ORIGINAL CONSTRUCTION

1030

FED. AID DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	651-A.	1932

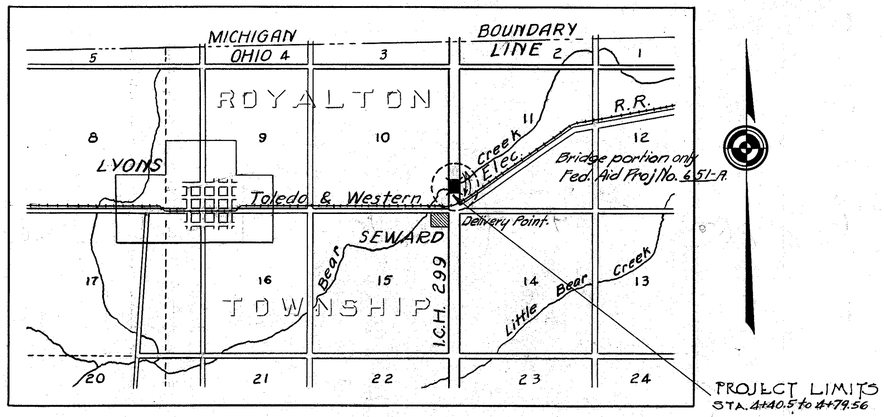
1/6

SH(I.CH.)299 SEC."A-1"(BRIDGE)
FULTON COUNTY

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BRIDGE OVER BEAR CREEK, AND APPROACHES
LIBERTY-ADRIAN ROAD
S.H.(I.C.H.) 299 SEC. "A-1"(BRIDGE)
FULTON COUNTY
ROYALTON TOWNSHIP

CONVENTIONAL SIGNS

State Line
County Line
Township Line
Section Line
Property Line
Center Line
City or Village Line
Telephone or Telegraph T T T T T
Steam Railroad
Electric Line
Guard Rail
Drain Pipe ∪ New
Drain Pipe ∪ Old



LOCATION PLAN
Scale: 2 inches = 1 mile

Portion to be improved
Improved roads

INDEX OF SHEETS

SUPPLEMENTAL PRINTS OF STRUCTURAL STANDARDS.
B-36-31

The Standard Specifications of the State of Ohio, Department of Highways, in force on date of contract, together with the supplemental Specifications for Winter Bridge Construction for Emergency Relief, will govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that a temporary detour bridge and approaches will be provided as indicated on the plans and estimate and traffic will be maintained.

Approved: _____
Date: _____ Resident District Deputy Director

Approved: R. J. Nisda
Date: 12-18-1931 Resident Division Deputy Director

Approved: Elmer Hilty
Date: 12-23-31 Chief Engineer Bureau of Construction

Approved: _____
Date: _____ Chief Engineer Bureau of Maintenance

Approved: J. P. Burkey
Date: 12-22-31 Chief Engineer Bureau of Bridges

Approved: H. P. Chapman
Date: 12-28-31 Chief Engineer and Asst. Director

Approved: O. W. Merrell
Date: 12-28-31 Director of Highways

Recommended for Approval: _____
Date: _____ District Engineer Bureau of Public Roads

Recommended for Approval: _____
Date: _____ Chief Engineer Bureau of Public Roads

Approved: _____
Date: _____ Chief of Bureau

11
5
723

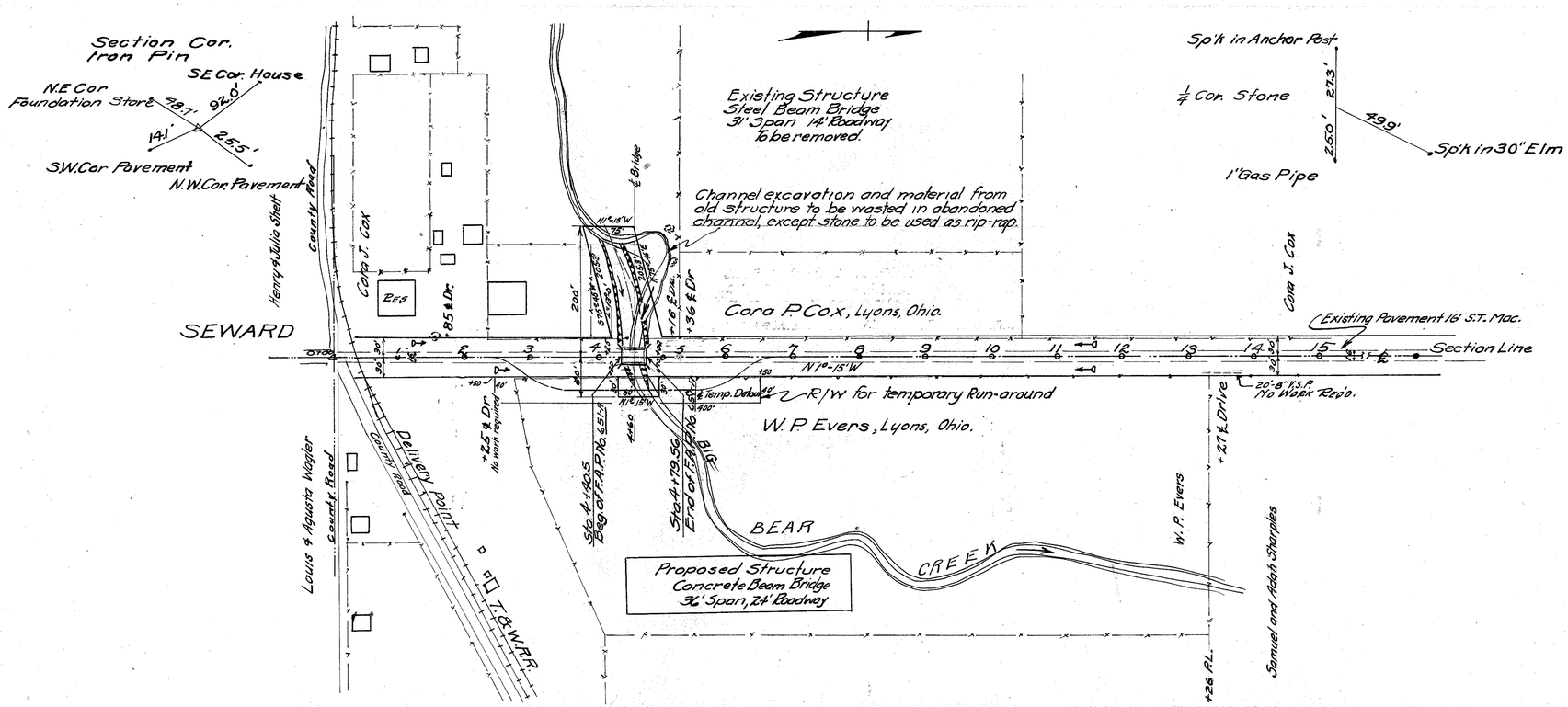
FULTON 299 A-1 (BRG.)

1931 Contract No. 5275
Letting Date 1-22-32

FED. AID DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	651-A	1932

2/6

I.C.H. 299 SEC. A-1 (Br.)
FULTON COUNTY



APPROACHES — From sta 1+80 to sta 4+40.5 and from sta. 4+79.56 to sta. 10+00
Length = 730.94 lin. ft.

SUMMARY OF QUANTITIES.

Fed. Aid does not participate.

80 Cu. Yds. Excavation Unclassified.
3150 Cu. Yds. Borrow.
781 Lin. Ft. Finishing Shoulders, Slopes & Ditches (Both Sides).
40 Lin. Ft. 15" Conc. C. P. Sec. B-4 B-2, B-3, B-4 or B-5; Galv. Either Before or After Forming Including Excavation & Back Fill - Complete In Place.
204 Cu. Yds. No 46 Gravel or Crushed Stone Surface Course, Complete.

Structure located between Sections 10 & 11
T 9 S, R 3 E, ROYALTON TWP. FULTON CO.

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	18		
		0	89
0	30		
		0	200
0	78		
		9	333
5	102		
		20	430
6	130		
		15	359
2	172		
		1	66
1	164		
		1	113
0	184		
		0	219
0	197		
		0	576
0	114		
		28	222
15	6		
		6	2
0	0		

Cut - Cu. Yds. - 80

Fill + 15% = 3230 cu. yds.

Fill - Cu. Yds. 2809

Borrow = 350 cu. yds.

30 20 10 ℄ 10 20 30 40

Fl. 747.7 — 1½:1 — 1½:1 — Fl. 747.0

749.60
10+00
749.60

End of Project

WINDROWED SURFACE MATERIAL
12'-0" ℄ 12'-0"
2" of #46 SURFACE MATERIAL

Fl. 747.0 — 1½:1 — Fl. 745.6

748.80
9+00
748.70

This

Fl. 746.3 — 1½:1 — 1½:1 — Fl. 744.8

749.20
8+00
748.00

Entire

Fl. 746.0 — 1½:1 — 1½:1 — Fl. 744.4

749.60
7+00
748.00

Sheet

Fl. 745.5 — 1½:1 — 1½:1 — Fl. 744.0

750.00
6+00
747.80

VOID

Fl. 743.5 — 1½:1 — 1½:1 — Fl. 743.8

750.40
5+00
748.20

Fl. 743.3 — 1:1 — 1:1 — Fl. 743.5

750.44
4+89
748.40

4+80 End of App. Earthwork

BRIDGE

4+40 End of App. Earthwork

Fl. 743.1 — 1:1 — 1:1 — Fl. 742.5

750.68
4+31
748.70

OIL

Fl. 744.0 — 1½:1 — 1½:1 — Fl. 743.3

750.80
4+00
748.40

Fl. 747.6 — 1½:1 — 1½:1 — Fl. 746.4

751.20
3+00
748.90

Fl. 750.0 — Fl. 750.0

751.60
2+00
751.40

Beg. of Project
STA. 1+80

30 20 10 ℄ 10 20 30 40

Cross-Sections for Approaches

Fed. Aid Dist. No.	State	Fed. Aid Project	Fiscal Year
10	OHIO	657-A	1938

FULTON COUNTY
S.H. 249 SEC "A" - BRIDGE

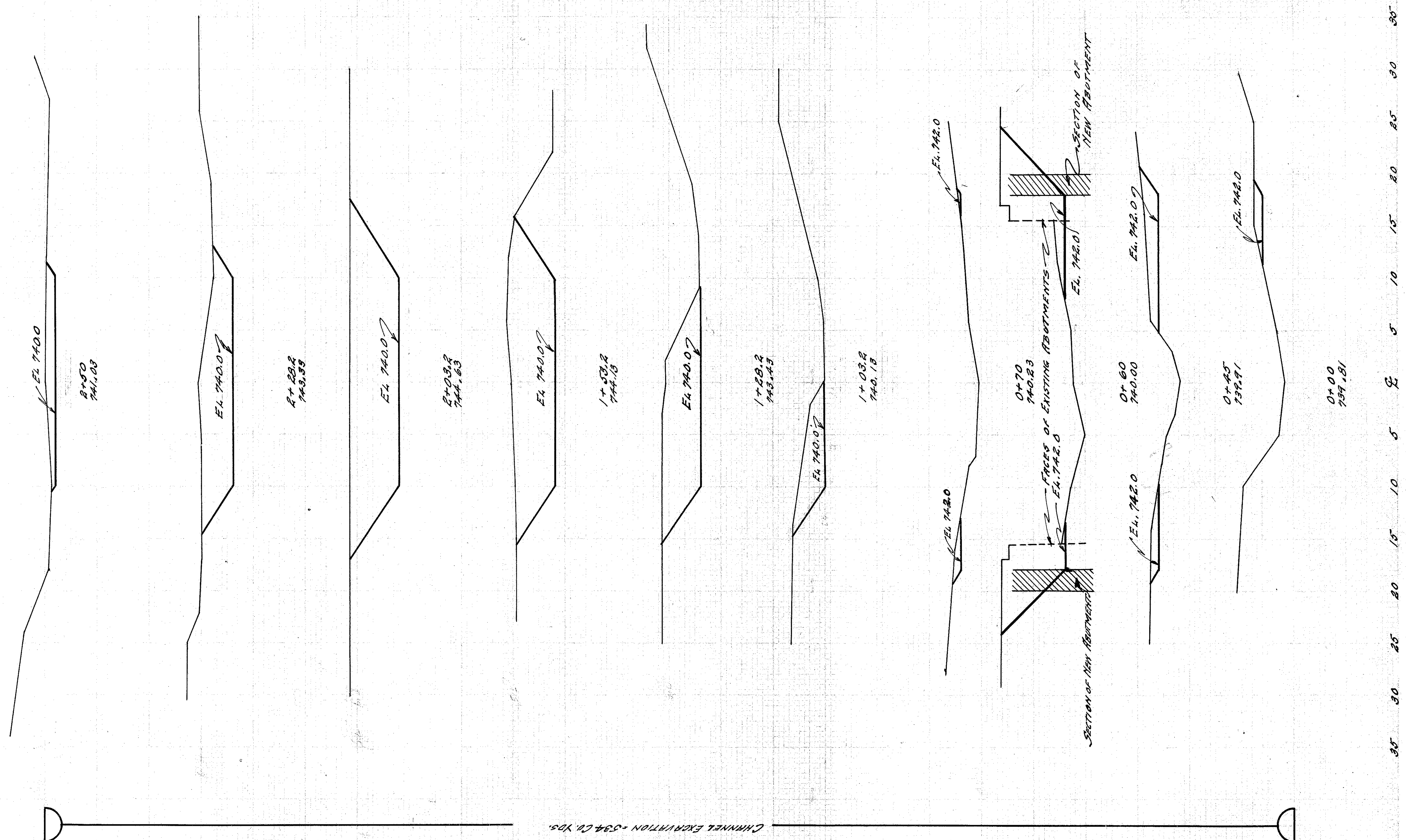
3
6

FED AID DIST NO	STATE	FED AID PROJECT	FISCAL YEAR
10	OHIO	657-I	1932

4/6

FULTON COUNTY
S.H. 299 SEC. A-1-Br.

Cross-sections for Channel



Cu. Yds. Fill		0		0		0		0		0		0		0		0		0	
Cu. Yds. Cut		33		88		213		80		41		17		14		26		22	
End Area Fill	0		0		0		0		0		0		0		0		0		0
End Area Cut	18		67		124		107		65		23		4		72		22		5

FED. AID DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
	OHIO	651-A	1931

5/6

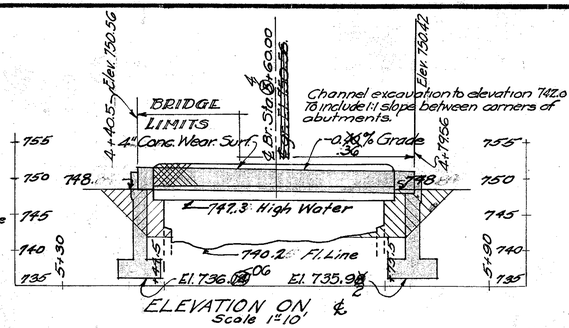
S.H. 299 SEC. A-1 BR.
FULTON COUNTY

Cora P. Cox
Lyons, O.

TEMPORARY DETOUR BRIDGE NOTE.

Temporary detour bridge and approaches to be according to Item 1-14 of the Construction Specifications. Bridge roadway width 18-ft. Floor elevation 747.0. Width of approaches, out to out, 22-ft with a surfaced width of 19-ft.

The existing bridge may be used in connection with the foregoing if made to conform to the above requirements, except that present bridge roadway width may be used, and on condition that the road be closed to traffic not more than 12 hours while the moving is done, in case of which, the division deputy director shall be advised at least two days in advance.



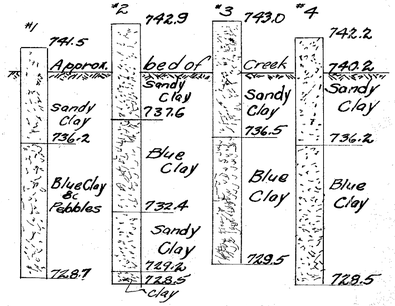
Channel excavation to elevation 742.0 To include 1:1 slope between corners of abutments.

NOTE

Old Structure (shown in dotted lines on plan view)
Type: Steel I-Beam with concrete floor. 14' Roadway.
Total over all length (Railing and Beams) 34'-0" C. Span 31'-0"
Steel lattice Railing, 2-Side Channels 4" x 8# x 34'
5-I-Beams 5½" x 15" x 34'. To Be REMOVED.
Old Stone Abut. with concrete riser and part concrete wings 1'X4' concrete Jacket at base of Abut. Walls.

Drainage Area 16 sq. mi.

TEST HOLE DATA



These soundings represent the sub-soil information obtained but the State of Ohio assumes no responsibility for the accuracy thereof.

SITE PLAN FOR BRIDGE OVER BEAR CREEK

BRIDGE NO. FU.
S.H. 299 SEC. A-1 BR.
FULTON CO.
STATE OF OHIO
Scale 1"=50

PRESENT TOPOG.		PROPOSED WORK			
Survey	Drawn	Des'n.	Dr'd'n	Ck'd	Rev'd
P.F.C.	P.F.C.	C.P.S.	J.H.J.H.	R.T.Z.	A.F.K.

Revised 1-22-31

R. 7-10, 12-22-31

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
10	OHIO	651-A	1931	6/6

FULTON COUNTY
S.H. 299 SEC. A-1 BR.

GENERAL NOTES

SUPERSTRUCTURE: The superstructure shall be a 36' Span Concrete Beam Bridge, H-15 Loading, 24 Roadway, built in accordance to Drawing № B-36-31. No approach slabs are to be built.

WEARING SURFACE: The wearing surface is to be 4" of concrete.

RAILING: Railing is to be Type RR-8. See Dr. № B-36-31

EXCAVATION: Excavation below Elev. 742.0 shall be classed as "Wet Excavation." Excavation above Elev. 742.0 and not included in Channel Excavation, shall be classed as "Dry Excavation". Channel Excavation shall be to Elev. 742.0 and shall include 1:1 slope.

CONCRETE: Concrete mix shall be 1:5½ for superstructure and railings; and 1:6½ for footings and walls.

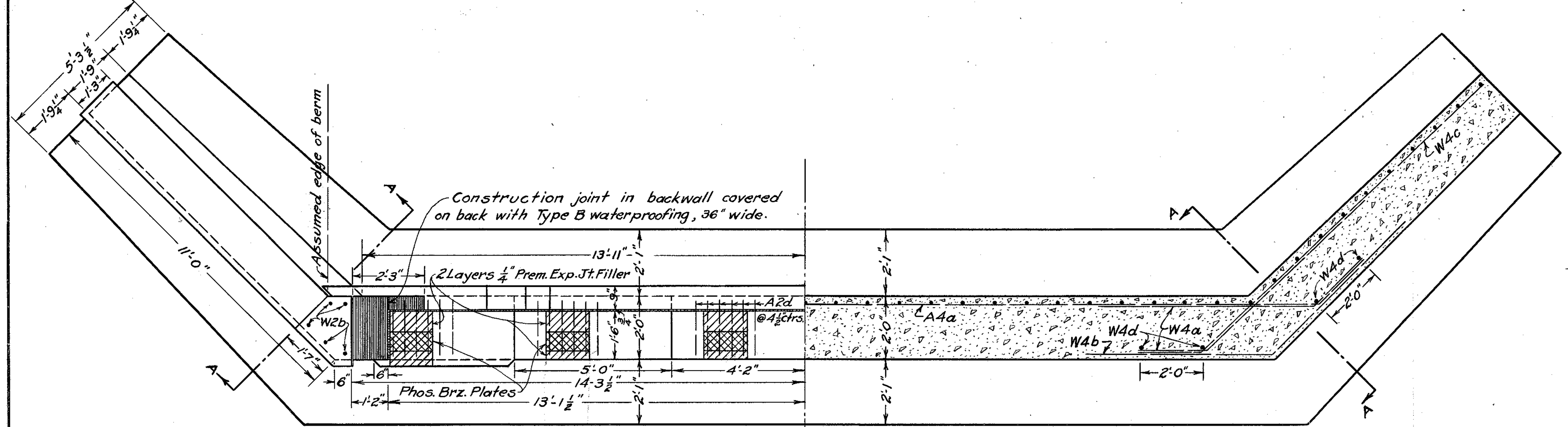
FOOTINGS: Reinforcing steel in footings shall be accurately placed and secured before footing concrete is deposited. All debris, silt, laitance, etc. to be removed from top of footing before wall concrete is deposited.

CONSTRUCTION JOINTS: No horizonal construction joints other than those shown will be permitted. Vertical construction joints allowed only by special permission of the Engineer. All construction joints in abutments above low water elevation shall be sealed on back with Type B waterproofing.

CHAMFER: All exposed edges not otherwise shown shall be chamfered ¾".

