
L. TONY SULLIVAN

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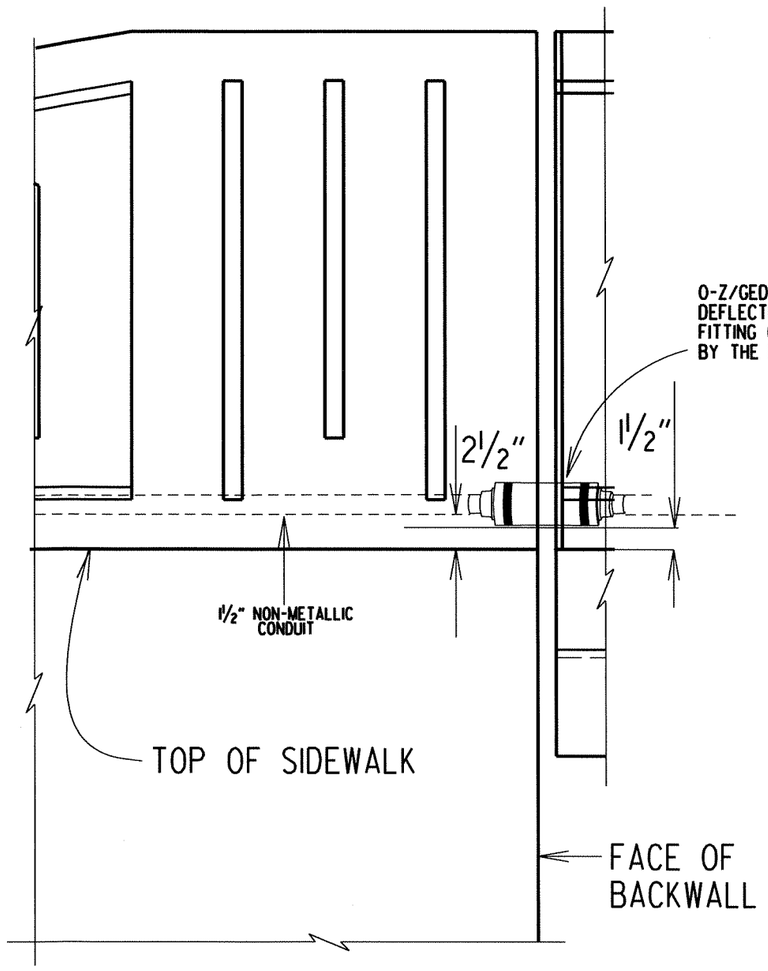
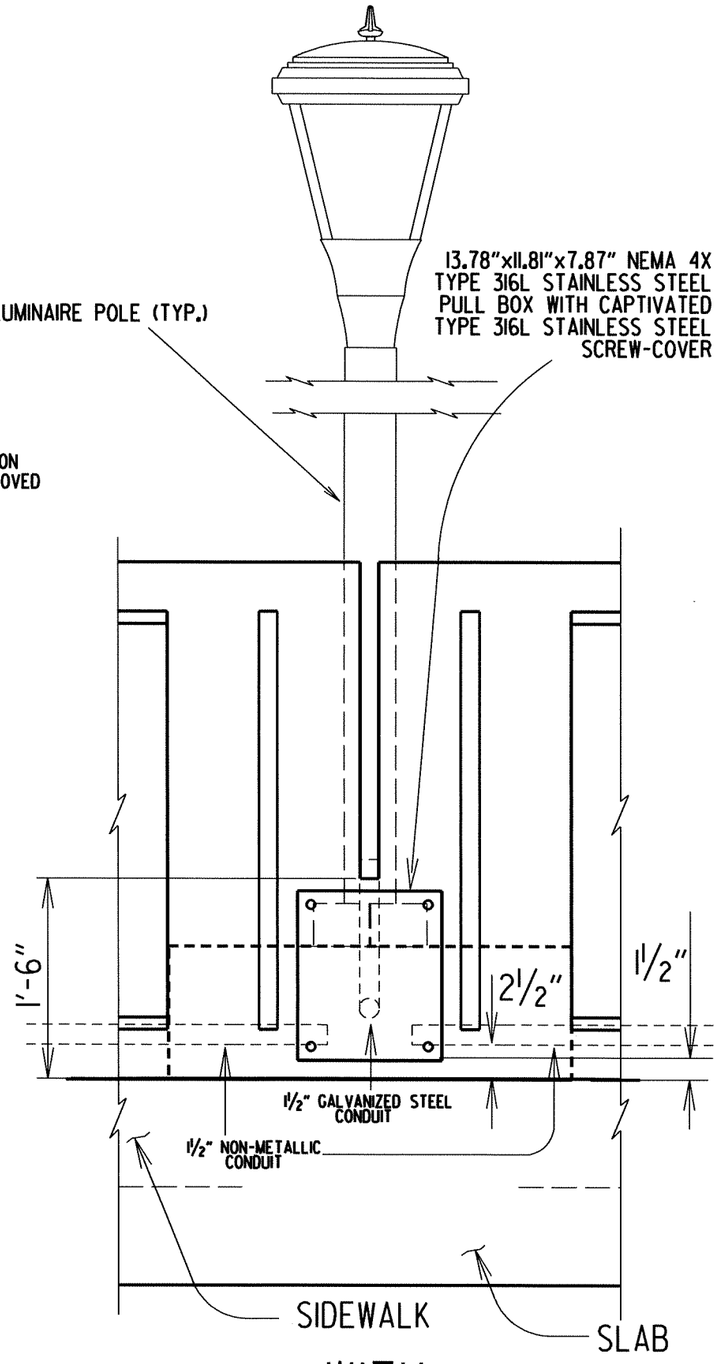
				6	ARK.			
				JOB NO.		030388	20	126

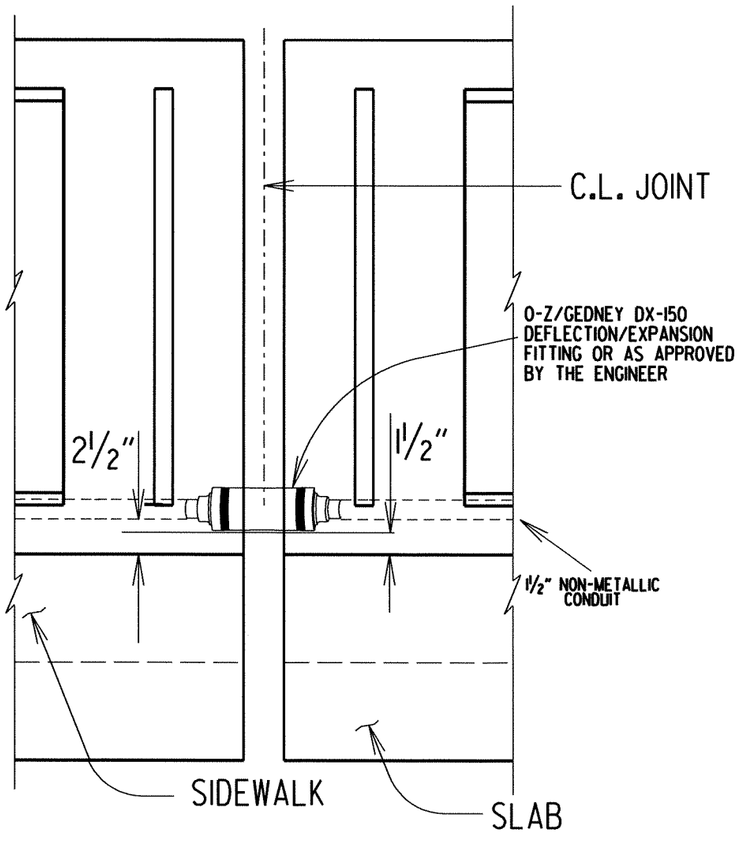
(2) LIGHTING DETAILS



END BENT



WITH
PEDESTAL

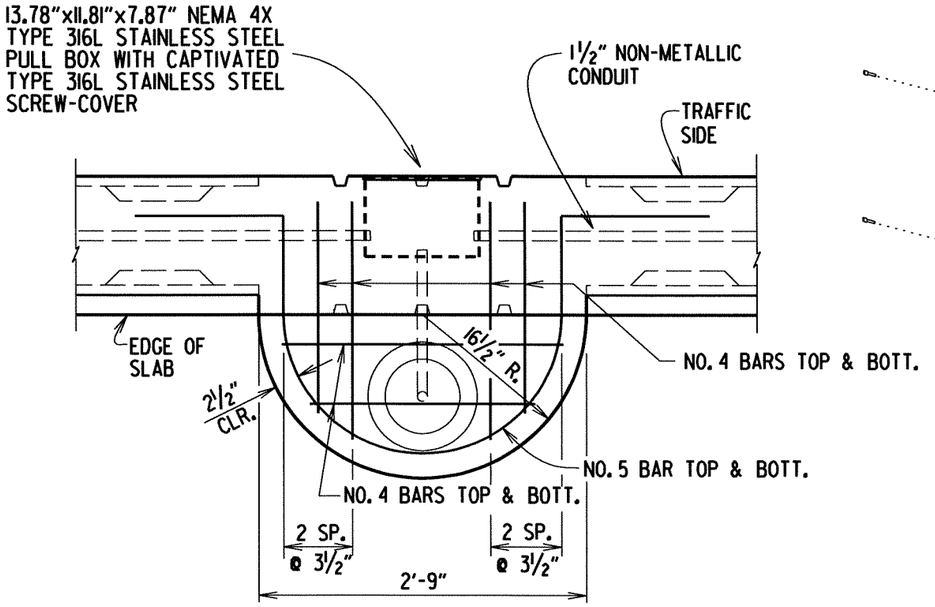


AT EXP. JOINT

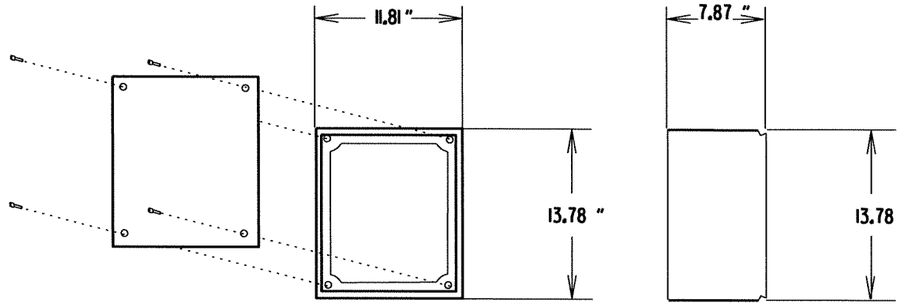
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
10/25/13
J. TONY SULLIVAN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	21	176

LIGHTING DETAILS

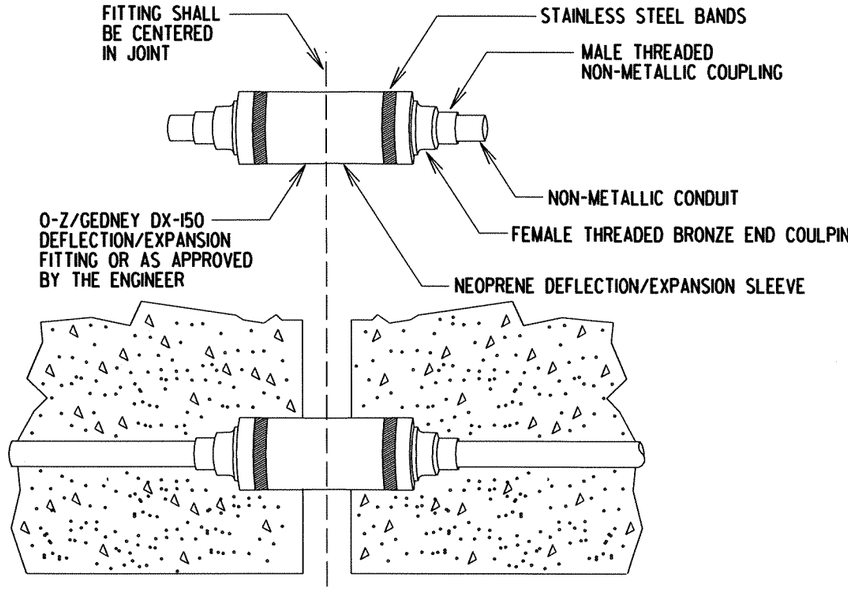


PEDESTAL DETAILS

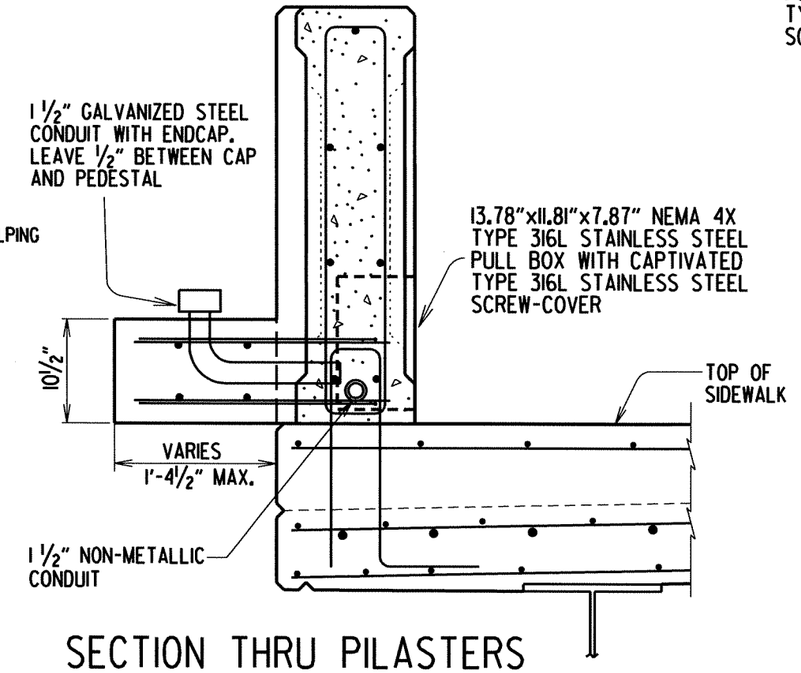


STAINLESS STEEL PULL BOX

NEMA 4X TYPE 316L STAINLESS STEEL

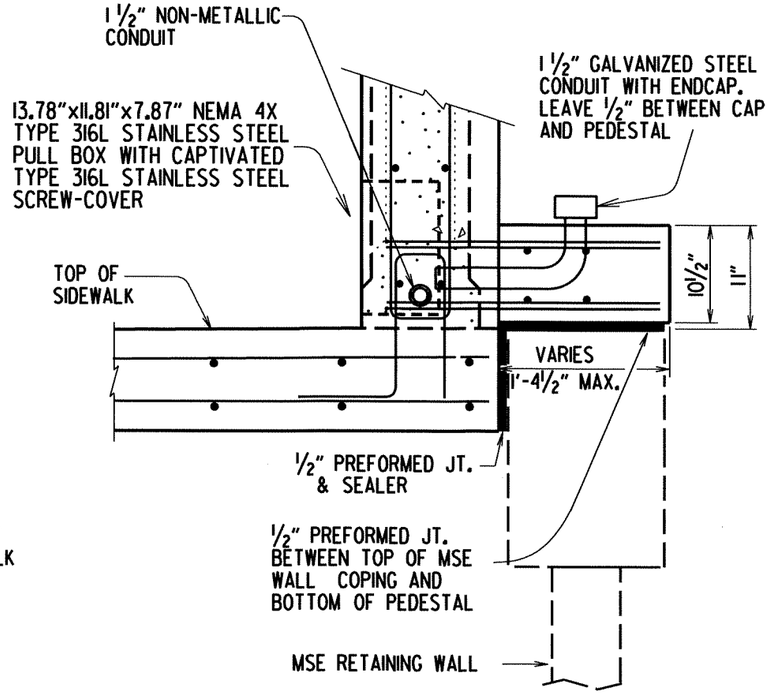


DEFLECTION/EXPANSION FITTING DETAILS



SECTION THRU PILASTERS ON SPANS

SECTION THRU PILASTERS AT CONCRETE BARRIER WALL



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
10/25/13
J. TONY SULLIVAN

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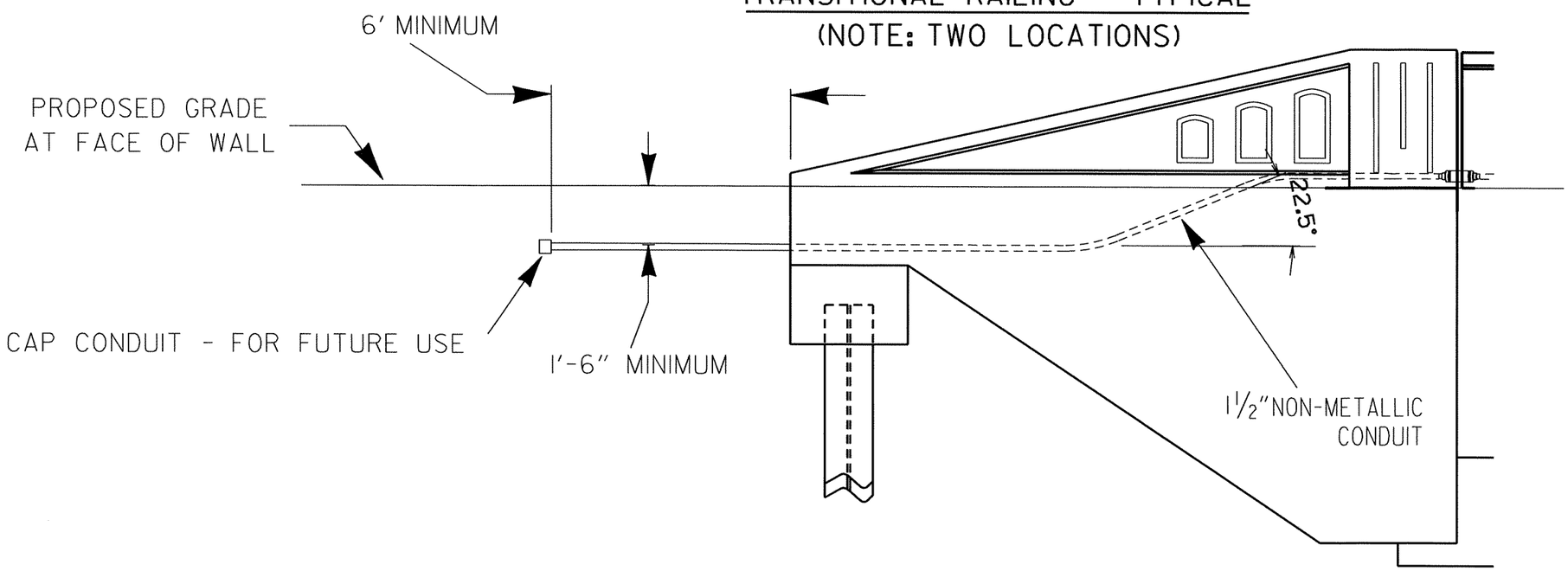
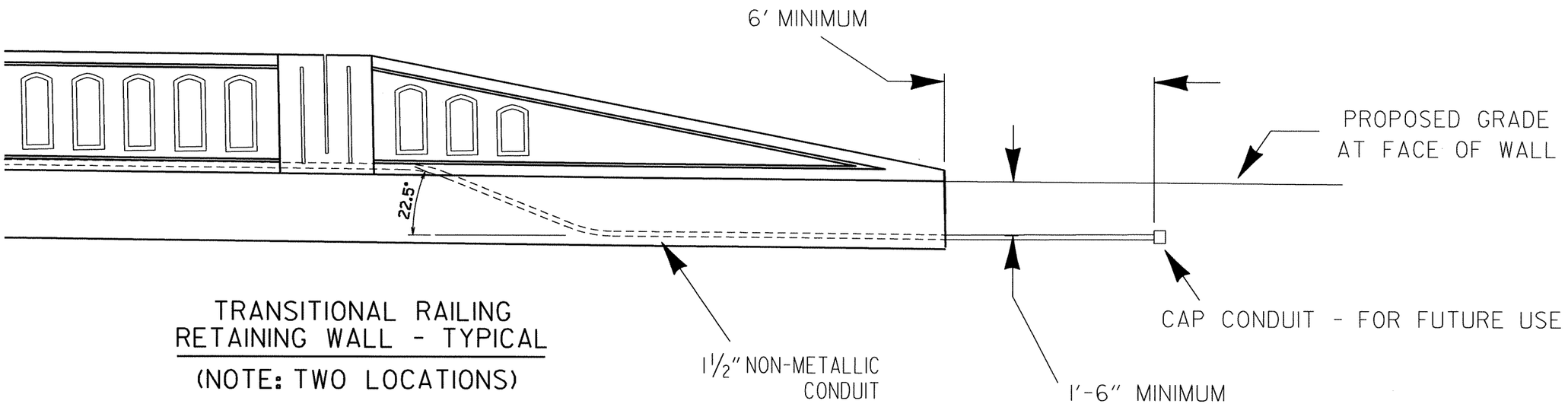
				6	ARK.			
				JOB NO.		030388	22	126
				(2) LIGHTING DETAILS				

TRANSITIONAL RAILING - TYPICAL
(NOTE: TWO LOCATIONS)





TRANSITIONAL RAILING
RETAINING WALL - TYPICAL
(NOTE: TWO LOCATIONS)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
10/25/13
L. TONY SULLIVAN

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				6	ARK.			
				JOB NO.		030388	23	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-7-13

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER
									RIGHT	LEFT	
			LIN. FT. - EACH			NO.	SQ. FT.	EACH	LIN. FT.		
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	32.0				
W20-1	ROAD WORK AHEAD	48"x48"	11	11	11	11	176.0				
W20-2	DETOUR AHEAD	48"X48"	1	2	2	2	32.0				
W20-3	ROAD CLOSED AHEAD	48"X48"		1	1	1	16.0				
G20-2	END ROAD WORK	48"x24"	13	13	13	13	104.0				
D3-1	BROAD ST./ HICKORY ST.	24"X12"	2	4	4	4	8.0				
M3-1	CARDINAL DIRECTION	24"X12"		3	3	3	6.0				
M4-10L	DETOUR W/ ARROW	48"X18"		1	1	1	6.0				
M5-1L	ADVANCE TURN ARROW	21"X15"	1	3	3	3	6.6				
M5-1R	ADVANCE TURN ARROW	21"X15"	1	1	1	1	2.2				
OM-3L	OBJECT MARKER	12"x36"		3	3	3	9.0				
OM-3R	OBJECT MARKER	12"x36"		4	4	4	12.0				
R11-2	ROAD CLOSED	48"x30"	6	3	6	6	60.0				
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"X30"	1	1	1	1	12.5				
R4-1	DO NOT PASS	24"x30"	2	2	2	2	10.0				
W4-2L	LANE ENDS	36"x36"	3	1	3	3	48.0				
W4-2R	LANE ENDS	36"x36"		1	1	1	16.0				
	TRAFFIC DRUMS		99	126	126	126		126			
	TYPE III BARRICADE-RT. (8')		1		1	1			8		
	TYPE III BARRICADE-LT. (8')										
	TYPE III BARRICADE-RT. (16')		4	5	5	5			80		
	TYPE III BARRICADE-LT. (16')		5	3	5	5				80	
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			766	766						766
TOTALS:						620.3		126	88	80	766

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

CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATION	
102+00	103+00	1	1
105+00	106+00	1	1
107+00	110+00	3	3
114+00	115+00	1	1
TOTALS:		6	6

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	TEMPORARY PAVEMENT MARKINGS				PERMANENT PAVEMENT MARKINGS							
				REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS				REFLECTORIZED PAINT PAVEMENT MARKINGS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	
								TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	BIKE EMBLEMS	10" WHITE	4" WHITE	4" YELLOW
	LIN. FT. - EACH			LIN. FT.				EACH		LIN. FT.			EACH	LIN. FT.	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	3425			3425												
CONSTRUCTION PAVEMENT MARKINGS	7000	7860			14860											
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		3200	2925			6125										
REMOVABLE CONSTRUCTION PAVEMENTT MARKINGS	500	2840					3340									
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			49					49								
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			25						25							
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")			4091							4091						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")			351									351				
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")			3735								3735					
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (10")			312											312		
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")			293												293	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")			1170													1170
THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)			8										8			
TOTALS:				3425	14860	6125	3340	49	25	4091	3735	351	8	312	293	1170

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

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				6	ARK.			
				JOB NO.		030388	24	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1	246	25281	
ENTIRE	PROJECT	STAGE 2	2707	2516	
ENTIRE	PROJECT	APPROACHES	20	80	
104+25	107+85	OBLITERATION AREA	112	112	
114+00	115+20	OBLITERATION AREA	40	40	
ENTIRE	PROJECT	BRIDGE	9250		
ENTIRE	PROJECT	RETAINING WALLS UNDERCUT	2899	2899	
* ENTIRE PROJECT TO BE USED IF AND					100
WHERE DIRECTED BY THE ENGINEER					
TOTALS:			**15274**	**30928**	**100**

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.
COMPACTED EMBANKMENT QUANTITY FOR RETAINNG WALLS INCLUDES THE DRAINAGE FILL MATERIAL (CLASS 3) AND THE SELECT GRANULAR BACKFILL MATERIALS SPECIFIED FOR THE REINFORCEMENT ZONE.
FOR MATERIAL REQUIREMENTS, SEE SP JOB 030388 "RETAINING WALLS".

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
107+09.18	BRIDGE END ON RT.	1

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

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
		FEET				
120+00	33'RT	0-5	ND	NP	A-2-4(0)	GRAY
120+00	18'RT	0-5	ND	NP	A-2-4(0)	GRAY
120+00	33'RT	0-5	ND	NP	A-2-4(0)	GRAY
135+00	17'LT	0-5	41	25	A-7-6(5)	RED
135+00	27'LT	0-5	19	4	A-4(0)	RED

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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS
			LIN. FT.
* ENTIRE PROJECT TO BE USED IF AND			1000
WHERE DIRECTED BY THE ENGINEER			
TOTAL:			**1000**

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

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	DROP INLET	PIPE CULVERT	CURB AND GUTTER	CONCRETE PAVEMENT	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	WALKS	SIGN FOUNDATIONS	LUMINAIRE POLE AND FOUNDATION	RETAINING WALLS	SIGNS
			EACH	EACH	LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	EACH	EACH	LIN. FT.	EACH
101+05		D.I. W/ 18"X34" C.M. PIPE ON RT.	1	1									
99+80	107+84	CURB & GUTTER W/ WALK ON RT.			834				261				
99+75	107+84	CURB & GUTTER W/ WALK ON LT.			859				295				
104+25	107+85	CONCRETE PAVEMENT				338							
112+64	114+10	CONCRETE ITEMS UNDER BRIDGE						1243	138				
114+00	115+39	RETAINING WALL ON RT.										132	
114+01	115+35	RETAINING WALL ON LT.										133	
114+26		SIGN FOUNDATION ON LT.								1			
114+00	115+20	CONCRETE PAVEMENT				119							
114+00	115+75	CURB & GUTTER W/ WALK ON LT.			264				58				
115+72		SIGN ON RT.											1
115+83	116+03	ISLAND LT & RT.					31						
115+44		CONCRETE ON LT.				9							
115+30	115+54	CONCRETE DRIVE ON LT						167					
116+11	119+56	CURB & GUTTER ON LT.			446								
116+31.32		SIGN AND SIGN FOUNDATION ON LT.								1			1
116+32		LUMINAIRE POLE AND FOUNDATION ON LT.									1		
117+72		SIGN FOUNDATION ON LT.								1			
117+76	119+56	WALK ON LT.							89				
117+80		LUMINAIRE POLE AND FOUNDATION ON LT.									1		
116+11	117+75	CONCRETE DRIVE ON LT.						102					
117+75	118+70	CONCRETE DRIVE ON LT.						94					
118+80	119+14	CONCRETE PAVEMENT ON LT.											
117+75	119+25	CONCRETE PAVEMENT ON LT.				122							
114+00	115+87	CURB & GUTTER W/ WALK ON RT.			219				62				
115+16	115+61	CONC. PVMT. ON RT. BEHIND BR. RAIL				70							
115+89	116+06	ISLAND ON RT.					20						
116+30	119+35	CURB & GUTTER W/ WALK ON RT.			368				128				
116+25	119+35	CONCRETE PAVEMENT ON RT.				422							
119+17		CONCRETE DRIVE ON RT.						28					
200+32	202+30	CURB & GUTTER W/ WALK ON LT.			196				36				
201+57		CONCRETE DRIVE ON LT.						21					
200+32	201+47	CONCRETE PAVEMENT ON LT.				79							
200+32	202+12	CURB & GUTTER W/ WALK ON RT.			180				31				
201+67	202+12	CONCRETE PAVEMENT ON RT.				83							
301+10	303+00	CURB & GUTTER W/ WALK ON LT.			200				10				
301+10	303+00	CURB & GUTTER W/ WALK ON RT.			176				60				
301+33		CONCRETE DRIVE ON RT.						30					
TOTALS:			**1**	**1**	**3742**	**1242**	**51**	**1685**	**1168**	**3**	**2**	**265**	**2**

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
113+89	114+61	FENCE ON LT	121
115+30	115+58	FENCE ON RT	26
301+18	301+62	FENCE ON LT.	42
TOTAL:			**189**

FENCING

STATION	STATION	SIDE	* 4' CHAIN LINK FENCE	* 6' CHAIN LINK FENCE
			LIN. FT.	
301+18	301+62	LT.		50
302+20		LT.	10	
TOTALS:			**10**	**50**

* DENOTES ALTERNATE BID ITEM.

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				6	ARK.			
				JOB NO.		030388	25	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TIMOTHY D. SMITH
11-1-13

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL										
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SLOPE DRAIN (E-12) PIPE FOR SLOPE DRAINS	SLOPE DRAIN (E-12) DUMPED RIPRAP	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	LIN. FT.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	MAIN LANES	1.41	2.82	1.41	149.2	1.41	425	5.30	5.30	108.1								
112+61	115+49	WALK LT. OF LT. RETAINING WALL (TO BROAD ST.)				1.7		133											
202+32	202+91	THIRD ST. LT.	0.07	0.14	0.07	8.2	0.07	86											
300+28	303+00	THIRD ST. RT.	0.06	0.12	0.06	7.3	0.06	91											
ENTIRE	PROJECT	STAGE 1										44	375	1645					75
ENTIRE	PROJECT	STAGE 2										44	300	1810					78
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.									0.50	0.50	10.2	44		500	400	10	300	300	319
TOTALS:			**1.54**	**3.08**	**1.54**	**166.4**	**1.54**	**735**	**5.80**	**5.80**	**118.3**	**132**	**675**	**3955**	**400**	**10**	**300**	**300**	**472**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
DROP INLET SILT FENCE .....25 LIN. FT./ PER DROP INLET
NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

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

CONCRETE ITEMS

STATION	STATION	LOCATION	CONC. COMB. CURB & GUTTER TYPE A (1' 6")	CONCRETE WALKS	CONCRETE ISLAND	WHEELCHAIR RAMPS	
						TYPE 3	TYPE 4
			LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	
99+82	107+09	LT. OF MAIN LANES	758	394			
100+12		LT. OF MAIN LANES				6.7	
112+61	115+49	LT. OF LT. RETAINING WALL (TO BROAD ST.)		185			
112+94	115+75	LT. OF MAIN LANES	337	126			
115+56		LT. OF MAIN LANES				7.7	
115+66	116+15	LT. OF MAIN LANES			100		
115+80		LT. OF MAIN LANES (ON ISLAND)					8.9
115+96		LT. OF MAIN LANES (ON ISLAND)					8.9
116+09	119+57	LT. OF MAIN LANES	398	128			
99+79	107+09	RT. OF MAIN LANES	766	381			
100+10		RT. OF MAIN LANES				5.6	
112+94	115+87	RT. OF MAIN LANES	300	120			
115+59		RT. OF MAIN LANES				12.1	
115+68	116+39	RT. OF MAIN LANES			162		
115+90		RT. OF MAIN LANES (ON ISLAND)					8.9
116+17		RT. OF MAIN LANES (ON ISLAND)					8.9
116+31	119+35	RT. OF MAIN LANES	359	137			
116+49		RT. OF MAIN LANES				12.1	
200+30	202+00	LT. & RT. OF THIRD ST. (LT.)	365	123			
301+10	303+00	LT. & RT. OF THIRD ST. (RT.)	368	178			
TOTALS:			**3651**	**1772**	**262**	**44.2**	**35.6**

CONCRETE DITCH PAVING

STATION	STATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
		LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
101+05	RT. OF MAIN LANES	19.00	6.83	14.42	8.44	0.11
101+05	LT OF MAIN LANES	23.00	6.83	17.45	10.22	0.13
TOTALS:				**31.87**	**18.66**	**0.24**

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	10	20
DIRECTED BY THE ENGINEER		
TOTALS:	**10**	**20**

BASIS OF ESTIMATE:
ASPHALT..... 25 TONS / MILE
TACK COAT..... 50 GAL. / MILE

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	10
DIRECTED BY THE ENGINEER	
TOTAL:	**10**

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	200
ENGINEER	
TOTAL:	**200**

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

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				6	ARK.			
				JOB NO.		030388	26	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)	FLARED END SECTIONS FOR R.C. PIPE CULVERTS	SIDE DRAIN	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2				DROP INLETS				JUNCT. BOX	YARD DRAIN	SOLID SODDING	WATER	STD. DWG. NOS.
					CLASS III		CLASS IV	CLASS V	TYPE		EXT.						
		18"	18"	12"	18"	24"	18"	24"	C	MO	4'	8'	(TYPE ST)				
		LIN. FT.	EACH	LIN. FT.					EACH						SQ.YD.	M.GAL	
101+05	CONST. D.I. LT. W/ EXT. & PIPE OUTLET W/ F.E.S.	12	1							1	1				5	0.06	PCC-1, FES-1, FES-2, FPC-9E, FPC-9M,
101+05	CONST. D.I. RT. W/ EXT. & PIPE OUTLET W/ F.E.S.	12	1							1	1				5	0.06	PCC-1, PCM-1, FPC-9E, FPC-9M
103+00	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				190					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
103+00	CONST. D.I. RT. W/ EXT. & PIPE OUTLET				192					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
105+00	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				193					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
105+00	CONST. D.I. RT. W/ EXT. & PIPE OUTLET				199					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
107+00	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				200					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
107+00	CONST. D.I. RT. W/ EXT. & PIPE OUTLET				191					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
114+35	CONST. D.I. RT. W/ EXT. & PIPE OUTLET				59				1			1					PCC-1, PCM-1, FPC-9E, FPC-9M
114+36	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				64				1			1					PCC-1, PCM-1, FPC-9E, FPC-9M
115+00	CONST. D.I. LT. W/ PIPE OUTLET				93					1							PCC-1, PCM-1, FPC-9E, FPC-9M
115+00	CONST. D.I. RT. W/ PIPE OUTLET				106					1							PCC-1, PCM-1, FPC-9E, FPC-9M
116+74	CONST. D.I. LT. W/ PIPE OUTLET				87					1							PCC-1, PCM-1, FPC-9E, FPC-9M
116+74	CONST. D.I. RT. W/ PIPE OUTLET				74					1							PCC-1, PCM-1, FPC-9E, FPC-9M
117+25	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				46					1	1						PCC-1, PCM-1, FPC-9E, FPC-9M
117+65	CONST. D.I. RT. W/ EXT. & PIPE OUTLET				88					1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
200+50	CONST. D.I. RT. W/ PIPE OUTLET					60				1							PCC-1, PCM-1, FPC-9E, FPC-9M
201+44	CONST. D.I. RT. W/ EXT. & PIPE OUTLET					90				1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
201+82	CONST. D.I. LT. W/ O.I.B. & PIPE OUTLET.							54		1							PCC-1, PCM-1, FPC-9E, FPC-9M
202+23	CONST. D.I. RT. W/ PIPE OUTLET				74					1							PCC-1, PCM-1, FPC-9E, FPC-9M
202+27	CONST. D.I. LT. W/ PIPE OUTLET				41					1							PCC-1, PCM-1, FPC-9E, FPC-9M
301+10	CONST. D.I. LT. W/ EXT. & PIPE OUTLET				76					1	1						PCC-1, PCM-1, FPC-9E, FPC-9M
301+10	CONST. D.I. RT. W/ EXT. & PIPE OUTLET						42			1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
301+90	CONST. D.I. LT. W/ O.I.B., EXT. & PIPE OUTLET					102				1		1					PCC-1, PCM-1, FPC-9E, FPC-9M
302+90	CONST. D.I. LT. W/ O.I.B., EXT. & PIPE OUTLET					55				1	1						PCC-1, PCM-1, FPC-9E, FPC-9M
14+00	CONST. D.I. RT. OF BROAD ST. W/ EXT. & PIPE OUTLET					32				1	1						PCC-1, PCM-1, FPC-9E, FPC-9M
14+07	CONST. JCT. BOX RT. OF BOARD ST.												1				FPC-9S
14+20	CONST. PIPE OUTLET TO RT.					16											PCC-1, PCM-1
ENITRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER				500										5			PCC-1, PCM-1, FPC-9
TOTALS:		**24**	**2**	**500**	**1973**	**355**	**42**	**54**	**2**	**24**	**6**	**12**	**1**	**5**	**10**	**0.12**	

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

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

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	TACK COAT			PORTLAND CEMENT CONCRETE BASE		ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	5" U.T.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET	FEET				FEET	SQ.YD.	FEET			TON	FEET			TON	FEET			TON
99+82	100+52	MAIN LANES - NOTCH AND WIDEN	70.0	VAR.	647.0	0.03	19.4			VAR.	106.0	550.0	29.2	VAR.	86.2	330.0	14.2	VAR.	560.8	220.0	61.7
100+52	102+62	MAIN LANES - NOTCH AND WIDEN	210.0	80.0	1866.7	0.03	56.0			17.0	396.7	550.0	109.1	12.0	280.0	330.0	46.2	68.0	1586.7	220.0	174.5
102+62	104+00	MAIN LANES - NOTCH AND WIDEN	138.0	VAR.	1117.7	0.03	33.5	VAR.	82.5	VAR.	166.4	550.0	45.8	VAR.	129.2	330.0	21.3	VAR.	988.5	220.0	108.7
104+00	107+09.13	MAIN LANES - FULL DEPTH	309.1	168.0	5769.9	0.03	173.1			61.0	2095.0	550.0	576.1	56.0	1923.3	330.0	317.3	112.0	3846.6	220.0	423.1
112+94.27	117+56	MAIN LANES - FULL DEPTH	461.7	168.0	8618.4	0.03	258.6			61.0	3129.3	550.0	860.6	56.0	2872.8	330.0	474.0	112.0	5745.6	220.0	632.0
117+56	118+66	MAIN LANES - NOTCH AND WIDEN	110.0	VAR.	821.8	0.03	24.7	VAR.	46.8	VAR.	100.2	550.0	27.6	VAR.	68.7	330.0	11.3	VAR.	753.1	220.0	82.8
118+66	119+57	MAIN LANES - NOTCH AND WIDEN	91.0	56.0	566.2	0.03	17.0	VAR.	131.5									56.0	566.2	220.0	62.3
200+32	202+00	E. 3RD ST. (LT.) - FULL DEPTH	168.0	108.0	2016.0	0.03	60.5			41.0	765.3	550.0	210.5	36.0	672.0	330.0	110.9	72.0	1344.0	220.0	147.8
202+00	202+91	E. 3RD ST. (LT.) RADIUS - FULL DEPTH	91.0	VAR.	1578.3	0.03	47.3			VAR.	636.8	550.0	175.1	VAR.	526.1	330.0	86.8	VAR.	1052.2	220.0	115.7
300+28	301+17	E. 3RD ST. (RT.) RADIUS - FULL DEPTH	89.0	VAR.	1696.8	0.03	50.9			VAR.	690.3	550.0	189.8	VAR.	565.6	330.0	93.3	VAR.	1131.2	220.0	124.4
301+17	303+00	E. 3RD ST. (RT.) - FULL DEPTH	183.0	108.0	2196.0	0.03	65.9			41.0	833.7	550.0	229.3	36.0	732.0	330.0	120.8	72.0	1464.0	220.0	161.0
ADDITIONAL FOR LEVELING																					
99+82	104+00	MAIN LANES	418.0	VAR.	2176.3	0.10	217.6											VAR.	2176.3	220.0	239.4
103+00	104+00	MAIN LANES (GRADE RAISE)	100.0	44.0	488.9	0.03	14.7			44.0	488.9	VAR.	161.0								
117+56	119+57	MAIN LANES	201.0	VAR.	1111.6	0.10	111.2											VAR.	1111.6	220.0	122.3
117+56	118+50	MAIN LANES (GRADE RAISE)	94.0	48.1	502.4	0.03	15.1			48.1	502.4	VAR.	511.9								
TOTALS:					**31174.0**		**1165.5**		**260.8**		**9911.0**		**3126.0**		**7855.9**		**1296.1**		**22326.8**		**2455.7**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96% MIN. AGGR.....4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

8/19/2013

R030388.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	27	126

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

EROSION CONTROL MATTING

STATION	LOCATION	LENGTH	CLASS 3
		LIN. FT.	SQ. YD.
101+05	LEFT OF MAIN LANES	20.00	17.78
101+05	RIGHT OF MAIN LANES	20.00	17.78
TOTALS:		40.00	35.56

NOTE: AVERAGE WIDTH = 8'-0"
NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
99+82	101+00	MAIN LANES	46	603.11
118+57	119+57	MAIN LANES	48	533.33
TOTAL:				1136.44

NOTE: AVERAGE MILLING DEPTH 1".

DRIVEWAYS & TURNOUTS

STATION	SIDE	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)
		FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON
117+56	LT.	28	117+28	117+84	85.40			
117+93	RT.	26	117+66	118+20	33.80	31.8	3.5	13.0
118+17	LT.	40	117+83	118+51	77.30			
118+60	RT.	16	118+38	118+82	32.00			
119+05	LT.	26	118+78	119+32	62.70			
119+20	RT.	18	118+97	119+43	46.70			
200+50	LT.	24	200+24	200+76	32.00	50.7	5.6	20.7
200+95	RT.	40	200+61	201+29	46.20	84.4	9.3	34.5
201+59	LT.	16	201+37	201+81	24.90	12.4	1.4	5.1
301+30	RT.	16	301+08	301+52	24.90	53.3	5.9	21.8
302+07	LT.	16	301+85	302+29	24.90	33.8	3.7	13.8
* ENTIRE PROJECT TEMPORARY DRIVES								100.0
TOTALS:					490.80	266.4	29.4	208.9

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

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

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

RETAINING WALLS

STATION	STATION	LOCATION	CONCRETE BARRIER WALL (PARAPET TYPE A)	RETAINING WALL	TEXTURED COATING FINISH
			LIN. FT.	SQ.FT.	SQ.YD.
112+76	114+96.49	WALL "A"		4163	450
112+76		WALL "B"		1102	117
112+76	114+96.49	WALL "C"		4413	473
112+95.85	114+96.49	LEFT AND RIGHT OF MAIN LANES	403.20		733
TOTALS:			403.20	9678	1773

8/19/2013

R030388.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
11-26-13			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		-	
JOB NO.		030388	28	126
① 07249 -		QUANTITIES		- 54721

SCHEDULE OF BRIDGE QUANTITES - JOB 030388

BRIDGE NO. 07249
CODE NO. X571
NAME PLATE TITLE: UNION PACIFIC RAILROAD

UNIT OF STRUCTURE	ITEM NO.	SP & 205	801	SP & 802	SP & 802	803	SS & 804	SS & 804	805	805	SP & 807	SP & 807	808
	ITEM	② REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	① STEEL PILING (HP 12X53)	① TEST PILE (HP 12X53)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GRADE 50W)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GRADE HPS 70W)	ELASTOMERIC BEARINGS
	UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LB.	LB.	CU. IN.
END BENT 1			88	79.20		0.1	7,220		550	60	1,459		2,337.7
INT. BENT 2				142.40			22,650				865		8,959.5
INT. BENT 3				305.10			43,920				792		11,016.0
INT. BENT 4				296.10			41,940				792		11,016.0
END BENT 5				70.60		0.1	7,070	30	550	60	2,044		6,626.8
85' SIMPLE SPAN PLATE GIRDER					186.90	12.4		30,987			167,895		
498' CONT. COMP. PLATE GIRDER UNIT					1,101.60	78.4		230,513			~~1,560,253~~ ⚠ 1,535,833	~~36,590~~ ⚠ 329,300	
EXISTING BR. NO. 02020 (SITE NO. 1)		1									⚠ 1,709,680	⚠ 329,300	
TOTALS FOR JOB NO. 030388			88	893.40	1,288.50	91.0	122,800	261,530	1,100	120	~~1,734,100~~	~~36,590~~	39,956

⚠ Rev'd Structural Steel Qtys., SWP 11-26-13, Chk'd. By: TMG Date: 11/26/13

BRIDGE NO. 07249
CODE NO. X571
NAME PLATE TITLE: UNION PACIFIC RAILROAD

UNIT OF STRUCTURE	ITEM NO.	812	816	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388	SP JOB 030388
	ITEM	BRIDGE NAME PLATE (TYPE D)	CONCRETE RIPRAP	SHORING	SILICONE JOINT SEALANT	③ ARMORED JOINT WITH NEOPRENE STRIP SEAL	DRILLED SHAFT (96" DIA.)	PERMANENT STEEL CASING (96" DIA.)	CROSSHOLE SONIC LOGGING (96" DIA.)	CORING DRILLED SHAFT	TEXTURED COATING FINISH	ORNAMENTAL FENCE	CONCRETE BRIDGE RAILING (TYPE D)
	UNIT	EACH	CU. YD.	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	SQ. YD.	LIN. FT.	LIN. FT.
END BENT 1		1	74	0.5	73								42
INT. BENT 2						73	285	155	5	57			
INT. BENT 3							280	125	5	56			
INT. BENT 4							260	185	5	52			
END BENT 5			17	0.5		73							3
85' SIMPLE SPAN PLATE GIRDER											215		170
498' CONT. COMP. PLATE GIRDER UNIT											1,257	608	996
EXISTING BR. NO. 02020 (SITE NO. 1)													
TOTALS FOR JOB NO. 030388		1	91	1	73	146 ③	825	465	15	165	1,472	608	1211

① All piling to be AASHTO M270, Gr. 50.

② This item includes the removal of existing stair and abutment wall, removal and salvage of some existing railing, and the removal of some concrete piles at Bent No. 4 as necessary.

③ This item includes a temporary seal for Stage I Construction and a full width final seal. See Dwg. No. 54750 for details.

JIM TRIBO
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
CARL F. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
11/26/13
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE 71 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TMG DATE: 7/9/2013 FILENAME: b030388x1_qi.dgn
CHECKED BY: SWP DATE: 10/8/13 SCALE: NONE
DESIGNED BY: ____ DATE: ____

BRIDGE NO. 07249 DRAWING NO. 54721

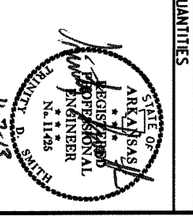
PRINT DATE: 25-NOV-2013

SUMMARY OF QUANTITIES (BOX 1 OF 2)

	ITEM NUMBER	ITEM		QUANTITY	UNIT
	201	CLEARING		6	STATION
	201	GRUBBING		6	STATION
	202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		3742	LIN. FT.
	202	REMOVAL AND DISPOSAL OF FENCE		189	LIN. FT.
	202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		1242	SQ. YD.
	202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		51	SQ. YD.
	202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		1685	SQ. YD.
	202	REMOVAL AND DISPOSAL OF WALKS		1168	SQ. YD.
	202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		3	EACH
	202	REMOVAL AND DISPOSAL OF DROP INLETS		1	EACH
	202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		1	EACH
	202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		2	EACH
	202	REMOVAL AND DISPOSAL OF RETAINING WALLS		265	LIN. FT.
	202	REMOVAL AND DISPOSAL OF SIGNS		2	EACH
	210	UNCLASSIFIED EXCAVATION		15274	CU. YD.
	SP & 210	COMPACTED EMBANKMENT		30928	CU. YD.
	SP & 210	SOIL STABILIZATION		100	TON
	SS & 303	AGGREGATE BASE COURSE (CLASS 7)		209	TON
	309	PORTLAND CEMENT CONCRETE BASE (5" UNIFORM THICKNESS)		261	SQ. YD.
	401	TACK COAT		1186	GAL.
	SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		3001	TON
	SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		125	TON
	SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		1240	TON
	SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		56	TON
	SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		2353	TON
	SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		2	TON
	SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		130	TON
	412	COLD MILLING ASPHALT PAVEMENT		1136	SQ. YD.
	SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		10	TON
	SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		10	TON
	505	PORTLAND CEMENT CONCRETE DRIVEWAY		490.80	SQ. YD.
	601	MOBILIZATION		1.00	LUMP SUM
	SP & 602	FURNISHING FIELD OFFICE		1	EACH
	SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
	SS & 604	SIGNS		620	SQ. FT.
	SS & 604	BARRICADES		168	LIN. FT.
	SS & 604	TRAFFIC DRUMS		126	EACH
	SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		766	LIN. FT.
	SS & 604	CONSTRUCTION PAVEMENT MARKINGS		14860	LIN. FT.
	604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		3340	LIN. FT.
	604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		6125	LIN. FT.
	604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		3425	LIN. FT.
	605	CONCRETE DITCH PAVING (TYPE B)		32	SQ. YD.
	SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		24	LIN. FT.
*	SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1973	LIN. FT.
*	606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1973	LIN. FT.
*	SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	(ALTERNATE NO. 1)	42	LIN. FT.
*	606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	42	LIN. FT.
*	SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	355	LIN. FT.
*	606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	355	LIN. FT.
*	SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	(ALTERNATE NO. 1)	54	LIN. FT.
*	606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	54	LIN. FT.
	SS & 606	12" SIDE DRAIN		500	LIN. FT.
	606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
	606	SELECTED PIPE BEDDING		200	CU. YD.
	609	DROP INLETS (TYPE C)		2	EACH
	609	DROP INLETS (TYPE MO)		24	EACH
	609	JUNCTION BOXES (TYPE ST)		1	EACH
	609	DROP INLET EXTENSIONS (4')		6	EACH
	609	DROP INLET EXTENSIONS (8')		12	EACH
	609	YARD DRAINS		5	EACH
	611	4" PIPE UNDERDRAINS		1000	LIN. FT.
*	619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	10	LIN. FT.
*	619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	10	LIN. FT.
*	619	6' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	50	LIN. FT.
*	619	6' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	50	LIN. FT.
	620	LIME		3	TON
	620	SEEDING		1.54	ACRE
	SS & 620	MULCH COVER		7.34	ACRE
	SS & 620	WATER		285.1	M.GAL.
	621	TEMPORARY SEEDING		5.80	ACRE
	621	SILT FENCE		3955	LIN. FT.
	621	SAND BAG DITCH CHECKS		132	BAG
	621	DROP INLET SILT FENCE		675	LIN. FT.
	621	SEDIMENT BASIN		300	CU. YD.
	621	OBLITERATION OF SEDIMENT BASIN		300	CU. YD.
	621	SEDIMENT REMOVAL AND DISPOSAL		472	CU. YD.
	621	PIPE FOR SLOPE DRAINS		400	LIN. FT.
	623	SECOND SEEDING APPLICATION		1.54	ACRE
	624	SOLID SODDING		764	SQ. YD.
	626	EROSION CONTROL MATTING (CLASS 3)		36	SQ. YD.
	631	CONCRETE BARRIER WALL (PARAPET TYPE A)		403	LIN. FT.
	632	CONCRETE ISLAND		262	SQ. YD.
	633	CONCRETE WALKS		1772	SQ. YD.
	634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		3651	LIN. FT.
	635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
	641	WHEELCHAIR RAMPS (TYPE 3)		44	SQ. YD.
	641	WHEELCHAIR RAMPS (TYPE 4)		36	SQ. YD.
	709	GALVANIZED STEEL CONDUIT (1.5")		45	LIN. FT.
	710	NON-METALLIC CONDUIT (1.5")		1790	LIN. FT.
	SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")		312	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		4091	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")		351	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		3735	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)		8	EACH
*	SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	293	LIN. FT.
*	SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	293	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	1170	LIN. FT.
*	SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	1170	LIN. FT.
	721	RAISED PAVEMENT MARKERS (TYPE II)		74	EACH
	816	DUMPED RIPRAP		10	CU. YD.
	SP	RETAINING WALL		9678	SQ. FT.
	SP	TEXTURED COATING FINISH		1773	SQ. YD.
	SP	NEMA 4X STAINLESS STEEL JUNCTION BOX		16	EACH

*DENOTES ALTERNATE BID ITEMS

SUMMARY OF QUANTITIES



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.
				6

(2) SUMMARY OF QUANTITIES

STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
ARK.		29	126

JOB NO. 030388

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11/26/13				6	ARK.			
				JOB NO.		030388	30	126

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-26-13

SUMMARY OF QUANTITIES (BOX 2 OF 2)

STRUCTURES OVER 20' SPAN			
SP & 205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	88	CU. YD.
SP & 802	CLASS S CONCRETE-BRIDGE	893.40	CU. YD.
SP & 802	CLASS S(AE) CONCRETE-BRIDGE	1288.50	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	91.0	GAL.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	122800	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	261530	POUND
805	STEEL PILING (HP 12X53)	1100	LIN. FT.
805	TEST PILE (HP 12X53)	120	LIN. FT.
SP & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GR50W)	1709680	POUND
SP & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GRHPS70W)	329300	POUND
808	ELASTOMERIC BEARINGS	39956	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
816	CONCRETE RIPRAP	91	CU. YD.
SP	SHORING	1.00	LUMP SUM
SP	SILICONE JOINT SEALANT	73	LIN. FT.
SP	ARMORED JOINT WITH NEOPRENE STRIP SEAL	146	LIN. FT.
SP	DRILLED SHAFT (96" DIAMETER)	825	LIN. FT.
SP	PERMANENT STEEL CASING (96" DIAMETER)	465	LIN. FT.
SP	CROSSHOLE SONIC LOGGING (96" DIAMETER)	15	EACH
SP	CORING DRILLED SHAFT	165	LIN. FT.
SP	TEXTURED COATING FINISH	1472	SQ. YD.
SP	ORNAMENTAL FENCE	608	LIN. FT.
SP	CONCRETE BRIDGE RAILING (TYPE D)	1211	LIN. FT.

REVISIONS

DATE	REVISION	SHEET NUMBER
11/26/2013	REVISED STRUCTURAL STEEL DETAILS & QUANTITIES	28, 30, 63

8/19/2013

R030388.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	31	126

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

SURVEY BASELINE CONTROL COORDINATES

Project Name: s030388
Date: 12/14/2010
Coordinate System: ARKANSAS STATE PLANE -SOUTH ZONE BASED ON GPS CONTROL. PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1593482.72	692900.70	293.24	CTL	*5/8" REBAR W/2" CAP
2	1593961.92	692568.29	299.18	CTL	*5/8" REBAR W/2" CAP
3	1594459.11	692317.79	319.38	CTL	*5/8" REBAR W/2" CAP
4	1595120.66	691903.92	313.51	CTL	*5/8" REBAR W/2" CAP
5	1595415.13	691659.78	322.14	CTL	*5/8" REBAR W/2" CAP
6	1595828.42	691514.89	337.19	CTL	*5/8" REBAR W/2" CAP
7	1594809.55	692098.70	302.01	CTL	*5/8" REBAR W/2" CAP
100	1594700.27	691971.15	301.94	GPS	*AHTD GPS 460041, RTK ELEV
101	1596100.23	693276.75	293.47	GPS	*AHTD GPS 460041A, RTK ELEV
990	1596663.12	692180.58	311.64	BM	*NGS MARK E 307
991	1595933.87	693268.08	304.78	BM	*NGS MARK RV 672

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped *(standard markings common to all caps), or as indicated (other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999590664 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. XXXCTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 460041 - 460041A
CONVERGENCE ANGLE: 01 08 17.44 LEFT AT LT: 33-25-36.6 LG: 094-02-00.9
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

APPROX. MID-POINT
LT: 33-25-34
LG: 094-01-58

C.L. CONST. HWY. 71

POINT NO.	TYPE	STATION	NORTHING	EASTING
8009	POB	88+94.32	1592807.9587	692956.0100
8010	PC	91+14.23	1593027.6786	692965.0571
8012	PT	100+00.00	1593868.2783	692734.1851
8013	PC	102+61.90	1594087.7446	692591.2629
8015	PT	104+31.97	1594221.2612	692486.2892
8016	PC	104+64.66	1594245.0661	692463.8744
8018	PT	106+34.73	1594378.5827	692358.9007
8019	PC	114+44.78	1595057.3821	691916.8488
8021	PT	116+92.03	1595279.6308	691810.0987
8022	PC	116+97.67	1595284.9928	691808.3318
8024	PT	118+60.82	1595434.8430	691744.3133
8025	POE	130+81.38	1596512.2595	691170.7778

C.L. EAST 3RD (LT. OF HWY. 71)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8027	POB	200+00.00	1595041.2693	691562.4687
8028	POE	203+19.14	1595191.3372	691844.1300

C.L. EAST 3RD (RT. OF HWY. 71)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8030	POB	300+00.00	1595198.0105	691841.2007
8031	PC	301+74.46	1595280.2367	691995.0647
8033	PT	304+60.55	1595234.1370	692256.4829
8034	POE	305+98.37	1595131.5274	692348.4769

C.L. BROAD ST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8035	POB	304+91.76	1595210.90	692277.32
8036	PC	305+80.92	1595144.52	692336.83
8038	PT	301+37.61	1595262.87	691962.56
8039	POE	305+95.86	1595133.39	692346.81

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SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	32	126

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

N

95

N 2°21'28" E
219.90'

P1 95+71.79

PN:1
PD:5/8"REBAR W/2"CAP

SURVEY BASELINE N34°44'55"W
583.23'

STA. 99+82.00 - BEGIN
JOB 030388
LOG MILE 14.39

PT 100+00.00

100

C.L. CONST.
PT 100+00.00

8012
PT. NO. BEGIN

N 33°04' 24" W
261.90'

PC 102+61.90

PN:2
PD:5/8"REBAR W/2"CAP

8013

C.L. CONST.
(HWY. 71/HICKORY ST.)

C.L. CONST. HWY. 71
P.I. = 103+47.16
Δ = 10°12' 14.3" LT.
D = 6°00' 00.0"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

P1 103+47.16

PT 104+31.97

P1 105+49.92

P.I. = 105+49.92
Δ = 10°12' 14.3" RT.
D = 6°00' 00.0"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

P.C.E

105

8015

8016

N 43°16' 38" W
32.70'

PC 104+64.66

SURVEY BASELINE N26°44'25"W
556.75'

110

8018

N 33°04' 24" W
810.05'

N

PT 106+34.73

PN:3
PD:5/8"REBAR W/2"CAP

SURVEY BASELIN
413.3

8/19/2013

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SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	33	126

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

8035 POB10+03.41

N 61°45'44" E 378.08'

C.L. CONST. (BROAD ST.)

8036 PC13+81.49

110 N 33°04'24" W 810.05'

P.I. 200+00.00 8027

N 61°57'05" E 319.14'

EAST 3RD STREET

EAST OF HWY. 71

P.I. 115+69.10

C.L. CONST. HWY. 71
P.I. = 115+69.10
Δ = 14°50'05.2" RT.
D = 6°00'00.0"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER

115

8019

N 33°04'24" W

CONST. LIMITS

8028 8030 300

8021 8022 N 18°14'18" W 5.65'

8024

PC114+44.78

PN:4
PD:5/8"REBAR W/2"CAP

SURVEY BASELINE N32°03'02"W 367.06'

SURVEY BASELINE N38°39'39"W 384.53'

PT116+92.03

PC116+97.67

PT118+60.82

PN:5
PD:5/8"REBAR W/2"CAP

STA. 115+97.36 C.L. CONST. HWY. 71 =
STA. 203+19.14 C.L. 3RD. ST.

STA. 119+57.00 - END
JOB 030388

120 C.L. CONST. (HWY. 71/HICKORY ST.) 125

N 28°01'39" W 1220.56'

PT. NO. END

SURVEY BASELINE N19°19'13"W 437.97'

PN:6
PD:5/8"REBAR W/2"CAP

P.I. 117+79.45
Δ = 9°47'20.6" LT.
D = 6°00'00.0"
T = 81.77'
L = 163.15'
PC = 116+97.67
PT = 118+60.82
NO SUPER

P.I.117+79.45

SURVEY BASELINE N32°00'45"W 413.31'

PN:7
PD:5/8"REBAR W/2"CAP

P.I. 114+71.07

15

8038

PT15+59.72

P.I. = 14+71.07
Δ = 14°15'32.26" LT.
D = 8°00'00.0"
T = 89.58'
L = 178.24'
PC = 13+81.49
PT = 15+59.72
NO SUPER

N 47°30'11" E 482.54'

N 61°52'46" E 174.46'

8031

STA. 116+04.65 C.L. CONST. HWY. 71 =
STA. 300+00.00 C.L. 3RD. ST.

PC301+74.46

PT304+60.55

305

EAST 3RD STREET

WEST OF HWY. 71

P.I.303+43.17

S 41°52'39" E 137.81'

8033

8034 P.I.305+98.37

P.I. = 303+43.17
Δ = 76°14'34" RT.
D = 26°38'57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

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SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	34	126

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

STA. 101+05 - CONSTRUCT
D. I. ON LT. H = 3' 10"
WITH 4' EXTENSION & 18" X 12'
R.C. PIPE STUB OUTLET WITH FES
TY C = 4' X 4'
TY MO = 4' I.D.
CONCRETE DITCH PAVING (TYPE B) = 54 SQ. YD.

STA. 103+00 - CONSTRUCT
D. I. ON LT. H = 3' 11"
WITH 8' EXTENSION AND
18" X 190' PIPE CULVERT
CONNECT TO D. I. @ STA. 101+05 (LT.)
TY C = 4' X 4'
TY MO = 4' I.D.

STA. 105+00 - CONSTRUCT
D. I. ON LT. H = 3' 11"
WITH 8' EXTENSION AND
18" X 193' PIPE CULVERT
CONNECT TO D. I. @ STA. 103+00 (LT.)
TY C = 4' X 4'
TY MO = 4' I.D.

STA. 100+12 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 6.7 SQ. YDS.

STA. 107+00 - CONSTRUCT
D. I. ON LT. H = 3' 8"
WITH 8' EXTENSION AND
18" X 200' PIPE CULVERT
CONNECT TO D. I. @ STA. 105+00 (LT.)
TY C = 4' X 4'
TY MO = 4' I.D.

PI = 103+47.16
Δ = 10° 12' 14" LT.
D = 6° 00' 00"
T = 85.26'
L = 170.07'
PC = 102+61.90
PT = 104+31.97
NO SUPER

STA. 99+82.00
BEGIN JOB 030388
LOG MILE 14.39

PI 100+00.00
PI 102+61.90
PI 104+31.97
PI 105+49.92
PI 195+71.79
PI 103+47.16
PC 104+64.66
PT 106+34.73
BRIDGE END STA. 107+09.13
160.56
180.00
P.C.E.
P.O.T.
40' R
80' R
100' TRANSITION
CONST. LIMITS
EXIST. ROW
BOTTOM OF MANHOLE
C.L. CONST. (HWY. 71/HICKORY ST.)
RT. NO. BEGIN
8012
8013
8015
8016
8018
N 2°21'28" E
N 33°04'24" W
N 43°16'38" W
23'
28'
29'
95
100
101
102
103
104
105
OBLITERATION OF EXIST. PAVEMENT
UNION PACIFIC RAILROAD OVERPASS BRIDGE

PI = 105+49.92
Δ = 10° 12' 14" LT.
D = 6° 00' 00"
T = 85.26'
L = 170.07'
PC = 104+64.66
PT = 106+34.73
NO SUPER

STA. 101+05 - CONSTRUCT
D. I. ON RT. H = 3' 10"
WITH 4' EXTENSION & 18" X 12'
R.C. PIPE STUB OUTLET WITH FES
TY C = 4' X 4'
TY MO = 4' I.D.
CONCRETE DITCH PAVING (TYPE B) = 54 SQ. YD.

STA. 103+00 - CONSTRUCT
D. I. ON RT. H = 3' 11"
WITH 8' EXTENSION AND
18" X 192' PIPE CULVERT
CONNECT TO D. I. @ STA. 101+05 (RT.)
TY C = 4' X 4'
TY MO = 4' I.D.

STA. 100+10 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 5.6 SQ. YDS.

STA. 101+05 IN PLACE
D.I. ON LT.
W/ 18"X34"C.M. PIPE CULVERT
REMOVE

STA. 105+00 - CONSTRUCT
D. I. ON RT. H = 3' 11"
WITH 8' EXTENSION AND
18" x 199' PIPE CULVERT
CONNECT TO D. I. @ STA. 103+00 (RT.)
TY C = 4' X 4'
TY MO = 4' I.D.

STA. 107+00 - CONSTRUCT
D. I. ON RT. H = 3' 8"
WITH 8' EXTENSION AND
18" X 191' PIPE CULVERT
CONNECT TO D. I. @ STA. 105+00 (RT.)
TY C = 4' X 4'
TY MO = 4' I.D.

UNION PACIFIC RAILROAD
OVERPASS BRIDGE

STA. 107+09.13 BRIDGE END
BR. NO. 07249
85'-0" SIMPLE SPAN GIRDER UNIT &
498'-0" CONT. COMP. PLATE
GIRDER UNIT (158', 211', 129')
58'-0" CLEAR ROADWAY
585' 1 3/4" TOTAL LENGTH
STA. 112+94.27 BRIDGE END

STA. 107+85.20 TO STA. 113+99.10 - IN PLACE
617' x 46' BRIDGE CONSISTING OF STEEL
CONTINUOUS STRINGER/GIRDER,
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE
NO. 1) = 1.00 LUMP SUM

HWY. 71 (HICKORY ST.)

8/19/2013

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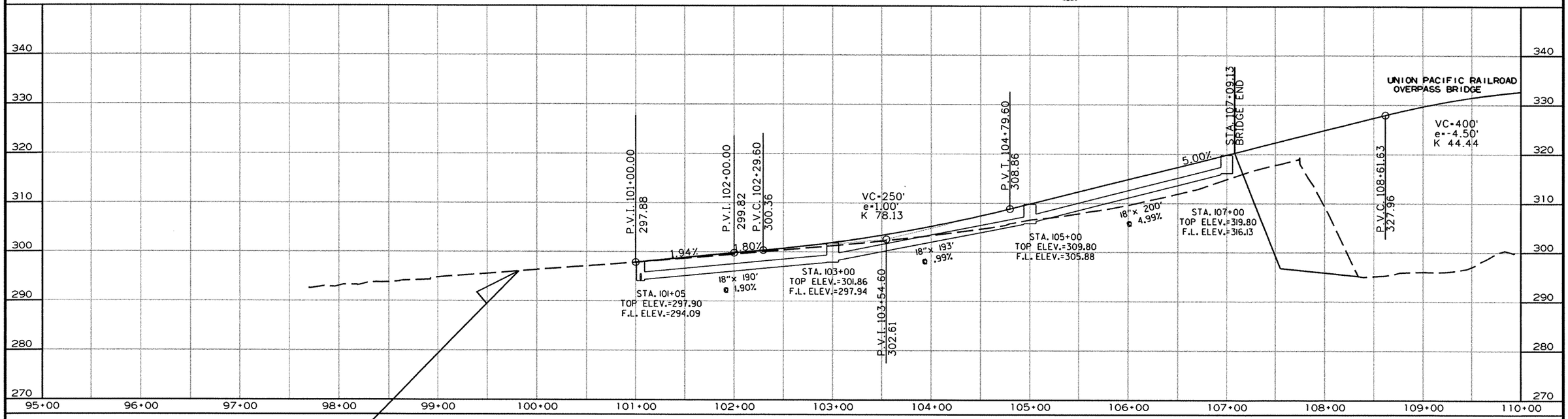
				6	ARK.			
				JOB NO.		030388	35	126

(2) PROFILE SHEET

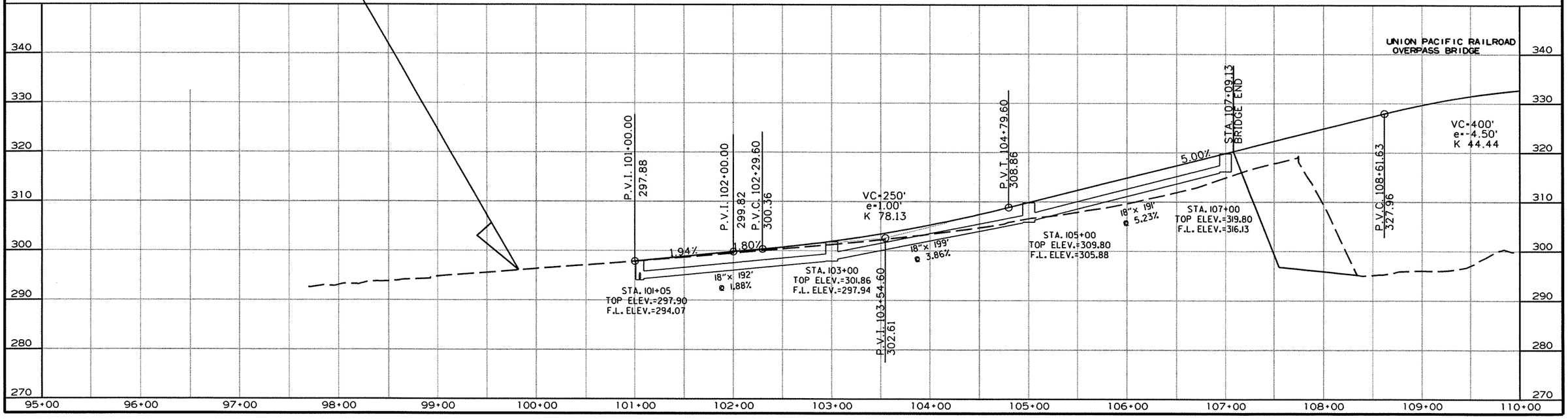
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
11-1-13
TRINITY D. SMITH

LEFT SIDE OF HWY. 71



STA. 99+82.00
BEGIN JOB 030388
LOG MILE 14.39

RIGHT SIDE OF HWY. 71



R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	36	126

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

STA. 114+36 - CONSTRUCT
D. I. ON LT. H = 5'0"
WITH 8' EXTENSION
18" x 64' PIPE OUTLET
CONN. TO D. I. STA. 115+00 (LT.)
TY C = 4' X 4'

STA. 116+74 CONSTRUCT
D. I. ON LT. H = 4'0"
18" X87' PIPE OUTLET
CONN. TO D. I. STA. 202+25 (LT.)
(THIRD ST.)
TY. C = 4' X4'
TY. MO = 4' I.D.

POB 10+03.41

STA. 115+00 CONSTRUCT
D. I. ON LT. H = 6'0"
18" X93' PIPE OUTLET
CONNECT TO D. I. STA. 202+23 (RT.)
(THIRD ST.)
TY C = 4' X4'
TY MO = 4 I.D.

STA. 117+25 - CONSTRUCT
D. I. ON LT. H = 3'8"
WITH 4' EXTENSION
18" X46' PIPE CULVERT OUTLET
CONN. TO D. I. STA. 116+74 (LT.)
TY C = 4' X 4'
TY MO = 4' I.D.

STA. 200+50 (3RD. ST.) - CONSTRUCT
D. I. ON RT. H = 3' 8"
24" X 60' PIPE CULVERT OUTLET
TO EXISTING D. I. ON PECAN ST.
TY C = 4' x 4'
TY MO = 4' I.D.

STA. 201+44 (3RD. ST.) - CONSTRUCT
D. I. ON RT. H = 4' 4"
WITH 8' EXTENSION & 24" X 90'
PIPE CULVERT CONNECT TO D. I. @
STA. 200+50 (3RD. ST.)(RT.)
TY C = 4' x 4'
TY MO = 4' I.D.

STA. 202+27 (3RD ST.)- CONSTRUCT
D. I. ON LT. H = 3'11"
18" X 41' PIPE OUTLET
CONN. TO D. I. STA. 201+82 (3RD ST.)(LT.)
TY. C = 4' X4'
TY. MO = 4' I.D.

STA. 200+95 CONST. APPROACH
ON RT. = 10 CU. YD.

STA. 200+50 CONST. APPROACH
ON LT. = 15 CU. YDS.

STA. 119+05 CONST. APPROACH
ON LT. = 5 CU. YD.

STA. 118+17 CONST. APPROACH
ON LT. = 10 CU. YD.

STA. 117+56 CONST. APPROACH
ON LT. = 10 CU. YD.

STA. 201+82 (3RD. ST.) - CONSTRUCT
D. I. ON LT. H = 4' 10"
WITH OPENING IN BACK
24" X 54" R.C. PIPE CULVERT
CROSS DRAIN CONNECT TO D. I. @
STA. 201+44 (3RD. ST.)(RT.)
TY C = 4' x 4'
TY MO = 4' I.D.

STA. 202+23 (3RD ST.)- CONSTRUCT
D. I. ON RT. H = 3'11"
18" X 74' PIPE OUTLET
CONN. TO D. I. STA. 201+44 (3RD ST.)(RT.)
TY. C = 4' X4'
TY. MO = 4' I.D.

STA. 115+56 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON LT. = 7.7 SQ. YDS.

STA. 115+80 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT. = 8.9 SQ. YDS.

STA. 115+96 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON LT. = 8.9 SQ. YDS.

P.I. 200+00.00

PI = 115+69.10
Δ = 14° 50' 05.2" RT.
D = 6° 00' 00"
T = 124.32'
L = 247.25'
PC = 114+44.78
PT = 116+92.03
NO SUPER

STA. 115+97.36 C.L. CONST. HWY. 71 =
STA. 203+19.14 C.L. 3RD ST.
Δ = 94° 22' 27.84"

STA. 201+59 UNCLASS. EXCAV.
ON LT. = 0 CU. YD.

STA. 114+96.49
END MSE WALL

STA. 112+94.27
BRIDGE END

STA. 112+76.05
BEGIN MSE WALL

PI = 14+71.07
Δ = 14° 15' 32.26" LT.
D = 8° 00' 00"
T = 89.58'
L = 178.24'
PC = 13+81.49
PT = 15+59.72
NO SUPER

OBLITERATION AREA

STA. 18+47.08 C.L. BROAD ST. =
STA. 305+97.97 C.L. 3RD ST.
Δ = 90° 37' 9.12"

STA. 302+07 UNCLASS. EXCAV.
ON LT. = 5 CU. YD.

STA. 115+59 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 12.1 SQ. YDS.

STA. 115+90 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT. = 8.9 SQ. YDS.

STA. 116+17 CONSTRUCT
TYPE 4 WHEELCHAIR RAMP ON RT. = 8.9 SQ. YDS.

STA. 116+04.65 C.L. CONST. HWY. 71 =
STA. 300+00.00 C.L. 3RD ST.
Δ = 84° 54' 1.08"

STA. 117+93 CONST. APPROACH
ON RT. = 5 CU. YD.

STA. 118+60 CONST. APPROACH
ON RT. = 5 CU. YD.

STA. 301+30 CONST. APPROACH
ON RT. = 35 CU. YD.

STA. 114+35 - CONSTRUCT
D. I. ON RT. H = 3' 8"
WITH 8' EXTENSION
18" X 59' PIPE OUTLET
CONN. TO D. I. STA. 115+00 (RT.)
TY C = 4' X 4'

STA. 115+00 CONSTRUCT
D. I. ON RT. H = 3' 11"
18" X106' PIPE OUTLET
CONN. TO D. I. STA. 301+10 (RT.)
(THIRD ST.)
TY. C = 4' X4'
TY. MO = 4' I.D.

P. I. = 303+43.17
Δ = 76° 14' 34" RT.
D = 26° 38' 57"
T = 168.71'
L = 286.10'
P.C. = 301+74.46
P.T. = 304+60.55
NO SUPER

STA. 116+49 CONSTRUCT
TYPE 3 WHEELCHAIR RAMP ON RT. = 12.1 SQ. YDS.

STA. 301+10 (3RD ST.) - CONSTRUCT
D. I. ON RT. H = 4' 2"
W/ 8' EXTENSION
18" X 42' PIPE OUTLET
CONN. TO D. I. STA. 301+10 (3RD ST.)(LT.)
TY. C = 4' X4
TY. MO = 4' I.D.

STA. 301+10 (3RD ST.)- CONSTRUCT
D. I. ON LT. H = 5'0"
WITH 4' EXTENSION
18" X 76' PIPE OUTLET
CONN. TO D. I. STA. 301+90 (LT.)
TY. C = 4' X4'
TY. MO = 4' I.D.

STA. 117+65 CONSTRUCT
D. I. ON RT. H = 3' 8"
WITH 8' EXTENSION
18" X 88' PIPE OUTLET
CONN. TO D. I. STA. 116+75 (RT)
TY. C = 4' X4'
TY. MO = 4' I.D.

STA. 116+75 CONSTRUCT
D. I. ON RT. H = 5' 11"
18" X 74' PIPE OUTLET
CONN. TO D. I. STA. 301+10
(3RD ST.) (LT.)
TY. C = 4' X 4'
TY. MO = 4' I.D.

STA. 301+90 (3RD. ST.) - CONSTRUCT
D. I. ON LT. H = 3' 8"
WITH 8' EXTENSION & OPENING IN
BACK WITH 24" X 102"
PIPE CULVERT CONNECT TO D. I. @
STA. 302+90 (3RD. ST.) ON LT.
TY C = 4' x 4'
TY MO = 4' I.D.

STA. 302+90 (3RD. ST.) - CONSTRUCT
D. I. ON LT. H = 4' 2"
WITH 4' EXTENSION & OPENING IN BACK
24' X 55' PIPE CULVERT
CONN. TO EXIST. D. I. AT STA. 303+50 (LT.)
TY C = 4' x 4'
TY MO = 4' I.D.

STA. 119+20 UNCLASS EXCAV.
ON RT. = 0 CU. YD.

STA. 119+57.00
BEGIN JOB 030388

FENCING SIDE 5' CHAIN LINK
STA. 301+18 - STA. 301+62 LT. 50 LIN. FT.

HWY. 71 (HICKORY ST.)

4TH STREET

5TH STREET

100' TRANSITION

C.L. CONST. (HWY. 71/HICKORY ST.)

EXIST. ROW

PROP. ROW

CONST. LIMITS

RETAINING WALL

BOTTOM OF MANHOLE

N 33°04'24" W

N 18°14'18" W

N 28°01'39" W

N 47°30'11" E

S 41°52'39" E

8/19/2013

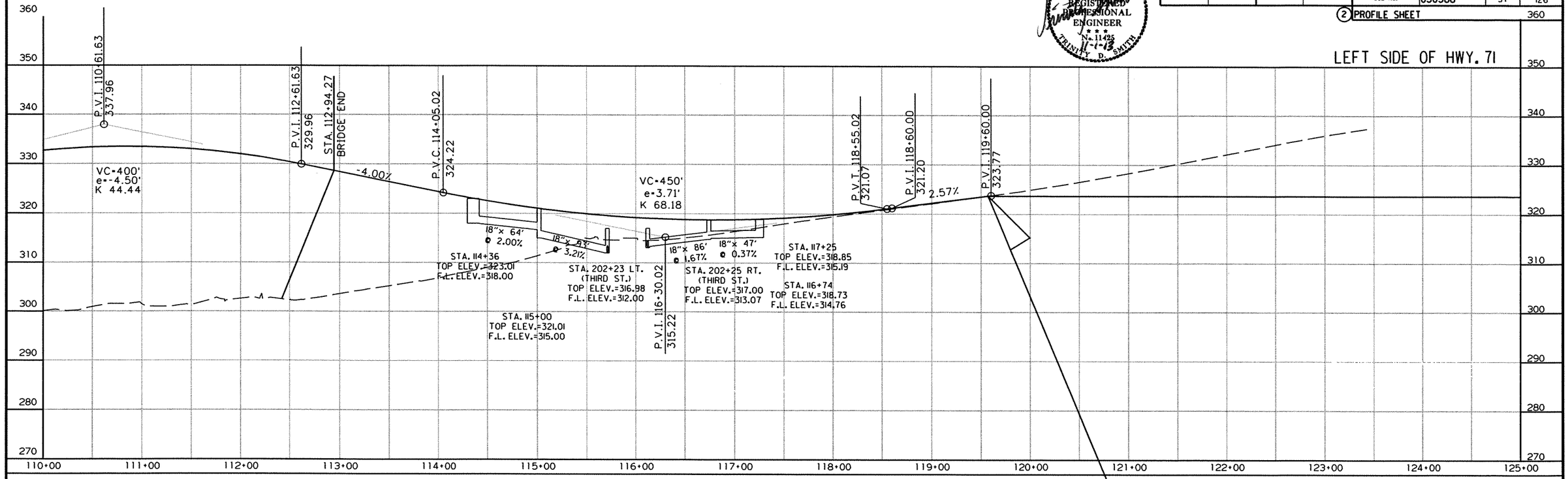
R030388.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	37	126

(2) PROFILE SHEET

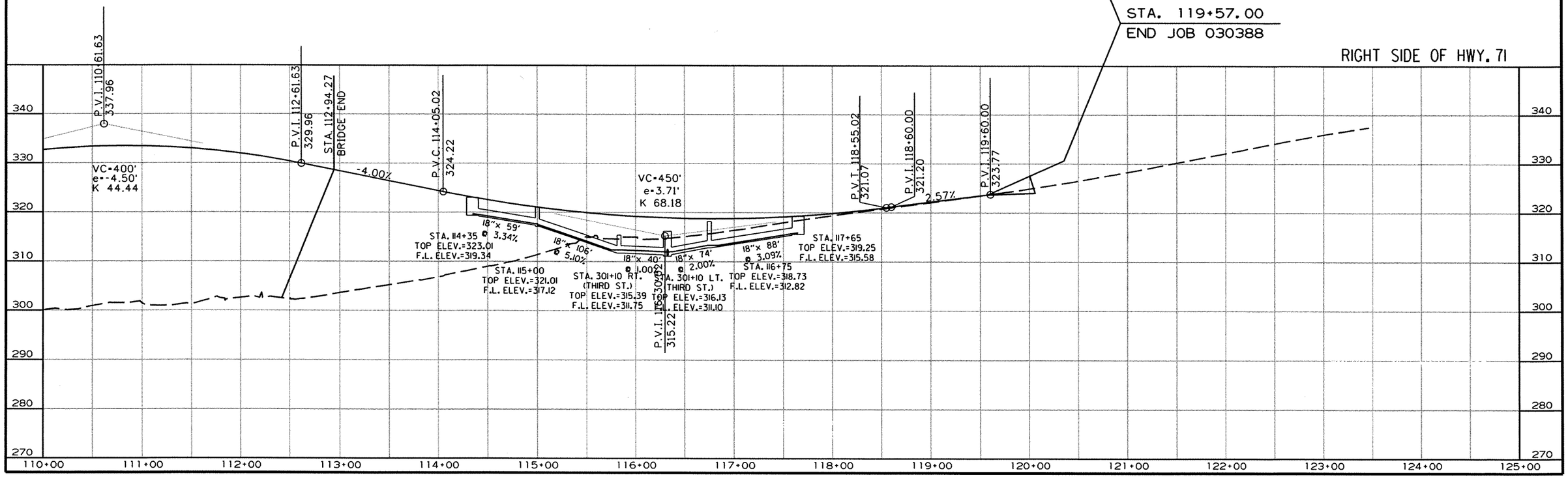
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
11-1-13
TRINITY D. SMITH

LEFT SIDE OF HWY. 71



STA. 119+57.00
END JOB 030388

RIGHT SIDE OF HWY. 71



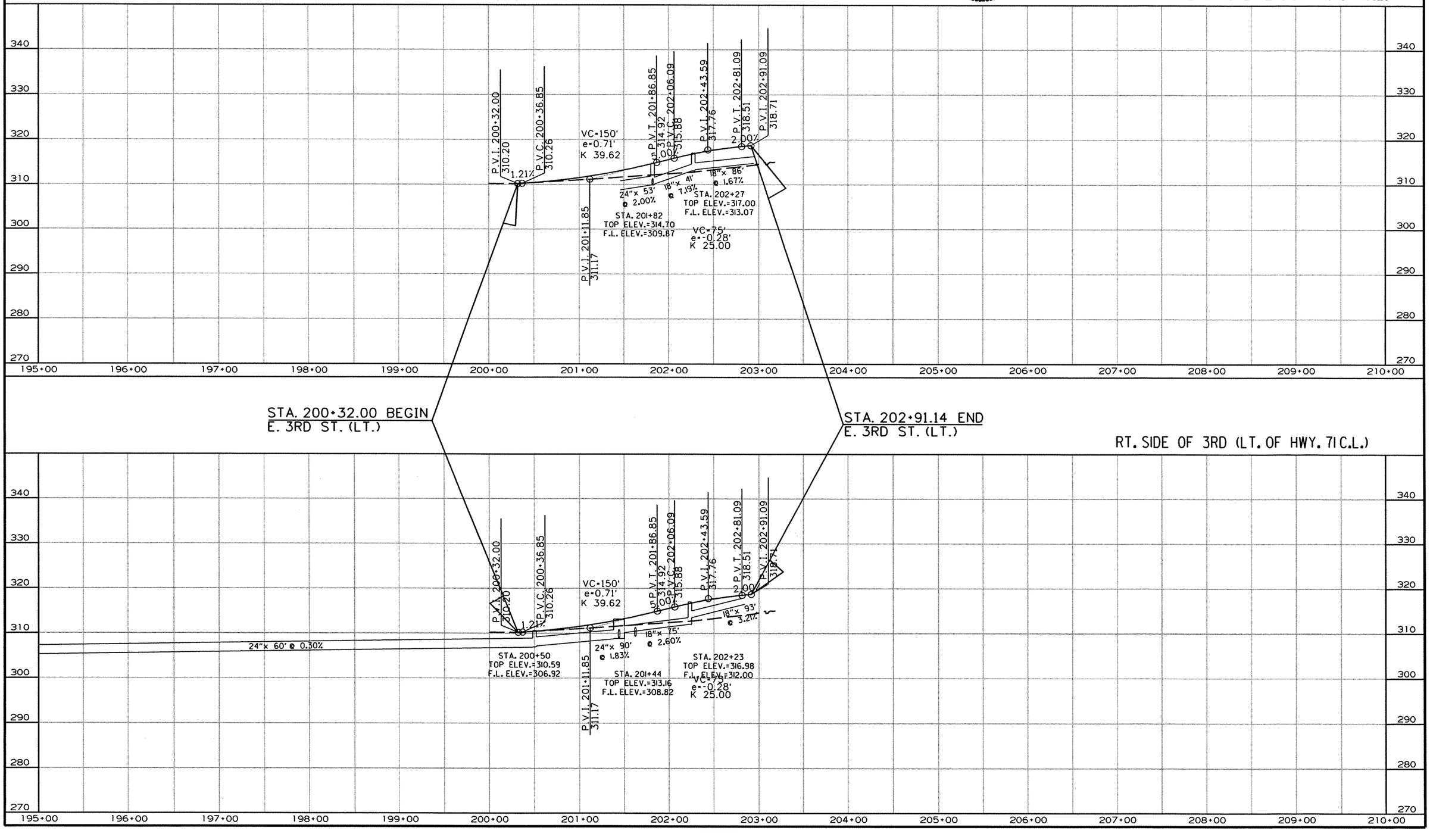
R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	38	126

(2) PROFILE SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
11-1-13
TRINITY D. SMITH

LT. SIDE OF 3RD (LT. OF HWY. 71 C.L.)