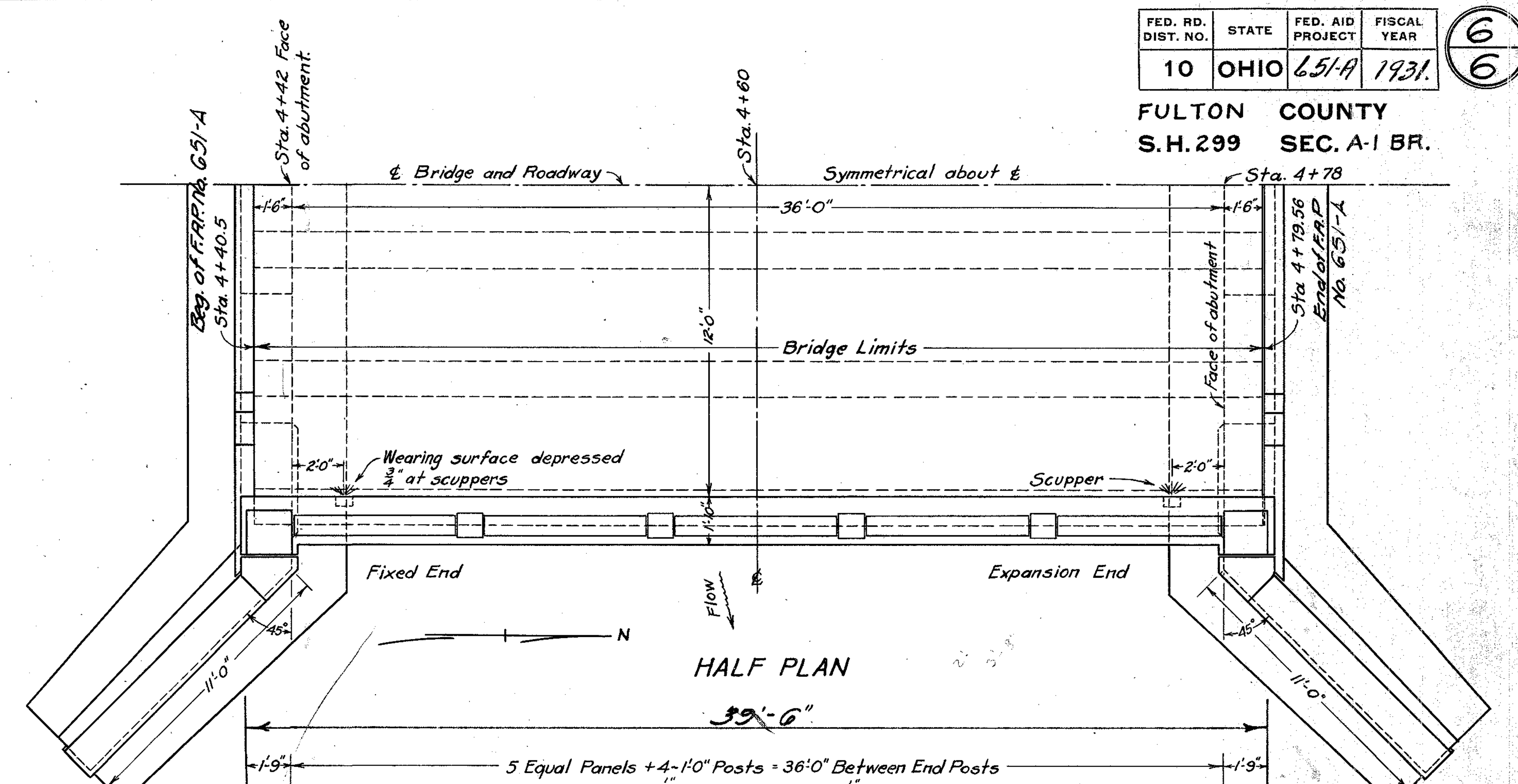
EXISTING BRIDGE: The existing superstructure, 31'-0" I-Beam span with concrete floor and steel lattice railing, shall be carefully dismantled and neatly piled along R/W at the disposal of the State Of Ohio, when no longer needed for detour purposes. The present stone abutments are to be removed and placed as rip-rap at the direction of the Engineer and the cost of removal is to be included in excavation for payment.

See Site Plan sheet for temporary detour bridge note.