RT. SIDE OF 3RD (LT. OF HWY. 71 C.L.)

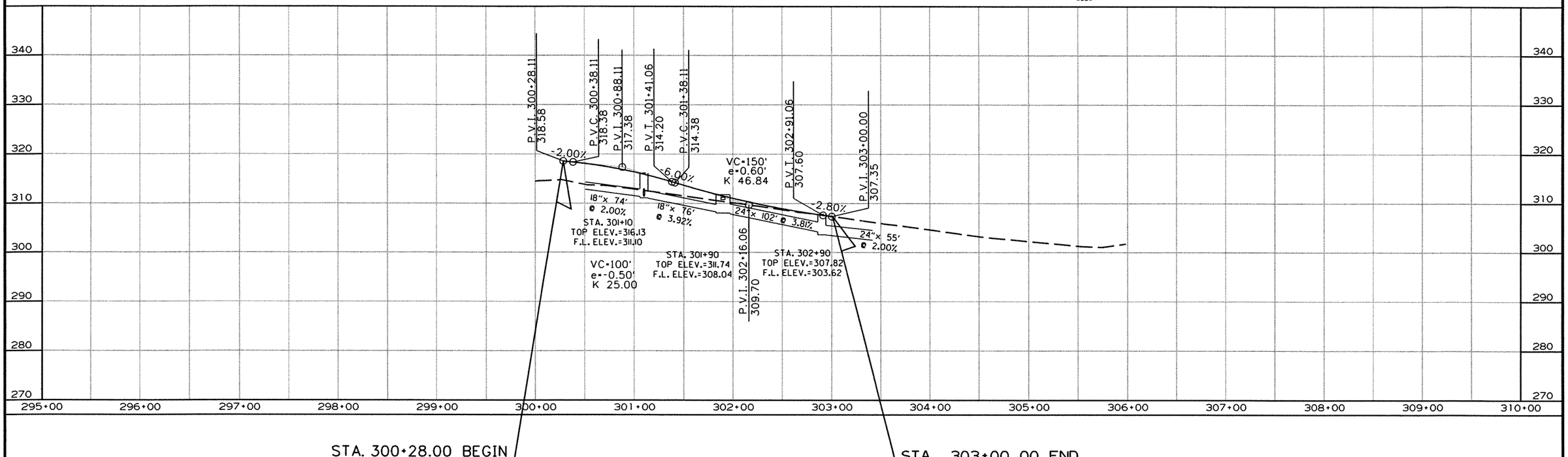
R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	39	126

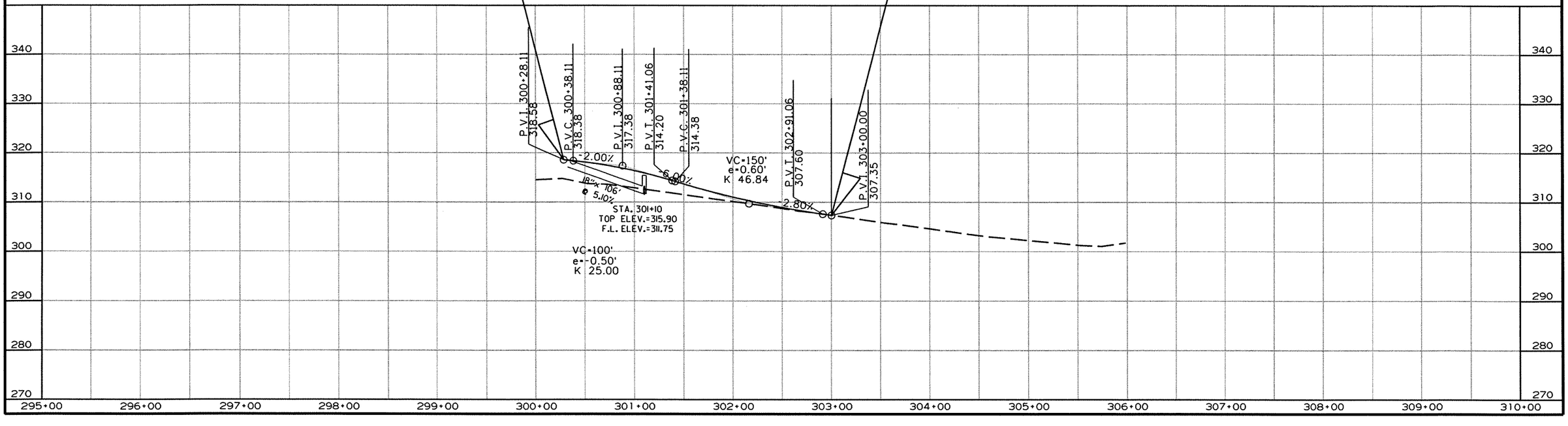
(2) PROFILE SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
11-1-13
TRINITY D. SMITH

LT. SIDE OF 3RD (RT. OF HWY. 71 C.L.)



RT. SIDE OF 3RD (RT. OF HWY. 71 C.L.)



R030388.DGN 8/19/2013

STA. 14+20 (BROAD ST.)- CONNECT
EXISTING D.I. ON RT. WITH 24"X 16' PIPE
OUTLET TO D.I.@ STA. 14+00 (RT.)

STA. 14+20 (BROAD ST.)- REMOVE
EXISTING 24"X 26' PIPE OUTLET
CONNECTION TO EXISTING JUNCTION BOX
@ STA. 14+18 (61.67 LIN. FT.
RT. OF BROAD ST. C.L.)

STA. 14+18 (61.67' RT. OF BROAD ST.)-
REMOVE EXISTING JUNCTION BOX &
24"X 18' OF EXISTING R.C. PIPE
OUTLET IN CONFLICT WITH CONSTRUCTION
OF JUNCTION BOX (TY ST) @ STA. 14+07 (RT.)

STA. 14+00 (BROAD ST.)- CONSTRUCT
D.I. ON RT. H= 4'0"
WITH 4' EXTENSION
& 24"X 32' PIPE OUTLET TO
JUNCTION BOX (68' RT. OF BROAD ST. C.L.)
@ STA. 14+07 RT.
TY. C = 4'X 4'
TY. MO = 4' I.D.

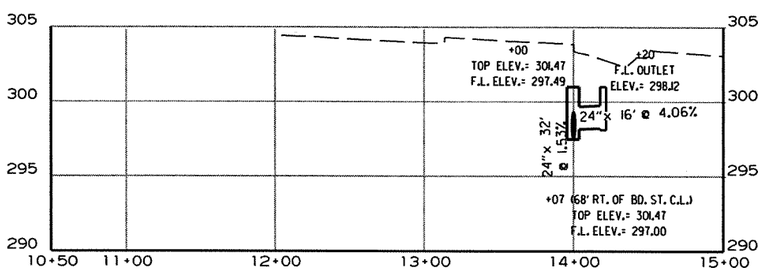
STA. 14+07 (BROAD ST.)- CONSTRUCT
(68' RIGHT OF BROAD ST. C.L.)
4'X 6' JUNCTION BOX (TYPE ST), H= 4'6"
WITH OUTLET CONNECTION TO EXISTING
24" R.C.PIPE CULVERT UNDER UNION
PACIFIC RAILROAD TRACKS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	40	126

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-1-13

POB 10+03.41
PROP. ROW
RETAINING WALL
N 33°04'24" W
P.I. 15+59.72
P.I. 13+98.37
N 61°45'44" E
C.L. CONST. (BROAD ST.)
47°30'11" E
EXIST. ROW
EXIST. ROW
EXIST. ROW
EXIST. ROW
46.2
00°05'
37.15
12°55'
88
00°18'
99
09°09'
95
09°09'
305
20
15
110
B
F
WAGNER
SIGN



8/19/2013

R030388.DGN

BROAD STREET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	41	126
				07249 -		LAYOUT		- 54722

For R/W data see Roadway Plans

See Dwg. No. 54724 for Stage Construction Details & General Notes.

PLAN

[3] See SP Job 030388 "Shoring."

ELEVATION

Note: For soil boring data and General Notes See Dwg. No. 54723 & 54724

[1] Top of Deck @ C.L. Bridge & C.L. Bent to Low Side of Top of Cap.

[2] Top of Deck @ C.L. Bridge to Low Steel at point of minimum vertical clearance

VERTICAL CURVE DATA

Stations & Elevations are along C.L. Bridge & C.L. Construction at working point

VC=400.00'

PVC Sta. 108+61.63 Elev. 327.96

5.00%

PVI Sta. 110+61.63 Elev. 337.96

-4.00%

PVT Sta. 112+61.63 Elev. 329.96

VC=450.00'

PVC Sta. 114+05.02 Elev. 324.22

-4.00%

PVI Sta. 116+30.02 Elev. 315.22

2.57%

PVT Sta. 118+55.02 Elev. 321.07

LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD BROAD ST. STR. & APPRS. (TEXARKANA)(S) MILLER COUNTY

ROUTE 71 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS — CARL J. FUSELIER — REGISTERED PROFESSIONAL ENGINEER — No. 7510 — 10/18/13

BRIDGE ENGINEER

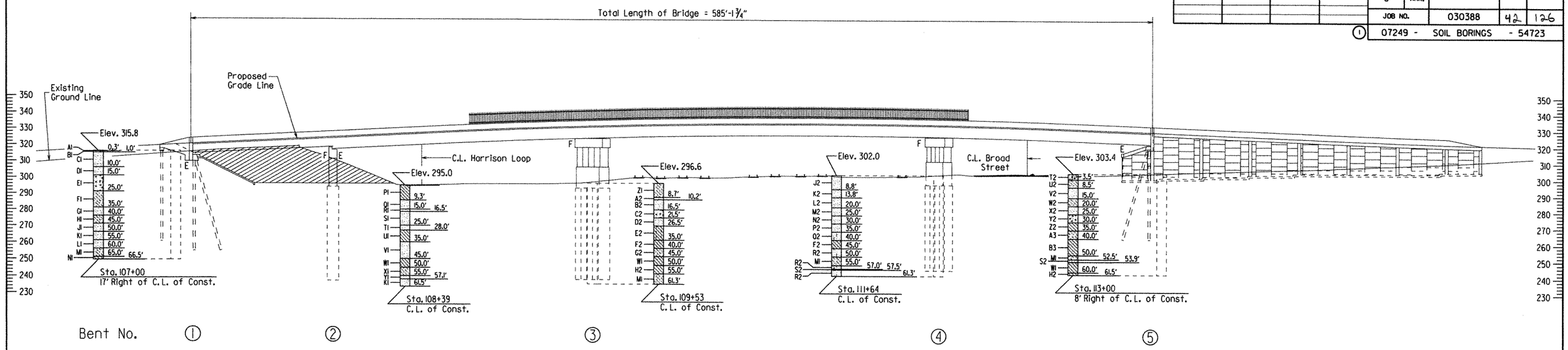
DRAWN BY: TMG	DATE: 9/28/2011	FILENAME: b030388x_ll.dgn	
CHECKED BY: JCAT	DATE: 10/18/13	SCALE: 1" = 30'-0"	
DESIGNED BY: TMG	DATE: 8/11		

BRIDGE NO. 07249

DRAWING NO. 54722

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	42	126
				(1) 07249 -		SOIL BORINGS	- 54723	



ELEVATION

"N" VALUES

Sta. 107+00 - 17' Right of C.L. of Const.

5.5- 6.5, N=21
10.5- 11.5, N=18
15.5- 16.5, N=23
20.5- 21.5, N=39
25.5- 26.5, N=11
30.5- 31.5, N=15
35.5- 36.5, N=60
40.5- 41.5, N=20
45.5- 46.5, N=39
50.5- 51.1, N=86(7")
55.5- 56.5, N=62
60.5- 61.4, N=91(11")
65.5- 66.5, N=60

Sta. 108+39 - C.L. of Const.

4.1- 5.1, N=14
9.1- 10.1, N=43
15.5- 16.5, N=9
20.5- 21.5, N=9
25.5- 26.5, N=18
30.5- 31.5, N=21
35.5- 36.5, N=43
40.5- 41.5, N=77
45.5- 46.5, N=91
50.5- 51.5, N=85
55.0- 55.1, N=10 (1")*
60.5- 61.5, N=70

* Split-spoon refusal encountered at 55.1'

Sta. 109+53 - C.L. of Const.

4.2- 5.2, N=15
9.2- 10.2, N=31
15.5- 16.5, N=16
20.5- 21.5, N=34
25.5- 26.5, N=14
30.5- 31.5, N=36
35.5- 36.5, N=45
40.5- 40.8, N=60(4")
45.5- 46.5, N=78
50.5- 50.9, N=60(5")
55.5- 56.5, N=81
60.5- 61.2, N=103(9")

Sta. 111+64 - C.L. of Const.

4.3- 5.3, N=69
9.3- 10.3, N=29
14.3- 15.3, N=17
20.5- 21.5, N=7
25.5- 26.5, N=18
30.5- 31.5, N=12
35.5- 36.5, N=23
40.5- 41.5, N=41
45.5- 46.3, N=88(10")
50.5- 51.3, N=85(10")
55.5- 56.2, N=99(8")
60.5- 61.2, N=103(9")

Sta. 113+00 - 8' Right of C.L. of Const.

4.0- 5.0, N=21
9.0- 10.0, N=33
15.5- 16.5, N=9
20.5- 21.5, N=23
25.5- 26.5, N=60
30.5- 31.5, N=25
35.5- 36.5, N=45
40.5- 41.5, N=54
45.5- 46.5, N=89
50.5- 51.2, N=97(9")
55.5- 56.3, N=96(10")
60.5- 61.5, N=74

107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

BORING LEGEND

A1-Asphalt Pavement (3")
B1-Concrete Pavement (9")
C1-Moist, Medium Dense, Gray Sand
D1-Moist, Medium Dense, Gray Sand with Trace of Gravel
E1-Wet, Medium Dense to Dense, Gray Sand with Gravel
F1-Wet, Medium Dense, Gray and Reddish Brown to Gray Sand with Clay
G1-Wet, Very Dense, Brown Sand with Trace of Gravel
H1-Wet, Medium Dense, Reddish Brown and Gray Clayey Sand with Trace of Gravel
J1-Moist, Dense, Gray Sand with Trace of Organic Matter
K1-Moist, Very Dense, Gray Sand with Trace of Clay
L1-Moist, Very Dense, Gray Sand with Trace of Clay and Gravel
M1-Moist, Very Dense, Gray Sand with Clay
N1-Moist, Hard, Gray Clay with some Sand
P1-Moist, Stiff, Reddish Brown and Gray Clay with Sand
Q1-Wet, Dense, Gray Sand with Trace of Clay
R1-Wet, Loose, Gray Sand with Trace of Clay
S1-Wet, Loose, Light Gray Sand with occasional Gravel
T1-Wet, Medium Dense, Light Gray Sand with occasional Gravel
U1-Moist, Very Stiff, Gray Clay with Trace of Sand
V1-Moist, Hard to Very Hard, Gray Clay with Trace of Sand
W1-Moist, Very Hard, Gray Clay with Sand
X1-Moist, Very Dense, Gray Sand with Clay and Trace of Organic Matter
Y1-Hard, Gray Cemented Sand
Z1-Moist, Medium Dense, Reddish Brown Clayey Sand
A2-Moist, Dense, Brown Sand
B2-Moist to Wet, Medium Dense, Light Brown Sand with Trace of Gravel
C2-Wet, Dense, Light Brown Sand with Gravel
D2-Wet, Medium Dense, Light Gray Sand with Trace of Gravel
E2-Wet, Hard, Light Gray and Brown Silty Clay
F2-Moist, Hard, Gray Clay with Sand
G2-Wet, Very Dense, Gray Clayey Sand with Trace of Gravel
H2-Moist, Very Hard, Gray Clay
J2-Moist, Very Dense, Light Brown Sand with Trace of Clay
K2-Moist, Medium Dense, Light Gray Sand
L2-Moist, Medium Dense, Brown and Gray Sand with Trace of Clay
M2-Moist, Loose, Light Gray Sand with Trace of Clay
N2-Wet, Medium Dense, Light Brown Sand with Trace of Gravel
P2-Wet, Medium Dense, Light Brown Sand with Trace of Gray Clay and Gravel
Q2-Moist, Medium Dense, Gray Silty Sand
R2-Moist, Very Dense, Gray Silty Sand
S2-Hard, Gray Cemented Sand
T2-Moist, Medium Dense, Reddish Brown and Gray Sand with Clay, Concrete Fragments and some Organic Matter
U2-Moist, Medium Dense, Brown Sand with Clay
V2-Wet, Dense, Brown Sand
W2-Wet, Loose, Reddish Brown and Gray Sand with Clay and Trace of Gravel
X2-Wet, Medium Dense, Reddish Brown and Gray Sand with Trace of Gravel
Y2-Wet, Very Dense, Light Gray Sand with Gravel
Z2-Moist, Very Stiff, Reddish Brown Clay with Trace of Gravel
A3-Moist, Dense, Gray Sand with Clay
B3-Moist, Hard to Very Hard, Gray Clay with Sand

Note: Traces of organic matter and cemented sand were encountered in the borings and may be encountered in greater amounts at other locations in the project area.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. FUSELIER
BRIDGE ENGINEER

SOIL BORINGS
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE 71 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

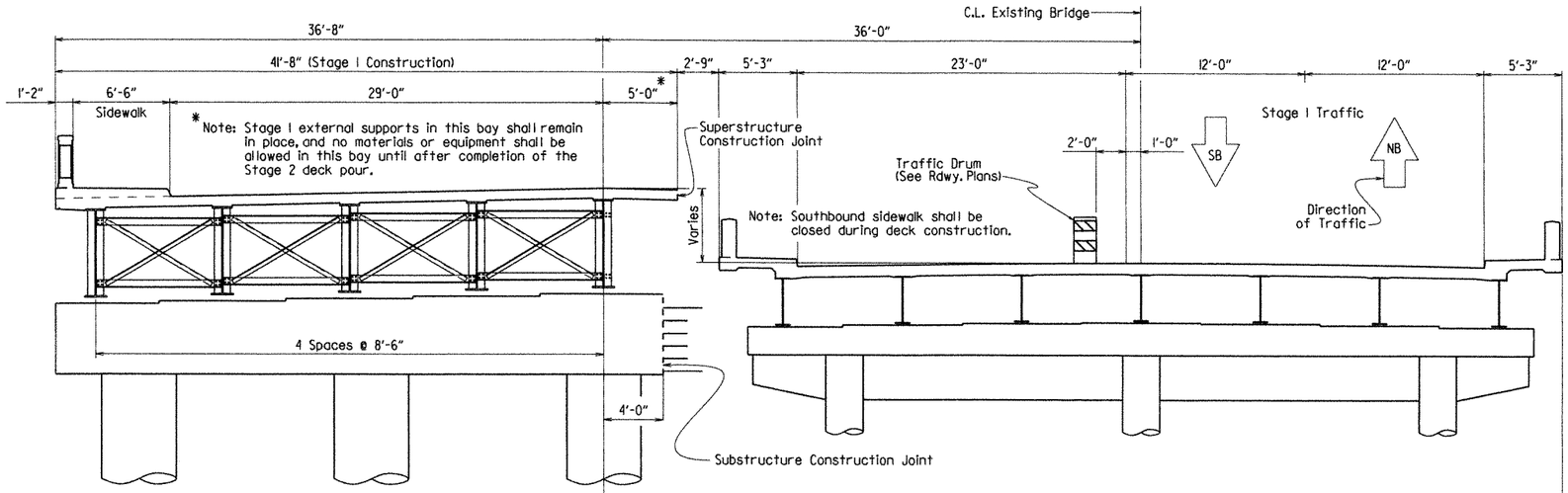
LITTLE ROCK, ARK.

DRAWN BY: TMG DATE: 8/27/2012 FILENAME: b030388x_ll.dgn
CHECKED BY: CJF DATE: 10/18/13 SCALE: 1" = 30'-0"
DESIGNED BY: TMG DATE: 8/11

BRIDGE NO. 07249 DRAWING NO. 54723

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	43	126
				(1) 07249 -		LAYOUT	- 54724	



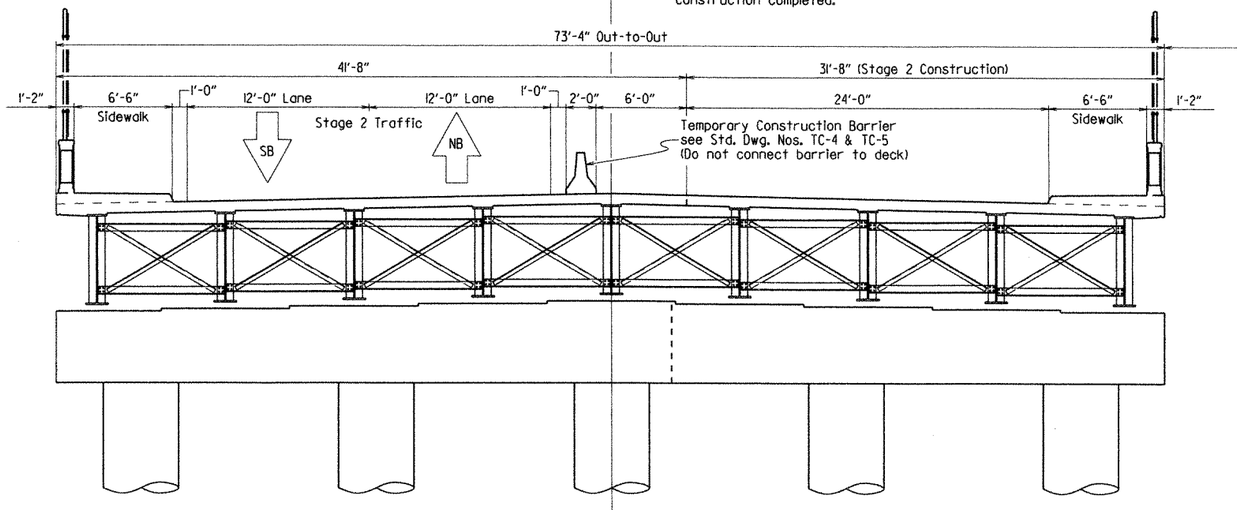
Note: An ornamental fence is required over railroad right-of-way

STAGE 1 CONSTRUCTION

Looking Ahead

C.L. Bridge & C.L. Const.

Note: After Stage 1 Construction is complete and open to traffic, the Existing Bridge No. 02020 shall be removed and Stage 2 Construction completed.



STAGE 2 CONSTRUCTION

Looking Ahead

DETAILS OF STAGE CONSTRUCTION OF BRIDGE

Note: Details which relate to Maintenance of Traffic are shown on Bridge Plans for information only. See Roadway Plans for Maintenance of Traffic and additional information.

GENERAL NOTES

BENCH MARK: BM 991, NGS Mark RV 672, 1594.48' RT. of Sta. 117+57.42, Elev. 304.78

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012), with 2013 interim revisions.

LIVE LOADING: HL-93

SEISMIC ZONE: 1

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. HPS70W)	Fy = 70,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

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

STEEL PILING: Piling at Bents 1 & 5 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 and into material designated as dense sand on the boring legend. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the standard specifications. Piles in end bents are to be driven after embankment to bottom of cap or walls are in place. Drive one 60' test pile in each bent during the first stage of construction.

Pile casings are required for all piling in the end bent caps in Bent 5. Casings shall be installed prior to or during embankment construction and shall extend from natural ground to bottom of cap. Pile casing material shall be of sufficient strength to retain its original form free from harmful distortions after compaction of the fill material surrounding it. The minimum inside diameter of the casing shall be 18." Piles shall be driven through the open casings to a minimum penetration of 10 feet below natural ground after embankment to bottom of cap is in place. After driving is completed, the pile casings shall be backfilled with Class "S" Concrete in a single continuous operation to completely fill voids. Pile casings and concrete backfill will not be paid for directly, but shall be considered subsidiary to the item "Steel Piling."

DRILLED SHAFTS: All drilled shafts shall be founded a minimum 3 feet into material designated as dense sand. No adjustments in plan tip elevation shall be made without prior approval from the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job 030388 "Drilled Shaft Foundations." Any casing used as a means for construction of the drilled shafts, such as to prevent caving, to exclude groundwater, or to provide shoring, shall not extend below the elevation shown. The Contractor must obtain approval from the Engineer for any deviation from this requirement.

SHORING: Shoring is required at bridge ends for Stage Construction. See SP Job 030388 "Shoring". Actual location of shoring is to be determined by Contractor.

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. The sidewalk shall be given a broom finish.

TEXTURED COATING FINISH: A Class 3 Textured Coating Finish shall be applied to bridge and retaining wall surfaces as specified in SP Job 030388 "Textured Coating Finish" and in accordance with Subsection 802.19. Textured Coating Finish shall not be applied to surfaces where Class 1 Protective Surface Treatment is applied.

DETAIL DRAWINGS:	DRAWING NO.
Details of End Bent 1	54727 – 54729
Details of Intermediate Bents	54730 – 54735
Details of End Bent 5	54736 – 54737
85' Simple Span Plate Girder Span	54738 – 54742
498' Continuous Composite Plate Girder Unit	54743 – 54750
Elastomeric Bearings	54756
Concrete Barrier Wall	54751 – 54754
Details of Ornamental Fencing	54755

EXISTING BRIDGE: Existing Bridge No. 02020 is a 46' x 617' concrete deck on steel – Beam spans and reinforced concrete deck girder spans on Column bents. The existing bridge is located approximately 36'-0" right of proposed bridge.

REMOVAL AND SALVAGE: After Stage 1 of the new bridge is open to traffic, Existing Bridge No. 02020 (Site No. 1) shall be removed in accordance with Section 205, modified by SP "Removal of Historic Bridge No. 02020", except that the concrete stairs near station 113+05 shall be removed prior to Stage 1 Construction. Existing bridge foundations shall be removed, as directed by the Engineer, where they interfere with new foundations. This may require the complete removal of some concrete piles at Bent No. 4. Foundations on railroad right of way shall be removed as required by the Railroad. All materials from the existing bridge, except materials designated as salvage in SP "Removal of Historic Bridge No. 02020", shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: For details of maintenance of traffic, see Roadway Plans.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
11/6/13
CARL J. FUSELIER

BRIDGE ENGINEER

STAGE CONSTRUCTION DETAILS AND GENERAL NOTES
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE 71 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

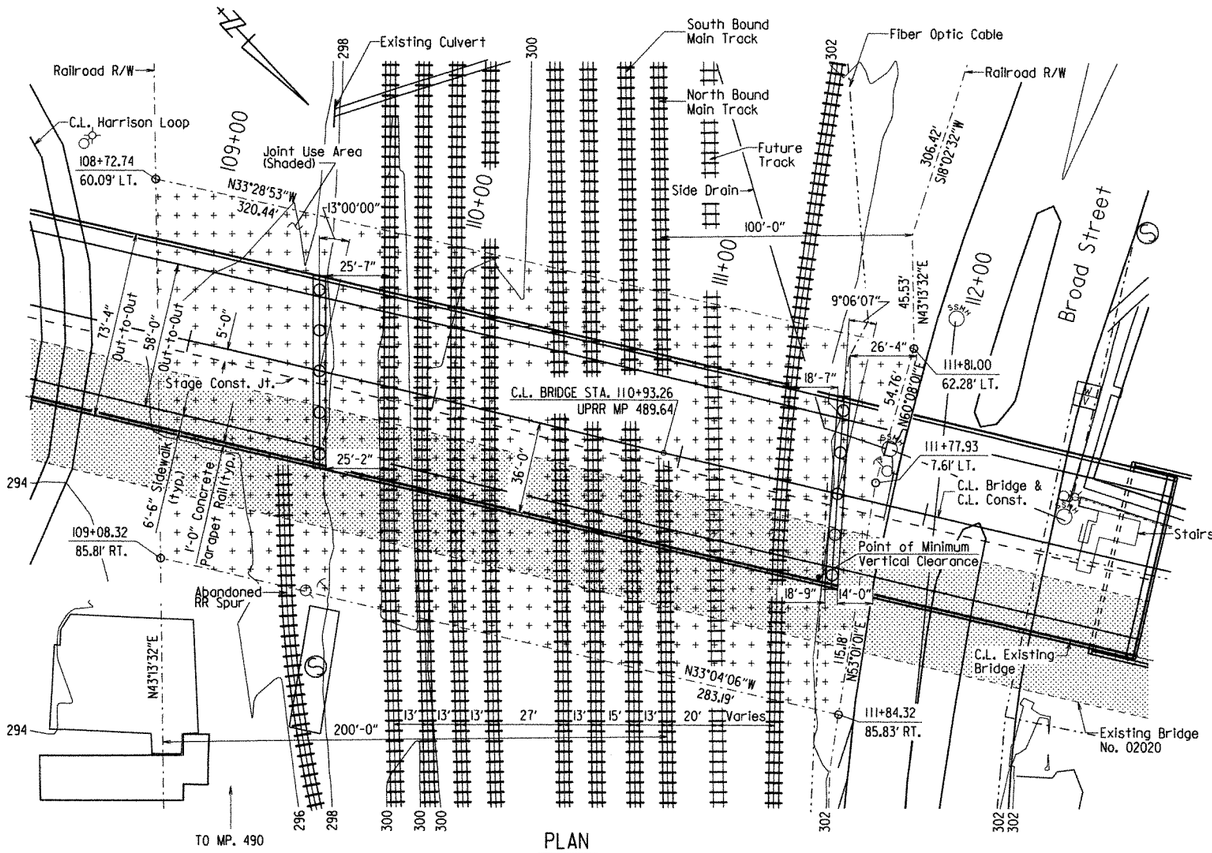
LITTLE ROCK, ARK.

DRAWN BY: TMG DATE: 9/28/2011
CHECKED BY: JGT DATE: 10/18/12
DESIGNED BY: TMG DATE: 8/11
FILENAME: b030388x_ll.dgn
SCALE: No Scale

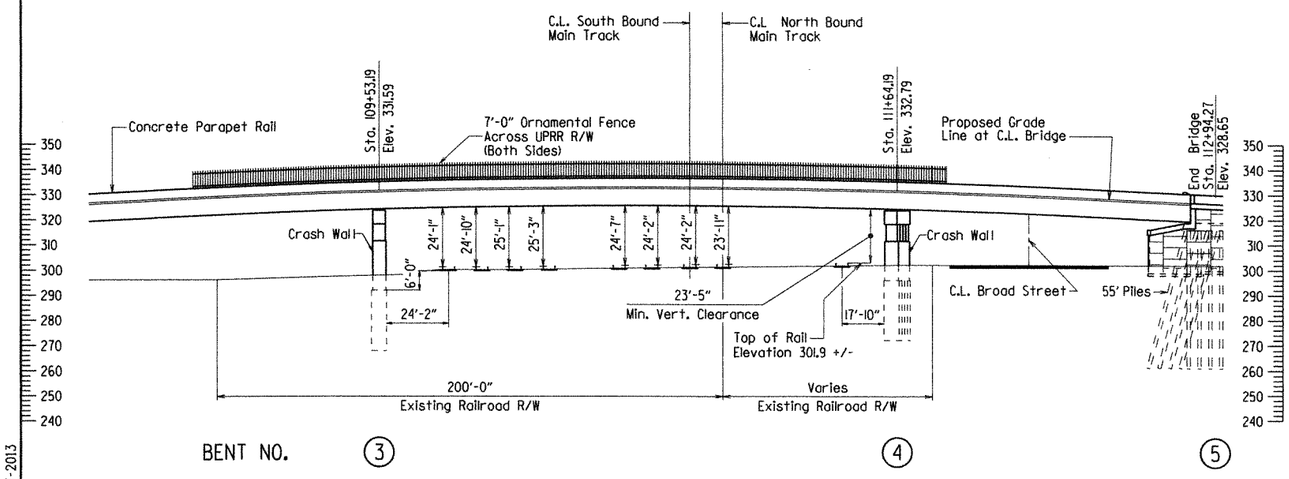
BRIDGE NO. 07249 DRAWING NO. 54724

PRINT DATE: 06-NOV-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	44	126
				① 07249 -		EXHIBIT A		- 54725



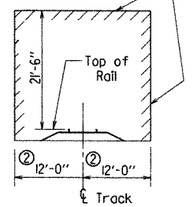
PLAN



ELEVATION NORMAL TO UNION PACIFIC RAILROAD

① Note: No excavation permitted within 12' of C.L. track.

No construction activities or other obstructions may be placed within these limits without prior written approval from UPRR.

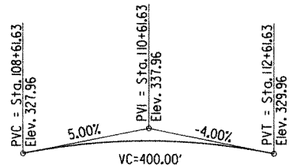


MINIMUM CONSTRUCTION CLEARANCES

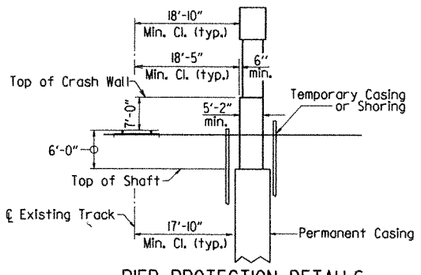
SKETCH NORMAL TO TRACK
No Scale

① Removal of existing bents adjacent to tracks will require excavation within 12 feet of C.L. track. These existing bents shall be removed to a depth of 6 feet below base of rail or as required by UPRR.

② Measured normal to track.

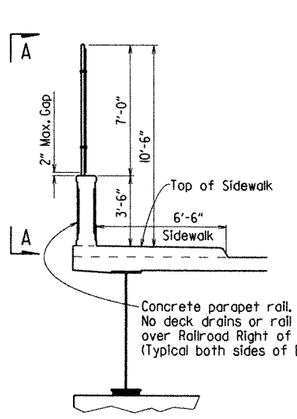


VERTICAL CURVE DATA
Not to Scale

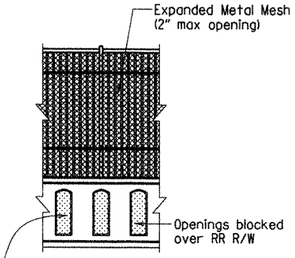


PIER PROTECTION DETAILS

Bent 4 Shown. Bent 3 Similar.
N.T.S.
Note: Crashwall designed according to AREMA Chapter 8, part 2.1.5.1.



TYPICAL SECTION
No Scale



VIEW A - A
No Scale

See Dwg. No. 54755, "Details of Ornamental Fencing."

General Notes

All demolitions within the Railroad's right-of-way and/or demolitions that may impact the Railroad's tracks or operations shall comply with the Railroad's demolition requirements.

Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation. Erection over the Railroad's track shall be developed such that it enables the track(s) to remain open to traffic per the Railroad's requirements.

The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.

Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment when trains are present.

The following statement is in the "State Rail Agreement": The State shall not plow ice, snow, or sleet over the sides of the structure. In consideration of this practice, the Carrier waives its request for the State to attach splash boards to sides of the structure.

Shoring shall comply with the Union Pacific Railroad requirements. Construction shall comply with the requirements of SP Job 030388 "Insurance, Construction, and Flagging requirements on Railroad property (UPRR)." Railroad review and approval of Shoring, Erection, and Falsework is required. Allow a minimum of four weeks for the review and approval of each submittal.

Currently there are no known utilities on the railroad right-of-way other than shown.

A Wrought Iron Picket Fence is required on both sides of the Bridge. The Fence is to be mounted on top of the concrete parapet rail and shall extend the full width of the Railroad R/W. For details of fence, see Dwg. No. 54755.

The proposed bridge construction will not change the quantity and/or characteristics of the flow within the Railroad right-of-way.

Concrete Parapet Rail (No Deck Drains or Rail Openings) over Railroad right-of-way. Typical both sides of bridge.

All permanent clearances shall be verified before project closing.

For Railroad coordination please refer to the Railroad Minimum Requirements of SP Job 030388 "Insurance, Construction, and Flagging Requirements on Railroad Property (Union Pacific Railroad)".

STATE OF ARKANSAS
Carl J. Puseljer
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. PUSELJER

BRIDGE ENGINEER

SHEET 1 OF 2
EXHIBIT A
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE 71 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TMG DATE: 9/28/2011 FILENAME: b030388x_ll.dgn
CHECKED BY: JCS DATE: 10/18/13 SCALE: 1" = 30'-0"
DESIGNED BY: TMG DATE: 8/11

BRIDGE NO. 07249 DRAWING NO. 54725

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	45	126
				07249 -		EXHIBIT A		- 54726

TOP OF RAIL ELEVATIONS

(Stations Increase in Direction of Milepost Decrease)

North Spur			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	302.67	0+00.00	302.63
1+00.00	302.19	1+00.00	302.17
2+00.00	301.98	2+00.00	302.02
2+10.43	301.96	2+09.98	302.20
2+44.75	301.87	2+44.29	301.92
2+79.27	301.86	2+78.81	301.90
3+00.00	301.85	3+00.00	301.87
3+25.00	301.82	3+25.00	301.82
3+50.00	301.78	3+50.00	301.79
3+75.00	301.74	3+75.00	301.77
3+80.00	301.73	3+80.00	301.76
4+00.00	301.70	4+00.00	301.74
4+50.00	301.73	4+50.00	301.78
5+00.00	301.77	5+00.00	301.82
5+50.00	301.89	5+50.00	301.92
6+00.00	301.96	6+00.00	301.97
6+50.00	302.00	6+50.00	302.00
7+00.00	301.91	7+00.00	301.89
7+50.00	301.90	7+50.00	301.88
8+00.00	301.91	8+00.00	301.92
8+50.00	302.19	8+50.00	302.26
9+00.00	302.41	9+00.00	302.40
9+53.00	302.43	9+53.00	302.48

EQUATIONS:
STA. 2+44.75 C.L. LT. RAIL = STA. 111+44.16 C.L. CONST.
STA. 2+44.29 C.L. RT. RAIL = STA. 111+39.12 C.L. CONST.

North Bound Main Track			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	300.52	0+00.00	300.63
1+00.00	300.63	1+00.00	300.72
2+00.00	300.79	2+00.00	300.86
3+00.00	301.06	3+00.00	301.12
4+00.00	301.35	4+00.00	301.42
5+00.00	301.65	5+00.00	301.73
6+00.00	301.79	6+00.00	301.89
7+00.00	301.92	7+00.00	301.95
8+00.00	302.05	8+00.00	302.05
9+00.00	302.17	9+00.00	302.15
9+76.36	302.16	9+75.65	302.16
10+11.35	302.14	10+10.64	302.15
10+46.36	302.13	10+45.64	302.14
11+00.00	302.12	11+00.00	302.13
12+00.00	302.24	12+00.00	302.23
13+00.00	302.35	13+00.00	302.35
14+00.00	302.44	14+00.00	302.44
15+00.00	302.44	15+00.00	302.45
16+00.00	302.39	16+00.00	302.41
17+00.00	302.40	17+00.00	302.42
18+00.00	302.59	18+00.00	302.60
19+00.00	302.84	19+00.00	302.84
20+00.00	303.12	20+00.00	303.11

EQUATIONS:
STA. 10+11.35 C.L. LT. RAIL = STA. 110+95.70 C.L. CONST.
STA. 10+10.64 C.L. RT. RAIL = STA. 110+90.59 C.L. CONST.

South Bound Main Track			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	300.41	0+00.00	300.47
1+00.00	300.67	1+00.00	300.73
2+00.00	300.95	2+00.00	301.02
3+00.00	301.30	3+00.00	301.37
4+00.00	301.41	4+00.00	301.47
5+00.00	301.41	5+00.00	301.46
6+00.00	301.49	6+00.00	301.55
7+00.00	301.65	7+00.00	301.69
8+00.00	301.78	8+00.00	301.79
9+00.00	301.82	9+00.00	301.82
9+76.03	301.85	9+75.47	301.85
10+11.02	301.87	10+10.45	301.88
10+46.02	301.91	10+45.45	301.90
11+00.00	301.97	11+00.00	301.95
12+00.00	302.13	12+00.00	302.13
13+00.00	302.21	13+00.00	302.21
14+00.00	302.26	14+00.00	302.27
15+00.00	302.39	15+00.00	302.40
16+00.00	302.51	16+00.00	302.52
17+00.00	302.63	17+00.00	302.64
18+00.00	302.81	18+00.00	302.82
19+00.00	303.04	19+00.00	303.05
20+00.00	303.36	20+00.00	303.36

EQUATIONS:
STA. 10+11.02 C.L. LT. RAIL = STA. 110+82.41 C.L. CONST.
STA. 10+10.45 C.L. RT. RAIL = STA. 110+77.29 C.L. CONST.

Side Track 1			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	300.77	0+00.00	300.86
1+00.00	301.10	1+00.00	301.13
1+50.00	301.27	2+00.00	301.40
2+00.00	301.40	2+50.00	301.47
3+00.00	301.52	3+00.00	301.55
4+00.00	301.67	3+50.00	301.62
4+50.00	301.84	4+00.00	301.70
5+00.00	302.05	5+00.00	301.73
6+00.00	302.48	6+00.00	301.76
7+42.56	301.85	7+41.81	301.82
7+77.55	301.86	7+76.80	301.84
8+12.54	301.88	8+11.80	301.85
9+00.00	301.89	9+00.00	301.86
10+00.00	301.91	10+00.00	301.87
11+00.00	301.94	11+00.00	301.91
12+00.00	301.98	12+00.00	301.97
13+00.00	302.16	13+00.00	302.13
14+00.00	302.34	14+00.00	302.31
15+00.00	302.43	15+00.00	302.41
16+00.00	302.49	16+00.00	302.50
17+00.00	302.66	17+00.00	302.67
18+00.00	302.89	18+00.00	302.88
18+14.89	302.92	18+15.06	302.92

EQUATIONS:
STA. 7+77.55 C.L. LT. RAIL = STA. 110+66.93 C.L. CONST.
STA. 7+76.80 C.L. RT. RAIL = STA. 110+61.84 C.L. CONST.

Side Track 2			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	300.04	0+00.00	300.07
1+00.00	300.35	1+00.00	300.36
2+00.00	300.64	2+00.00	300.62
3+00.00	300.80	3+00.00	300.74
3+50.00	300.90	3+50.00	300.86
4+00.00	301.01	4+00.00	300.99
5+00.00	301.12	5+00.00	301.08
6+00.00	301.22	6+00.00	301.15
7+35.82	301.30	7+33.43	301.28
7+70.82	301.32	7+68.43	301.31
8+05.82	301.34	8+03.43	301.34
9+00.00	301.36	9+00.00	301.35
10+00.00	301.39	10+00.00	301.35
11+00.00	301.48	11+00.00	301.45
11+50.00	301.53	11+50.00	301.51
12+00.00	301.57	12+00.00	301.56
13+00.00	301.63	13+00.00	301.63
14+00.00	301.70	14+00.00	301.70
15+00.00	301.85	15+00.00	301.83
16+00.00	302.02	16+00.00	301.97
17+00.00	302.30	17+00.00	302.38
18+00.00	302.64	18+00.00	302.73
18+11.23	302.67	18+10.02	302.66

EQUATIONS:
STA. 7+70.82 C.L. LT. RAIL = STA. 110+53.50 C.L. CONST.
STA. 7+68.43 C.L. RT. RAIL = STA. 110+48.47 C.L. CONST.

Side Track 3			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	299.74	0+00.00	299.33
1+00.00	299.83	1+00.00	299.60
2+00.00	299.92	2+00.00	299.86
2+50.00	299.97	3+00.00	300.00
3+00.00	300.03	4+00.00	300.12
3+50.00	300.11	5+00.00	300.09
4+00.00	300.15	6+00.00	300.07
5+00.00	300.09	7+00.00	300.07
6+00.00	300.02	8+00.00	300.23
7+00.00	300.25	8+15.83	300.26
7+08.82	300.26	8+50.67	300.33
7+43.75	300.29	8+85.50	300.40
7+78.67	300.32	9+00.00	300.42
8+00.00	300.34	10+00.00	300.47
9+00.00	300.31	11+00.00	300.46
10+00.00	300.17	12+00.00	300.39
11+00.00	300.29	13+00.00	300.66
12+00.00	300.49	14+00.00	300.95
13+00.00	300.73	15+00.00	300.97
14+00.00	300.97	16+00.00	300.98
15+00.00	301.09	17+00.00	301.20
16+00.00	301.20	18+00.00	301.48
17+00.00	301.63	19+00.00	301.98

EQUATIONS:
STA. 7+43.74 C.L. LT. RAIL = STA. 110+24.77 C.L. CONST.
STA. 8+50.67 C.L. RT. RAIL = STA. 110+19.38 C.L. CONST.

Side Track 4			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	299.30	0+00.00	299.29
1+00.00	299.44	1+00.00	299.38
2+00.00	299.59	2+00.00	299.49
3+00.00	299.78	3+00.00	299.72
4+00.00	299.95	4+00.00	299.92
5+00.00	300.03	5+00.00	300.00
6+00.00	300.07	6+00.00	300.06
7+00.00	300.06	7+00.00	300.10
8+00.00	300.25	8+00.00	300.25
8+13.61	300.28	8+11.85	300.27
8+48.45	300.37	8+46.69	300.33
8+83.29	300.45	8+81.53	300.39
9+00.00	300.46	9+00.00	300.40
10+00.00	300.35	10+00.00	300.36
11+00.00	300.47	11+00.00	300.50
12+00.00	300.73	12+00.00	300.76
13+00.00	300.80	13+00.00	300.82
14+00.00	300.85	14+00.00	300.86
15+00.00	301.09	15+00.00	301.11
16+00.00	301.35	16+00.00	301.37
17+00.00	301.56	17+00.00	301.57
18+00.00	301.77	18+00.00	301.76
19+00.00	302.26	19+00.00	302.25

EQUATIONS:
STA. 8+48.45 C.L. LT. RAIL = STA. 110+11.12 C.L. CONST.
STA. 8+46.69 C.L. RT. RAIL = STA. 110+06.06 C.L. CONST.

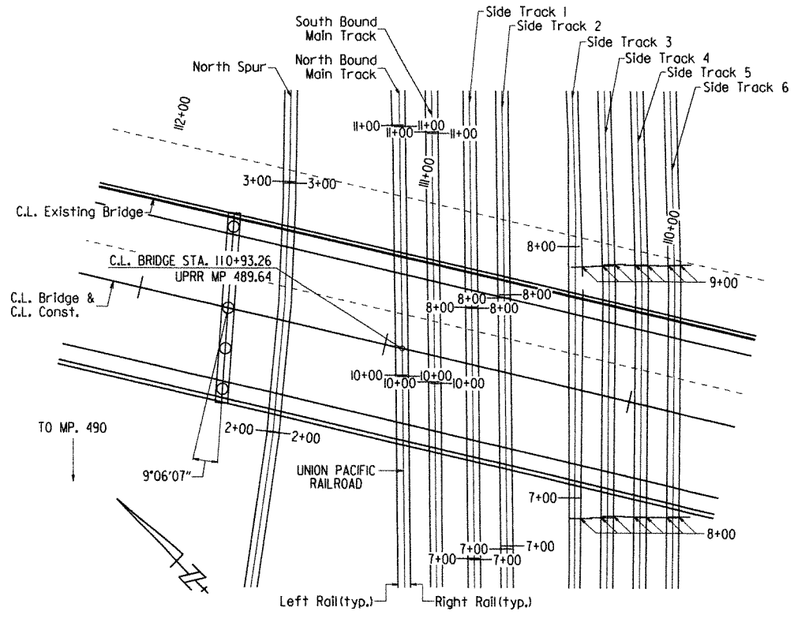
Side Track 5			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	298.98	0+00.00	298.94
1+00.00	299.22	1+00.00	299.18
2+00.00	299.45	2+00.00	299.41
3+00.00	299.64	3+00.00	299.61
4+00.00	299.82	4+00.00	299.79
5+00.00	299.88	5+00.00	299.87
6+00.00	299.92	6+00.00	299.91
7+00.00	299.93	7+00.00	299.90
8+00.00	300.09	8+00.00	300.11
8+10.17	300.11	8+09.25	300.13
8+45.01	300.17	8+44.09	300.22
8+79.86	300.23	8+78.94	300.31
9+00.00	300.25	9+00.00	300.34
10+00.00	300.15	10+00.00	300.23
11+00.00	300.10	11+00.00	300.18
12+00.00	300.10	12+00.00	300.18
13+00.00	300.34	13+00.00	300.38
14+00.00	300.60	14+00.00	300.59
15+00.00	300.82	15+00.00	300.80
16+00.00	301.04	16+00.00	301.00
17+00.00	301.38	17+00.00	301.36
18+00.00	301.74	18+00.00	301.74
19+00.00	302.22	19+00.00	302.22

EQUATIONS:
STA. 8+45.01 C.L. LT. RAIL = STA. 109+97.70 C.L. CONST.
STA. 8+44.09 C.L. RT. RAIL = STA. 109+92.66 C.L. CONST.

Side Track 6			
LEFT RAIL		RIGHT RAIL	
Station	Elevation	Station	Elevation
0+00.00	299.13	0+00.00	299.08
1+00.00	299.38	1+00.00	299.33
2+00.00	299.63	2+00.00	299.58
3+00.00	299.82	3+00.00	299.79
4+00.00	300.00	4+00.00	300.00
5+00.00	300.12	5+00.00	300.13
6+00.00	300.29	6+00.00	300.30
7+00.00	300.49	7+00.00	300.51
8+00.00	300.55	8+00.00	300.58
8+07.40	300.55	8+05.97	300.58
8+42.25	300.55	8+40.82	300.59
8+77.09	300.56	8+75.66	300.60
9+00.00	300.56	9+00.00	300.61
10+00.00	300.57	10+00.00	300.62
11+00.00	300.54	11+00.00	300.58
12+00.00	300.46	12+00.00	300.49
13+00.00	300.62	13+00.00	300.56
14+00.00	300.79	14+00.00	300.64
15+00.00	300.96	15+00.00	300.86
16+00.00	301.13	16+00.00	301.08
17+00.00	301.35	17+00.00	301.32
18+00.00	301.58	18+00.00	301.57
19+00.00	301.80	19+00.00	301.74

EQUATIONS:
STA. 8+42.25 C.L. LT. RAIL = STA. 109+84.31 C.L. CONST.
STA. 8+40.82 C.L. RT. RAIL = STA. 109+79.23 C.L. CONST.

Note: The elevations of the existing top-of-rail profile shall be verified by the Contractor prior to beginning of construction.



PLAN OF TRACKS

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/09/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
EXHIBIT A
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE 71 SEC. 2

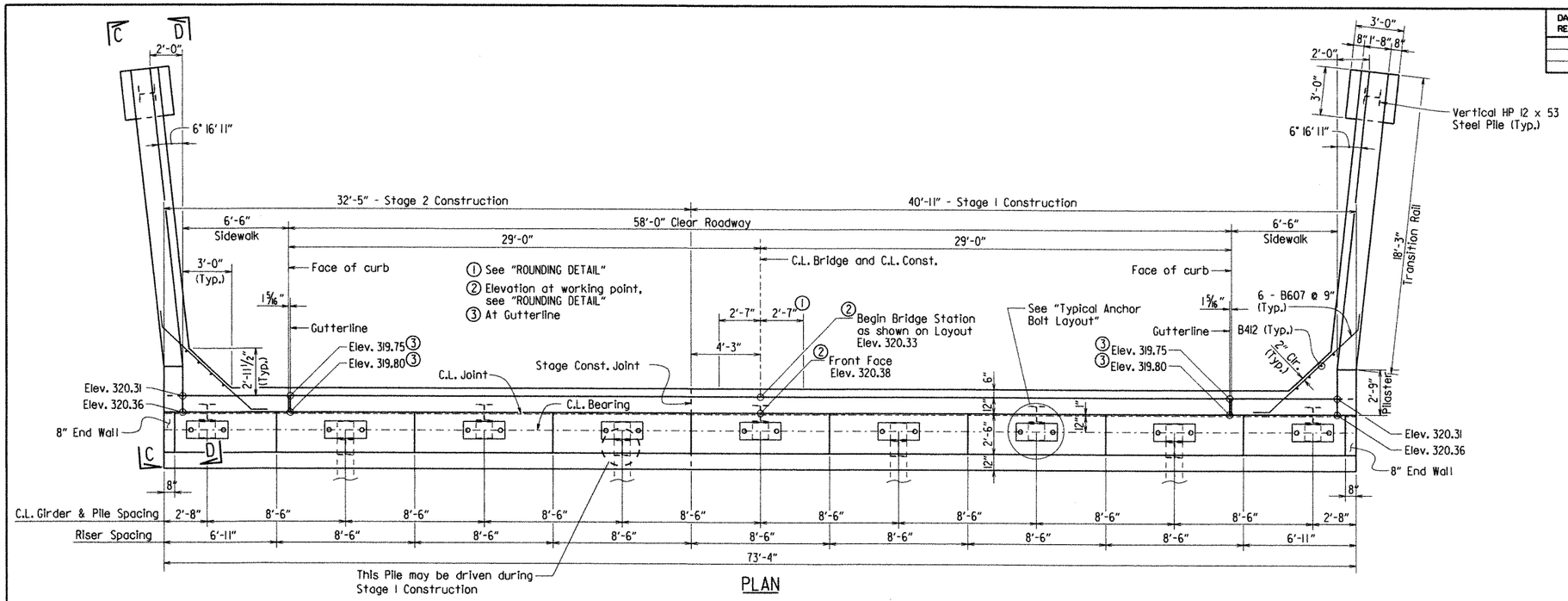
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TMG DATE: 10/5/2011 FILENAME: b030388x_ll.dgn
CHECKED BY: SGT DATE: 10/9/13 SCALE: 1" = 30'-0"
DESIGNED BY: TMG DATE: 8/11

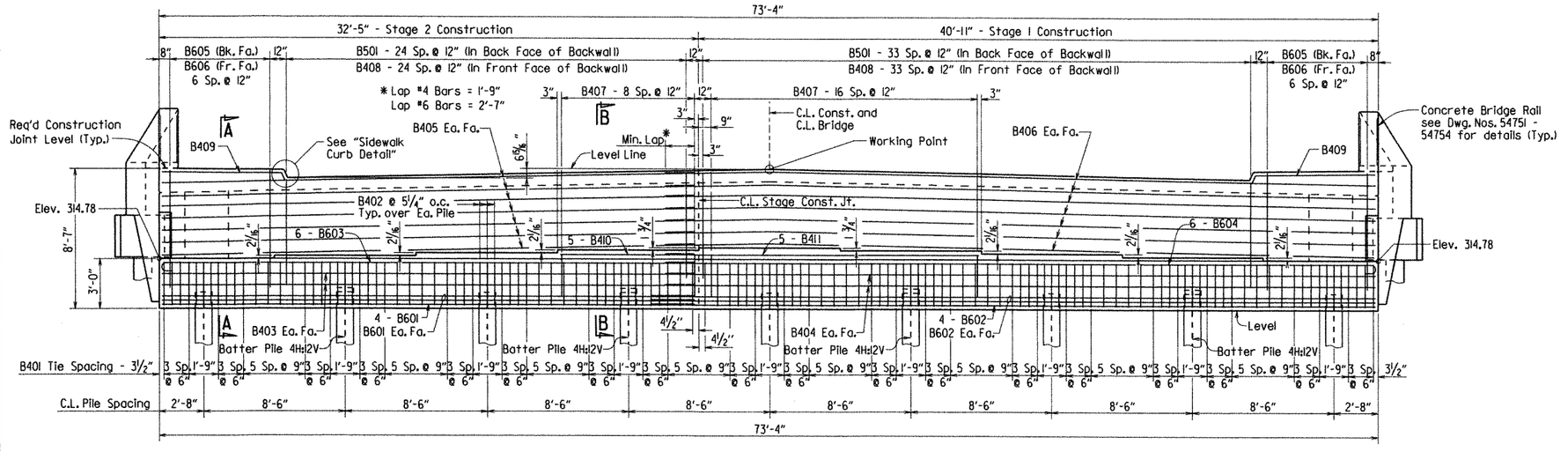
BRIDGE NO. 07249 DRAWING NO. 54726

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	46	126
				①		07249 - END BENT - 54727		



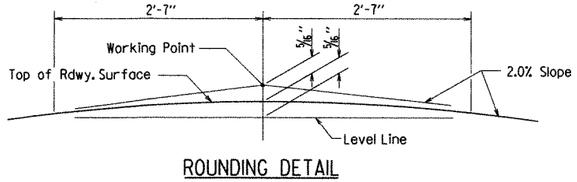
PLAN



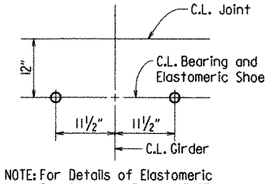
ELEVATION
LOOKING BACK

NOTE: See Dwg. No. 54728 for Section A-A and Section B-B details.

NOTE: Working Point matches Theoretical Roadway Grade.

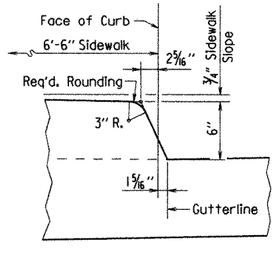


ROUNDING DETAIL
No Scale

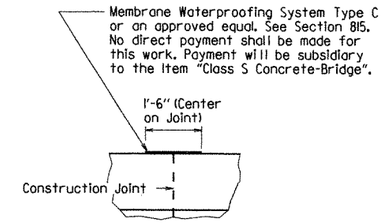


NOTE: For Details of Elastomeric Bearings, see Dwg. No. 54756.

TYPICAL ANCHOR BOLT LAYOUT
No Scale



SIDEWALK CURB DETAIL
No Scale



CONSTRUCTION JOINT DETAIL
No Scale

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c=3,500 psi and shall be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

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

All piles shall be HP12x53 (AASHTO M270, Gr. 50).

No portion of the backwall shall be poured until the girders are in place. The portion of the backwall above the optional construction joint shall not be poured before the superstructure slab in the adjacent span has been placed.

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

If anchor bolts are drilled into cap, top reinforcing bars shall be placed to avoid damage.

For additional information, see layout.

STATE OF ARKANSAS
Carl J. Fuselier
No. 7510
REGISTERED PROFESSIONAL ENGINEER
10/17/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 1
ROUTE SEC.

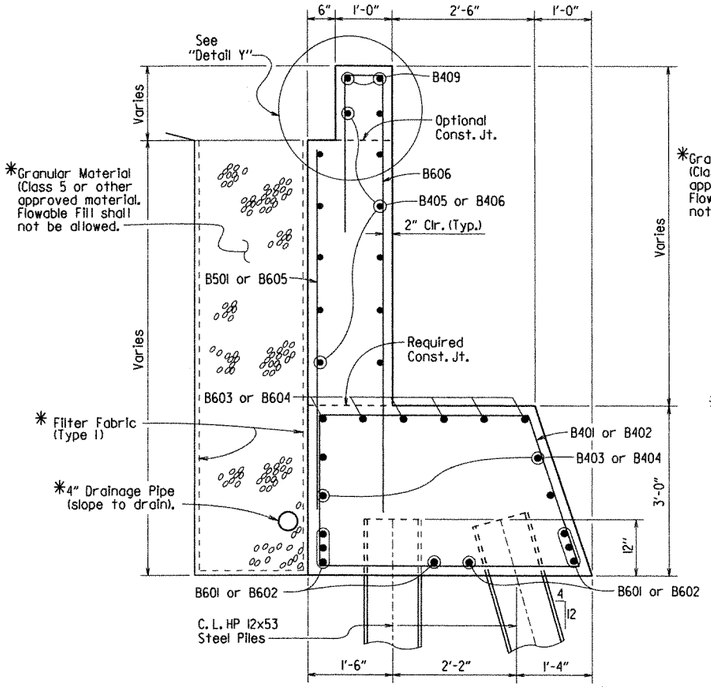
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/07/12
CHECKED BY: TMG DATE: 10/18/13
DESIGNED BY: TMG DATE: 6/12
FILENAME: b030388x1_b1.dgn
SCALE: 1/4" = 1'-0"

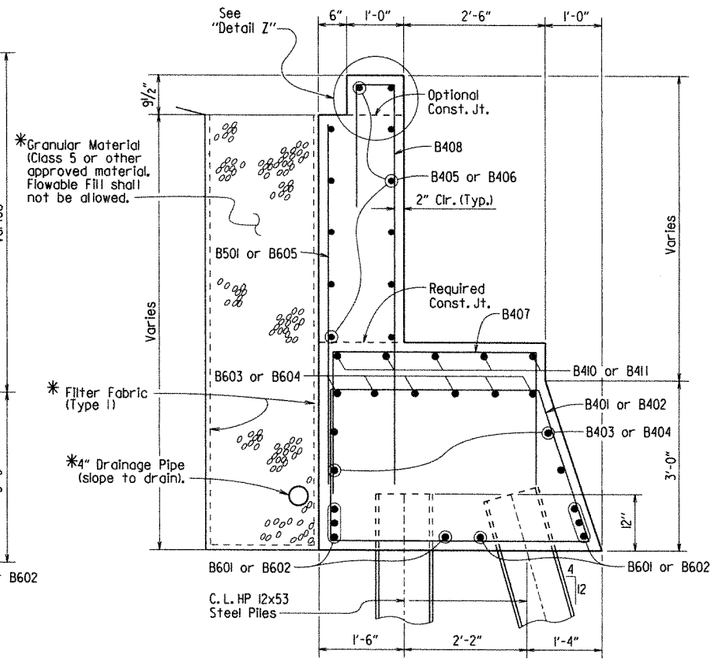
BRIDGE NO. 07249 DRAWING NO. 54727

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	47	126
				①		07249 - END BENT - 54728		

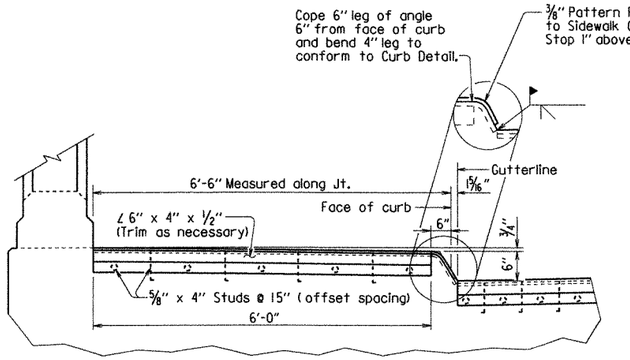


SECTION A-A
Scale: 3/4" = 1'-0"



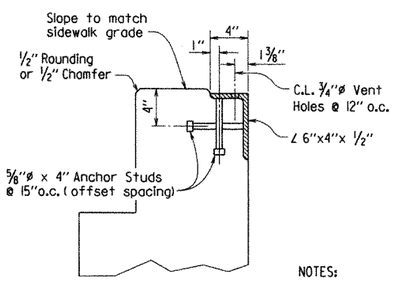
SECTION B-B
Scale: 3/4" = 1'-0"

* NOTE: For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611. Pipe underdrains, outlet protectors, granular materials, drain pipe, and filter fabric will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation". Locate holes in wings to miss reinforcing steel.

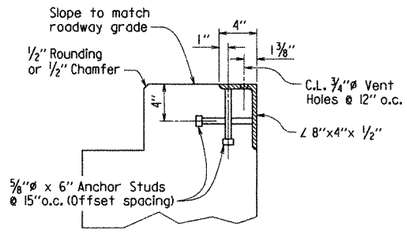


SIDEWALK DETAIL
No Scale

NOTE: Concrete shall be hand packed under the joint armor in the sidewalk. See Dwg. No. 54749 for additional details.



DETAIL Y
No Scale



DETAIL Z
No Scale

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

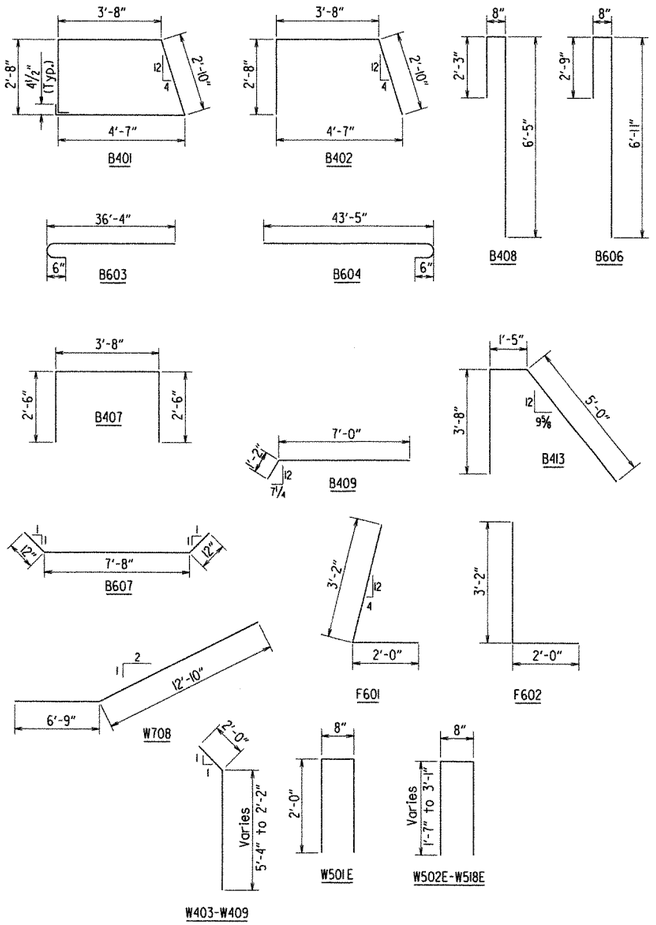
For additional joint details, see Dwg. Nos. 54749 & 54750.

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	P.D.
B401	58	46	14'-3"	2"
B402	15	12	9'-1"	2"
B403	-	4	32'-1"	Str.
B404	4	-	42'-9"	Str.
B405	-	10	32'-1"	Str.
B406	10	-	42'-9"	Str.
B407	17	9	8'-6"	2"
B408	34	25	9'-2"	2"
B409	2	2	8'-2"	2"
B410	5	-	8'-4"	Str.
B411	-	5	18'-9"	Str.
B412	4	4	5'-3"	Str.
B413	4	4	10'-1"	2"
B414	3	3	4'-10"	Str.
B415	4	4	3'-6"	Str.
B501	34	25	5'-4"	Str.
B601	-	8	32'-1"	Str.
B602	8	-	43'-7"	Str.
B603	-	6	37'-6"	4½"
B604	6	-	44'-8"	4½"
B605	7	7	5'-7"	Str.
B606	7	7	10'-0"	4½"
B607	6	6	9'-8"	4½"
F601	5	5	5'-0"	4½"
F602	5	5	5'-0"	4½"
F603	6	6	2'-8"	Str.
W401	9	9	6'-6"	Str.
W402	9	9	8'-0"	Str.
W403 - W409	1 Ea.	1 Ea.	7'-4" 4'-2"	2"
W410 - W416	1 Ea.	1 Ea.	7'-3" - 4'-1"	Str.
W417 - W420	2 Ea.	2 Ea.	3'-6" - 2'-0"	Str.
W501E	25	25	4'-6"	2½"
W502E - W518E	1 Ea.	1 Ea.	6'-8" - 3'-8"	2½"
W701	8	8	20'-8"	Str.
W702 - W707	1 Ea.	1 Ea.	17'-1" - 8'-6"	Str.
W708	2	2	19'-7"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



STATE OF ARKANSAS
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No. 7510
10/18/13
CARL J. FUSELIER

BRIDGE ENGINEER

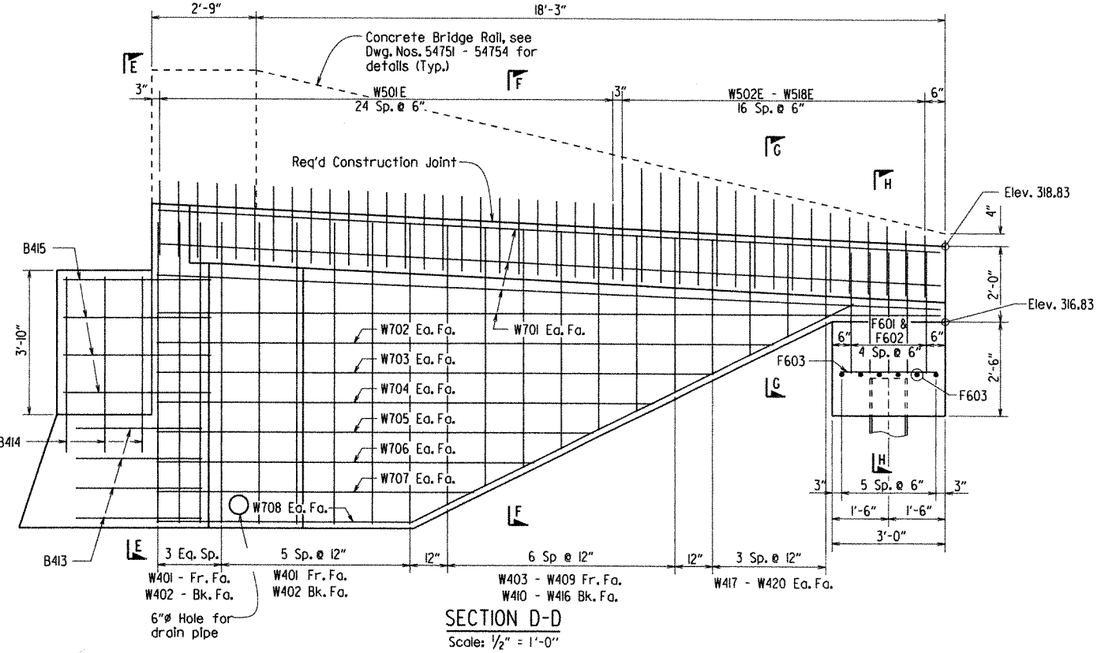
SHEET 2 OF 3
DETAILS OF BENT 1
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/07/12
CHECKED BY: TMG DATE: 10/18/13
DESIGNED BY: TMG DATE: 6/12
FILENAME: b030388xl_bl.dgn
SCALE: 1/4" = 1'-0"

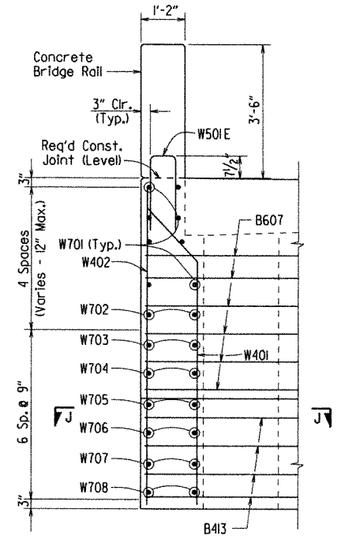
BRIDGE NO. 07249 DRAWING NO. 54728

PRINT DATE: 18-OCT-2013

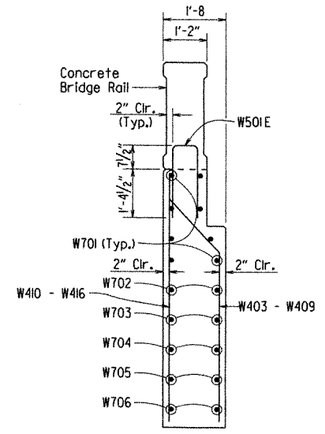
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	48	126
				(1)		07249 - END BENT - 54729		



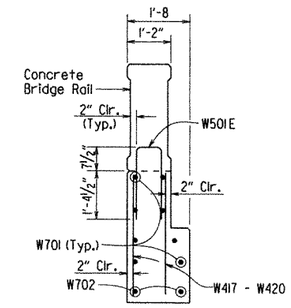
SECTION D-D
Scale: 1/2" = 1'-0"



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



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



SECTION G-G
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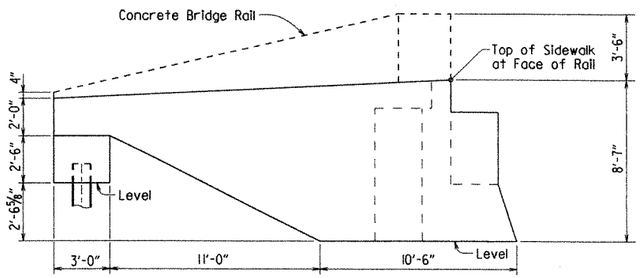
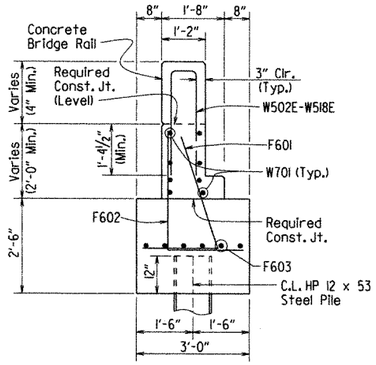
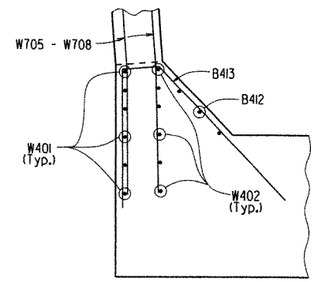


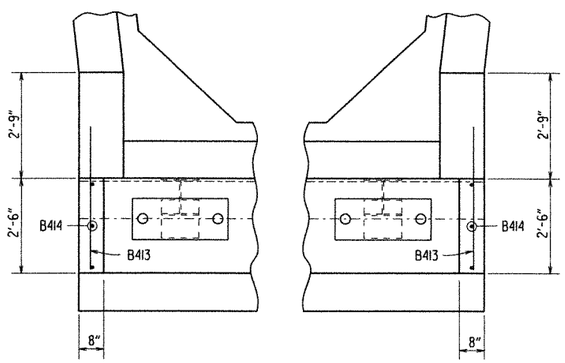
VIEW C-C
Scale: 1/4" = 1'-0"



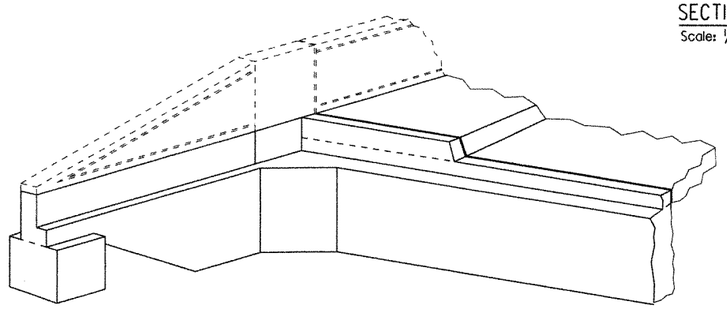
SECTION H-H
Scale: 1/2" = 1'-0"



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



END WALL DETAILS
No Scale



PICTORIAL OF END BENT RAILING
No Scale

NOTE: For location of Type D Bridge Name Plate see Dwg. No. 54752.

STATE OF ARKANSAS
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REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/9/13
CARL L. FUSSELIER

BRIDGE ENGINEER

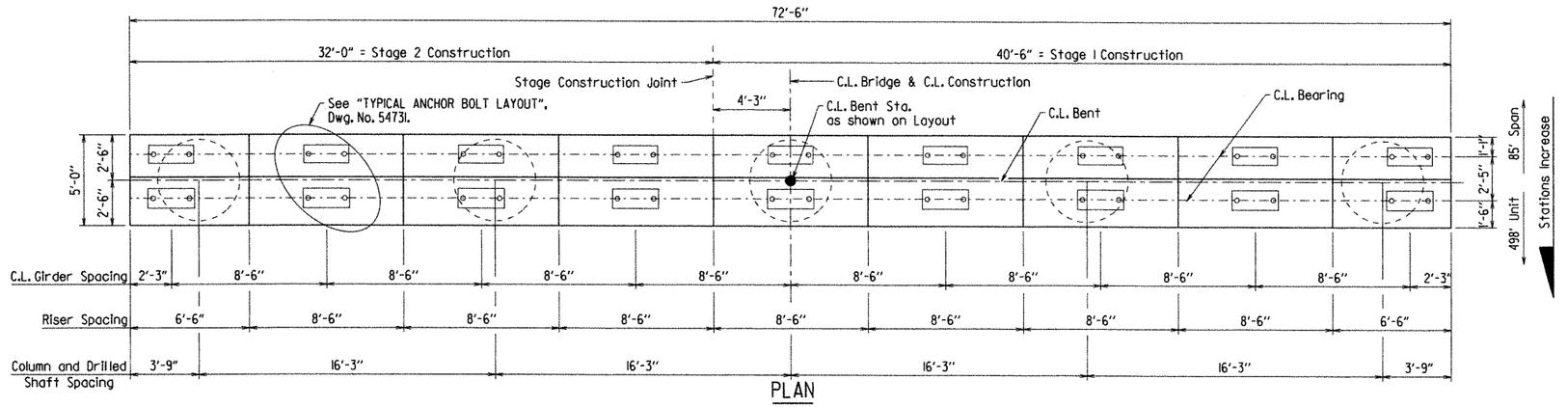
SHEET 3 OF 3
DETAILS OF BENT 1
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 09/24/12
CHECKED BY: TMG DATE: 10/18/13
DESIGNED BY: TMG DATE: 6/12
FILENAME: b030388xl_bl.dgn
SCALE: As Shown

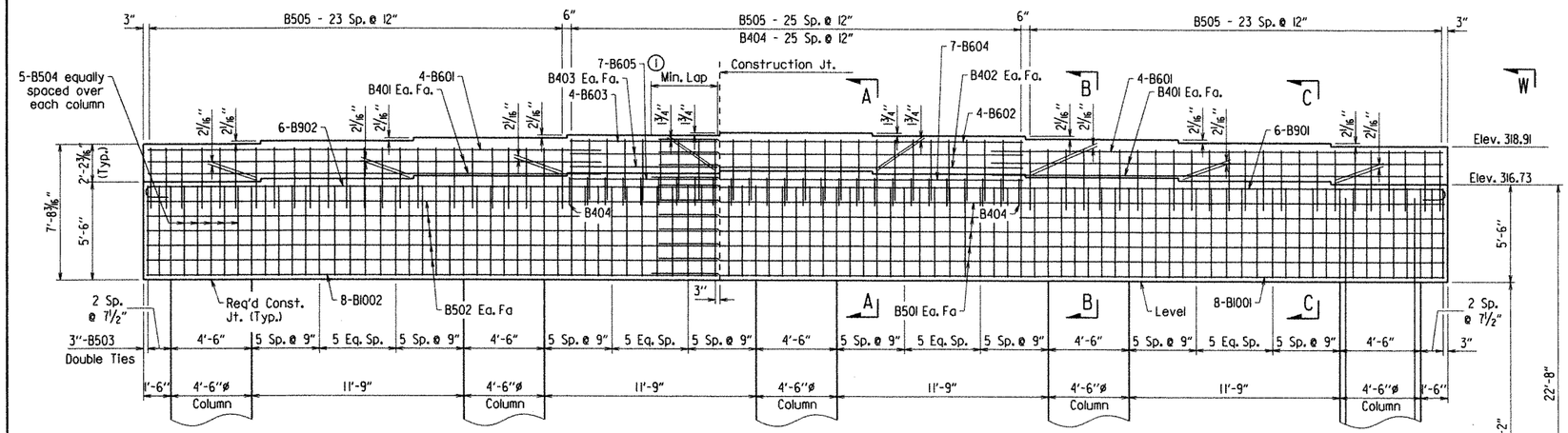
BRIDGE NO. 07249
DRAWING NO. 54729

PRINT DATE: 18-OCT-2013

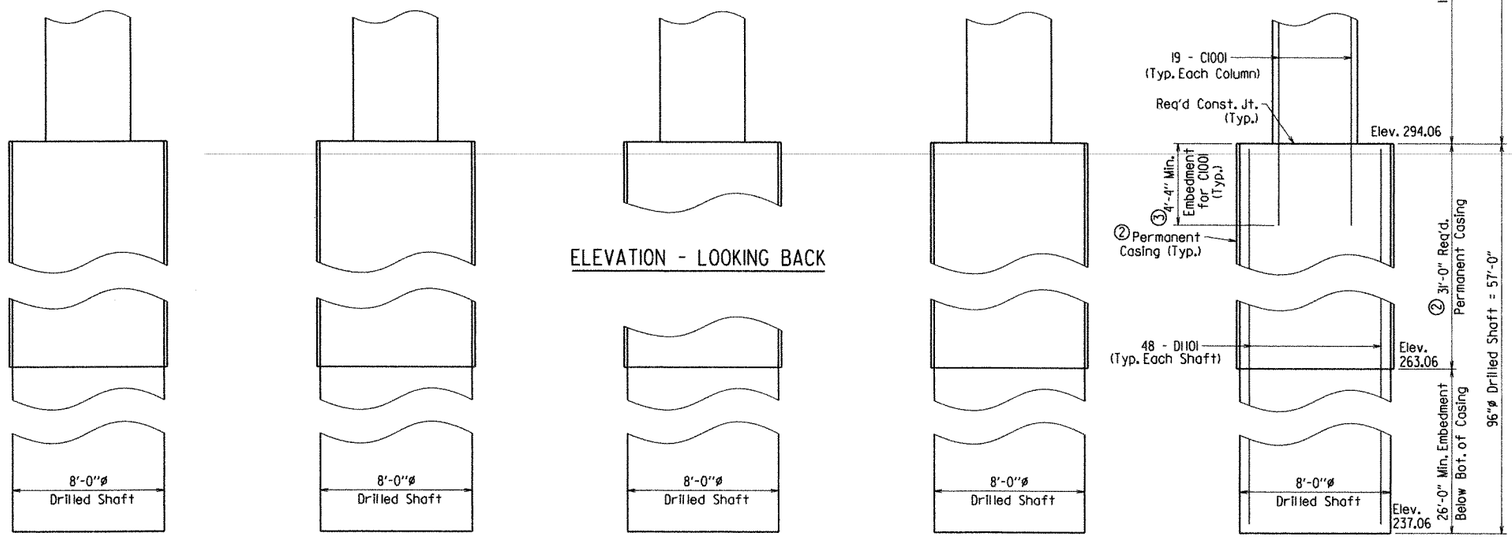
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	49	126
				① 07249 -		INT. BENT	- 54730	



PLAN



ELEVATION - LOOKING BACK



GENERAL NOTES

Concrete in the cap and column shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. Concrete in the drilled shaft shall be Class S as modified by SP Job 030388 "Drilled Shaft Foundations". All exposed corners to be chamfered ¾" unless otherwise noted.