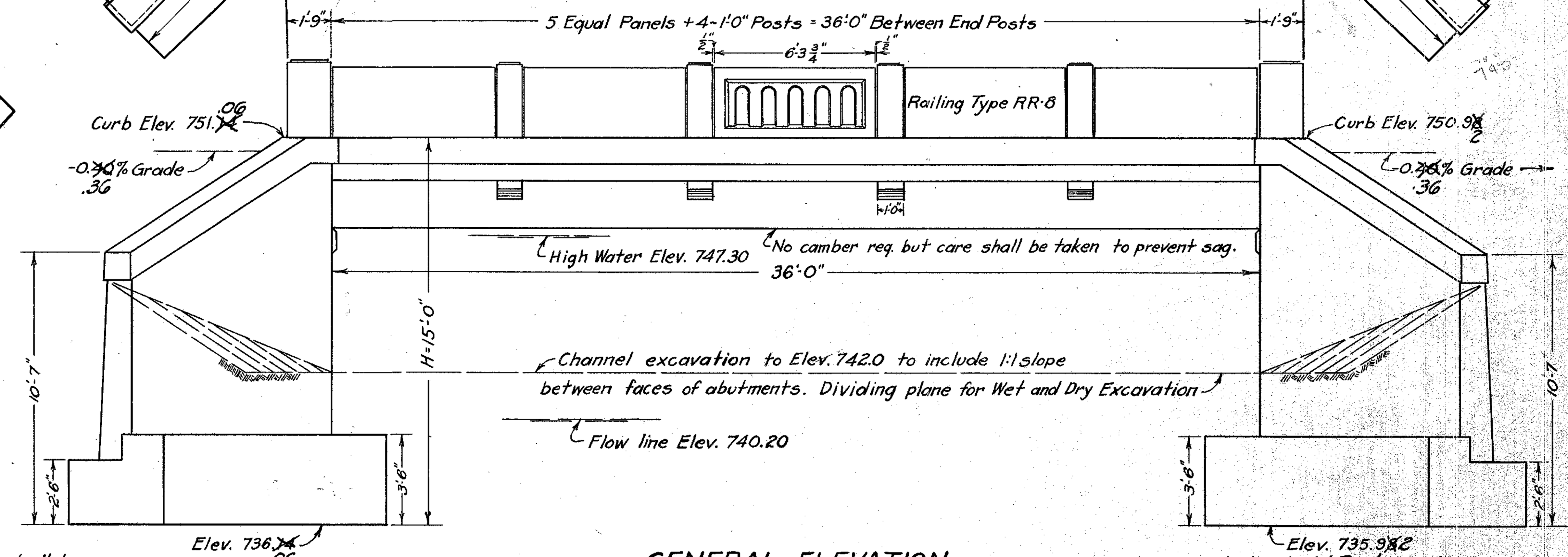


ABUTMENT PLAN

The two abutments are identical and are symmetrical about ℄

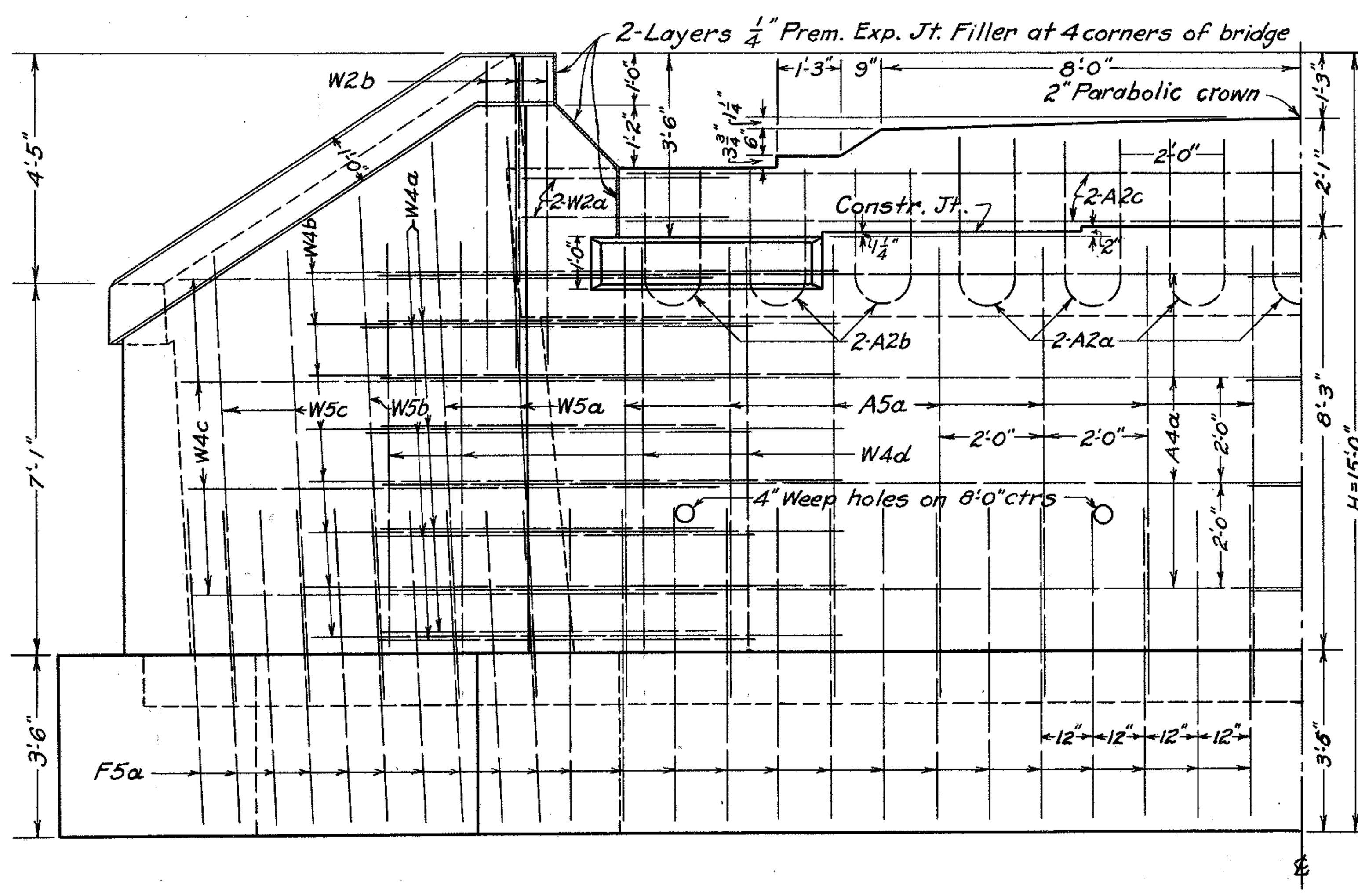


HALF PLAN

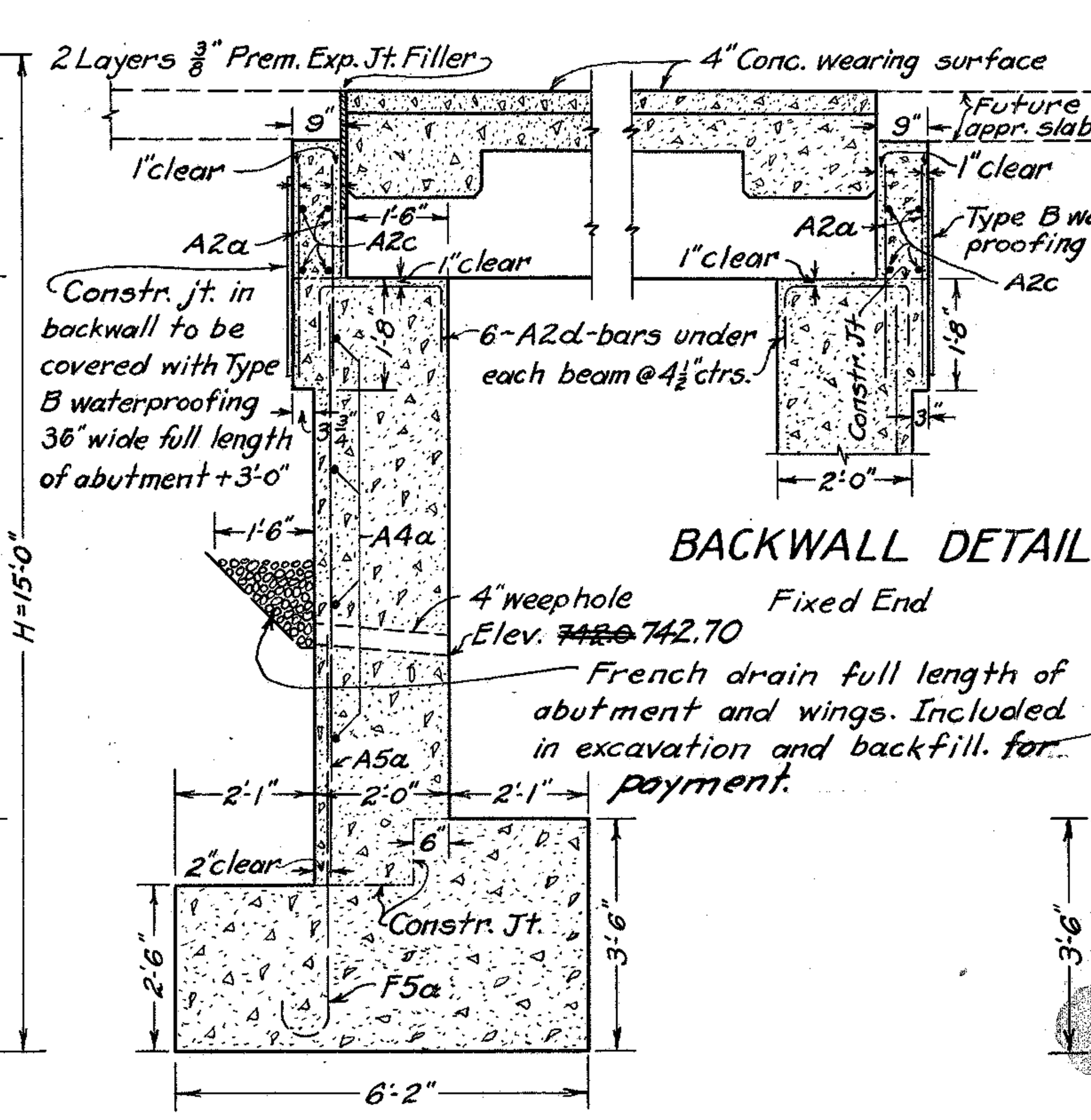


GENERAL ELEVATION

Federal Aid Participates



HALF ELEVATION

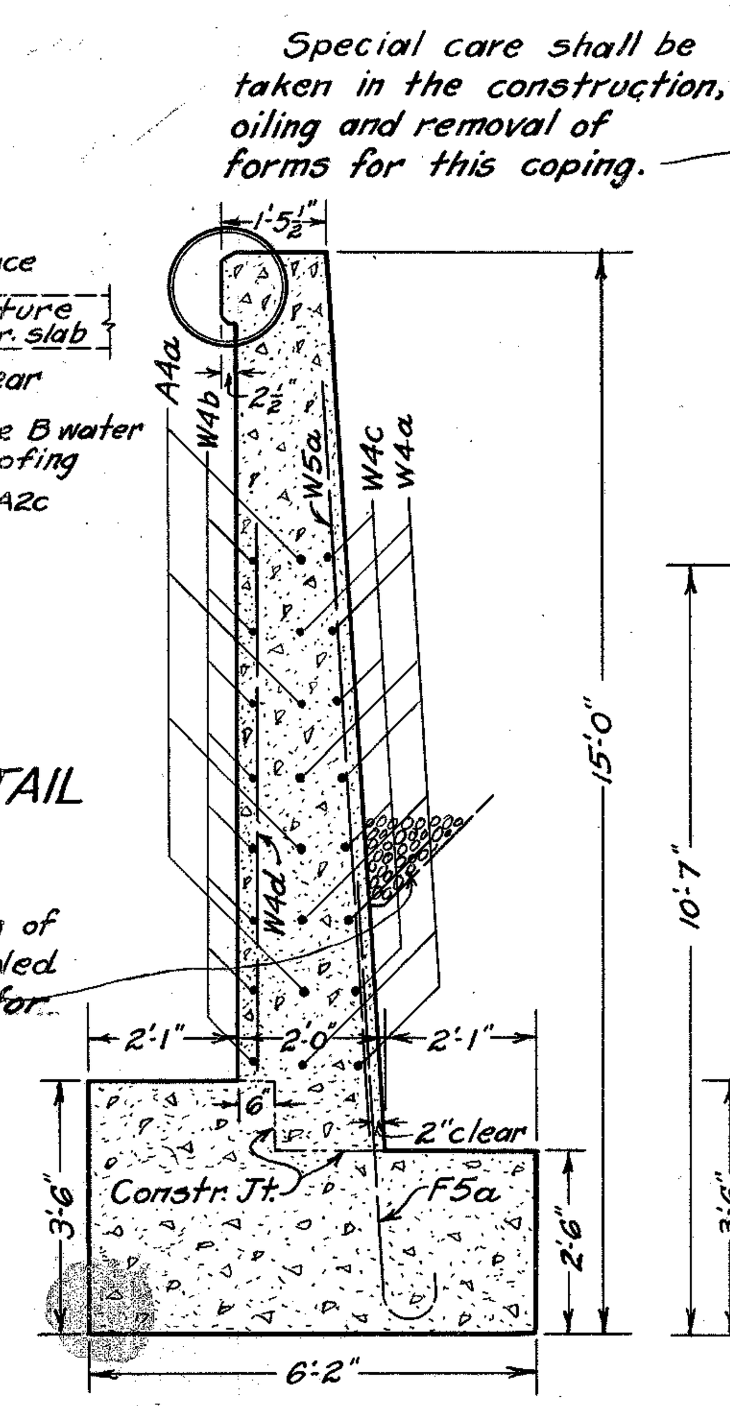


BACKWALL DETAIL

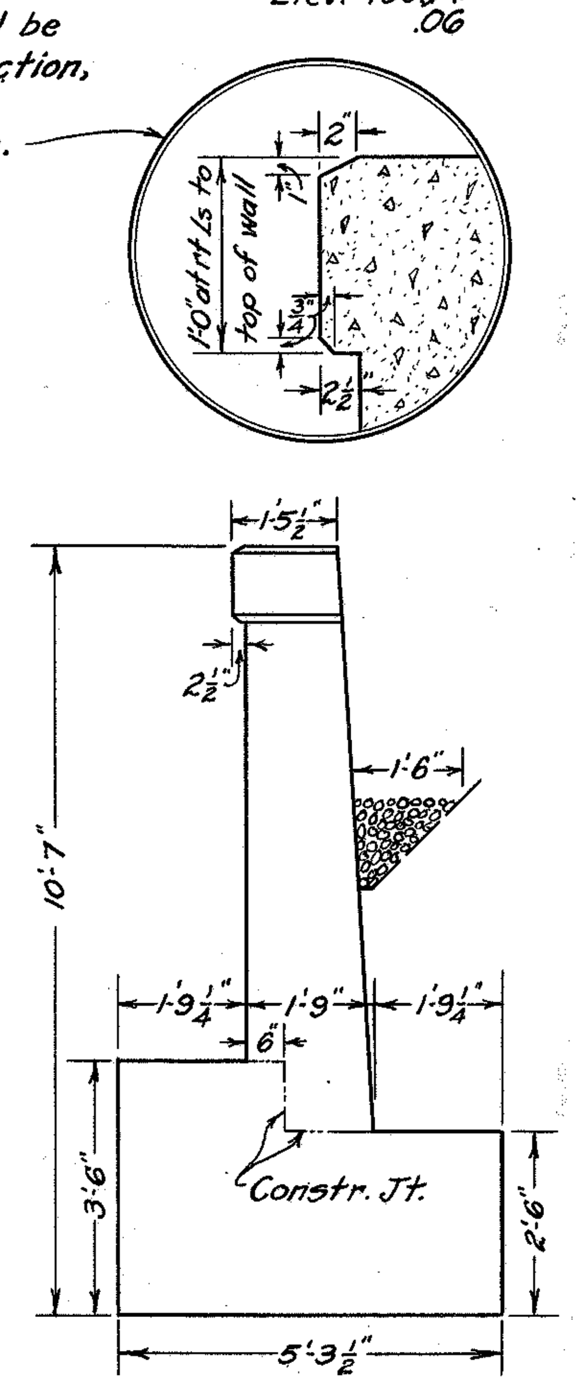
Fixed End

SECTION ON ℄

Expansion End



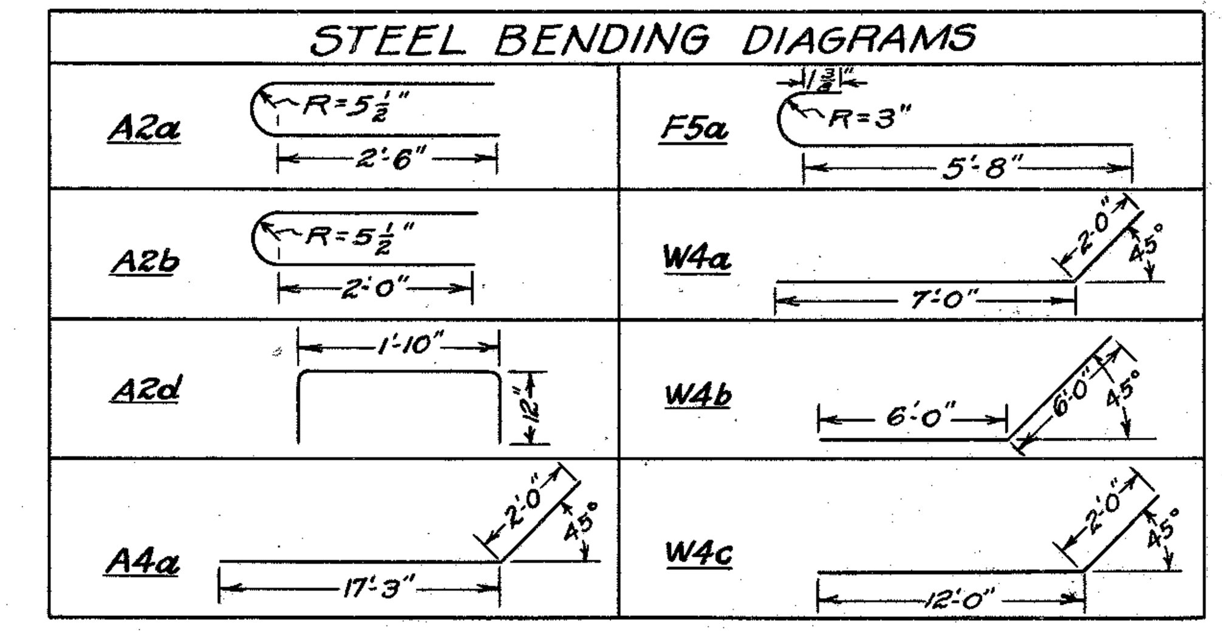
SECTION A-A



END ELEVATION

ABUTMENT STEEL					
MARK	SIZE	SHAPE	№ REQ.	LENGTH	WEIGHT
A2a	½" φ	BENT	28	6'-6"	122
A2b	½" φ	BENT	24	5'-6"	88
A2c	½" φ	STRAIGHT	8	26'-0"	139
A2d	½" φ	BENT	72	3'-10"	184
A4a	⅝" φ	BENT	16	19'-3"	322
A5a	¾" φ	STRAIGHT	28	8'-6"	358
F5a	¾" φ	BENT	98	6'-8"	983
W2a	½" φ	STRAIGHT	16	4'-0"	43
W2b	½" φ	STRAIGHT	20	6'-0"	80
W4a	⅝" φ	BENT	32	9'-0"	301
W4b	⅝" φ	BENT	32	12'-0"	401
W4c	⅝" φ	BENT	16	14'-0"	234
W4d	⅝" φ	STRAIGHT	16	7'-6"	~~125~~ 140
W5a	¾" φ	STRAIGHT	8	10'-6"	126
W5b	¾" φ	STRAIGHT	4	9'-6"	57
W5c	¾" φ	STRAIGHT	8	8'-6"	102
				TOTAL	~~3,865~~ 3,680

STEEL BENDING DIAGRAMS



ESTIMATED QUANTITIES	
SUBSTRUCTURE	
Concrete (footings) 1:6½ mix	66 ~~75~~ Cu.Yds.
Concrete (walls) 1:6½ mix	68 ~~73~~ Cu.Yds.
Dry Excavation	110 Cu.Yds.
Wet Excavation	200 Cu.Yds.
Reinforcing Steel	3680 Lbs.
Type B Waterproofing	22 Sq.Yds.
Cofferdam, Sheeting and Pumping	Lump Sum
Timber Piling (To establish unit price)	1 Lin.Ft.
Channel Excavation	534 Cu.Yds.
Removal of Existing Structure	Lump Sum
Temporary Detour Bridge & Approaches	Lump Sum
Riprap	30. Sq. Yds.
SUPERSTRUCTURE	
Concrete 1:5½ mix	53 Cu.Yds.
Reinforcing Steel	16,655 Lbs.
¼" Prem. Exp. Jt. Filler	83 Sq.Ft.
⅜" Prem. Exp. Jt. Filler	110 Sq.Ft.
⅛" Phoz. Bronze Plates	59 Lbs.
Cast Iron Scuppers (B-31)	4 Pcs.
Railing (Type RR-8)	79 Lin.Ft.
Wearing Surface (4" Concrete)	104 Sq.Yds.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION ABUTMENT DETAILS, STEEL LIST

BRIDGE № FU-109- OVER BEAR CREEK

FULTON COUNTY S.H. 299
SEC. A-1 BRIDGE STA. 4+60

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.J.M.	O.J.M.	O.J.M.			12-22-31	1-22-31

REHAB PLANS

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

18
83

FUL-109 (14.89-17.08)

BEGIN SHEET STA. 883+00

END SHEET STA. 898+00

See Sheet 42 for Proposed Manhole Data

For Details of Proposed Widening of Br. No. FUL-109-1698, See Sh. Nos. 71-74.

For Channel Details of Big Bear Creek, See Sh. No. 68

For Details of S.R. 120 Relocation See Sh. No. 23

Remove cinder parking area within R/W. Refer to Sh. No. 42 & 59

Do not disturb

★ These 3 Tanks are to be removed under Item Special - Removal and Disposal of Existing Underground Storage Tanks. (See note in Proposal)

9-P includes removal of existing wearing course only between Sta. 896+00 and Sta. 898+00, Br. No. FUL-109-1698 not included. Typical Section A assumed to be continuous through 9-P.

DATA ON PROPOSED STRUCTURE

Br. No. FUL-109-1698
Sta. 896+32.6
Type: Reinf. Conc. Beam Widening of Existing Conc. Beam Bridge
Span: 36'-0"
Roadway: 44'-0" f/f Guard Rails
Skew: None
Surface Course: 2½" ± Bituminous
Appr. Slabs: None
Alignment: Tangent

B.M. # 22 Sta. 886+88 ~ 32' Lt.
P.P. Spk. W/S 34" Maple
Elev. 755.09

B.M. # 23 Sta. 892+56 ~ 30' Rt.
Top, Center R/W Mon.
Elev. 754.15

DATA ON EXIST. STRUCTURE

Br. No. FUL-109-1698
Sta. 895+32.6
Type: Conc. Beam with Conc. Abutments & Wingwalls
Roadway Width: 24'-0" f/f Safety Curbs
Span: 36'-0"
Skew: None
Condition: Good
Drainage Area: 16.4± Sq. M.

B.M. # 24 Sta. 894+23 ~ 46' Lt.
Chiseled □ S.E. Cor. Conc. Cistern Top
Elev. 750.44

Prop. Profile Elev.: 755.15 | 755.13 | 755.11 | 755.09 | 755.08 | 755.07 | 755.01 | 754.94 | 754.83 | 754.71 | 754.54 | 754.30 | 754.16 | 753.68 | 752.76 | 751.84 | 751.15 | 750.96 | 750.79 | 750.36 | 750.21 | 750.08 | 749.95 | 749.83

Proposed profile approximately 2½' above exist.

450'@ -0.02%
200' V.C.
P.V.I. - Sta. 891+50 ~ Elev. 755.06
425'@ -0.92%
100'@ -0.58%

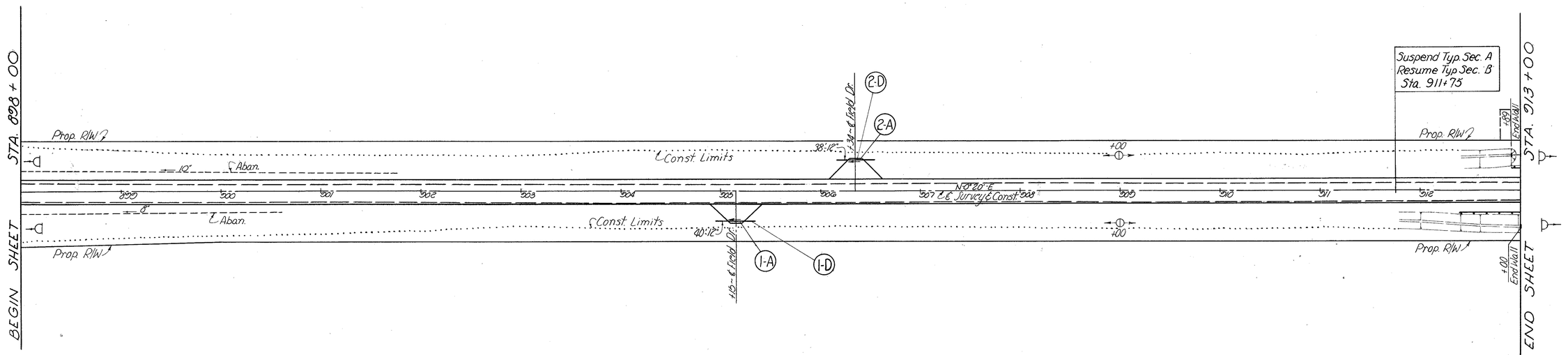
12"Rt.@-0.20%
18"Rt.@-0.30%
12"Lt.@-0.27%
12"Lt.@-1.50%
18"Rt.@-0.36%

STA. 883+00 To STA. 898+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

19
83

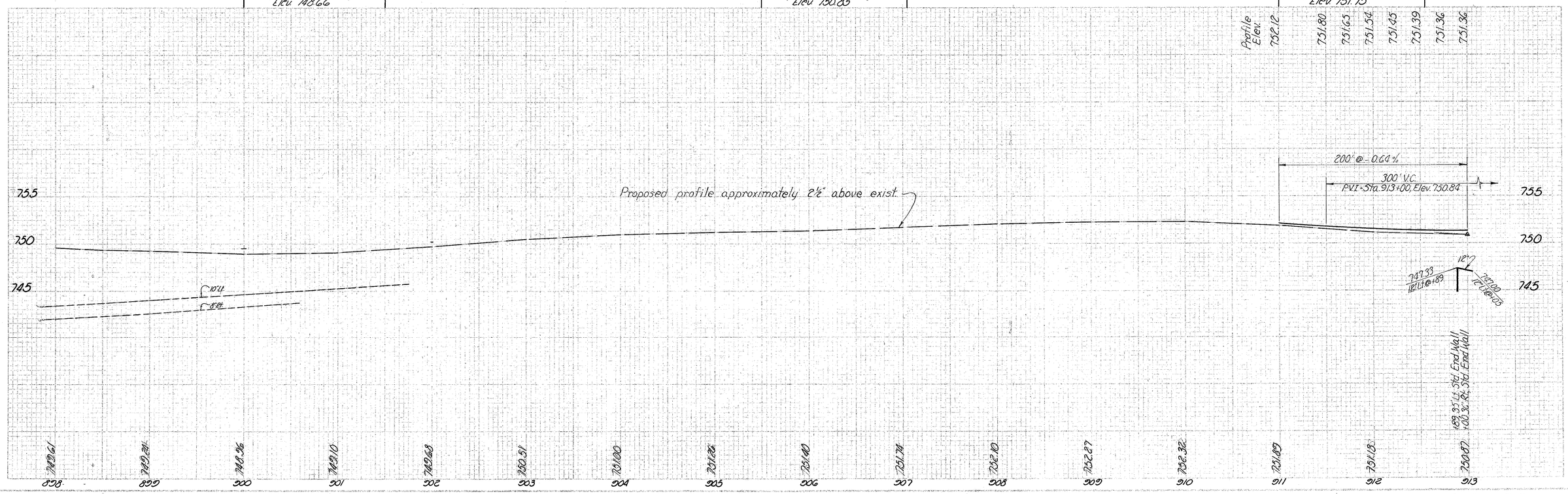
FUL.-109 (14.89-17.08)



B.M. #25, Sta. 900+81~23' Lt.
St. Sign Post 3' above ground
Elev. 748.66

B.M. #26, Sta. 906+43~22' Lt.
St. Sign Post 3' above ground
Elev. 750.85

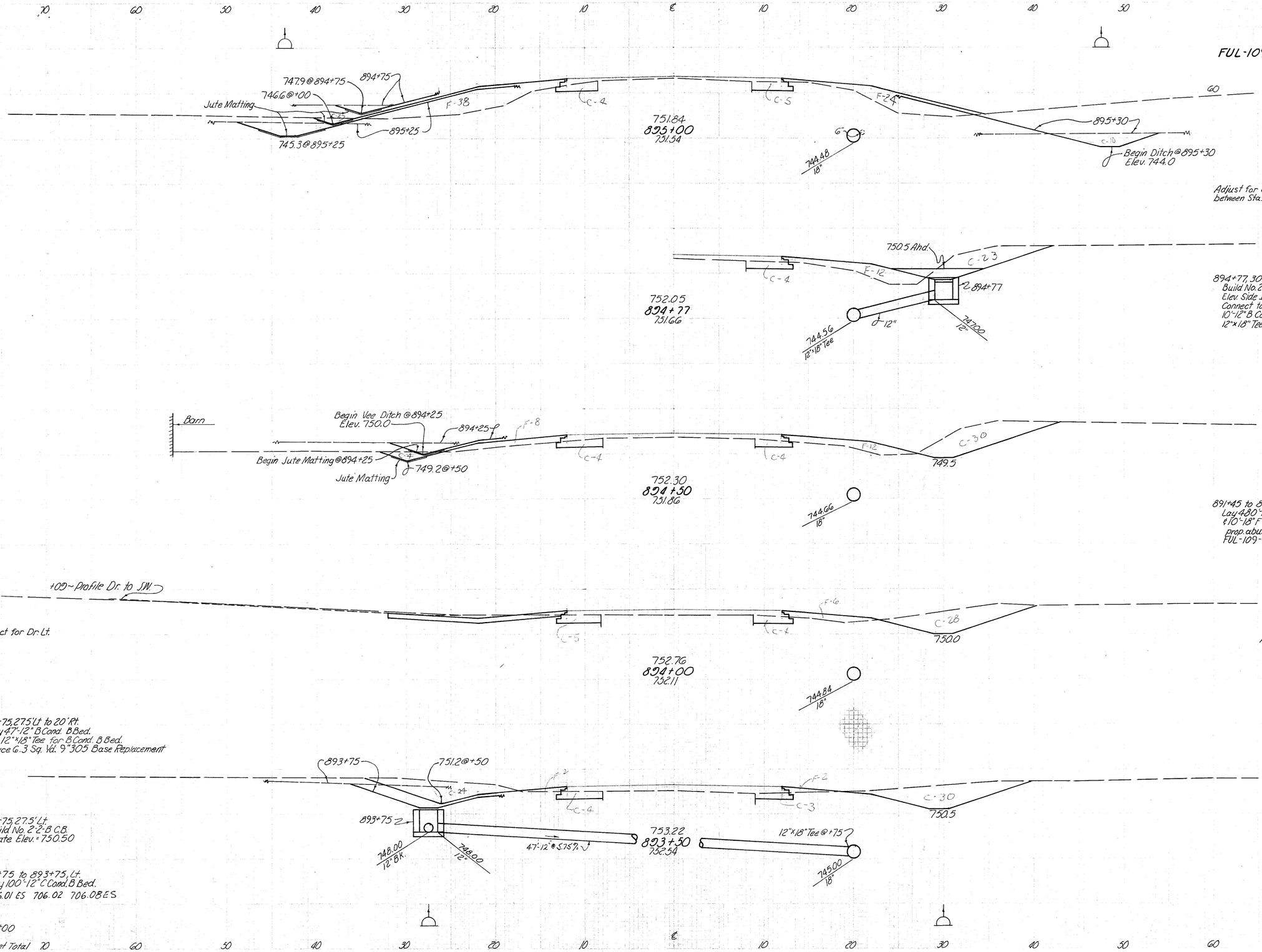
B.M. #27, Sta. 911+71~25' Lt.
St. Sign Post 3' above ground
Elev. 751.75



STA. 898+00 To STA. 913+00

FUL-109-(14.89-17.08)

Seeding End Width	Seeding Sq. Yds.
57	
	322
59	
	308
52	
-71	Deduct for Dr. Lt.
	306
56	
	289
48	
1154	Sheet Total



893+75.27.5' Lt. to 20' Rt.
Lay 47'-12" B Cond. B Bed.
& 1 12"x18" Tee for B Cond. B Bed.
Place 6.3 Sq. Yd. 9" 305 Base Replacement

893+75.27.5' Lt.
Build No. 2-2-B C.B.
Grate Elev. = 750.50

892+75 to 893+75, Lt.
Lay 100'-12" C Cond. B Bed.
706.01 ES 706.02 706.08 ES

893+00

Adjust for change in section Rt. between Sta. 894+50 & 895+00

894+77, 30' Rt.
Build No. 2-2-A C.B.
Elev. Side Inlets = 749.00
Connect to prop. 18" Cond. with 10'-12" B Cond. B Bed. & 1 12"x18" Tee for B Cond. B Bed.

891+45 to 896+35, 20' Rt.
Lay 430'-18" B Cond. B Bed.
& 10'-18" F Cond. through prop. abutment wall of Br. No. FUL-109-1698

Adjust for Dr. Lt.

End Area Cut	End Area Fill	Volume Cut	Volume Fill
11	62		
		+1	-7
		49	76
42	20		
		73	24
37	6		
		+18	-2
		91	9
61	4		
		83	4
893+00	29	—	
Sheet Total		315	104

Sta 893+50 to Sta 895+00

Seeding	
End Width	Sq. Yds.
	+1303
100	
	528
90	
	408
57	
	2239 Sheet Total

+1303 Engineers Estimate for Seeding between Sta. 896+00 & 897+62. Includes seeding channel slopes from Sh. No. 68

896+72, 46'Lt.
Place 1.0 Cu. Yd. 601 Dumped Rock Channel Protection as shown.

896+32±, 18'±Lt. to 896+35, 25'Lt.
Locate exist. N-S. pipe at approx. 896+32, 18'Lt. & connect to Big Bear Creek with 93'-15" C Cond. B Bed. & 10'-15" F Cond. through prop. wingwall of Br. No. FUL-109-1698

896+20 to 896+36, 55" Rt.
Lay 16'-12" F Cond.

896+20, 55'Lt.
Build Std. End Wall as per HW-E for 12" Conduit.
0.23 Cu. Yd. 602 Conc. Masonry.

894+25 to 896+20, Lt.
Lay 140 Sq. Yd. 667 Jute Matting

896+75, 45'Rt.
Place 1.0 Cu. Yd. 601 Dumped Rock Channel Protection as shown.