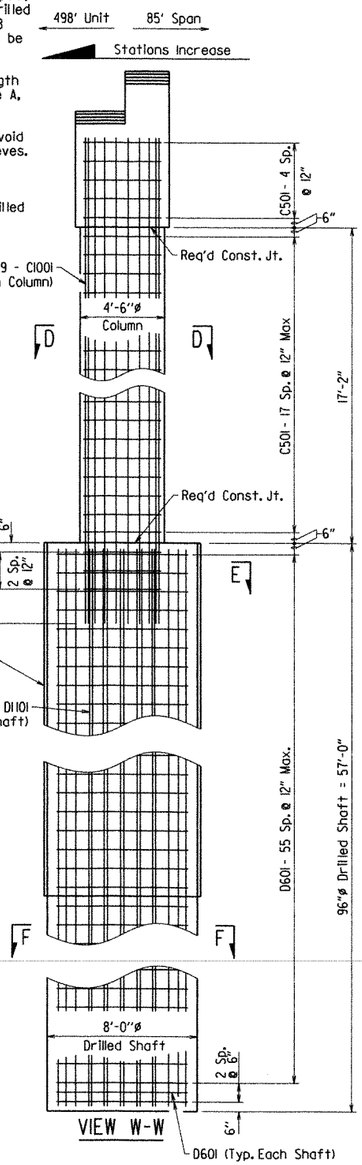
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information see layout.

Drilled shafts shall conform to SP Job 030388 "Drilled Shaft Foundations".

For all "Sections", see Dwg. No. 54731.



① Lap #4 Bars = 1'-9"
Lap #5 Bars = 2'-2"
Lap #6 Bars = 2'-7"
Lap #9 Bars = 5'-9"
Lap #10 Bars = 7'-4"

② Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job 030388 "Drilled Shaft Foundations." Permanent casings shall extend to material designated as VERY STIFF CLAY on the Boring Legend.

③ The column reinforcing cage, consisting of bars C501 and C1001, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
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BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 2

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

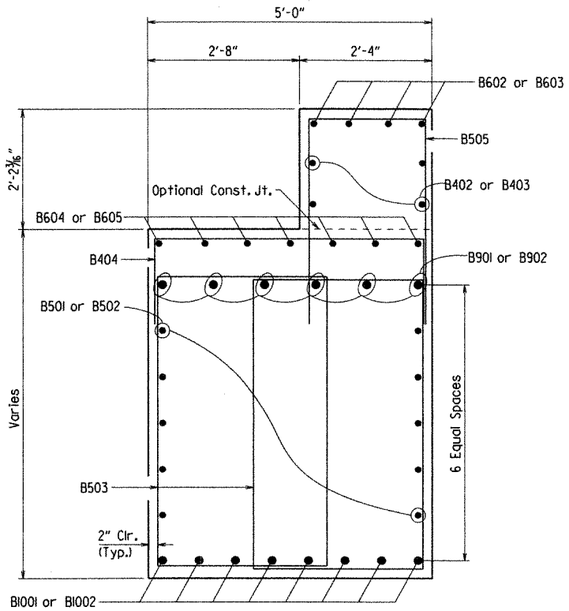
DRAWN BY: LJB DATE: 7/26/12
CHECKED BY: SCOTT DATE: 10/18/13
DESIGNED BY: TMG DATE: 6/12

FILENAME: b030388xl_b2.dgn
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07249 DRAWING NO. 54730

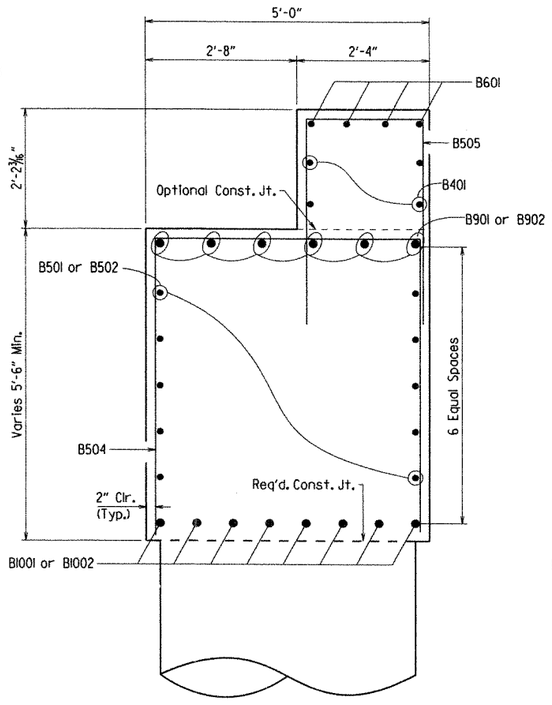
PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	50	126
				①	07249 -	INT. BENT	- 54731	



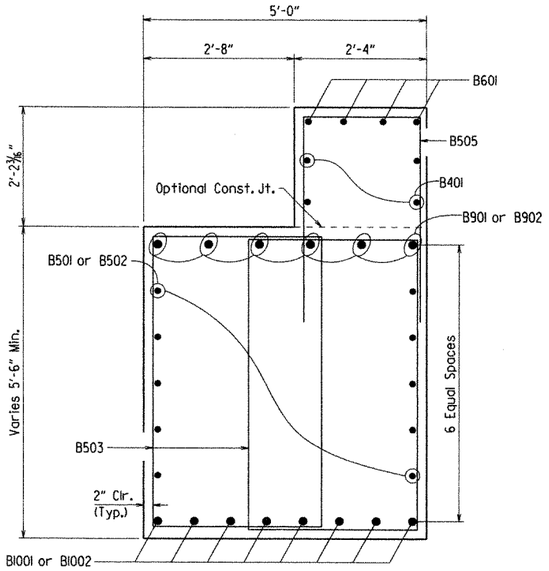
SECTION A-A

¾" = 1'-0"



SECTION B-B

¾" = 1'-0"



SECTION C-C

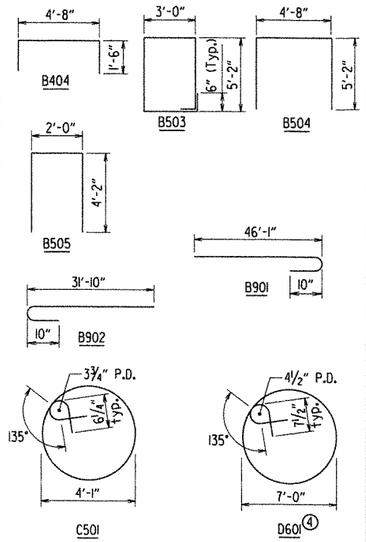
¾" = 1'-0"

BAR LIST

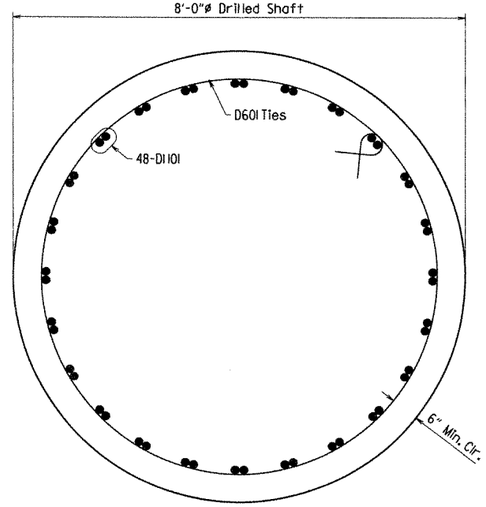
MARK	NO. REQ'D. Stage 1	NO. REQ'D. Stage 2	LENGTH	P.D.
B401	4	4	25'-2"	Str.
B402	4	-	18'-8"	Str.
B403	-	4	8'-4"	Str.
B404	17	9	7'-6"	2"
B501	10	-	42'-6"	Str.
B502	-	10	31'-10"	Str.
B503	76	64	16'-10"	2½"
B504	15	10	14'-10"	2½"
B505	41	33	10'-2"	2½"
B601	4	4	26'-0"	Str.
B602	4	-	19'-6"	Str.
B603	-	4	8'-4"	Str.
B604	7	-	19'-6"	Str.
B605	-	7	8'-4"	Str.
B901	6	-	47'-4"	9"
B902	-	6	33'-1"	9"
B1001	8	-	47'-8"	Str.
B1002	-	8	31'-10"	Str.
C501	78	52	14'-2"	3¾"
C1001	57	38	26'-6"	Str.
④ D601	174	116	23'-7"	4½"
④ D1101	144	96	56'-8"	Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.

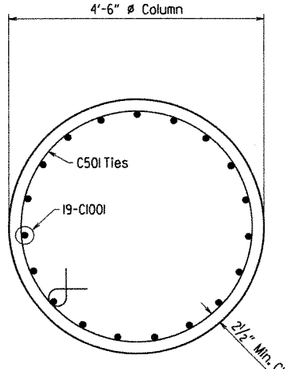


④ D601 and D1101 Bars are non-pay items and are subsidiary to SP Job 030388 "Drilled Shaft Foundations"



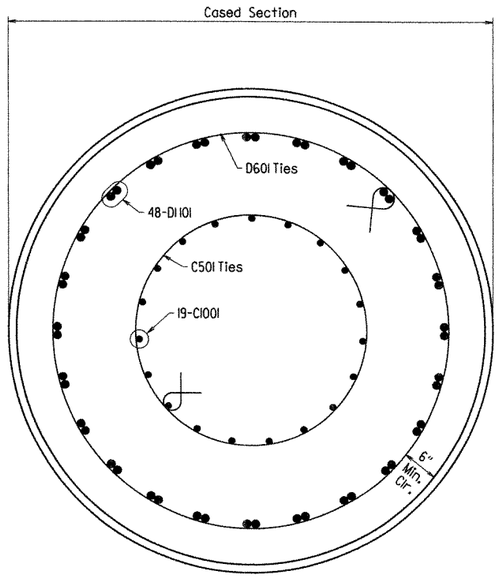
SECTION F-F

¾" = 1'-0"



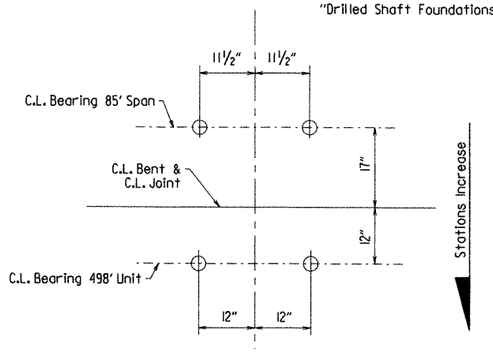
SECTION D-D

¾" = 1'-0"



SECTION E-E

¾" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/8/13
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENT 2

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/26/12
CHECKED BY: JGT DATE: 10/9/13
DESIGNED BY: TMG DATE: 6/12

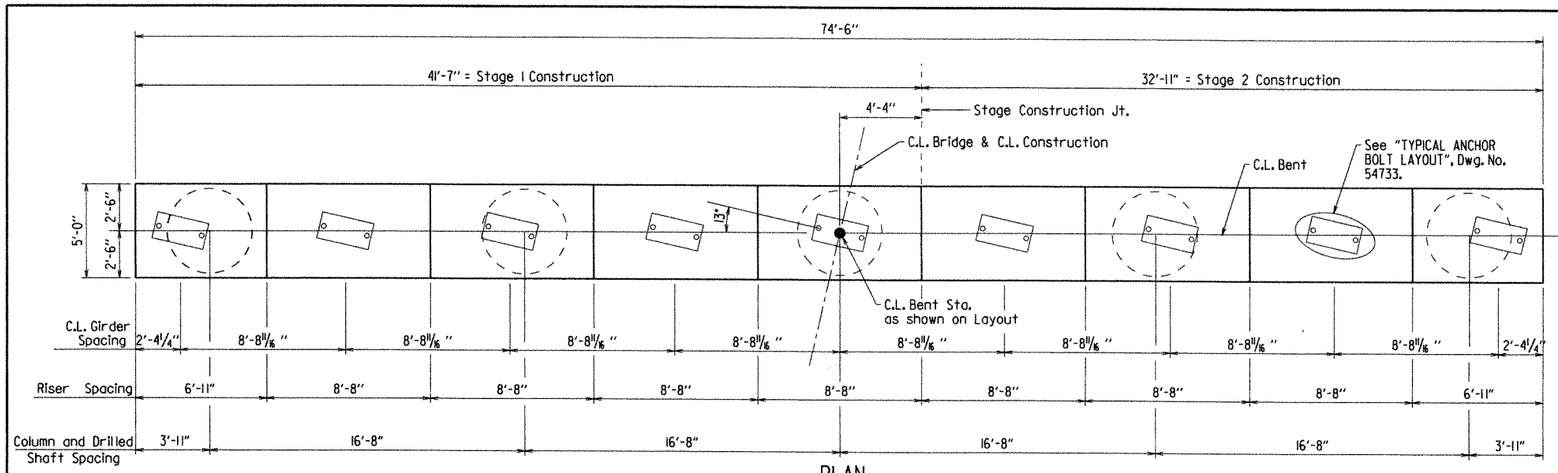
FILENAME: b030388xl_b2.dgn
SCALE: AS NOTED

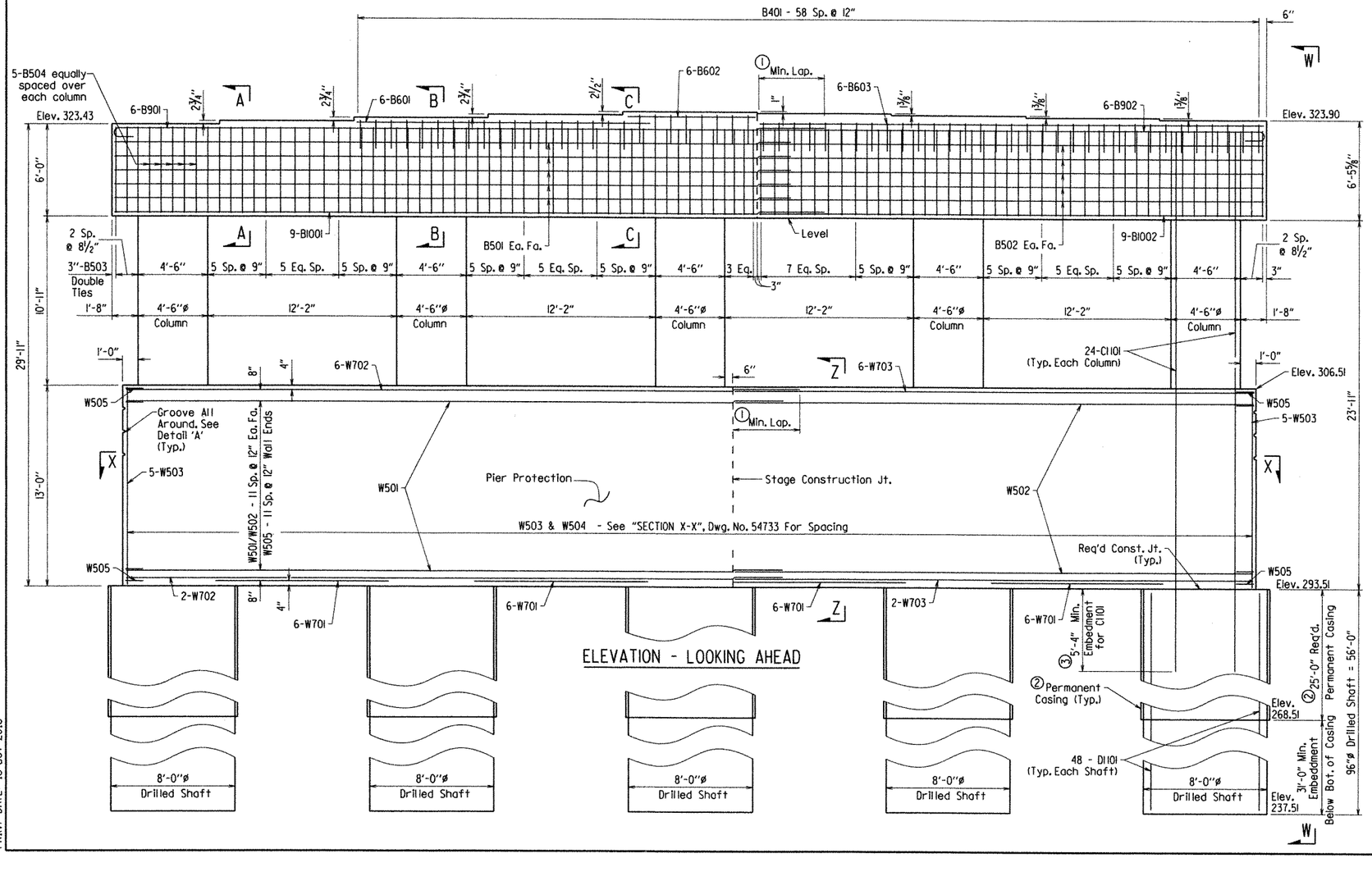
BRIDGE NO. 07249

DRAWING NO. 54731

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	51	126
				① 07249 -		INT. BENT	- 54732	





GENERAL NOTES

Concrete in the cap and column shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. Concrete in the drilled shaft shall be Class S as modified by SP Job 030388 "Drilled Shaft Foundations". All exposed corners to be chamfered ¾" unless otherwise noted.

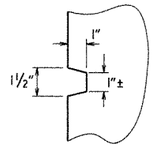
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

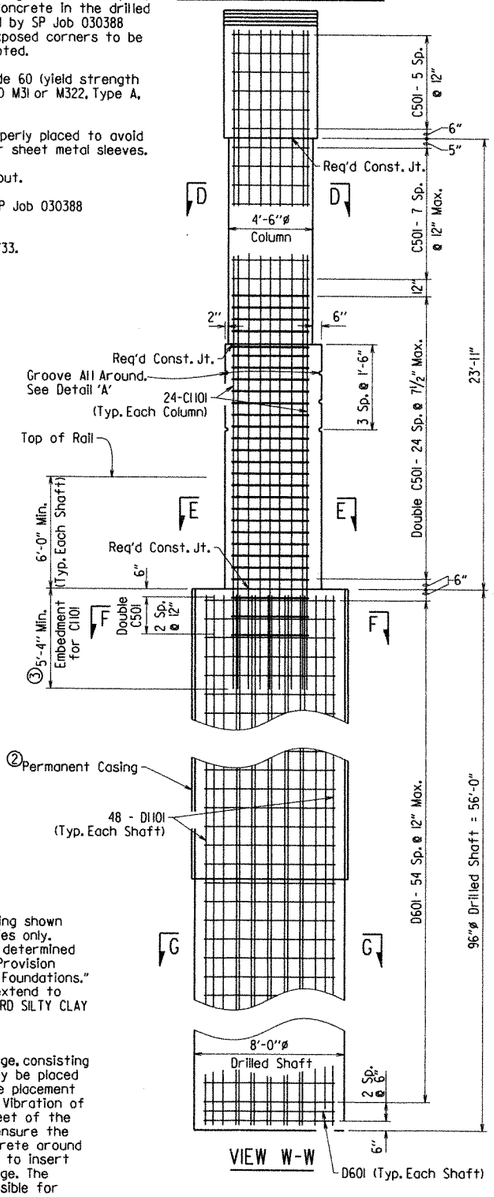
For additional information see layout.

Drilled shafts shall conform to SP Job 030388 "Drilled Shaft Foundations".

For all "Sections", see Dwg. No. 54733.



DETAIL 'A'



VIEW W-W

①Lap #4 Bars = 1'-9"
Lap #5 Bars = 2'-2"
Lap #7 Bars = 3'-6"
Lap #9 Bars = 5'-9"
Lap #10 Bars = 7'-4"

②Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job 030388 "Drilled Shaft Foundations." Permanent casings shall extend to material designated as HARD SILTY CLAY on the Boring Legend.

③ The column reinforcing cage, consisting of bars C501 and C1101, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

STATE OF ARKANSAS
CARL J. PUSELLIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/12
CARL J. PUSELLIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 3

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/26/12
CHECKED BY: SGS DATE: 10/5/12
DESIGNED BY: TMG DATE: 6/12

FILENAME: b030388x1_b3.dgn
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07249 DRAWING NO. 54732

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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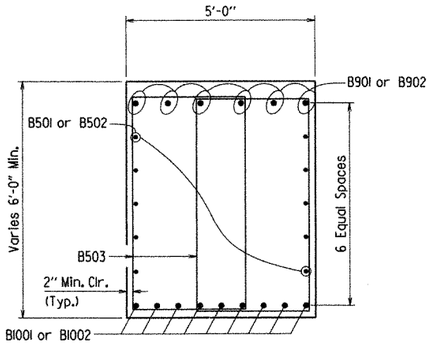
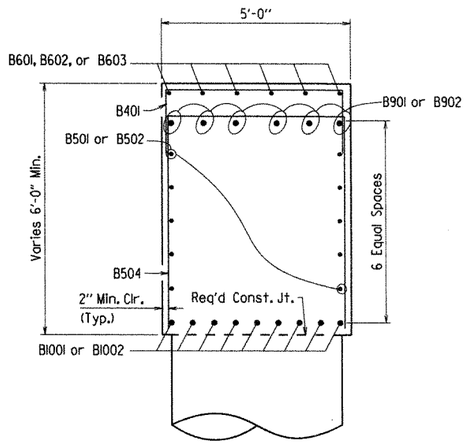
				JOB NO.		030388	52	126
				①	07249 -	INT. BENT	- 54733	



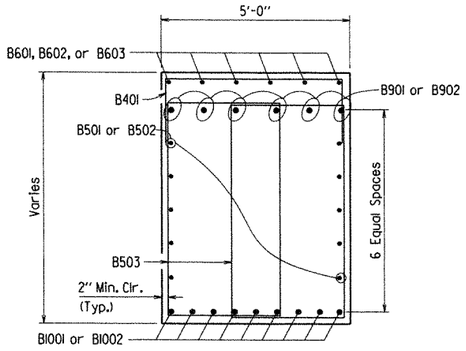
SECTION A-A

½" = 1'-0"



SECTION B-B

½" = 1'-0"



SECTION C-C

½" = 1'-0"

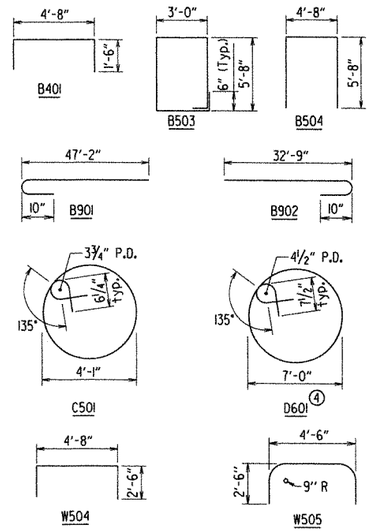
④ D601 and D1101 Bars are non-pay items and are subsidiary to SP Job 030388 "Drilled Shaft Foundations"

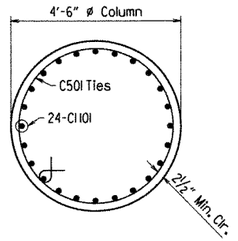
BAR LIST

MARK	NO. REQ'D. Stage 1	NO. REQ'D. Stage 2	LENGTH	P.D.
B401	26	33	7'-6"	2"
B501	10	-	43'-7"	Str.
B502	-	10	32'-9"	Str.
B503	78	64	17'-10"	2½"
B504	15	10	15'-10"	2½"
B601	6	-	19'-10"	Str.
B602	6	-	8'-4"	Str.
B603	-	6	32'-9"	Str.
B901	6	-	48'-5"	9"
B902	-	6	34'-0"	9"
B1001	9	-	48'-9"	Str.
B1002	-	9	32'-9"	Str.
C501	210	140	14'-2"	3¾"
C1101	72	48	35'-0"	Str.
④ D601	171	114	23'-7"	4½"
④ D1101	144	96	55'-8"	Str.
W501	24	-	41'-0"	Str.
W502	-	24	32'-3"	Str.
W503	79	69	12-8"	Str.
W504	56	52	9'-6"	2½"
W505	14	14	8'-10"	2½"
W701	12	12	11'-2"	Str.
W702	8	-	41'-11"	Str.
W703	-	8	32'-11"	Str.

BENDING DIAGRAMS

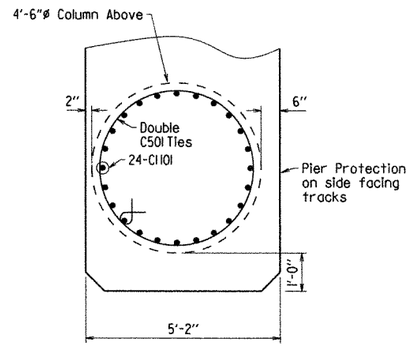
Dimensions are out to out of bars.





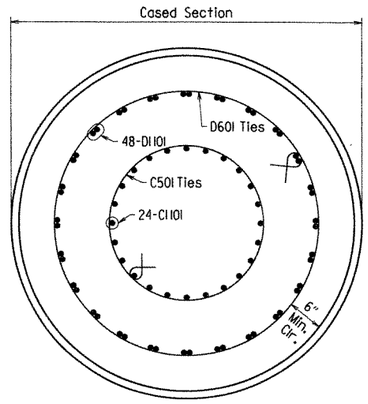
SECTION D-D

½" = 1'-0"



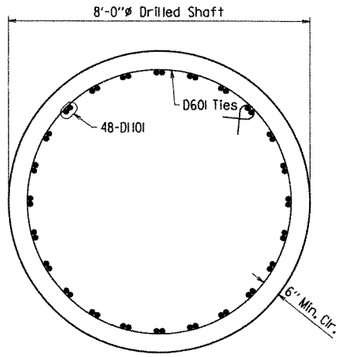
SECTION E-E

½" = 1'-0"



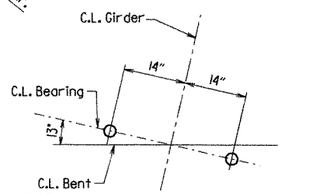
SECTION F-F

½" = 1'-0"



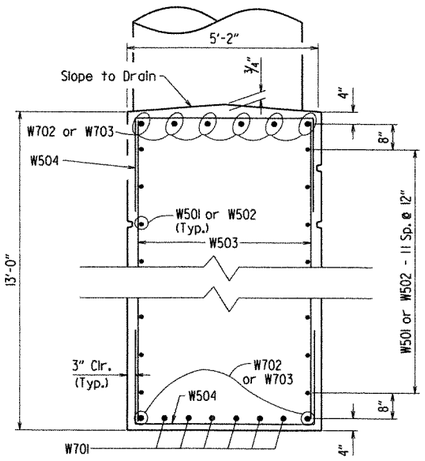
SECTION G-G

½" = 1'-0"



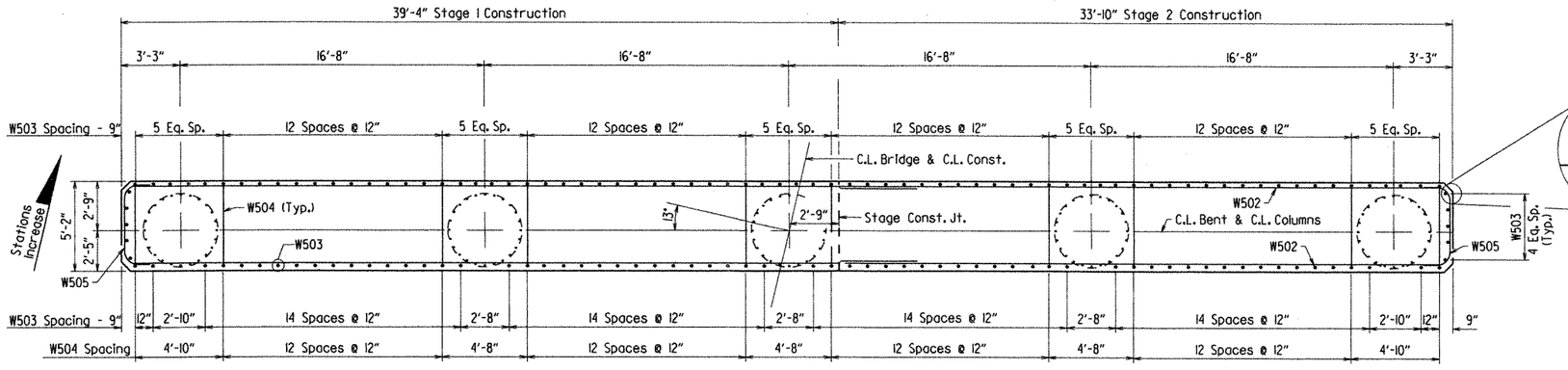
TYPICAL ANCHOR BOLT LAYOUT

No Scale



SECTION Z-Z

½" = 1'-0"



SECTION X-X

¼" = 1'-0"

STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENT 3

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/26/12 FILENAME: b030388xl_b3.dgn

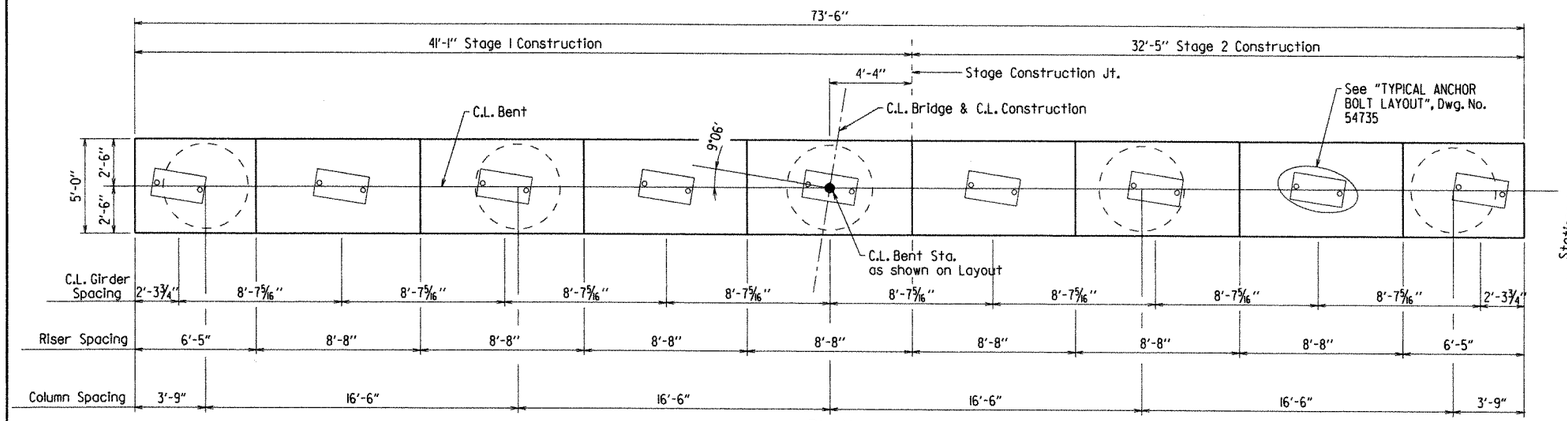
CHECKED BY: SGT DATE: 10/18/13 SCALE: AS NOTED

DESIGNED BY: TMG DATE: 6/12

BRIDGE NO. 07249 DRAWING NO. 54733

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	53	126
				①	07249 -	INT. BENT	- 54734	



PLAN

GENERAL NOTES

Concrete in the cap and column shall be Class S with a minimum 28 day compressive strength, f'c = 3500 psi., and shall be poured in the dry. Concrete in the drilled shaft shall be Class S as modified by SP Job 030388 "Drilled Shaft Foundations". All exposed corners to be chamfered ¾" unless otherwise noted.

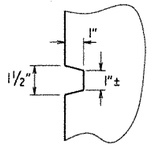
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Top reinforcing bars shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

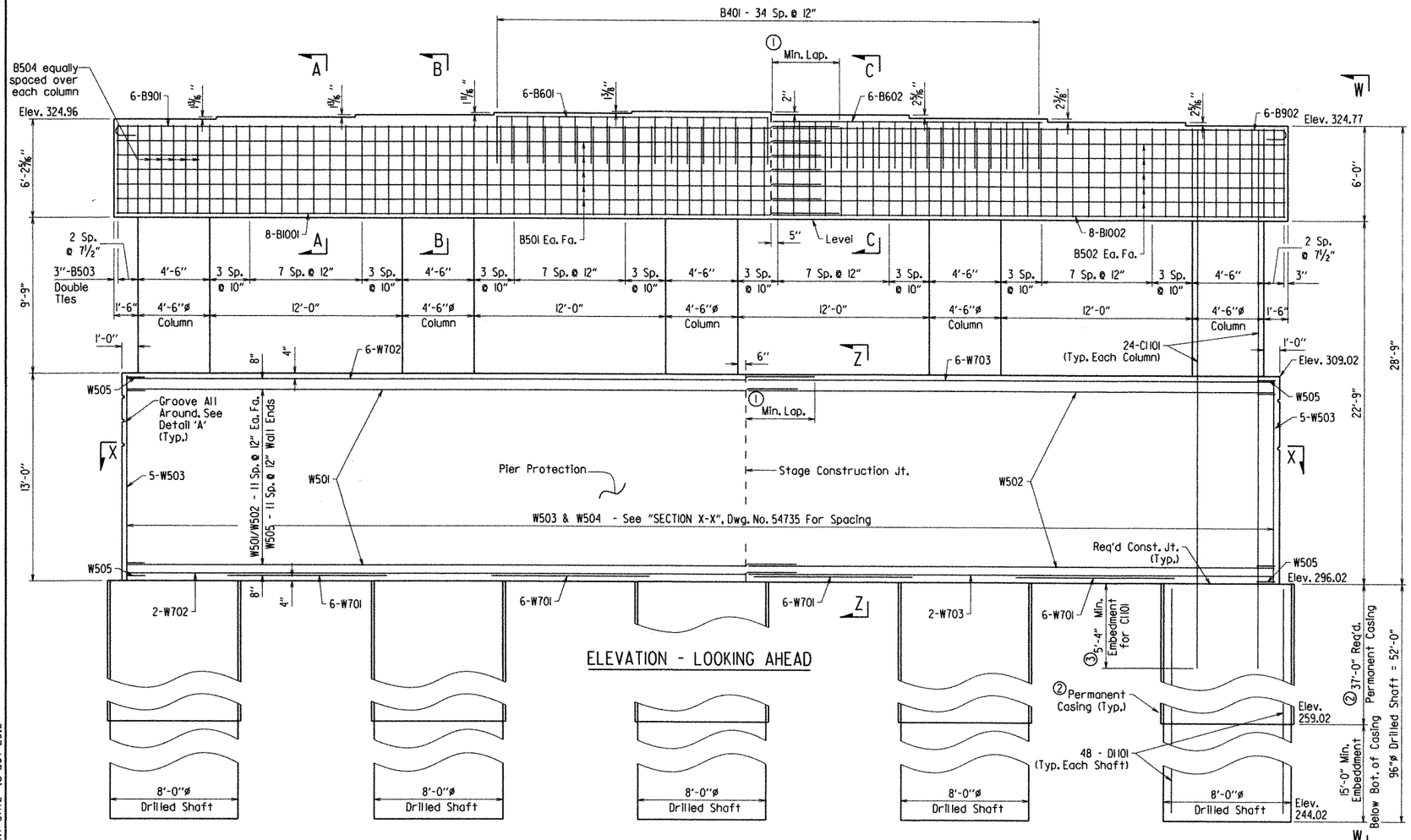
For additional information see layout.

Drilled shafts shall conform to SP Job 030388 "Drilled Shaft Foundations".

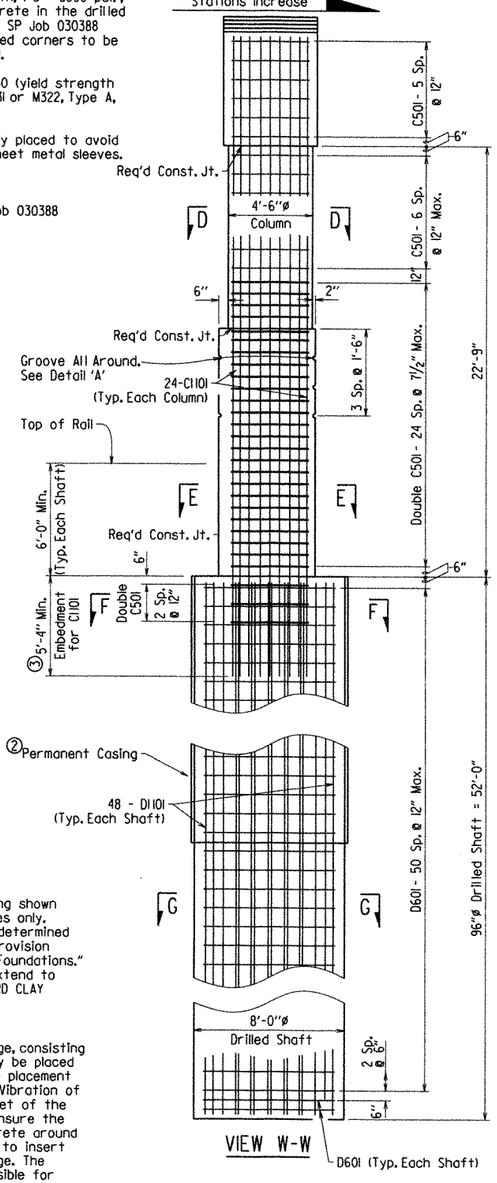
For all "Sections", see Dwg. No. 54735.



DETAIL 'A'



ELEVATION - LOOKING AHEAD



VIEW W-W

① Lap #4 Bars = 1'-9"
Lap #5 Bars = 2'-2"
Lap #6 Bars = 2'-7"
Lap #7 Bars = 3'-6"
Lap #9 Bars = 5'-9"
Lap #10 Bars = 7'-4"

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③ The column reinforcing cage, consisting of bars C501 and C1101, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

STATE OF ARKANSAS
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No. 7510
10/8/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 4

ROUTE SEC.

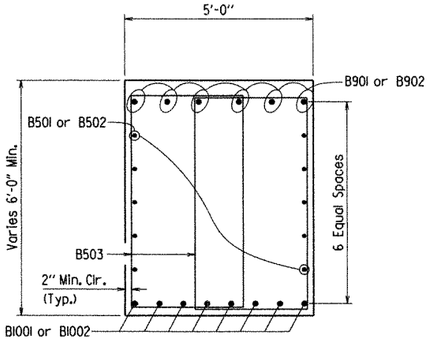
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/26/12
CHECKED BY: JGT DATE: 10/8/13
DESIGNED BY: TMG DATE: 6/12
FILENAME: b030388x1_b4.dgn
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07249 DRAWING NO. 54734

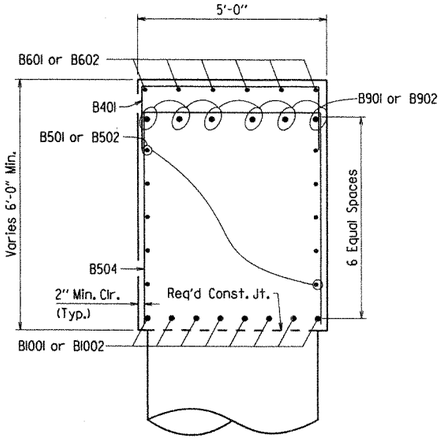
PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	54	126
				①	07249 -	INT. BENT	- 54735	



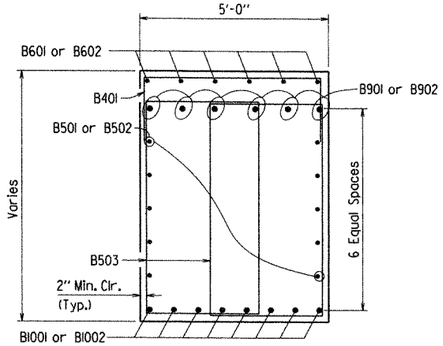
SECTION A-A

½" = 1'-0"



SECTION B-B

½" = 1'-0"



SECTION C-C

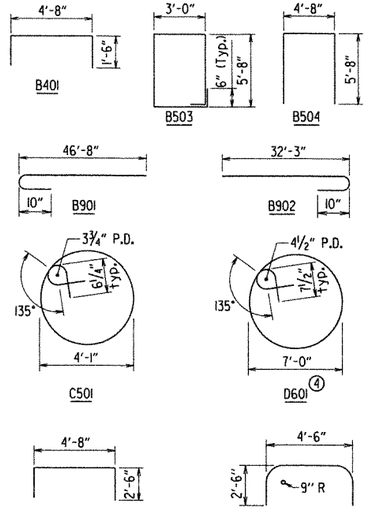
½" = 1'-0"

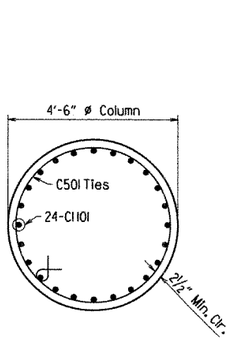
④ D601 and D1101 Bars are non-pay items and are subsidiary to SP Job 030388 "Drilled Shaft Foundations"

MARK	NO. REQ'D. Stage 1	NO. REQ'D. Stage 2	LENGTH	P.D.
B401	18	17	7'-6"	Str.
B501	10	-	43'-1"	Str.
B502	-	10	32'-3"	Str.
B503	68	56	17'-10"	2½"
B504	15	10	15'-10"	2½"
B601	6	-	17'-1"	Str.
B602	-	6	17'-0"	Str.
B901	6	-	47'-11"	9"
B902	-	6	33'-6"	9"
B1001	8	-	48'-3"	Str.
B1002	-	8	32'-3"	Str.
C501	207	138	14'-2"	9"
C1101	72	48	33'-10"	Str.
④ D601	159	106	23'-7"	9"
④ D1101	144	96	51'-8"	Str.
W501	24	-	40'-8"	Str.
W502	-	24	33'-0"	Str.
W503	79	69	12-8"	Str.
W504	56	52	9'-6"	2½"
W505	14	14	8'-10"	2½"
W701	12	12	11'-0"	Str.
W702	8	-	41'-5"	Str.
W703	-	8	32'-5"	Str.

BENDING DIAGRAMS

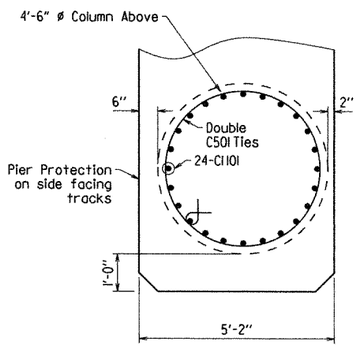
Dimensions are out to out of bars.





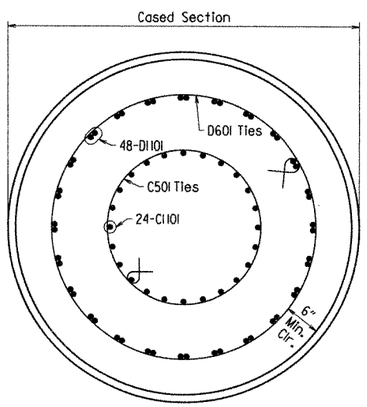
SECTION D-D

½" = 1'-0"



SECTION E-E

½" = 1'-0"



SECTION F-F

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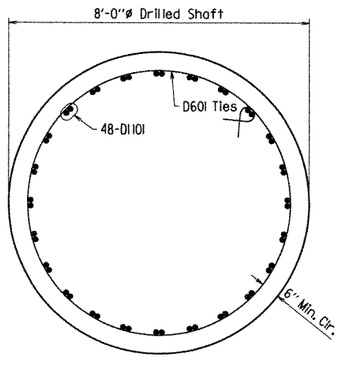
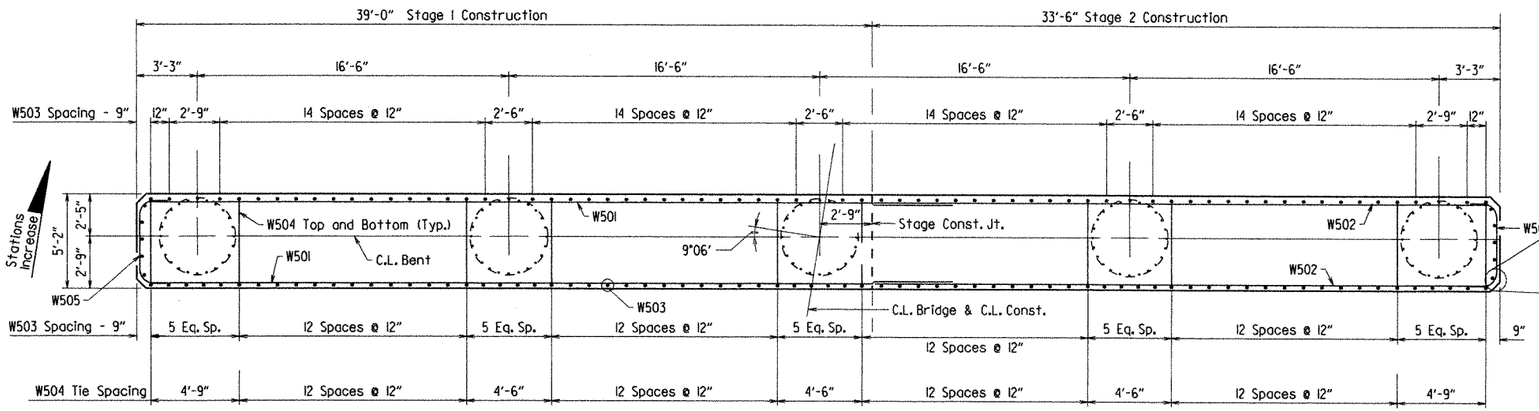


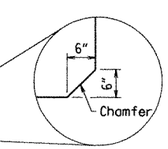
SECTION G-G

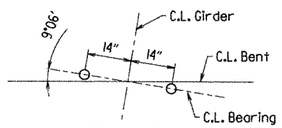
½" = 1'-0"



SECTION X-X

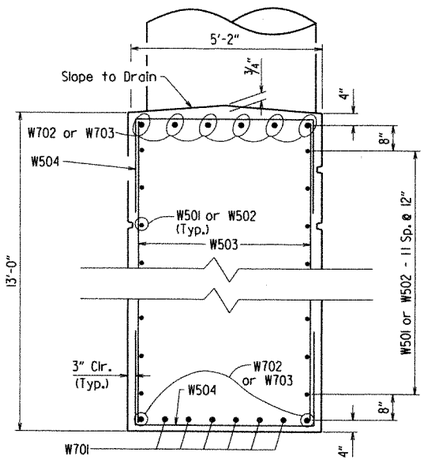
¼" = 1'-0"





TYPICAL ANCHOR BOLT LAYOUT

No Scale



SECTION Z-Z

STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENT 4

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/26/12 FILENAME: b030388xl_b4.dgn
CHECKED BY: SGT DATE: 10/18/13 SCALE: AS NOTED
DESIGNED BY: TMG DATE: 6/12

BRIDGE NO. 07249 DRAWING NO. 54735

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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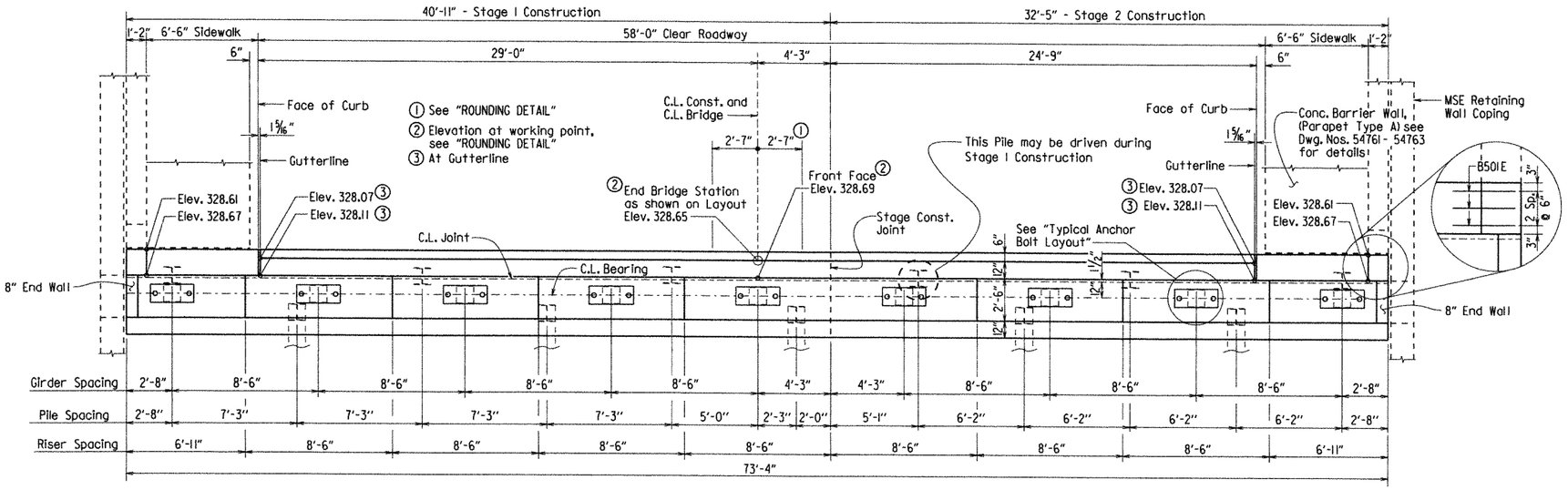
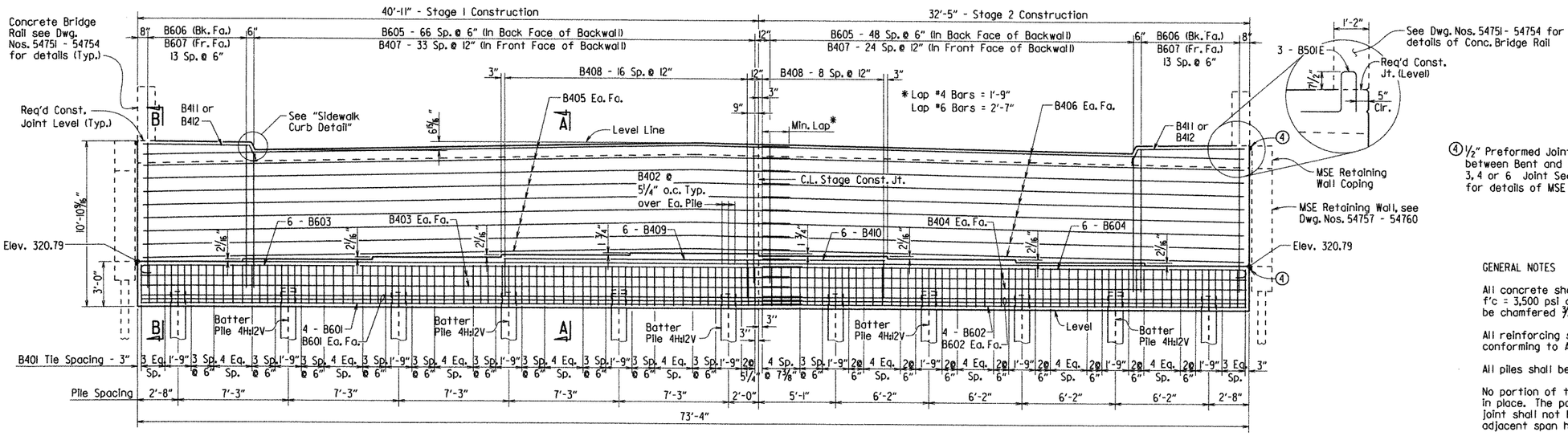
				JOB NO.		030388	55	126
				①		07249 - END BENT - 54736		

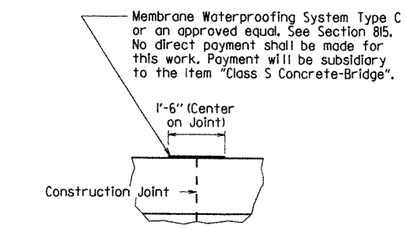


PLAN



ELEVATION
Looking Ahead

NOTE: See Dwg. No. 54737 for Section A-A and Section B-B Details.



CONSTRUCTION JOINT DETAIL
No Scale

4 ½" Preformed Joint Filler (AASHTO M153, Type 1) between Bent and Coping. Seal with ½" x 1" Type 3, 4 or 6 Joint Sealer. See Dwg. Nos. 54757 - 54760 for details of MSE Retaining Wall.

GENERAL NOTES

All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners to be chamfered ¾" unless otherwise noted.

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

All piles shall be HP12x53 (AASHTO M270, Gr. 50).

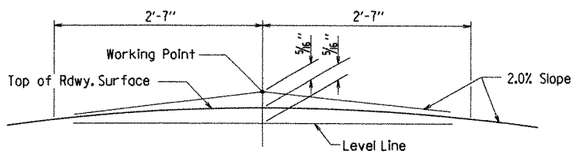
No portion of the backwall shall be poured until the girders are in place. The portion of the backwall above the optional construction joint shall not be poured before the superstructure slab in the adjacent span has been placed.

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

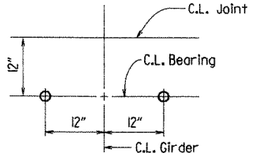
If anchor bolts are drilled into cap, top reinforcing bars shall be placed to avoid damage.

For additional information, see layout.

NOTE: Working Point matches Theoretical Roadway Grade.

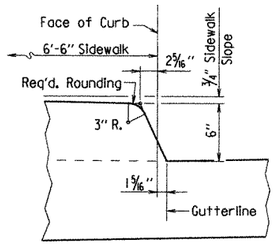


ROUNDING DETAIL
No Scale



NOTE: For Details of Elastomeric Bearings, see Dwg. No. 54756.

TYPICAL ANCHOR BOLT LAYOUT
No Scale



SIDEWALK CURB DETAIL
No Scale

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/19/12

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 5
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/07/12 FILENAME: b030388x1_bl.dgn
CHECKED BY: LJB DATE: 10/18/13 SCALE: 1/4" = 1'-0"
DESIGNED BY: TMG DATE: 6/12

BRIDGE NO. 07249 DRAWING NO. 54736

PRINT DATE: 18-OCT-2013

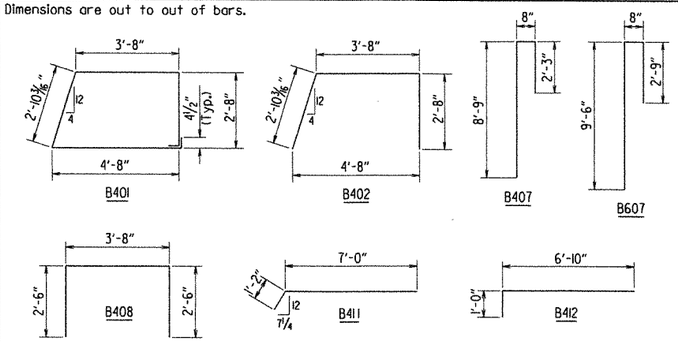
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	56	126
				①		07249 - END BENTS - 54737		

BAR LIST

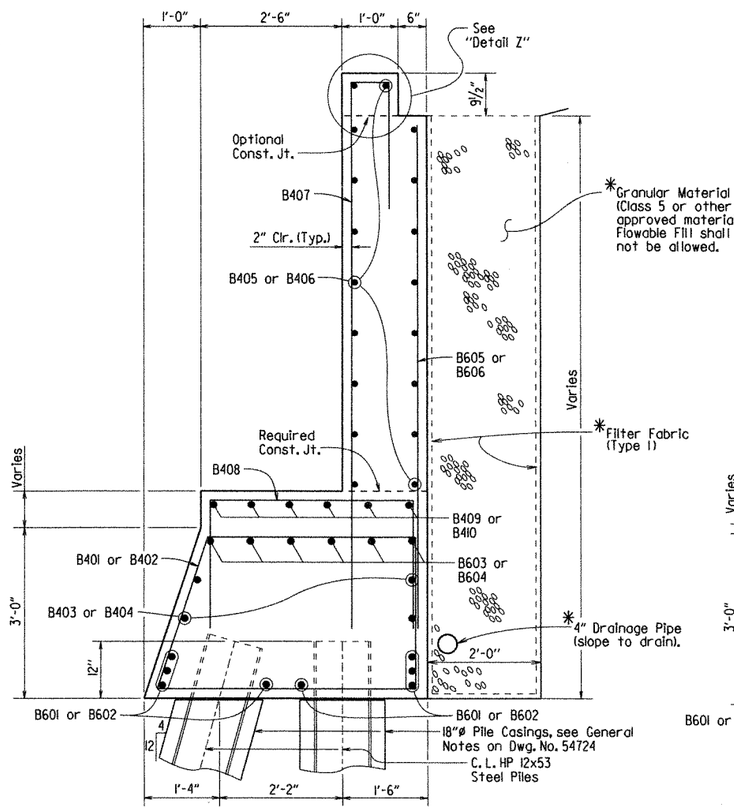
MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	P.D.
B401	62	48	14'-3"	2"
B402	18	15	9'-1"	2"
B403	4	-	42'-8"	Str.
B404	-	4	32'-2"	Str.
B405	18	-	42'-8"	Str.
B406	-	18	32'-2"	Str.
B407	34	25	11'-6"	2"
B408	17	9	8'-6"	2"
B409	6	-	18'-10"	Str.
B410	-	6	8'-3"	Str.
B411	2	2	8'-2"	2"
B412	1	1	7'-8"	2"
B413	7	7	3'-8"	Str.
B414	3	3	7'-2"	Str.
B501E	3	3	4'-2"	2½"
B601	8	-	43'-6"	Str.
B602	-	8	32'-2"	Str.
B603	6	-	44'-2"	4½"
B604	-	6	32'-10"	4½"
B605	67	49	8'-0"	Str.
B606	14	14	9'-3"	Str.
B607	14	14	12'-7"	4½"

BENDING DIAGRAMS

Dimensions are out to out of bars.

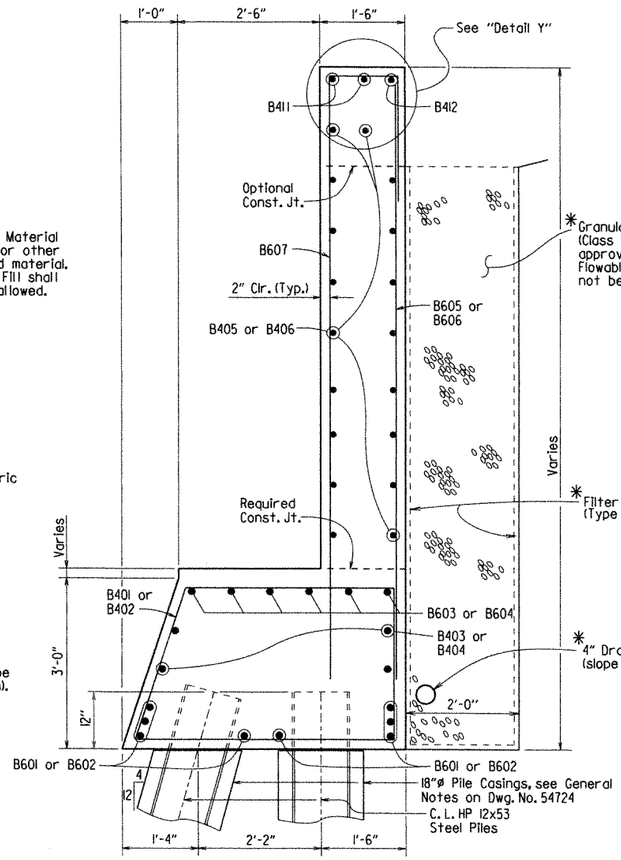


NOTE: Bars with an "E" suffix shall be epoxy coated.



SECTION A-A

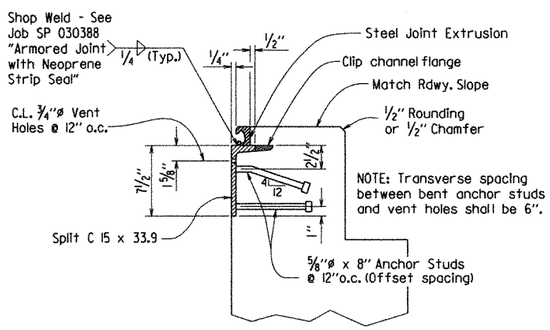
Scale: ¾" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"

*NOTE: For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611. Pipe underdrains, outlet protectors, granular materials, drain pipe, and filter fabric will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation". Locate holes in wings to miss reinforcing steel.

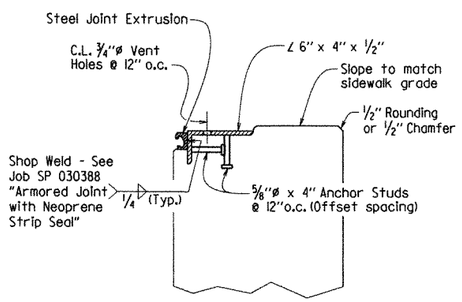


DETAIL Z

No Scale

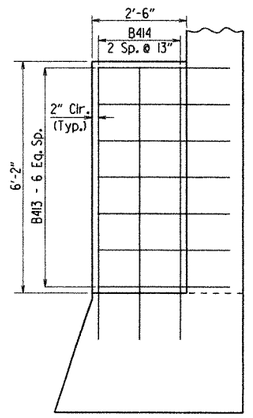
NOTES:
Concrete shall be hand packed under the joint armor.

For additional joint details, see Dwg. Nos. 54749 & 54750.



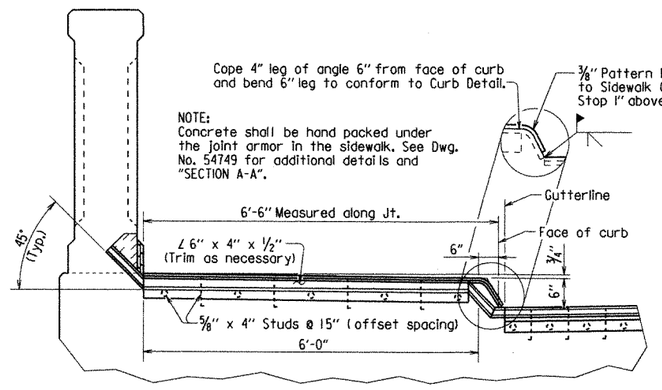
DETAIL Y

No Scale



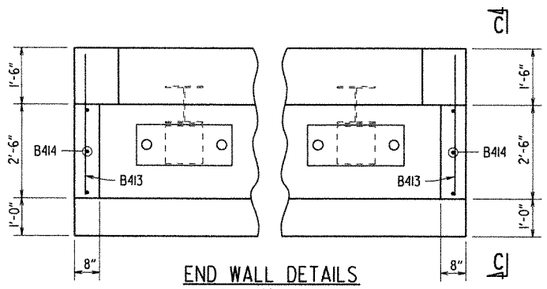
SECTION C-C

Scale: ½" = 1'-0"



SIDEWALK DETAIL

No Scale



END WALL DETAILS

Scale: ½" = 1'-0"

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENT 5
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/07/12
CHECKED BY: LJB DATE: 10/18/13
DESIGNED BY: TMG DATE: 6/12

FILENAME: b030388xl_bl.dgn
SCALE: 1/4" = 1'-0"

BRIDGE NO. 07249

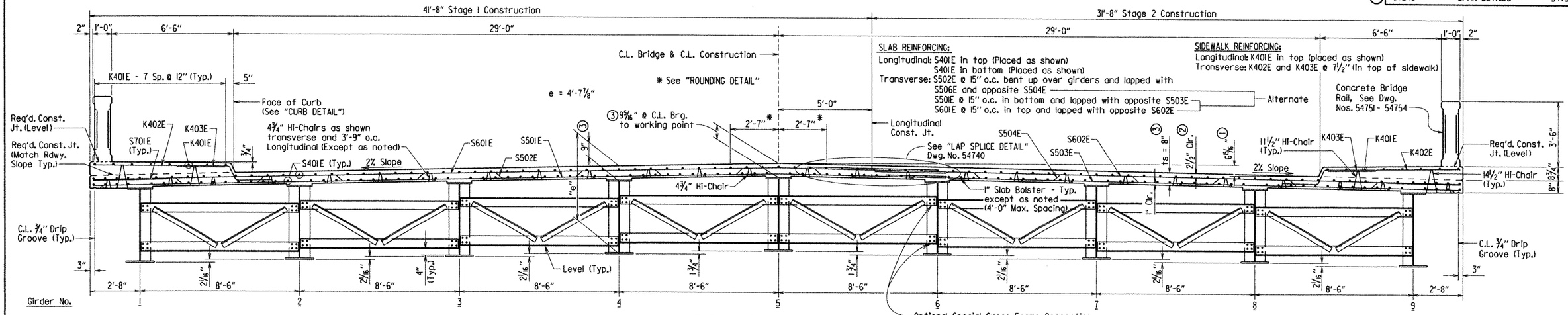
DRAWING NO. 54737

PRINT DATE: 18-OCT-2013

NOTE: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface and Sidewalk Surface. Class 3 Textured Coating Finish shall be applied to all areas as specified in Special Provision Job 030388 "Textured Coating Finish".

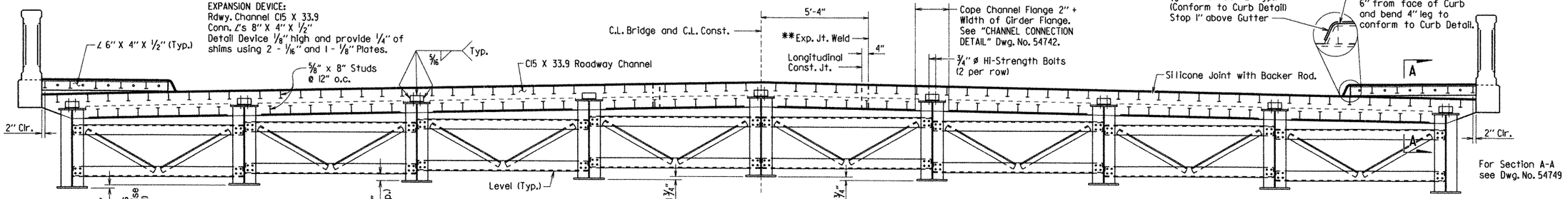
NOTE: At the Contractor's option, one epoxy coated No. 5 straight bar top and bottom may be substituted for bars S502E and S504E. Payment for reinforcing will be based on the weight of bar S502E and S504E.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	57	126
				(1) 07249	-	SPAN DETAILS	-	54738



TYPICAL ROADWAY SECTION

LOOKING AHEAD

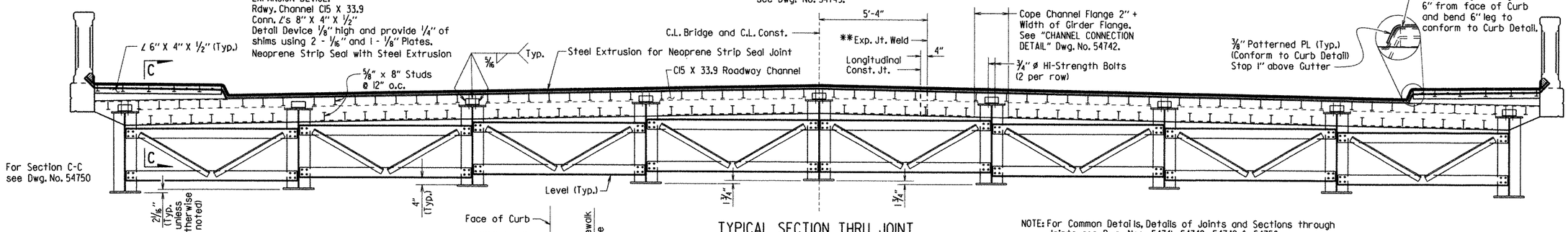


**See "DETAIL OF WELD LOCATION FOR EXPANSION DEVICE" See Dwg. No. 54742

TYPICAL SECTION THRU JOINT

Looking Ahead at Bent No. 1

NOTE: For Details of Silicone Joints, see Dwg. No. 54749.

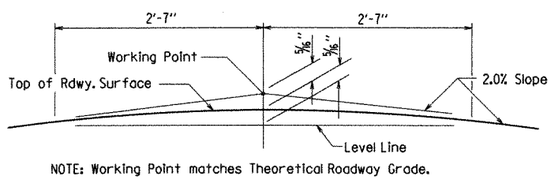


TYPICAL SECTION THRU JOINT

Looking Ahead at Bent No. 2

NOTE: For details of Neoprene Strip Seal Joint, see Dwg. No. 54750.

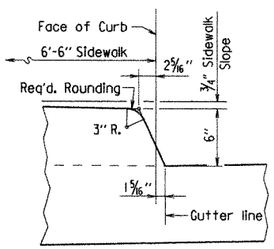
NOTE: For Common Details, Details of Joints and Sections through Joints see Dwg. Nos. 54741, 54742, 54749 & 54750.



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale



SIDEWALK CURB DETAIL

No Scale

① Working Point to Gutterline, "ROUNDING DETAIL" and "CURB DETAIL".

② Tolerance: Minus = ¼"
Plus = The amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE", Dwg. No. 54739.

③ See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE", see Dwg. No. 54739.

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/8/13

BRIDGE ENGINEER

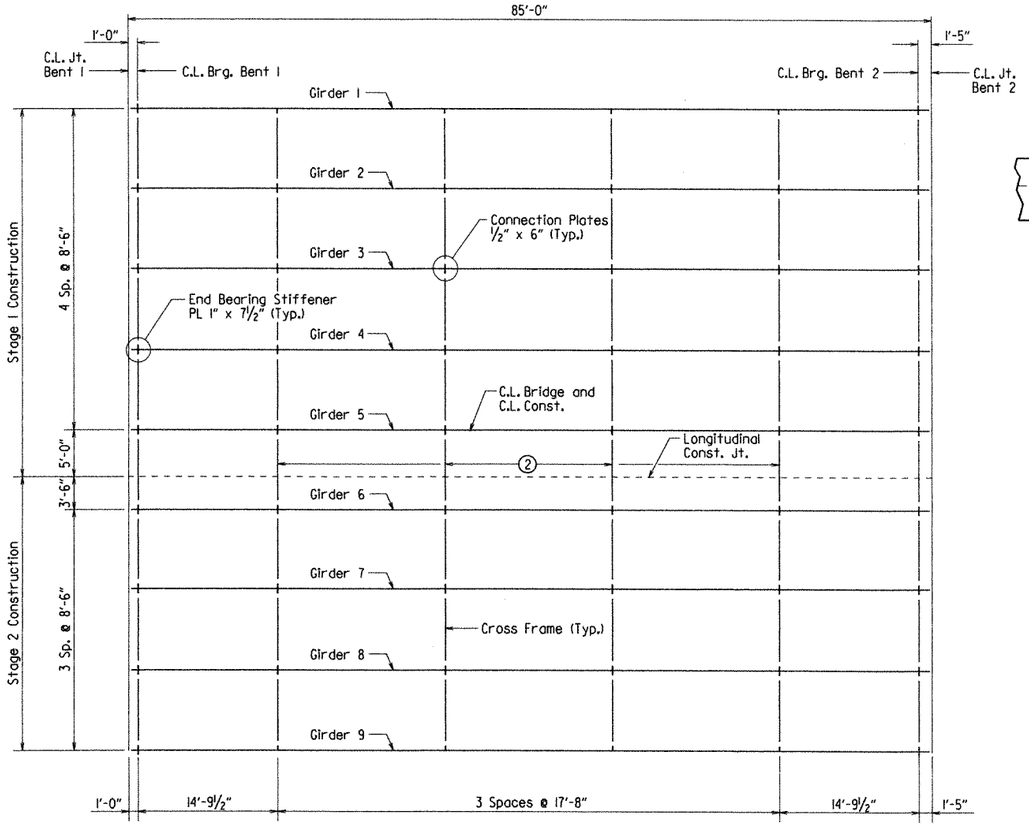
SHEET 1 OF 3
DETAILS OF 85'-0" SIMPLE COMP. PLATE GIRDER SPAN
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/12/13 FILENAME: b030388_sl.dgn
CHECKED BY: C.J.F DATE: 10/8/13 SCALE: ⅜" = 1'-0"
DESIGNED BY: TMG DATE: 1/12

BRIDGE NO. 07249 DRAWING NO. 54738

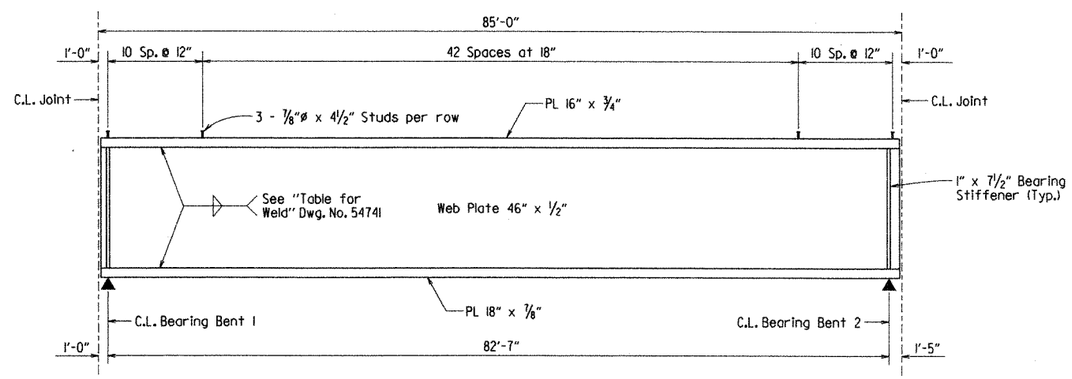
PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	58	126
				① 07249		SPAN DETAILS		54739



FRAMING PLAN

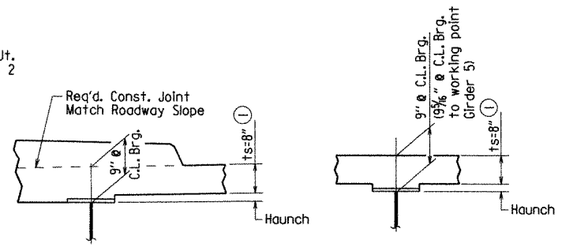
NOTE: For details of Bearing Stiffeners and Connection Plates, See Dwg. No. 54741.



ELEVATION VIEW

No Scale

① Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.



EXTERIOR GIRDER — INTERIOR GIRDER

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Standard Drawing No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

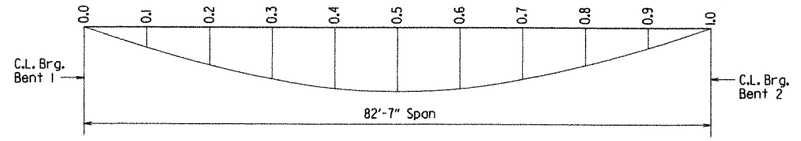
No Scale

NOTE: ts = Slab thickness as shown in "TYPICAL ROADWAY SECTION".

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. If permanent deck forms are used, the design and installation of the permanent deck forms shall include the differential deflection of the girders as a result of Stage Construction.

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

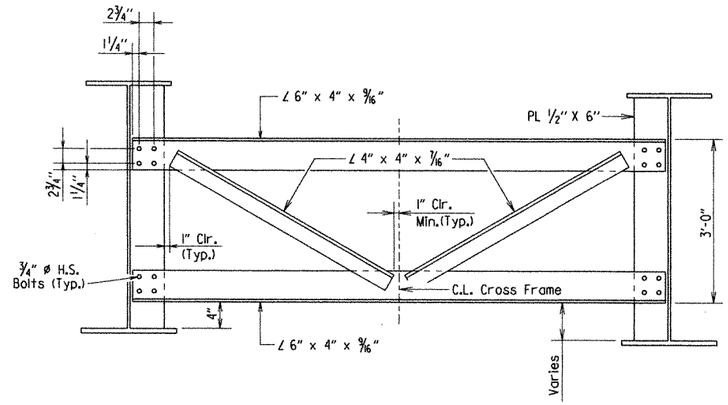
Span	Point of Deflection	Exterior Beam: Structural Steel	Exterior Beam: Structural Steel + Slab	Exterior Beam: Struct. Steel + Slab + Rail + Sidewalk	Interior Beam: Structural Steel	Interior Beam: Structural Steel + Slab	Interior Beam: Struct. Steel + Slab + Rail + Sidewalk
	0.0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.127	0.719	0.851	0.134	0.818	0.855
	0.2	0.242	1.374	1.626	0.256	1.565	1.635
	0.3	0.328	1.862	2.203	0.346	2.119	2.214
	0.4	0.389	2.210	2.615	0.411	2.515	2.628
	0.5	0.407	2.313	2.737	0.430	2.633	2.751
	0.6	0.389	2.210	2.615	0.411	2.515	2.628
	0.7	0.335	1.900	2.248	0.354	2.163	2.260
	0.8	0.243	1.382	1.636	0.257	1.573	1.644
	0.9	0.132	0.750	0.888	0.140	0.855	0.893
	1.0	0.000	0.000	0.000	0.000	0.000	0.000



NOTE:
Camber for Dead Load Deflection plus Vertical curve ±¼" tolerance. Deflections shown are from a chord from C.L. Bearing to C.L. Bearing. Vertical curve corrections not included.

DEAD LOAD DEFLECTION DIAGRAM

No Scale



TYPICAL CROSS FRAME CONNECTION DETAIL

No Scale

② OPTIONAL SPECIAL CROSS FRAME CONNECTION PROCEDURE:

1. Before Stage 2 deck is poured, connect one end of Cross Frame to Girder 5 and fully tighten connection bolts. Leave Girder 6 Connection unbolted until after the Stage 2 Deck concrete is in place.
2. After Stage 2 Deck has been poured, field drill holes in Girder 6 Connection Plates, install connection bolts, and tighten in accordance with Subsection 801.71.
3. The Contractor shall maintain proper girder alignment until all cross frames are completely installed. This may require temporary bracing.
4. All cross frames at bearings shall be installed as girders are erected and all bolts fully tightened prior to pouring Stage 2.

STATE OF ARKANSAS — Carl J. Fuselier — REGISTERED PROFESSIONAL ENGINEER — No. 7510 — 10/18/13 — CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF 85'-0" SIMPLE COMP. PLATE GIRDER SPAN

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

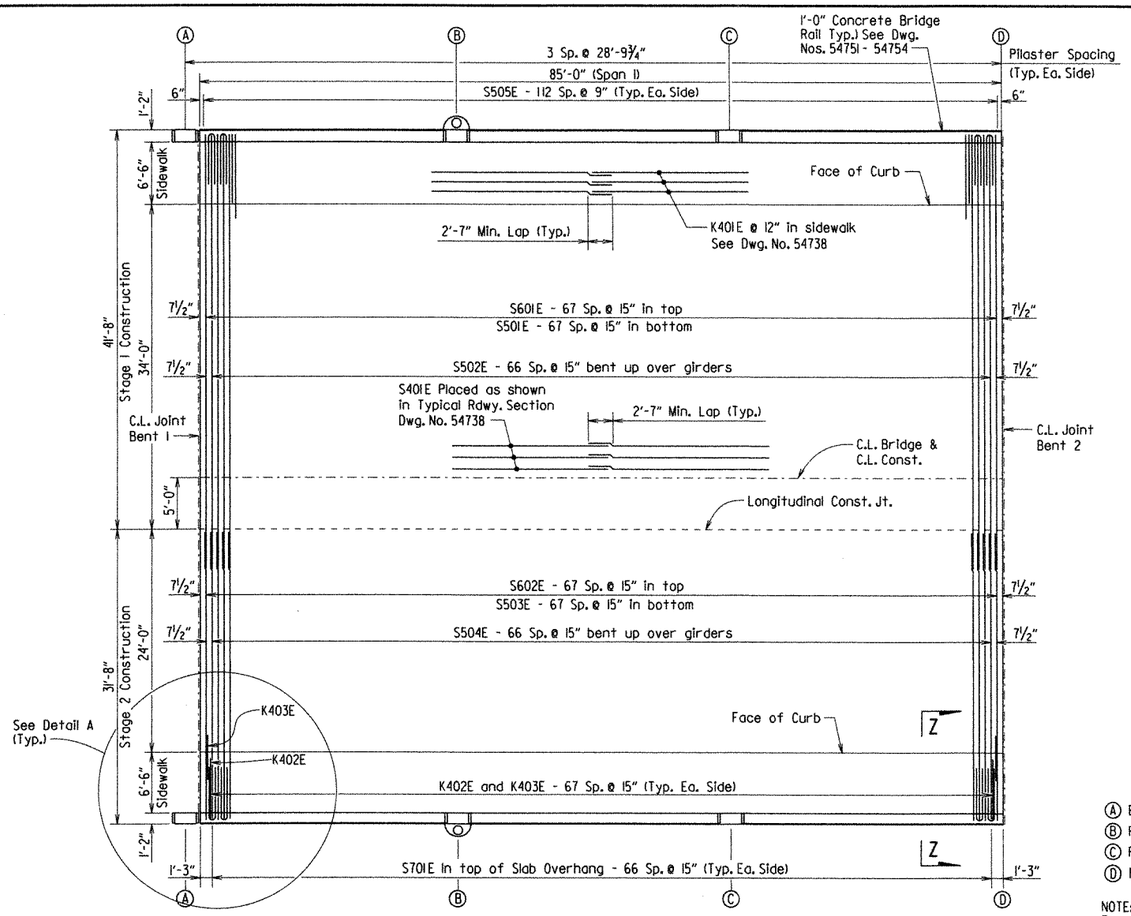
DRAWN BY: MRE DATE: 08/12/13
CHECKED BY: SWP DATE: 10/18/13
DESIGNED BY: TMG DATE: 1/12

FILENAME: b030388_sl.dgn
SCALE: ⅛" = 1'-0" or as shown

BRIDGE NO. 07249 DRAWING NO. 54739

PRINT DATE: 18-OCT-2013

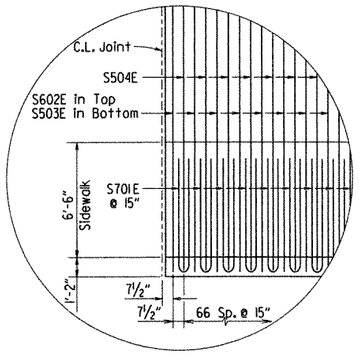
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	59	126
				(1) 07249		SPAN DETAILS		54740



REINFORCING PLAN AND SLAB POURING SEQUENCE

No Scale

POURING SEQUENCE NOTE:
For each stage of construction, the deck concrete shall be placed as a single pour. No sidewalk or railing pours shall be made until 72 hours have elapsed from the completion of the slab pour for that stage of construction. A minimum of 72 hours shall elapse between the completion of the sidewalk pour and pouring of the concrete bridge rail. The Contractor must obtain approval from the Engineer for any deviations from this pouring sequence.

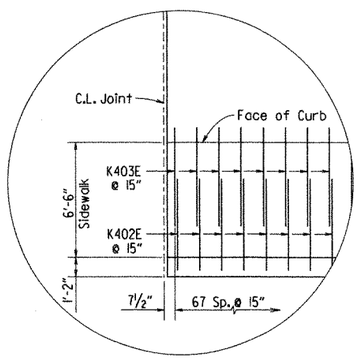


SLAB REINFORCING

NOTE: Stage 2 Construction shown, Stage 1 Construction similar.

DETAIL A

No Scale



SIDEWALK REINFORCING

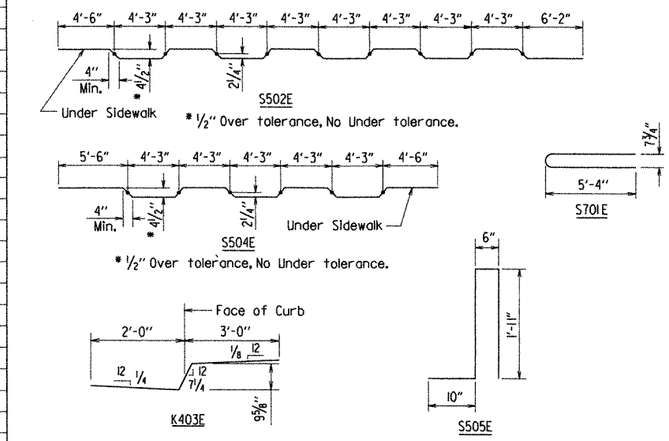
Ⓐ End Bent 1 Pilaster
Ⓑ Pilaster With Pedestal
Ⓒ Pilaster Without Pedestal
Ⓓ Pilaster at Expansion Joint (Bent 2)

NOTE:
For details of Concrete Bridge Rail, Pedestals and Pilasters, See Dwg. Nos. 54751 - 54754.

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	P.D.
S401E	108	84	43'-8"	Str.
S501E	68	-	44'-9"	Str.
S502E	67	-	45'-8"	3"
S503E	-	68	31'-5"	Str.
S504E	-	67	31'-11"	3"
S505E	113	113	4'-10"	2½"
S506E	67	-	7'-0"	Str.
S601E	68	-	45'-4"	Str.
S602E	-	68	31'-5"	Str.
S701E	67	67	10'-11"	6"
K401E	24	24	30'-0"	Str.
K402E	68	68	7'-1"	Str.
K403E	68	68	5'-6"	2½"

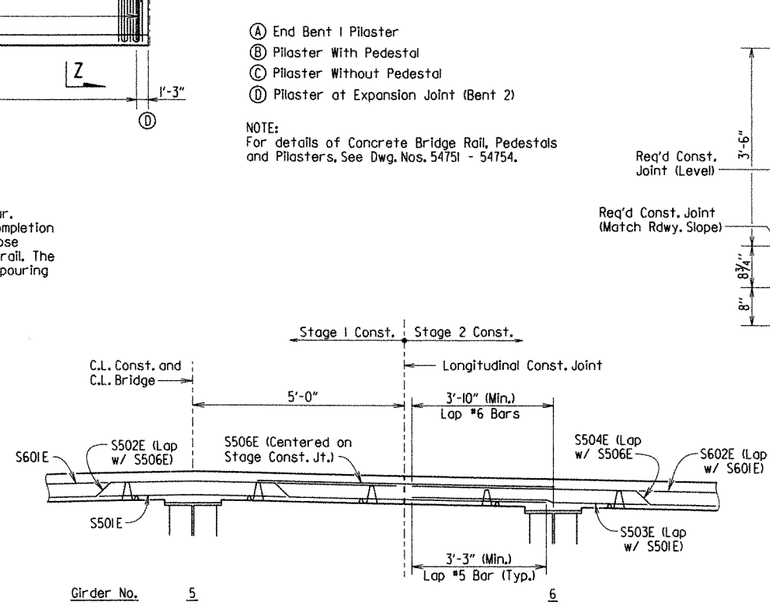
BENDING DIAGRAMS



Dimensions are out to out of bars.

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

For Concrete Bridge Rail Reinforcing, see Dwg. No. 54754

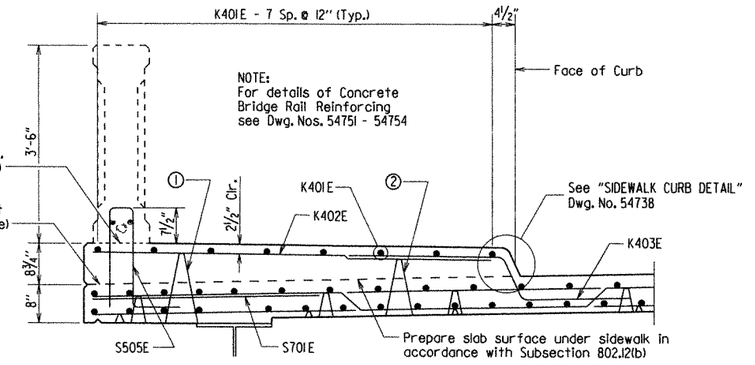


LAP SPLICE DETAIL

No Scale

NOTE:
For Bars not shown, see Typical Roadway Section, Dwg. No. 54738.

Laps for Transverse Reinforcing between stages of construction shall not be tied.



SECTION Z-Z

¾" = 1'-0"

① 14" HI-Chairs @ 3'-9" ctrs. Longitudinally
② 12¼" HI-Chairs @ 3'-9" ctrs. Longitudinally

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/8/13
CARL J. PUSELLER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF 85'-0" SIMPLE COMP. PLATE GIRDER SPAN

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/12/13
CHECKED BY: CJP DATE: 10/18/13
DESIGNED BY: JMG DATE: 1/12

FILENAME: b030388_sl.dgn
SCALE: ⅛" = 1'-0" or as shown

BRIDGE NO. 07249 DRAWING NO. 54740

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	60	126
				①	07249	- SPAN DETAILS -	54741	

GENERAL NOTES

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 6th Edition (2012).

LIVE LOADING: HL-93

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, HPS Gr. 70W)	Fy = 70,000 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" unless otherwise noted.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a Tine Finish in accordance with Subsection 802.19 for Class 5, Tined Bridge Roadway Surface Finish. The sidewalk shall receive a Broomed Finish as specified for final finishing in Subsection 802.19 for Class 6, Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder.

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports. The reinforcing steel shall 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 of "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL:
Flange plates noted on Girder Elevations as AASHTO M270, Gr. HPS 70W shall conform to Section 807 and SP Job 030388 "Grade HPS 70W Structural Steel" and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. HPS 70W)". All other structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)". Structural Steel completely embedded in concrete may be AASHTO M270, GR. 36. All exposed surfaces shall be cleaned in accordance with Subsection 807.84 unless noted otherwise.

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

Longitudinal girders including all 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 will be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)" or "Structural Steel in Plate Girder Spans (M270, Gr. HPS 70W)".

Web and flange plates for main members and flange splice 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.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, submitted and approval secured before fabrication is begun. Girder webs may be made by shop splicing with minimum lengths of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with minimum lengths of 25'-0" for sections. Material specifications and location of shop-welded splices, if any, shall be shown on the shop drawings. No additional payment for welds for these splices will be made.

All girders shall be blocked in their true position in the shop with webs horizontal as specified in Subsection 807.54(b)(2), in groups of a minimum of (3) sections. The camber, length of sections, distance between bearings and openings of joints shall be measured with the girders in their true position. This information shall become part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60°F. A tolerance of ¼" +/- is allowed for camber.

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 or screed rail supports to the structural steel that does not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26 and SP Job 030388 "Grade HPS 70W Structural Steel".

Groove welds in main load carrying members shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the governing specification in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing is at the Contractor's expense.

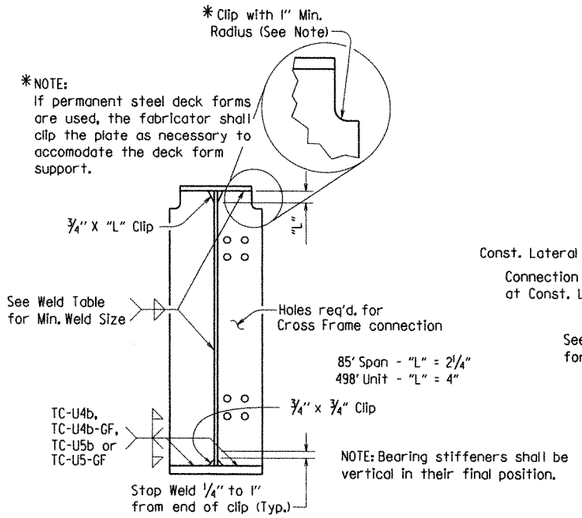
All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

All field connections shall be bolted with high-strength bolts. Bolts in Field Splices shall be ⅞" diameter bolts with 15/16" open holes at a spacing of 3". Bolts in Cross Frame Connections shall be ¾" diameter bolts with 13/16" open holes at a spacing of 2 ¾" unless otherwise noted. Holes for ¾" diameter bolts may be 5/8" diameter if a washer is supplied for use under both the nut and head of the bolt. Bolts shall be placed with heads on the outside face of the exterior girder web and on the bottom of the girder flanges.

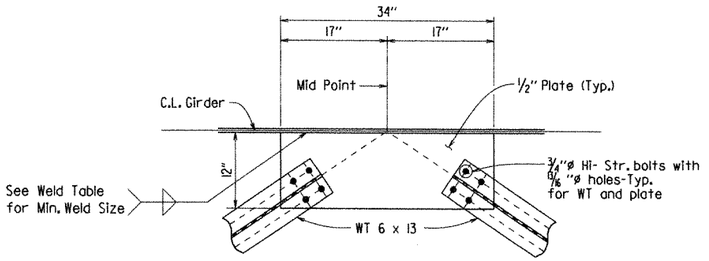
Cross Frames shall be installed as girders are erected. All bolts in Cross Frame connections and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring of the concrete deck, unless otherwise noted.

Bearings shall be seated in accordance with Subsection 808.08. This work and material will not be paid for directly but will be considered subsidiary to the item "Elastomeric Bearings".

PRINT DATE: 18-OCT-2013



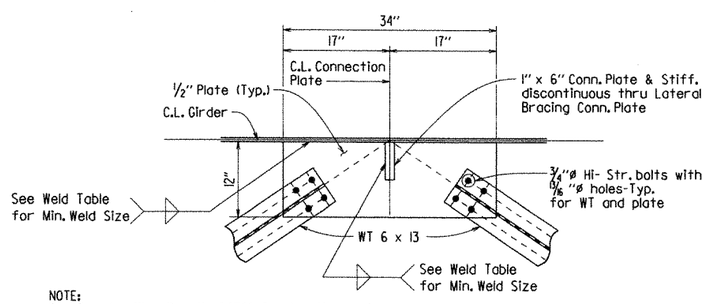
BEARING STIFFENER DETAILS
No Scale



See Framing Plan, Dwg. No. 54744 for location and arrangement of braces

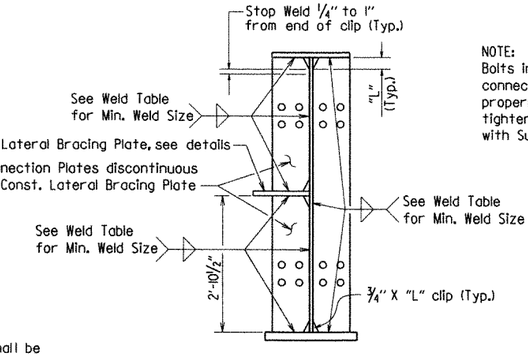
LATERAL BRACING CONNECTION AT MIDPOINTS
Scale: 1" = 1'-0"

NOTE:
At the Contractor's option, holes in one end of the WT may be field drilled. Minimum edge clearance from C.L. bolt to edge of plate = 1½". Ends of lateral bracing members shall be kept a minimum of 4" from the web and any stiffener or connection plate.



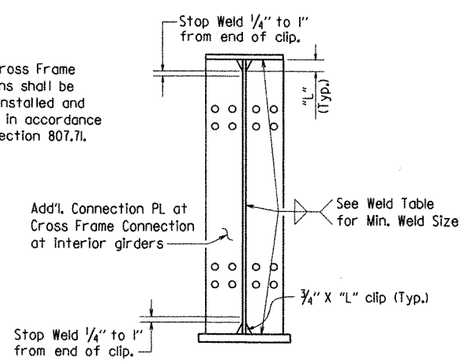
NOTE:
See Framing Plan, Dwg. No. 54744 for location and arrangement of WT 6 x 13 braces. The ½" plate shown will be required at ends of lateral bracing.

LATERAL BRACING CONNECTION AT CONNECTION PLATES
Scale: 1" = 1'-0"



CONNECTION PLATE DETAILS
AT LOCATION WITH CONSTRUCTION LATERAL BRACING
No Scale

NOTE:
Bolts in Cross Frame connections shall be properly installed and tightened in accordance with Subsection 807.71.

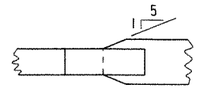


CONNECTION PLATE DETAILS
No Scale

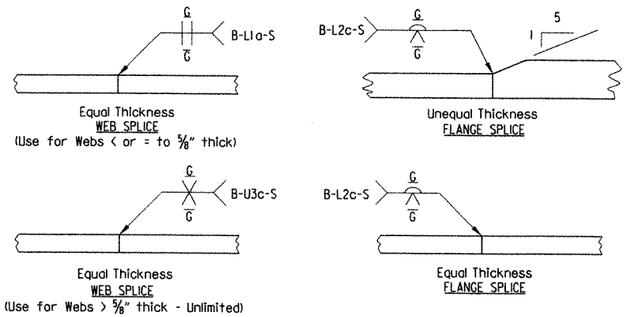
TABLE FOR WELD

Material Thickness Of Thicker Part Joined (inches)	Minimum Size Of Fillet Weld (inches)	
		Single Pass Weld Must Be Used
To ¾" inclusive	¼"	
Over ¾"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the First Pass shall be that specified for minimum size of fillet weld.



FIELD SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS
No Scale



DETAILS OF WELDED SPLICES
No Scale

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BRIDGE ENGINEER

SHEET 1 OF 2
MISCELLANEOUS DETAILS OF PLATE GIRDERS

ROUTE SEC.

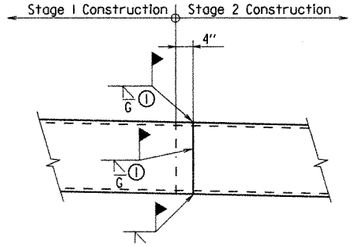
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/12/13 FILENAME: b030388_sl.dgn
CHECKED BY: SWP DATE: 10/18/13 SCALE: No Scale
DESIGNED BY: TMG DATE: 7/12

BRIDGE NO. 07249 DRAWING NO. 54741

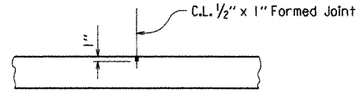
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	61	126
				①	07249 -	SPAN DETAILS	-	54742



① Grind flush from top of deck to top of bumper plate.

DETAIL OF WELD LOCATION FOR EXPANSION DEVICE

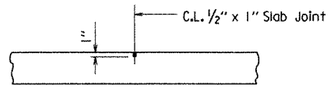
Looking Ahead
No Scale



Use ½" x 1" Type 3, 4, or 6 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed.

LONGITUDINAL CONSTRUCTION JOINT DETAIL

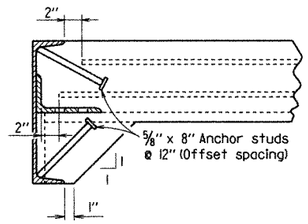
No Scale



SLAB JOINT DETAIL

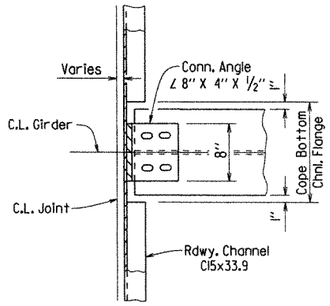
No Scale

Use Type 3, 4, or 6 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the sidewalk is poured. The slab joints in the sidewalk shall extend to the outside of the sidewalk and shall be installed before concrete bridge railing is to be poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab and across the top of the sidewalk. No joint sealer shall be placed on the deck slab under the sidewalk or bridge rail.



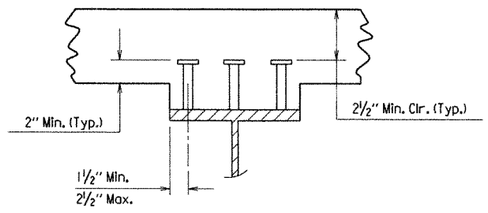
ANCHOR DETAILS

No Scale



CHANNEL CONNECTION DETAIL

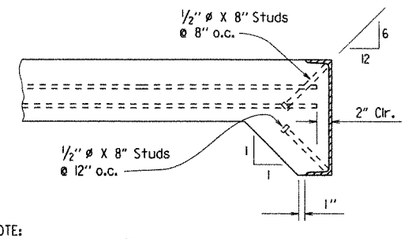
No Scale



Stud Shear Connectors shown shall be ⅞"ø x 4½" 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 1.36 - ¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24"

SHEAR CONNECTOR DETAIL

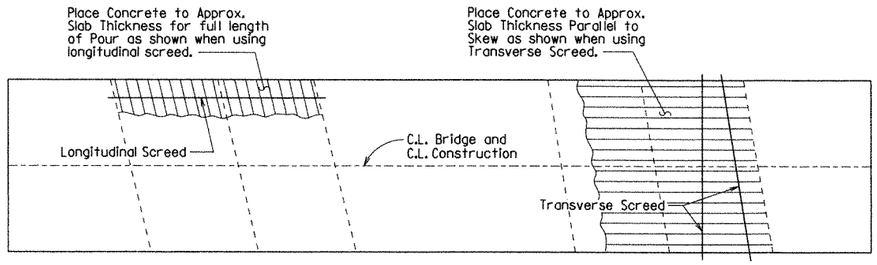
No Scale



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 AND PLACEMENT OF LONGITUDINAL REINFORCEMENT

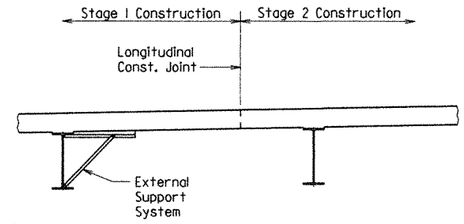
No Scale



CONCRETE PLACEMENT PROCEDURE - 498' UNIT

No Scale

NOTE: At the Contractor's Option, the Transverse Screed may be placed parallel to the skew or perpendicular to C.L. Bridge



Stage 1 external supports in this bay shall remain in place until after completion of the Stage 2 deck pour. See Subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

LOOKING AHEAD
No Scale

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10/18/13
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
MISCELLANEOUS DETAILS OF PLATE GIRDERS
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/12/13
CHECKED BY: SWP DATE: 10/18/13
DESIGNED BY: TMG DATE: 1/12
FILENAME: b030388_sl.dgn
SCALE: No Scale

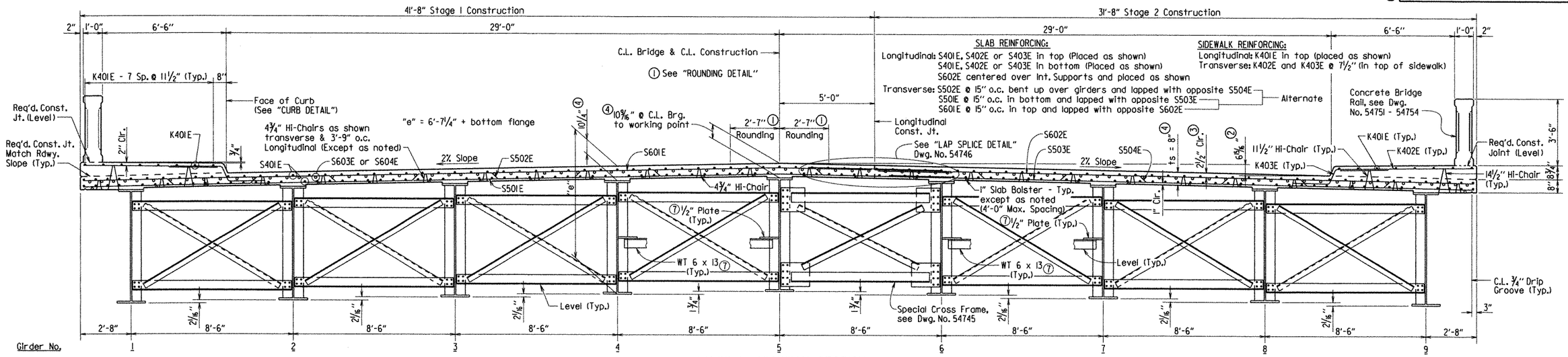
BRIDGE NO. 07249
DRAWING NO. 54742

PRINT DATE: 18-OCT-2013

NOTE: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface & Sidewalk Surface.
Class 3 Textured Coating Finish shall be applied to all areas as specified in Special Provision Job 030388 "Textured Coating Finish".

NOTE: At the Contractor's option, one epoxy coated No. 5 straight bar top and bottom may be substituted for bar S502E and S503E. Payment for reinforcing will be based on the weight of bar S502E and S503E.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	62	126
				(1) 07249	-	SPAN DETAILS	-	54743

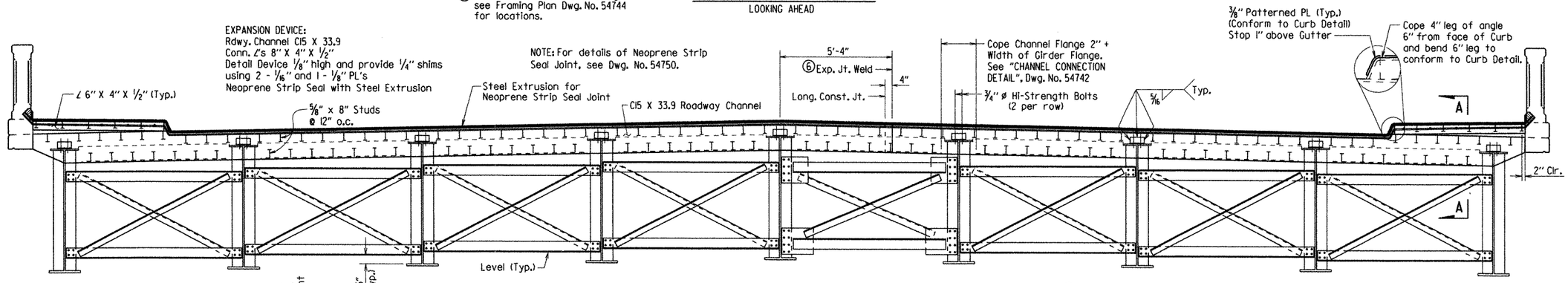


SLAB REINFORCING:
Longitudinal: S401E, S402E or S403E in top (Placed as shown)
S401E, S402E or S403E in bottom (Placed as shown)
S602E centered over Int. Supports and placed as shown
Transverse: S502E @ 15" o.c. bent up over girders and lapped with opposite S504E — Alternate
S501E @ 15" o.c. in bottom and lapped with opposite S503E
S601E @ 15" o.c. in top and lapped with opposite S602E

SIDEWALK REINFORCING:
Longitudinal: K401E in top (placed as shown)
Transverse: K402E and K403E @ 7½" (in top of sidewalk)

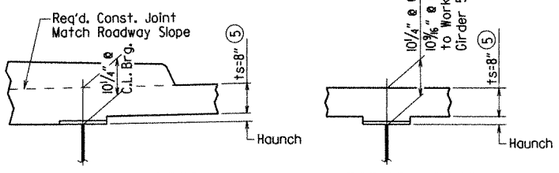
⑦ Construction Lateral Bracing, see Framing Plan Dwg. No. 54744 for locations.

TYPICAL ROADWAY SECTION
LOOKING AHEAD



TYPICAL EXPANSION DEVICE SECTION
LOOKING AHEAD - BENT 2 & BENT 5

⑥ See "DETAIL OF WELD LOCATION FOR EXPANSION DEVICE" Dwg. No. 54742



EXTERIOR GIRDER — INTERIOR GIRDER

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Standard Drawing No. 1499I for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE
No Scale

NOTE: ts = Slab thickness as shown in "TYPICAL ROADWAY SECTION".

NOTE:
For Common Details, Details of Joints and Sections through Joints, see Dwg. Nos. 54741, 54742, 54749 & 54750.

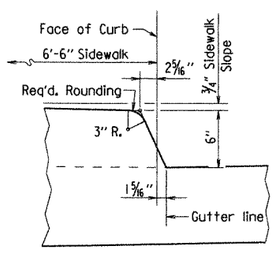
② Working Point to Gutterline, see "ROUNDING DETAIL".

③ Tolerance: Minus = ¼"
Plus = The amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE".

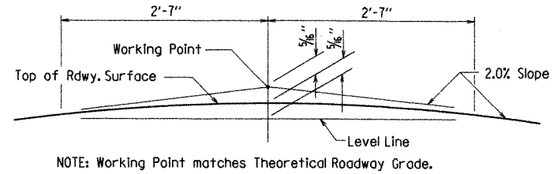
④ See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE".

⑤ Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

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. If permanent deck forms are used, the design and installation of the permanent deck forms shall include the differential deflection of the girders as a result of Stage Construction.



SIDEWALK CURB DETAIL
No Scale



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL
No Scale

STATE OF ARKANSAS
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No. 7510
10/18/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS OF 498'-0" CONT. COMP. PLATE GIRDER UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

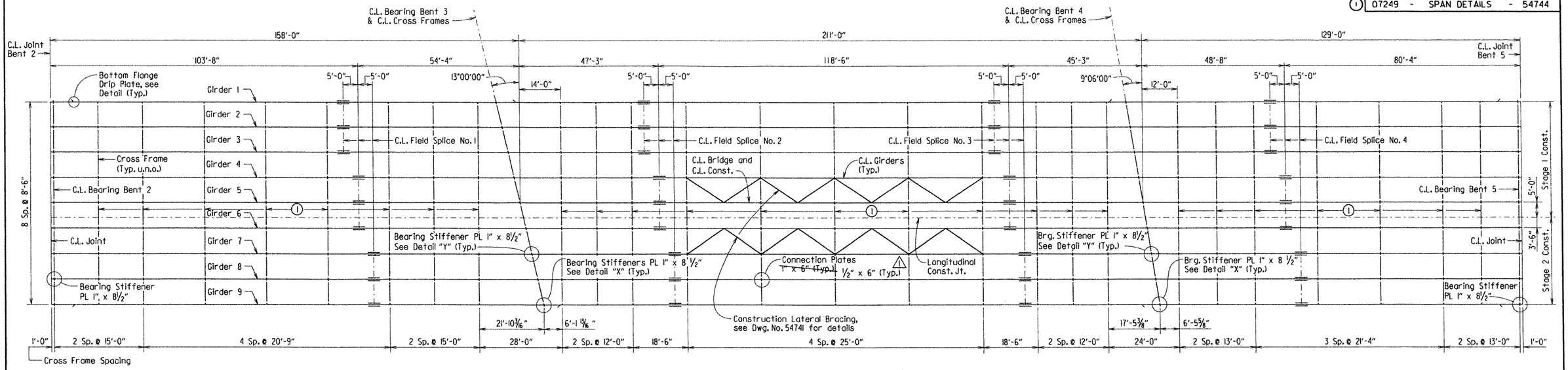
DRAWN BY: MRE DATE: 08/28/12 FILENAME: b030388_sl.dgn
CHECKED BY: SWD DATE: 10/18/13 SCALE: 3/8" = 1'-0"
DESIGNED BY: TMG DATE: 1/12

BRIDGE NO. 07249 DRAWING NO. 54743

PRINT DATE: 18-OCT-2013

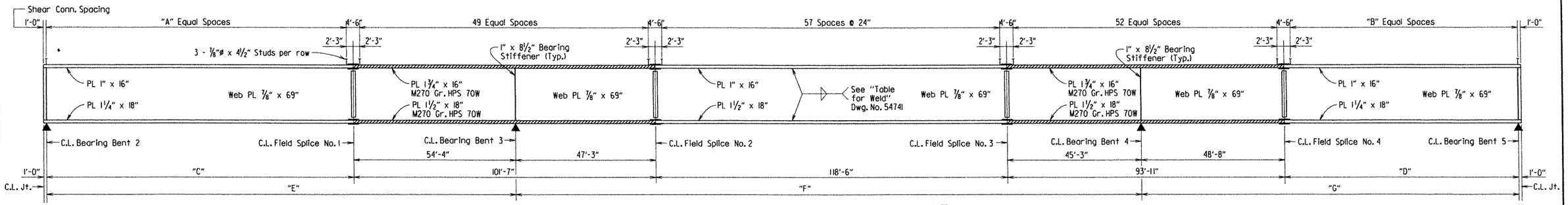
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-26-13				6	ARK.			
				JOB NO.		030388	63	126

(1) 07249 - SPAN DETAILS - 54744



FRAMING PLAN
No Scale

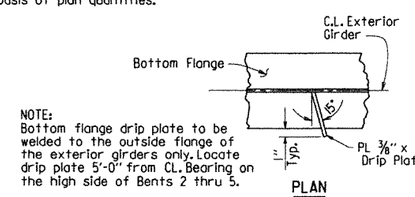
(1) Special Cross Frames shall be used between Girders 5 & 6. See "Special Cross Frame Detail" on Dwg. No. 54745. (Typ.)



GIRDER ELEVATION
No Scale

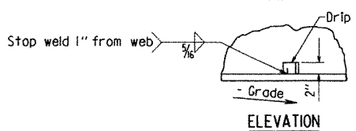
NOTE:
Bolted Field Splices may be eliminated or Shop Welded Splices substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

NOTE:
All Structural Steel shall be AASHTO M270, Gr. 50W, except as noted.



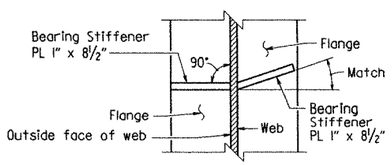
NOTE:
Bottom flange drip plate to be welded to the outside flange of the exterior girders only. Locate drip plate 5'-0" from CL. Bearing on the high side of Bents 2 thru 5.

PLAN

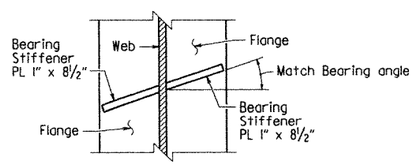


ELEVATION

BOTTOM FLANGE DRIP PLATE
No Scale



DETAIL X
Girders 1 & 9
NO SCALE



DETAIL Y
Girders 2 - 8
NO SCALE

TABLE OF VARIABLES

GIRDER	1	2	3	4	5	6	7	8	9
"A"	48	48	48	51	51	51	53	53	53
"B"	42	42	42	46	46	46	50	50	50
"C"	97'-8"	97'-8"	97'-8"	102'-8"	102'-8"	102'-8"	107'-8"	107'-8"	107'-8"
"D"	84'-4"	84'-4"	84'-4"	79'-4"	79'-4"	79'-4"	74'-4"	74'-4"	74'-4"
"E"	149'-1 1/16"	151'-1 3/8"	153'-0 7/8"	155'-0 7/16"	157'-0"	158'-11 9/16"	160'-11 1/8"	162'-10 5/8"	164'-10 3/16"
"F"	213'-4 11/16"	212'-9 5/8"	212'-2 7/16"	211'-7 3/16"	211'-0"	210'-4 11/16"	209'-9 5/8"	209'-2 3/8"	208'-7 1/16"
"G"	133'-5 3/8"	132'-1"	130'-8 11/16"	129'-4 5/16"	128'-0"	126'-7 11/16"	125'-3 5/16"	123'-11"	122'-6 5/8"

⚠ Rev'd Conn. Plate Thickness, SWP 11-26-13, Chk'd. By: TMG Date: 11/26/13

STATE OF ARKANSAS
Carl J. Pusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLIER
11/26/13

BRIDGE ENGINEER

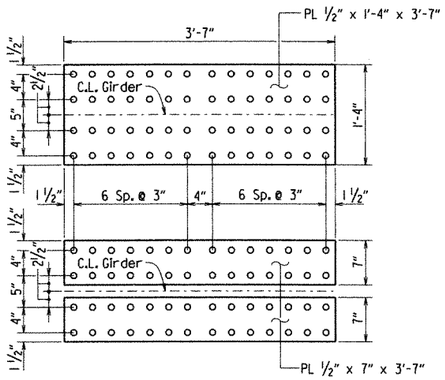
SHEET 2 OF 6
DETAILS OF 498'-0" CONT. COMP. PLATE GIRDER UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/27/12
CHECKED BY: SWP DATE: 10/19/13
DESIGNED BY: TMG DATE: 11/12/13
FILENAME: b030388_sl.dgn
SCALE: No Scale

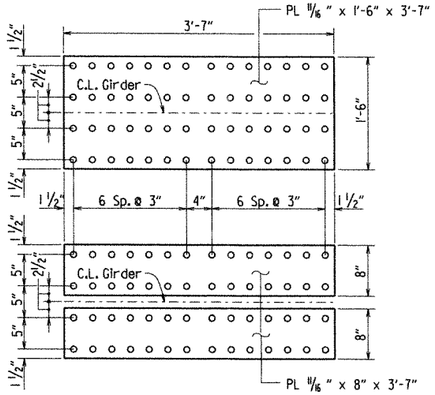
BRIDGE NO. 07249 DRAWING NO. 54744

PRINT DATE: 25-NOV-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	64	126
				(1)	07249	- SPAN DETAILS	-	54745



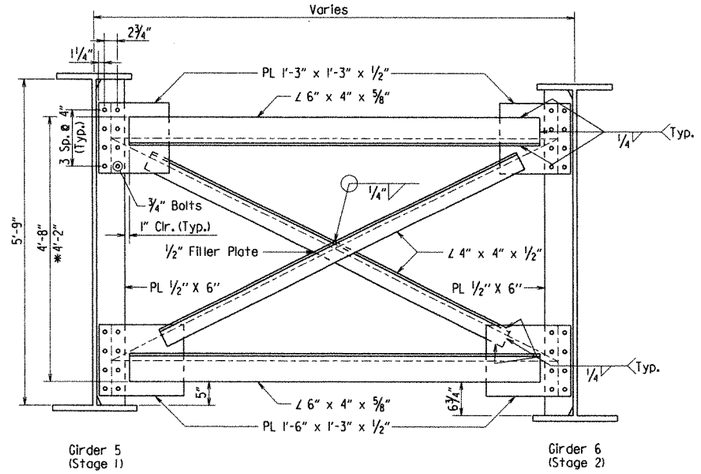
TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE

NOTE:
Bolted Field Splices may be eliminated or Shop Welded Splices substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

NOTE:
All Field Splice Plates shall be AASHTO M270, Gr. 50W.
All Field Splice Bolts shall be ⅞" H.S. Bolts.
All Field Splice Bolt Holes shall be 15/16".



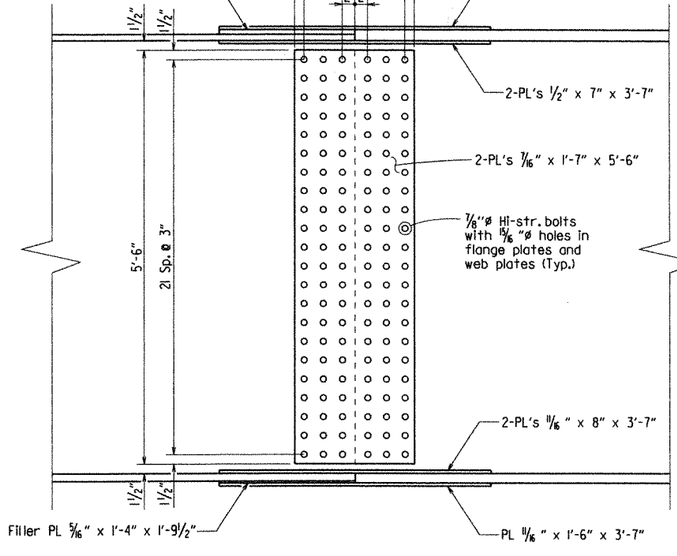
SPECIAL CROSS FRAME DETAIL
Between Girders 5 & 6
No Scale

SPECIAL CROSS FRAME CONNECTION PROCEDURE:

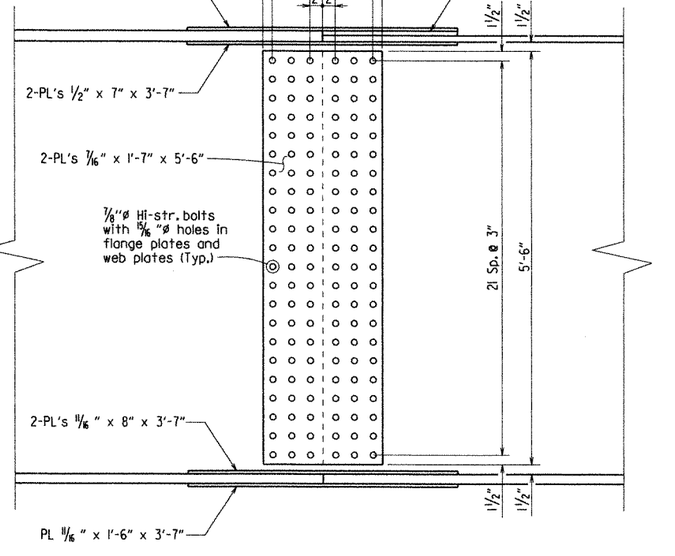
1. Before Stage 2 deck is poured, connect one end of Special Cross Frame to Girder 5 and fully tighten connection bolts. Leave Girder 6 End Connection unbolted until after the Stage 2 Deck concrete is in place.
2. After Stage 2 Deck has been poured, field drill holes in Girder 6 Connection Plates, install connection bolts, and tighten in accordance with Subsection 801.71.
3. The Contractor shall maintain proper girder alignment until all cross frames are completely installed. This may require temporary bracing.
4. All cross frames at bearings shall be installed as girders are erected and all bolts fully tightened prior to pouring Stage 2.

*Dimension at Expansion Device Section.

**Dimension varies due to skew at Centerline of bearings at bents 3 & 4.

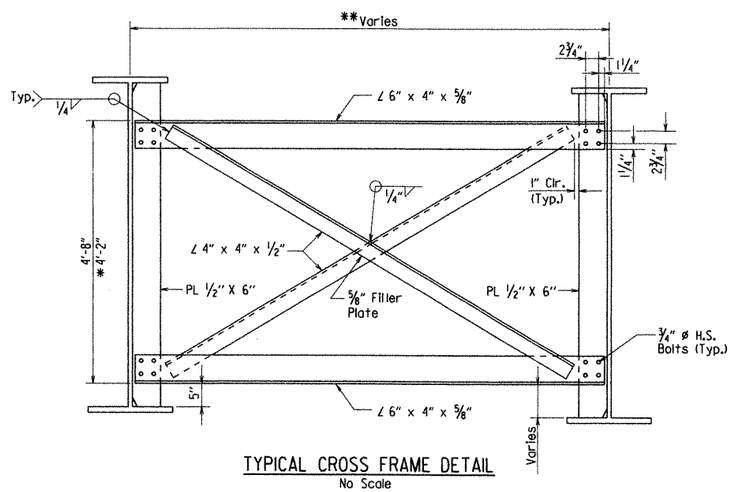


WEB SPLICE
Splices 1 & 4



WEB SPLICE
Splices 2 & 3

FIELD SPLICE - DETAILS
1" = 1'-0"



TYPICAL CROSS FRAME DETAIL
No Scale

STATE OF ARKANSAS
Carl E. Russellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/19/12
CARL E. RUSSELLIER

BRIDGE ENGINEER

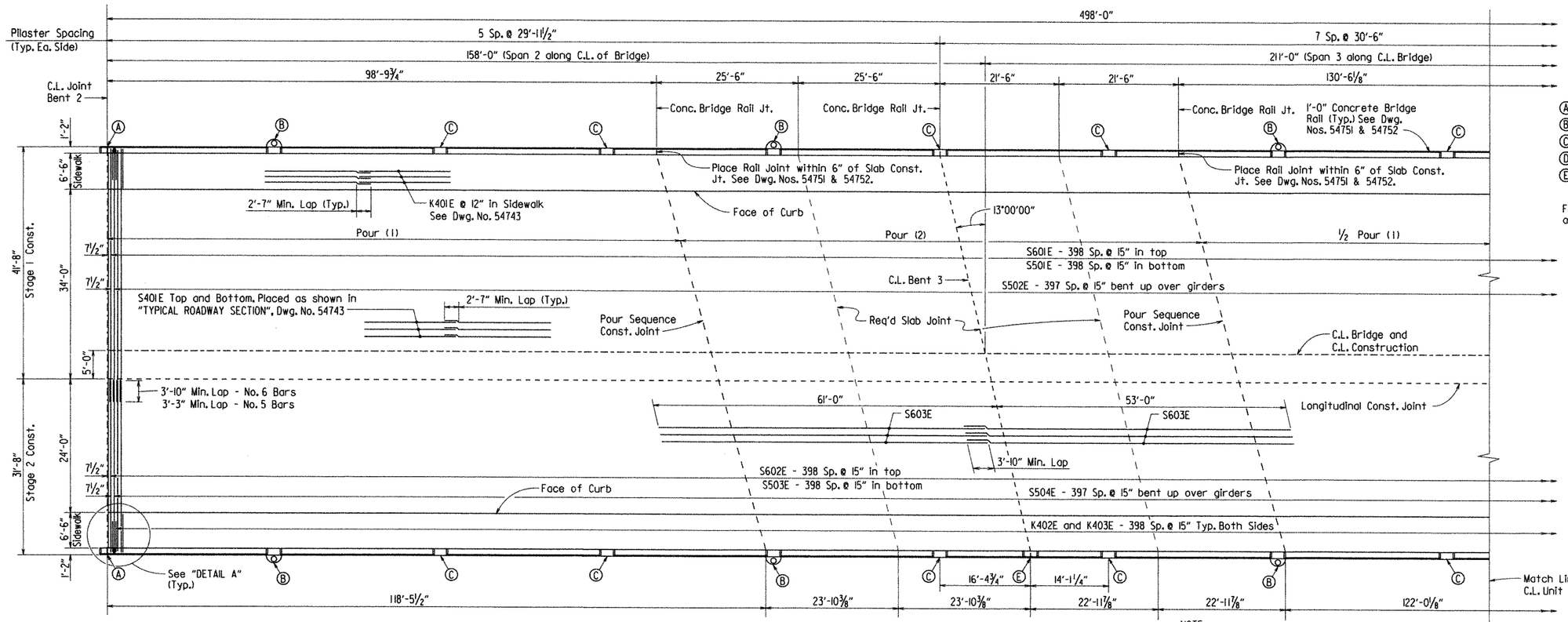
SHEET 3 OF 6
DETAILS OF 498'-0" CONT.
COMP. PLATE GIRDER UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/27/12 FILENAME: b030388_sl.dgn
CHECKED BY: SLP DATE: 10/19/13 SCALE: 1" = 1'-0"
DESIGNED BY: TMG DATE: 1/12 or as shown

BRIDGE NO. 07249 DRAWING NO. 54745

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	65	126
				(1) 07249 - SPAN DETAILS - 54746				

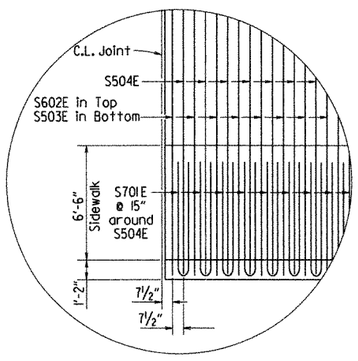


HALF REINFORCING PLAN & DECK POURING SEQUENCE

NOTE:
For Slab Joint and Construction Joint Details, see Dwg. No. 54742

(A) Pilaster at Expansion Joint (Bent 2)
(B) Pilaster With Pedestal
(C) Pilaster Without Pedestal
(D) End Bent 5 Pilaster
(E) Additional Pilaster Right Side Only (Without Pedestal)

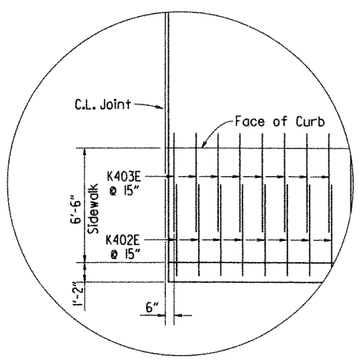
For details of Concrete Bridge Rail, Pedestals and Pilasters, See Dwg. Nos. 54751 - 54754.



SLAB REINFORCING

NOTE: Stage 2 Construction shown, Stage 1 Construction similar.

DETAIL A
No Scale



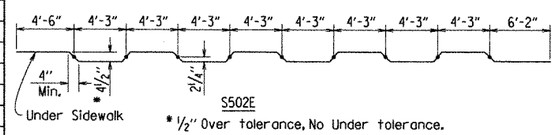
SIDEWALK REINFORCING

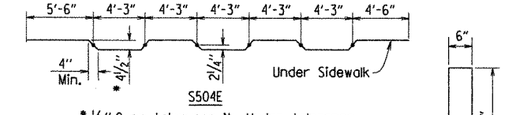
BAR LIST

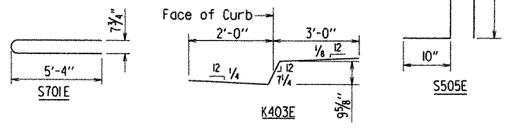
MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	P.D.
S401E	1526	1176	38'-0"	Str.
S501E	399	-	44'-9"	Str.
S502E	398	-	45'-8"	3¾"
S503E	-	399	31'-5"	Str.
S504E	-	398	31'-11"	3¾"
S505E	664	664	4'-10"	2½"
S506E	398	-	7'-0"	Str.
S601E	399	-	45'-4"	Str.
S602E	-	399	31'-5"	Str.
S603E	100	76	58'-0"	Str.
S604E	100	76	54'-6"	Str.
S701E	68	68	10'-11"	6"
K401E	112	112	38'-0"	Str.
K402E	399	399	7'-1"	Str.
K403E	399	399	5'-6"	3¾"

BENDING DIAGRAMS

Dimensions are out to out of bars.

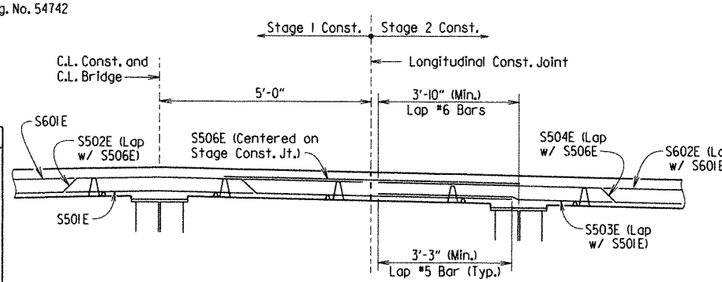






NOTE: Bars marked with an "E" suffix shall be epoxy coated.

For Concrete Bridge Rail Reinforcing, see Dwg. No. 54754



LAP SPLICE DETAIL
No Scale

NOTE: For Bars not shown, see Typical Roadway Section, Dwg. No. 54743.

Laps for Transverse Reinforcing between stages of construction shall not be tied.

STATE OF ARKANSAS
CARL L. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS OF 498'-0" CONT. COMP. PLATE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/27/12
CHECKED BY: SWP DATE: 10/18/13
DESIGNED BY: TMG DATE: 4/12

FILENAME: b030388_sl.dgn
SCALE: No Scale

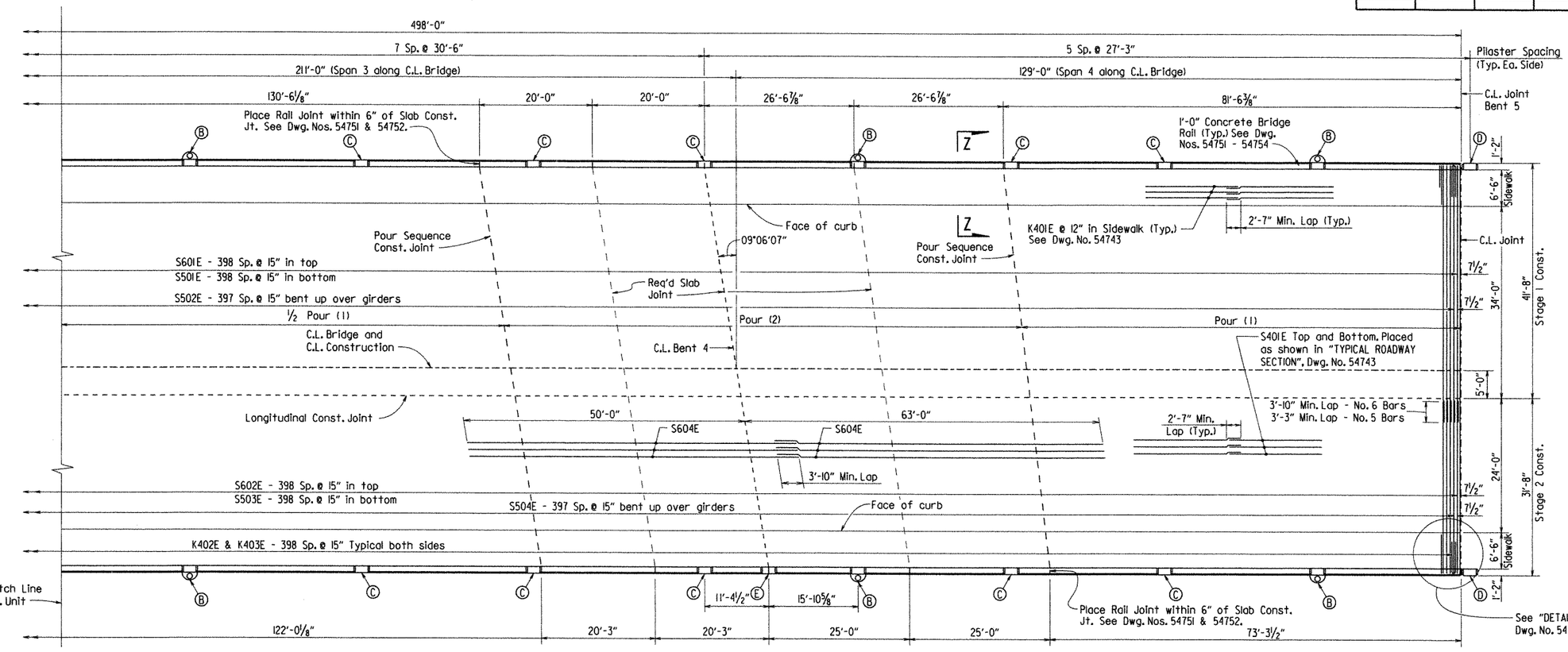
BRIDGE NO. 07249

DRAWING NO. 54746

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		030388	66	126
(1) 07249 - SPAN DETAILS - 54747				

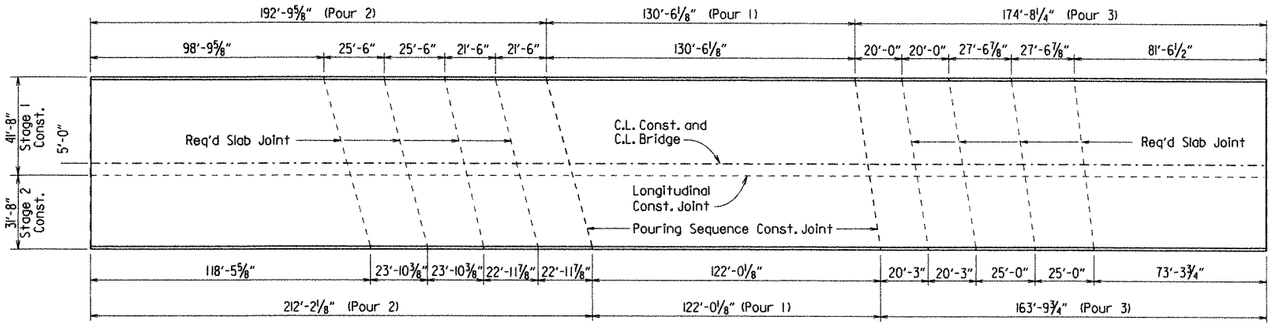


HALF REINFORCING PLAN & DECK POURING SEQUENCE

POURING SEQUENCE NOTE:
For each stage of construction, the deck concrete shall be placed in accordance with the sequence shown above or the alternate sequence shown below. Pours with the same number may be placed simultaneously or seperately. All Pours (1) for a stage of construction must be placed before Pours (2) may be placed, and Pour (2) shall be placed before Pour (3), if the alternate sequence is used.

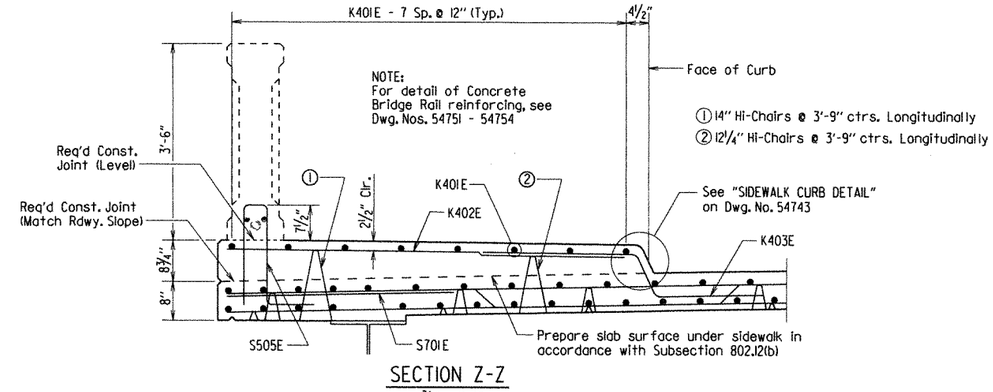
48 hours shall elapse between the end of one pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

No sidewalk or railing pours shall be made until 72 hours have elapsed from the completion of the deck pours for that stage of construction. A minimum of 72 hours shall elapse between the completion of the sidewalk pour and pouring of the concrete bridge rail. The Contractor must obtain approval from the Engineer for any deviations from the poring sequences shown.



ALTERNATE DECK POURING SEQUENCE

No Scale



SECTION Z-Z

3/4" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS OF 498'-0" CONT. COMP. PLATE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/27/12 FILENAME: b030388_sl.dgn
CHECKED BY: SWP DATE: 10/18/13 SCALE: 3/32" = 1'-0"
DESIGNED BY: TMG DATE: 1/12

BRIDGE NO. 07249 DRAWING NO. 54747

PRINT DATE: 18-OCT-2013

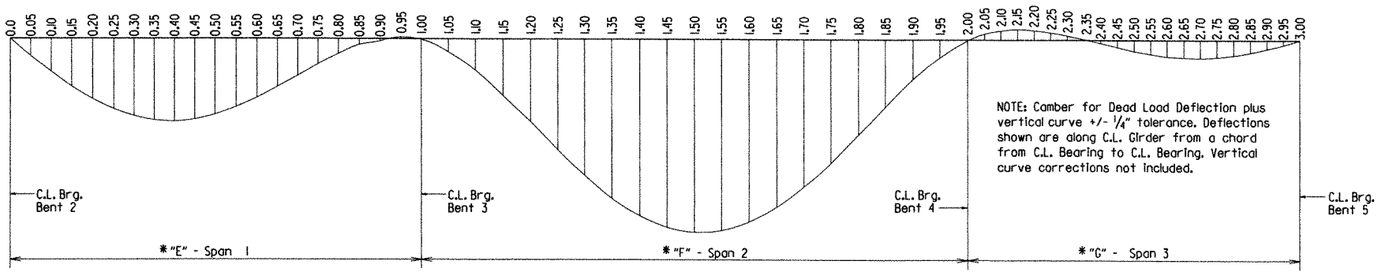
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	67	126
				①		07249 - SPAN DETAILS - 54748		

TABLE OF DEAD LOAD DEFLECTIONS (INCHES) - STAGE 1 CONSTRUCTION

SPAN	GIRDER NO.	GIRDER 1			GIRDER 2			GIRDER 3			GIRDER 4			GIRDER 5		
	Point of Deflection	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail
1	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.121	0.404	0.492	0.133	0.468	0.542	0.144	0.531	0.594	0.155	0.594	0.649	0.166	0.657	0.705
	0.10	0.230	0.769	0.937	0.253	0.893	1.035	0.275	1.015	1.136	0.297	1.136	1.242	0.318	1.258	1.350
	0.15	0.332	1.111	1.353	0.366	1.292	1.497	0.398	1.469	1.645	0.430	1.646	1.799	0.460	1.822	1.956
	0.20	0.415	1.388	1.691	0.457	1.616	1.873	0.499	1.842	2.062	0.539	2.065	2.257	0.578	2.288	2.456
	0.25	0.479	1.603	1.954	0.530	1.874	2.172	0.579	2.139	2.395	0.626	2.400	2.623	0.672	2.661	2.857
	0.30	0.523	1.749	2.133	0.579	2.049	2.375	0.634	2.344	2.624	0.686	2.633	2.878	0.738	2.924	3.140
	0.35	0.545	1.824	2.227	0.606	2.146	2.488	0.665	2.462	2.755	0.721	2.770	3.028	0.776	3.077	3.306
	0.40	0.545	1.824	2.229	0.609	2.159	2.502	0.670	2.484	2.779	0.728	2.801	3.062	0.785	3.116	3.349
	0.45	0.520	1.741	2.131	0.585	2.079	2.409	0.647	2.405	2.690	0.706	2.721	2.974	0.763	3.032	3.260
	0.50	0.479	1.604	1.966	0.543	1.933	2.240	0.604	2.249	2.514	0.661	2.553	2.790	0.716	2.851	3.068
	0.55	0.416	1.394	1.714	0.476	1.700	1.969	0.533	1.992	2.225	0.586	2.271	2.482	0.638	2.547	2.743
	0.60	0.346	1.161	1.432	0.401	1.439	1.666	0.453	1.702	1.899	0.502	1.953	2.134	0.549	2.199	2.371
	0.65	0.265	0.890	1.104	0.314	1.137	1.315	0.361	1.366	1.522	0.403	1.580	1.725	0.443	1.784	1.926
	0.70	0.185	0.625	0.783	0.228	0.836	0.966	0.268	1.029	1.143	0.305	1.206	1.316	0.338	1.370	1.482
	0.75	0.098	0.339	0.434	0.135	0.510	0.587	0.167	0.660	0.729	0.197	0.797	0.868	0.223	0.920	0.999
	0.80	0.030	0.113	0.157	0.059	0.243	0.277	0.084	0.355	0.387	0.107	0.454	0.493	0.127	0.540	0.590
	0.85	-0.027	-0.076	-0.076	-0.007	0.011	0.007	0.011	0.083	0.083	0.026	0.144	0.154	0.039	0.193	0.215
	0.90	-0.051	-0.158	-0.181	-0.038	-0.106	-0.128	-0.028	-0.067	-0.083	-0.019	-0.035	-0.042	-0.012	-0.013	-0.008
	0.95	-0.042	-0.132	-0.155	-0.036	-0.110	-0.131	-0.032	-0.095	-0.111	-0.027	-0.082	-0.092	-0.025	-0.077	-0.079
	1.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	1.05	0.168	0.535	0.643	0.163	0.527	0.619	0.156	0.518	0.591	0.149	0.513	0.567	0.142	0.512	0.545
	1.10	0.386	1.230	1.480	0.375	1.223	1.434	0.362	1.216	1.385	0.349	1.215	1.341	0.335	1.220	1.300
	1.15	0.677	2.161	2.603	0.662	2.171	2.543	0.645	2.184	2.483	0.626	2.197	2.423	0.605	2.217	2.365
	1.20	0.968	3.096	3.730	0.949	3.124	3.656	0.928	3.157	3.585	0.904	3.188	3.513	0.877	3.226	3.444
	1.25	1.282	4.105	4.946	1.257	4.151	4.853	1.229	4.198	4.762	1.199	4.250	4.680	1.168	4.311	4.605
	1.30	1.554	4.980	6.001	1.525	5.049	5.899	1.494	5.119	5.802	1.462	5.195	5.717	1.428	5.279	5.641
	1.35	1.796	5.757	6.938	1.767	5.862	6.844	1.738	5.971	6.761	1.705	6.076	6.683	1.669	6.183	6.608
	1.40	1.974	6.331	7.630	1.946	6.462	7.541	1.918	6.600	7.469	1.885	6.727	7.396	1.849	6.854	7.327
	1.45	2.095	6.718	8.097	2.066	6.866	8.009	2.033	7.004	7.922	2.001	7.148	7.856	1.966	7.291	7.797
	1.50	2.143	6.869	8.281	2.114	7.028	8.195	2.084	7.184	8.122	2.052	7.337	8.062	2.022	7.496	8.018
	1.55	2.119	6.785	8.182	2.090	6.949	8.101	2.061	7.108	8.033	2.031	7.262	7.979	2.002	7.420	7.940
	1.60	2.021	6.465	7.800	1.995	6.630	7.728	1.968	6.786	7.666	1.940	6.933	7.616	1.912	7.079	7.578
	1.65	1.858	5.935	7.164	1.835	6.095	7.103	1.811	6.243	7.051	1.787	6.381	7.010	1.761	6.513	6.975
	1.70	1.628	5.189	6.268	1.609	5.337	6.220	1.589	5.472	6.179	1.569	5.595	6.147	1.547	5.709	6.118
	1.75	1.361	4.329	5.232	1.346	4.459	5.196	1.331	4.576	5.167	1.314	4.679	5.141	1.297	4.775	5.120
	1.80	1.048	3.321	4.018	1.037	3.427	3.994	1.026	3.519	3.973	1.014	3.600	3.956	1.001	3.672	3.940
	1.85	0.747	2.360	2.857	0.740	2.439	2.842	0.732	2.504	2.827	0.724	2.564	2.818	0.716	2.616	2.809
	1.90	0.440	1.383	1.674	0.436	1.429	1.664	0.430	1.464	1.653	0.426	1.502	1.651	0.422	1.535	1.649
	1.95	0.199	0.622	0.753	0.197	0.643	0.749	0.194	0.658	0.743	0.193	0.677	0.744	0.192	0.693	0.745
	2.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	2.05	-0.068	-0.209	-0.251	-0.067	-0.214	-0.248	-0.065	-0.217	-0.245	-0.064	-0.220	-0.242	-0.064	-0.227	-0.244
	2.10	-0.109	-0.330	-0.394	-0.107	-0.338	-0.392	-0.105	-0.345	-0.389	-0.104	-0.353	-0.388	-0.105	-0.365	-0.392
	2.15	-0.122	-0.362	-0.430	-0.120	-0.373	-0.432	-0.119	-0.384	-0.433	-0.119	-0.396	-0.435	-0.121	-0.413	-0.443
	2.20	-0.108	-0.306	-0.358	-0.107	-0.319	-0.368	-0.108	-0.335	-0.378	-0.110	-0.352	-0.387	-0.113	-0.371	-0.398
	2.25	-0.084	-0.219	-0.249	-0.085	-0.234	-0.267	-0.087	-0.252	-0.284	-0.091	-0.273	-0.300	-0.097	-0.297	-0.318
	2.30	-0.044	-0.081	-0.079	-0.047	-0.097	-0.106	-0.052	-0.119	-0.133	-0.058	-0.143	-0.157	-0.066	-0.170	-0.182
	2.35	-0.004	0.057	0.090	-0.009	0.040	0.054	-0.015	0.017	0.020	-0.024	-0.011	-0.012	-0.034	-0.041	-0.043
	2.40	0.042	0.213	0.280	0.035	0.195	0.235	0.026	0.170	0.192	0.015	0.139	0.152	0.003	0.107	0.115
	2.45	0.086	0.363	0.463	0.078	0.346	0.411	0.068	0.322	0.363	0.055	0.289	0.317	0.040	0.254	0.273
	2.50	0.132	0.516	0.647	0.123	0.501	0.591	0.111	0.477	0.538	0.096	0.444	0.487	0.079	0.406	0.436
	2.55	0.165	0.623	0.776	0.154	0.609	0.716	0.142	0.587	0.661	0.127	0.556	0.609	0.109	0.520	0.558
	2.60	0.189	0.699	0.866	0.178	0.688	0.807	0.166	0.669	0.753	0.150	0.640	0.701	0.133	0.609	0.653
	2.65	0.203	0.741	0.915	0.192	0.732	0.858	0.180	0.715	0.804	0.165	0.689	0.755	0.147	0.658	0.706
	2.70	0.208	0.751	0.925	0.197	0.743	0869	0.185	0.727	0818	0.170	0.702	0.769	0.154	0.675	0.724
	2.75	0.198	0.711	0.874	0.189	0.706	0.825	0.178	0.692	0.778	0.164	0.670	0.734	0.149	0.646	0.693
	2.80	0.176	0.628	0.771	0.168	0.624	0.729	0.159	0.614	0.690	0.147	0.596	0.653	0.134	0.577	0.619
	2.85	0.144	0.512	0.628	0.138	0.510	0.595	0.130	0.501	0.563	0.121	0.488	0.534	0.111	0.473	0.507
	2.90	0.101	0.359	0.440	0.097	0.358	0.418	0.092	0.352	0.395	0.085	0.343	0.375	0.078	0.333	0.357
	2.95	0.054	0.191	0.234	0.052	0.190	0.222	0.049	0.187	0.210	0.046	0.183	0.200	0.042	0.178	0.191
	3.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE OF DEAD LOAD DEFLECTIONS (INCHES) - STAGE 2 CONSTRUCTION

SPAN	GIRDER NO.	GIRDER 6			GIRDER 7			GIRDER 8			GIRDER 9		
	Point of Deflection	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail	Structural Steel	Structural Steel + Slab	Structural Steel +Slab + Sidewalk + Rail
1	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.180	0.627	0.633	0.194	0.642	0.703	0.207	0.655	0.771	0.220	0.665	0.839
	0.10	0.345	1.198	1.209	0.371	1.228	1.344	0.397	1.253	1.476	0.422	1.272	1.606
	0.15	0.499	1.733	1.749	0.538	1.776	1.945	0.575	1.811	2.135	0.613	1.842	2.326
	0.20	0.628	2.176	2.195	0.676	2.228	2.441	0.725	2.275	2.684	0.772	2.312	2.922
	0.25	0.731	2.530	2.552	0.790	2.594	2.843	0.847	2.648	3.127	0.904	2.695	3.410
	0.30	0.805	2.779	2.802	0.871	2.849	3.125	0.936	2.911	3.442	1.000	2.964	3.755
	0.35	0.849	2.923	2.946	0.920	2.996	3.289	0.990	3.061	3.625	1.059	3.116	3.954
	0.40	0.861	2.958	2.980	0.936	3.033	3.333	1.009	3.100	3.677	1.082	3.157	4.014
	0.45	0.841	2.879	2.899	0.917	2.954	3.250	0.992	3.020	3.590	1.065	3.076	3.920
	0.50	0.794	2.711	2.728	0.870	2.784	3.068	0.944	2.848	3.394	1.017	2.904	3.711
	0.55	0.714	2.430	2.443	0.789	2.503	2.763	0.861	2.565	3.067	0.931	2.618	3.357
	0.60	0.620	2.105	2.113	0.691	2.173	2.404	0.759	2.231	2.677	0.824	2.281	2.936
	0.65	0.506	1.715	1.718	0.568	1.770	1.964	0.629	1.818	2.192	0.686	1.862	2.409
	0.70	0.392	1.326	1.325	0.446	1.371	1.527	0.497	1.410	1.711	0.547	1.448	1.885
	0.75	0.269	0.908	0.903	0.313	0.945	1.060	0.356	0.981	1.202	0.397	1.012	1.330
	0.80	0.163	0.549	0.542	0.199	0.580	0.658	0.233	0.612	0.762	0.265	0.636	0.850
	0.85	0.064	0.211	0.202	0.091	0.238	0.280	0.117	0.265	0.347	0.141	0.287	0.401
	0.90	0.004	0.008	0.000	0.022	0.027	0.044	0.039	0.046	0.080	0.056	0.065	0.111
	0.95	-0.017	-0.063	-0.068	-0.008	-0.052	-0.049	0.000	-0.042	-0.035	0.009	-0.031	-0.023
	1.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	1.05	0.131	0.458	0.470	0.125	0.454	0.484	0.117	0.445	0.499	0.106	0.423	0.509
	1.10	0.313	1.098	1.123	0.300	1.081	1.156	0.285	1.055	1.192	0.265	1.010	1.222
	1.15	0.571	2.003	2.045	0.550	1.962	2.105	0.526	1.908	2.168	0.499	1.837	2.234
	1.20	0.833	2.925	2.982	0.805	2.857	3.071	0.773	2.774	3.162	0.739	2.674	3.259
	1.25	1.116	3.924	3.997	1.081	3.825	4.117	1.043	3.709	4.239	1.003	3.577	4.367
	1.30	1.368	4.819	4.905	1.327	4.689	5.052	1.284	4.543	5.200	1.240	4.381	5.354
	1.35	1.604	5.663	5.760	1.559	5.501	5.931	1.512	5.323	6.101	1.465	5.132	6.275
	1.40	1.780	6.296	6.400	1.732	6.108	6.590	1.684	5.908	6.777	1.635	5.694	6.966
	1.45	1.897	6.720	6.828	1.849	6.514	7.031	1.800	6.296	7.229	1.752	6.068	7.426
	1.50	1.955	6.935	7.043	1.908	6.717	7.254	1.861	6.490	7.457	1.815	6.254	7.655
	1.55	1.937	6.880	6.985	1.893	6.658	7.194	1.849	6.430	7.393	1.806	6.197	7.588
	1.60	1.850	6.575	6.673	1.809	6.357	6.873	1.769	6.137	7.062	1.731	5.915	7.245
	1.65	1.705	6.060	6.148	1.668	5.854	6.332	1.632	5.647	6.503	1.597	5.439	6.664
	1.70	1.498	5.322	5.398	1.466	5.135	5.559	1.434	4.947	5.703	1.403	4.760	5.835
	1.75	1.256	4.456	4.518	1.229	4.296	4.654	1.203	4.138	4.775	1.176	3.978	4.878
	1.80	0.969	3.431	3.478	0.949	3.307	3.586	0.929	3.185	3.679	0.909	3.063	3.757
	1.85	0.693	2.450	2.483	0.680	2.363	2.565	0.666	2.277	2.633	0.652	2.193	2.690
	1.90	0.409	1.444	1.463	0.403	1.398	1.519	0.396	1.352	1.564	0.389	1.307	1.601
	1.95	0.186	0.655	0.663	0.183	0.634	0.690	0.181	0.616	0.713	0.178	0.597	0.731
	2.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	2.05	-0.062	-0.219	-0.222	-0.061	-0.212	-0.230	-0.060	-0.206	-0.237	-0.059	-0.202	-0.245
	2.10	-0.100	-0.355	-0.361	-0.098	-0.345	-0.375	-0.098	-0.338	-0.389	-0.098	-0.335	-0.404
	2.15	-0.115	-0.410	-0.417	-0.114	-0.401	-0.435	-0.114	-0.397	-0.456	-0.115	-0.398	-0.477
	2.20	-0.107	-0.384	-0.392	-0.107	-0.379	-0.411	-0.108	-0.381	-0.436	-0.112	-0.393	-0.466
	2.25	-0.090	-0.327	-0.335	-0.091	-0.328	-0.356	-0.095	-0.339	-0.386	-0.101	-0.360	-0.421
	2.30	-0.060	-0.224	-0.231	-0.063	-0.233	-0.253	-0.069	-0.254	-0.286	-0.077	-0.286	-0.325
	2.35	-0.029	-0.116	-0.122	-0.034	-0.132	-0.143	-0.041	-0.161	-0.177	-0.051	-0.202	-0.218
	2.40	0.007	0.010	0.005	-0.001	-0.013	-0.014	-0.008	-0.049	-0.046	-0.019	-0.097	-0.086
	2.45	0.043	0.137	0.134	0.035	0.105	0.113	0.024	0.060	0.081	0.011	0.004	0.041
	2.50	0.080	0.269	0.267	0.070	0.227	0.246	0.057	0.174	0.213	0.043	0.109	0.171
	2.55	0.109	0.372	0.372	0.098	0.325	0.352	0.085	0.268	0.321	0.070	0.199	0.282
	2.60	0.132	0.457	0.458	0.121	0.408	0.442	0.108	0.350	0.416	0.093	0.280	0.381
	2.65	0.145	0.506	0.508	0.134	0.456	0.494	0.121	0.397	0.469	0.107	0.327	0.437
	2.70	0.151	0.527	0.530	0.139	0.476	0.515	0.126	0.416	0.490	0.112	0.348	0.460
	2.75	0.146	0.511	0.514	0.135	0.464	0.502	0.123	0.408	0.480	0.110	0.345	0.452
	2.80	0.131	0.462	0.465	0.122	0.421	0.456	0.112	0.374	0.439	0.101	0.320	0.416
	2.85	0.108	0.381	0.384	0.101	0.349	0.378	0.093	0.311	0.364	0.084	0.267	0.346
	2.90	0.076	0.269	0.271	0.071	0.246	0.266	0.066	0.220	0.258	0.060	0.190	0.246
	2.95	0.041	0.144	0.145	0.038	0.132	0.143	0.035	0.118	0.138	0.032	0.102	0.132
	3.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



DEAD LOAD DEFLECTION DIAGRAM
No Scale

*See Table of Variables, Dwg. No. 54744

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/12
CARL L. FUSELIER

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS OF 498'-0" CONT. COMP. PLATE GIRDER UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

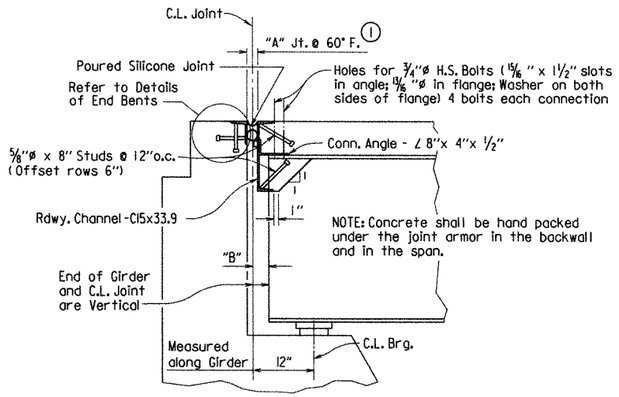
DRAWN BY: MRE DATE: 08/27/12
CHECKED BY: SWP DATE: 10/18/13
DESIGNED BY: TMG DATE: 1/12
FILENAME: b030388_sl.dgn
SCALE: No Scale

BRIDGE NO. 07249
DRAWING NO. 54748

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	68	126

① 07249 - DETAILS OF JOINT - 54749



SECTION THRU JOINT AT BENT 1

No Scale

SILICONE JOINT DATA

Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature Of: ①			"B" Perpendicular to Joint at 60°F	Bumper Plate Size	"D"
	40°F	60°F	80°F			
1	1 5/8"	1 1/2"	1 3/8"	2"+/-	1" x 1"	4"

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.

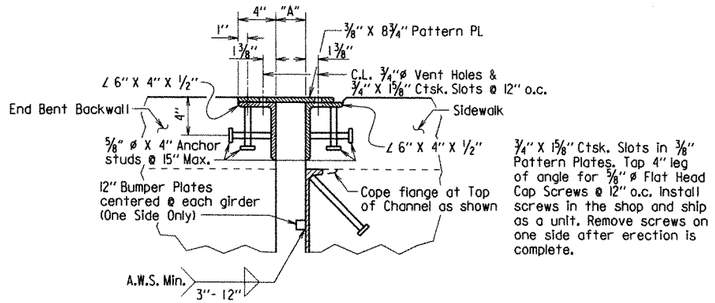
The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80°F.

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 that 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.



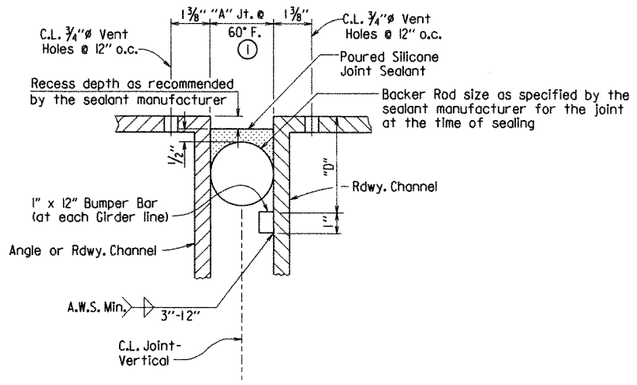
¾" X 15/16" Ctsk. Slots in ⅜" Pattern Plates. Tap 4" leg of angle for ⅝" ø Flat Head Cap Screws @ 12" o.c. Install screws in the shop and ship as a unit. Remove screws on one side after erection is complete.

NOTE: Concrete shall be hand packed under the joint armor in the sidewalk.

SECTION THRU SIDEWALK AT BENT 1

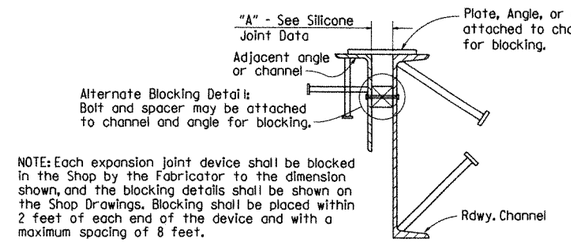
No Scale

The surfaces of the ⅜" pattern PL and ∠ 6" X 4" X ½" not 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 shall be considered subsidiary to "Structural Steel in Girder Spans (M270, Gr. 50W)". Pattern Plate and angle shall be M270, Gr. 36 or as approved by the Engineer and shall be paid for as "Structural Steel in Girder Spans (M270, Gr. 50W)".



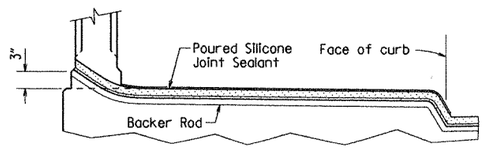
DETAIL OF POURED SILICONE JOINT SEAL

No Scale



DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

NO SCALE



JOINT SEAL PLACEMENT AT SIDEWALK & CONCRETE BRIDGE RAIL

No Scale

EXPANSION DEVICE INSTALLATION

BENT 1

The Contractor may elect to install the expansion device for Bent 1 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 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. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature. Backfill shall not be placed behind the backwall until the deck concrete on the adjacent span has been placed.

STATE OF ARKANSAS
Carl L. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL L. FUSSELIER

BRIDGE ENGINEER

SHEET 1 OF 2

DETAILS OF JOINTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 09/04/12 FILENAME: b030388_sl.dgn

CHECKED BY: GWP DATE: 10/19/13 SCALE: As Shown

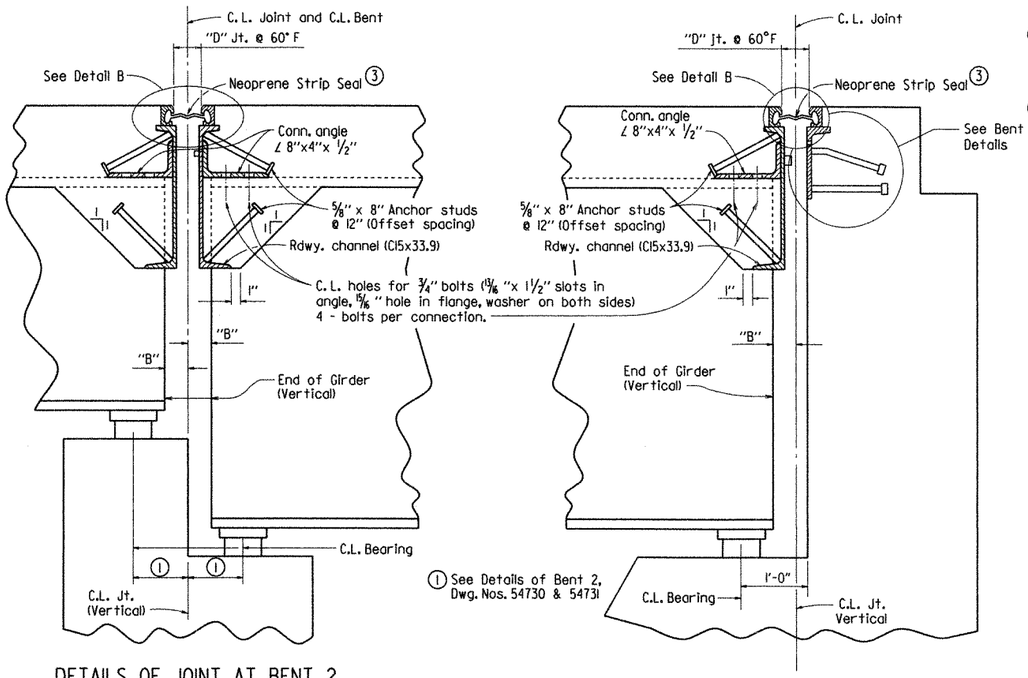
DESIGNED BY: TMG DATE: 9/12

BRIDGE NO. 07249 DRAWING NO. 54749

PRINT DATE: 18-OCT-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	69	126

(1) 07249 - DETAILS OF JOINT - 54750



DETAILS OF JOINT AT BENT 2

No Scale

DETAILS OF JOINT AT BENT 5

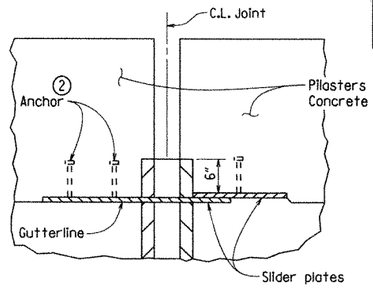
No Scale

(2) The method of attachment of the slider plate assembly must be such that it may be removed in order to provide for future replacement of the neoprene seal.