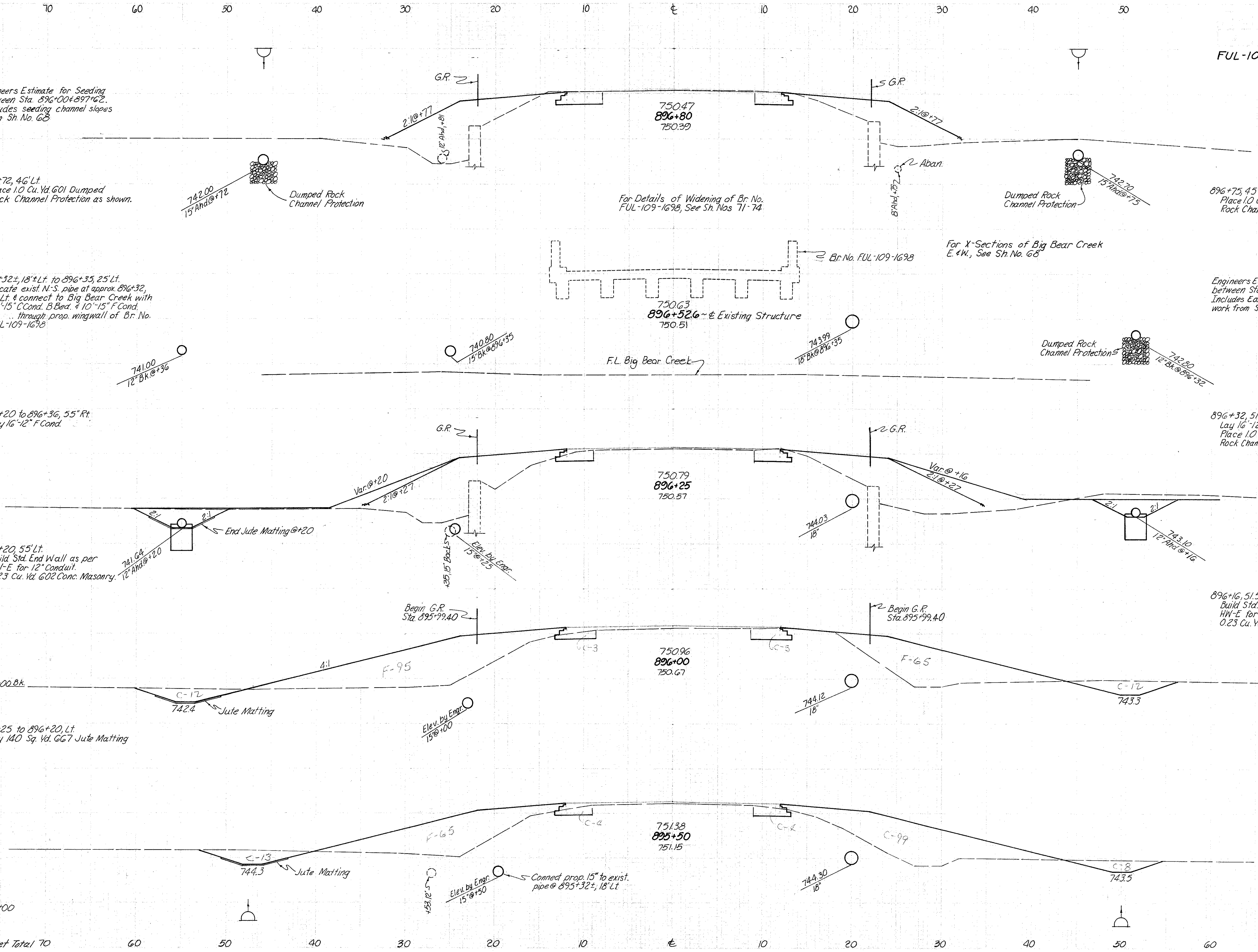
For Details of Widening of Br. No. FUL-109-1698, See Sh. Nos 71-74

For X-Sections of Big Bear Creek E. & W., See Sh. No. 68

Engineers Estimate for Earthwork between Sta. 896+00 & 897+62 Includes Earthwork from channel work from Sh. No. 68

896+32, 51.5'Rt.
Lay 16'-12" F Cond.
Place 1.0 Cu. Yd. 601 Dumped. Rock Channel Protection as shown.

896+16, 51.5'Rt.
Build Std. End Wall as per HW-E for 12" conduit
0.23 Cu. Yd. 602 Conc. Masonry

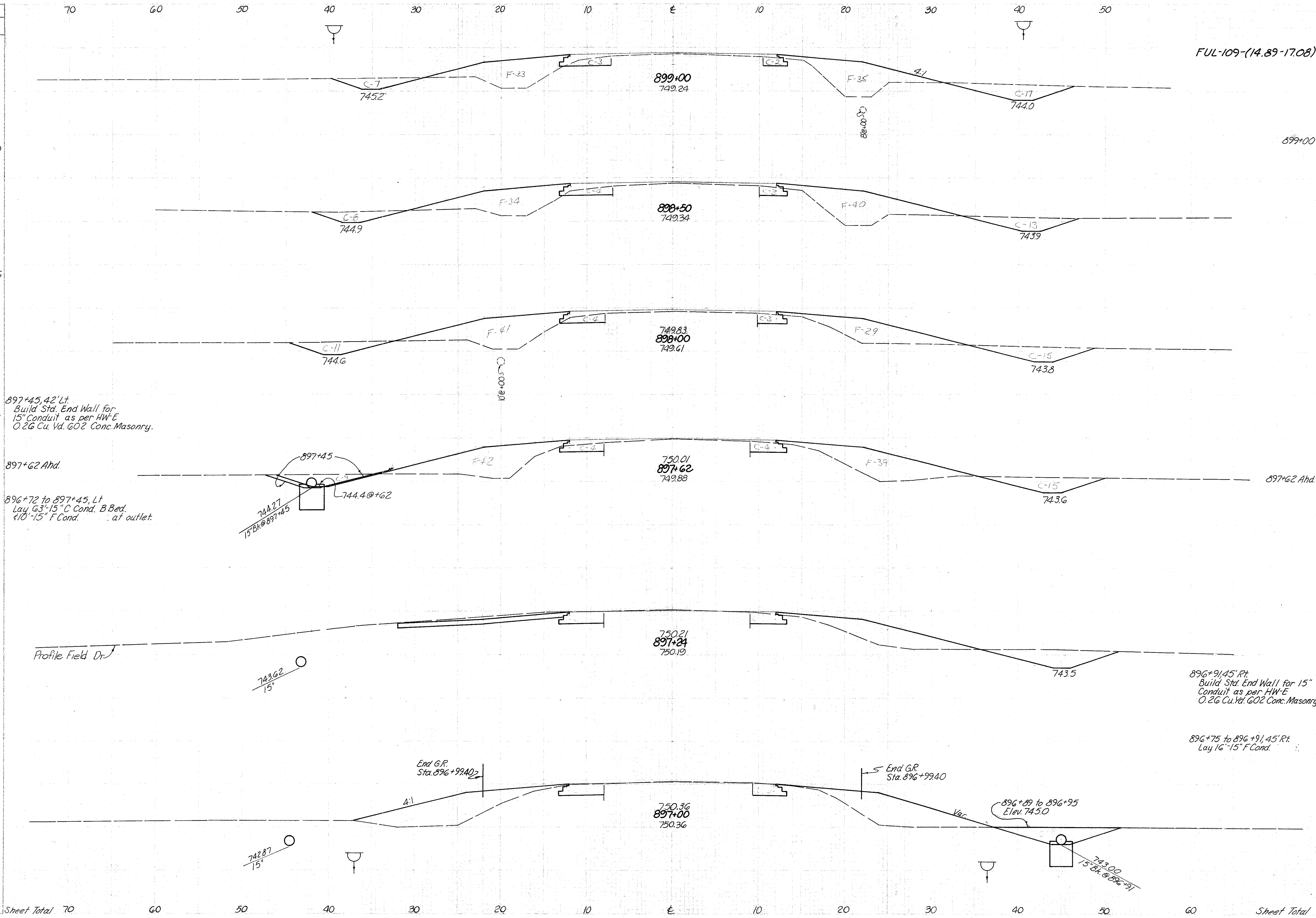


Station	End Area Cut	End Area Fill	Volume Cut	Volume Fill
			+474	+405
896+00 Bk.	32	160		
			57	300
895+50	29	164		
			37	210
895+00	11	62		
Sheet Total			568	915

Sta 895+50 to Sta 896+80

FUL-109-(14.89-17.08)

Seeding	
End Width	Sq. Yds.
69	
	389
71	
	406
75	
	327
80	
	1122 Sheet Total



	End Area		Volume	
	Cut	Fill	Cut	Fill
899+00	29	68		
			53	131
	28	74		
			57	133
	33	70		
			46	107
897+62 Ahd.	32	81		
Sheet Total			156	371

Sta. 897+00 to Sta. 899+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

71/83

FUL-109-(14.89-17.08)
0.1 Mi. N. of Seward

1st Bridge Upstream
Br. No. FUL-120-07.14
Located 1100± upstream on S.R. 120
Constructed 1959
Type: Continuous Reinf. concrete slab with capped pile substructure
Span: 22'-27.5'-22'-6" brgs.
Roadway: 36' f/f guard rail
Skew: 30° Lt. F.
Waterway Opening = 61.5 ft.
Average Clearance = 5.6 ft.

Tacked Hub
46.61'
46.43'
℄ Survey & Const.
Sta. 897+00

Shed
Bank Barn
Conc. Cistern
Elev. 740.0±
Field Dr. + 20
Survey & Const.
End Appr. Pavement Sta. 896+33.20
Begin Appr. Pavement Sta. 896+72.15
+30.65
+74.40
90° 4'
+32.69'
750.51
Transition 2:1 to 4:1 slopes at all four corners.
Clears assumed 5-10 yr. H.W. = 0.3'±
Barn
Conc. Cistern
Iron Rod
126.02'
36.20'
Survey & Const.
Sta. 896+00
38.88'
Wood Post
Elev. 740.0±
Bridge Limits
Sta. 896+33.20
Sta. 896+72.15
BEAR CREEK
751.15 +75
750.96
750.79 +25
750.65 +50
750.50 +75
750.36
750.21 +25
750.08 +50
749.95 +75
749.83
100' @ -0.58%
Assumed 5-10 yr. H.W. Elev. = 747.0
Ftg. Elev. 735.8±
Ftg. Elev. 735.6±
Excavate channel thru structure to Elev. 740.0±

1st Bridge Downstream
Fulton County Bridge at intersection of Co. Rds. "U" & "B"
Located 8000'± downstream
Constructed 1959
Type: Continuous reinf. concrete slab with capped pile substructure
Spans: 22'-27.5'-22'-6" brgs.
Roadway: 24'
Skew: None
Waterway Opening: 69 ft.
Average Clearance: 5.2 ft.

BM #24 Chiseled Square S.E. Corner 10'X10' Concrete Cistern Top STA. 894+73 46' Lt. Elevation 750.44

Approach Pavement 404, 24' wide with 10' berms

DATA ON EXISTING STRUCTURE
BR. NO. FUL-109-16.98

Type: Conc. beam with conc. abutments and wingwalls
Span: 36'-0" (Clear)
Roadway Width: 24'-0" f/f safety curbs
Skew: None
Alignment: Tangent
Approach Slabs: None
Condition: Good
Drainage Area: 16.4± Sq. Mi.

PROPOSED STRUCTURE
TYPE: Reinforced conc. beam widening of existing conc. beam bridge
SPAN: 36'-0" (Clear)
ROADWAY: 44'-0" f/f guard rails
LOAD FREQUENCY: CF=130(57)
SKEW: None
SURFACE COURSE: 2½"± Bituminous
APPR. SLABS: None
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

1/4

SITE PLAN

BRIDGE NO. FUL-109-1698
SR-109 OVER BEAR CREEK
FULTON CO. SR-109

SEC.
STA. 896+33.20
896+72.15
SCALE 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	N.J.B.	N.J.B.	W.J.J.	P.E.D.

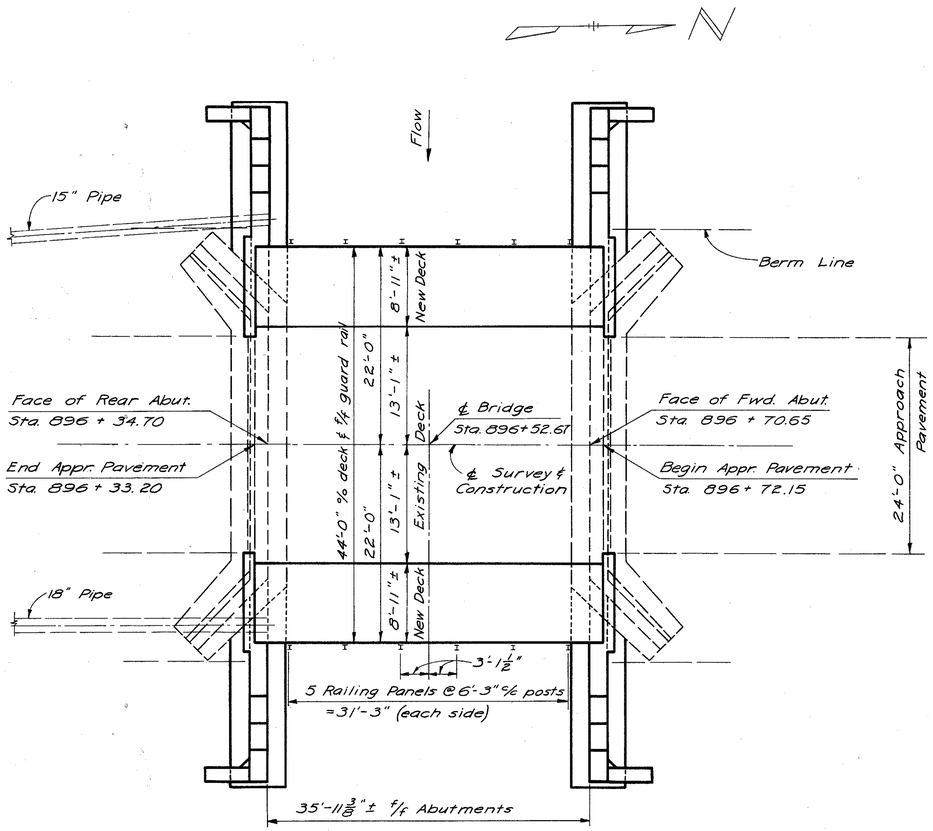
BFG 12-22-65

02539

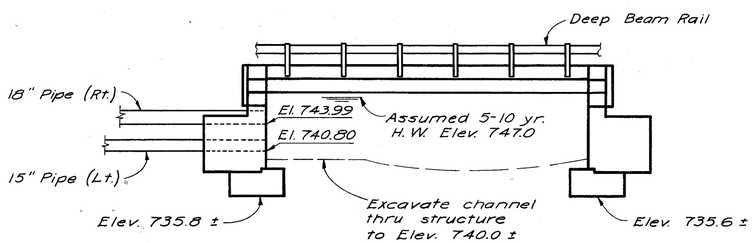
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

72/83

FUL-109-(14.89-17.08)



GENERAL PLAN

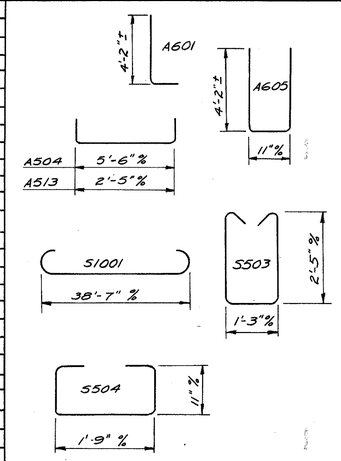


ELEVATION

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp
Superstructure				
S1001	16	41'-5"	2851	B
S1002	8	38'-7"	1328	S
S601	76	2'-0"	228	S
S501	284	8'-7"	2542	S
S502	34	38'-7"	1368	S
S503	96	6'-8"	668	B
S504	24	4'-4"	108	B
Abutments				
A601	60	4'-10"	436	B
A602	8	8'-9"	105	S
A603	8	10'-3"	123	S
A604	16	11'-10"	284	S
A605	36	8'-11"	482	B
D601	48	2'-0"	144	S
A501	4	18'-0"	75	S
A502	60	6'-8"	417	S
A503	28	6'-2"	180	S
A504	20	6'-6"	136	B
A505	24	8'-5"	211	S
A506	8	10'-0"	83	S
A507	16	11'-7"	193	S
A508	16	22'-0"	367	S
A509	24	20'-6"	513	S
A510	20	7'-8"	160	S
A511	8	8'-8"	72	S
A512	8	5'-7"	47	S
A513	32	3'-5"	114	B
A514	20	9'-7"	200	S
A515	16	3'-0"	50	S
Replacement Bars				
RE1001	1	7'-2"	—	S
RE601	1	5'-11"	—	S
RE501	1	5'-7"	—	S

Bending Diagram



BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A601 is a No. 6 size bar and S1001 is a No. 10 size.

GENERAL NOTES

REFERENCE shall be made to Supplemental Specification 808 dated 2-7-66 and 825 dated 4-22-65.

DESIGN LOADING: CF=130(57)

BASIC STRESSES: (Applies to new construction only)
- Concrete Class C - basic unit stress 1,333 p.s.i.
- Concrete Class E - basic unit stress 1,133 p.s.i.
- Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

PLANS OF EXISTING STRUCTURE may be examined in the office of the Bureau of Bridges in Columbus or in the Division Office in Bowling Green, Ohio

SHORING: Outside beams of existing bridge shall be supported by shoring during removal work and during construction of extensions. Shoring shall be adequate to carry live loads applied to the outside beams and shall prevent deflection of outside beams during construction of extensions. Shoring shall be in place before any removal work is begun. Details of proposed shoring shall be submitted to the Director for approval along with falsework plans in accordance with 501. Payment for shoring existing bridge shall be included in the unit price bid for item 511, Class "C" concrete, superstructure.

MAINTENANCE OF TRAFFIC: A minimum of one lane traffic shall be maintained at all times.

PROPOSED WORK:

1. Remove existing railing, curb, and fascia on both sides of existing bridge to the extent shown on plans.
2. Remove existing bituminous wearing surface.
3. Remove portions of existing abutments as shown on plans. Existing wingwalls shall be removed to the extent necessary to avoid interference with construction.
4. Construct proposed extensions of abutments and superstructure.
5. Apply Type "C" waterproofing to top surface of existing deck and extensions and to deck fascia.
6. Place Asphaltic concrete leveling course where required and place Asphaltic concrete surface course.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abuts.	Gen'l		
202	Lump	Sum	Portions of Existing Structure Removed			Lump		
503	Lump	Sum	Cofferdams, Cribs and Sheeting			Lump		
503	155	Cu.Yd.	Unclassified Excavation		155			
509	13,485	Lbs.	Reinforcing Steel	9093	4392			
510	124	Lin.Ft.	Dowel Holes	76	48			
511	38	Cu.Yd.	Class "C" Concrete, superstructure	38				
511	79	Cu.Yd.	Class "E" Concrete, abutments above footings		79			
511	46	Cu.Yd.	Class "E" Concrete, footings		46			
512	200	Sq.Yd.	Type "C" Waterproofing	200				
516	9	Sq.Ft.	½" Preformed expansion joint filler AASHO M153					
			Type I	9				
517	7790	Lin.Ft.	Railing (Deep beam rail with galvanized steel	7790				
			posts and bolts)					
518	36	Cu.Yd.	Porous backfill		36			
808	38	Unit	Water-reducing, set-retarding admixture	38				
825	88	Sq.Yds.	Concrete Surface Treatment	82	6			
402	2	Cu.Yd.	Asphalt concrete (70-85)	2				
404	14	Cu.Yd.	Asphalt concrete (70-85)	14				

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

2

GENERAL PLAN & ELEVATION, NOTES, ESTIMATED QUANTITIES & REINFORCING STEEL LIST

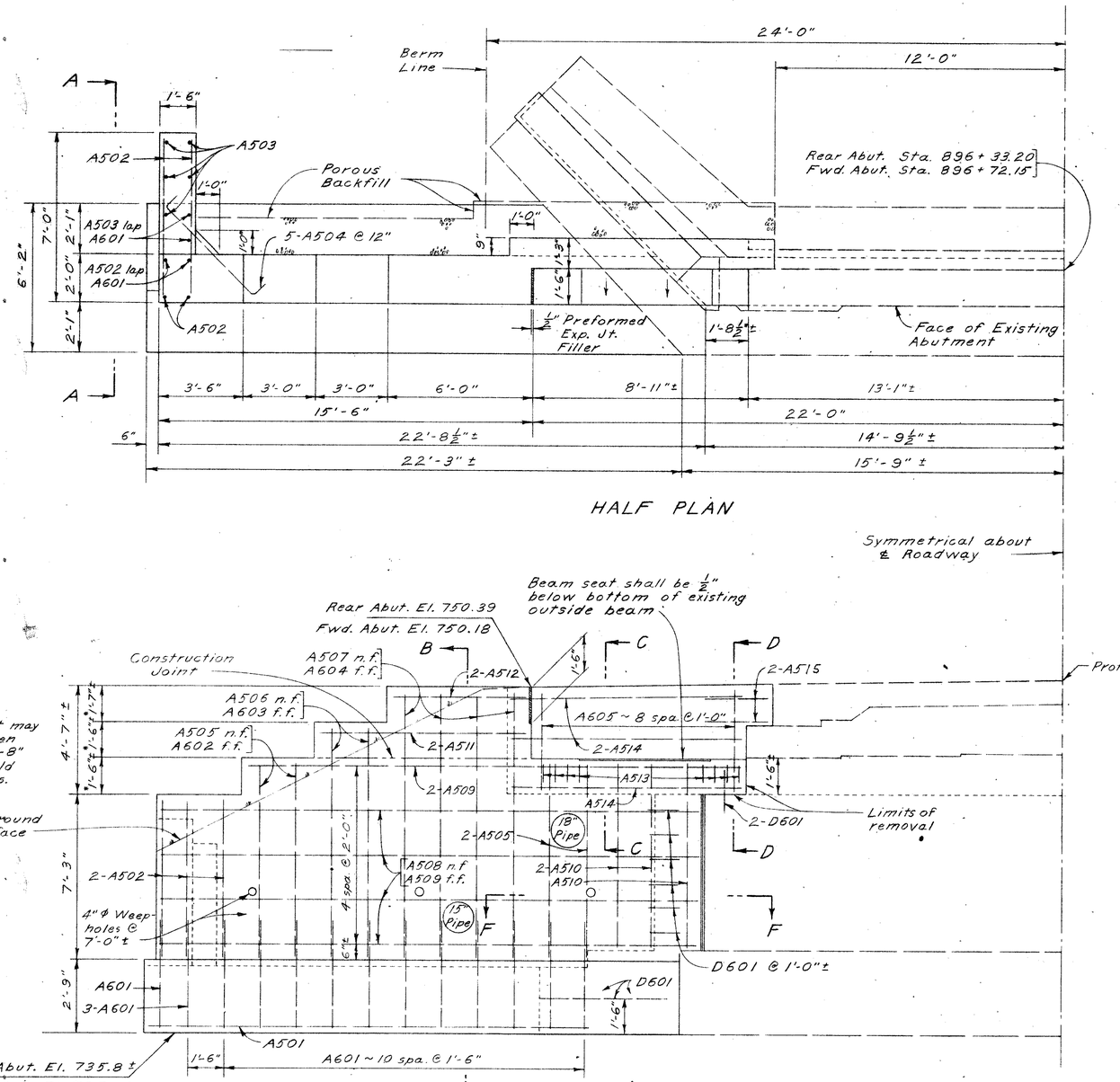
BRIDGE NO. FUL-109-1698
OVER BEAR CREEK
FULTON COUNTY Sta. 896+33.20
Sta. 896+72.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FFE	FFE	R.M.D.		BFG	12-22-65	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

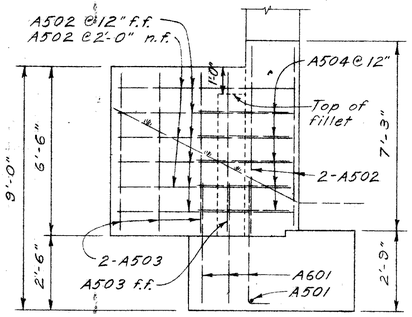
FUL-109-(14.89-1708)

73
83

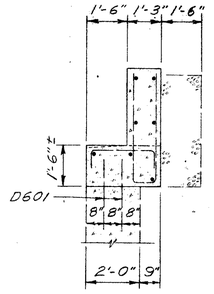


HALF PLAN

Symmetrical about ℄ Roadway

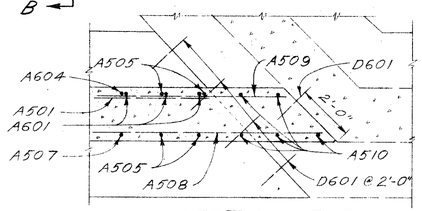


VIEW A-A

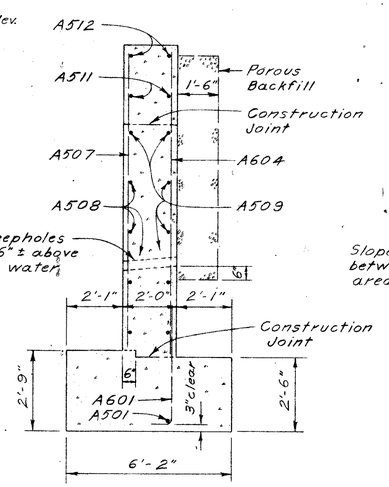


SECTION D-D

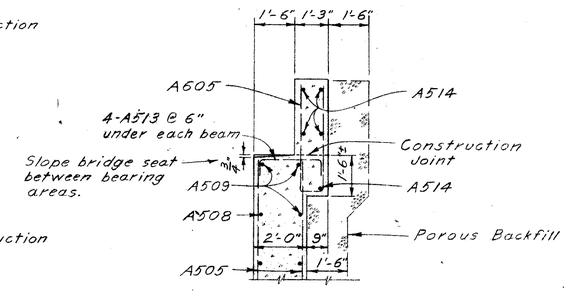
HALF ELEVATION



SECTION F-F



SECTION B-B



SECTION C-C

All D601 dowel bars shall extend 12" into existing concrete.

Spread reinforcing bars where necessary to clear 18" Pipe located right rear and 15" Pipe located left rear.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

ABUTMENT DETAILS

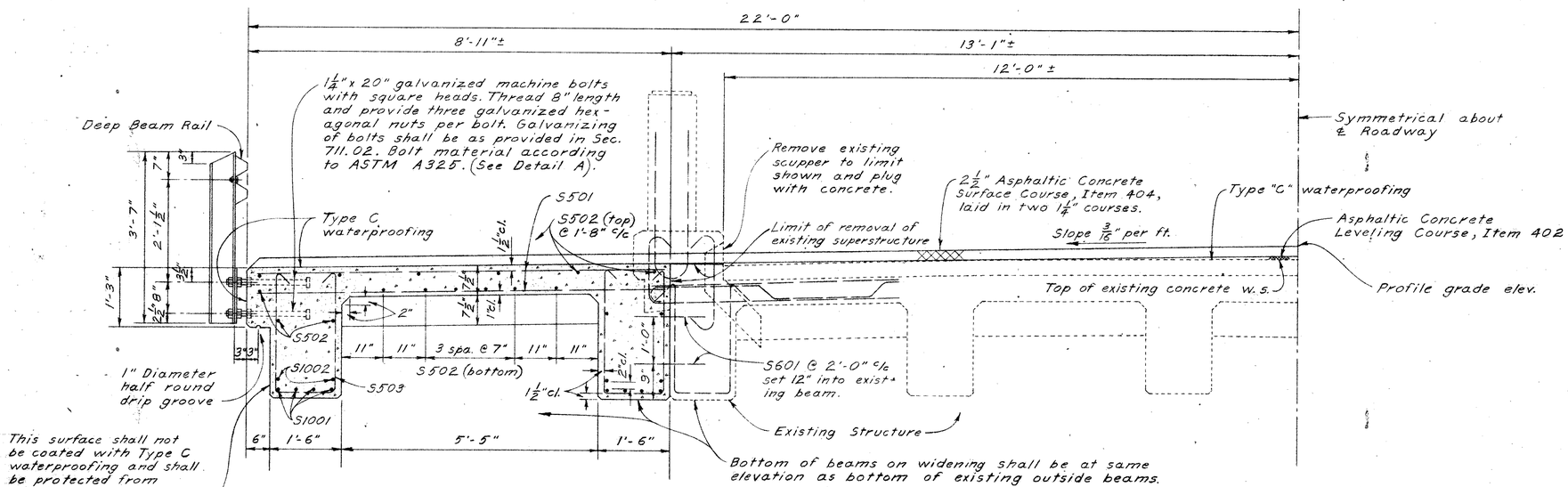
BRIDGE No. FUL-109-1698
OVER BEAR CREEK
FULTON COUNTY Sta. 895+33.20
Sta. 895+72.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FFE	FFE			BFG	12-22-65	

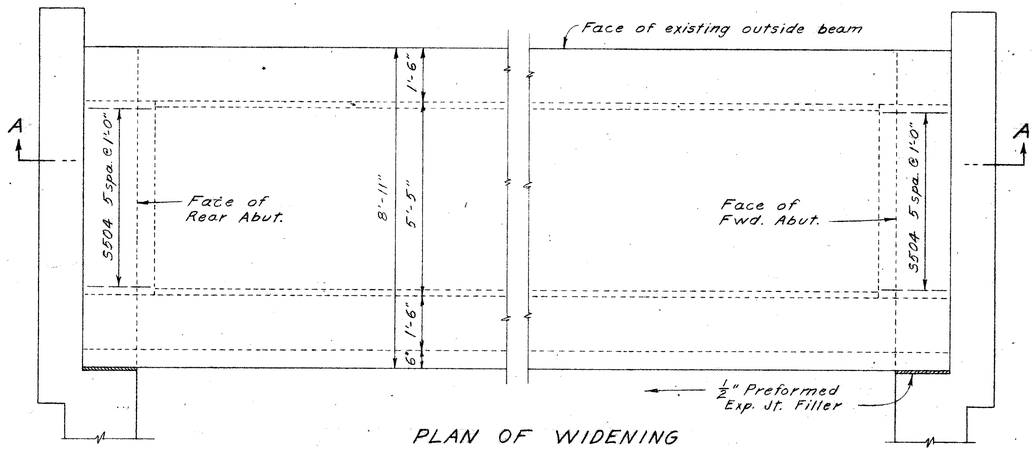
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

74
83

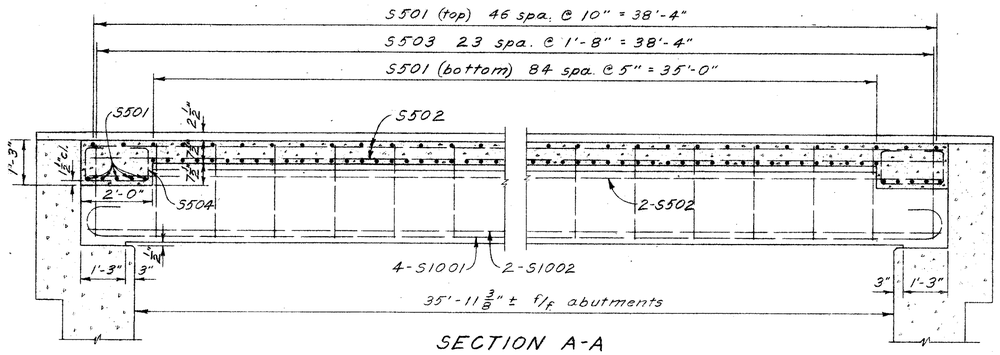
FUL-109-(17.89-17.08)



HALF TRANSVERSE SECTION THRU SUPERSTRUCTURE



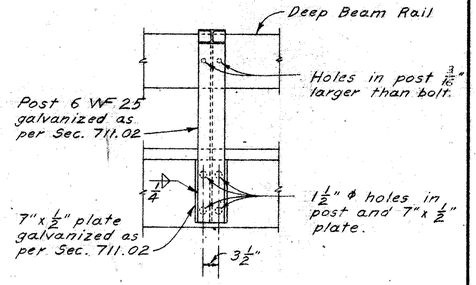
PLAN OF WIDENING
East side shown



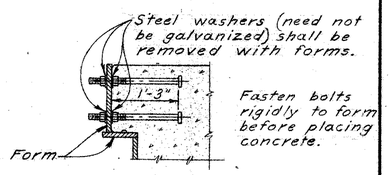
SECTION A-A

EXISTING RAILING and CURB shall be removed to 2½" below proposed roadway surface. Existing superstructure fascia shall be removed flush with face of outside beam except that transverse reinforcing bars exposed by removal of fascia concrete shall not be removed.

EXISTING BITUMINOUS WEARING SURFACE, 3" ± thick, shall be removed.



ELEVATION OF RAILING POST



DETAIL A

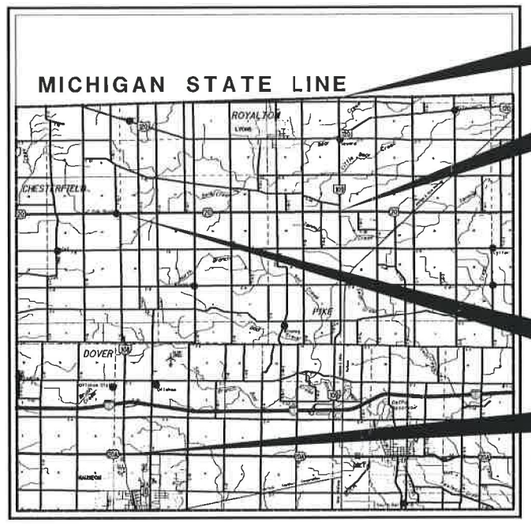
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS

BRIDGE No. FUL-109-1698
OVER BEAR CREEK
FULTON COUNTY Sta. 896+33.20
Sta. 896+72.15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FFE	FFE		Ray	BFG	12-22-65	

RESURFACE PLANS



End Project
Location 2
℄ S.R. 109
Sta. 950+71.00

Resume Project
Location 2
℄ S.R. 109
Sta. 786+87.96

Suspend Project
Location 1
℄ S.R. 108
Sta. 706+48.00

Begin Project
Location 1
℄ S.R. 108
Sta. 357+35.00

LOCATION MAP

LATITUDE: 41°37'05" LONGITUDE: 84°02'14"

SCALE IN MILES
0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

FUL-108/109-6.77/14.90

CLINTON, DOVER, CHESTERFIELD, AND ROYALTON TOWNSHIPS
FULTON COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

RESURFACE S.R. 108 FROM U.S.-20A TO U.S. 20 AND ON S.R. 109 FROM U.S. 20 TO STATE LINE IN FULTON COUNTY; PERFORM ALL NECESSARY RELATED WORK.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

DESIGN DESIGNATION

	COUNTY SLM	FUL-108 6.77-13.39	FUL-109 14.90-18.00
OPENING YEAR ADT (2018)		6500	2900
DESIGN YEAR ADT (2030)		6600	3700
DESIGN HOURLY VOLUME (2030)		660	440
DIRECTIONAL DISTRIBUTION		56%	70%
DESIGN FUNCTIONAL CLASSIFICATION:		Rural Principal Arterial	Rural Minor Arterial
TRUCKS (24 HOUR B&C)		12%	13%
DESIGN SPEED		60 MPH	60 MPH
LEGAL SPEED		55 MPH	55 MPH

NHS PROJECT ..... YES, FUL-108 *SLM 8.01-13.39*

DESIGN EXCEPTIONS

NONE REQUIRED

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS
BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:
DISTRICT 2 PRODUCTION

ENGINEERS SEAL:

STATE OF OHIO — JULIE M. FAHY E-63302 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Julie M Fahy
DATE: 12-6-17

ENGINEERS SEAL:

STATE OF OHIO — DAVID J. GECKLE E-72729 REGISTERED PROFESSIONAL ENGINEER

SIGNED: David J. Geckle
DATE: 12-6-17

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	MT-97.10	7/18/14	DBR-2-73	7/19/02		
BP-9.1	7/21/17	MT-97.12	1/20/17	DBR-3-11	7/15/11		
RM-1.1	7/18/14	MT-98.20	7/18/14				
		MT-99.20	7/21/17				
		MT-101.90	7/21/17				
		MT-105.10	7/19/13				
		TC-64.10	1/20/17				
		TC-65.10	1/17/14				
		TC-65.11	7/21/17				
		TC-71.10	1/20/17				

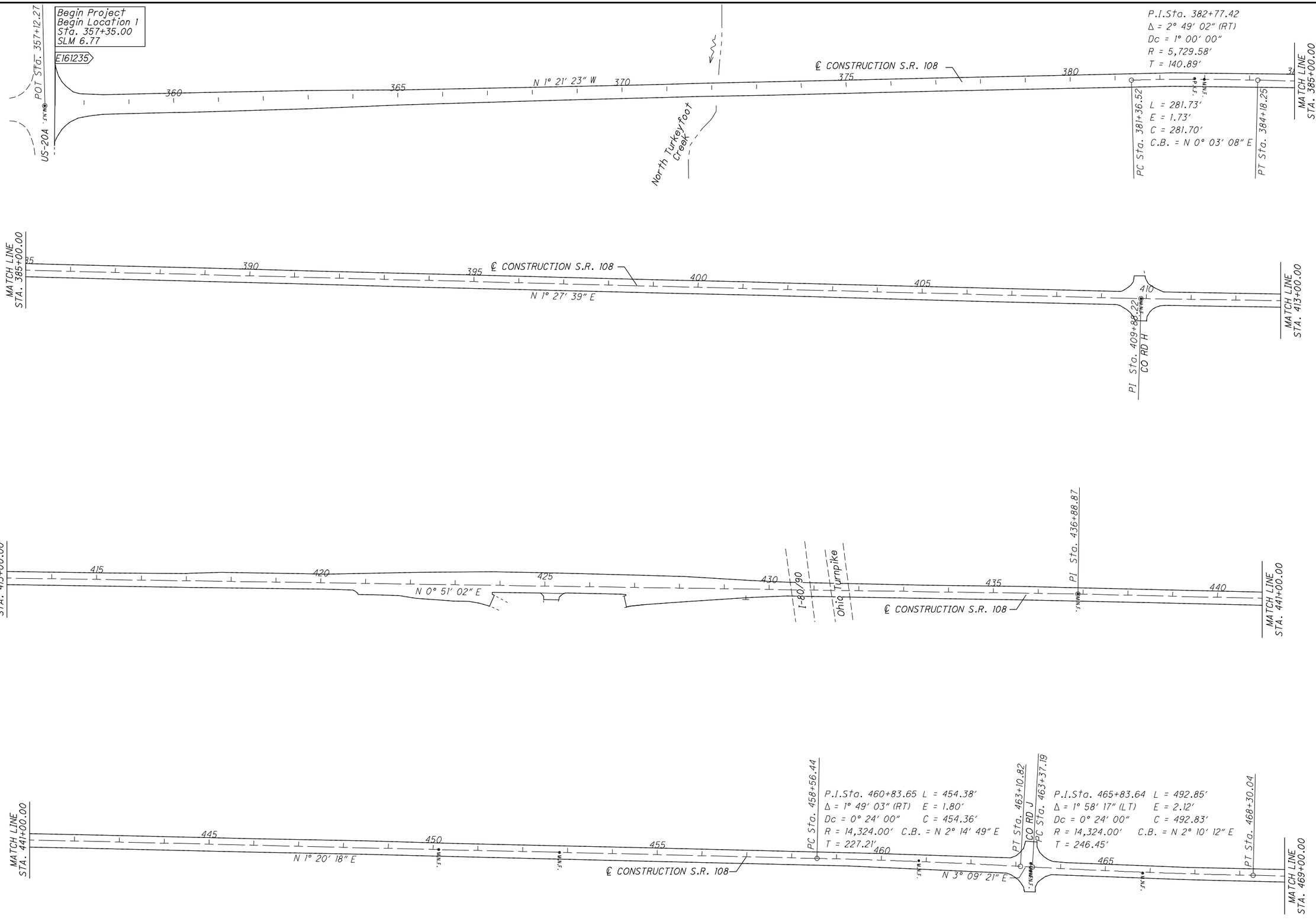
SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
800	1/19/18	ASBESTOS 9/13/17
832	1/17/14	
875	1/17/14	

APPROVED Patrick M. Kelly, PE
DATE 12/7/17 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E161235
PID NO. 102802
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
FUL-108/109-6.77/14.90
1/39

I:\Project Data\FUL\102802-FUL-108.109-6.7\Design\Roadway\Sheets\102802_GT001.dgn Sheet 12/4/2017 8:37:41 AM rhanna