(3) A temporary Neoprene Strip Seal shall be installed the full width of Stage I Construction prior to opening it to traffic. Upon completion of Stage 2 Construction, the temporary Neoprene Strip Seal shall be removed and the final Neoprene Strip Seal shall be installed in one piece full width in accordance with the SP Job 030388 "Armored Joint with Neoprene Strip Seal."

NOTES:
Details of Joint turn-up in curb and rail are general and show basic design controls only. See SP Job 030388, "Armored Joint with Neoprene Strip Seal." Method of installation and fabrication shall be determined by the manufacturer.

Slider plates shall be AASHTO M270-Gr. 36 and shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W). The surfaces of the plates which will not be in contact with the concrete shall be cleaned and painted in accordance with Section 638, or as directed by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting shall not be paid for directly, but will be considered subsidiary to "Structural Steel in Plate Girder Spans (M270, Gr. 50W).



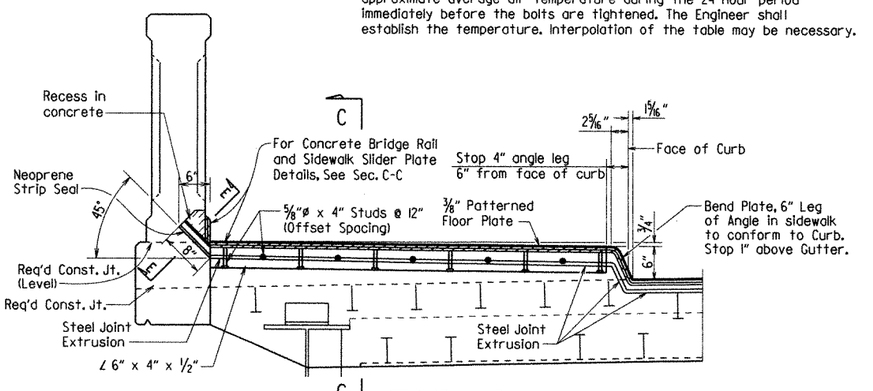
SECTION D-D

No Scale

STRIP SEAL DATA

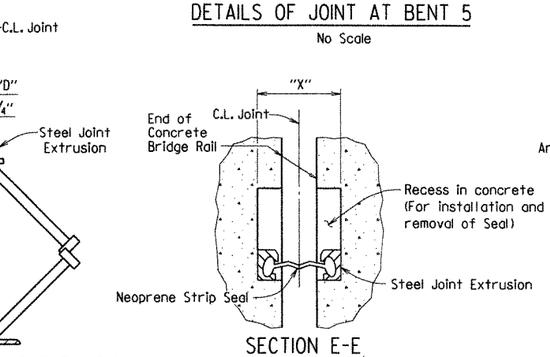
Bent Number	(4) "E" width perpendicular to joint at 24 hour average temperature of: 40°	60°	80°	"D" Joint width perpendicular to joint at 60° F	Movement Rating	"B" perpendicular to joint
2	3½"	3"	2½"	3½"	4"	2¾"
5	3½"	3"	2½"	3½"	4"	2¾"

(4) NOTE: 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.



SECTION B-B

No Scale



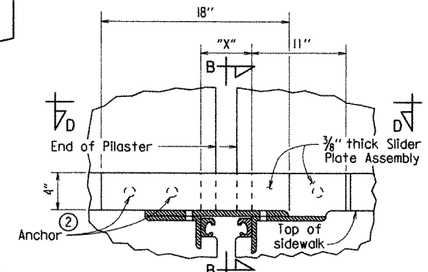
NOTE: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "E", and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE AT STRIP SEAL JOINTS

No Scale

SECTION E-E

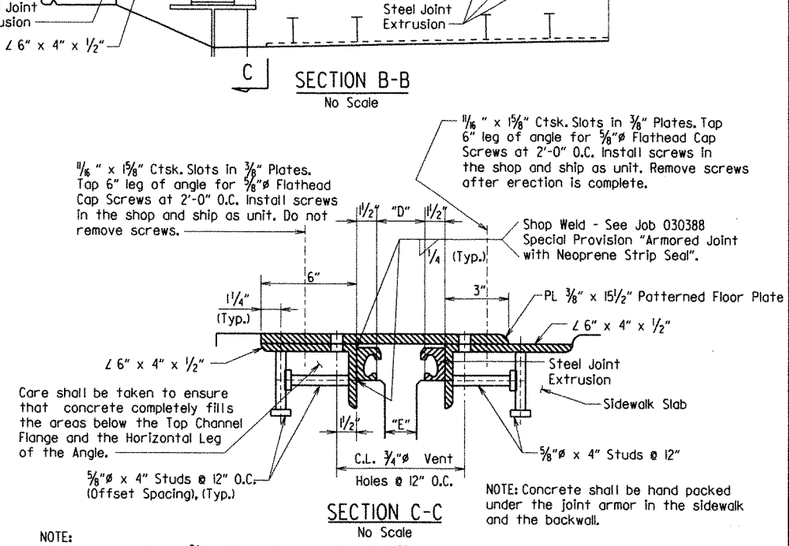
No Scale



NOTE: Dimension 'X' equals the width of opening in parapet at curb to allow for removal or repair of joint.

DETAIL OF NEOPRENE STRIP SEAL AT SIDEWALK

No Scale

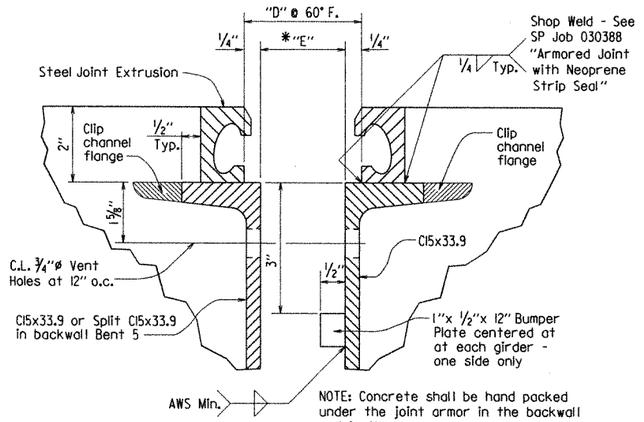


SECTION C-C

No Scale

NOTE: Concrete shall be hand packed under the joint armor in the sidewalk and the backwall.

NOTE:
The surfaces of the ⅜" pattern PL and ∠ 6" X 4" X ½" not 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 shall be considered subsidiary to "Structural Steel in Girder Spans (M270, Gr. 50W)". Pattern Plate and angle shall be M270, Gr. 36 or as approved by the Engineer and shall be paid for as "Structural Steel in Girder Spans (M270, Gr. 50W)".



NOTE: Concrete shall be hand packed under the joint armor in the backwall and in the span

DETAIL B

No Scale

For General Notes, see Dwg. no. 54741.

EXPANSION DEVICE INSTALLATION

Bent 2

After all girders on both sides of the joint are erected, the blocked expansion device shall be installed and adjusted for grade. Connection bolts shall be tightened only on the unit whose concrete will be poured first. Connection bolts on the second unit shall be loosely installed to allow for thermal movements and for end rotation of the girders of the first unit while the concrete deck is poured.

After the concrete on the first unit has hardened and immediately prior to pouring concrete for the second unit, the blocking shall be removed and the joint width shall be adjusted for temperature. After the joint width has been set, the connection bolts on the second unit shall be tightened and concrete in the second unit can then be poured. A joint opening adjustment is not required for end rotation of the girders caused by the weight of the slab and parapets.

Bent 5

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 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 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. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature.

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SHEET 2 OF 2
DETAILS OF JOINTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 09/04/12 FILENAME: b030388_sl.dgn
CHECKED BY: CJP DATE: 10/18/13 SCALE: As Shown
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BRIDGE NO. 07249 DRAWING NO. 54750

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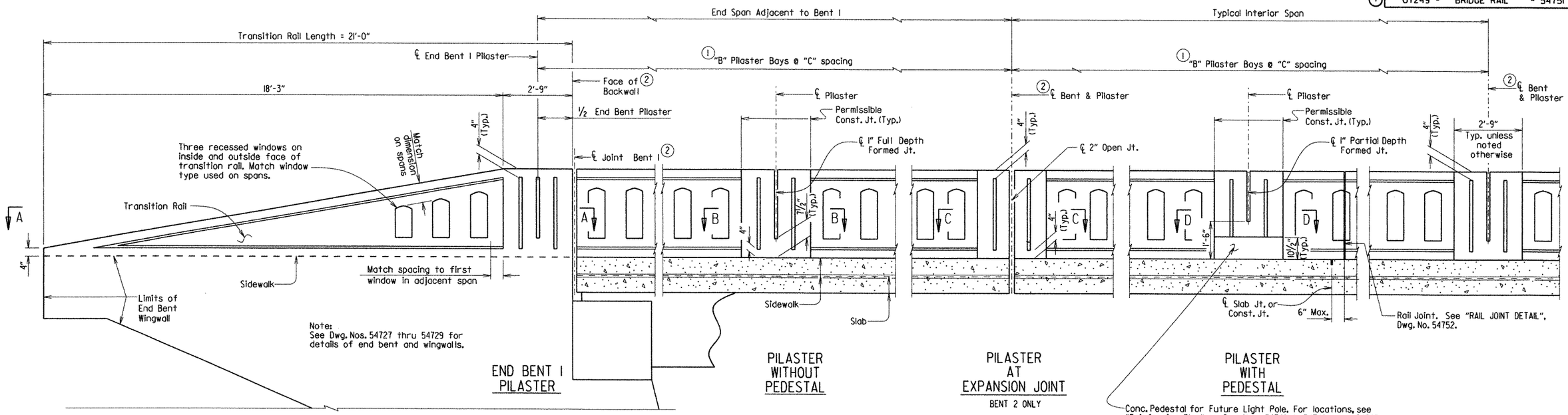
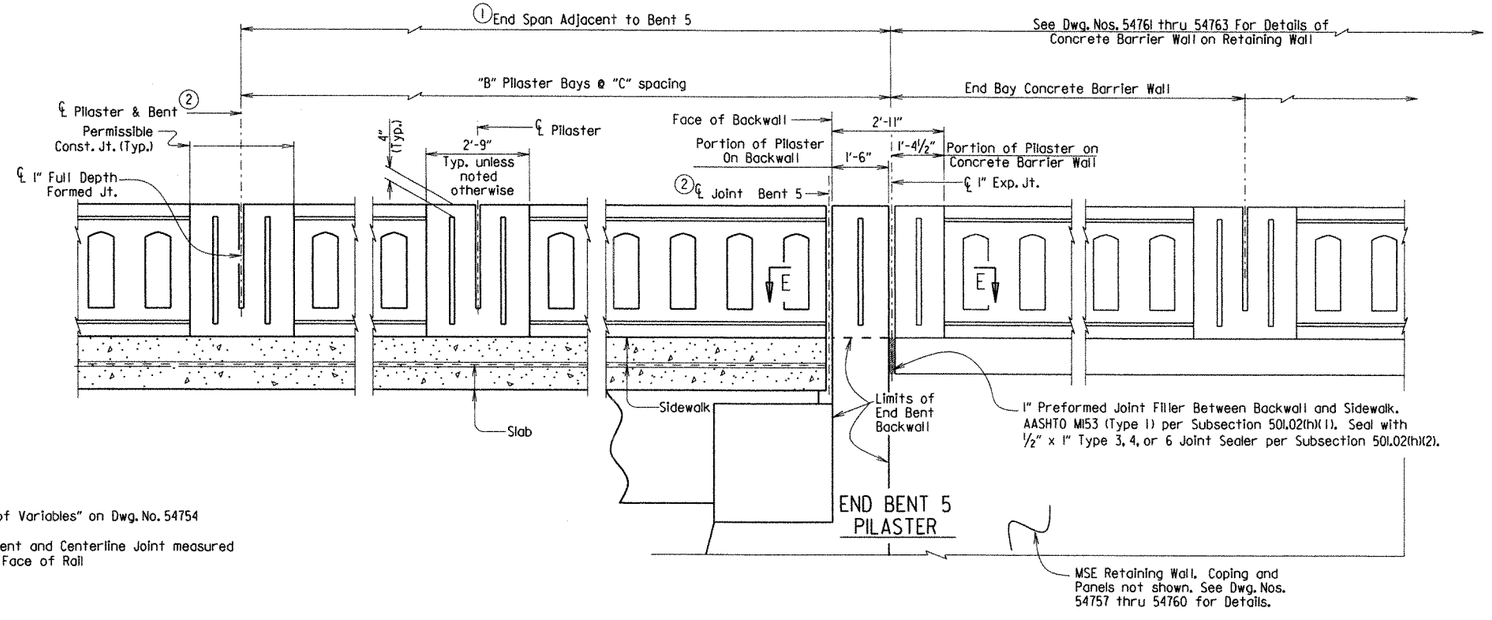
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	20	126
				①	07249 -	BRIDGE RAIL	- 54751	



Note: See Dwg. No. 54754 for Details of Recessed Windows.



EXTERIOR ELEVATION OF CONCRETE BRIDGE RAIL

½" = 1'-0"

① See "Table of Variables" on Dwg. No. 54754

② Centerline Bent and Centerline Joint measured at Roadway Face of Rail

GENERAL NOTES

Concrete Bridge Rail and Transition Rail, including lightpole pedestals, shall be constructed, measured, and paid for as "Concrete Bridge Railing (Type D)" in accordance with SP Job 030388 "Decorative Concrete Bridge Railing" except where modified by these plans. All concrete, reinforcing steel and joint materials shown in these details shall not be paid for separately, but shall be considered subsidiary to the unit price bid for the item "Concrete Bridge Railing (Type D)".

Concrete shall be Class S(AE) with a minimum 28 day compressive strength 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.

Working drawings showing span number, span pilaster and pedestal locations, number of windows between pilasters and spacing to first window shall be submitted to the Engineer for approval prior to pouring railing.

Reinforcing steel that interferes with pull boxes installed in pilasters shall be cut off 2" clear of pull box. Epoxy coating of cut bars shall be repaired in accordance with Subsection 804.05 No additional payment will be made for this work.

All exposed surfaces of the parapet rail, pedestals and transition rail shall receive a Class 3 Textured Coating Finish in accordance with Special Provision Job 030388

This rail is designed for TL-2 test level.

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SHEET 1 OF 4
DETAILS OF CONCRETE BRIDGE RAILING (TYPE D)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/25/2013 FILENAME: b030388_rl.dgn

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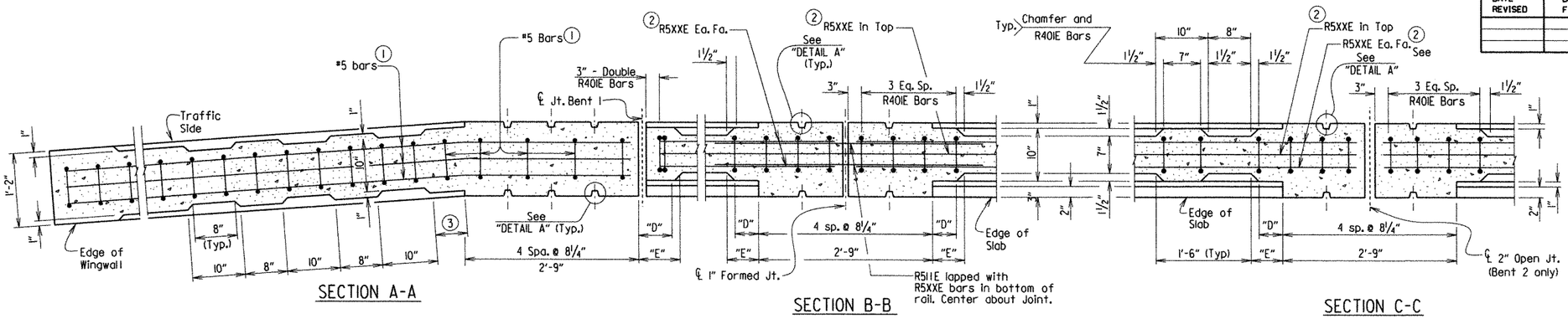
				6	ARK.			
				JOB NO.		030388	71	126
				(1)	07249 -	BRIDGE RAIL	- 54752	



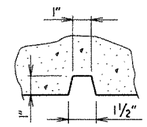
(1) See "Elevation Showing Typical Reinforcing Placement",

(2) See Dwg. No. 54754 for locations of Bar 5XXE.

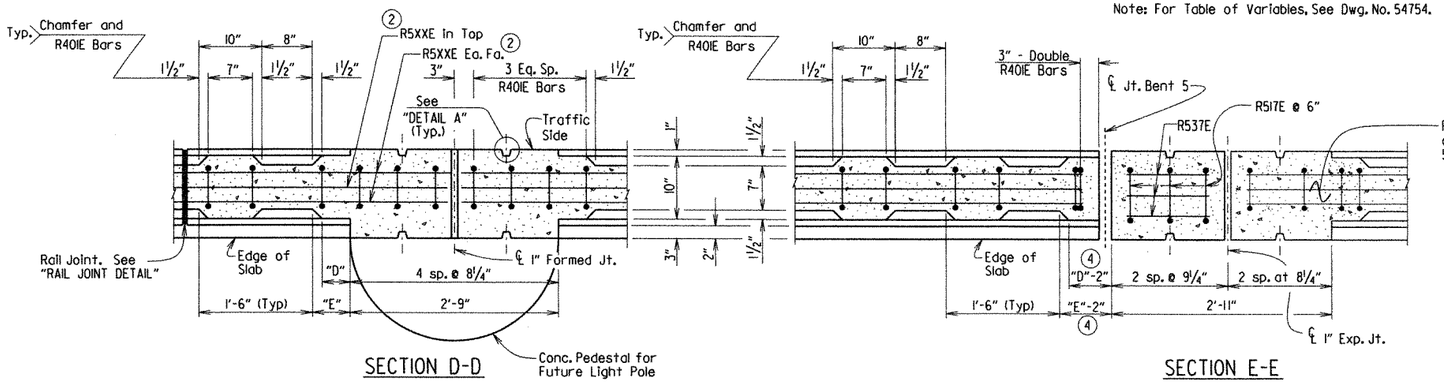
(3) Match spacing to first window in adjacent span.

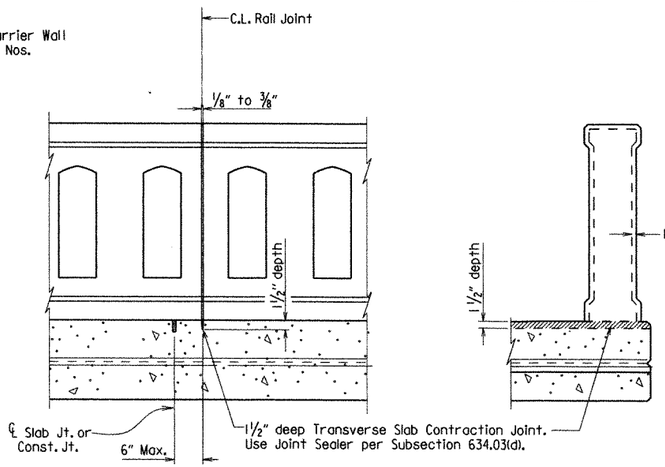
(4) Adjust spacing to first window as shown adjacent to End Bent 5

Note: For Table of Variables, See Dwg. No. 54754.



DETAIL A





Install Rail Joints within 6" of Slab or Construction Joints.

Rail Joints may be formed or saw cut. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab.

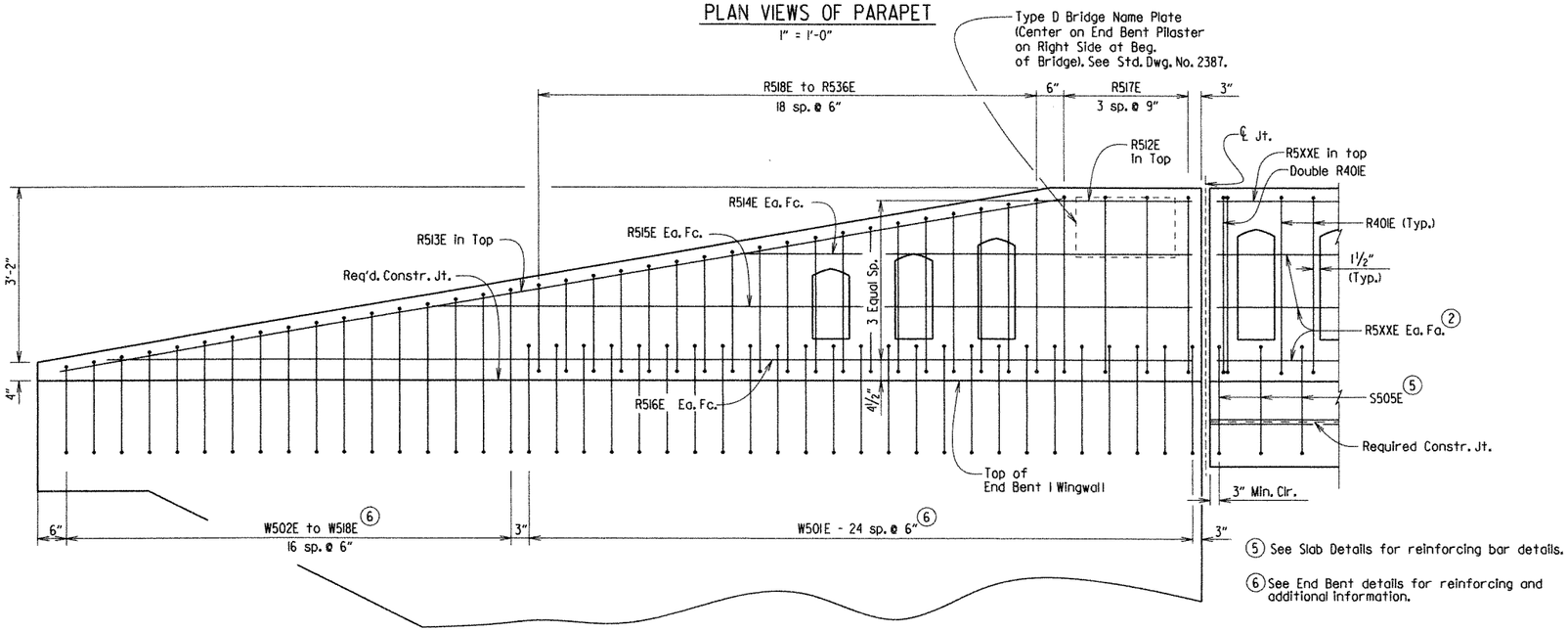
1" deep joints in parapet section are not required to be sealed.

RAIL JOINT DETAIL

Plan View
No Scale

PLAN VIEWS OF PARAPET

1" = 1'-0"



(5) See Slab Details for reinforcing bar details.

(6) See End Bent details for reinforcing and additional information.

ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT

¾" = 1'-0"

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SHEET 2 OF 4
DETAILS OF CONCRETE BRIDGE RAILING (TYPE D)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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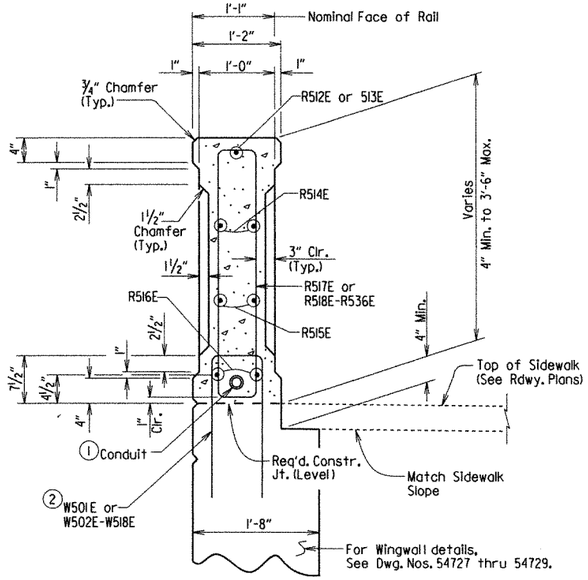
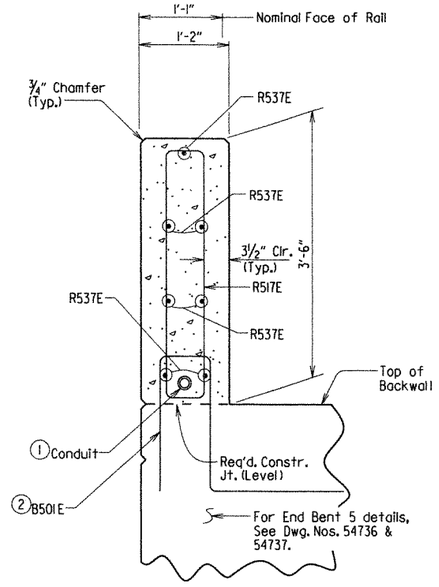
				6	ARK.			
				JOB NO.		030388	72	126
				①	07249 -	BRIDGE RAIL	- 54753	



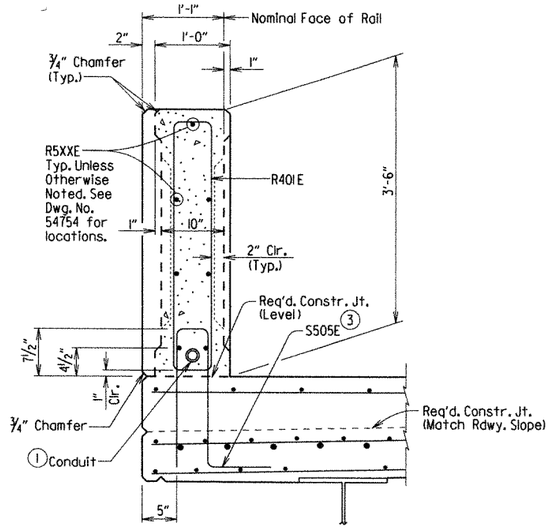
TRANSITION RAIL SECTION THRU WINDOWS ON WINGWALLS

END BENT 1
1" = 1'-0"



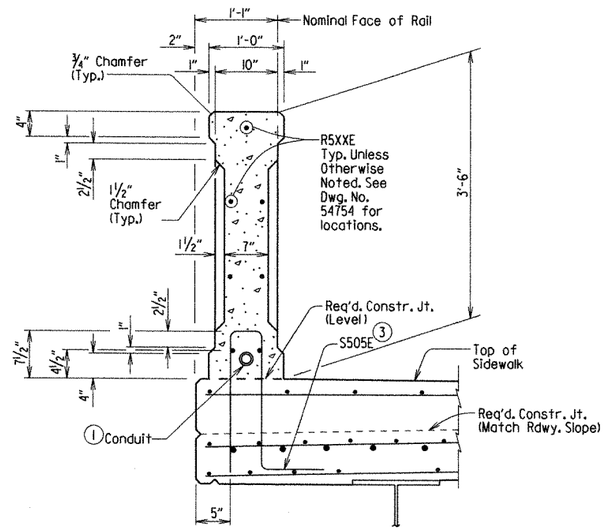
SECTION THRU PILASTER ON END BENT 5

1" = 1'-0"



RAIL SECTION THRU PILASTERS ON SPANS

Pedestals for future light poles not shown. For pilasters with pedestals, see "DETAIL B"
1" = 1'-0"



RAIL SECTION THRU WINDOWS ON SPANS

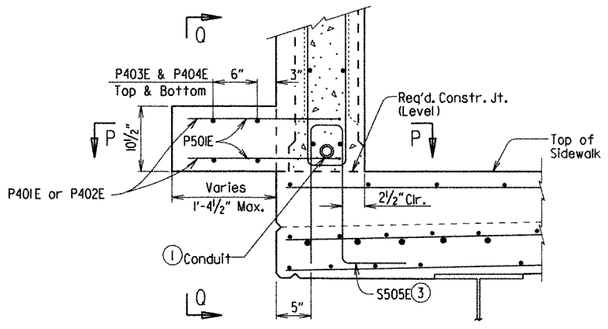
1" = 1'-0"

① See Lighting Details.

② See End Bent details for reinforcing and additional information.

③ See Span Details.

See Dwg. No. 54754 for locations of Bar 5XXE.

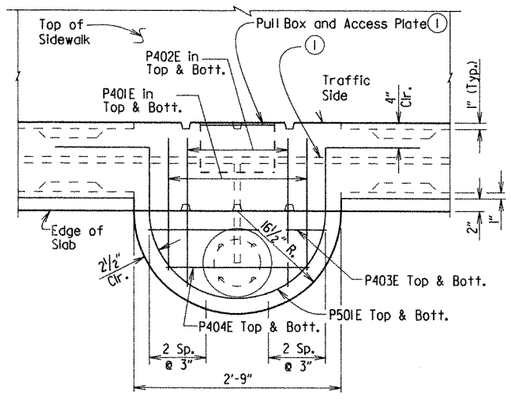


DETAIL B

AT PILASTERS WITH PEDESTALS
1" = 1'-0"

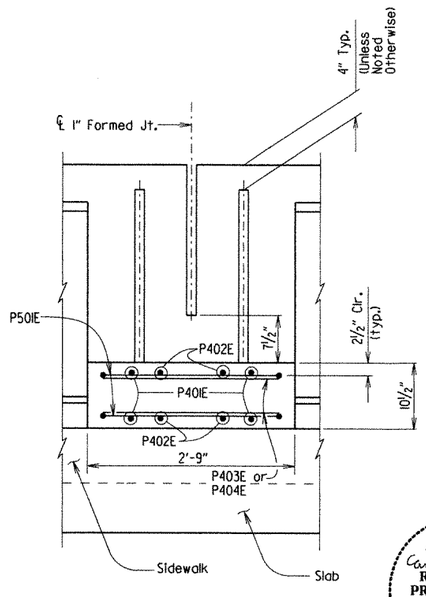
Notes:
Top of pedestal shall be sloped to drain away from face of rail.

For details not shown, See "Rail Section Thru Pilasters on Spans".



SECTION P-P

PEDESTAL DETAILS
1" = 1'-0"



SECTION Q-Q

PEDESTAL DETAILS
1" = 1'-0"

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SHEET 3 OF 4
DETAILS OF CONCRETE BRIDGE RAILING (TYPE D)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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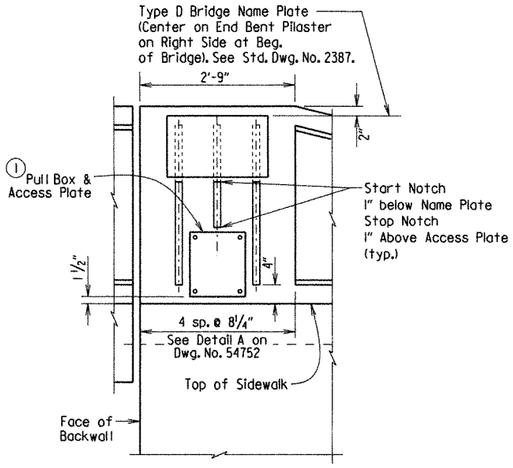
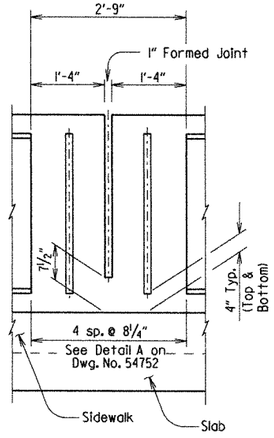
				6	ARK.			
				JOB NO.		030388	73	126
				①	07249 - BRIDGE RAIL		- 54754	

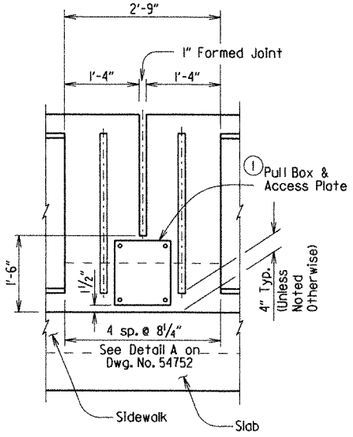


END BENT 1

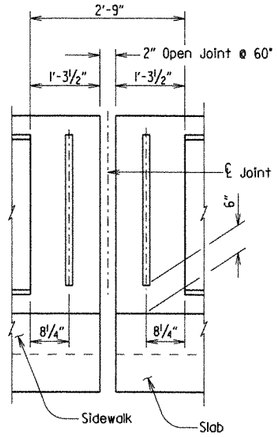
① See Lighting Details



WITHOUT PEDESTAL

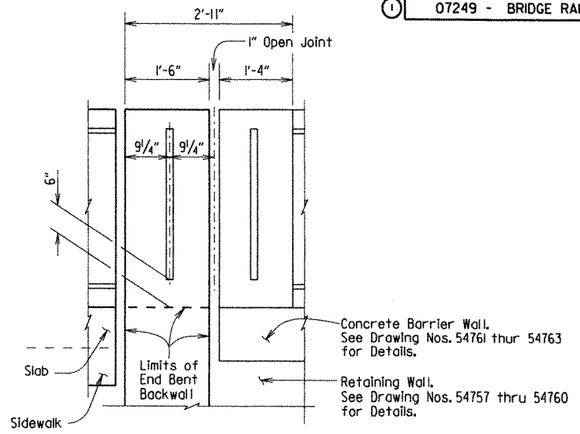


WITH PEDESTAL



AT EXP. JOINT

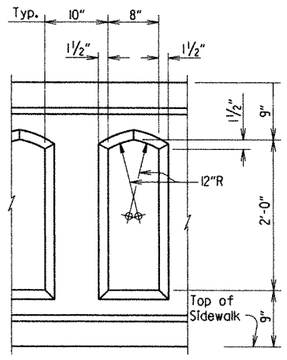
BENT 2 ONLY



AT END BENT 5

INTERIOR ELEVATION OF PILASTERS

¾" = 1'-0"



RECESSED WINDOW DETAILS

Not to Scale

TABLE OF VARIABLES

	Span No.	"B"	"C"	No. of Windows Per Bay	"D"	"E"
LEFT RAIL	1	3	28'-9¾"	17	6⅞"	8⅜"
	2	5	29'-11½"	17	13¾"	15¼"
	3	7	30'-6"	18	8"	9½"
	4	5	27'-3⅛"	16	6⅝"	8⅛"

	Span No.	"B"	"C"	No. of Windows Per Bay	"D"	"E"
RIGHT RAIL	1	3	28'-9¾"	17	6⅞"	8⅜"
	2	5	29'-11½"	17	13¾"	15¼"
		1	16'-4¾"	8	13⅜"	14⅞"
	3	1	14'-1¼"	7	8⅛"	10⅜"
		6	30'-6"	18	8"	9½"
		1	11'-4½"	5	10¼"	11¾"
	4	1	15'-10⅝"	8	10⅛"	11⅝"
		4	27'-3⅛"	16	6⅝"	8⅛"

BAR R5XXE LOCATIONS

	Bay Length	R5XXE Bar	
②	27'-3¾"	R501E	LEFT RAIL
	28'-9¾"	R502E	
	29'-11½"	R503E	
	30'-6"	R504E	
	27'-3⅛"	R505E	
②	26'-5⅝"	R506E	

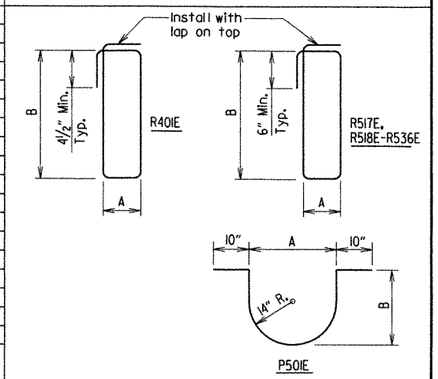
	Bay Length	R5XXE Bar	
②	27'-3¾"	R501E	RIGHT RAIL
	28'-9¾"	R502E	
	29'-11½"	R503E	
③	16'-4¾"	R507E	
③	14'-1⅝"	R508E	
	30'-6"	R504E	
③	11'-4½"	R509E	
	15'-10¼"	R510E	
	27'-3⅛"	R505E	
②	26'-5⅝"	R506E	

② First and Last Pilaster Bays. Bay length shown measured to end of slab.

③ Bays adjacent to additional pilasters in Right Rail.

BAR LIST - FOR INFORMATION ONLY

Mark	Length	A	B	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
R401E	7'-10"	6"	3'-3"	2"	
R501E	26'-11"	—	—	Str.	
R502E	28'-4"	—	—	Str.	
R503E	29'-6"	—	—	Str.	
R504E	30'-1"	—	—	Str.	
R505E	26'-10"	—	—	Str.	
R506E	26'-0"	—	—	Str.	
R507E	15'-11"	—	—	Str.	
R508E	13'-8"	—	—	Str.	
R509E	10'-11"	—	—	Str.	
R510E	15'-5"	—	—	Str.	
R511E	4'-9"	—	—	Str.	
R512E	2'-6"	—	—	2½"	
R513E	18'-4"	—	—	Str.	
R514E	8'-2"	—	—	Str.	
R515E	13'-8"	—	—	Str.	
R516E	19'-8"	—	—	Str.	
R517E	8'-2"	7"	3'-3"	2½"	
R518E - R536E	4'-8" to 7'-10"	7"	1'-6" to 3'-1"	2½"	
R537E	1'-2"	—	—	Str.	
P401E	1'-9"	—	—	Str.	
P402E	2'-0"	—	—	Str.	
P403E	2'-4"	—	—	Str.	
P404E	1'-10"	—	—	Str.	
P501E	6'-8"	2'-4"	3'-4½"	2½"	



Notes:
Bars with "E" suffix shall be epoxy-coated.

Reinforcing Steel shown shall be subsidiary to pay item "Concrete Bridge Railing (Type D)".

STATE OF ARKANSAS
Carl L. Fusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/9/13
CARL L. FUSELLIER

BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF CONCRETE
BRIDGE RAILING (TYPE D)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/25/2013 FILENAME: b030388_rl.dgn
CHECKED BY: JGT DATE: 10/15/13 SCALE: AS NOTED
DESIGNED BY: LJB DATE: 6/13

BRIDGE NO. 07249 DRAWING NO. 54754

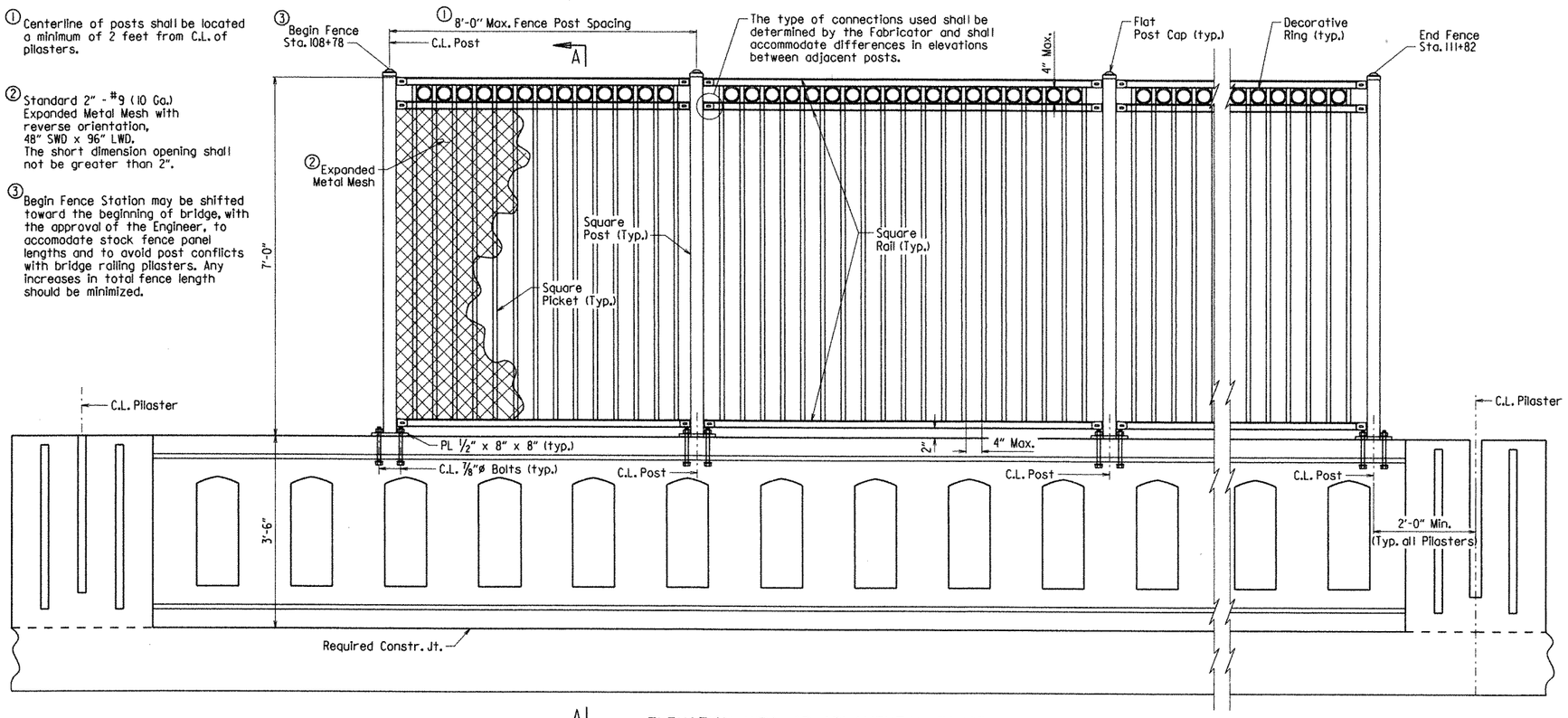
PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	74	126
				(1) 07249 - ORNAMENTAL FENCE - 54755				

① Centerline of posts shall be located a minimum of 2 feet from C.L. of pilasters.

② Standard 2" - #9 (10 Ga.) Expanded Metal Mesh with reverse orientation, 48" SWD x 96" LWD. The short dimension opening shall not be greater than 2".

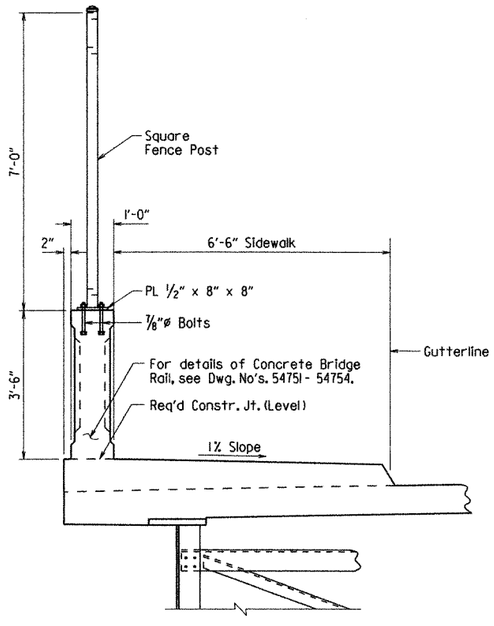
③ Begin Fence Station may be shifted toward the beginning of bridge, with the approval of the Engineer, to accomodate stock fence panel lengths and to avoid post conflicts with bridge railing pilasters. Any increases in total fence length should be minimized.



ELEVATION VIEW OF ORNAMENTAL FENCE

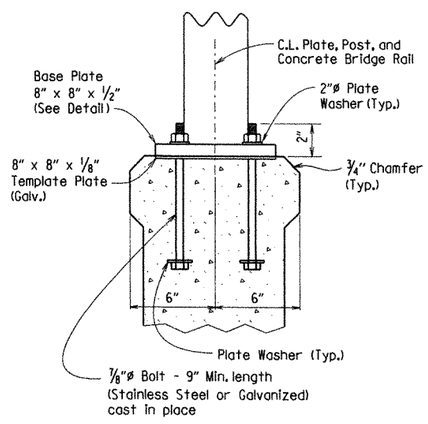
No Scale

Note: Ornamental Fence with expanded metal mesh shall be placed on both sides of bridge between the stations shown.



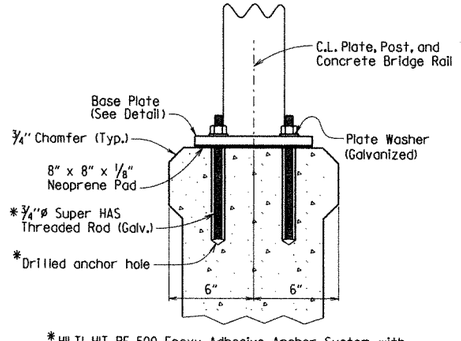
SECTION A-A

½" = 1'-0"



DETAILS OF POST ANCHOR SYSTEM (CAST IN PLACE ANCHORS)

No Scale

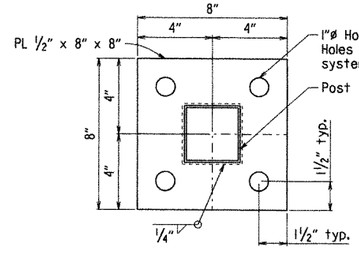


*HILTI HIT RE 500 Epoxy Adhesive Anchor System with 6¾" embedment or an approved equal.

The Epoxy Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

NO SCALE



DETAILS OF BASE PLATE

3" = 1'-0"

GENERAL NOTES:

Ornamental Fence Layout shall conform to the vertical and horizontal alignment of the bridge. All posts and pickets shall be plumb (true vertical position).

General details and dimensions of ornamental fence and expanded metal mesh shall be submitted to the Engineer for review and acceptance prior to submitting shop drawings. Shop drawings shall be submitted for review in accordance with Special Provision Job 030388 "Ornamental Fencing" prior to fabrication.

Expanded metal mesh and connecting hardware, base plates, template plates, neoprene pads, and anchor bolts, nuts, and washers will not be paid for directly, but shall be considered incidental to the unit price bid for "Ornamental Fence".

See Special Provision Job 030388 "Ornamental Fencing" for additional information.

POST ANCHOR SYSTEM:

Cast in place anchor bolts shall be of stainless steel or high-strength steel. Stainless steel anchor bolts shall conform to ASTM A193 or A320-Grade B8 with a minimum yield strength of 80,000 psi. High-strength steel anchor bolts shall conform to AASHTO M164 or A354-Grade BC, galvanized in accordance with AASHTO M232 or M298, Class 40 or 50.

Plate Washers shall be stainless steel and conform to the requirements of ASTM A167-Type 302 or AASHTO M270, Gr. 36, galvanized in accordance with AASHTO M232 or M298, Class 40 or 50. Plate Washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series).

Nuts shall conform to ASTM A194, Gr. 8 (Stainless Steel) or AASHTO M164, galvanized in accordance with AASHTO M232.

Mixing of Stainless Steel and Galvanized fasteners will not be permitted.

Base plates shall be provided by the Fabricator and shop weld to fence posts. The base plates shall be AASHTO M279, Gr. 36, galvanized in accordance with AASHTO M232 or M298, Grade 40 or 50, and have a black powder coated finish.

Base plates shall not be installed on rail surfaces that are improperly finished, deformed or irregular.

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DETAILS OF ORNAMENTAL FENCE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: SWP DATE: 08/23/13 FILENAME: b030388_fl.dgn

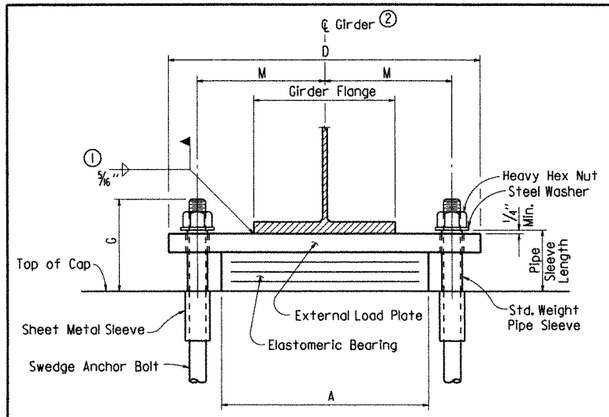
CHECKED BY: SCT DATE: 10/18/13 SCALE: As Shown

DESIGNED BY: SWP DATE:

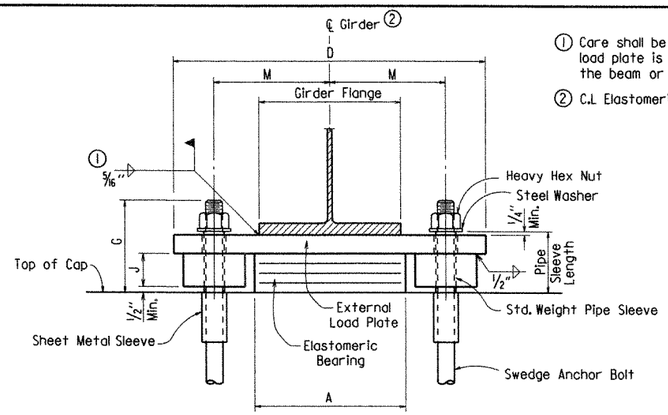
BRIDGE NO. 07249 DRAWING NO. 54755

PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	75	126
				①	07249	- ELASTO -	54756	



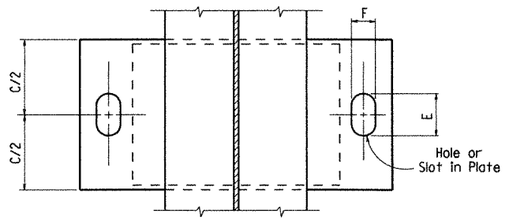
FRONT VIEW - AT BENT NOS. 1, 2, & 5



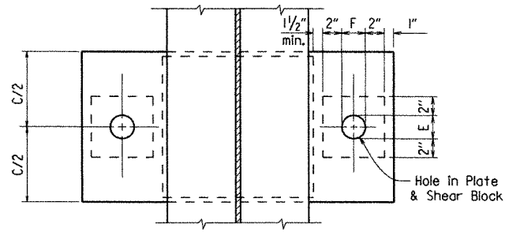
FRONT VIEW - AT BENT NOS. 3 & 4

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

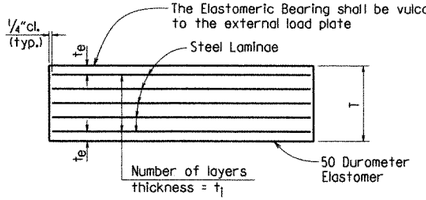
② C.L Elastomeric pad shall be aligned with C.L. Girder.



PLAN VIEW - AT BENT NOS. 1, 2, & 5



PLAN VIEW - AT BENT NOS. 3 & 4

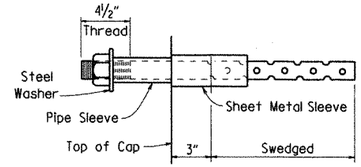


t_e = thickness of elastomer cover on top and bottom of pad

t_1 = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_1

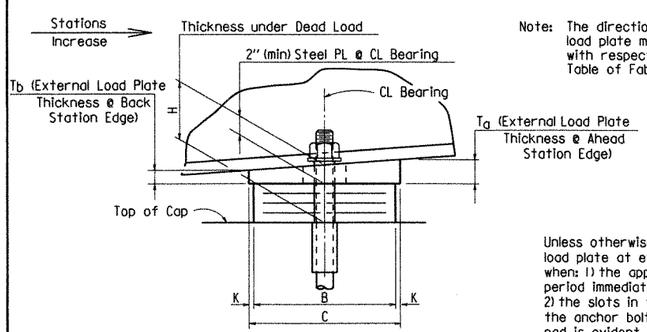
ELASTOMERIC BEARING



ANCHOR BOLT DETAIL

NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

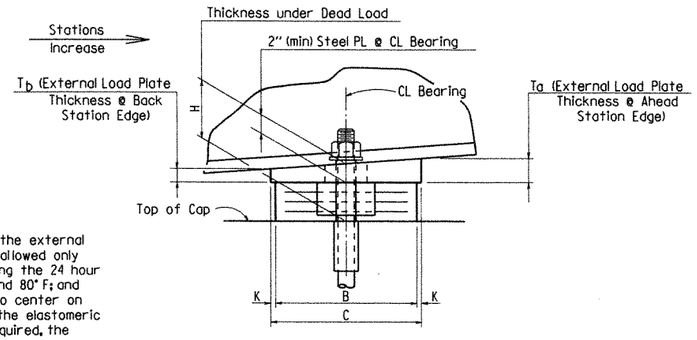
If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a OPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. 50W)"



SIDE VIEW - AT BENT NOS. 1, 2, & 5

Note: The direction of the 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; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



SIDE VIEW - AT BENT NOS. 3 & 4

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION BENT NO.	LOCATION UNIT	LOCATION BEAM NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD A	B	N	t_1	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE C	D	E	F	J	K	M	T_a	T_b	ANCHOR BOLT (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
07249	1	85	ALL	EXP.	9	138	6 3/4"	3 13/16"	13"	11"	2	1/2"	1/4"	3 @ 12 Ga.	1 13/16"	12"	28 1/2"	3 1/4"	2 1/4"	-	1/2"	11 1/2"	2.300	1.700	1 1/2" x 22"	55	1 1/2" x 4 1/4"	3" x 6"	3"
	2(Bck)	85	ALL	FIXED	9	138	6 3/4"	3 13/16"	13"	11"	2	1/2"	1/4"	3 @ 12 Ga.	1 13/16"	12"	28 1/2"	2 1/4"	2 1/4"	-	1/2"	11 1/2"	2.300	1.700	1 1/2" x 22"	55	1 1/2" x 4 1/4"	3" x 6"	3"
	2(Ahd)	498	ALL	EXP.	9	180	10 1/4"	6 3/4"	17"	9"	7	1/2"	1/4"	8 @ 12 Ga.	4 13/16"	11 1/4"	30 1/2"	7 1/8"	3 1/8"	-	1 1/8"	12"	2.281	1.719	2" x 31"	55	2 1/2" x 7 1/4"	4" x 6"	3 3/4"
	3	498	1 - 3	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.260	1.740	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	3	498	4 - 6	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.250	1.750	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	3	498	7 - 9	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.240	1.760	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	4	498	1 - 3	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.260	1.740	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	4	498	4 - 6	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.250	1.750	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	4	498	7 - 9	FIXED	3	536	9 3/4"	6 1/8"	18"	16"	6	1/2"	1/4"	7 @ 12 Ga.	4 1/4"	17"	37 1/4"	3 1/8"	3 1/8"	3 5/8"	1/2"	14"	2.240	1.760	2 1/4" x 33"	55	2 1/2" x 6 1/2"	4" x 6"	4"
	5	498	ALL	EXP.	9	180	10 1/4"	6 3/4"	17"	9"	7	1/2"	1/4"	8 @ 12 Ga.	4 13/16"	11 1/4"	30 1/2"	7 1/8"	3 1/8"	-	1 1/8"	12"	1.775	2.225	2" x 31"	55	2 1/2" x 7 1/4"	4" x 6"	3 3/4"

* Maximum Design Load = LRFD Service I Limit State

PRINT DATE: 18-OCT-2013

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates and shear blocks shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load plates 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) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor Bolts, Washers and Nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Plate Girder Spans (M270, Gr. 50W)". External load plates, masonry plates and 1/8" bearing pads will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

Bearings with masonry plates shall be seated in accordance with Subsection 807.66. Bearings without masonry plates shall be seated in accordance with Subsection 808.08. This work and materials are considered as subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

Tabular Data by : TMG Date: 8/14/2012

Checked by : SWP Date: 10/22/13

Designed by : TMG Date: 1/12

STATE OF ARKANSAS
Carl L. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL L. PUSELIER

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

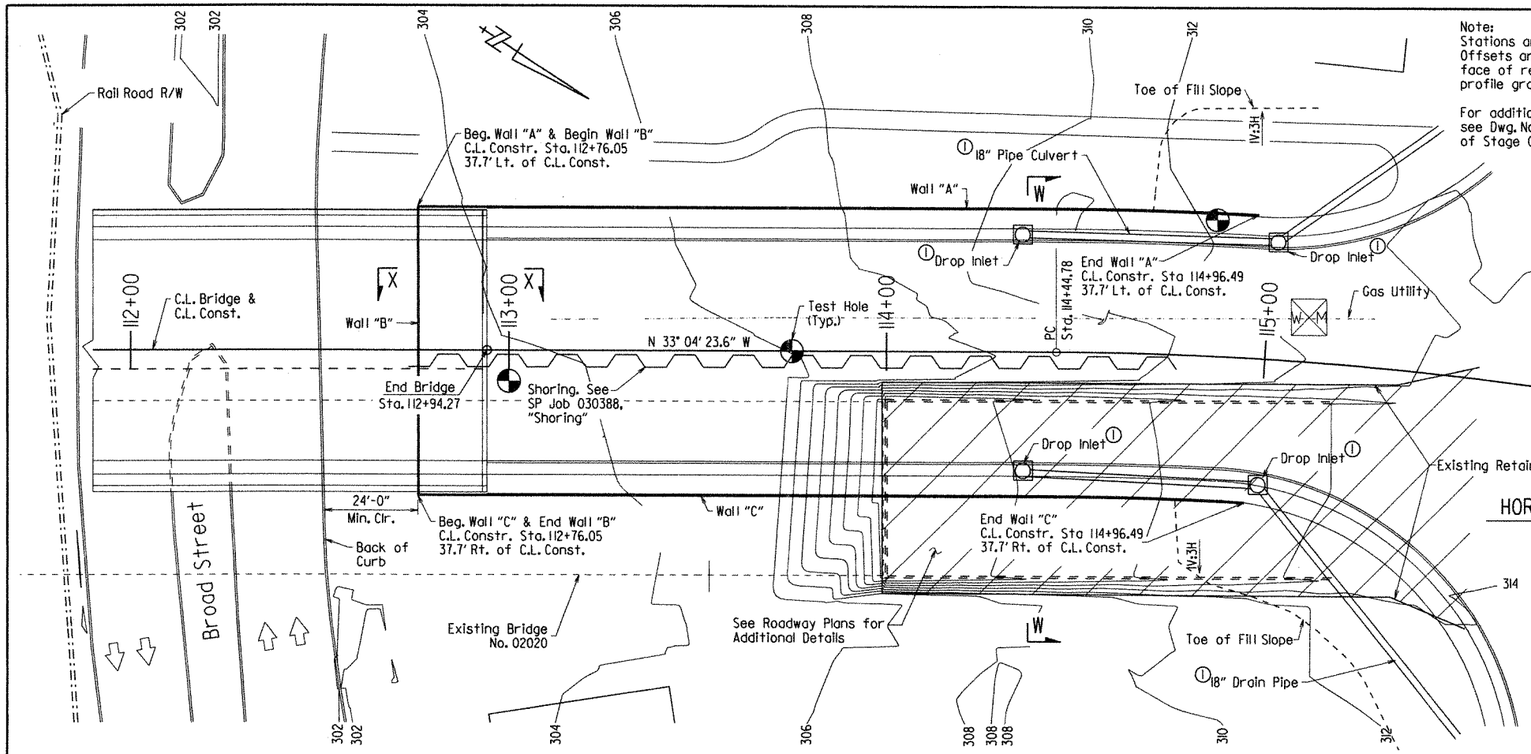
DRAWN BY: SAT DATE: 19 April 01 FILENAME: B030388X_E.DGN

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

DESIGNED BY: Std. DATE: ——

BRIDGE NO. 07249 DRAWING NO. 54756

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	76	126
				①		- RETAINING WALL - 54757		



PLAN RETAINING WALLS

ⓘ See Roadway Plans for Drainage Details.

Note:
Stations are measured along C.L. Construction Offsets are shown to the outside vertical face of retaining wall. Elevations shown are profile grade for top of wall.

For additional details, and Section X-X see see Dwg. No. 54758. For Section W-W and details of Stage Construction, see Dwg. No. 54759.

HORIZONTAL CURVE DATA

P.I. Sta. = 115+69.10
△ = 14°50'05.24" Rt.
D = 6°00'00"
T = 124.32'
L = 247.25'

GENERAL NOTES

Design Specifications: AASHTO LRFD Bridge Design Specifications, 6th Edition (2012).

Seismic Zone: 1

Elevations are approximate. Wall dimensions may vary depending on wall design selected.

Reinforcement placement and details for retaining walls may be affected by end bent construction and proposed roadway drainage structures. See End Bent drawings for pile locations and wingwall details. See Roadway Plans for locations and details of drainage structures.

For ditch paving, See Standard Dwg. No. CDP-1.

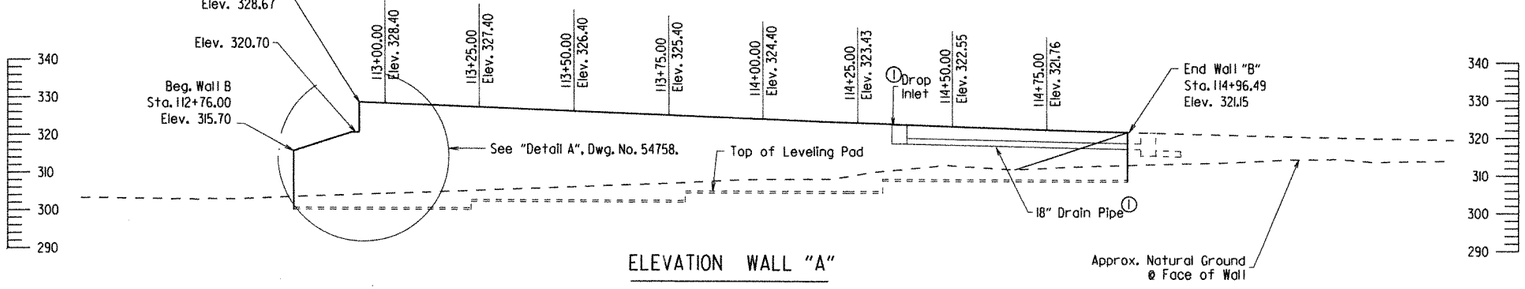
Preformed joint filler and joint seal will not be paid for directly, but will be considered subsidiary to the item "Concrete Barrier Wall (Parapet Type A)".

See Special Provision Job 030388 "Retaining Walls" for additional information.

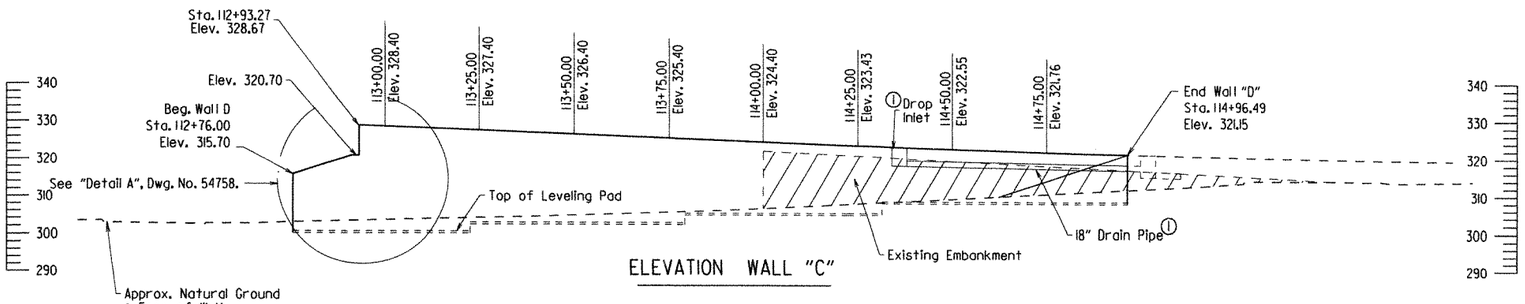
TABLE OF QUANTITIES

LOCATION	ITEM NO.	210	SP & 210②	SP 030388	SP 030388
	ITEM	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	RETAINING WALL	TEXTURED COATING FINISH
	UNIT	CU. YD.	CU. YD.	SQ. FT.	SQ. YD.
Wall "A"		355	2,385	4,163	450
Wall "B"		41	299	1,102	117
Wall "C"		2,503	2,615	4,413	473
TOTALS		2,899	5,299	9,678	1,040

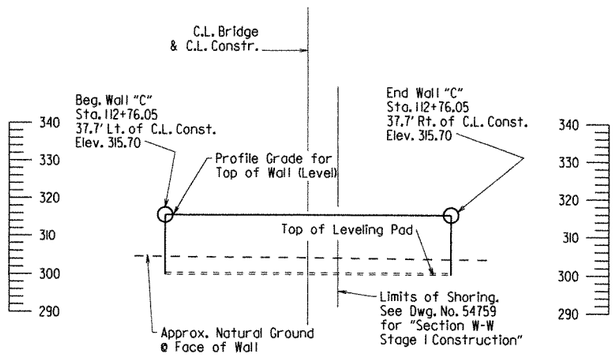
② This quantity includes the Drainage Fill Material (Class 3) and the Select Granular Backfill Material as specified for the Reinforcement Zone. For material requirements, see SP Job 030388 "Retaining Walls".



ELEVATION WALL "A"



ELEVATION WALL "C"



ELEVATION WALL "B" (LOOKING AHEAD)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/19/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF RETAINING WALLS
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

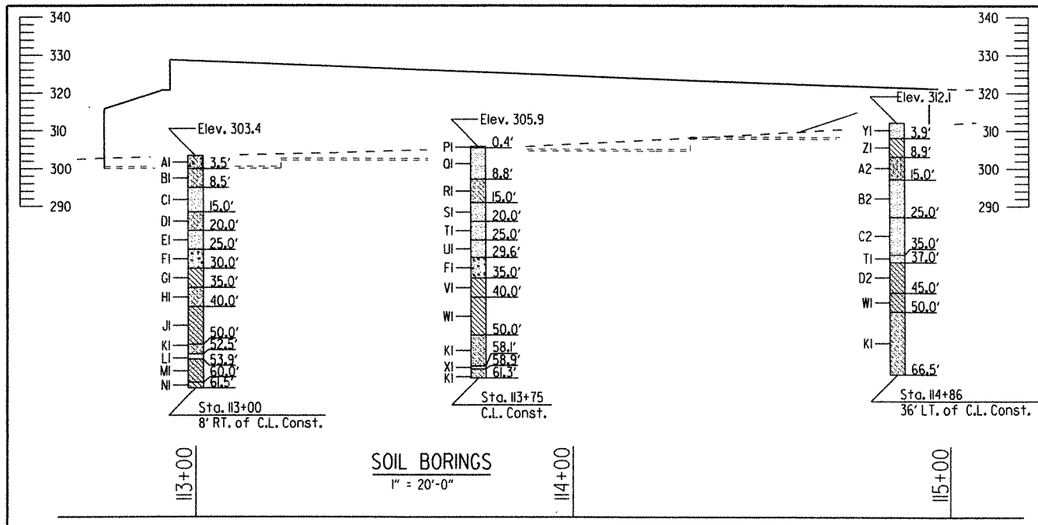
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 8/27/12
CHECKED BY: TMC DATE: 10/15/13
DESIGNED BY: LJB DATE: 8/12

FILENAME: b030388_rw.dgn
SCALE: 1"=20'-0"

DRAWING NO. 54757

PRINT DATE: 25-OCT-2013



SOIL BORINGS

1" = 20'-0"

BORING LEGEND

A1-Moist, Medium Dense, Reddish Brown and Gray Sand with Clay, Concrete Fragments and some Organic Matter
B1-Moist, Medium Dense, Brown Sand with Clay
C1-Wet, Dense, Brown Sand
D1-Wet, Loose, Reddish Brown and Gray Sand with Clay and Trace of Gravel
E1-Wet, Medium Dense, Reddish Brown and Gray Sand with Trace of Gravel
F1-Wet, Very Dense, Light Gray Sand with Gravel
G1-Moist, Very Stiff, Reddish Brown Clay with Trace of Gravel
H1-Moist, Dense, Gray Sand with Clay
J1-Moist, Hard to Very Hard, Gray Clay with Sand
K1-Moist, Very Dense, Gray Sand with Clay
L1-Hard, Gray Cemented Sand
M1-Moist, Very Hard, Gray Clay with Sand
N1-Moist, Very Hard, Gray Clay
P1-Concrete Pavement (5")
Q1-Moist, Medium Dense, Light Brown Sand with Trace of Clay
R1-Moist, Medium Dense, Light Brown and Gray Sand with Clay
S1-Wet, Loose, Reddish Brown Sand with Trace of Clay
T1-Wet, Very Loose, Reddish Brown Sand
U1-Wet, Medium Dense, Reddish Brown Sand
V1-Moist, Very Stiff, Gray Clay
W1-Moist, Hard, Gray Clay with Sand
X1-Hard, Gray Cemented Sand (58.1' to 58.9')
Y1-Moist, Medium Dense, Brown Sand with occasional Gravel
Z1-Moist, Very Stiff, Reddish Brown and Gray Clay
A2-Moist, Medium Dense, Reddish Brown to Brown and Gray Silty, Clayey Sand
B2-Wet, Loose, Light Gray Sand
C2-Wet, Loose, Reddish Brown Sand
D2-Moist, Very Stiff, Gray Clay with Sand

"N" VALUES

Sta. 113+00 - 8' RT. of C.L. Const.

4.0- 5.0, N=21
9.0- 10.0, N=33
15.5- 16.5, N=9
20.5- 21.5, N=23
25.5- 26.5, N=60
30.5- 31.5, N=25
35.5- 36.5, N=45
40.5- 41.5, N=54
45.5- 46.5, N=89
50.5- 51.2, N=97(9")
55.5- 56.3, N=96(10")
60.5- 61.5, N=74

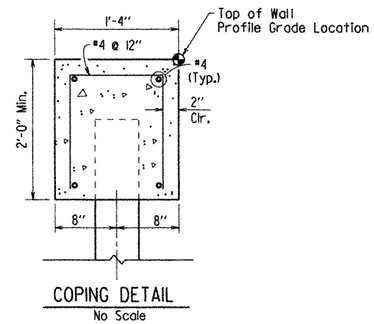
Sta. 113+75 - C.L. Const.

4.3- 5.3, N=25
9.3- 10.3, N=18
15.5- 16.5, N=6
20.5- 21.5, N=0
25.5- 26.5, N=12
30.5- 31.5, N=54
35.5- 36.5, N=21
40.5- 41.5, N=40
45.5- 46.5, N=51
50.5- 51.5, N=69
55.5- 56.4, N=93(11")
60.5- 61.3, N=92(10")

Sta. 114+86 - 36' LT. of C.L. Const.

4.4- 5.4, N=21
11.4- 12.4, N=21
15.5- 16.5, N=5
20.5- 21.5, N=5
25.5- 26.5, N=5
30.5- 31.5, N=8
35.5- 36.5, N=1
40.5- 41.5, N=16
45.5- 46.5, N=53
50.0- 50.3, N=60(4")
55.5- 56.2, N=94(9")
60.5- 61.2, N=100(9")
65.5- 66.5, N=81

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	77	126
				①		- RETAINING WALL - 54758		

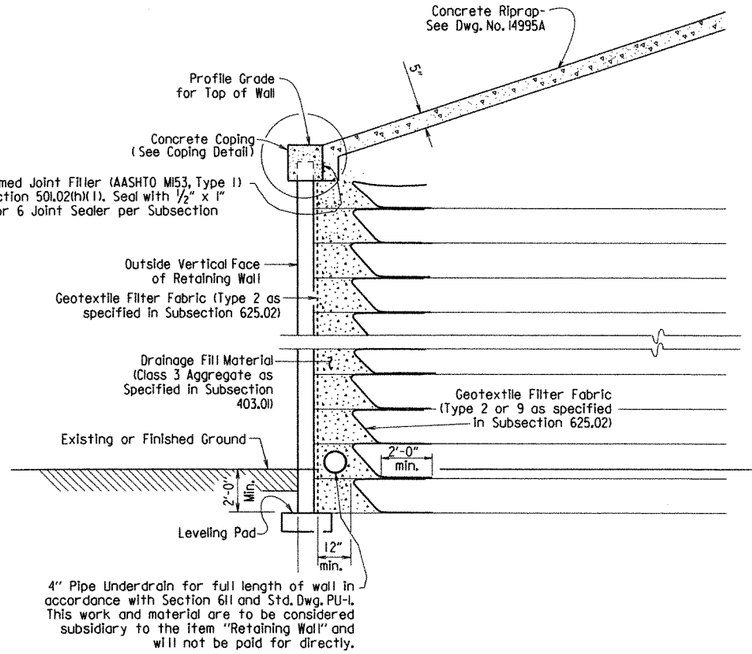


COPING DETAIL

No Scale

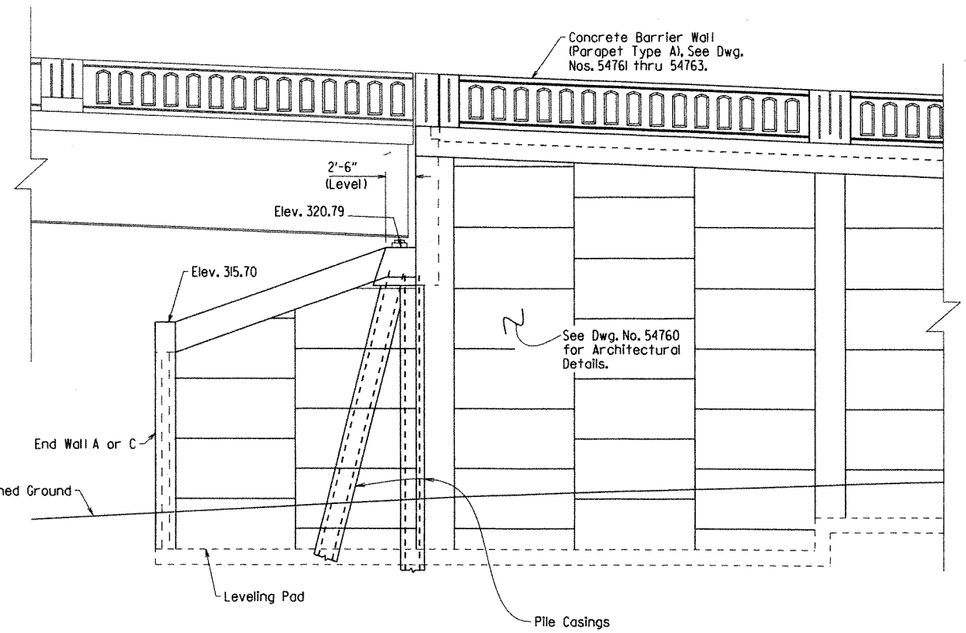
Notes:
Reinforcing steel and Class S(AE) Concrete for coping shall not be paid for directly, but will be considered subsidiary to the item "Retaining Wall."

All exposed surfaces of the concrete coping shall be given a Class 3 Textured Coating Finish in accordance with Special Provision Job 030388 "Textured Coating Finish".



SECTION X-X

No Scale



DETAIL A

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL L. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF RETAINING WALLS
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 8/27/12
CHECKED BY: TMG DATE: 10/18/13
DESIGNED BY: LJB DATE: 8/12

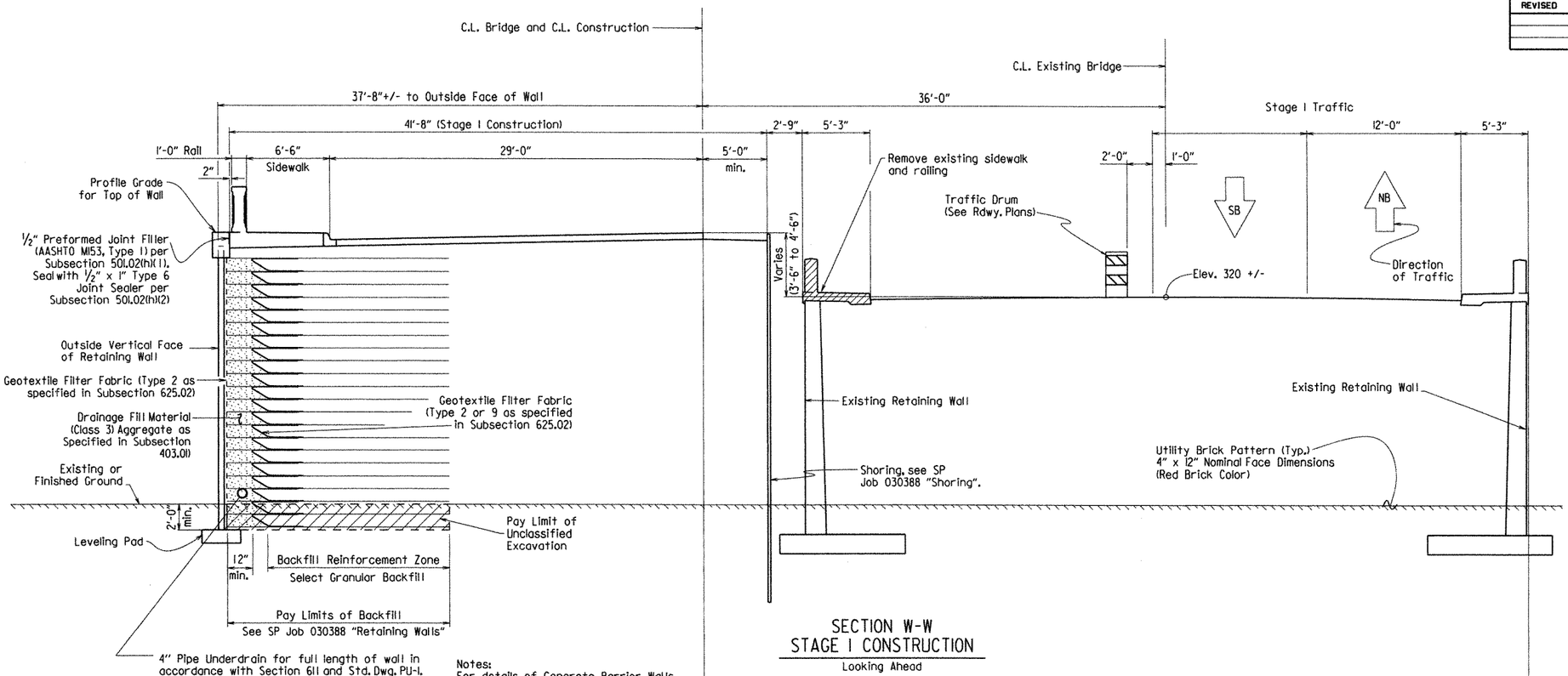
FILENAME: b030388_rw.dgn
SCALE: As Noted

DRAWING NO. 54758

PRINT DATE: 18-OCT-2013

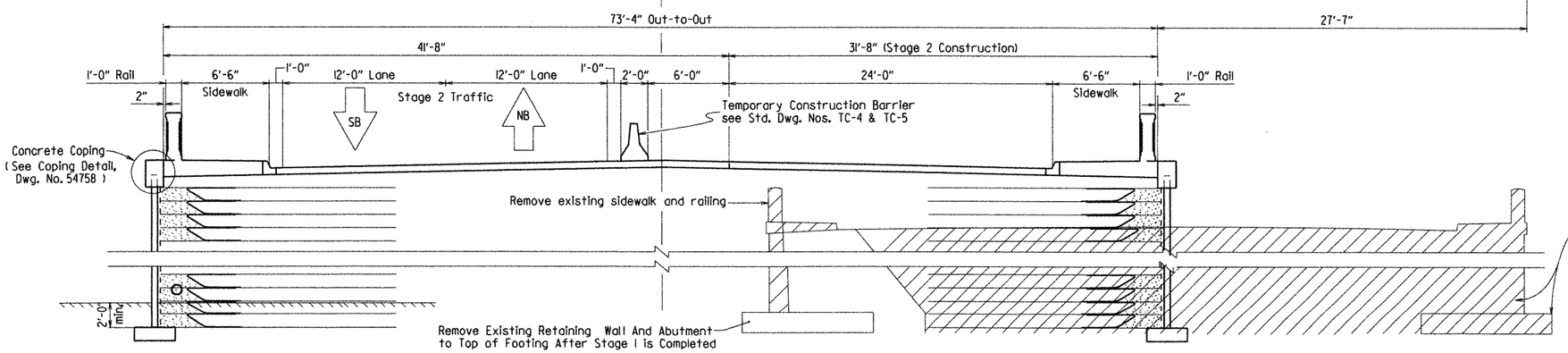
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	78	126

(1) - RETAINING WALL - 54759



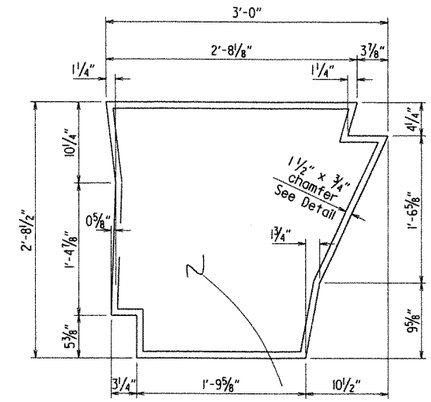
Notes:
For details of Concrete Barrier Walls (Parapet Type A), See Dwg. Nos. 54761 thru 54763.

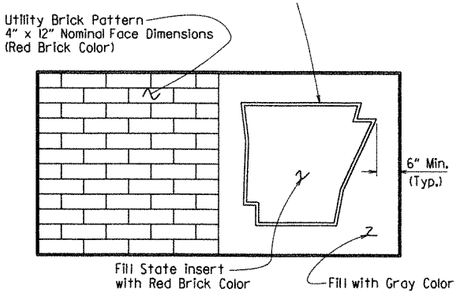
SECTION W-W
STAGE 1 CONSTRUCTION
Looking Ahead



SECTION W-W
STAGE 2 CONSTRUCTION
Looking Ahead

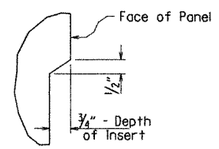
DETAILS OF STAGE CONSTRUCTION OF MSE WALLS





Note: Use State of Arkansas Form Insert in first full height panel below coping and adjacent to Abutment, as depicted on Dwg. No. 54761.

STATE OF ARKANSAS FORM INSERT DETAILS
No Scale



CHAMFER DETAILS
No Scale

STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
11/6/13
CARL J. FUSSELIER
BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF RETAINING WALLS
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE SEC.