HORIZONTAL SCALE IN FEET
0 50 100 200

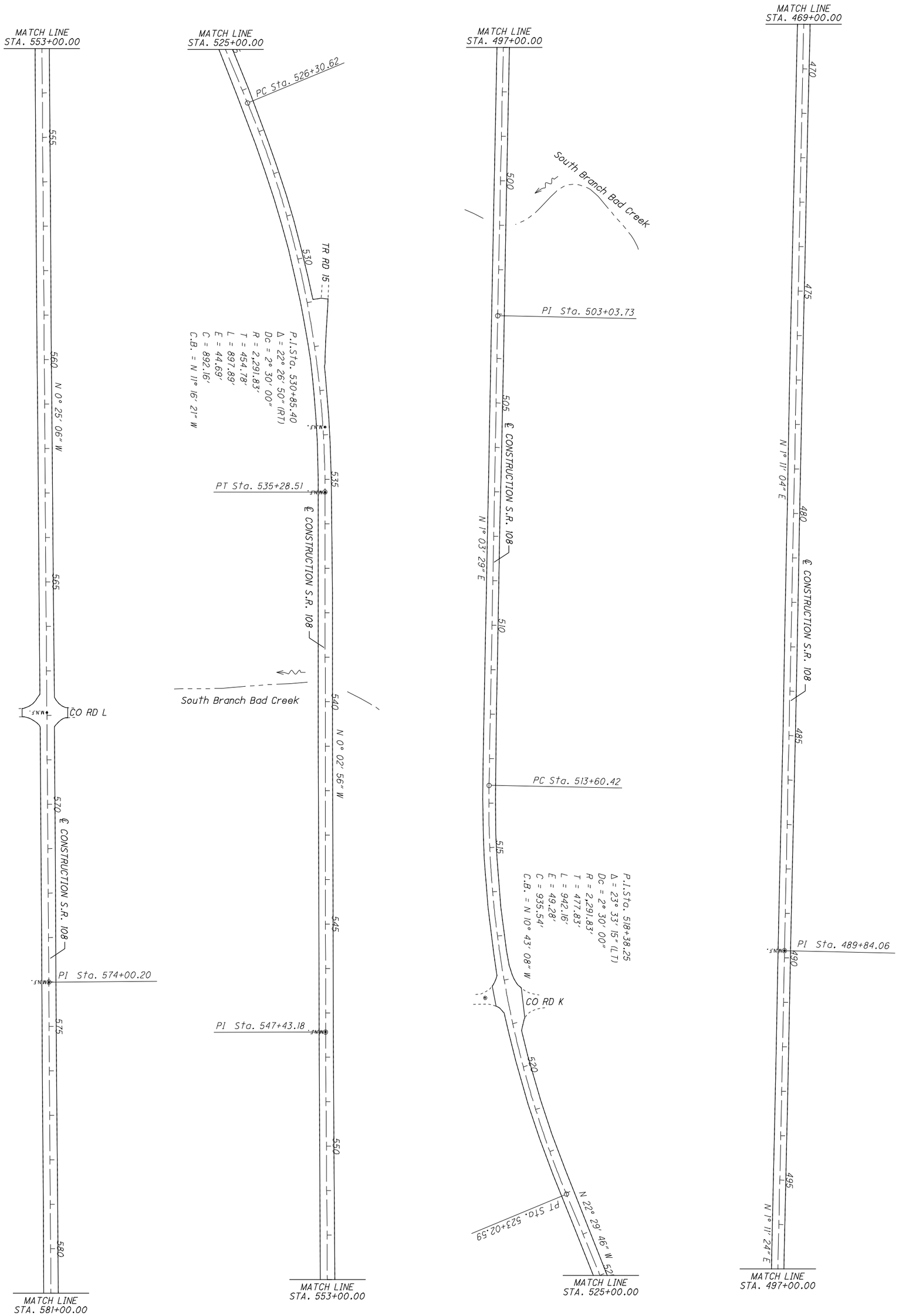
CALCULATED RSH
CHECKED DAR

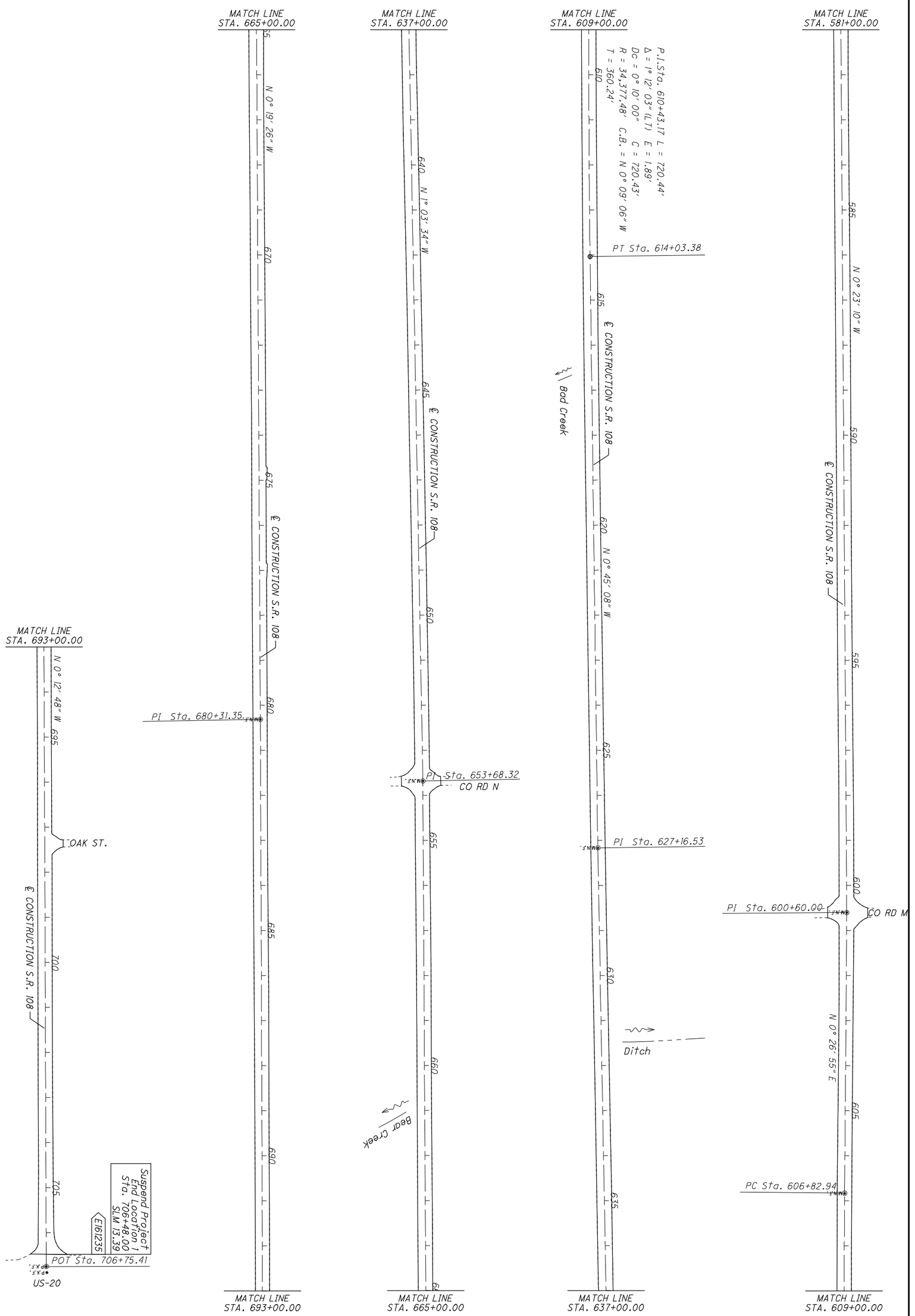
FUL-108 SCHEMATIC PLAN (SHEET 1 OF 5)

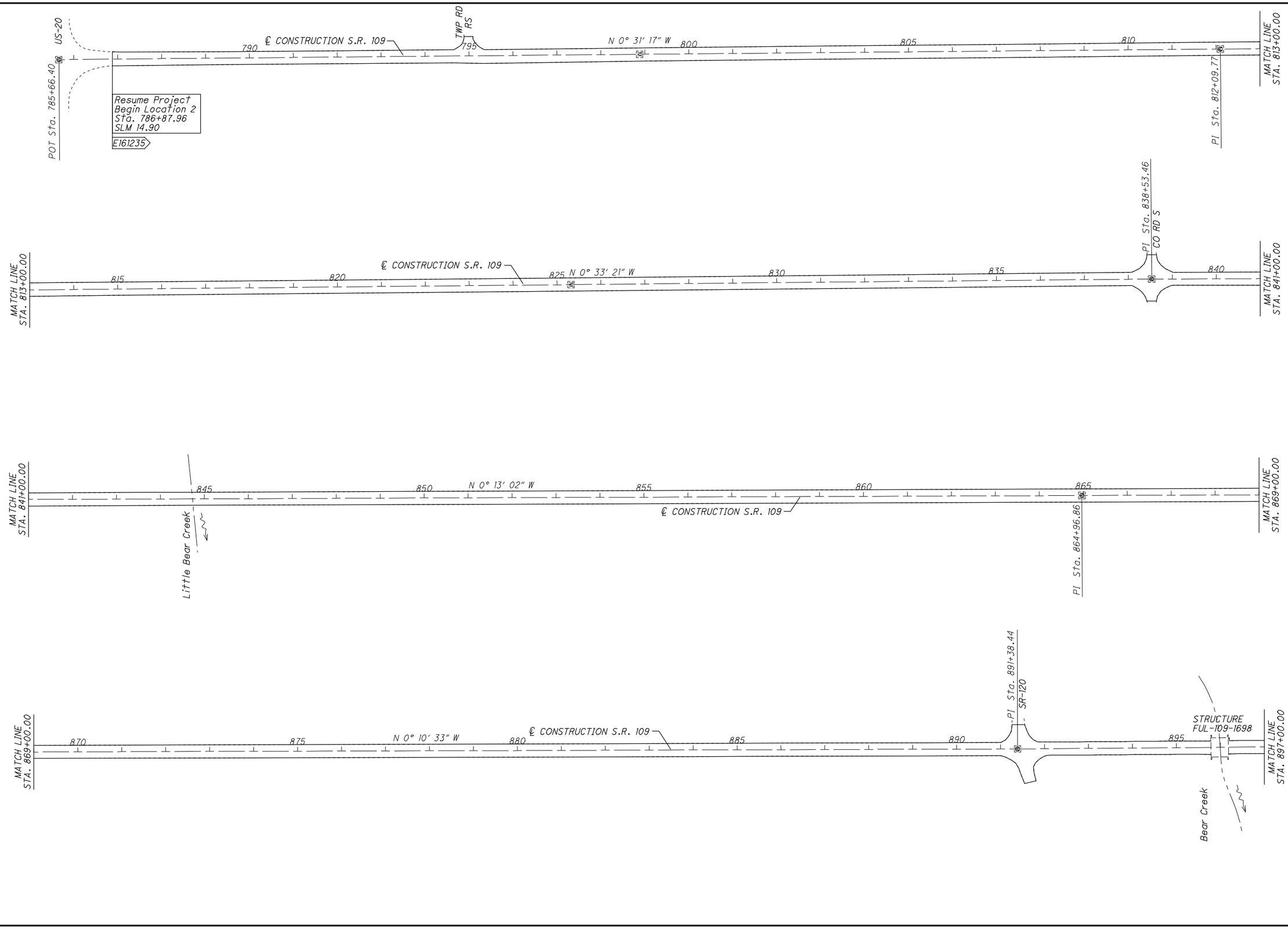
FUL-108/109-6.77/14.90

2
39

I:\Project Data\FUL\102802_FUL-108_109-6.7\Design\Roadway\Sheets\102802_GB001.dgn Sheet 12/4/2017 6:52:40 AM rhanna


MATCH LINE
STA. 553+00.00
555
560
N 0° 25' 06" W
565
CO RD L
570
℄ CONSTRUCTION S.R. 108
PI Sta. 574+00.20
575
580
MATCH LINE
STA. 581+00.00
MATCH LINE
STA. 525+00.00
PC Sta. 526+30.62
530
TR RD 15
P.I.Sta. 530+85.40
Δ = 22° 26' 50" (RT)
Dc = 2° 30' 00"
R = 2,291.83'
T = 454.78'
L = 897.89'
E = 44.69'
C = 892.16'
C.B. = N 11° 16' 21" W
PT Sta. 535+28.51
535
℄ CONSTRUCTION S.R. 108
South Branch Bad Creek
540
N 0° 02' 56" W
545
PI Sta. 547+43.18
550
MATCH LINE
STA. 553+00.00
MATCH LINE
STA. 497+00.00
500
South Branch Bad Creek
PI Sta. 503+03.73
505
℄ CONSTRUCTION S.R. 108
N 1° 03' 29" E
510
PC Sta. 513+60.42
515
P.I.Sta. 518+38.25
Δ = 23° 33' 15" (LT)
Dc = 2° 30' 00"
R = 2,291.83'
T = 477.83'
L = 942.16'
E = 49.28'
C = 935.54'
C.B. = N 10° 43' 08" W
CO RD K
520
PT Sta. 523+02.59
N 22° 29' 46" W
525
MATCH LINE
STA. 525+00.00
MATCH LINE
STA. 469+00.00
470
475
N 1° 11' 04" E
480
℄ CONSTRUCTION S.R. 108
485
PI Sta. 489+84.06
490
495
N 1° 11' 24" E
MATCH LINE
STA. 497+00.00


MATCH LINE
STA. 665+00.00
N 0° 19' 26" W
℄ CONSTRUCTION S.R. 108
PI Sta. 680+31.35
MATCH LINE
STA. 693+00.00
MATCH LINE
STA. 637+00.00
MATCH LINE
STA. 665+00.00
N 1° 03' 34" W
℄ CONSTRUCTION S.R. 108
PI Sta. 653+68.32
CO RD N
Bear Creek
MATCH LINE
STA. 609+00.00
P.I.Sta. 610+43.17 L = 720.44'
Δ = 1° 12' 03" (LT) E = 1.89'
Dc = 0° 10' 00" C = 720.43'
R = 34,377.48' C.B. = N 0° 09' 06" W
T = 360.24'
PT Sta. 614+03.38
℄ CONSTRUCTION S.R. 108
Bad Creek
N 0° 45' 08" W
PI Sta. 627+16.53
Ditch
MATCH LINE
STA. 581+00.00
N 0° 23' 10" W
℄ CONSTRUCTION S.R. 108
PI Sta. 600+60.00
CO RD M
N 0° 26' 55" E
PC Sta. 606+82.94
MATCH LINE
STA. 609+00.00
MATCH LINE
STA. 637+00.00
MATCH LINE
STA. 665+00.00
MATCH LINE
STA. 693+00.00
N 0° 12' 48" W
OAK ST.
℄ CONSTRUCTION S.R. 108
Suspend Project
End Location 1
Sta. 706+48.00
SLM 13.39
E161235
POT Sta. 706+75.41
US-20



N

0 50 100 200
HORIZONTAL
SCALE IN FEET

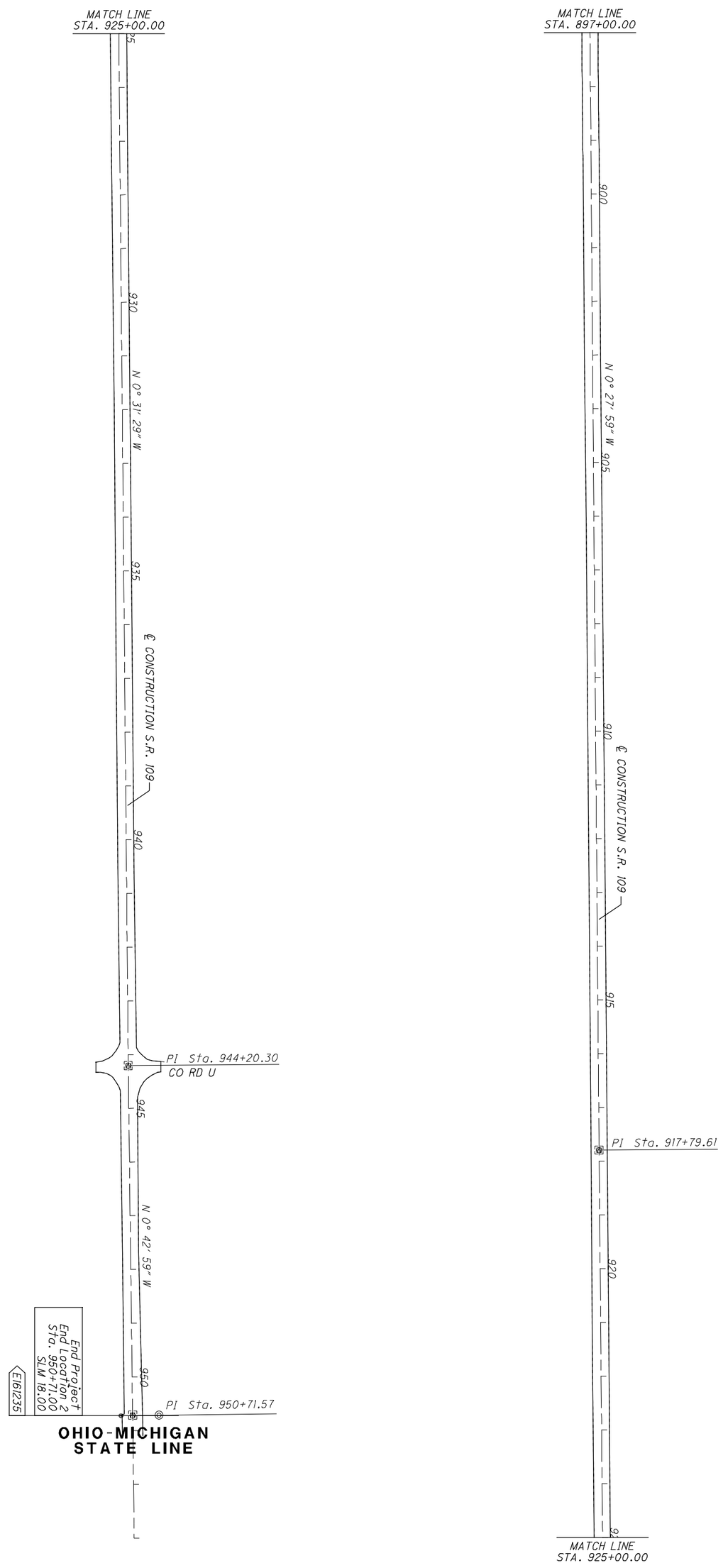
CALCULATED RSH
CHECKED DAR

FUL-109 SCHEMATIC PLAN (SHEET 4 OF 5)

FUL-108/109-6.77/14.90

5
39

I:\ProjectData\FUL\02802_FUL-108-109-6.7\Design\Roadway\Sheets\02802_GB004.dgn Sheet 12/4/2017 6:55:11 AM rhanna



FUL-108/109-6.77/14.90

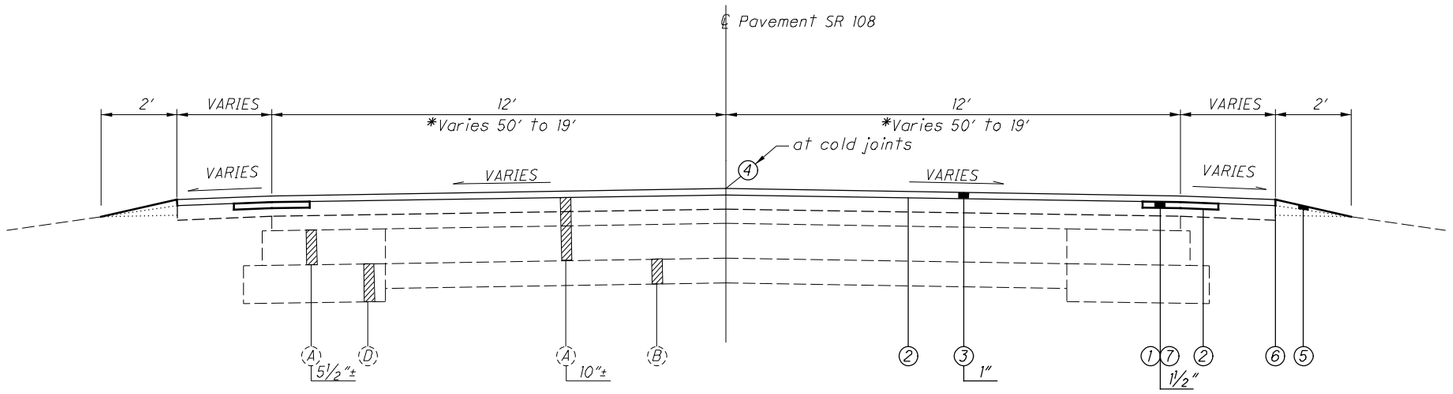
FUL-109 SCHEMATIC PLAN (SHEET 5 OF 5)

CALCULATED RSH
CHECKED DAR

0 50 100 200
HORIZONTAL SCALE IN FEET

N

TYPICAL SECTION "A"



Typical Section Applies: *Sta. 357+35 to Sta. 359+10 = 175 Ft.
Sta. 414+00 to Sta. 419+30 = 530 Ft.
Sta. 440+00 to Sta. 462+95 = 2295 Ft.
3000 Ft.

LEGEND

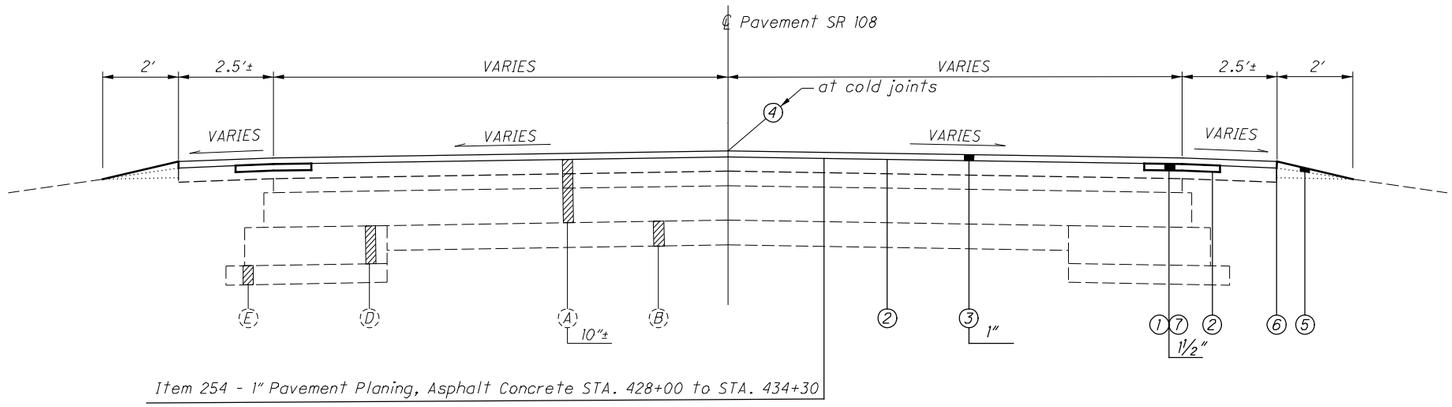
1. Item 254 - 2' Wide Pavement Planing, Asphalt Concrete (Thickness as Shown), As Per Plan
2. Item 407 - Non Tracking Tack Coat
3. Item 424- 1" Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan
4. Item 875 - Longitudinal Joint Adhesive
5. Item 617 - Compacted Aggregate
6. Item 209 - Linear Grading
7. Item 441 - 2' Wide Asphalt Concrete Surface Course, Type 1, (448), PG64-22 (Thickness as Shown)

(A) Existing Asphalt (Thickness as Shown)
(B) Macadam
(C) 6" Asphalt Base Course
(D) 6" Crushed Aggregate Base Course
(E) 3" Subbase

FUL-108 TYPICAL SECTIONS (LOCATION 1)

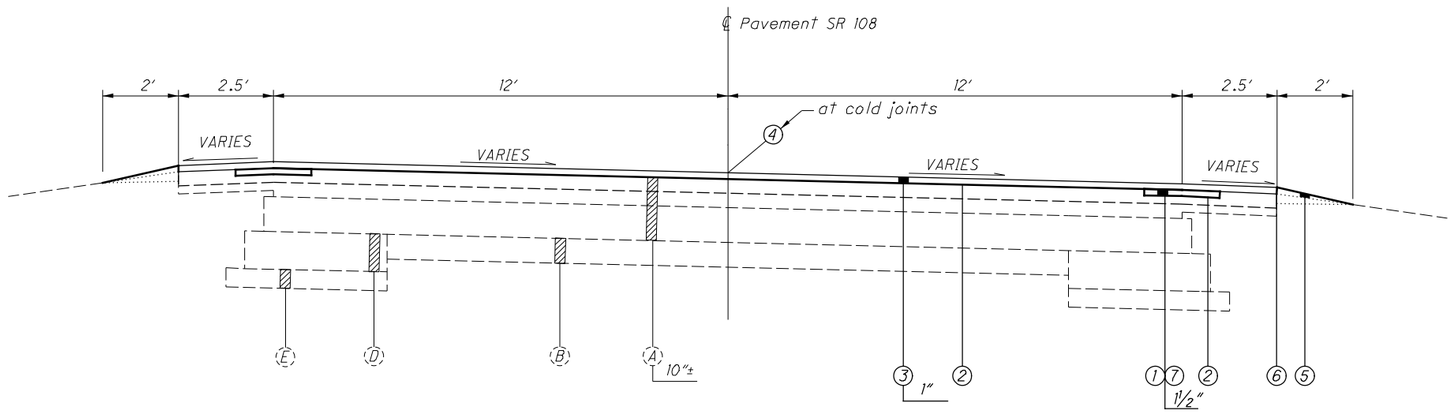
FUL-108/109-6.77/14.90

TYPICAL SECTION "B"



Typical Section Applies: Sta. 359+10 to Sta. 380+05 = 2095 Ft.
Sta. 389+55 to Sta. 396+45 = 690 Ft.
Sta. 404+55 to Sta. 414+00 = 945 Ft.
Sta. 432+80 to Sta. 440+00 = 720 Ft.
4450 Ft.

TYPICAL SECTION "C"



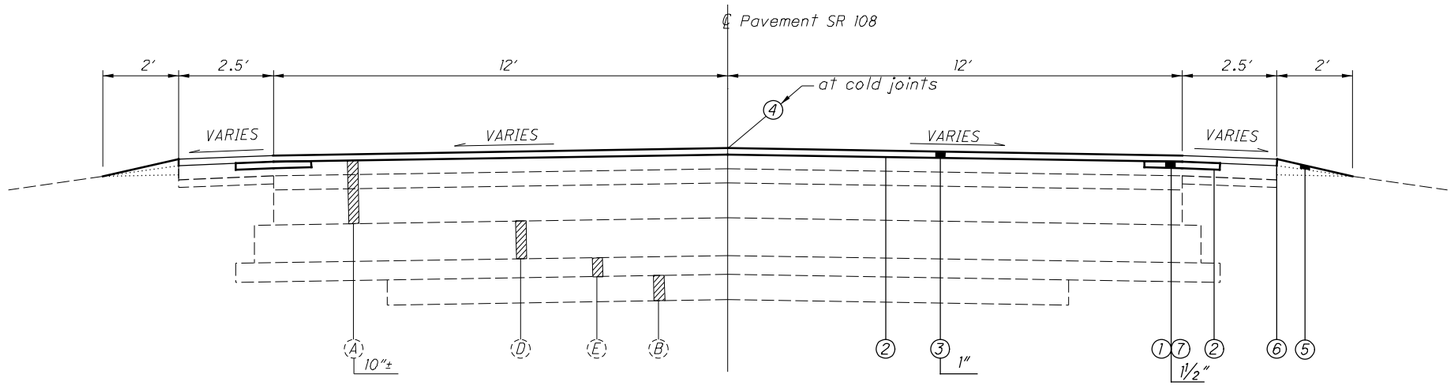
Typical Section Applies: Sta. 380+05 to Sta. 385+55 = 550 Ft.

See Sheet No. 7 For Legend

FUL-108 TYPICAL SECTIONS (LOCATION 1)

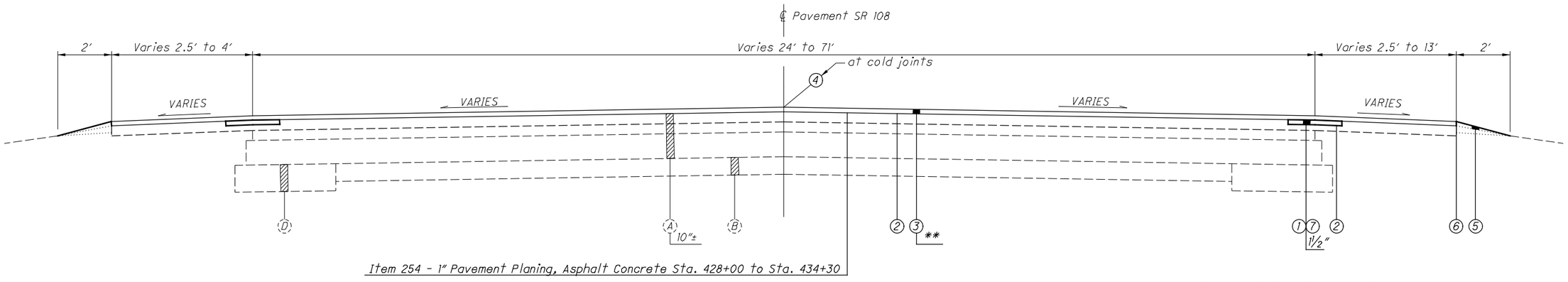
FUL-108/109-6.77/14.90

TYPICAL SECTION "D"



Typical Section Applies: Sta. 385+55 to Sta. 389+55 = 400 Ft.
Sta. 396+45 to Sta. 404+55 = 810 Ft.
1210 Ft.

TYPICAL SECTION "E"



Item 254 - 1" Pavement Planing, Asphalt Concrete Sta. 428+00 to Sta. 434+30

** 1" Overlay Except for Sta. 428+00 to Sta. 434+30 where
it will be 1" Mill & 1" Fill due to Clearance at the Ohio Turnpike Bridge

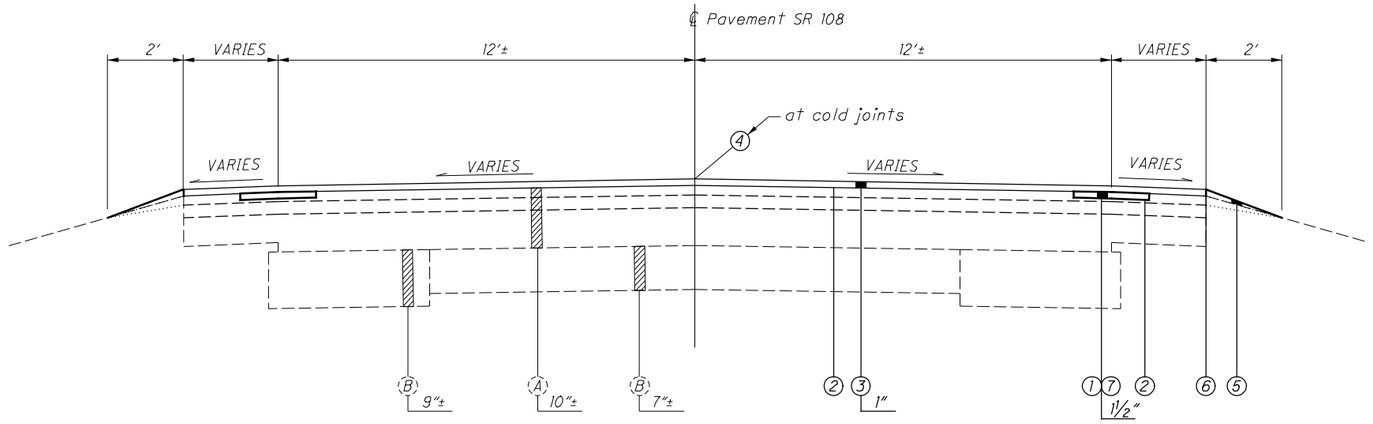
Typical Section Applies: Sta. 419+30 to Sta. 432+80 = 1350 Ft.

See Sheet No. 7 For Legend

FUL-108 TYPICAL SECTIONS (LOCATION 1)

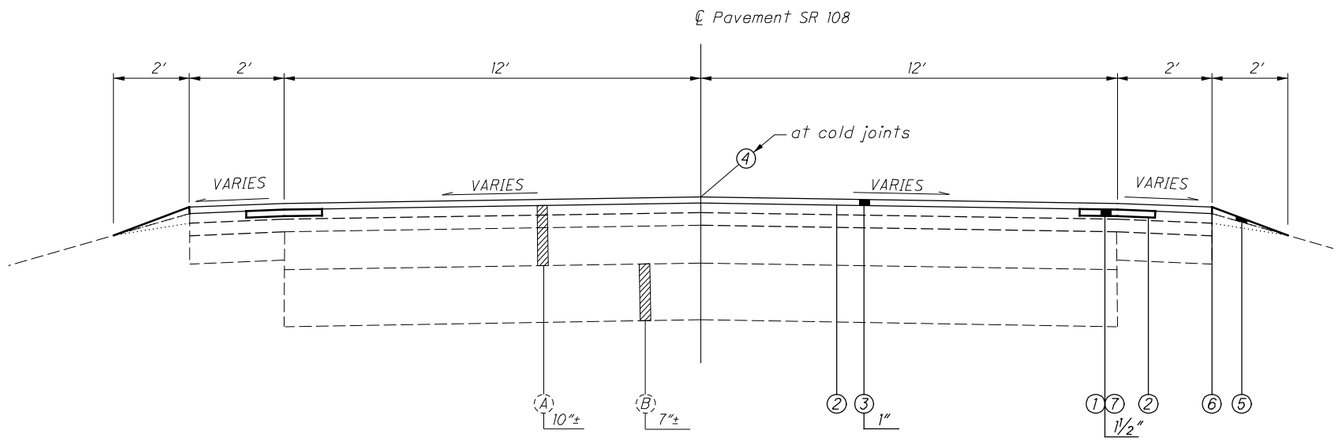
FUL-108/109-6.77/14.90

TYPICAL SECTION "F"



Typical Section Applies: Sta. 462+95 to Sta. 506+05 = 4310 Ft.

TYPICAL SECTION "G"



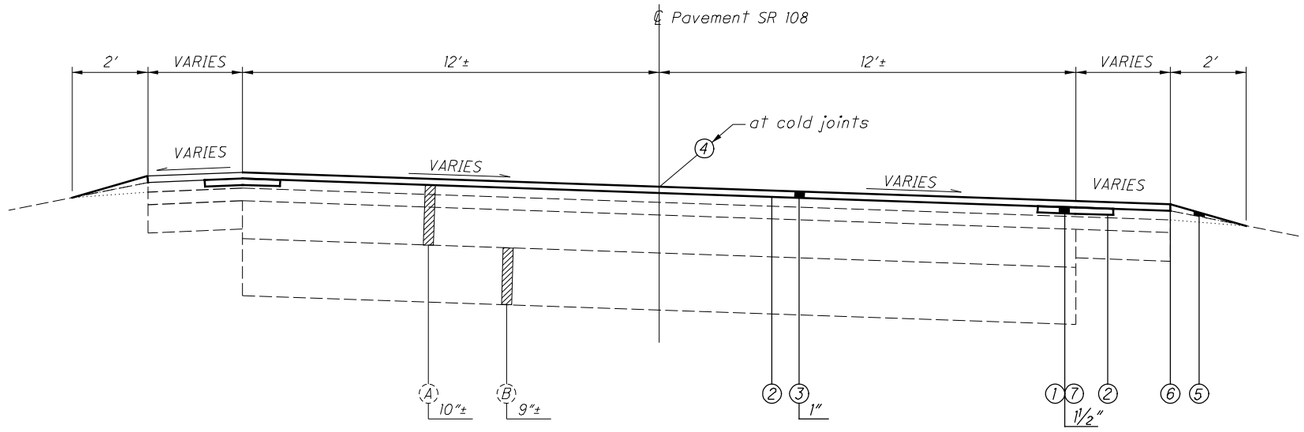
Typical Section Applies: Sta. 506+05 to Sta. 511+95 = 590 Ft.

See Sheet No. 7 For Legend

FUL-108 TYPICAL SECTIONS (LOCATION 1)

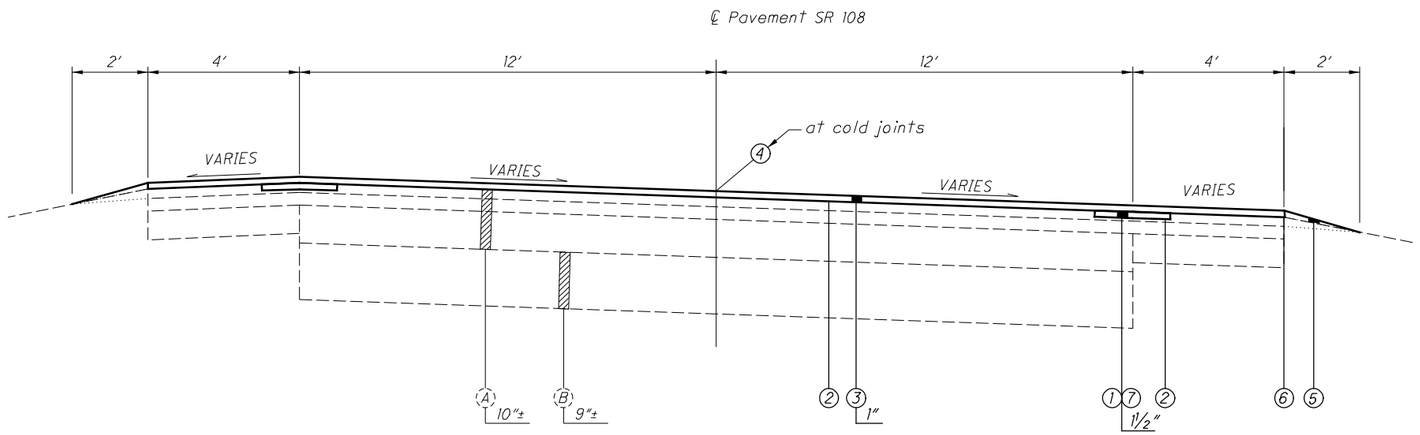
FUL-108 / 109-6.77 / 14.90

TYPICAL SECTION "H"



Typical Section Applies: Sta. 511+95 to 535+45 = 2350 Ft.

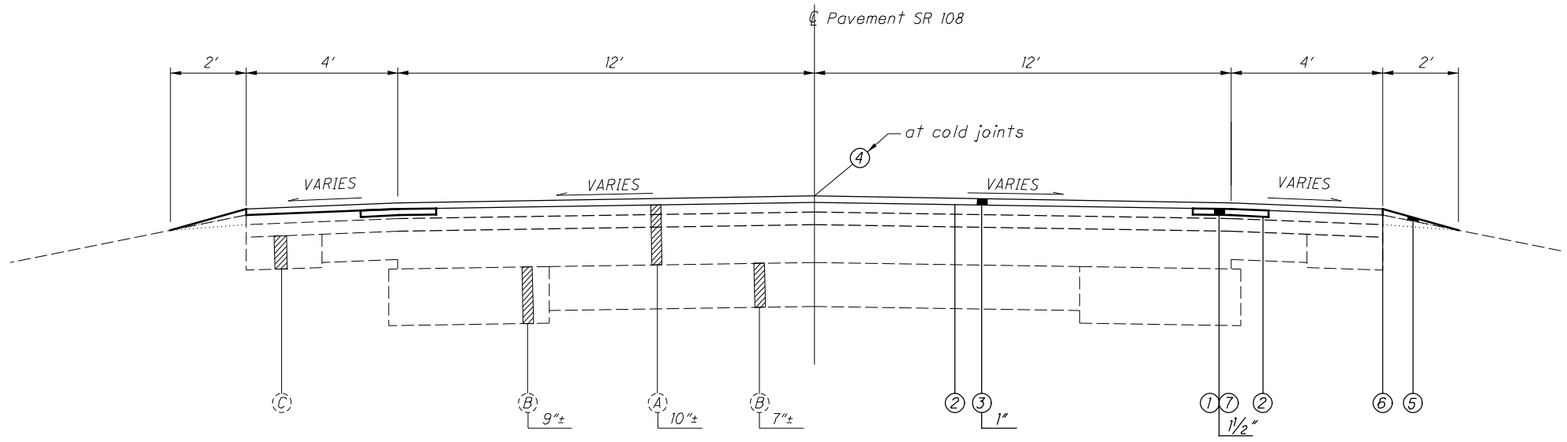
TYPICAL SECTION "I"



Typical Section Applies: Sta. 535+45 to Sta. 536+60 = 115 Ft.

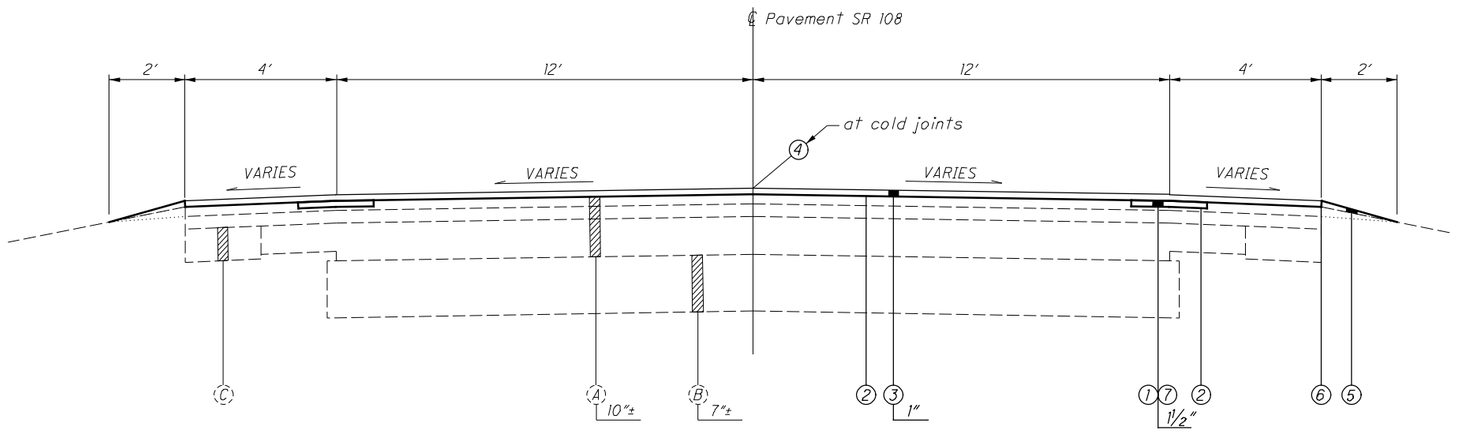
See Sheet No. 7 For Legend

TYPICAL SECTION "J"



Typical Section Applies: Sta. 536+60 to Sta. 573+95 = 3735 Ft.
Sta. 577+95 to Sta. 585+95 = 800 Ft.
Sta. 590+95 to Sta. 706+48 = 11553 Ft.
16088 Ft.