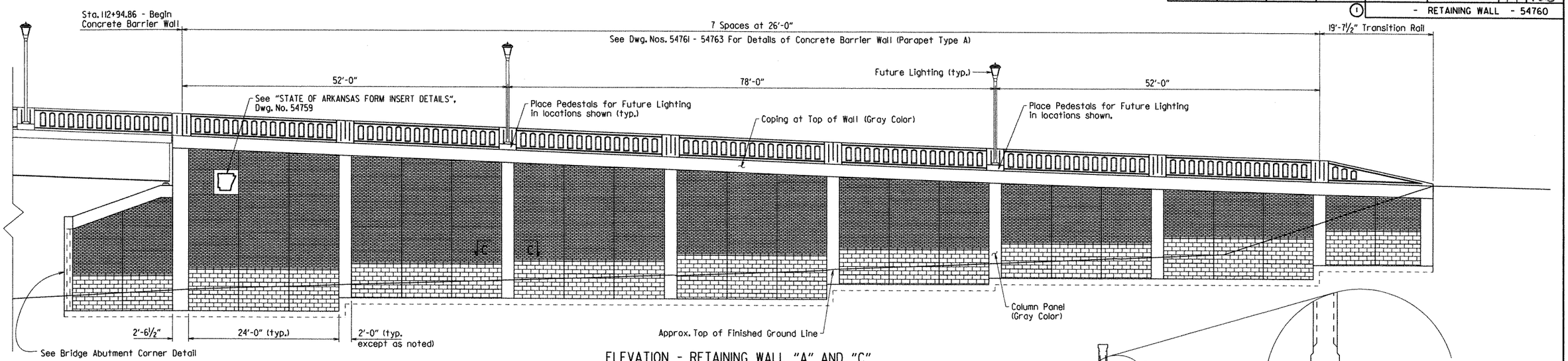
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 8/27/12 FILENAME: b030388_rw.dgn
CHECKED BY: TMG DATE: 10/15/13 SCALE: 1"=20'-0"
DESIGNED BY: LJB DATE: 8/12

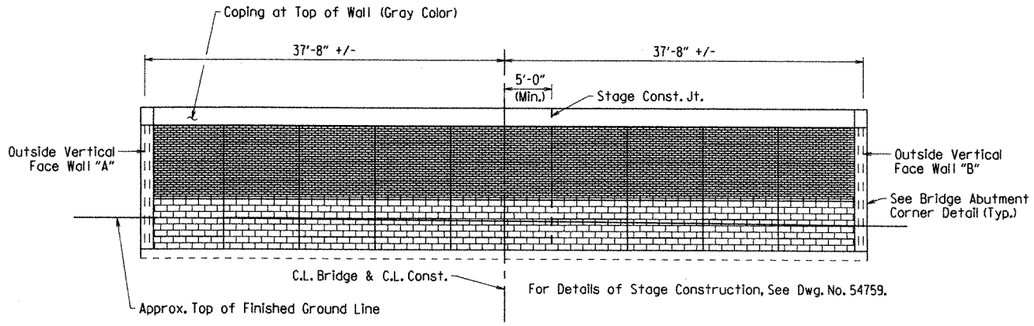
DRAWING NO. 54759

PRINT DATE: 06-NOV-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	79	126
				①	- RETAINING WALL - 54760			

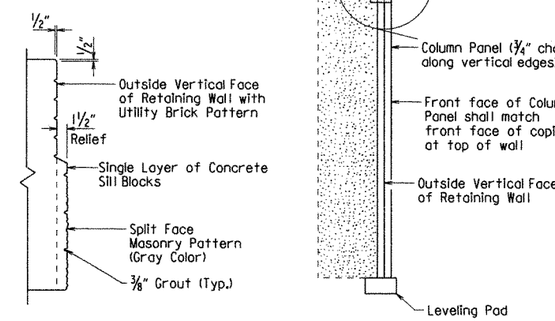


ELEVATION - RETAINING WALL "A" AND "C"

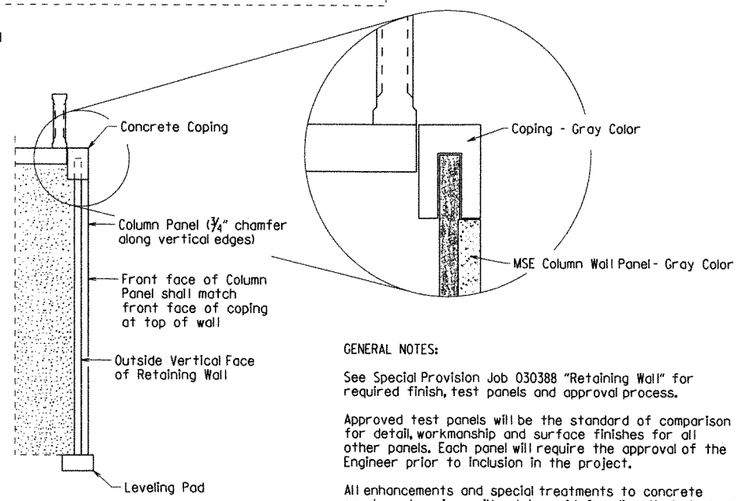


ELEVATION - RETAINING WALL "B"

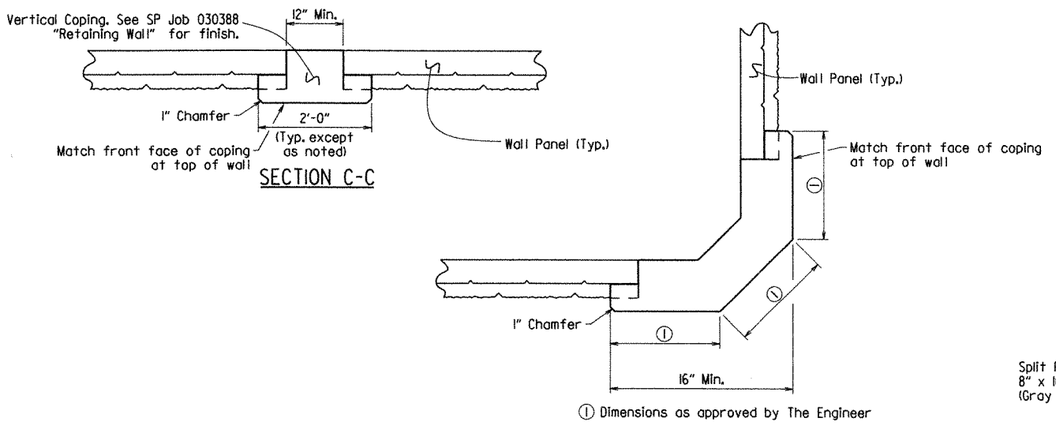
Looking Ahead



SECTION A-A

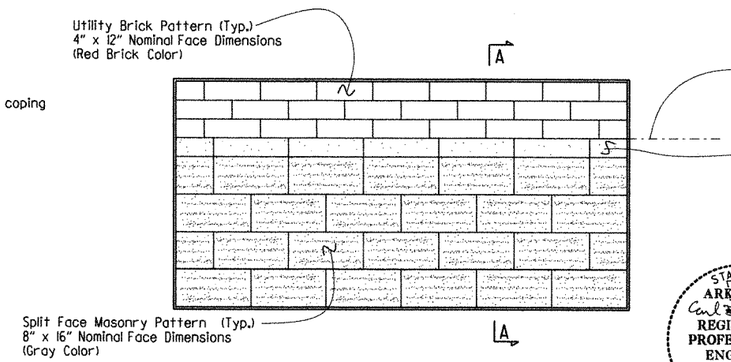


VIEW B-B



SECTION C-C

ABUTMENT CORNER DETAIL



RETAINING WALL ENHANCEMENT DETAILS

GENERAL NOTES:

See Special Provision Job 030388 "Retaining Wall" for required finish, test panels and approval process.

Approved test panels will be the standard of comparison for detail, workmanship and surface finishes for all other panels. Each panel will require the approval of the Engineer prior to inclusion in the project.

All enhancements and special treatments to concrete panels and copings will not be paid for directly, but shall be considered incidental to the item "Retaining Wall".

The same relief and chamfer details shall be used by the Contractor on Wall Panels.

Fabricate State of Arkansas Form Insert as a one piece unit without the use of splices, joints or glue.

Actual size, shape and detail of images may be modified to produce a surface that will achieve the design concept shown. Any modifications will require approval of the Engineer.

STATE OF ARKANSAS
CARL J. PUSELLER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13

BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF RETAINING WALLS
UNION PACIFIC RAILROAD
BROAD ST. STR. & APPRS. (TEXARKANA)(S)
MILLER COUNTY

ROUTE SEC.

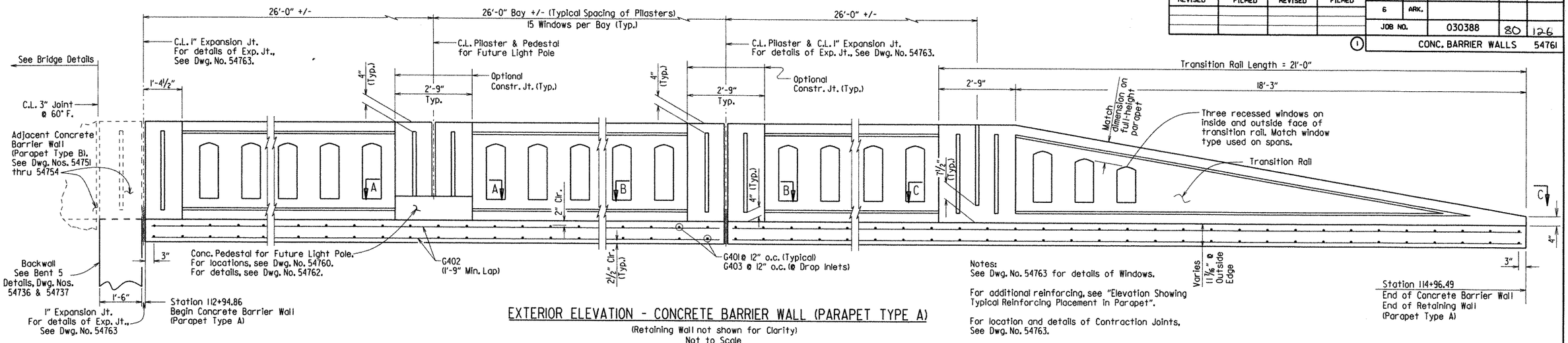
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/30/2013 FILENAME: b030388_rw.dgn
CHECKED BY: TMG DATE: 10/18/13 SCALE: No Scale
DESIGNED BY: LJB DATE: 8/12

DRAWING NO. 54760

PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	80	126
				①		CONC. BARRIER WALLS		54761



EXTERIOR ELEVATION - CONCRETE BARRIER WALL (PARAPET TYPE A)

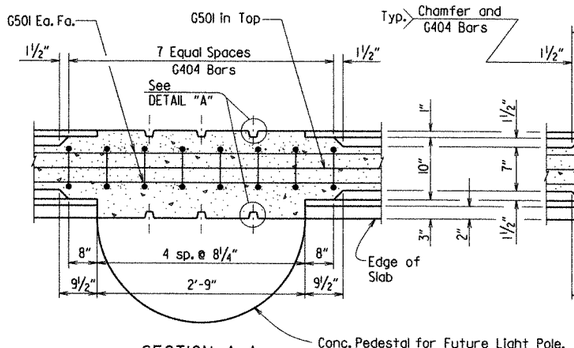
(Retaining Wall not shown for Clarity)
Not to Scale

Notes:
See Dwg. No. 54763 for details of Windows.

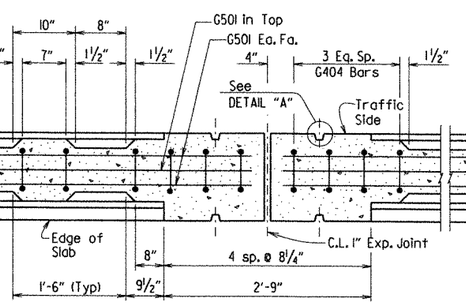
For additional reinforcing, see "Elevation Showing Typical Reinforcing Placement in Parapet".

For location and details of Contraction Joints, See Dwg. No. 54763.

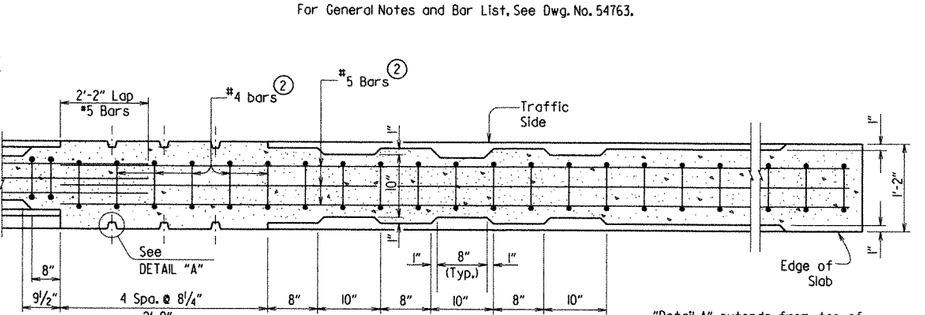
For General Notes and Bar List, See Dwg. No. 54763.



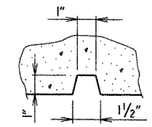
SECTION A-A



SECTION B-B



SECTION C-C

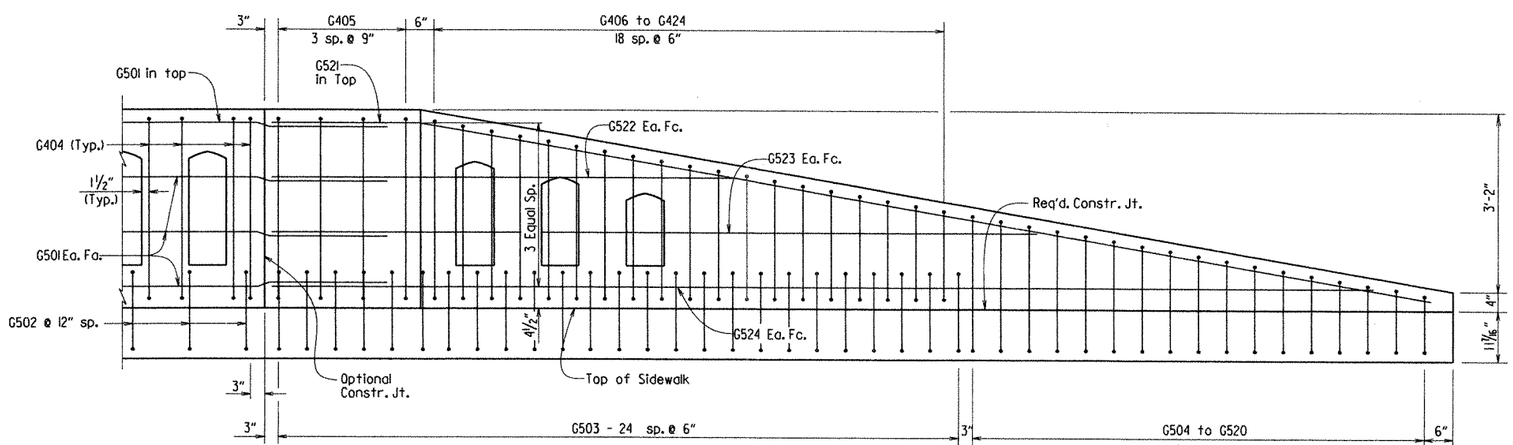


DETAIL A

① See Lighting Details

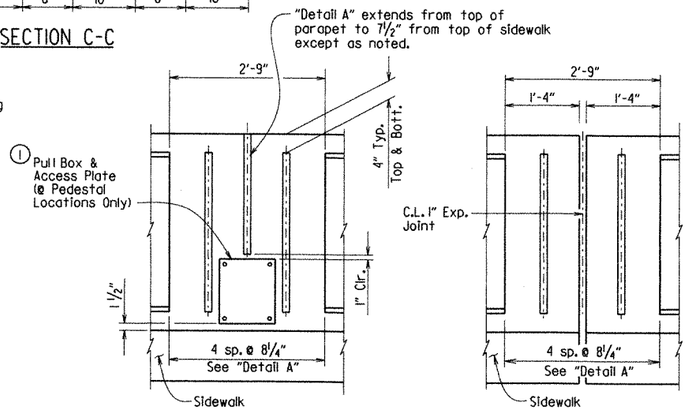
② See "Elevation Showing Typical Reinforcing Placement in Parapet"

PLAN VIEW OF PARAPET
Not to Scale



ELEVATION SHOWING
TYPICAL REINFORCING PLACEMENT IN PARAPET

(Retaining Wall not shown for clarity)
¾" = 1'-0"



INTERIOR ELEVATION OF PILASTERS
¾" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF CONCRETE BARRIER WALLS (PARAPET TYPE A)

ROUTE SEC.

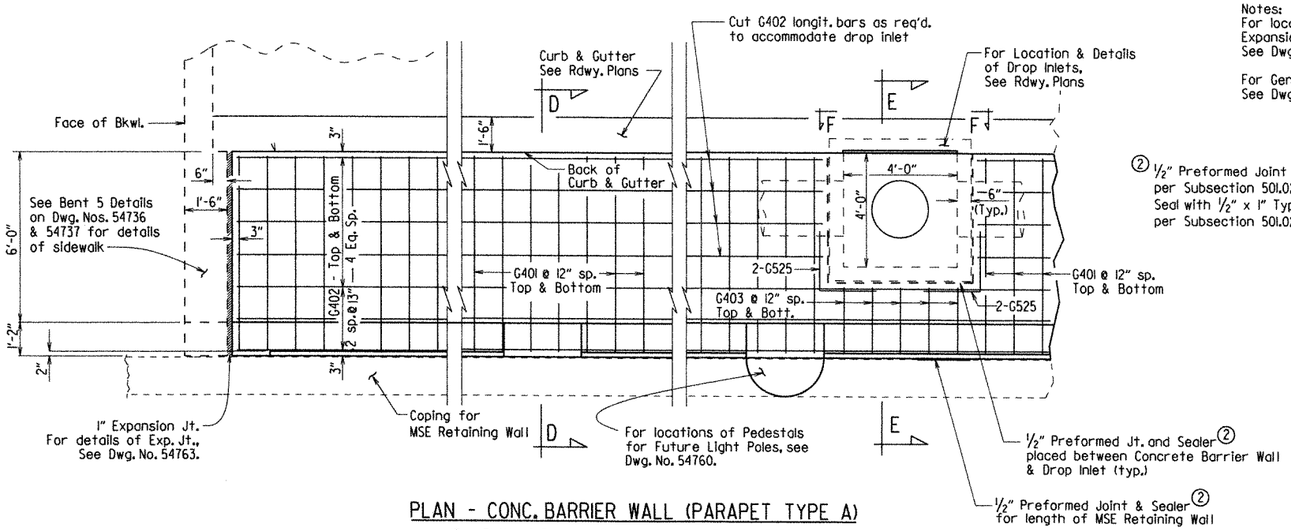
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB	DATE: 7/25/13	FILENAME: b030388_cbw.dgn	
CHECKED BY: JCT	DATE: 10/8/13	SCALE: ⅜"=1'-0" or as shown	
DESIGNED BY: LJB	DATE: 6/13		

DRAWING NO. 54761

PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	81	126
				①		CONC. BARRIER WALLS		54762



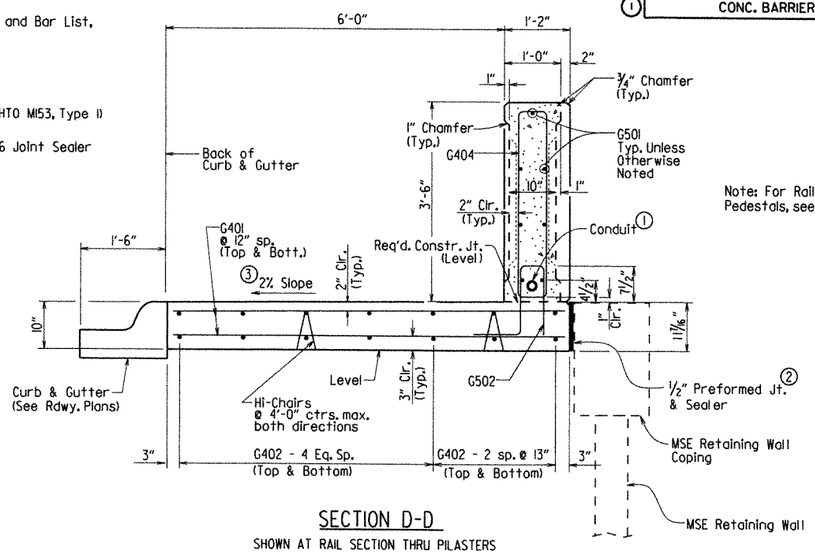
PLAN - CONC. BARRIER WALL (PARAPET TYPE A)

(For PLAN of Parapet Reinforcing, See Dwg. No. 54761)

Notes:
For location and details of Expansion and Contraction Joints, See Dwg. No. 54763.

For General Notes and Bar List, See Dwg. No. 54763.

② ½" Preformed Joint Filler (AASHTO M153, Type II) per Subsection 501.02(h)(1). Seal with ½" x 1" Type 3, 4 or 6 Joint Sealer per Subsection 501.02(h)(2)

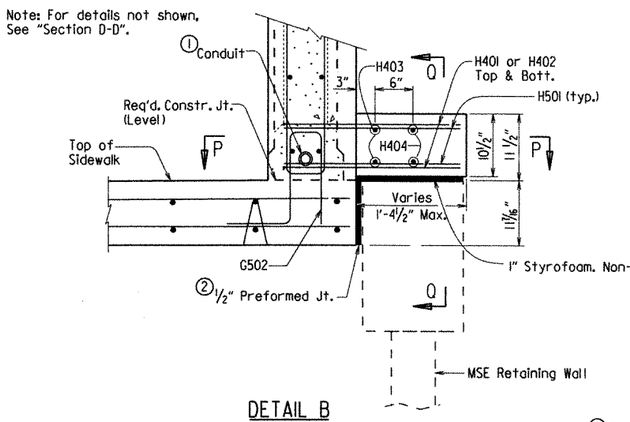


Note: For Rail Section at Pedestals, see "DETAIL B"

SECTION D-D

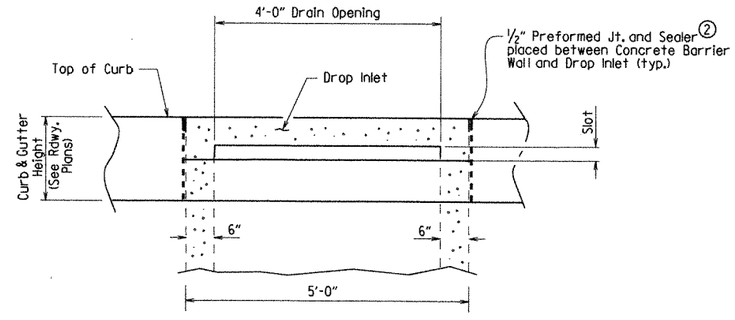
SHOWN AT RAIL SECTION THRU PILASTERS
(Looking Ahead)
Scale: ¾" = 1'-0"

③ Sidewalk slope varies from 1% at Sta. 112+94.27 to 2% at Sta. 113+50.



DETAIL B

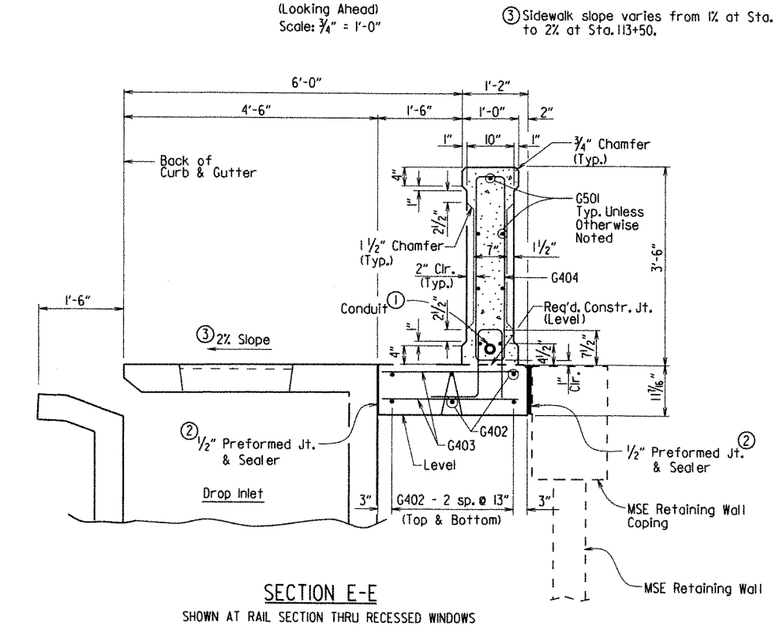
AT PILASTERS WITH PEDESTALS
1" = 1'-0"



VIEW F-F

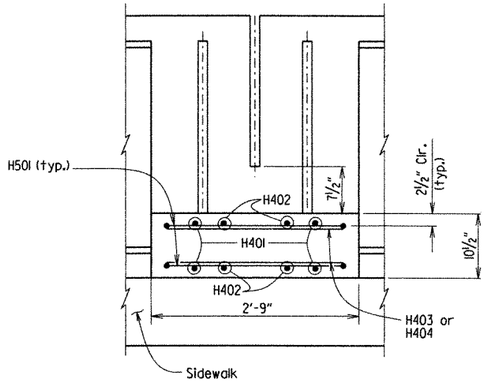
N.T.S.

① See Lighting Details



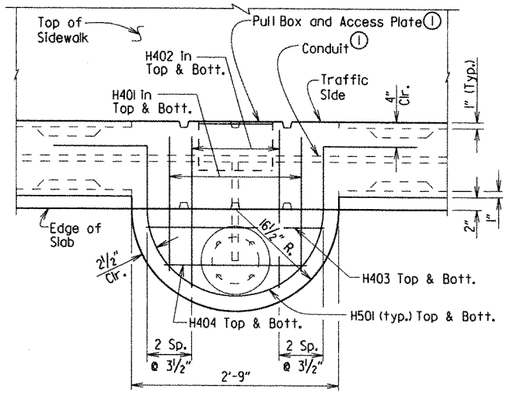
SECTION E-E

SHOWN AT RAIL SECTION THRU RECESSED WINDOWS
(Looking Ahead)
Scale: ¾" = 1'-0"



SECTION Q-Q

PEDESTAL DETAILS
1" = 1'-0"



SECTION P-P

PEDESTAL DETAILS
1" = 1'-0"

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL L. FUSELIER
10/18/13

BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF CONCRETE BARRIER WALLS (PARAPET TYPE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

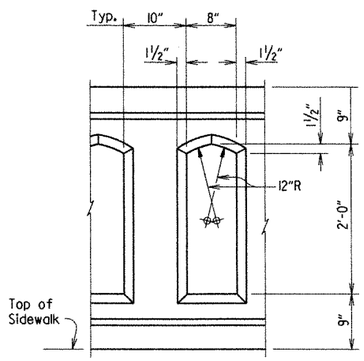
DRAWN BY: LJB DATE: 7/25/13
CHECKED BY: JGT DATE: 10/18/13
DESIGNED BY: LJB DATE: 6/13

FILENAME: b030388.cbw.dgn
SCALE: ⅜"=1'-0" or as shown

DRAWING NO. 54762

PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	82	126
				①		CONC. BARRIER WALLS		54763



RECESSED WINDOW DETAILS

Not to Scale

Notes:
Dimensions shown for recessed windows are typical except at transition rail. See "Section C-C" on Dwg. No. 54761 for window dimensions at transition rail.

TABLE OF QUANTITIES

(FOR INFORMATION ONLY)

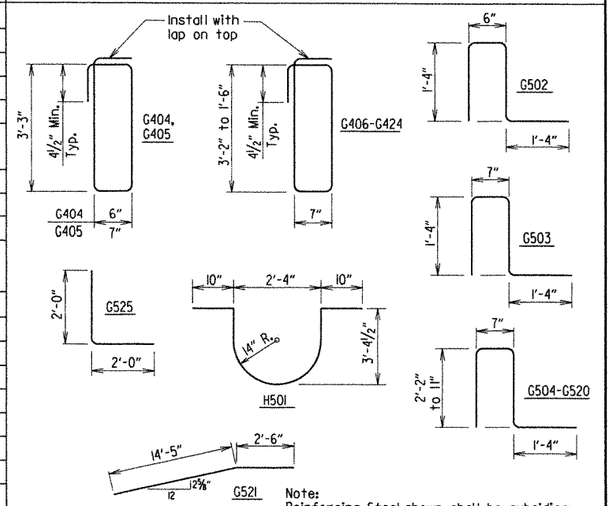
	ITEM 631	ITEM SP 030388
	CONCRETE BARRIER WALL (PARAPET TYPE A)	TEXTURED COATING FINISH
LOCATION	LIN. FT.	SQ. YD.
STA. 112+95.85 TO STA. 114+96.48	403.2	733.2

Note: Stationing shown is measured along C.L. Construction. Length of Concrete Barrier Wall for payment is computed along Roadway face of parapet rail.

*Note: Min. Lap Lengths For Longitudinal Bars are as follows: G402 - 1'-9"
G501 - 2'-2"

BAR LIST - FOR INFORMATION ONLY

Mark	Length	Pin Dia.	Bending Diagrams
G401	6'-10"	Str.	
G402	*As Required	Str.	
G403	2'-4"	Str.	
G404	7'-10"	2"	
G405	8'-0"	2"	
G406 to G424	7'-10" to 4'-6"	2"	
G501	*As Required	Str.	
G502	4'-3"	2½"	
G503	4'-4"	2½"	
G504 to G520	5'-11" to 3'-5"	2½"	
G521	16'-11"	Str.	
G522	7'-4"	Str.	
G523	11'-8"	Str.	
G524	16'-0"	Str.	
G525	3'-11"	2½"	
H401	1'-9"	Str.	
H402	2'-0"	Str.	
H403	2'-4"	Str.	
H404	1'-10"	Str.	
H501	6'-8"	2½"	



(Dimensions are out to out of bars.)

Note:
Reinforcing Steel shown shall be subsidiary to pay item "Concrete Barrier Wall (Parapet Type A)".

GENERAL NOTES

Concrete Barrier Walls and Transition Rail, including lightpole pedestals, shown here shall be constructed, measured, and paid for as "Concrete Barrier Wall (Parapet Type A)" in accordance with Section 631 except where modified by these plans. All concrete, reinforcing steel and joint materials shown in these details shall not be paid for separately, but shall be considered subsidiary to the unit price bid for the item "Concrete Barrier Wall (Parapet Type A)".

Concrete shall be Class S(AE) with a minimum 28 day compressive strength 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.

All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Bridge and C.L. Construction.

Working drawings showing pilaster and pedestal locations, number of windows between pilasters and spacing to first window shall be submitted to the Engineer for approval prior to pouring railing.

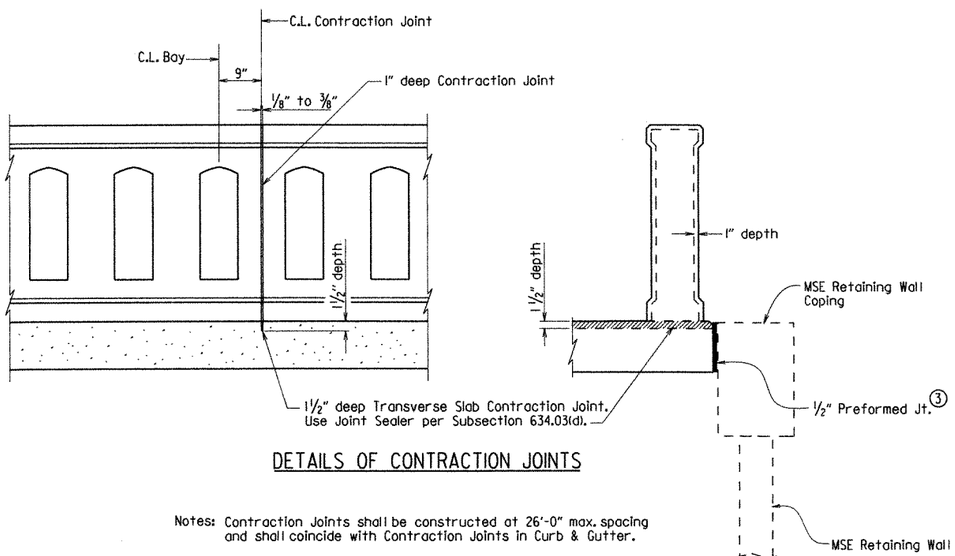
Preformed Joints, Expansion Joints and Sealers shall not be paid for directly. Payment for these items shall be considered incidental to the item "Concrete Barrier Wall (Parapet Type A)".

The sidewalk shall receive a Broomed Finish as specified for final finishing in Subsection 802.19 for Class 6 Broomed Finish.

Reinforcing steel that interferes with pull boxes installed in pilasters shall be cut off 2" clear of pull box. Epoxy coating of cut bars shall be repaired in accordance with Subsection 804.05 No additional payment will be made for this work.

All exposed surfaces of the parapet rail, pedestals and transition rail shall receive a Class 3 Textured Coating Finish in accordance with Special Provision Job 030388 "Textured Coating Finish."

③ ½" Preformed Joint Filler (AASHTO M153, Type I) per Subsection 501.02(h)(1).
Seal with ½" x 1" Type 3, 4 or 6 Joint Sealer per Subsection 501.02(h)(2)

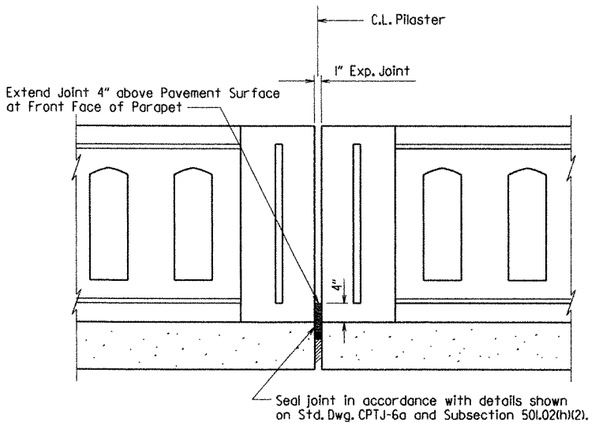


DETAILS OF CONTRACTION JOINTS

Notes: Contraction Joints shall be constructed at 26'-0" max. spacing and shall coincide with Contraction Joints in Curb & Gutter.

Contraction Joints may be formed or saw cut.

1" deep joints in parapet section are not required to be sealed.



DETAILS OF EXPANSION JOINTS

Note: Expansion Joints shall be constructed at 130'-0" maximum spacing and shall not be located at pilasters with pedestals.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
10/18/13
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF CONCRETE BARRIER WALLS (PARAPET TYPE A)

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 7/25/13
CHECKED BY: JGT DATE: 10/8/13
DESIGNED BY: LJB DATE: 6/13

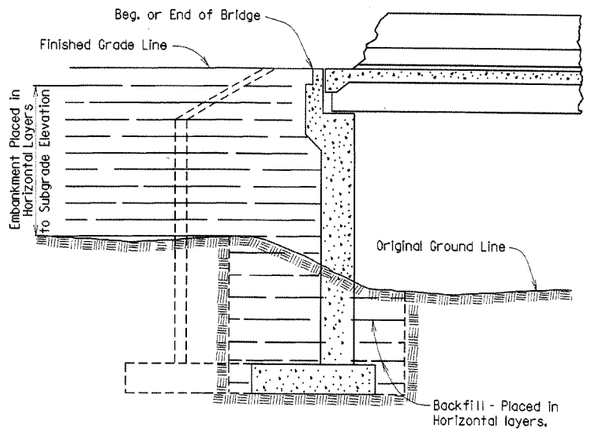
FILENAME: b030388_cbw.dgn
SCALE: 3/8"=1'-0" or as shown

DRAWING NO. 54763

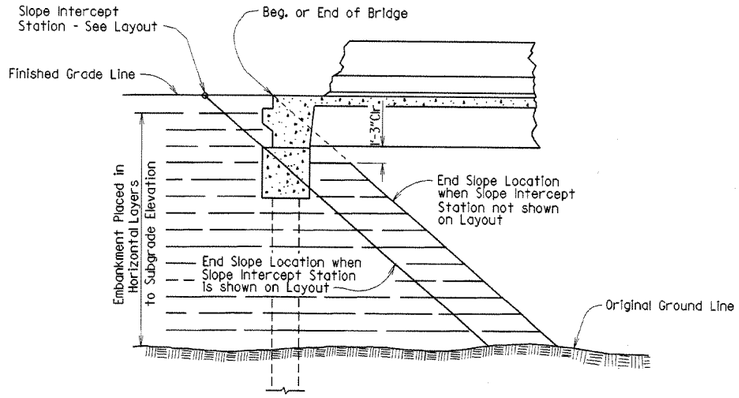
PRINT DATE: 10/18/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		43	
				JOB NO.				

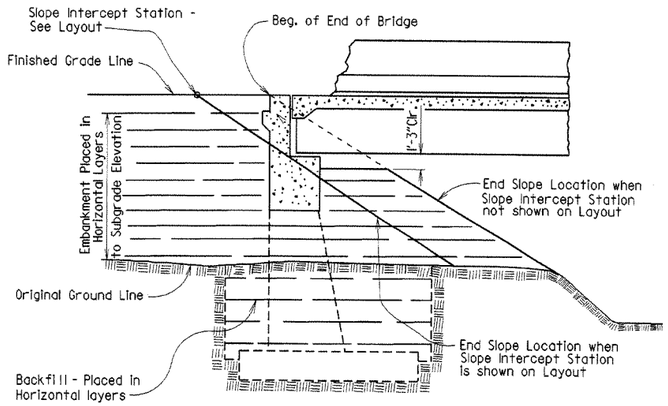
① EMBANKMENT & BACKFILL I888A



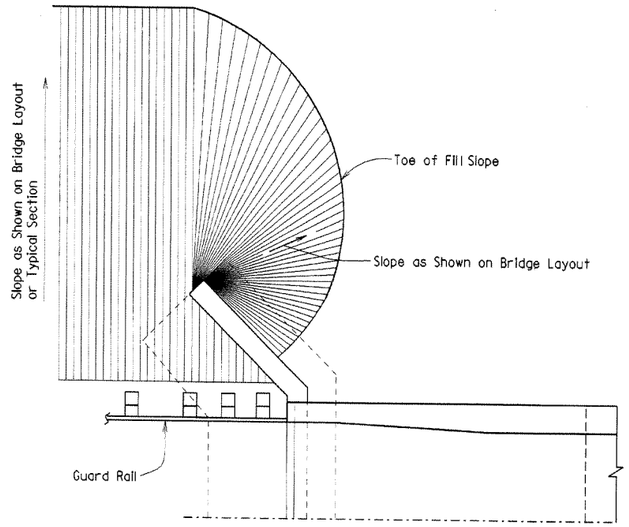
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



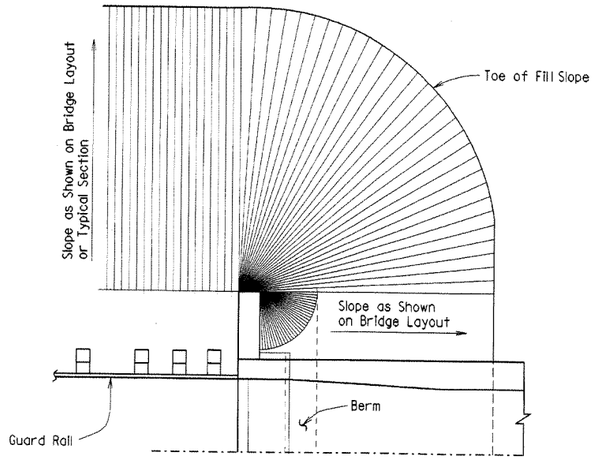
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



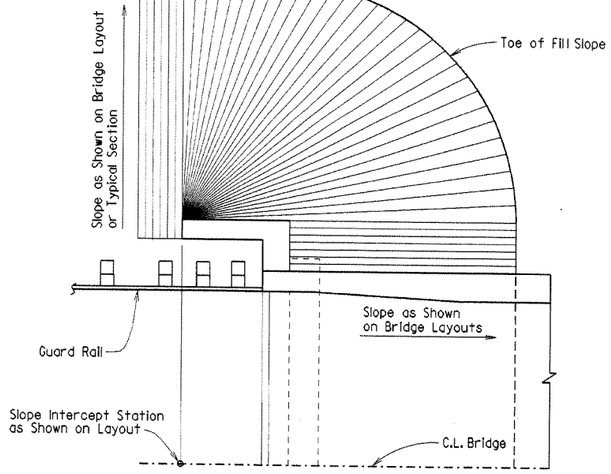
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



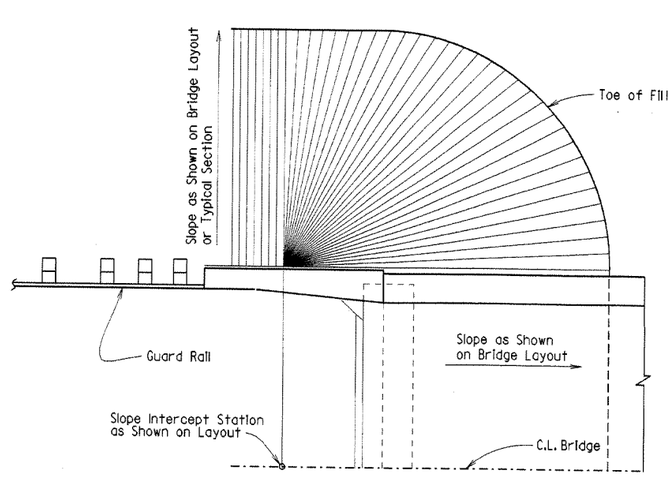
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4537
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

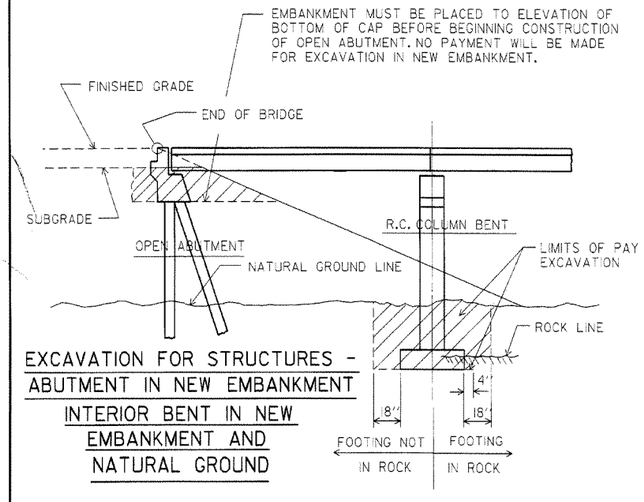
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI888A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

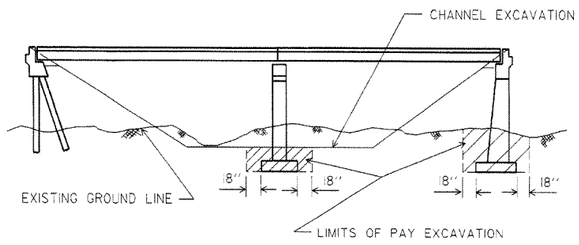
BRIDGE NO. DRAWING NO. I888A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		34	
				JOB NO.				

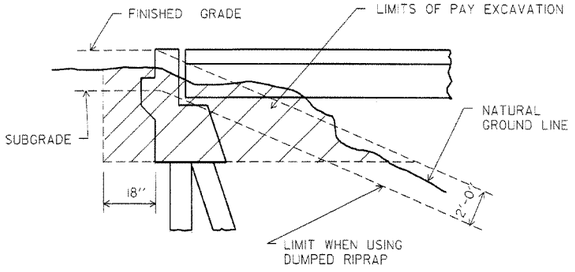
① RIP. & EXCAV. 1891F



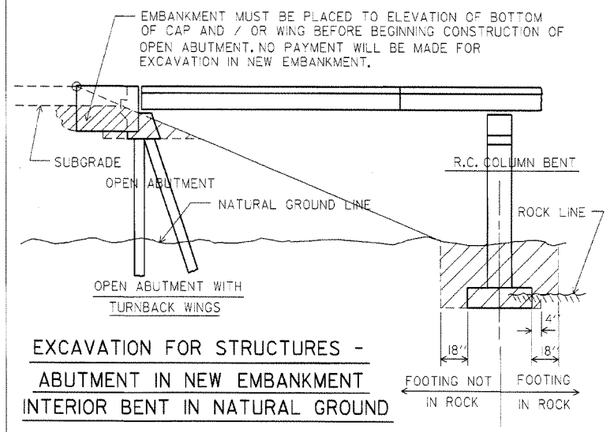
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



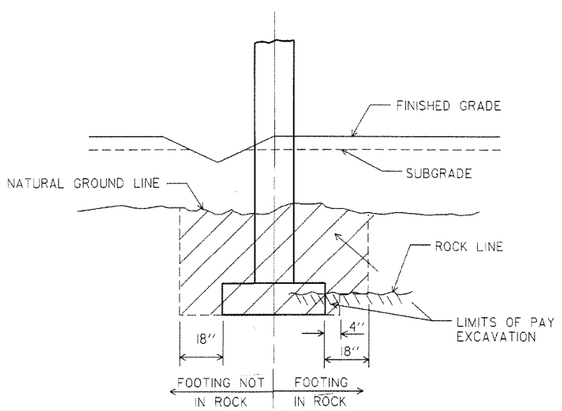
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



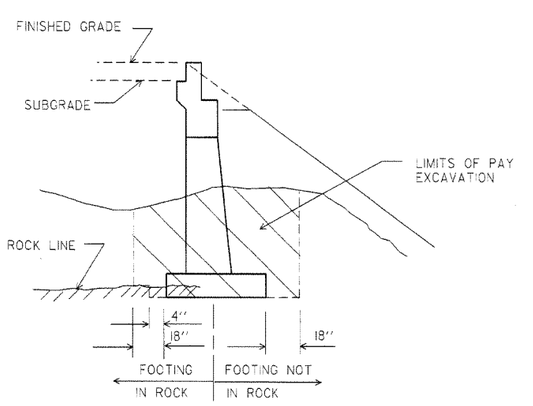
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



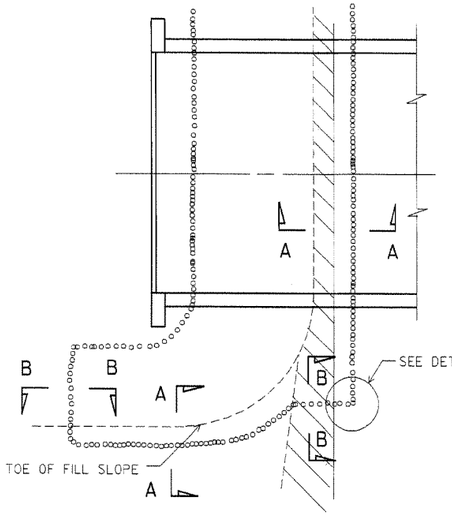
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



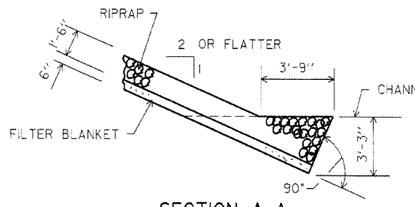
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



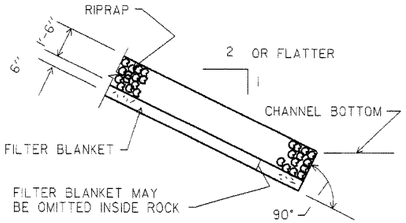
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



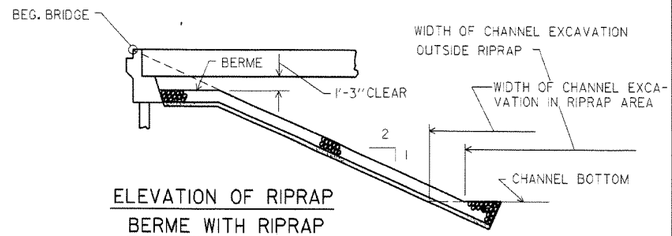
SECTION A-A

(TOE EXCAVATION IN ROCK)

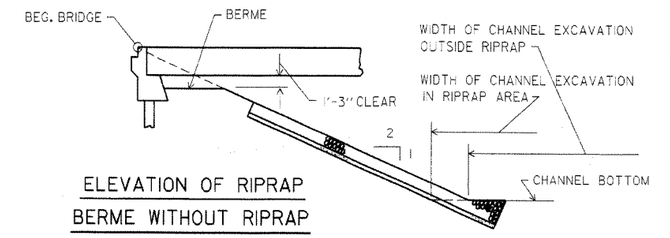
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

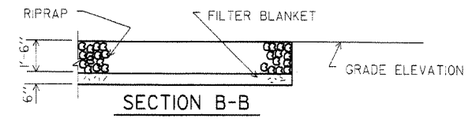
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



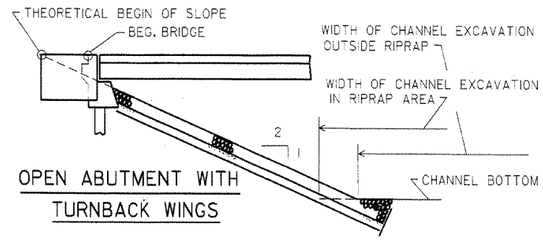
ELEVATION OF RIPRAP BERME WITH RIPRAP



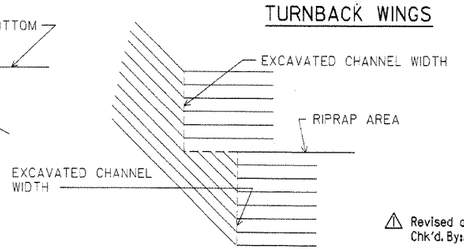
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4387
CHARLES P. BRAND

BRIDGE ENGINEER

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B189IF.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

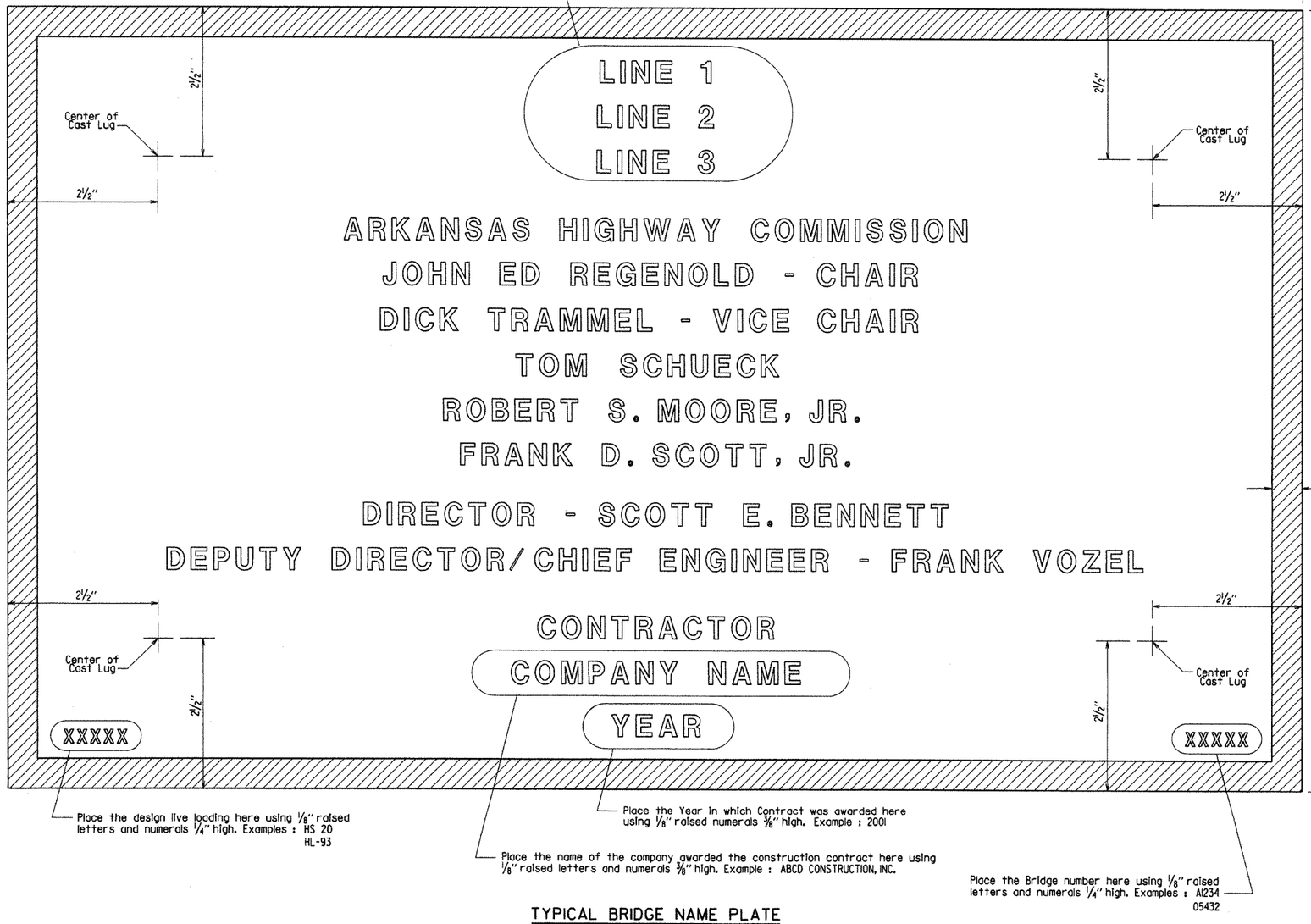
BRIDGE NO. DRAWING NO. 1891F

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-8-11		10-30-13		6	ARK.		83	
1-3-13				JOB NO.				
1-10-13								

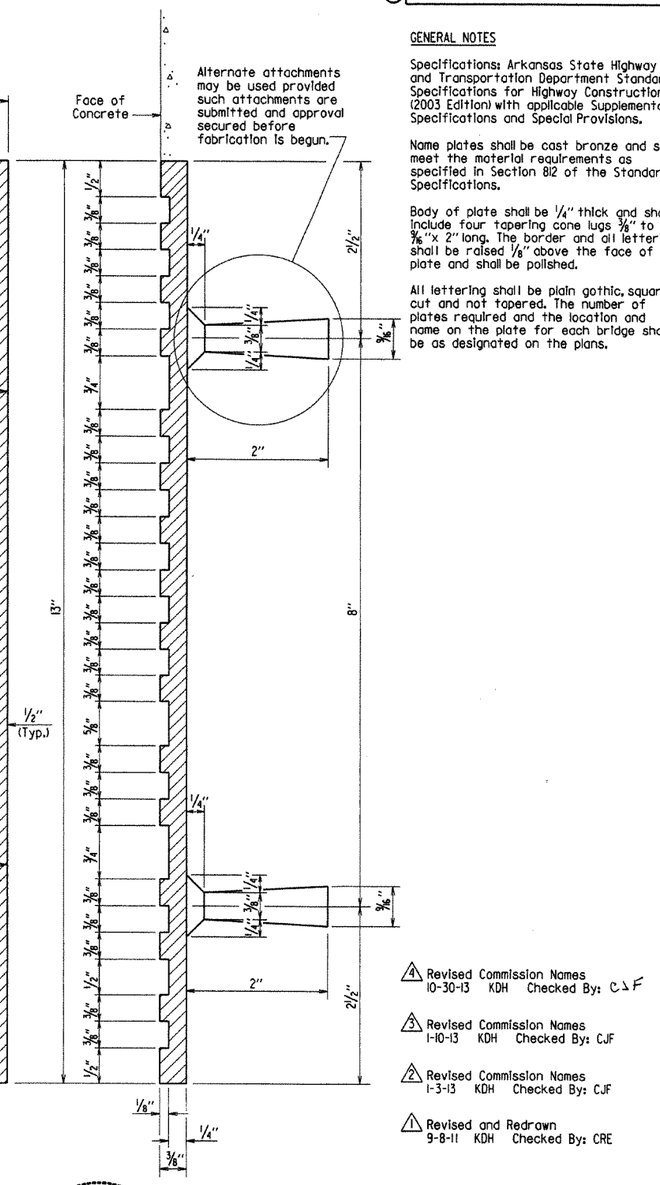
(1) NAME PLATE 2387

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 5/8" 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.

4 Revised Commission Names 10-30-13 KDH Checked By: CJF

3 Revised Commission Names 1-10-13 KDH Checked By: CJF

2 Revised Commission Names 1-3-13 KDH Checked By: CJF

1 Revised and Redrawn 9-8-11 KDH Checked By: CRE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 9-8-11 FILENAME: b2387_std.dgn

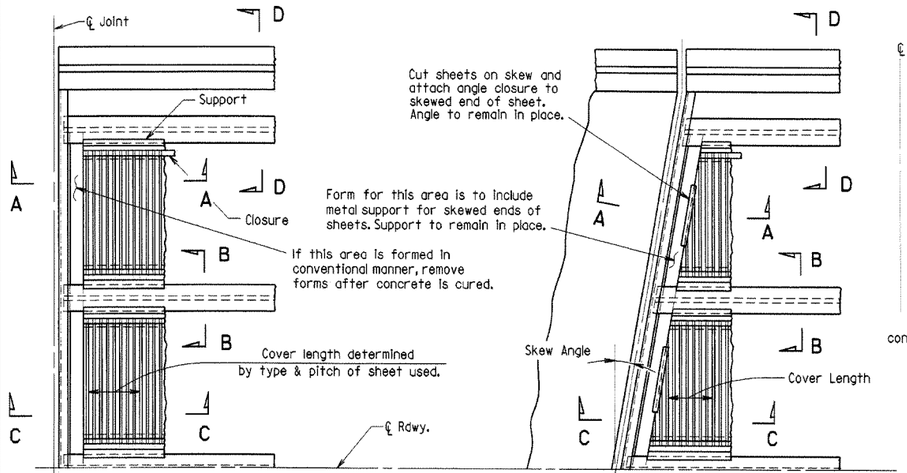
CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0" OR AS NOTED

DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 2387

PRINT DATE: 10/30/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		86	
04-10-2003						JOB NO.				
						①		BR. DECK FORMS	14991	

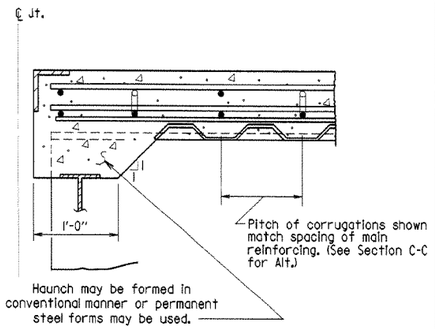


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

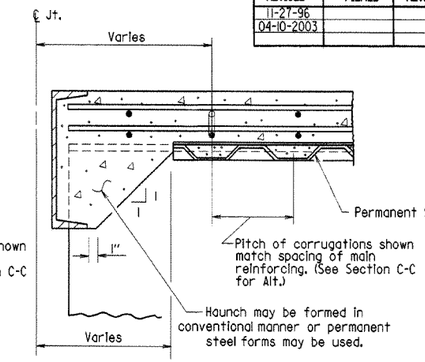
3/8" = 1'-0"



SECTION A-A

N.T.S.

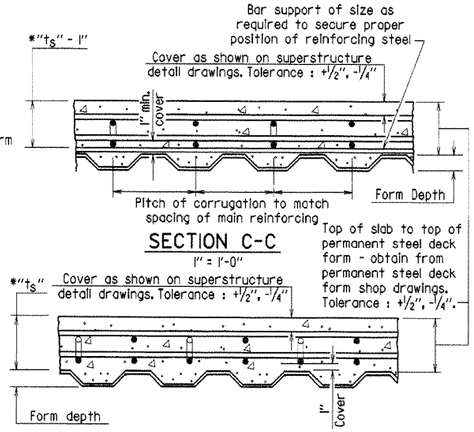
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



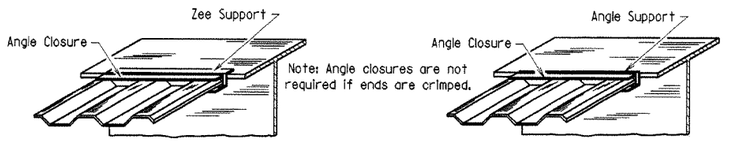
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to subsection 802.14(b) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Bridge Engineer.

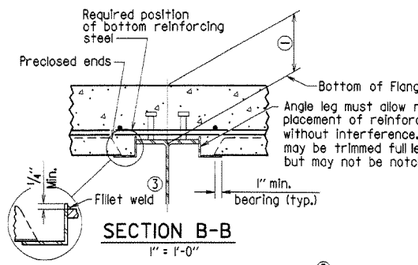
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

⚠2 Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

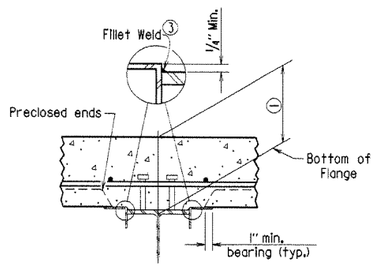


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

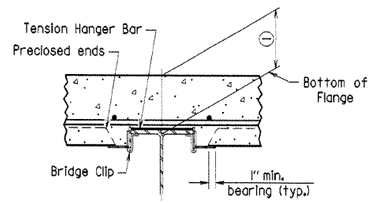
③ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

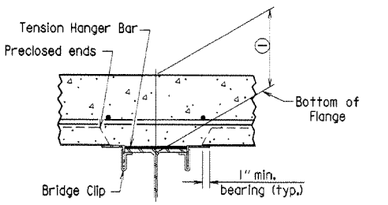
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

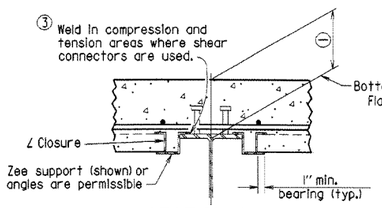
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are not used)

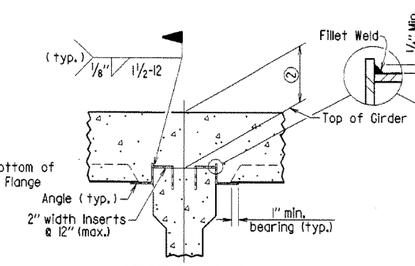


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing ∠ Closure)

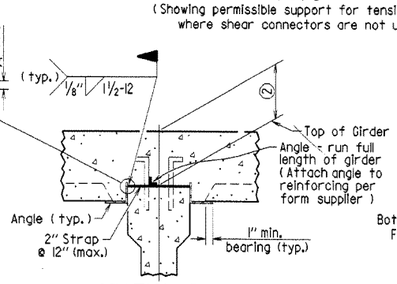


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

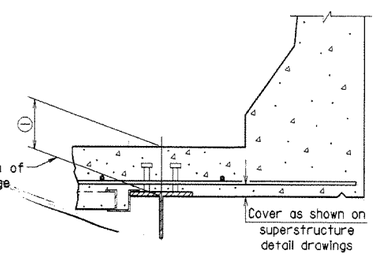


SECTION B-B

(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 of girder or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

⚠1 Redrawn and revised 11/27/96; MJT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4537
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 10-17-96

CHECKED BY: CPB DATE: 10-17-96 SCALE: as noted

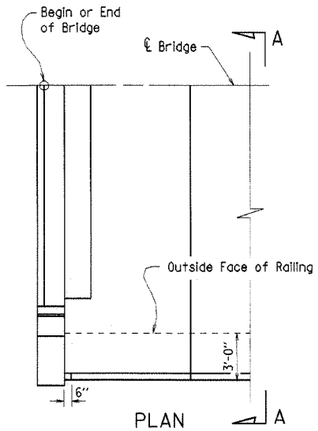
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 14991

BI4991.STD

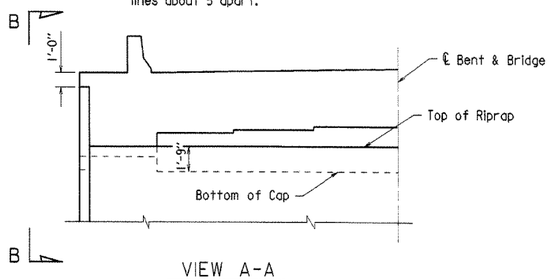
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		67	
				JOB NO.				

1 RIPRAP & PILE - 14995A

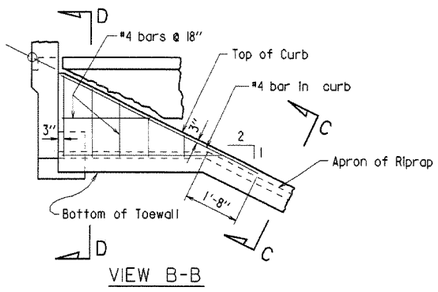


PLAN

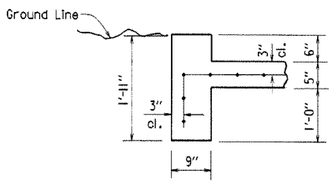
Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



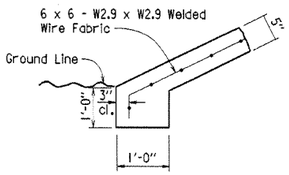
VIEW A-A



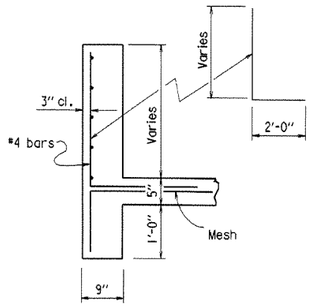
VIEW B-B



SECTION C-C

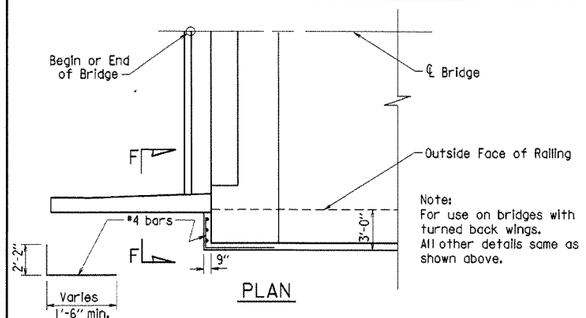


TOE WALL



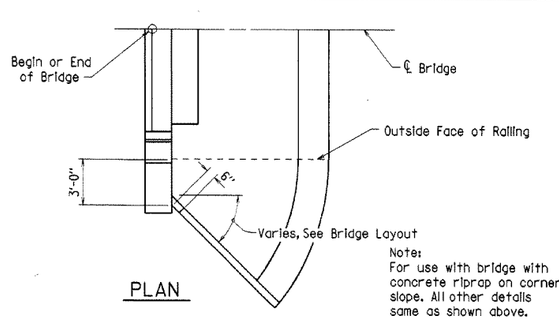
SECTION D-D

DETAILS OF CONCRETE RIPRAP



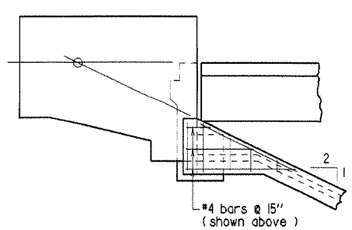
PLAN

Note:
For use on bridges with turned back wings.
All other details same as shown above.

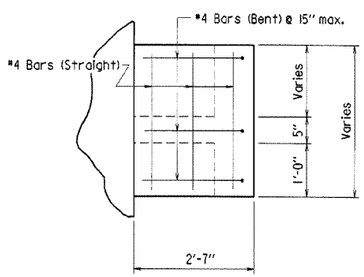


PLAN

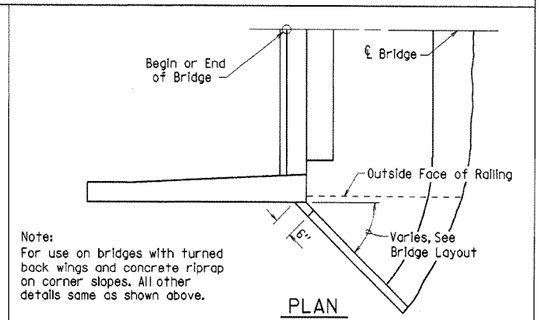
Note:
For use with bridge with concrete riprap on corner slope. All other details same as shown above.



ELEVATION

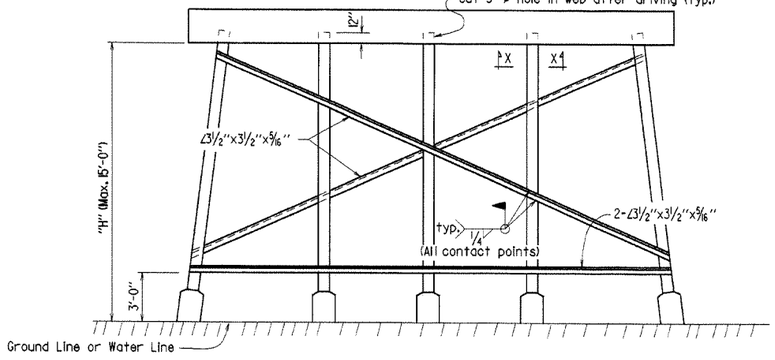


SECTION F-F



PLAN

Note:
For use on bridges with turned back wings and concrete riprap on corner slopes. All other details same as shown above.



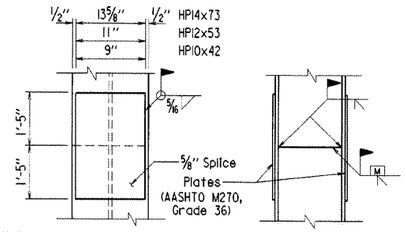
Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

Omit bottom bracing where "H" is less than 10 ft. Omit all bracing where "H" is less than 5 ft.

Note:
Where required by the bridge layout sheet, pile encasements shall be constructed.

Omit bracing (and V-groove in cap) where pile encasement is extended to bottom of bent cap.

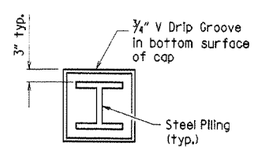
TYPICAL BRACING FOR INT. STEEL PILE BENTS



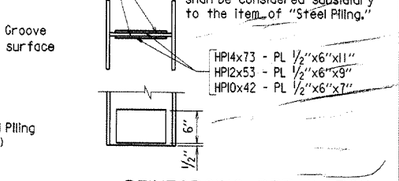
Note:
The contractor may for his own convenience and at this own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 ft.

PILE SPLICE DETAIL

Scale : 1" = 1'-0"

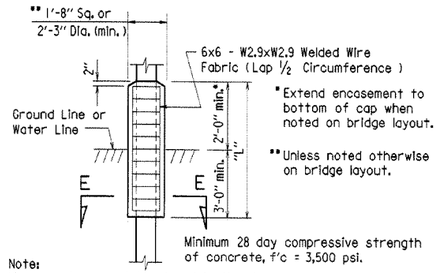


VIEW X-X



REINFORCING DETAIL FOR STEEL PILE TIP

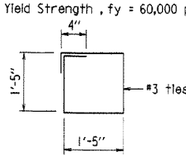
Scale : 1" = 1'-0"

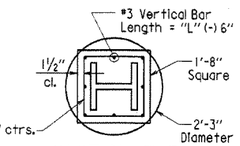


Note:
If concrete cannot be placed in the dry, seal concrete may be deposited under water. Concrete & welded wire fabric or reinforcing in encasements shall be paid for at the contract unit price per linear foot bid for "Pile Encasement."

PILE ENCASEMENT DETAIL

Reinforcing Alternate
#3 Vertical - 8 per encasement
#3 ties @ 12" ctrs.
Yield Strength , fy = 60,000 psi.





SECTION E-E
REINF. ALTERNATE

⚠1 Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES F. BRAND

BRIDGE ENGINEER

DETAILS OF CONCRETE RIPRAP
AND MISC. DETAILS OF STEEL PILING

ROUTE SEC.

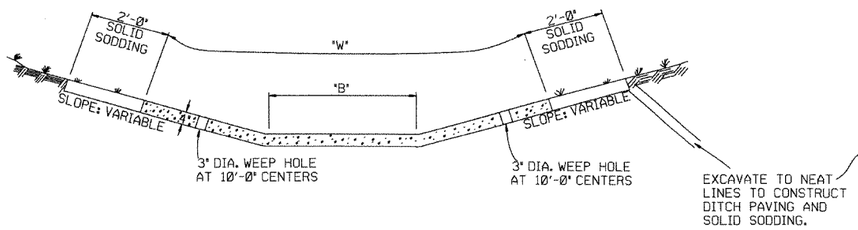
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B14995A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: No Scale or As Noted
DESIGNED BY: STD. DATE: —

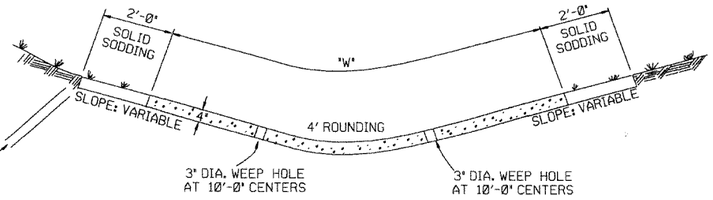
BRIDGE NO. DRAWING NO. 14995A

REFER TO TABULATION OF QUANTITIES
FOR "W" & "B" DIMENSIONS



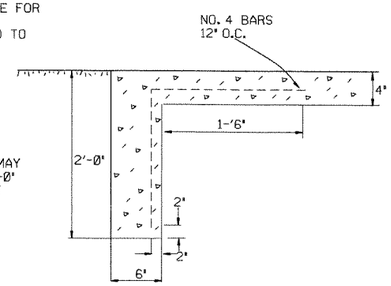
TYPE A

REFER TO TABULATION OF QUANTITIES
FOR "W" DIMENSIONS



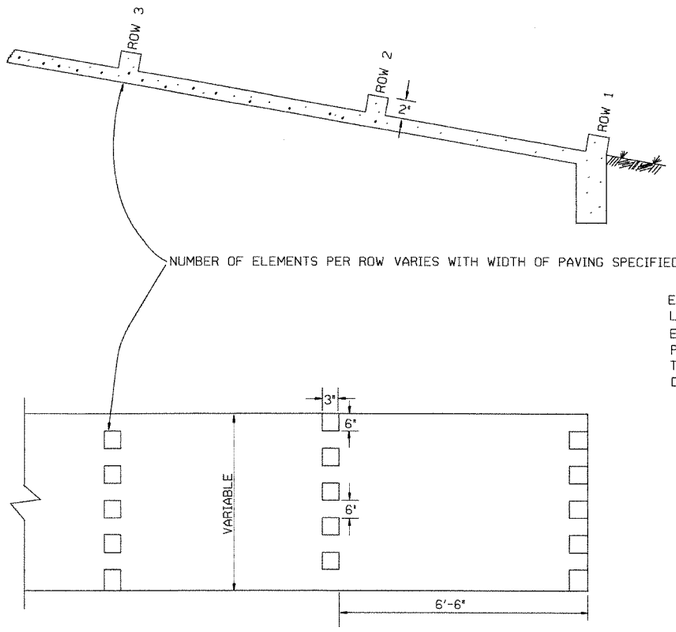
TYPE B

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



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

TOE WALL DETAIL FOR
CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

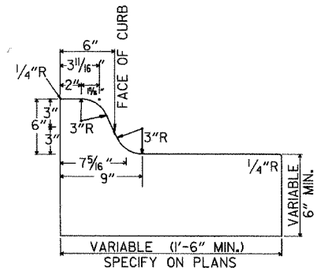
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

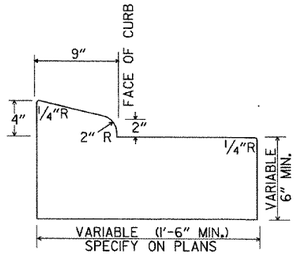
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

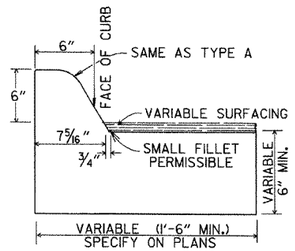
STANDARD DRAWING CDP-1



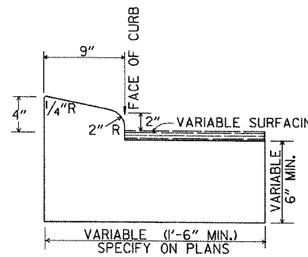
TYPE A



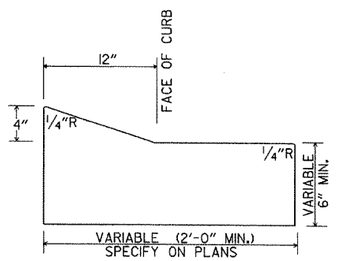
TYPE B-1



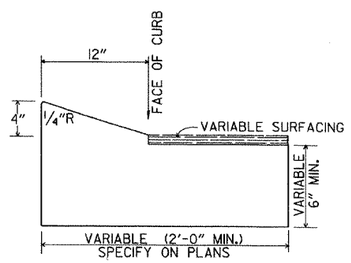
TYPE C



TYPE B-2

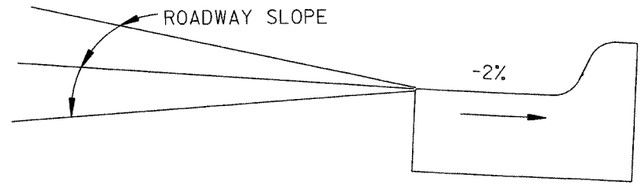


TYPE E-1



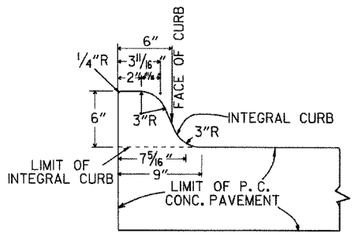
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

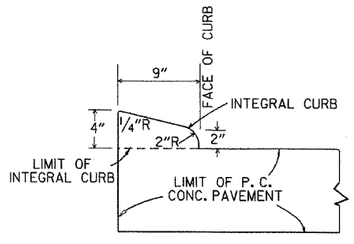


DETAIL OF GUTTER SLOPE

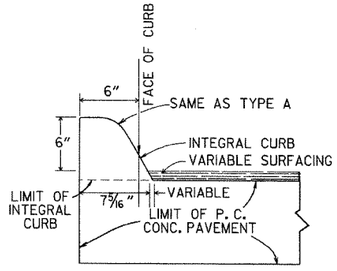
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

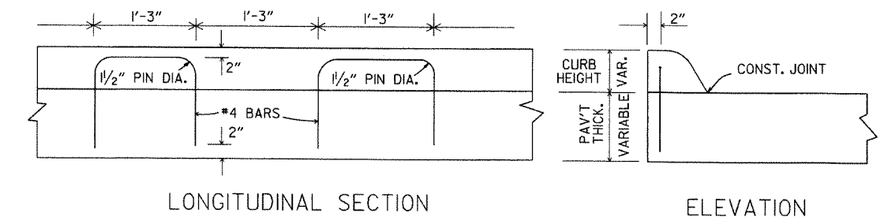


TYPE B



TYPE C

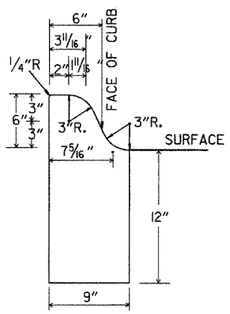
INTEGRAL CURB



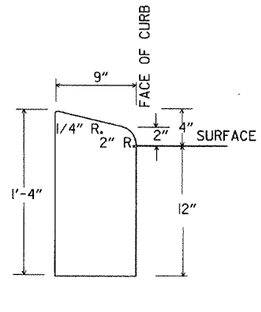
LONGITUDINAL SECTION

ELEVATION

ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



TYPE A



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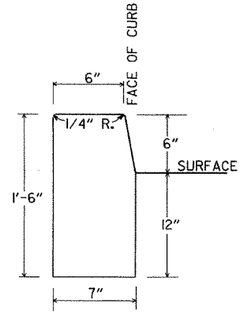
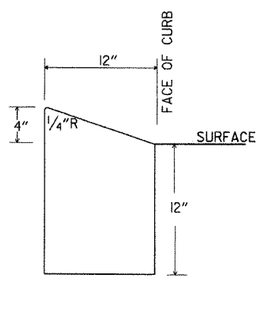
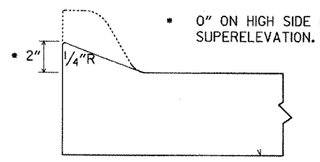


TYPE D



TYPE E

CONCRETE CURB



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

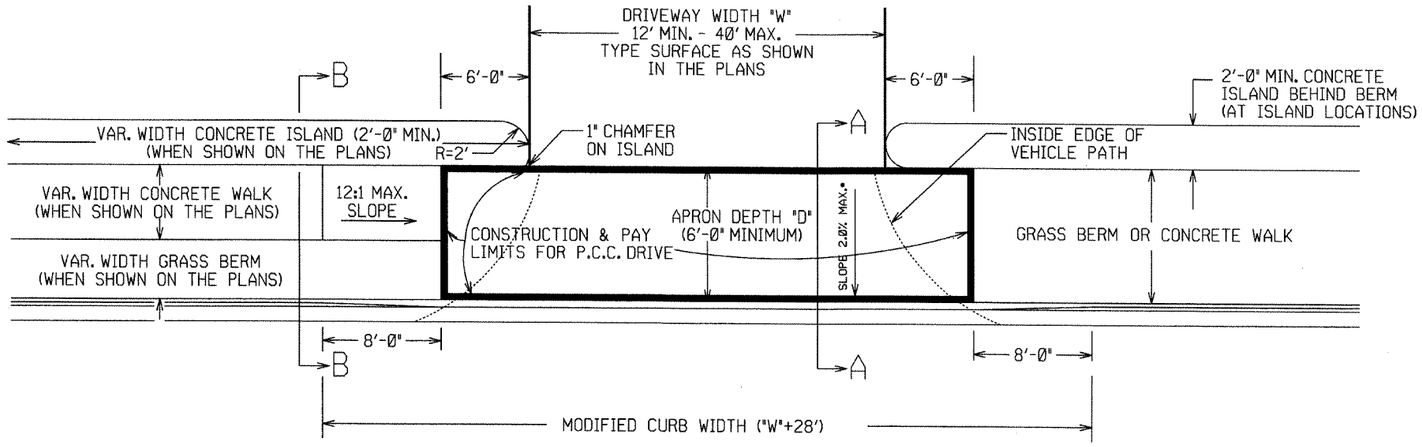
DETAILS OF MODIFIED CURB

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

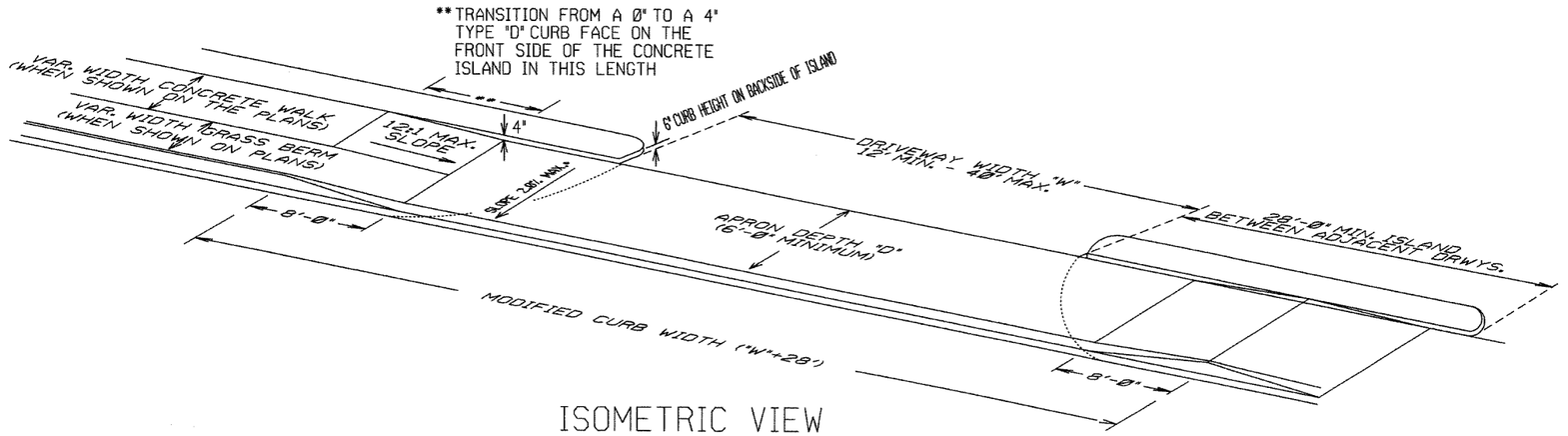
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

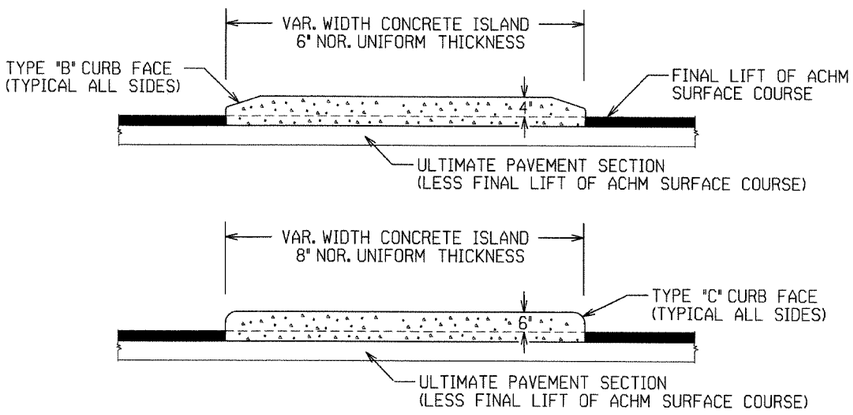
STANDARD DRAWING CG-1



PLAN VIEW

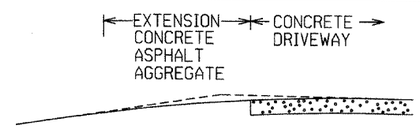


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

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

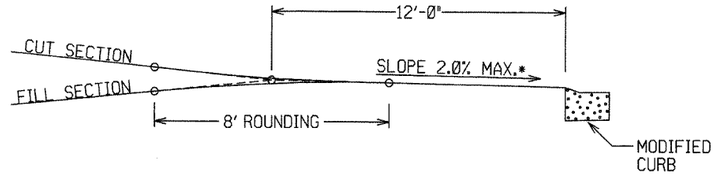
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

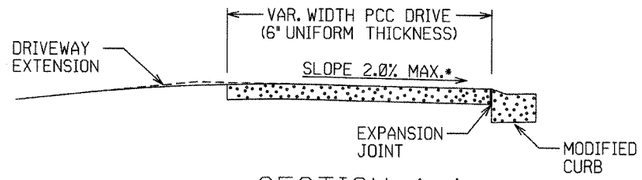
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

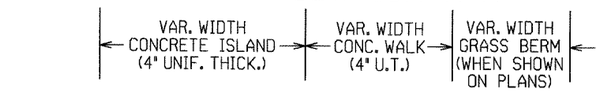


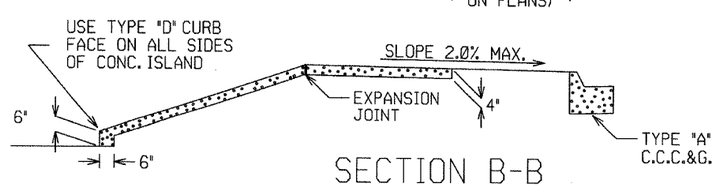
DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A

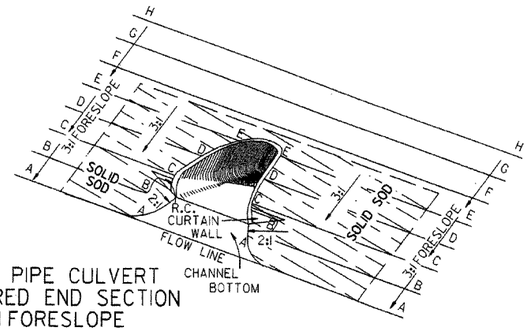




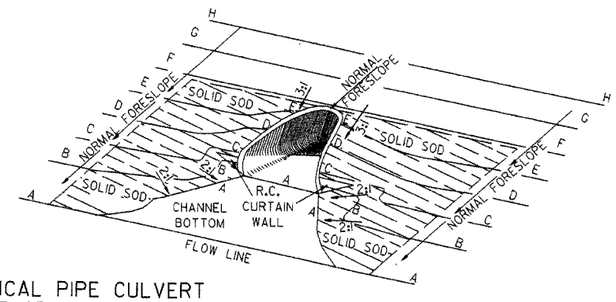
SECTION B-B
CURBED ISLAND BEHIND WALK

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

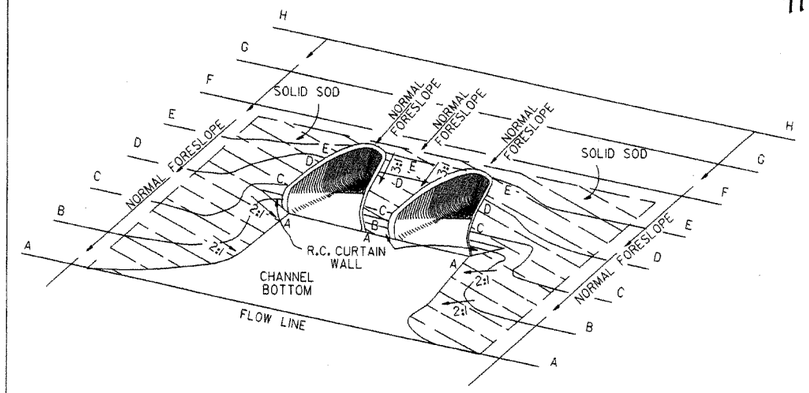
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

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

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

REINFORCING STEEL SCHEDULE

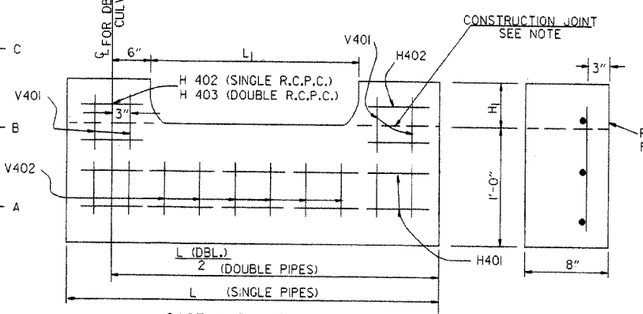
PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12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

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

PLAN VIEW
3:1 FORESLOPES

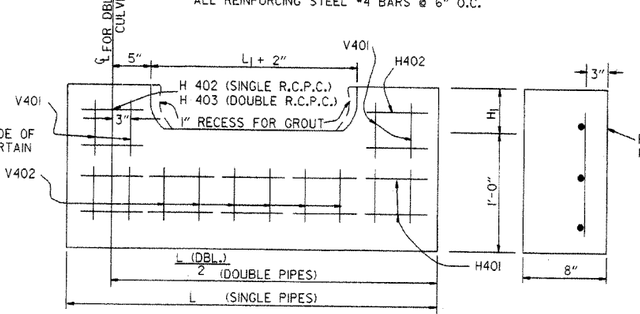
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

END VIEW

SECTIONAL VIEW "X-X"

SOLID SODDING

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

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

GENERAL NOTES

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

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	

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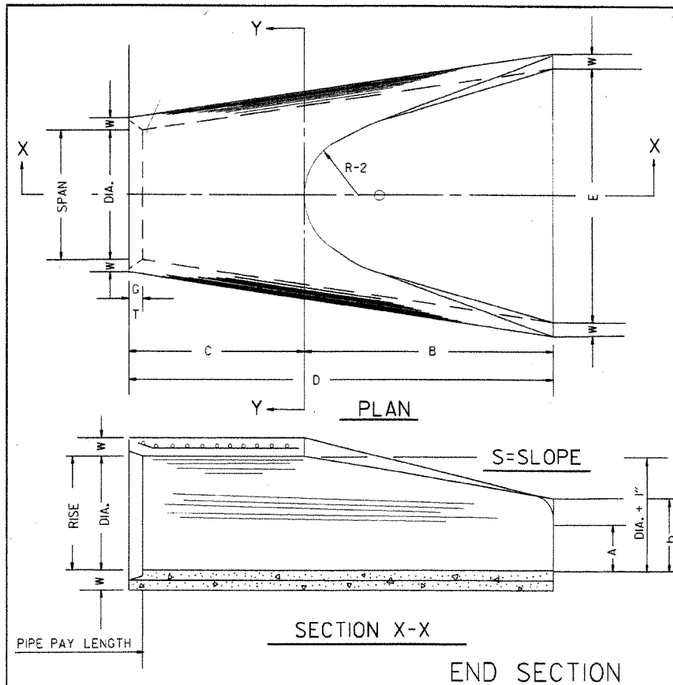
FLARED END SECTION

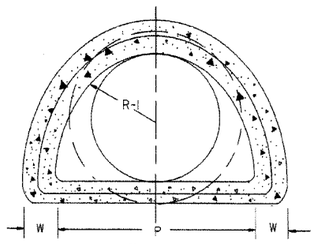
STANDARD DRAWING FES-1



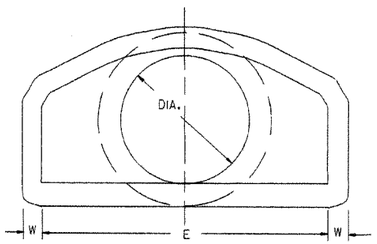
END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

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 11/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅜"	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 13/16"	38 15/16"	24"	5"	13250	4'-6"



SECTION Y-Y



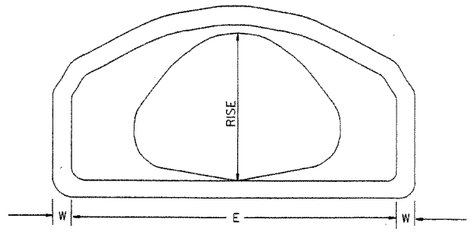
END VIEW

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

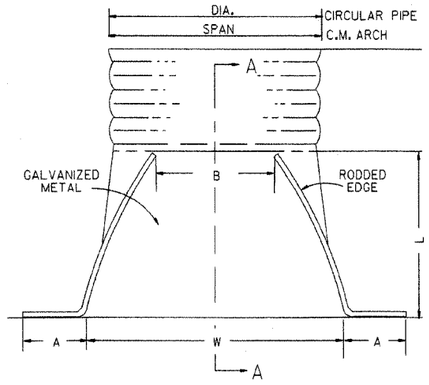
ARCH PIPE

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'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	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"	70 5/16"	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

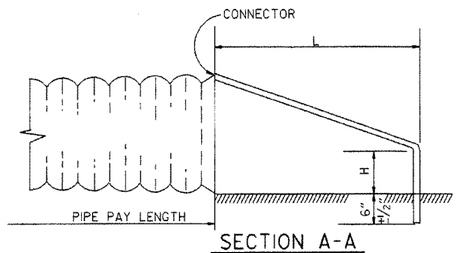
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



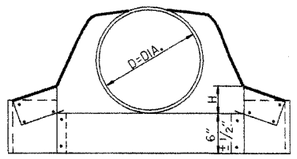
END VIEW
CONCRETE ARCH PIPE



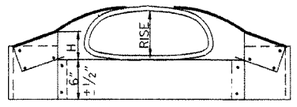
PLAN



SECTION A-A



CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

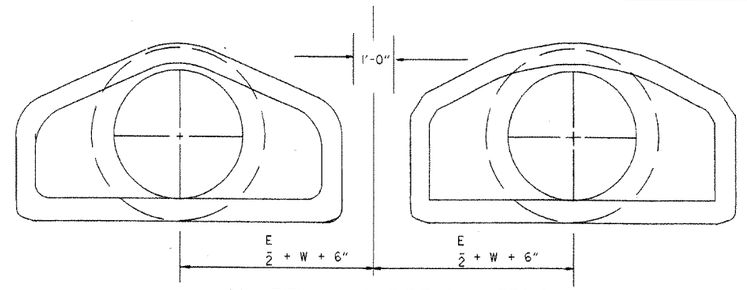
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

C.M. ARCH PIPE

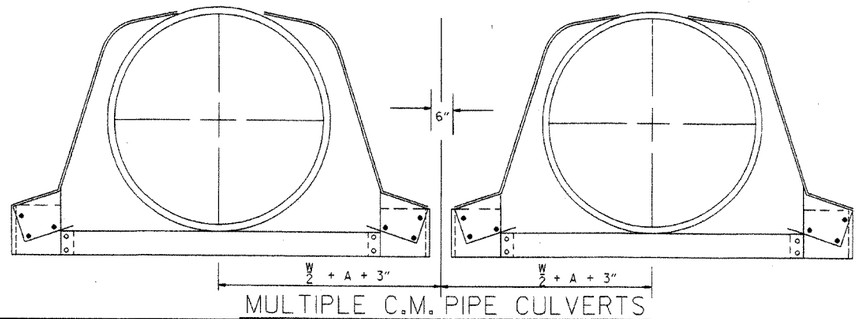
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

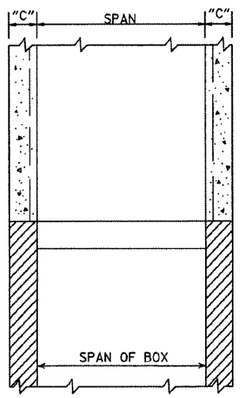
DATE	REVISION	FILED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
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

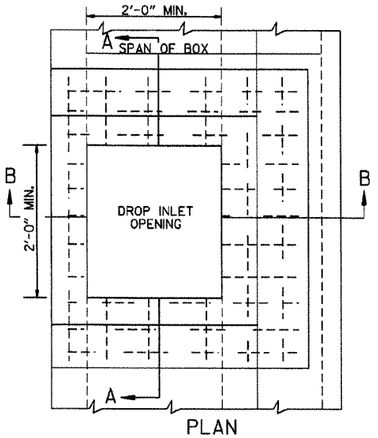
FLARED END SECTION

STANDARD DRAWING FES-2

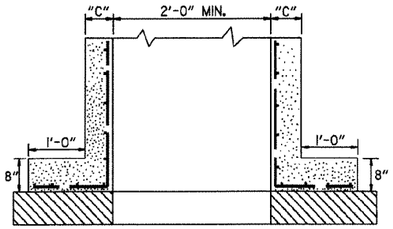
stdfes2.dgn



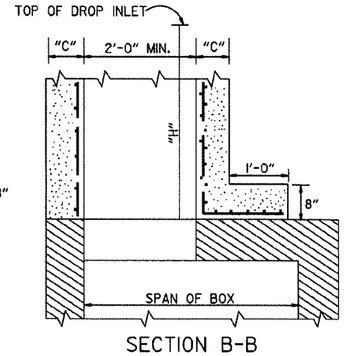
SECTION B-B



PLAN

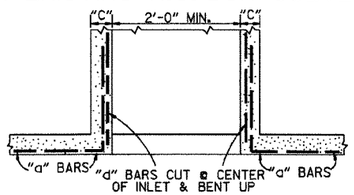


SECTION A-A

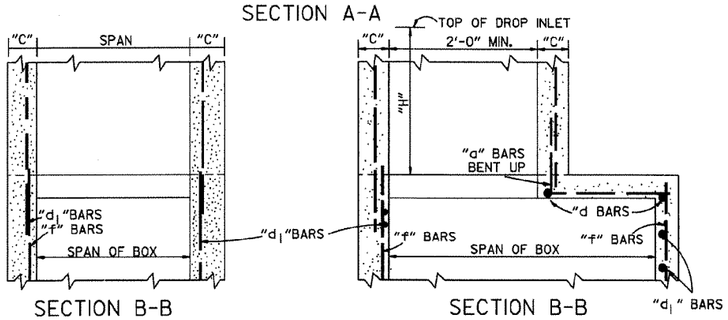


SECTION B-B

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



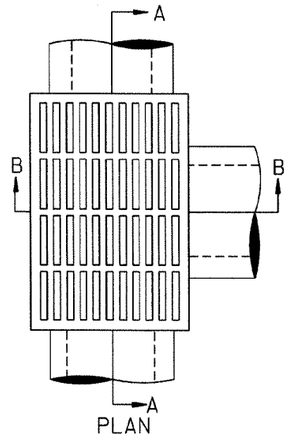
SECTION A-A



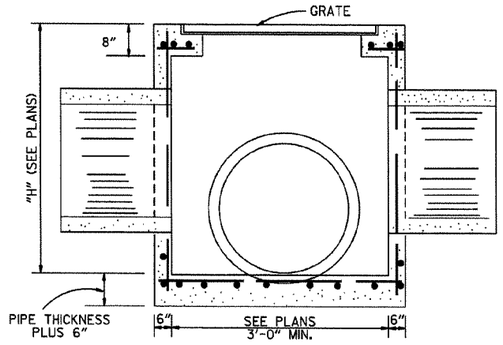
SECTION B-B SECTION B-B

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.

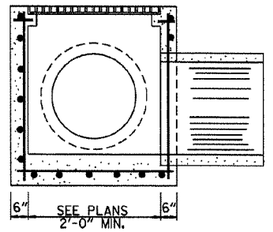


PLAN



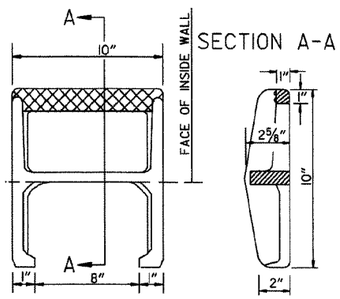
SECTION A-A

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)

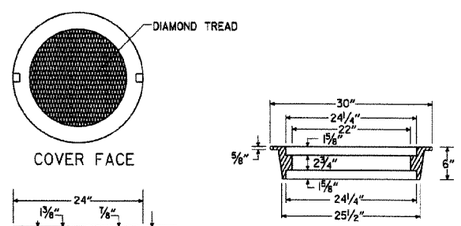


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

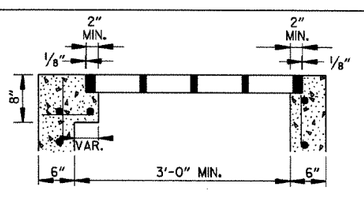
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

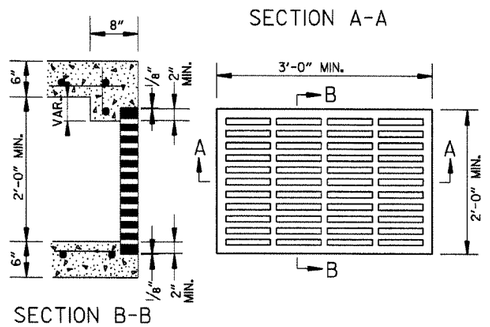


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



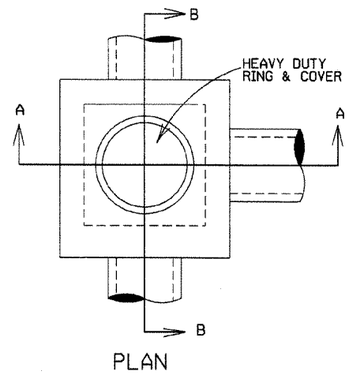
SECTION A-A



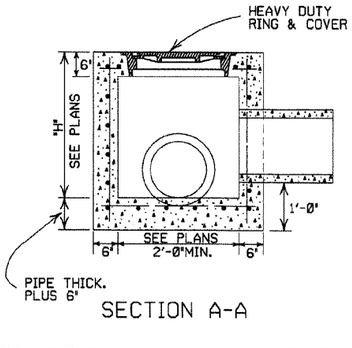
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

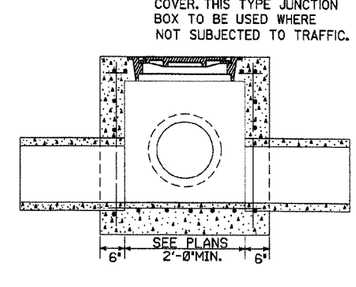


PLAN



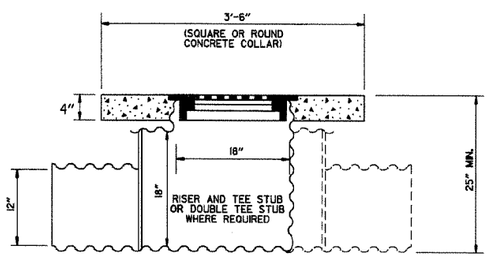
SECTION A-A

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

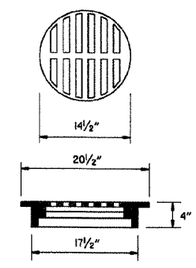


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

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

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

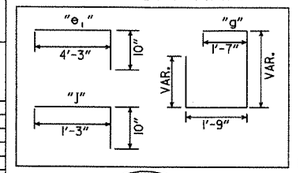
DROP INLET EXTENSION

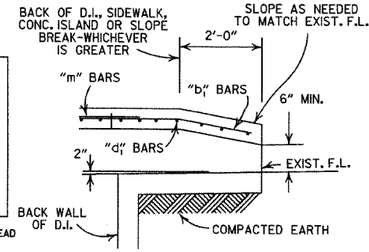
PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL	4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28				
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

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

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

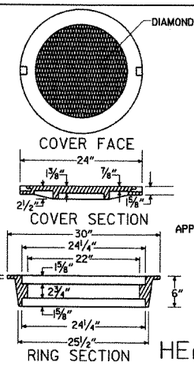
BAR DIAGRAM





BACK OPENING

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

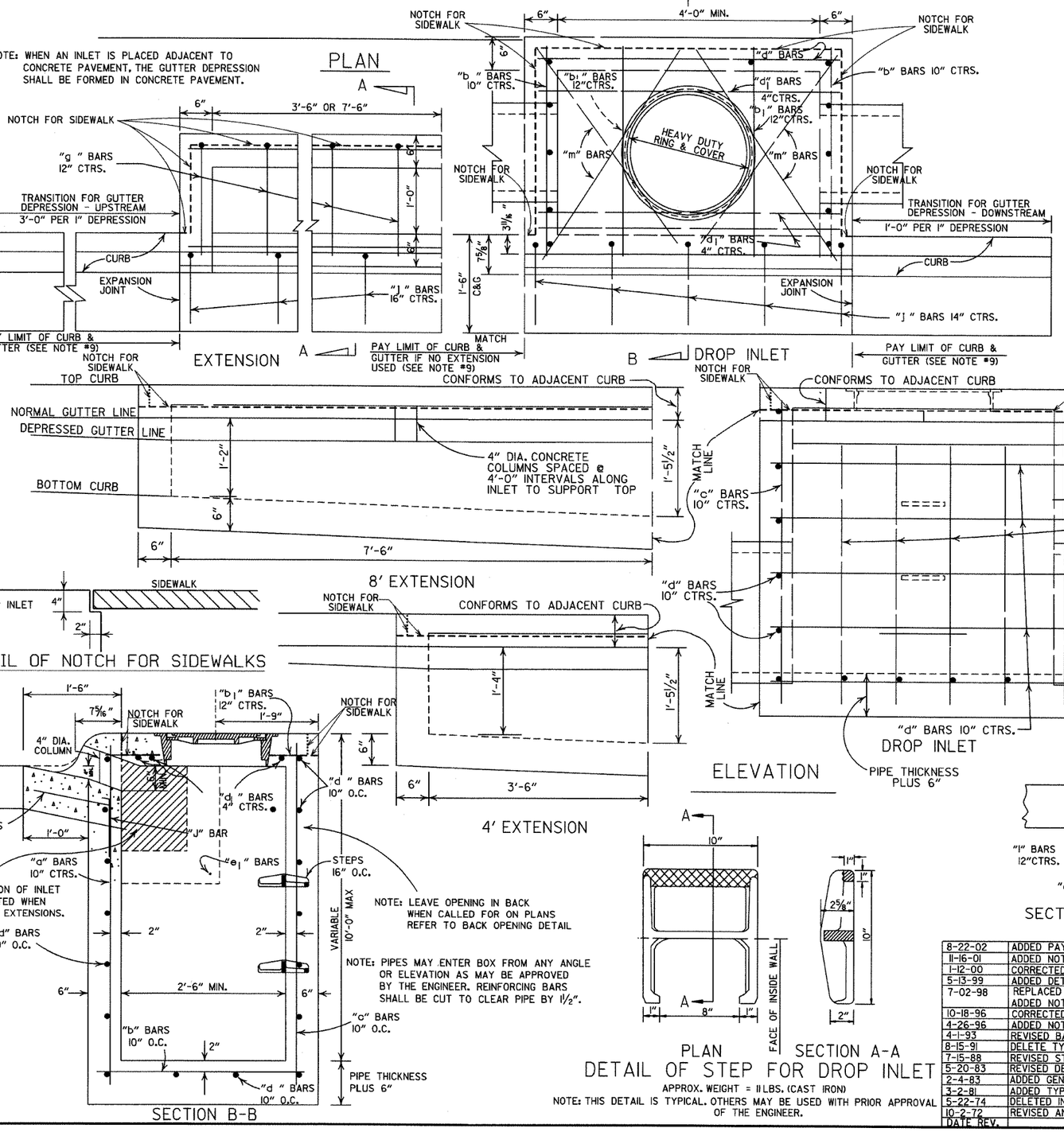


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:

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



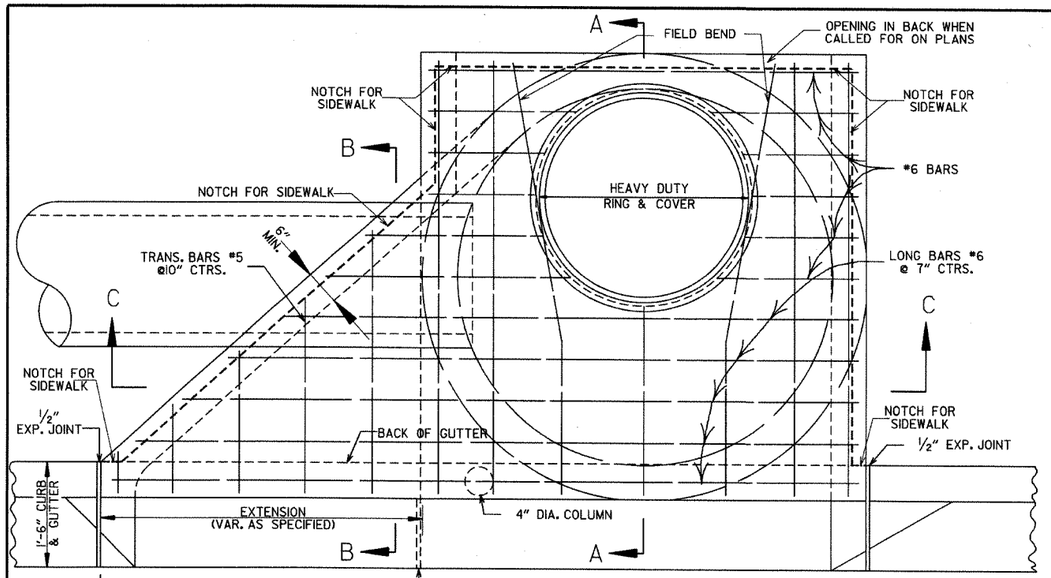
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

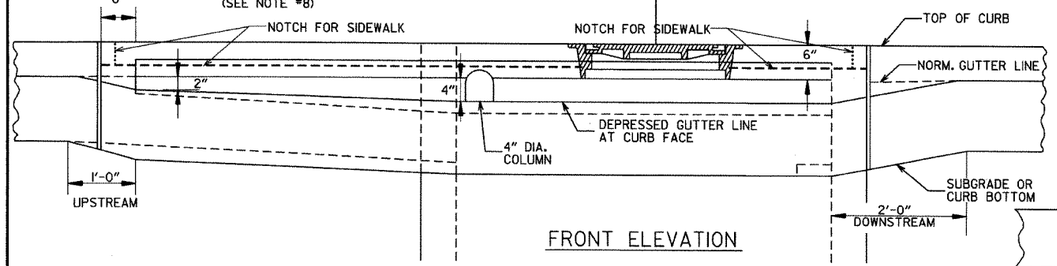
(TYPE C)

STANDARD DRAWING FPC-9E

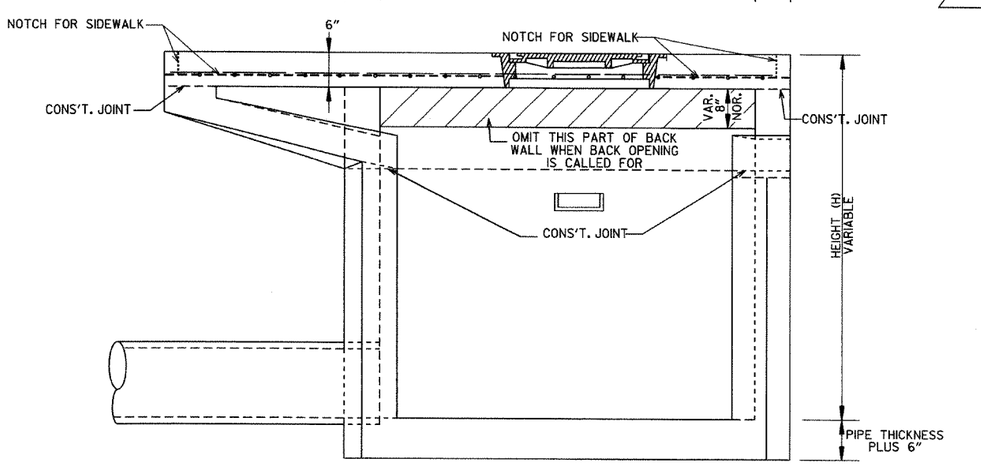


PLAN - W/SINGLE EXTENSION

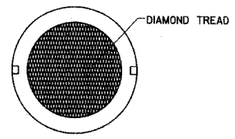
NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.



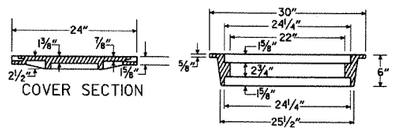
FRONT ELEVATION



SECTION C-C



COVER FACE



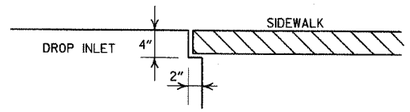
COVER SECTION

RING SECTION

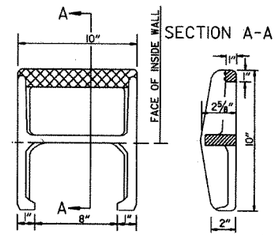
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

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



DETAIL OF NOTCH FOR SIDEWALKS



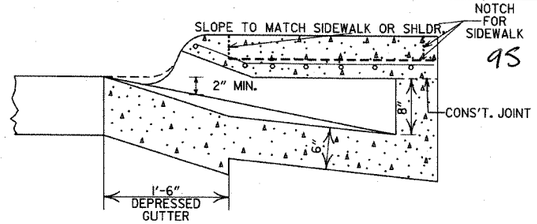
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

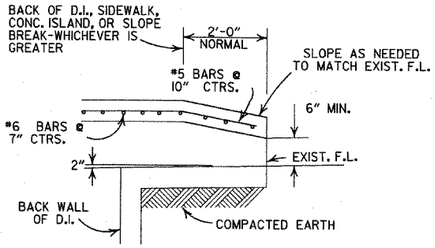
PLAN

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

DETAIL OF STEP FOR DROP INLET



SECTION B-B

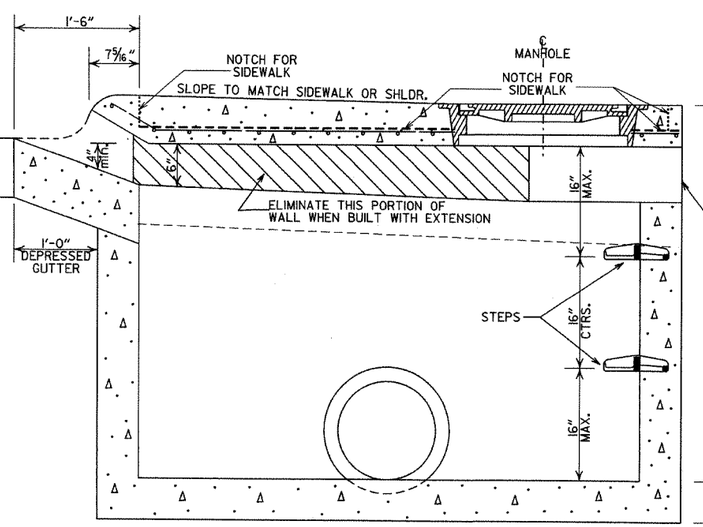


BACK OPENING

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

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A

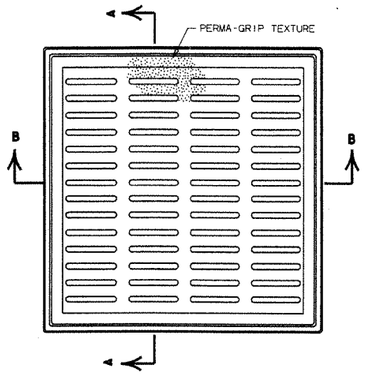
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	MINIMUM WALL THICKNESS PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REF. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 1,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
11-6-87	MODIFIED WALL THICKNESS	783-11-6-87
6-12-87	ISSUED	4-6-12-87

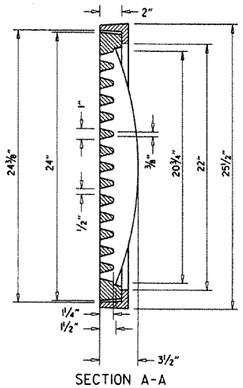
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

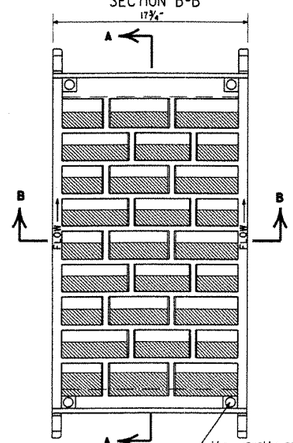


SECTION A-A

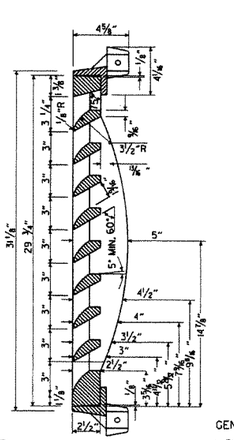
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1/2" 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 211 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.



SECTION B-B



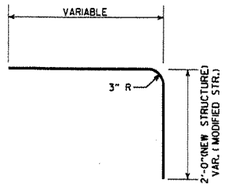
SECTION THRU FRAME

SECTION A-A

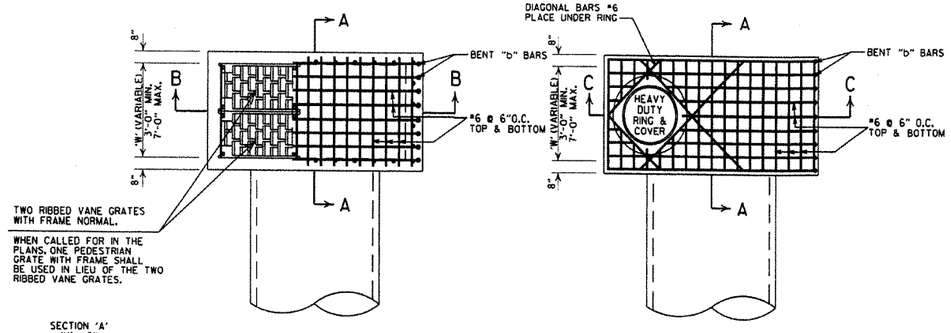
DETAILS OF RIBBED VANE GRATE AND FRAME

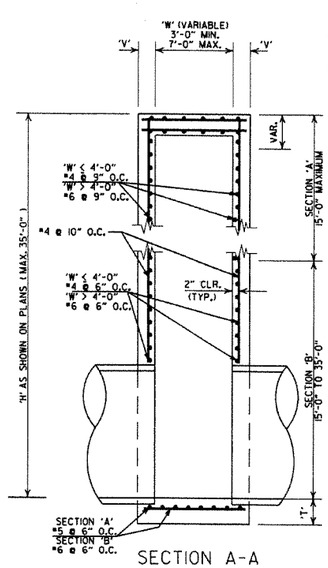
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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



DETAIL OF BENT "b" BAR





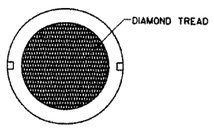
SECTION 'A'
'V' = 8"

SECTION 'B' (W≤4'-0")
'V' = 8"

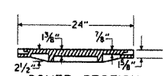
SECTION 'B' (W>4'-0")
'V' = 10"

SECTION A-A

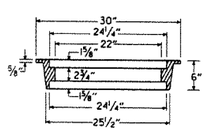
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



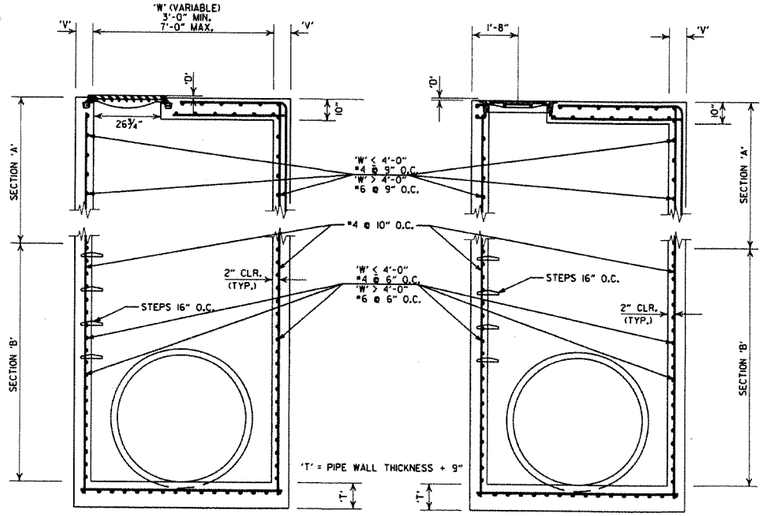
COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION B-B

SECTION C-C

DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

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

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

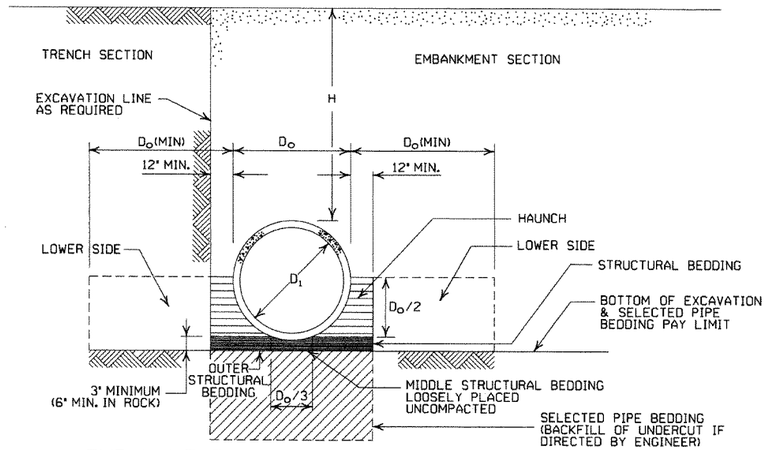
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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 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.

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			
			INSTALLATION		INSTALLATION	
			TYPE 2	TYPE 1	TYPE 2	TYPE 1
36	40x31	5	3	2	12	15
42	46x36	6	3	2	13	15
48	53x41	7	3	2	13	15
54	60x46	8	3	2	13	15
60	66x51	9	3	2	13	15
66	73x55	12	3	2	15	15
72	81x59	14	3	2	15	15
78	87x63	14	3	2	15	15
84	95x67	16	3	2	15	15
90	103x71	16	3	2	15	15
96	112x75	18	3	2	15	15
102	117x79	18	3	2	15	15
108	128x83	18	3	2	15	15

CONSTRUCTION SEQUENCE

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

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

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

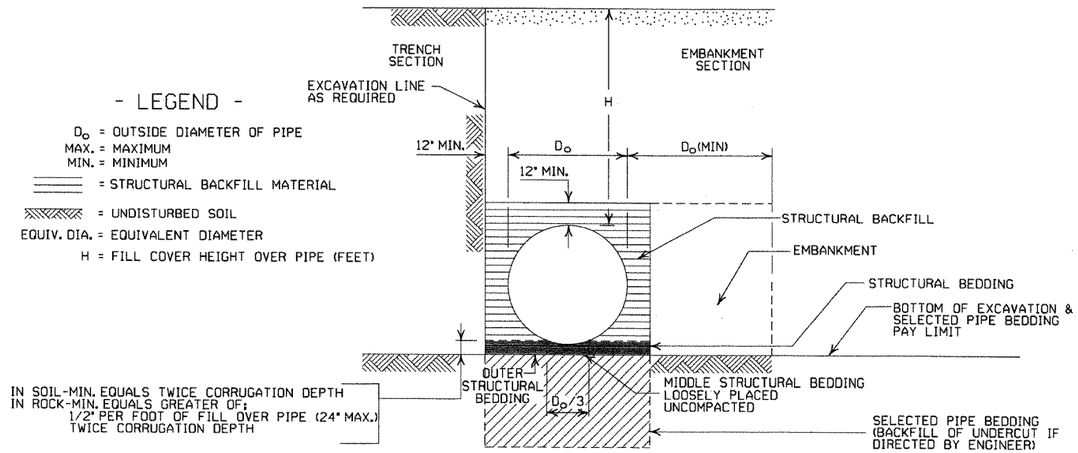
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

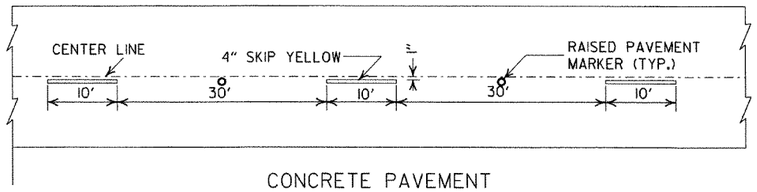
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED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

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

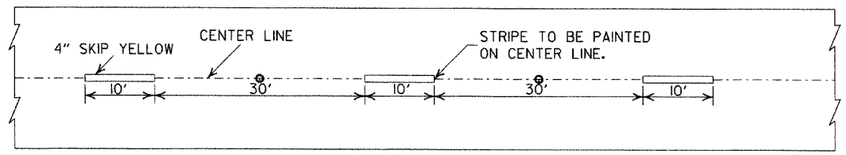
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

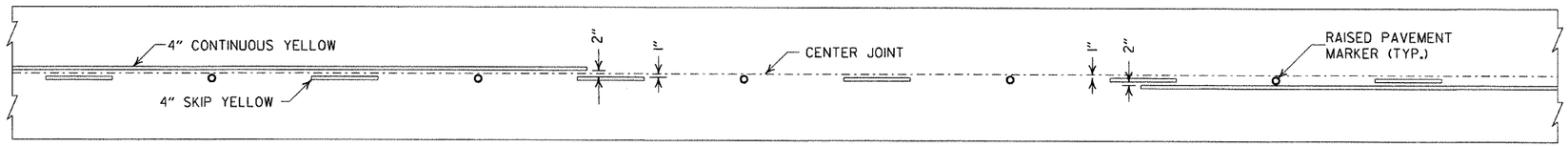


CONCRETE PAVEMENT

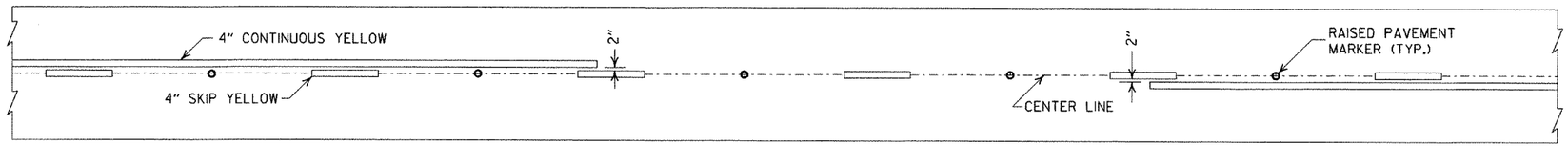


ASPHALT PAVEMENT

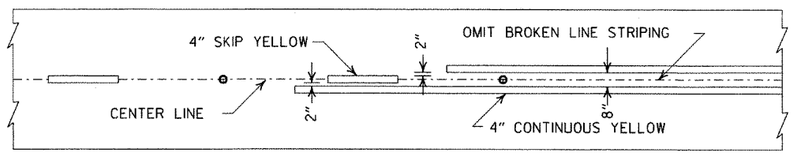
BROKEN LINE STRIPING



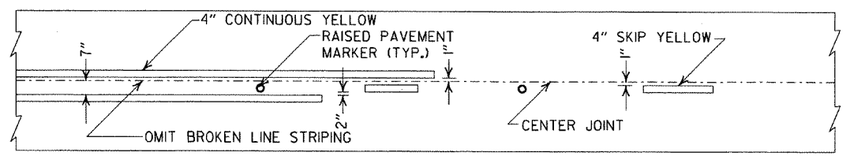
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



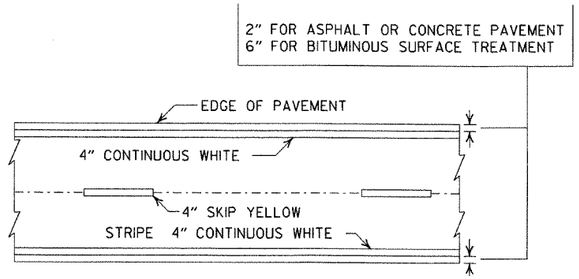
ASPHALT PAVEMENT



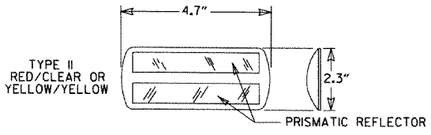
CONCRETE PAVEMENT

NOTES:

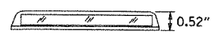
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

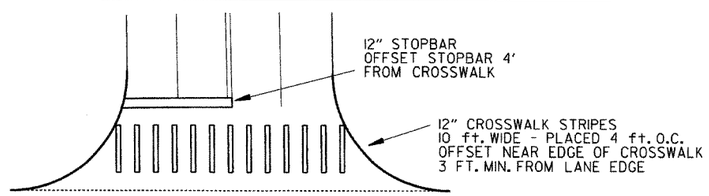
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

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

NOTE:

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

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

DATE	REVISION	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
		FILMED

ARKANSAS STATE HIGHWAY COMMISSION

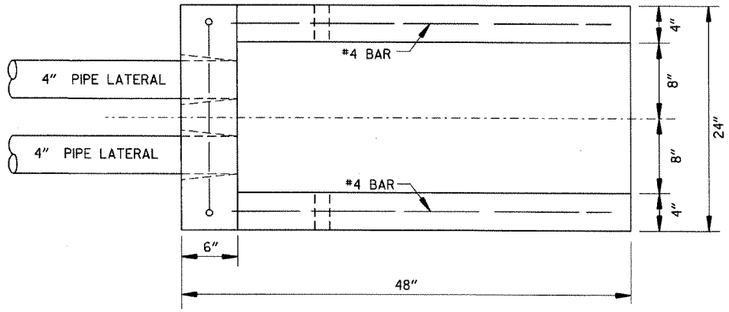
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

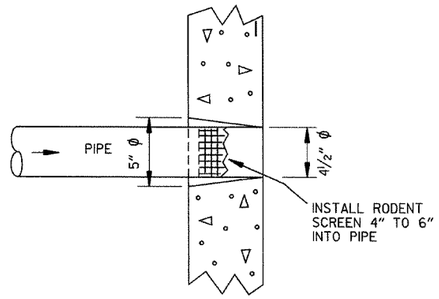
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

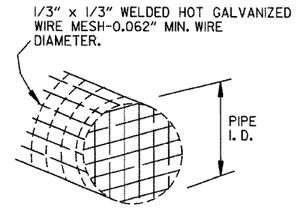
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



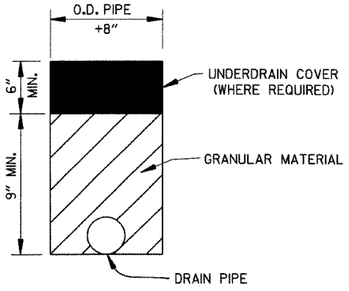
PLAN VIEW

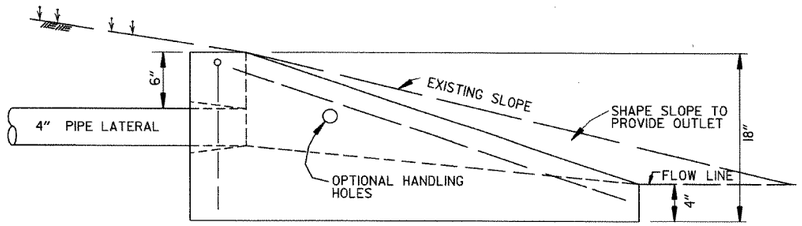


DETAIL OF HOLE FOR 4" PIPE

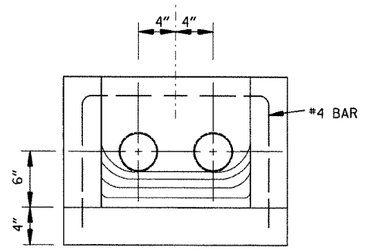


DETAIL OF RODENT SCREEN

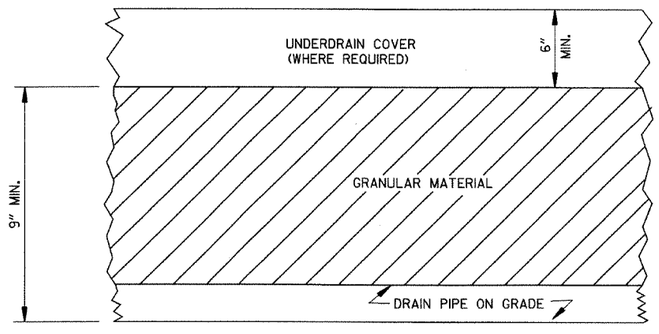




SIDE VIEW

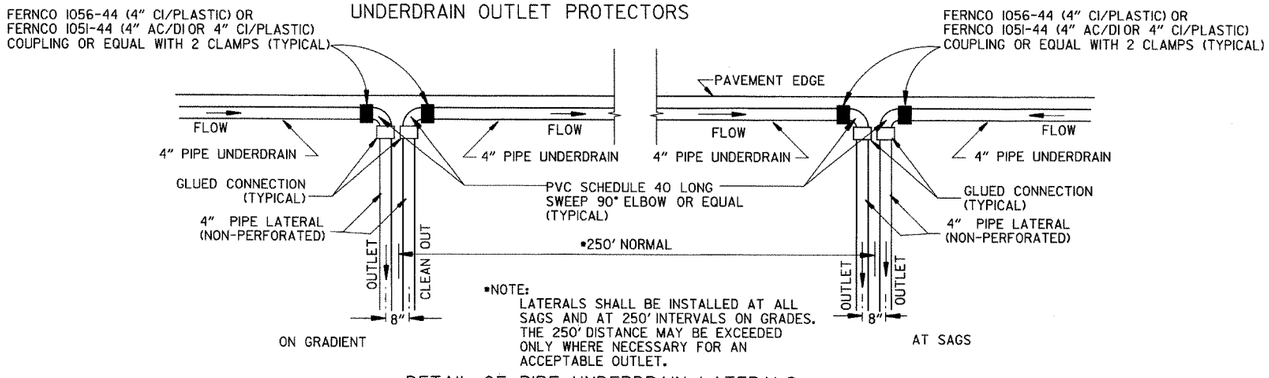


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

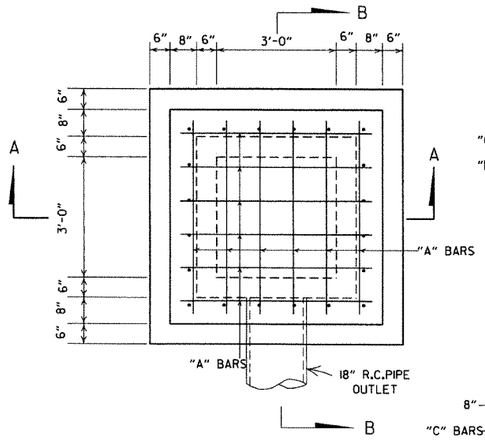
DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS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

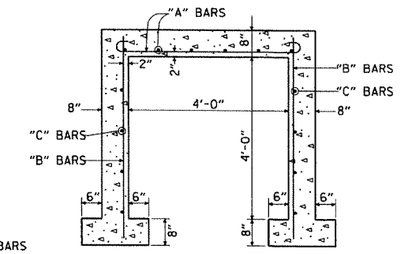
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

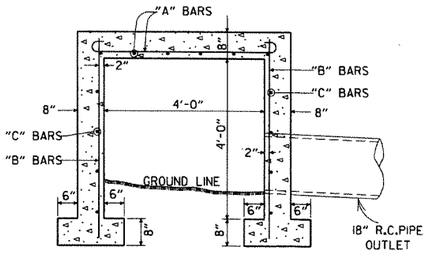
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI





SEC A-A



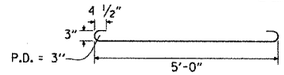
SEC B-B

NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



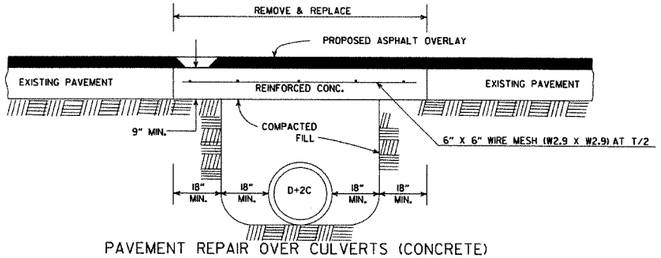
"A" BARS

QUANTITIES

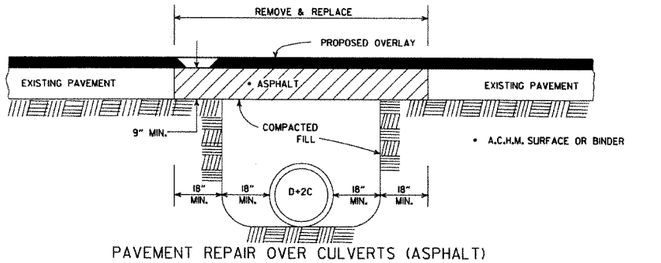
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITTIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



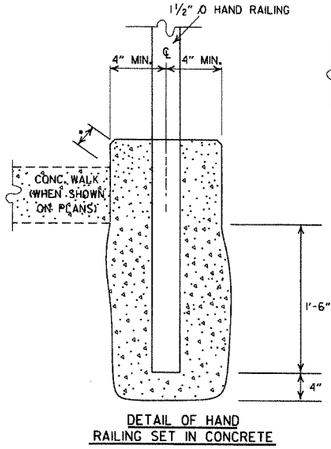
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



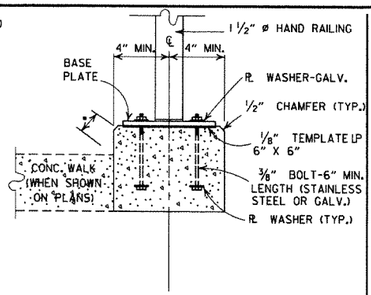
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

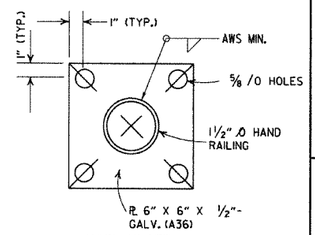
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

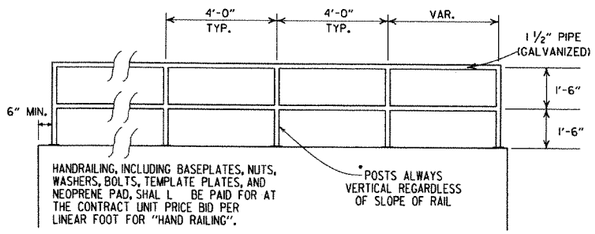


POST CONNECTION TO WALL

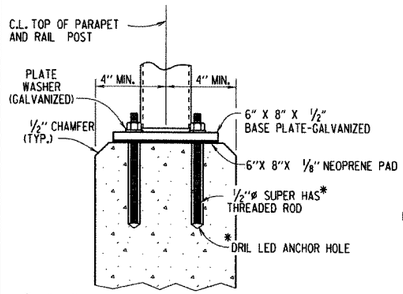


BASE PLATE

POST CONNECTION DETAILS



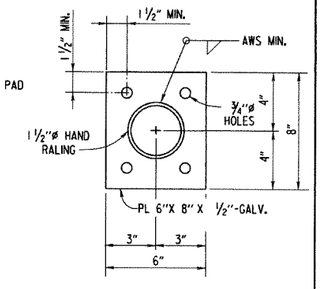
HAND RAILING SHAL L CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHAL L BE INSTAL LED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

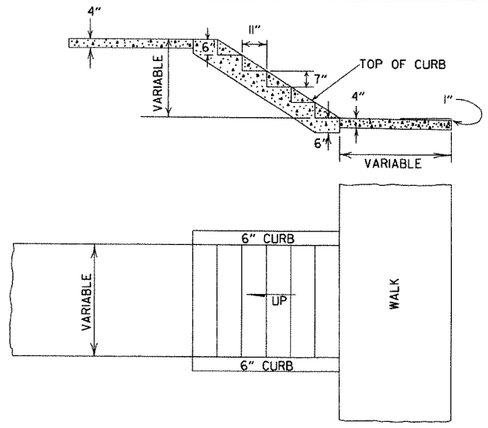
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

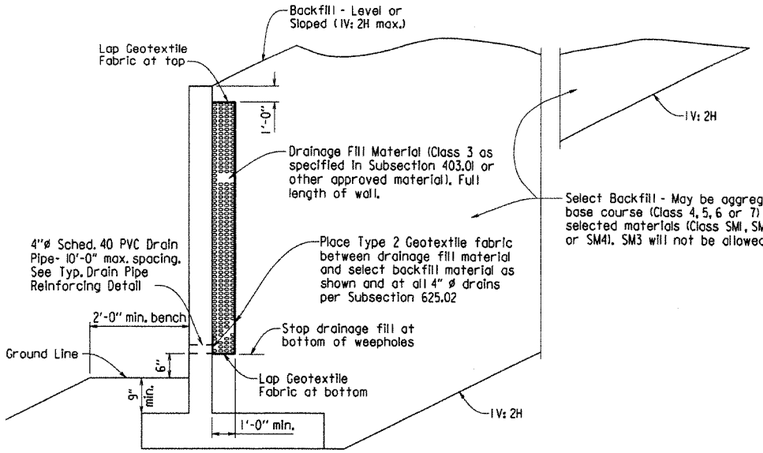
DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

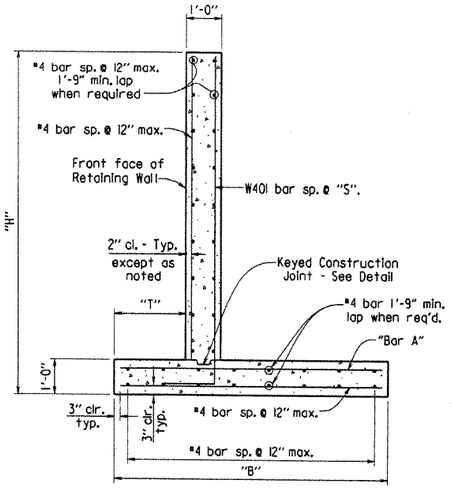
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1



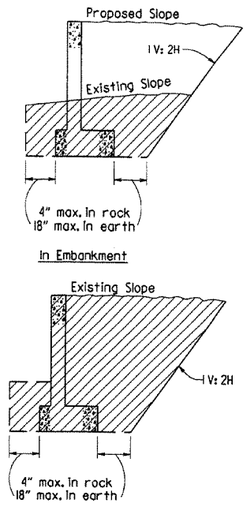
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



TYPICAL SECTION

N.T.S



NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas state Highway and Transportation Department Standard Specifications for Highway Construction, 2003 Edition, with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted.

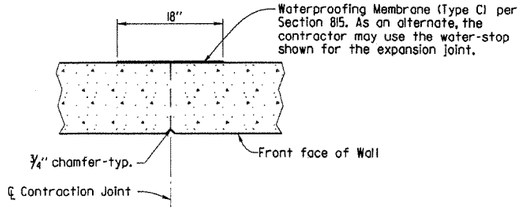
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 orM53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

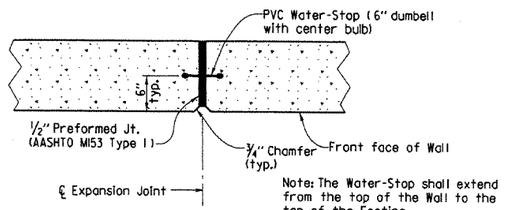
These details are not intended for use along streams or ditches without consideration for scour.



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

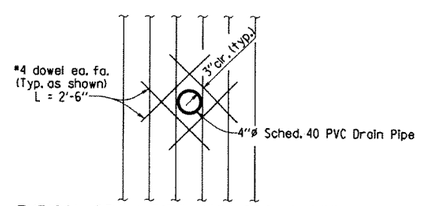
Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction Joints.



TYPICAL EXPANSION JOINT DETAIL

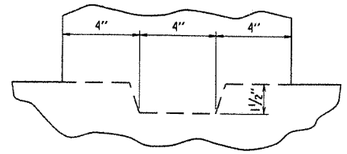
N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



KEYED CONSTRUCTION JOINT DETAIL

N.T.S

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - $A_S \leq .40g$
Sloped Backfill (1V: 2H max.) - $A_S \leq .30g$

TABLE OF RETAINING WALL VARIABLES (LEVEL BACKFILL)

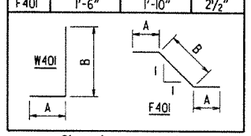
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

TABLE OF RETAINING WALL VARIABLES (SLOPED BACKFILL) (1V: 2H MAX.)

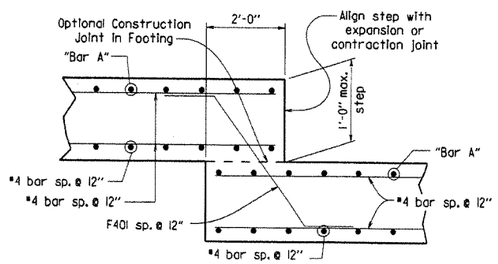
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

BENDING DIAGRAMS

MARK	A	B	P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



FOOTING STEP DETAIL

N.T.S.

DATE	REVISION	DATE FILMED
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

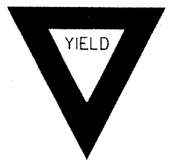
REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 2

R1-1

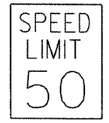
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



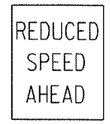
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5A



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

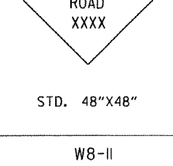
R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

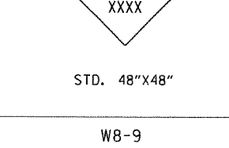
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



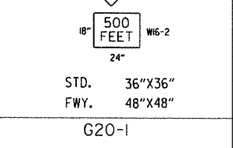
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



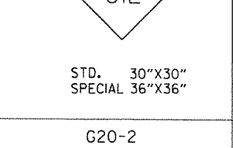
48"X30"

R11-3A



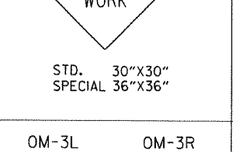
60"X30"

R11-4



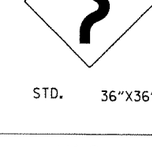
60"X30"

RSP-1



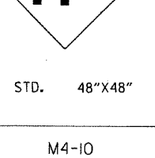
48"X30"

W1-1



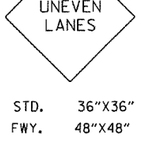
STD. 36"X36"
FWY. 48"X48"

W1-2



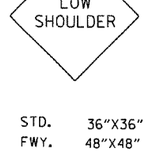
STD. 36"X36"
FWY. 48"X48"

W1-3



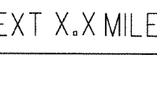
STD. 48"X48"

W1-4



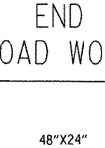
STD. 48"X48"

W1-6



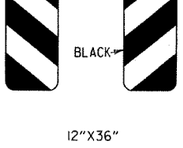
STD. 48"X24"
SPECIAL 60"X30"

W1-8



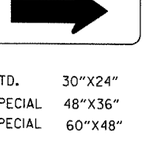
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-6b

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.

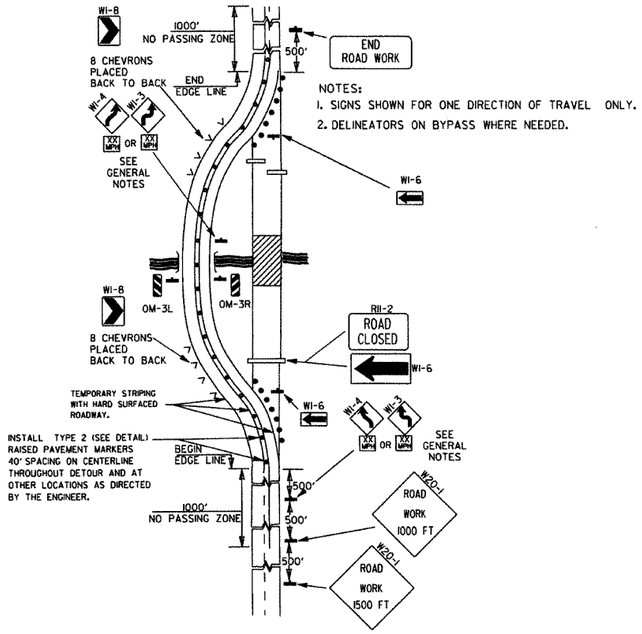
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY 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

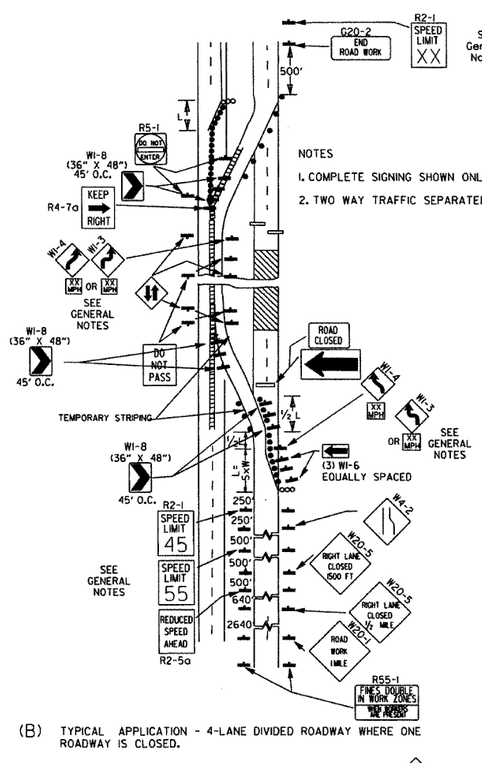
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



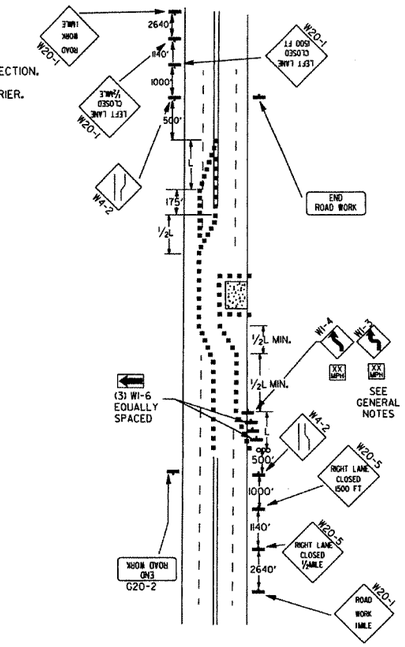
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

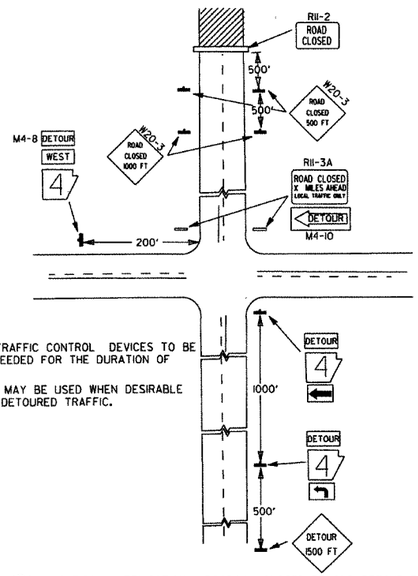


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.

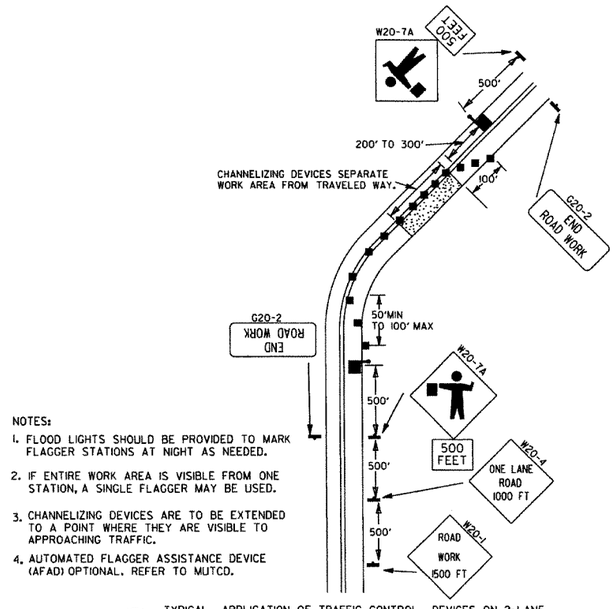


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



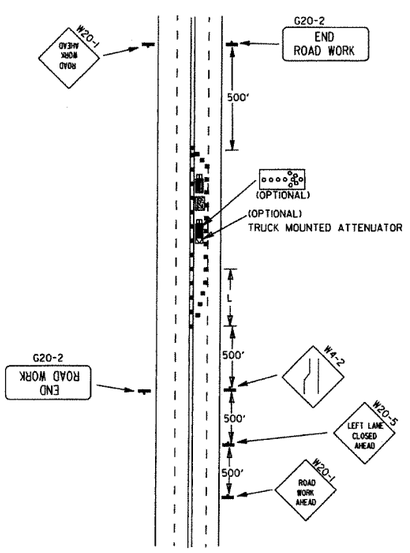
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.

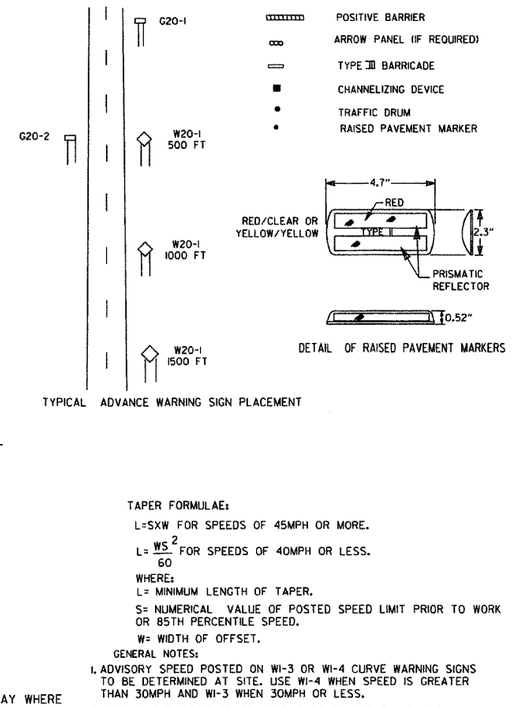


NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE 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.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

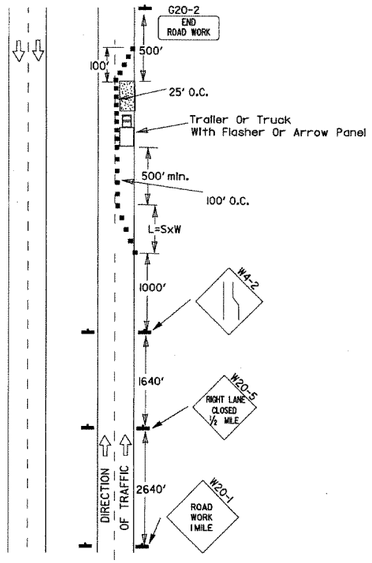
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

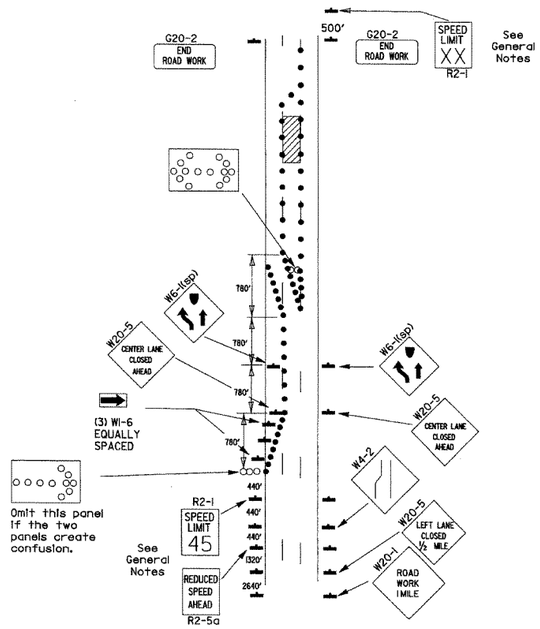
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

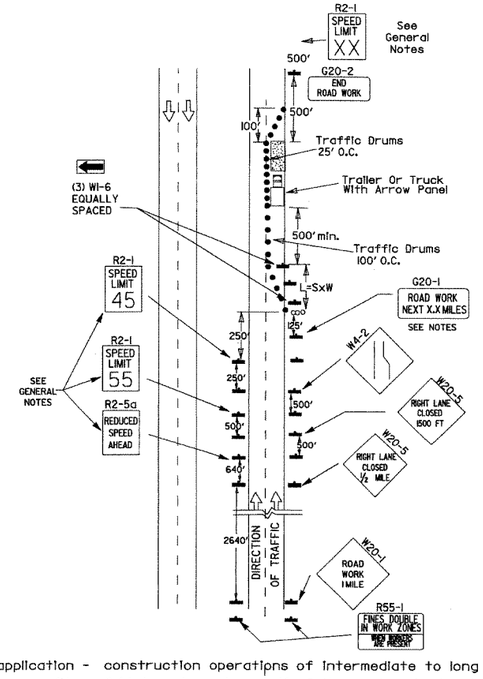
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (If Required)

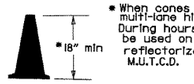
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

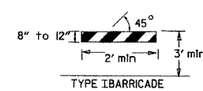
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph 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 R2-155mph 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



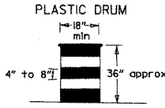
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

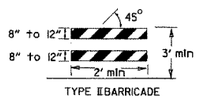
CONES



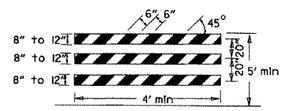
TYPE I BARRICADE

PLASTIC DRUM



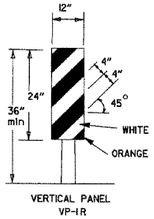


TYPE II BARRICADE



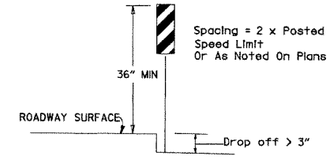
TYPE III BARRICADE

NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT



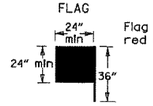
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

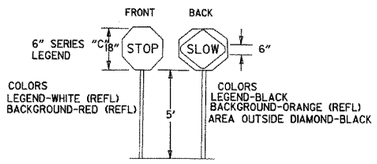
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

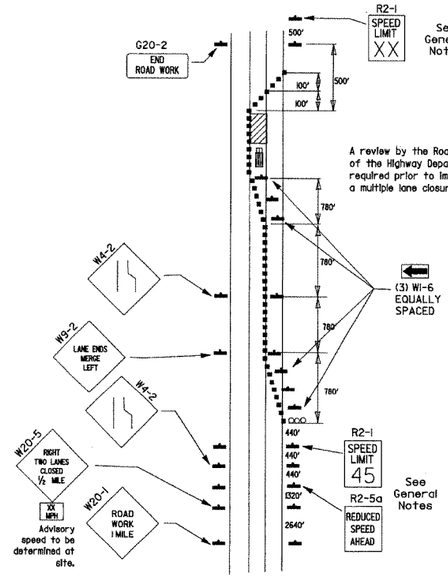
FLAG



Flag shall be of good grade red material

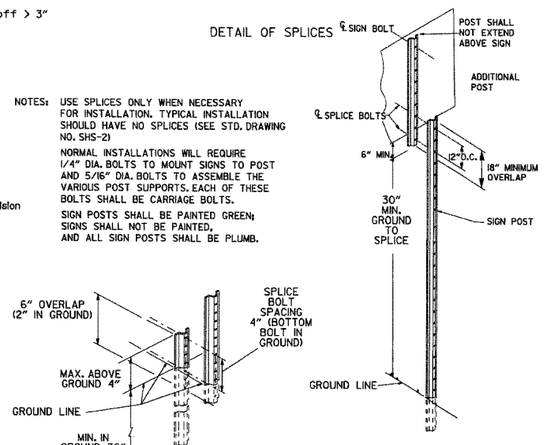
STOP SLOW PADDLE





(D) Typical application - closing multiple lanes of a multilane highway.

DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

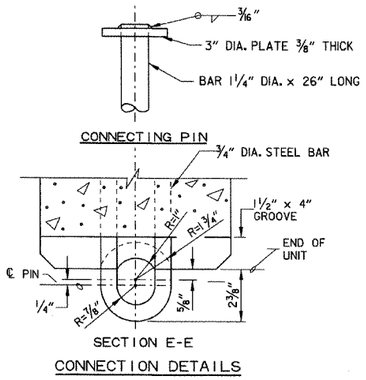
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

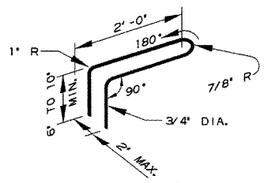
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

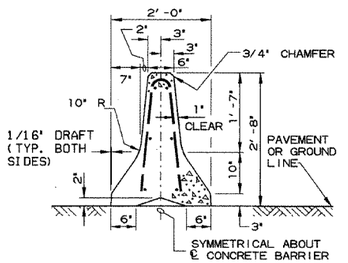
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-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"



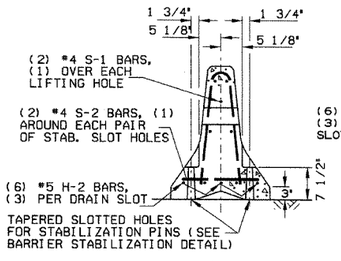
CONNECTION DETAILS



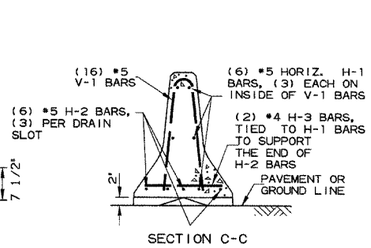
CONNECT ION LOOP



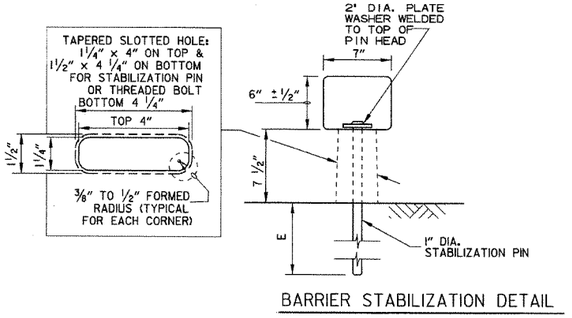
SECTION A-A



SECTION B-B



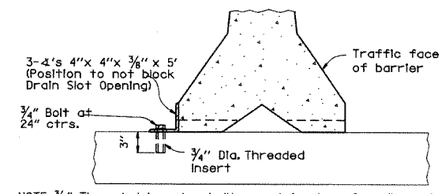
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

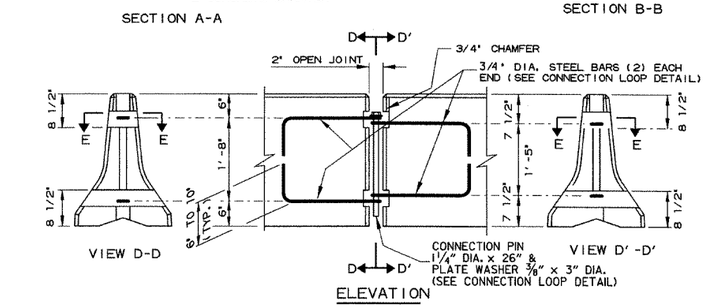
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



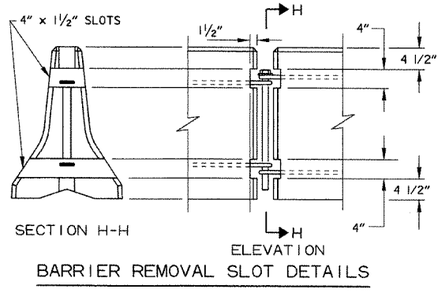
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

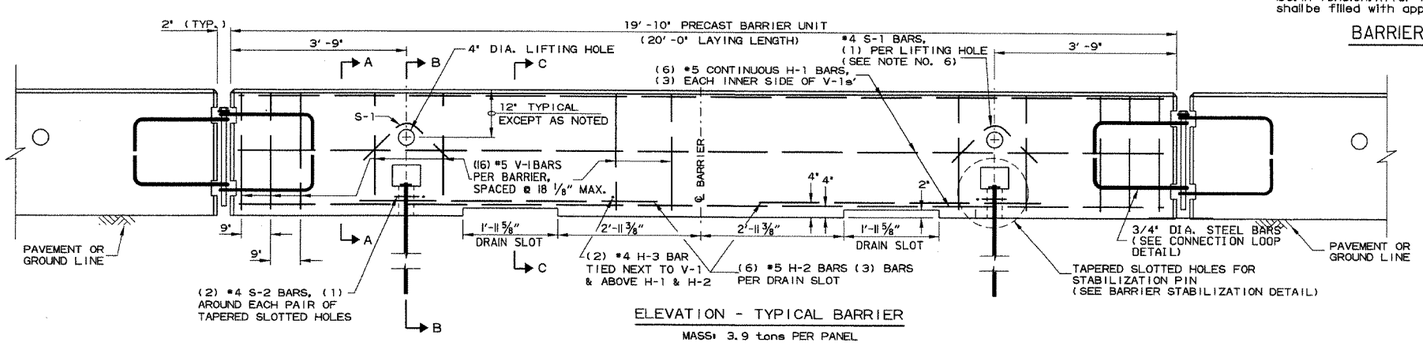
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

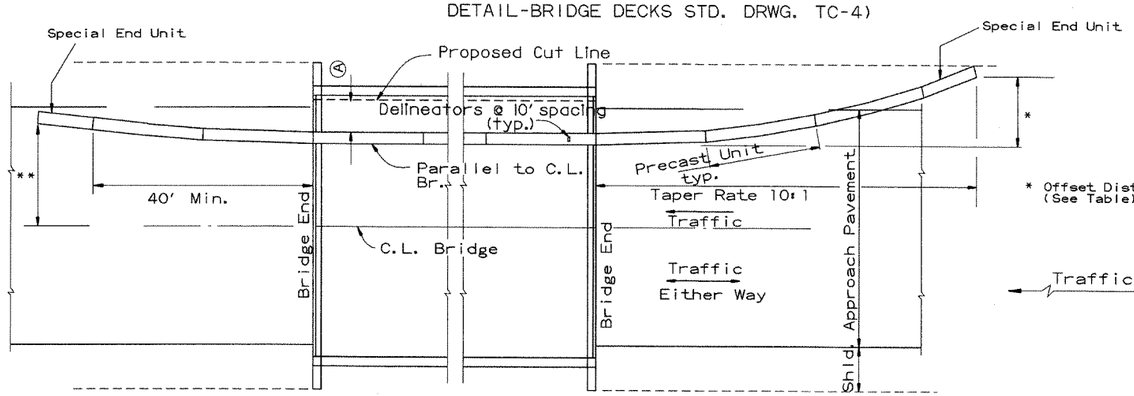
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

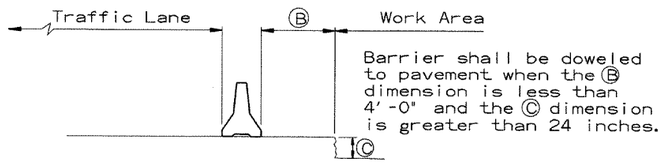
STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

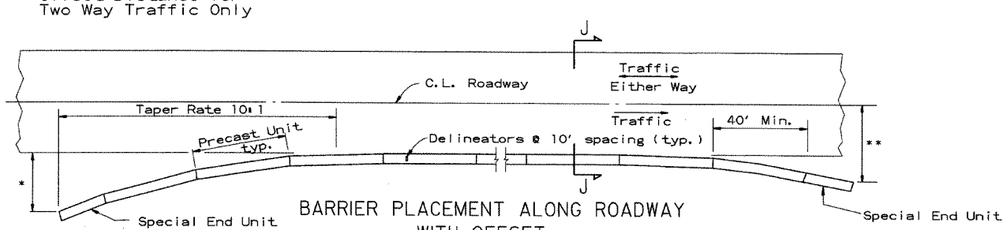
No Scale



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

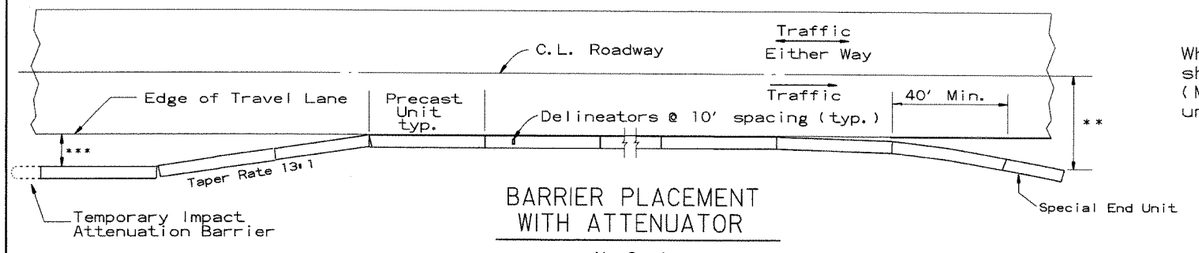
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

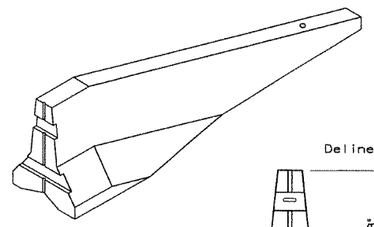


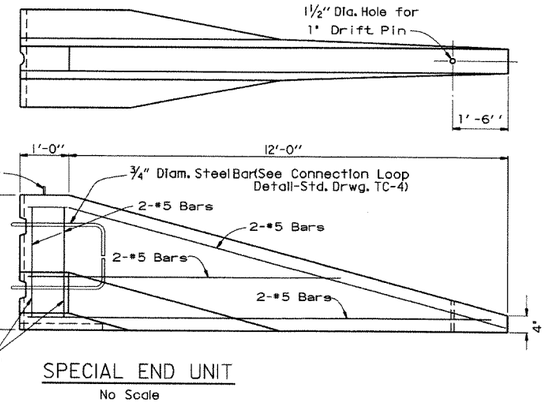
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only





SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

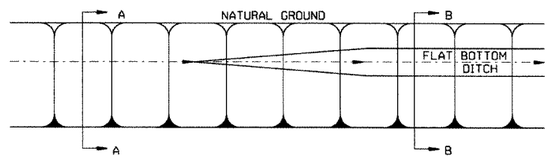
ARKANSAS STATE HIGHWAY COMMISSION

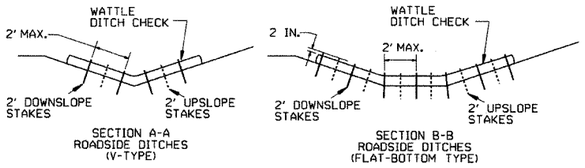
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

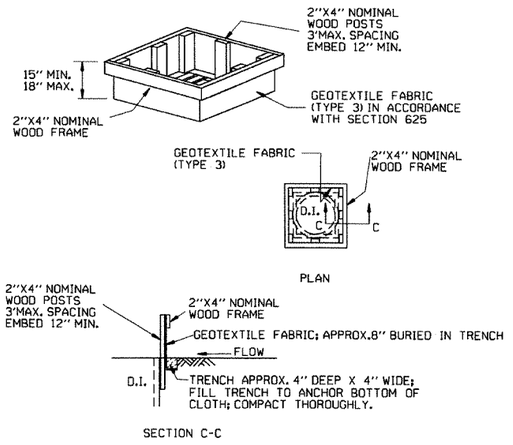
GENERAL NOTES

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

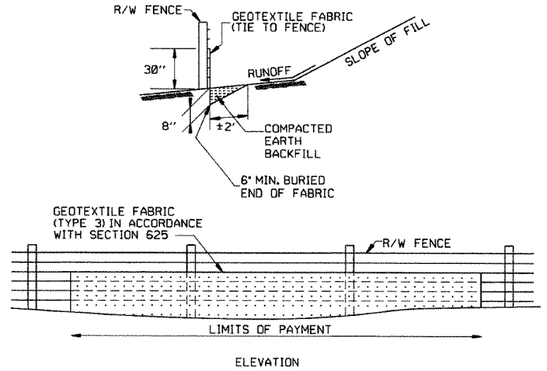




WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

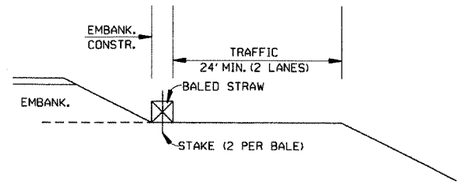
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

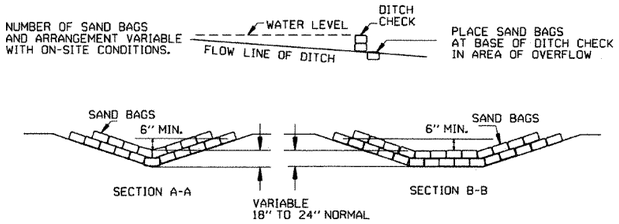
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

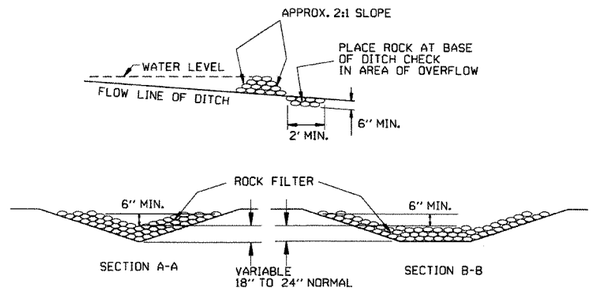
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



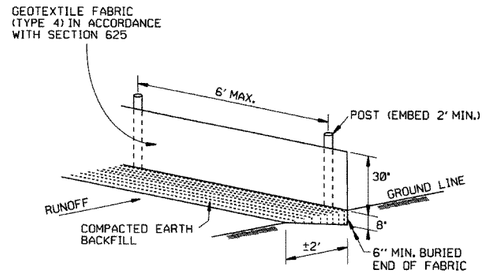
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

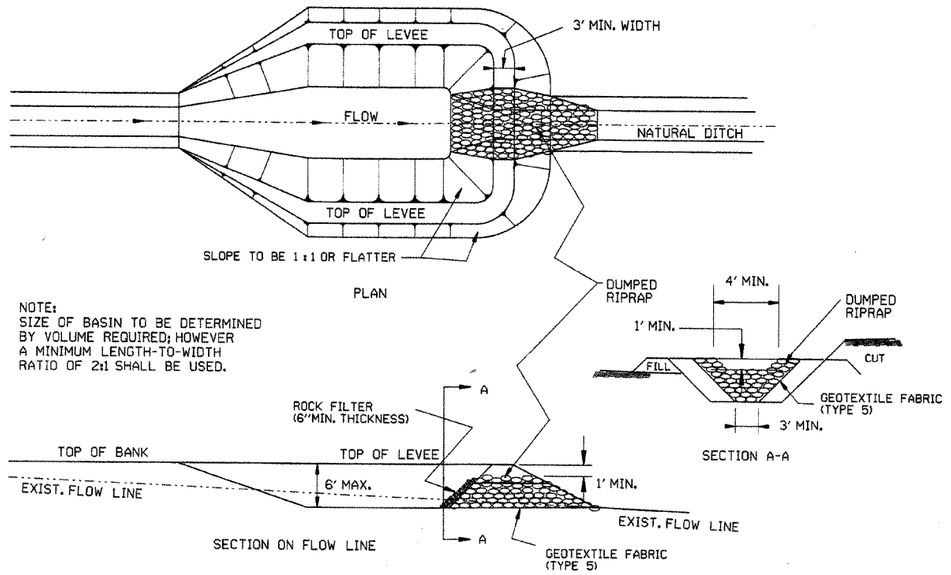
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

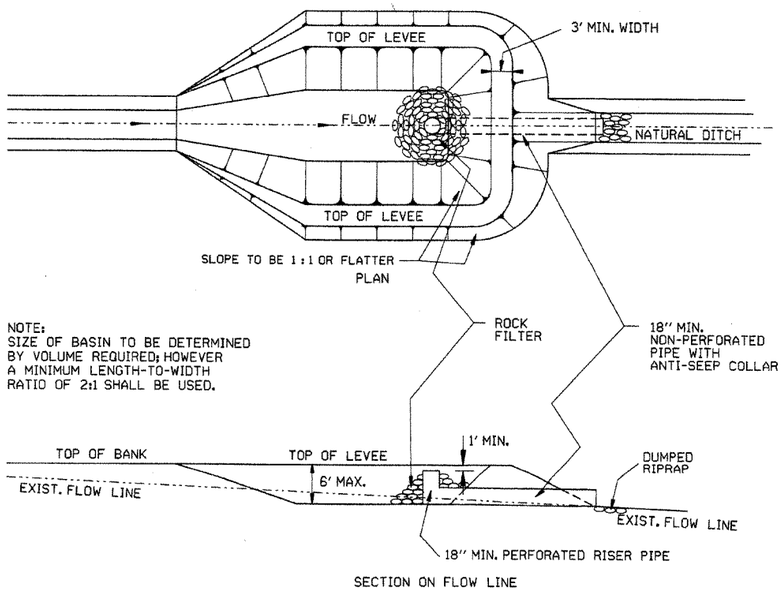
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

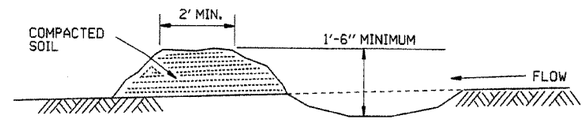
STANDARD DRAWING TEC-1



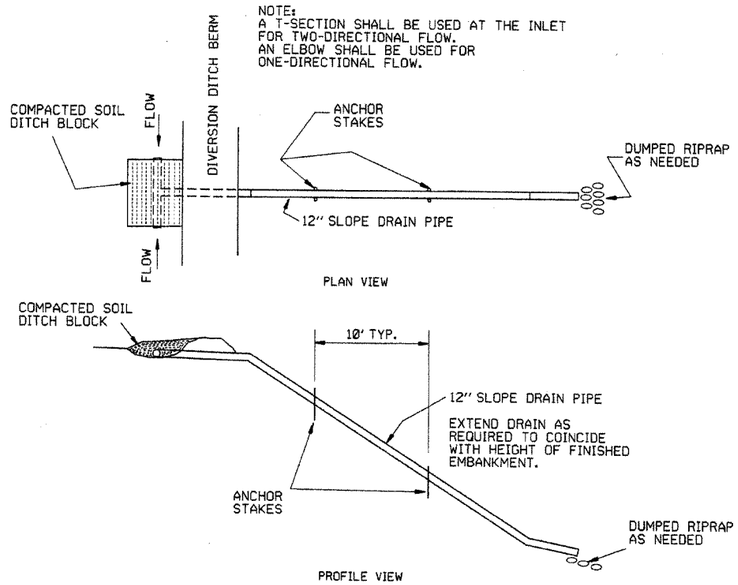
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



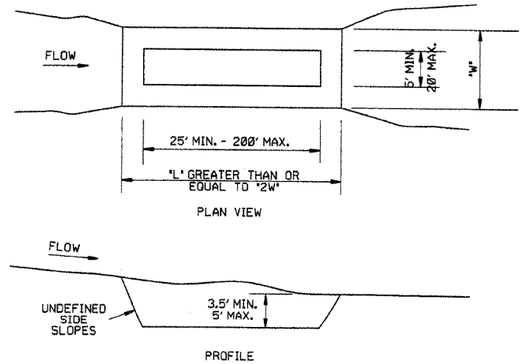
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

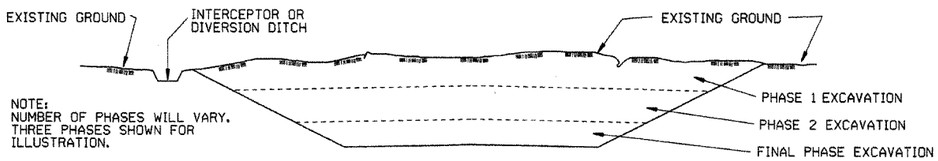
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



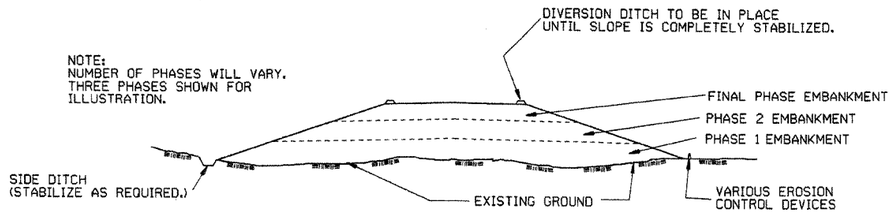
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

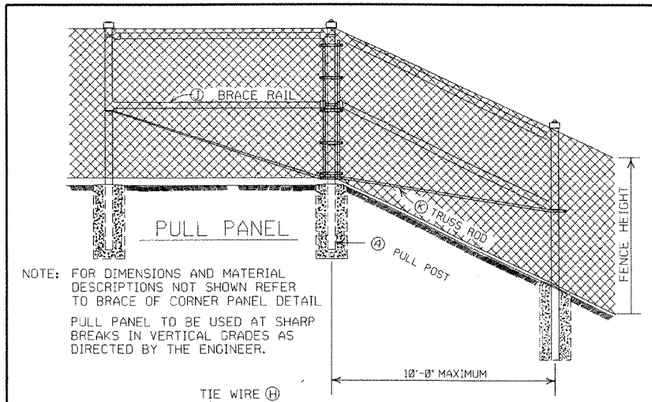
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

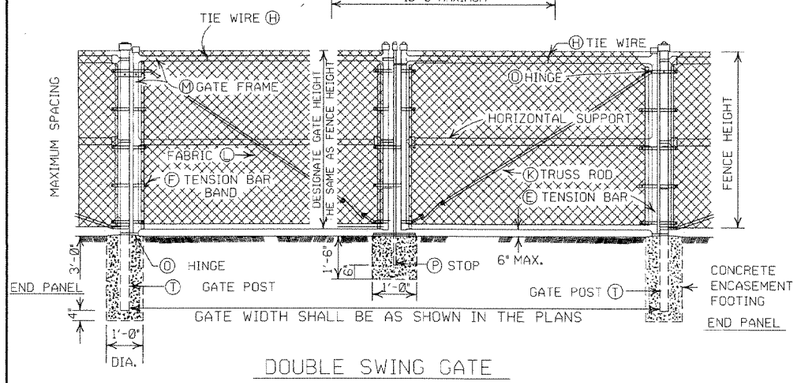
stdtec3.dgn



PULL PANEL

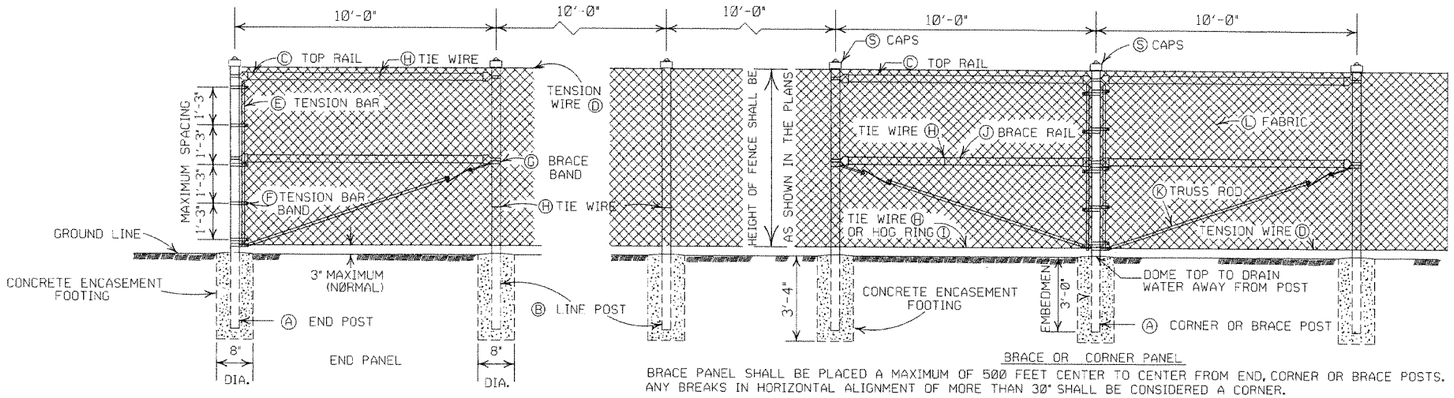
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



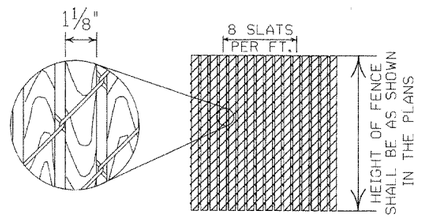
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

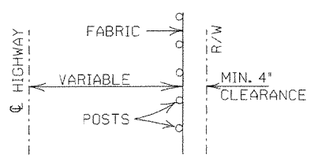
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

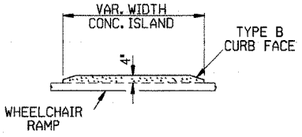
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

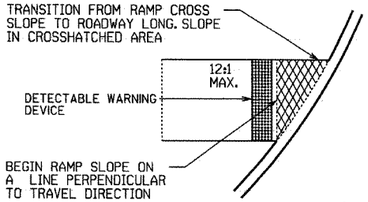
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3



CONCRETE ISLAND DETAIL



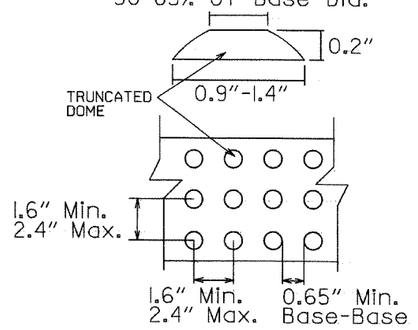
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

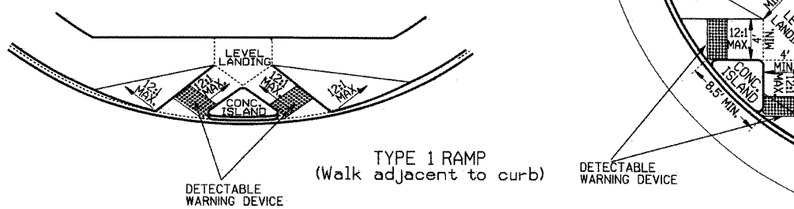
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

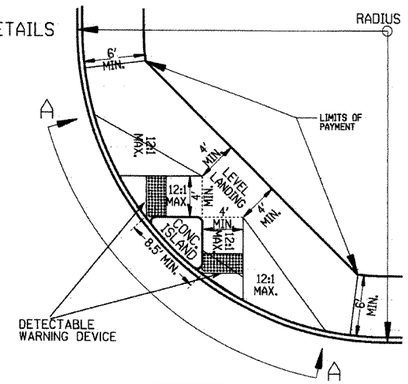
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

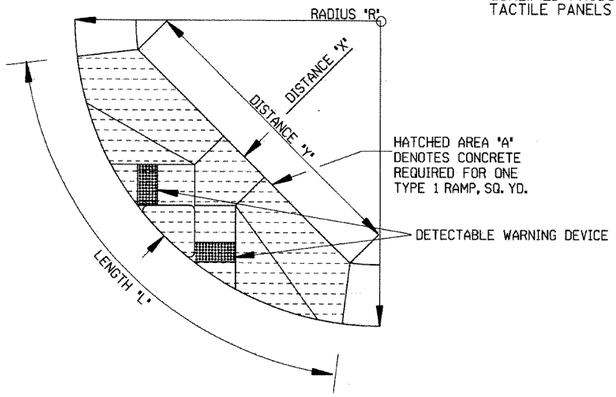


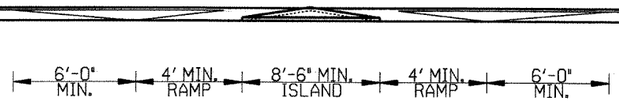
DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)





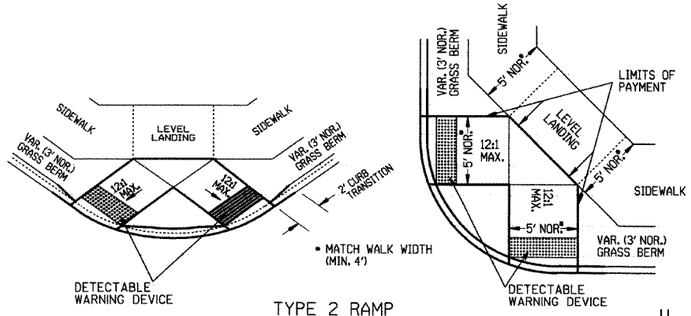


SECTION A-A

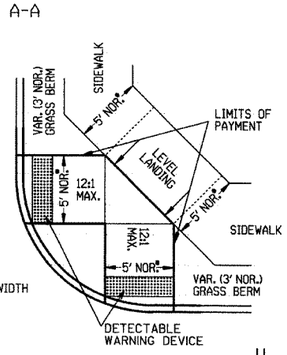
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

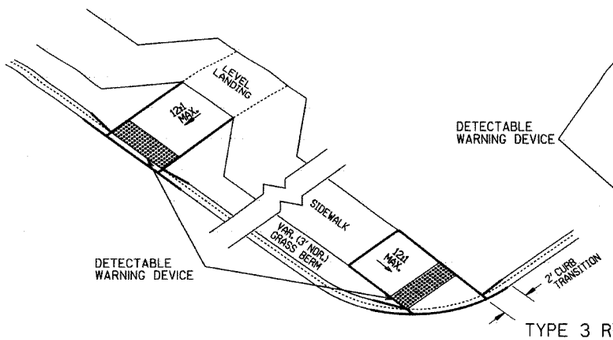
GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

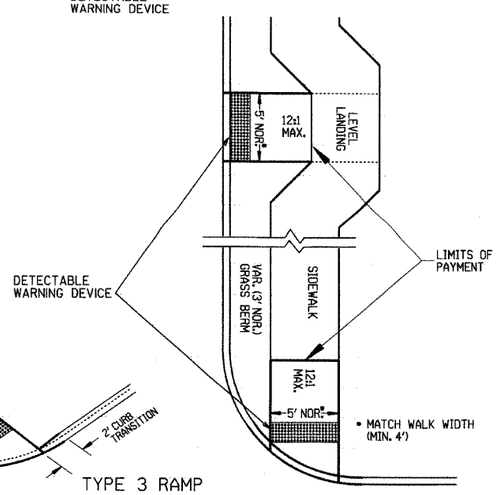


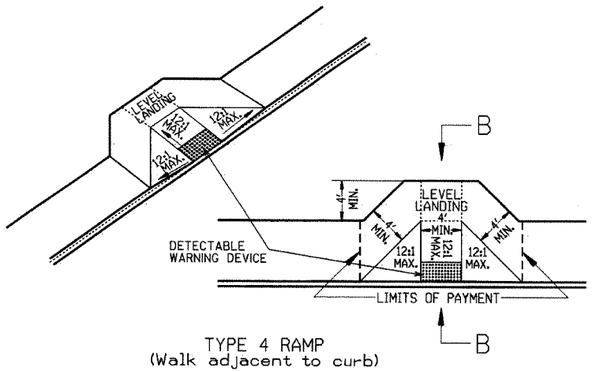
TYPE 2 RAMP



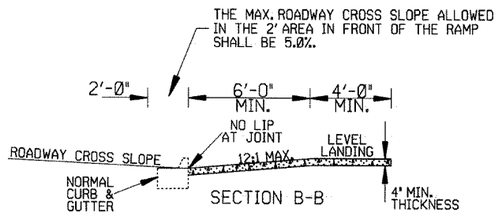


TYPE 3 RAMP





TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

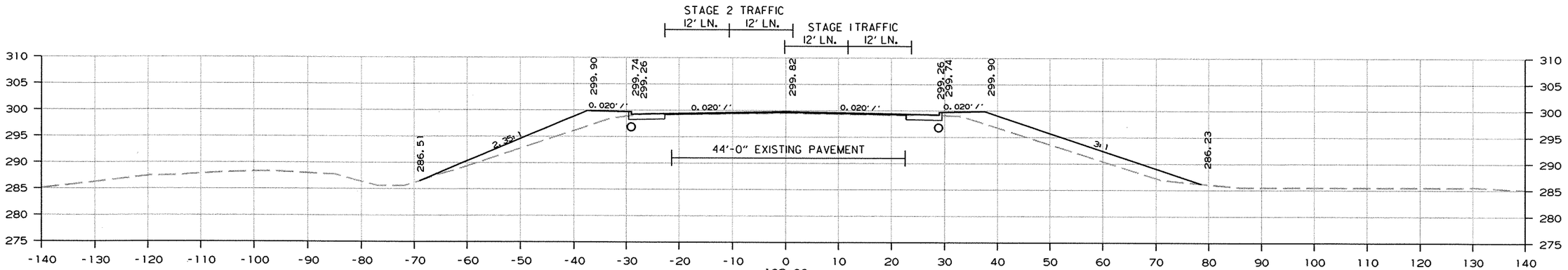
STANDARD DRAWING WR-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	113	126

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2

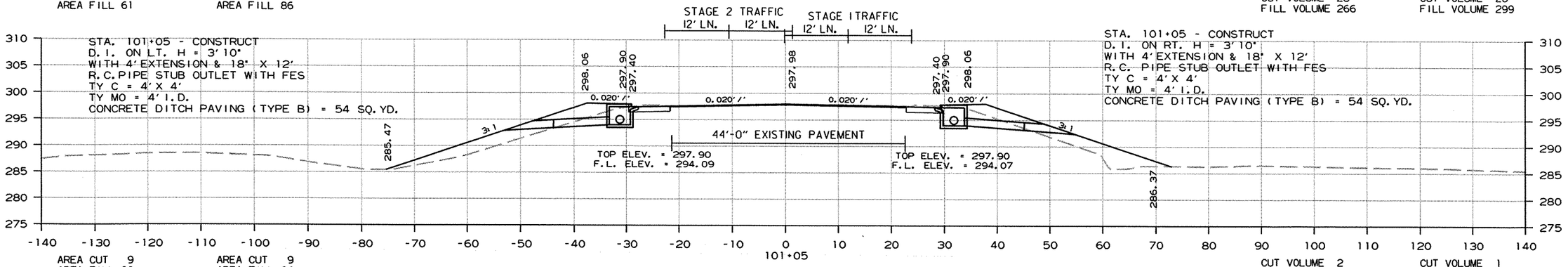


AREA CUT 7
AREA FILL 61

AREA CUT 6
AREA FILL 86

CUT VOLUME 28
FILL VOLUME 266

CUT VOLUME 26
FILL VOLUME 299

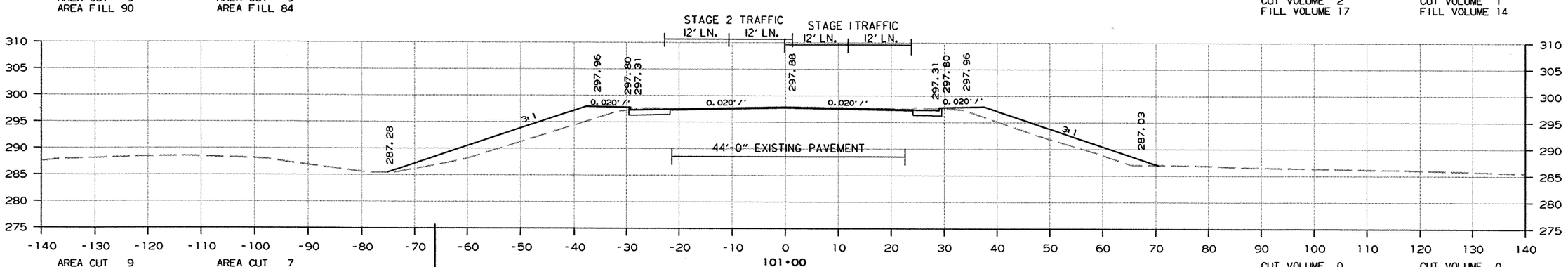


AREA CUT 9
AREA FILL 90

AREA CUT 9
AREA FILL 84

CUT VOLUME 2
FILL VOLUME 17

CUT VOLUME 1
FILL VOLUME 14



AREA CUT 9
AREA FILL 91

AREA CUT 7
AREA FILL 62

STA. 99+82.00 - BEGIN
JOB 030388
LOG MILE 14.39

CUT VOLUME 0
FILL VOLUME 0

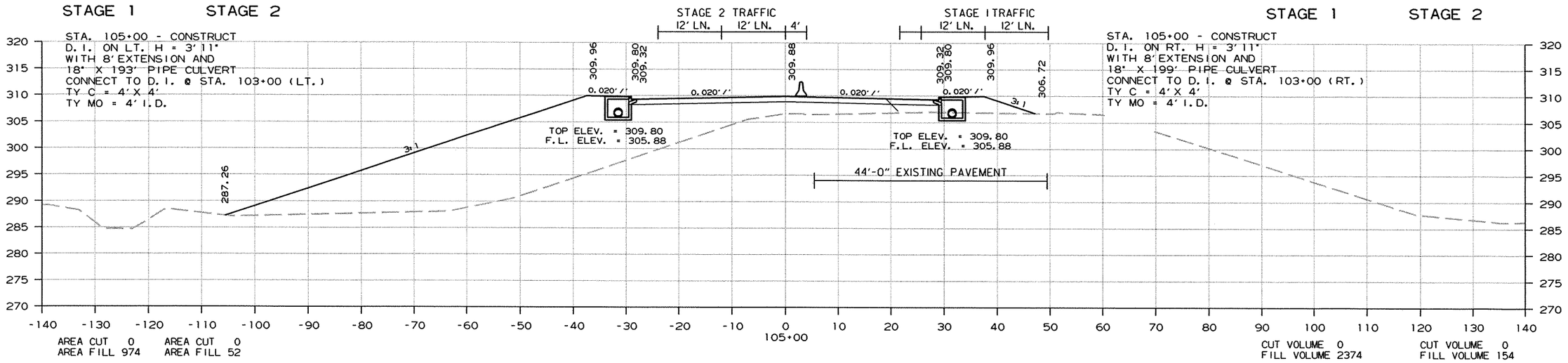
CUT VOLUME 0
FILL VOLUME 0

HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 101+00 TO STA. 102+00

R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	114	126

(2) CROSS SECTIONS



HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 103+00 TO STA. 105+00

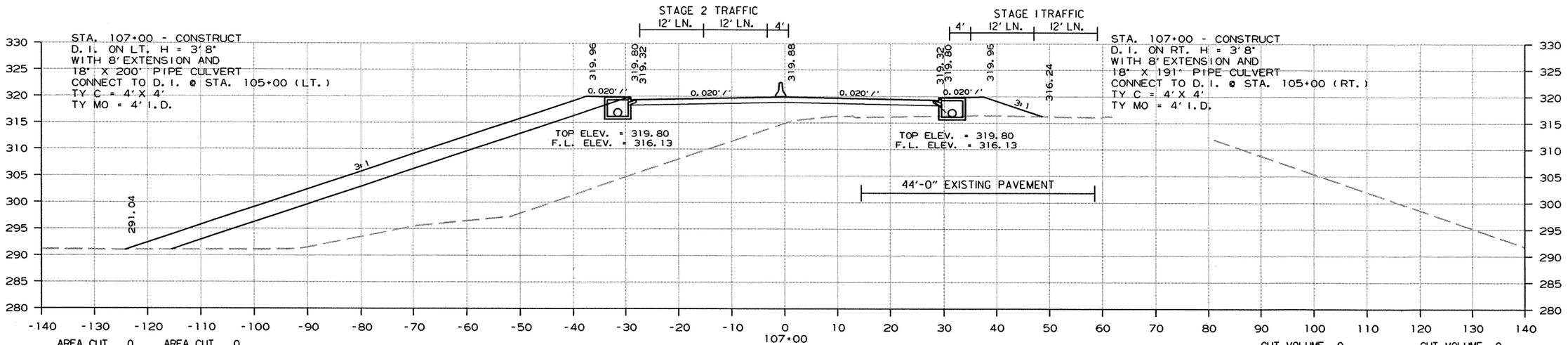
R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	115	126

(2) CROSS SECTIONS

STAGE 1 STAGE 2 ←

STAGE 1 → STAGE 2



HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 106+00 TO STA. 107+00

R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	116	126

(2) CROSS SECTIONS

STA. 107+09.13 - BRIDGE END
CONT. COMP. PLATE GIRDER UNIT BRIDGE
OVER UNION PACIFIC RAILROAD
58'-0" CLEAR ROADWAY
BRIDGE LENGTH 585.15 FT.
STA. 112+94.27 BRIDGE END

STAGE 1 STAGE 2

AREA CUT 0
AREA FILL 0

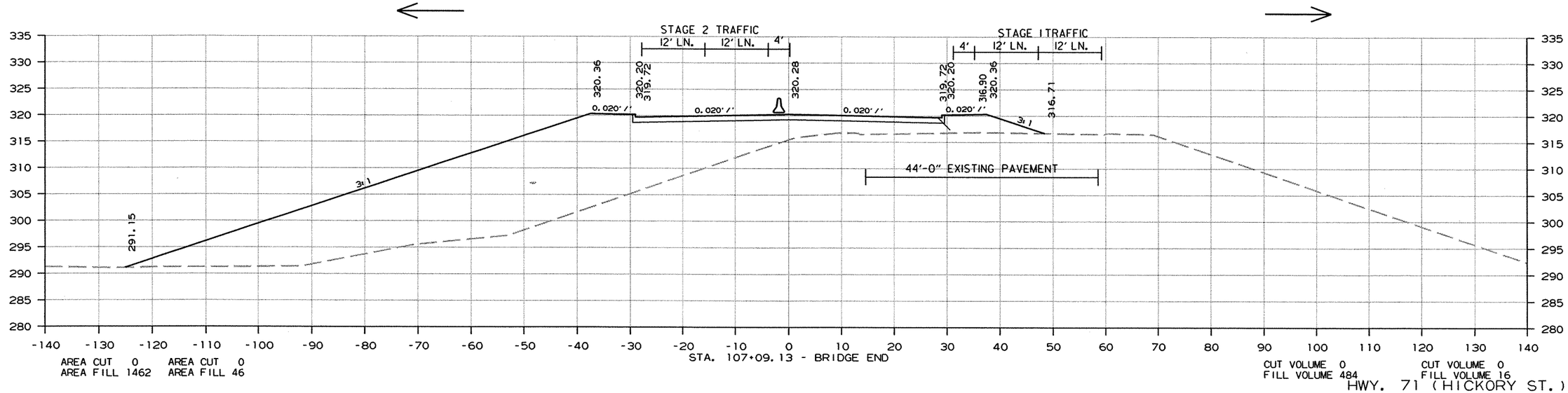
AREA CUT 0
AREA FILL 0

STA. 107+50 - TOE OF SLOPE

STAGE 1 STAGE 2

CUT VOLUME 0
FILL VOLUME 1110

CUT VOLUME 0
FILL VOLUME 35



AREA CUT 0
AREA FILL 1462

AREA CUT 0
AREA FILL 46

CUT VOLUME 0
FILL VOLUME 484

CUT VOLUME 0
FILL VOLUME 16

HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 107+09.13

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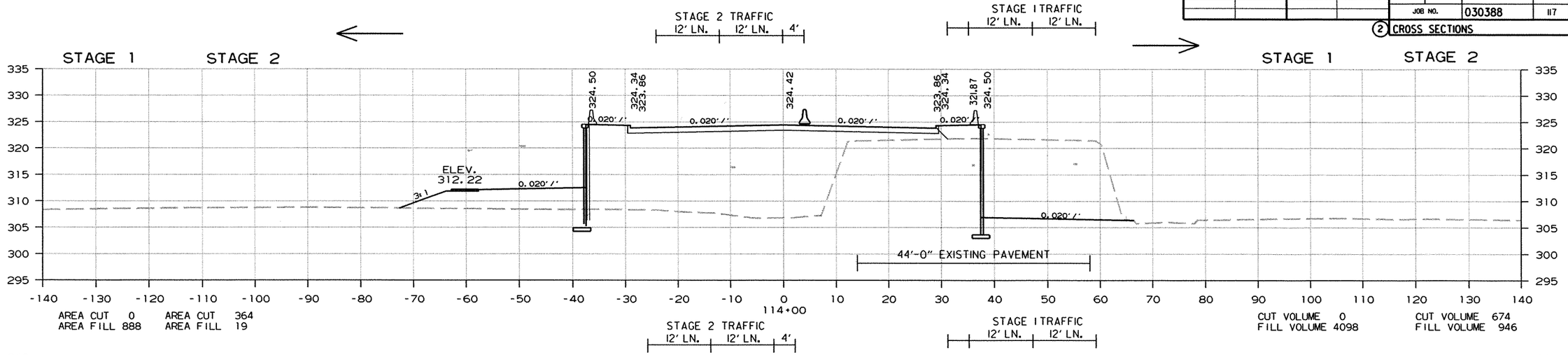
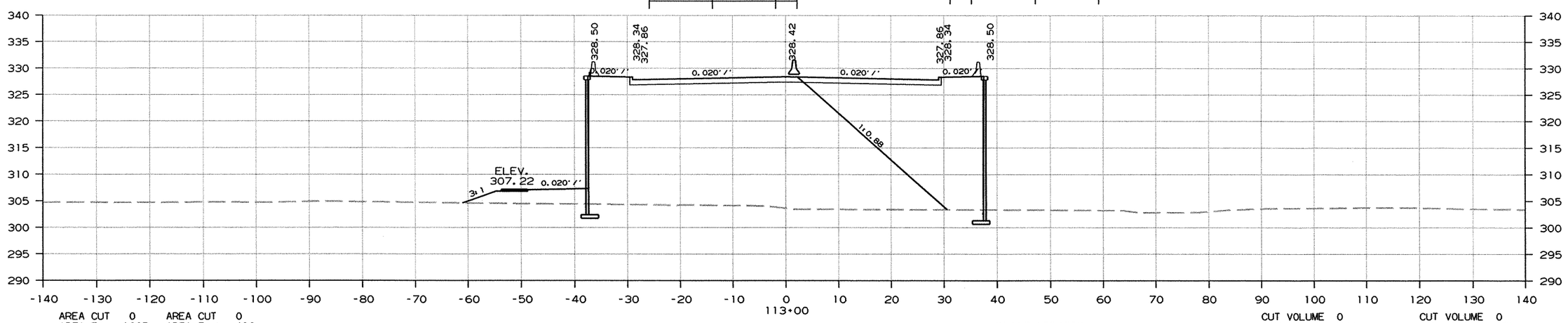
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	117	126

(2) CROSS SECTIONS



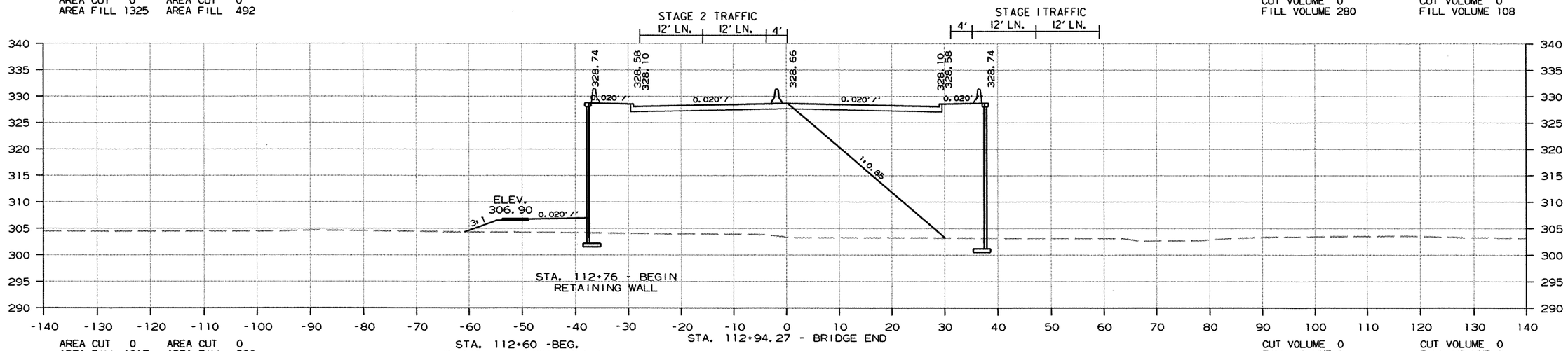
AREA CUT 0 AREA CUT 364
AREA FILL 888 AREA FILL 19

CUT VOLUME 0 CUT VOLUME 674
FILL VOLUME 4098 FILL VOLUME 946



AREA CUT 0 AREA CUT 0
AREA FILL 1325 AREA FILL 492

CUT VOLUME 0 CUT VOLUME 0
FILL VOLUME 280 FILL VOLUME 108



STA. 112+76 - BEGIN
RETAINING WALL

AREA CUT 0 AREA CUT 0
AREA FILL 1317 AREA FILL 528

STA. 112+60 -BEG.
5.5% GRADE SIDEWALK ON RT.
MATCH ELEV. OF EXIST. BROAD ST. SIDEWALK
APPROX. ELEV. 305.02'

STA. 112+94.27 - BRIDGE END

CUT VOLUME 0 CUT VOLUME 0
FILL VOLUME 0 FILL VOLUME 0

HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 112+94 TO STA. 114+00

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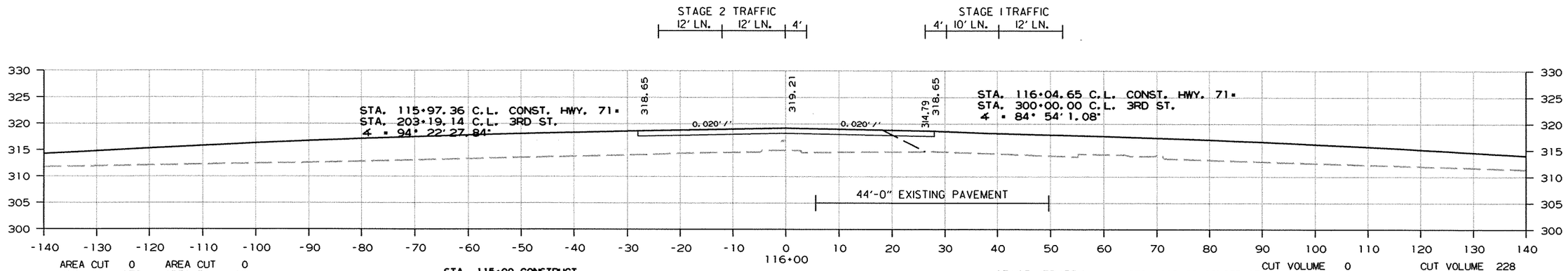
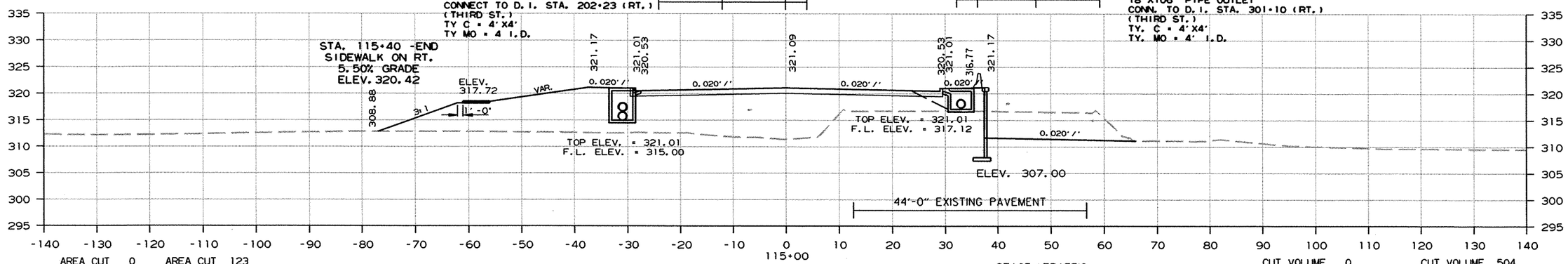
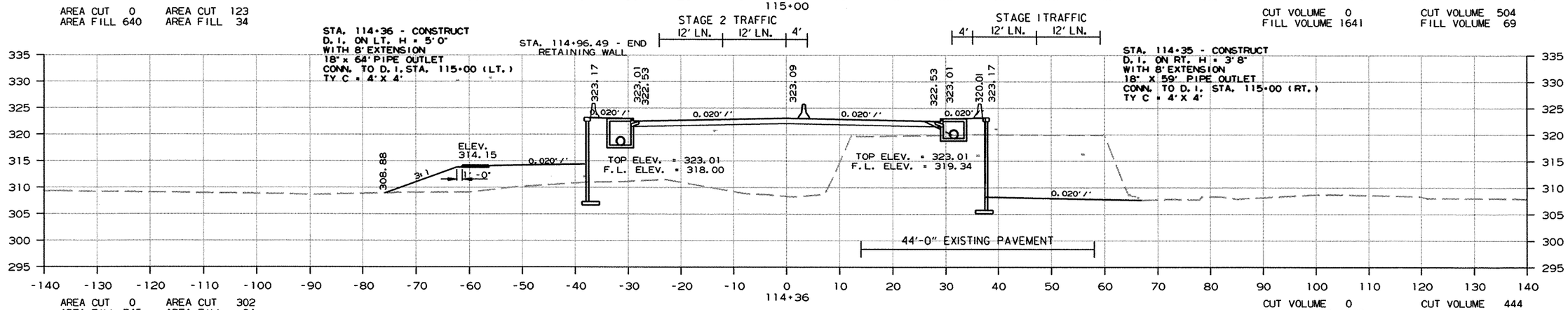
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	118	126

(2) CROSS SECTIONS

STAGE 1 STAGE 2 ← → STAGE 1 STAGE 2







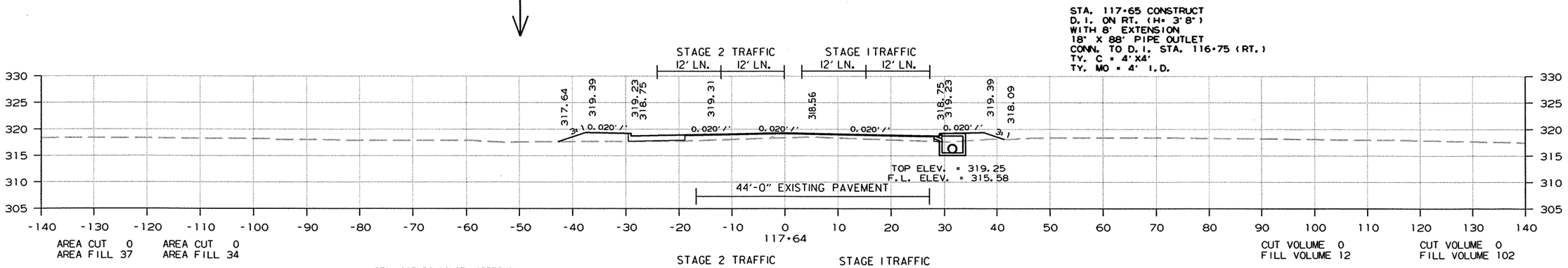
HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 114+36 TO STA. 116+00

R030388.DGN 8/19/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	119	126

(2) CROSS SECTIONS

STAGE 1 STAGE 2 → ↓ → STAGE 1 STAGE 2



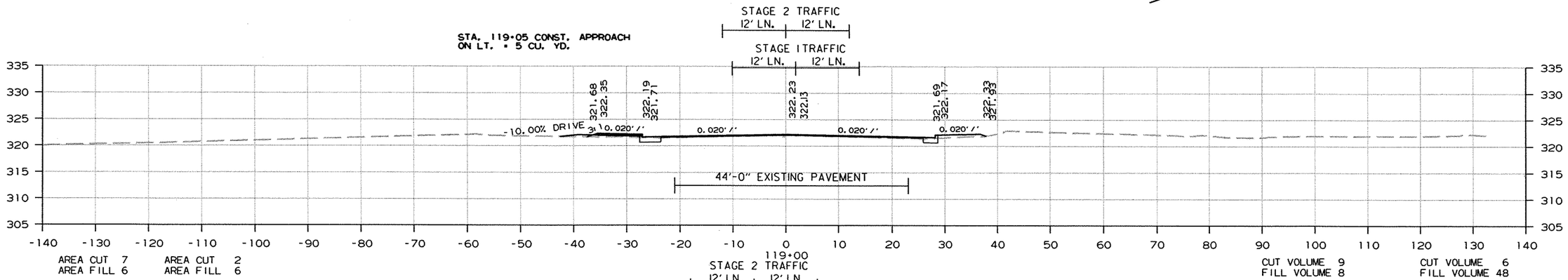
HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 117+00 TO STA. 117+64

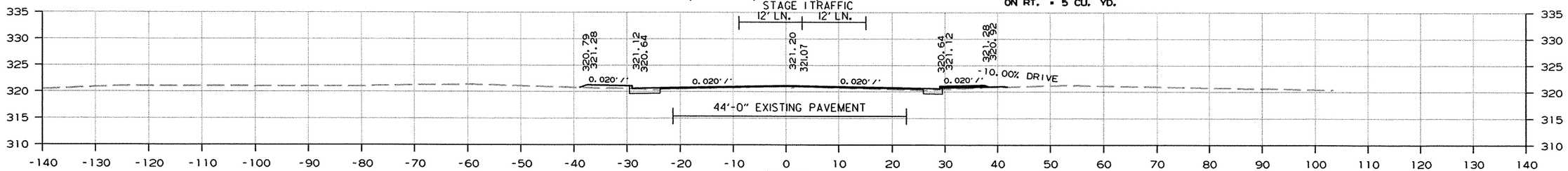
R030388.DGN 8/19/2013

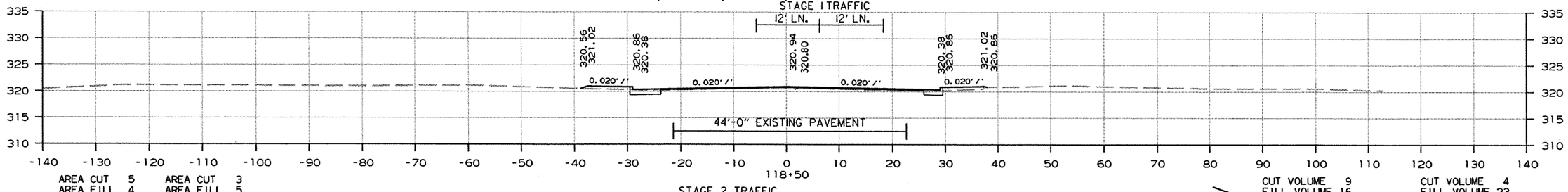
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	120	126

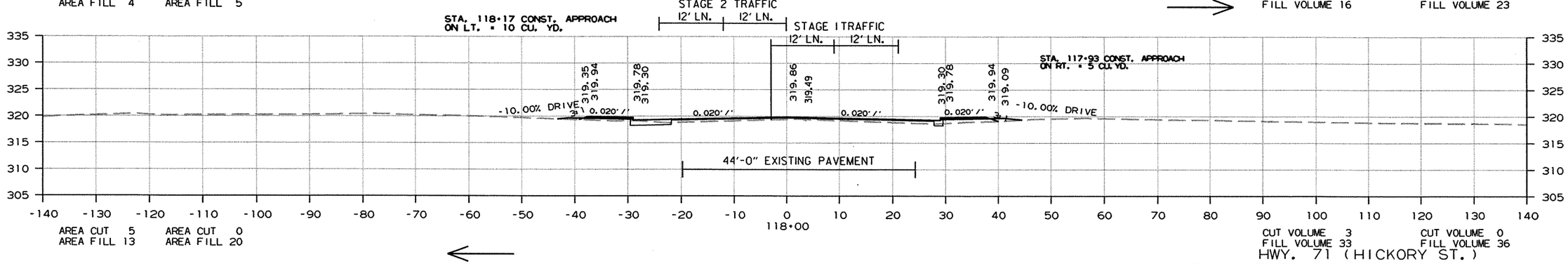
(2) CROSS SECTIONS

STAGE 1 STAGE 2 ← STAGE 1 STAGE 2 →









HWY. 71 (HICKORY ST.)

CROSS SECTION STA. 118+00 TO STA. 119+00

R030388.DGN 8/19/2013

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				6	ARK.			
				JOB NO.		030388	121	126

(2) CROSS SECTIONS

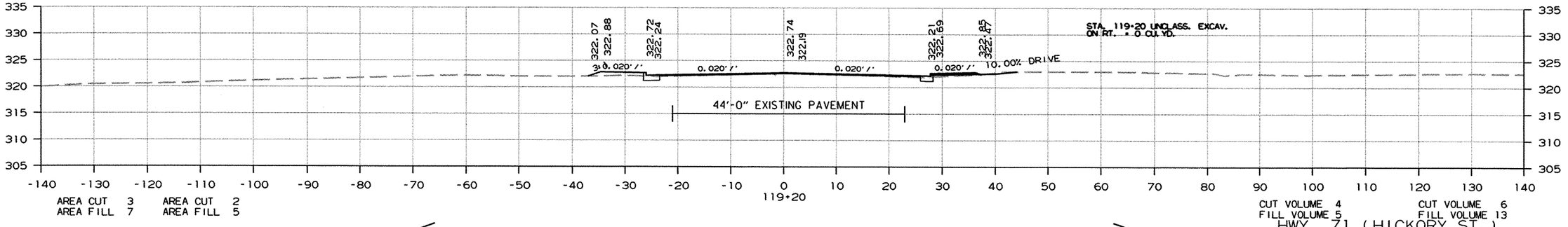
STAGE 1 STAGE 2

STAGE 1 STAGE 2

AREA CUT 20 AREA CUT 1
AREA FILL 14 AREA FILL 5

STA. 119+57 - END
JOB 030388

CUT VOLUME 17 CUT VOLUME 3
FILL VOLUME 16 FILL VOLUME 12



AREA CUT 3 AREA CUT 2
AREA FILL 7 AREA FILL 5

119+20

CUT VOLUME 4 CUT VOLUME 6
FILL VOLUME 5 FILL VOLUME 13

HWY. 71 (HICKORY ST.)
CROSS SECTION STA. 119+20 TO STA. 119+57

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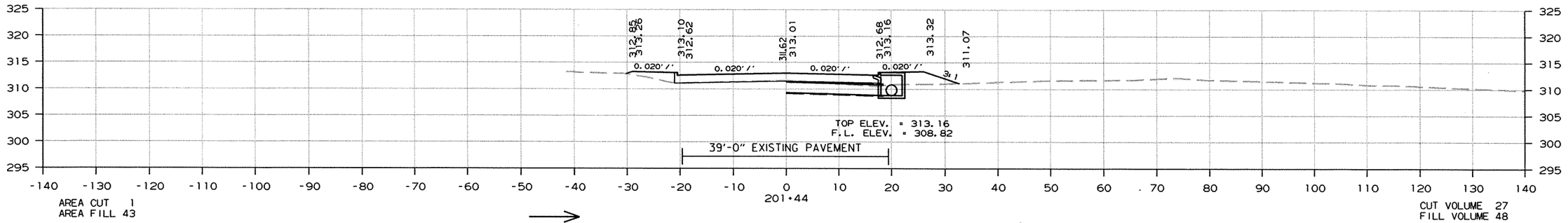
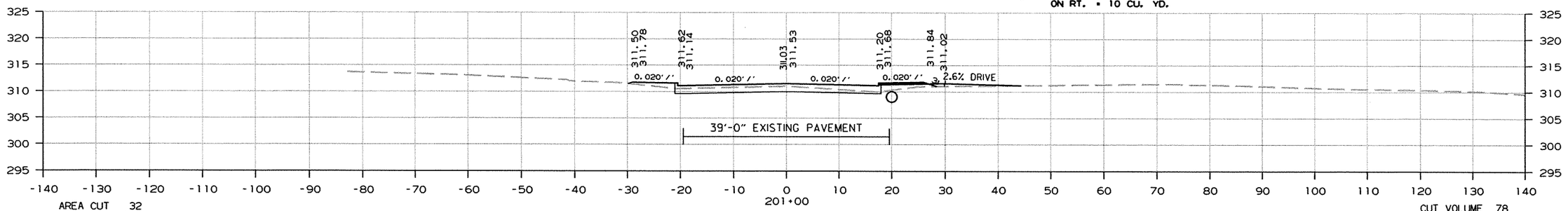
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	122	126

(2) CROSS SECTIONS

STA. 201+44 (3RD. ST.) - CONSTRUCT D. I. ON RT. H = 4' 4" WITH 8' EXTENSION & 24" X 90' PIPE CULVERT CONNECT TO D. I. @ STA. 200+50 (3RD. ST.)(RT.) TY C = 4' x 4' TY MO = 4' I. D.

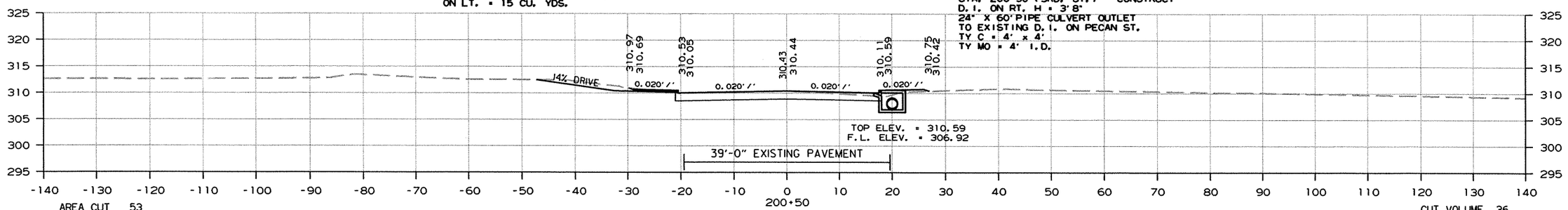


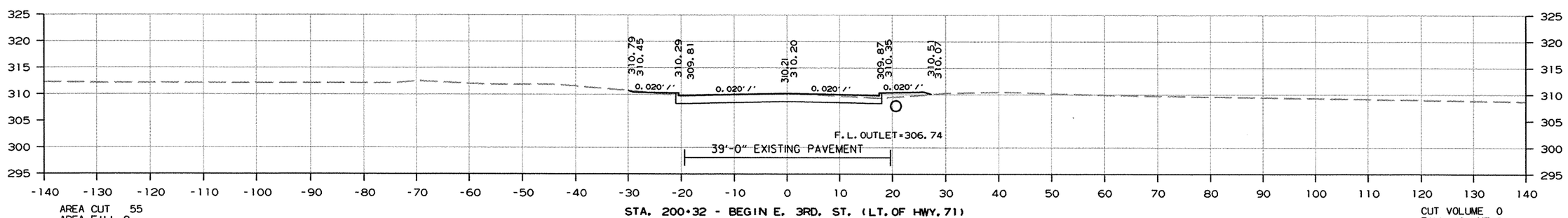
STA. 200+95 CONST. APPROACH ON RT. = 10 CU. YD.



STA. 200+50 CONST. APPROACH ON LT. = 15 CU. YDS.

STA. 200+50 (3RD. ST.) - CONSTRUCT D. I. ON RT. H = 3'8" 24" X 60' PIPE CULVERT OUTLET TO EXISTING D. I. ON PECAN ST. TY C = 4' x 4' TY MO = 4' I. D.





STA. 200+32 - BEGIN E. 3RD. ST. (LT. OF HWY. 71)

CUT VOLUME 0
FILL VOLUME 0

3RD ST. (LT. OF HWY. 71 C.L.)
CROSS SECTION STA. 200+32 TO STA. 201+44

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				6	ARK.			
				JOB NO.		030388	123	126

(2) CROSS SECTIONS

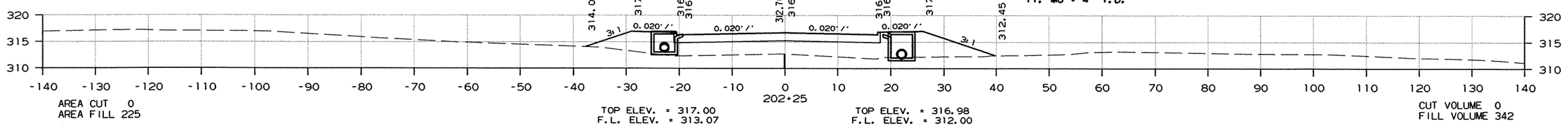
AREA CUT 0
AREA FILL 225

STA. 202+91.14 - LT. LANE EDGE OF HWY. 71
END E. 3RD ST.(LT.) IMPROVEMENTS

CUT VOLUME 0
FILL VOLUME 275

STA. 202+27 (3RD ST.) - CONSTRUCT
D. I. ON LT. (H=3'11")
18"X41' PIPE OUTLET
CONN. TO D. I. STA. 201+82 (LT.)
TY. C = 4'X4'
TY. MO = 4' I.D.

STA. 202+23 (3RD ST.)- CONSTRUCT
D. I. ON RT. (H = 5'0")
18"X 74' PIPE OUTLET
CONN. TO D. I. STA. 201+44 (3RD ST.)(RT.)
TY. C = 4'X4'
TY. MO = 4' I.D.



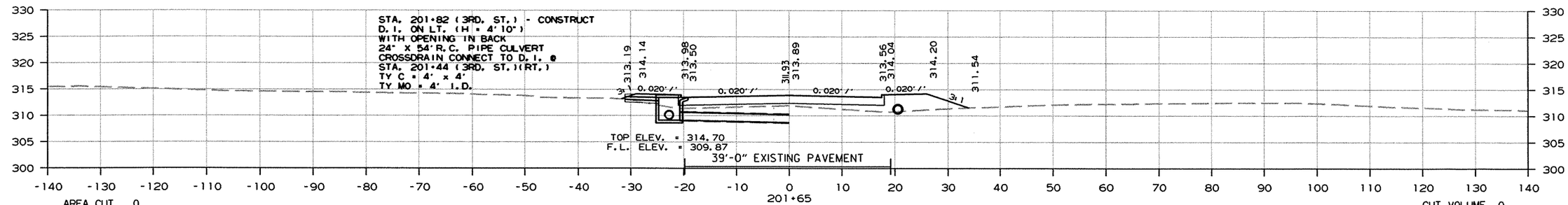
AREA CUT 0
AREA FILL 225

TOP ELEV. = 317.00
F.L. ELEV. = 313.07

TOP ELEV. = 316.98
F.L. ELEV. = 312.00

CUT VOLUME 0
FILL VOLUME 342

STA. 201+82 (3RD. ST.) - CONSTRUCT
D. I. ON LT. (H = 4'10")
WITH OPENING IN BACK
24" x 54' R. C. PIPE CULVERT
CROSSDRAIN CONNECT TO D. I. @
STA. 201+44 (3RD. ST.)(RT.)
TY C = 4' x 4'
TY MO = 4' I.D.



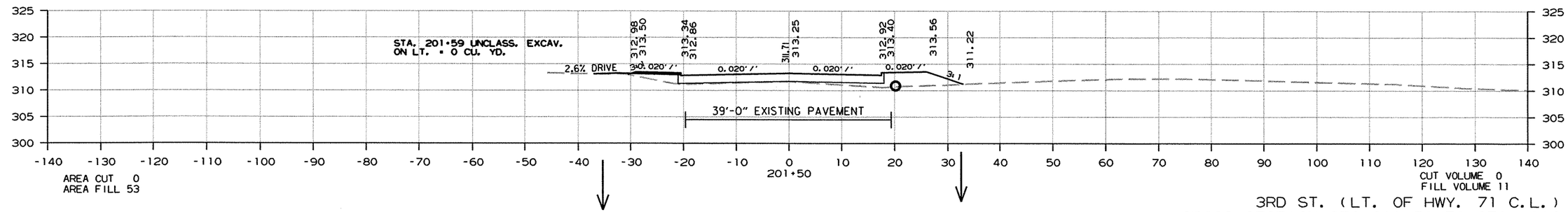
TOP ELEV. = 314.70
F.L. ELEV. = 309.87

39'-0" EXISTING PAVEMENT

AREA CUT 0
AREA FILL 83

CUT VOLUME 0
FILL VOLUME 38

STA. 201+59 UNCLASS. EXCAV.
ON LT. = 0 CU. YD.



39'-0" EXISTING PAVEMENT

AREA CUT 0
AREA FILL 53

CUT VOLUME 0
FILL VOLUME 11

3RD ST. (LT. OF HWY. 71 C.L.)
CROSS SECTION STA. 201+50 TO STA. 202+25

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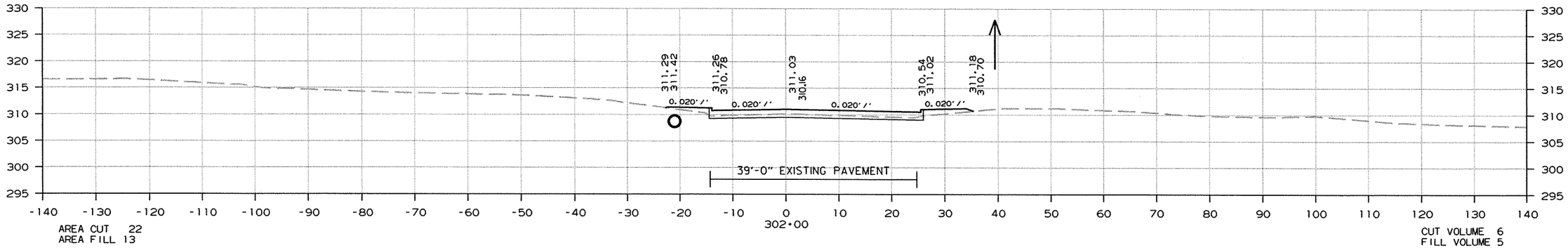
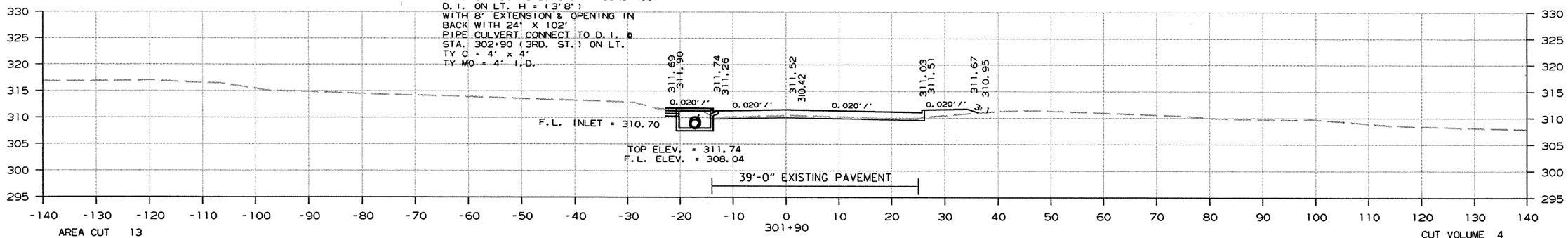
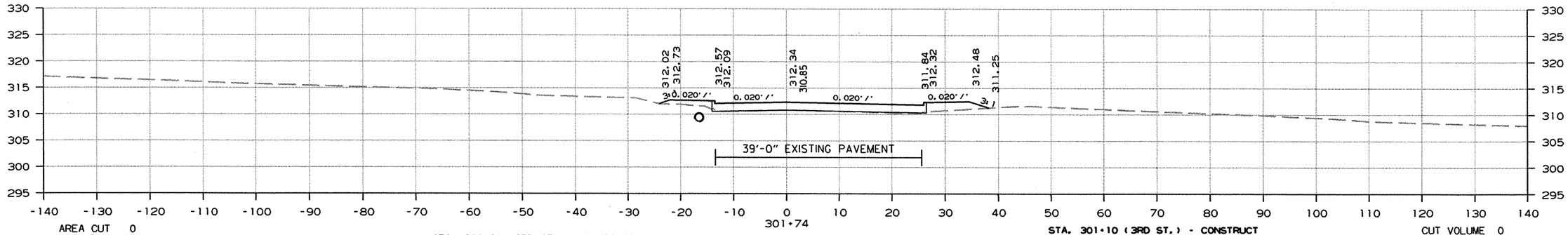
				6	ARK.			
				JOB NO.		030388	124	126

(2) CROSS SECTIONS



STA. 301+90 (3RD. ST.) - CONSTRUCT
D.I. ON LT. H = (3'8")
WITH 8' EXTENSION & OPENING IN
BACK WITH 24" X 102"
PIPE CULVERT CONNECT TO D.I. @
STA. 302+90 (3RD. ST.) ON LT.
TY C = 4' x 4'
TY MO = 4' I.D.

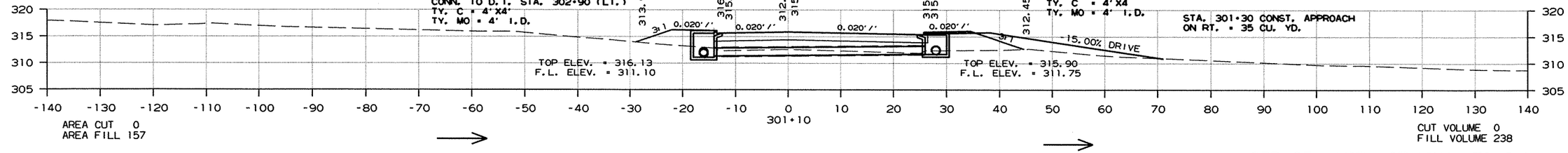




STA. 301+10 (3RD ST.)- CONSTRUCT
D.I. ON LT. (H = 5'0")
WITH 4' EXTENSION
18"X 76' PIPE OUTLET
CONN. TO D.I. STA. 302+90 (LT.)
TY. C = 4'X4'
TY. MO = 4' I.D.

STA. 301+10 (3RD ST.) - CONSTRUCT
D.I. ON RT. (H = 4'2")
WITH 8' EXTENSION
18" X 42' R.C. PIPE OUTLET
CONN. TO D.I. STA. 301+10 (3RD ST.)(LT.)
TY. C = 4'X4
TY. MO = 4' I.D.

STA. 301+30 CONST. APPROACH
ON RT. = 35 CU. YD.



STA. 300+28 - RT. LANE EDGE OF HWY. 71
BEGIN E. 3RD ST. (RT.)

3RD ST. (RT. OF HWY. 71 C.L.)
CROSS SECTION STA. 301+10 TO STA. 302+00

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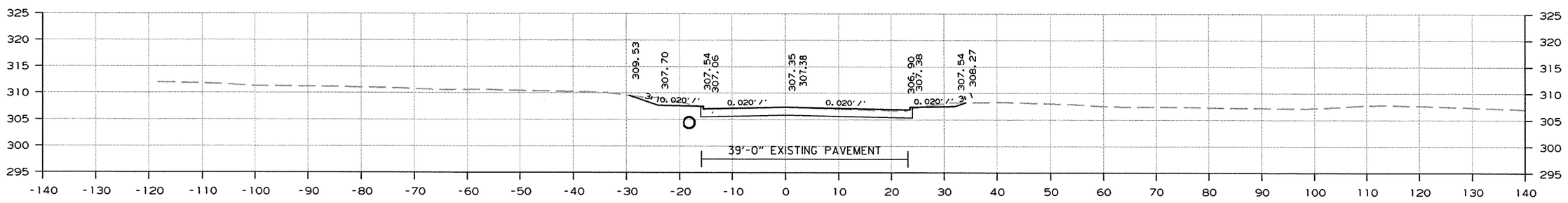
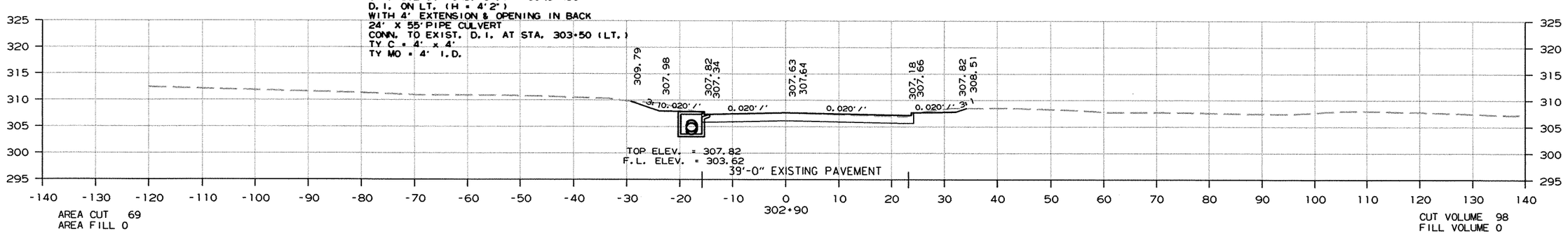
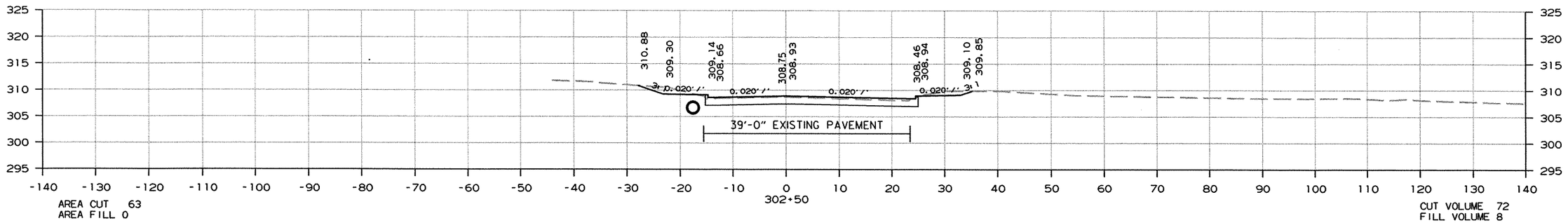
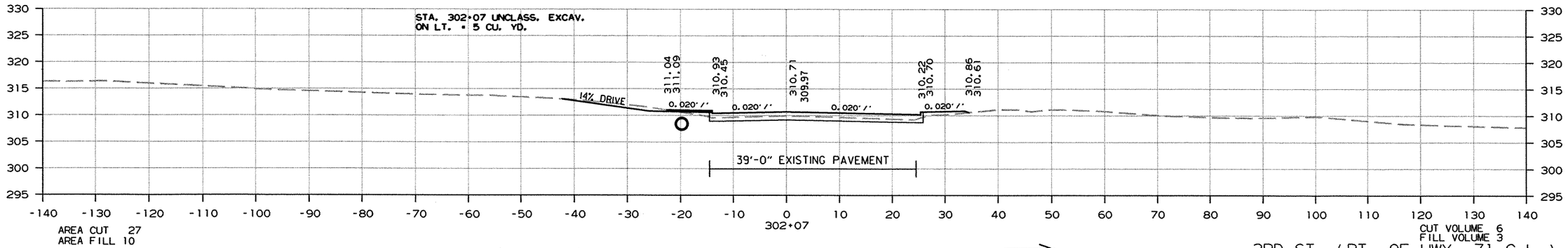
				6	ARK.			
				JOB NO.		030388	125	126

(2) CROSS SECTIONS









3RD ST. (RT. OF HWY. 71 C.L.)
CROSS SECTION STA. 302+07 TO STA. 303+00

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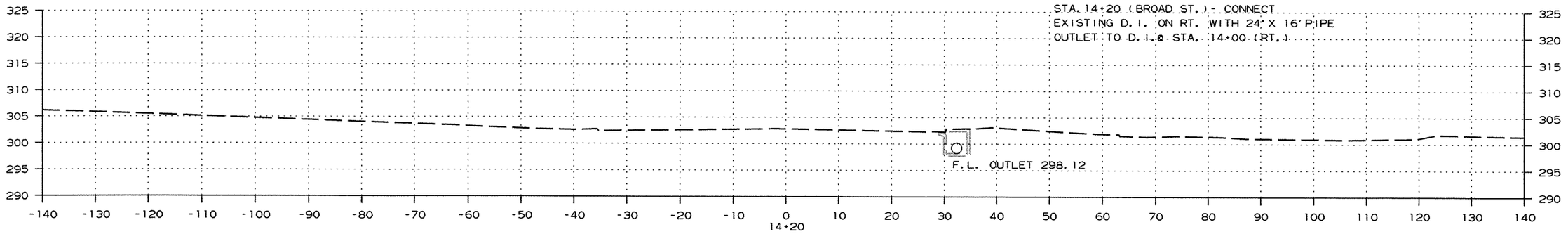
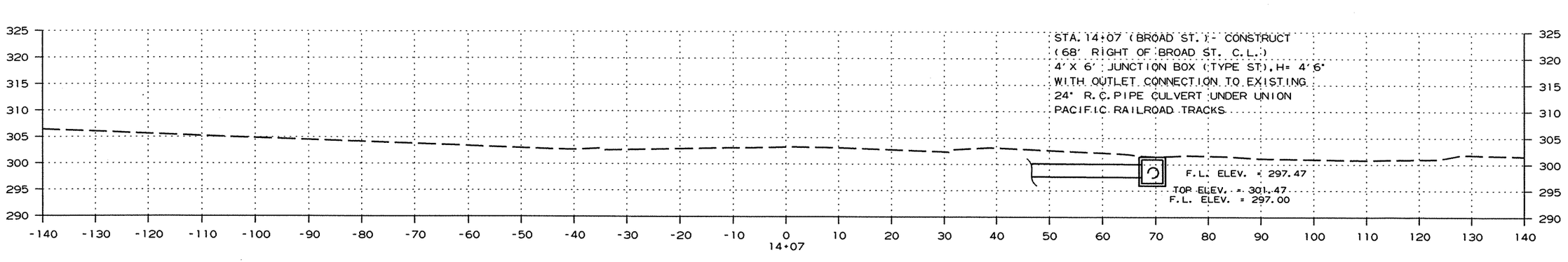
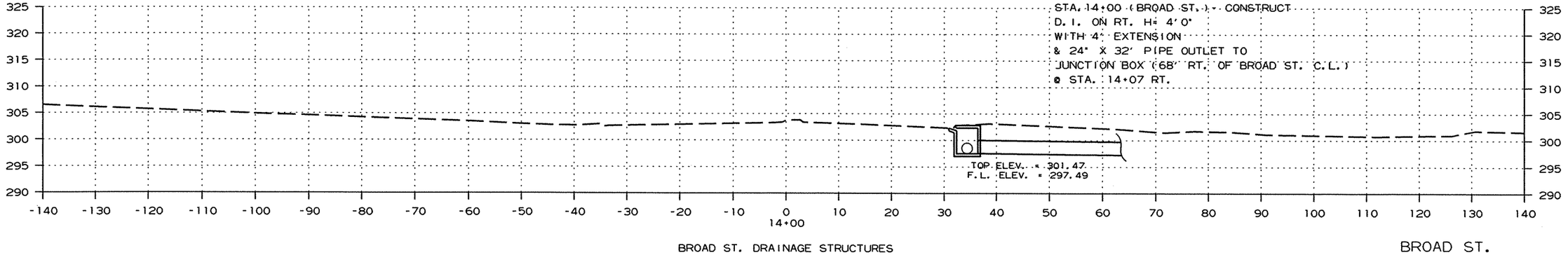
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030388	126	126

(2) CROSS SECTIONS







BROAD ST. DRAINAGE STRUCTURES

BROAD ST.
STA. 14+00 TO STA. 14+20

2/16/2012

R030388.DGN