TYPICAL SECTION "K"



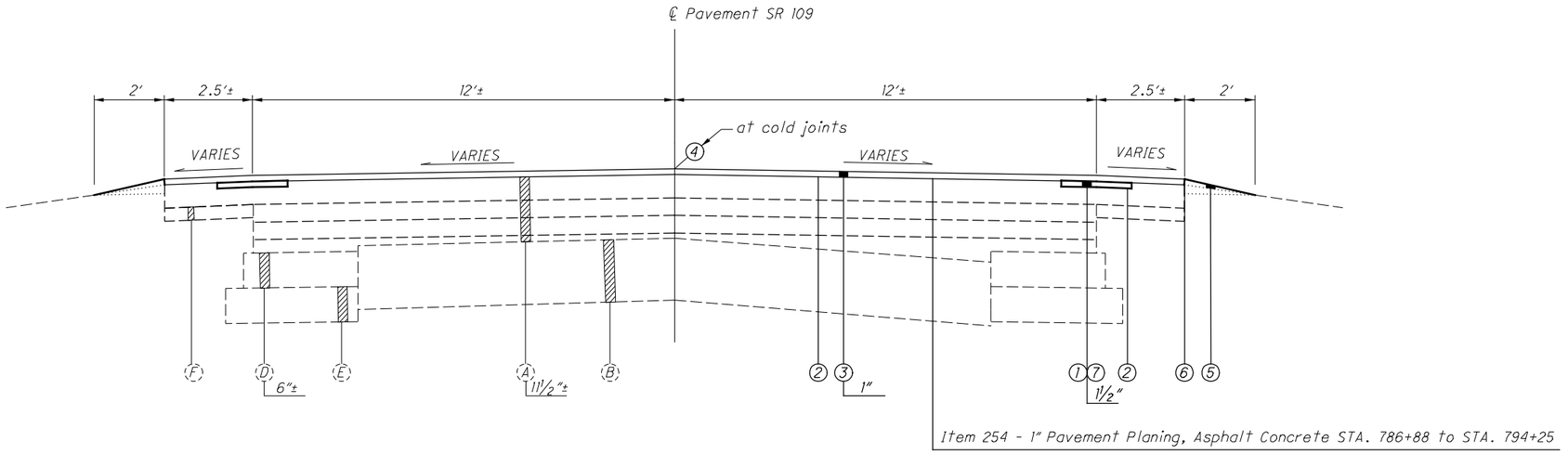
Typical Section Applies: Sta. 573+95 to Sta. 577+95 = 400 Ft.
Sta. 585+95 to Sta. 590+95 = 500 Ft.
900 Ft.

See Sheet No. 7 For Legend

FUL-108 TYPICAL SECTIONS (LOCATION 1)

FUL-108/109-6.77/14.90

TYPICAL SECTION "A"



Typical Section Applies:

Sta. 786+88 to Sta. 793+00	=	612 Ft.
Sta. 800+30 to Sta. 835+95	=	3565 Ft.
Sta. 851+20 to Sta. 887+05	=	3585 Ft.
Sta. 894+20 to Sta. 911+20	=	1700 Ft.
Sta. 913+70 to Sta. 923+30	=	960 Ft.
Sta. 926+95 to Sta. 946+05	=	1910 Ft.
Sta. 949+05 to Sta. 950+71	=	166 Ft.
		12498 Ft.

LEGEND

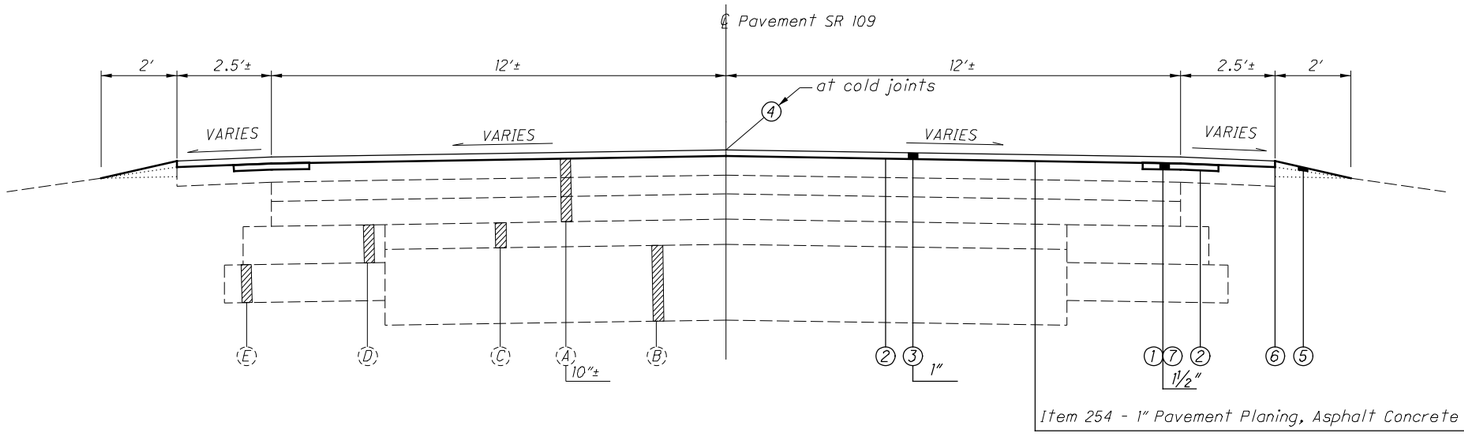
1. Item 254 - 2' Pavement Planing, Asphalt Concrete (Thickness as Shown), As Per Plan
2. Item 407 - Non Tracking Tack Coat
3. Item 424- 1" Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan
4. Item 875 - Longitudinal Joint Adhesive
5. Item 617 - Compacted Aggregate
6. Item 209 - Linear Grading
7. Item 441 - 2' Wide Asphalt Concrete Surface Course, Type 1, (448), PG64-22 (Thickness as Shown)

- (A) Existing Asphalt (Thickness as Shown)
- (B) Macadam
- (C) 6" Asphalt Base Course
- (D) 6" Crushed Aggregate Base Course
- (E) 6" Subbase
- (F) 3" Base Course

FUL-109 TYPICAL SECTIONS (LOCATION 2)

FUL-108/109-6.77/14.90

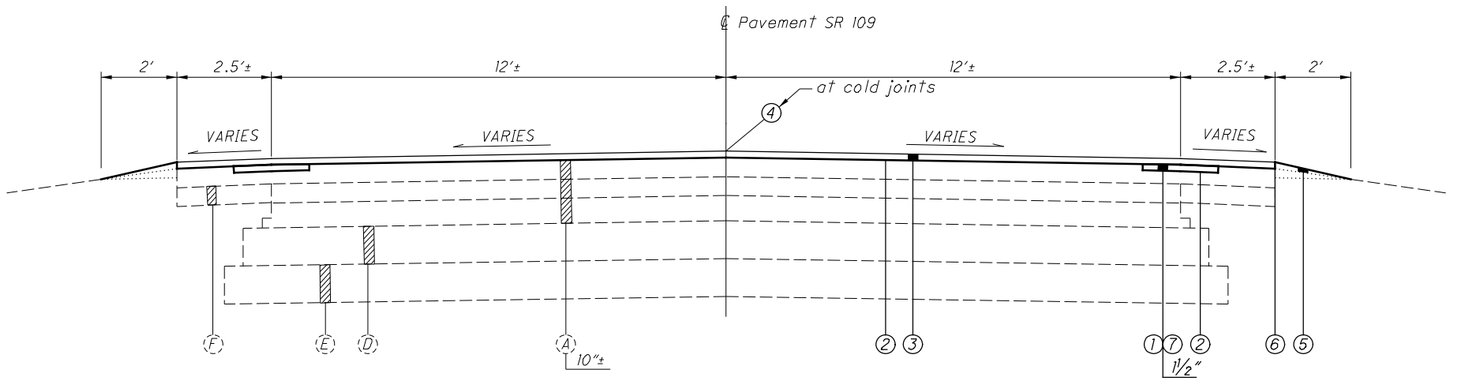
TYPICAL SECTION "B"



Item 254 - 1" Pavement Planing, Asphalt Concrete STA. 786+88 to STA. 794+25

Typical Section Applies:			
	Sta. 793+00 to Sta. 794+25	=	125 Ft.
	Sta. 797+40 to Sta. 800+30	=	290 Ft.
	Sta. 835+95 to Sta. 839+65	=	370 Ft.
	Sta. 887+05 to Sta. 888+95	=	190 Ft.
	Sta. 892+45 to Sta. 894+20	=	175 Ft.
	Sta. 911+20 to Sta. 913+70	=	250 Ft.
	Sta. 923+30 to Sta. 926+95	=	365 Ft.
	Sta. 946+05 to Sta. 949+05	=	300 Ft.
			2065 Ft.

TYPICAL SECTION "C"



Typical Section Applies:			
	Sta. 794+25 to Sta. 797+40	=	315 Ft.
	Sta. 839+65 to Sta. 851+20	=	1155 Ft.
	Sta. 888+95 to Sta. 892+45	=	350 Ft.
			1820 Ft.

See Sheet No. 13 For Legend

FUL-109 TYPICAL SECTIONS (LOCATION 2)

FUL-108/109-6.77/14.90

UTILITIES

LISTED BELOW ARE ALL THE UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ANR PIPELINE
6357 SR 67 NORTH
DEFIANCE, OHIO 43512
PH: (419) 783-3135

AT&T
130 N. ERIE STREET
TOLEDO, OHIO 43624
PH: (419) 245-7304

BUCKEYE CABLEVISION
2700 OREGON RD.
NORTHWOOD, OHIO 43519
PH: (419) 724-3713

CENTURYLINK
175 ASHLAND RD.
MANSFIELD, OHIO 44902
PH: (419) 755-7183

FULTON CO. PUB. UTILITIES
9306 CO. RD. 14 SUITE A
WAUSEON, OHIO 43567
PH: (419) 337-9263

KINDER MORGAN PIPELINE
P.O. BOX 832.
GOSHEN, INDIANA 46527
PH: (574) 534-1486 EXT 22

VILLAGE OF LYONS
126 WEST MORENCI ST.
LYONS, OHIO 43533
PH: (419) 923-2001

MID-WEST ENERGY CO-OP
P.O. BOX 127
CASSOPOLIS, MI 49031
PH: (517) 263-1808

OHIO GAS COMPANY
P.O. BOX 528
BRYAN, OHIO 43506
PH: (800) 331-7396

RIDGEVILLE TELEPHONE CO.
S732 COUNTY ROAD 20B
RIDGEVILLE CORNERS, OH 43555
PH: (419) 267-5185

TIME WARNER CABLE
205 CRYSTAL AVE.
FINDLAY, OHIO 45840
PH: (419) 627-0800

TOLEDO EDISON
6099 ANGOLA RD.
HOLLAND, OHIO 43528
PH: (419) 249-5218

CITY OF WAUSEON
230 CLINTON ST.
WAUSEON, OHIO 43567
PH: (419) 335-9871

WINDSTREAM
6777 ENGLE RD. SUITE E
CANTON, OHIO 44718
PH: (330) 498-9130 EXT 312

THE LOCATION OF THE UNDERGOUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88 (ODOT VRS DERIVED)
GEOID: 2012A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH
COMBINED SCALE FACTOR: GRID=1.0000000

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

PROFILE AND ALIGNMENT

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF THE EXISTING PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT.

PERMIT NOTIFICATION

THE CONTRACTOR SHALL GIVE A 15 DAY NOTICE PRIOR TO ANY LANE RESTRICTION TO AVOID ANY CONFLICT OF PERMITTED LOADS DURING THIS CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 2 - PERMIT OFFICE
317 E. POE ROAD BOWLING GREEN, OH 43402
PH: 419-373-4301

PAVEMENT REPAIRS

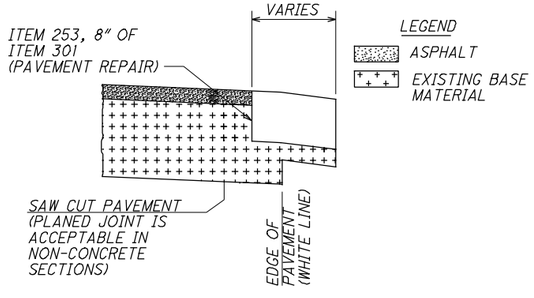
THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR PAVEMENT REPAIR ON SR 108 AND 109 AS DIRECTED BY THE ENGINEER AND ARE BASED ON THE PERCENTAGES SHOWN:

FUL 108 SLM 6.77 - 13.39 - 2%
ITEM 253 - PAVEMENT REPAIR 8"
552 CY

FUL 109 SLM 14.90 - 18.00 - 1.5%
ITEM 253 - PAVEMENT REPAIR 8"
185 CY

ITEM 253 TOTAL = 737 CY CARRIED TO GENERAL SUMMARY

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN
GRINDINGS SHOULD BE DELIVERED TO FULTON COUNTY GARAGE. ADDRESS: 8878 SR 108 WAUSEON, OH.



ALL EXISTING PAVEMENT AREAS WHICH WILL BE IN CONTACT WITH THE PAVEMENT REPAIR SHALL BE COATED WITH PG GRADE LIQUID ASPHALT (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 GAL. PER SY)

NOTE: THE ENGINEER SHALL FIELD VERIFY ALL LOCATIONS PRIOR TO THE BEGINNING OF WORK. ANY ADJUSTMENTS NECESSARY SHALL BE AS DIRECTED BY THE ENGINEER.

ITEM 424, FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN

PER CMS 424.08, 448 DENSITY APPLIES TO THIS PROJECT. DENSITY WILL BE TESTED ACCORDING TO SUPPLEMENT 1055 PER CMS 448.03. THE DISINCENTIVE PORTION OF S-1055 (TABLE 1055.01-1 AND TABLE 1055.04) WILL BE WAIVED PROVIDING THAT THE CONTRACTOR MAKES EVERY EFFORT TO OBTAIN DENSITY AND DOES NOT USE VIBRATORY ROLLERS.

AN ESTIMATED QUANTITY OF 400 CY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO ACCOUNT FOR SURFACE IRREGULARITIES.

ITEMS ADJUSTED TO GRADE

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED FOR ADJUSTMENTS REQUIRED FOR THE FOLLOWING ITEMS, AS DIRECTED BY THE ENGINEER:

ITEM 611, MANHOLE ADJUSTED TO GRADE	4 EACH
ITEM 623, MONUMENT BOX ADJUSTED TO GRADE	6 EACH

SEE MISCELLANEOUS SUBSUMMARY ON SHEET NO. 18 FOR LOCATIONS.

ASPHALT CONCRETE FOR DRIVEWAYS

THE FOLLOWING ESTIMATED QUANTITY FOR ASPHALT CONCRETE IS TO BE USED FOR ADJUSTING DRIVEWAYS AS DIRECTED BY THE THE ENGINEER.

ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22

SR 108	50.69 CU.YD.
SR 109	18.47 CU.YD.
TOTAL	70 CU.YD.

THE JOB WILL NOT BE CONSIDERED COMPLETE UNTIL ALL DRIVEWAYS HAVE BEEN TREATED AS DIRECTED BY THE ENGINEER.

RUMBLE STRIPE REMOVAL BEFORE PAVING

RUMBLE STRIPES WILL BE PLANED WITH ITEM 254. THE QUANTITIES FOR PLANING AND PAVING THE RUMBLE STRIPES ARE PROVIDED BELOW. QUANTITIES ARE BASED ON 2' WIDE MILL.

SR 108 EXISTING LENGTH OF RUMBLE STRIPE:
LENGTH = 69,801.6 FT

SR 109 EXISTING LENGTH OF RUMBLE STRIPE:
LENGTH = 32,736.0 FT

TOTAL 102,537.6 FT

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, 1 ½", AS PER PLAN

SR 108	15516.88 SQ. YD.
SR 109	7329.34 SQ. YD.

ITEM 254 TOTAL = 22847 SQ. YD.

ITEM 407 - NON TRACKING TACK COAT

SR 108	1318.93 GAL
SR 109	622.99 GAL

ITEM 407 TOTAL = 1942 GAL

ITEM 441- ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, 1 ½"

SR 108	646.54 CU.YD.
SR 109	305.38 CU.YD.

ITEM 441 TOTAL = 952 CU.YD.

ITEM 618 - EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)

FOR ITEM 618 REFER TO STANDARD CONSTRUCTION DRAWING TC-64.10 RUMBLE STRIPES AND C&MS ITEM 618. THE FOLLOWING QUANTITY IS CARRIED TO THE GENERAL SUMMARY.

ITEM 618, 19.43 MILE EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)

FUL SR 108 - STA. 357+35.00 TO STA. 706+48.00= 6.61 MILE
FUL SR 109 - STA. 785+80.00 TO STA. 950+71.00= 3.10 MILE

PAVEMENT MARKINGS

THE CONTRACTOR SHALL MAKE NOTE OF ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS BEFORE PERFORMING ANY WORK. ESTIMATED QUANTITIES HAVE BEEN INCLUDED TO BE USED AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL QUANTITIES

THE FOLLOWING ARE FOR INFORMATION ONLY:

PAVEMENT MARKINGS

THE CONTRACTOR WILL BE PROVIDED THE "NO PASSING ZONE LOG" FOR THE CENTER LINE PAVEMENT MARKING UPON REQUEST.

ENVIRONMENTAL COMMITTMENTS

THE DISTRICT ENVIRONMENTAL COORDINATOR (DEC) IS STACY SCHIMMOELLER AND CAN BE REACHED AT 419-373-4319.

THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN THE EXISTING RIGHT OF WAY.

NO TREES SHALL BE REMOVED UNDER THIS PROJECT. THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT ANY AND ALL MATERIAL FROM GOING OFF THE EDGE OF BRIDGE DECK(S) AND EDGE OF CULVERT(S) DURING ALL CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY MATERIAL THAT FALLS INTO THE ROADSIDE DITCHES, STREAMS, WETLANDS, OR OTHER WATERS THROUGH NON-MECHANICAL MEANS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR WORK IN OR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS, STREAMS, OR OTHER WATERS. NO WORK OR STAGING IS PERMITTED BELOW THE TOP OF BANK OF ANY STREAM AND/OR WITHIN A WETLAND.

CALCULATED RSH CHECKED DAR

GENERAL NOTES

FUL-108/109-6.77/14.90

ITEM 614, MAINTAINING TRAFFIC

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
EASTER	THANKSGIVING
MEMORIAL DAY	FULTON COUNTY FAIR

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY THROUGH 12:00N MONDAY

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH CMS 108.07.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. BRIDGE RESTRICTIONS AND CLOSURES CAN BE FOUND UNDER BRIDGE MAINTENANCE OF TRAFFIC NOTE. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE SUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THE PLAN.

WORK NEAR THE FULTON COUNTY FAIRGROUNDS

ALL PROJECT CONTRACT WORK BETWEEN STA. 357+35 AND 520+00 SHALL BE COMPLETED BY MAY 24, 2018. DAMAGES IN THE AMOUNT OF $5000 SHALL BE ASSESSED FOR EACH CALENDAR DAY THE WORK IS NOT COMPLETED BEYOND MAY 24, 2018.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF CMS 614.04 AND 614.11.

ITEM 614 - WORK ZONE MARKING SIGN	35 EACH
ITEM 614 - WORK ZONE CENTER LINE, CLASS III	10.42 MILE
ITEM 614 - WORK ZONE STOP LINE, CLASS I	98 FT
ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS II, 8", 642 PAINT	370 FT

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM 614, REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT DRUM, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM, AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 5 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP AND ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	<= 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES AND RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION AND TRAFFIC PATTERN CHANGES		14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

ODOT NOTIFICATION CONTACT INFORMATION

THE ODOT PROJECT ENGINEER SHALL FORWARD THE CONSTRUCTION NOTIFICATION INFORMATION TO THE FOLLOWING DEPARTMENTS WITHIN THE TIMELINE OUTLINED IN TEM PART 642-58 TO ENSURE COMPLIANCE WITH FEDERAL NOTIFICATION REQUIREMENTS:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY PHONE AT: (419) 373-4428 OR EMAIL AT: D02.pio@dot.ohio.gov

DISTRICT PERMIT SECTION BY PHONE AT: (419) 373-4301 OR EMAIL AT: D02.permits@dot.ohio.gov

CENTRAL OFFICE SPECIAL HAULING PERMITS SECTION BY PHONE AT (614) 351-2300 OR EMAIL AT: hauling.permits@dot.ohio.gov

ADDITIONAL NOTIFICATION CONTACT INFORMATION

THE CONTRACTOR SHALL NOTIFY THE OHIO TURNPIKE COMMISSION AND INFRASTRUCTURE COMMISSION REGARDING ALL PROJECT CONTRACT WORK AT THE TURNPIKE RAMPS:

CONTACT: JJ SZAHLENDER BY PHONE AT (440) 971-2014.

CALCULATED RSH CHECKED DAR

MAINTENANCE OF TRAFFIC GENERAL NOTES

FUL-108/109-6.77/14.90

SHEET NUM.										PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
15	16	18	19	20	30					01/NHS/PV	02/STR/PV	03/SC2/PV	04/STR/BR						
																		ROADWAY	
			4,038							1,883	1,930	225		202	23500	4,038	SY	WEARING COURSE REMOVED	
		3									3			202	60010	3	EACH	MONUMENT ASSEMBLY REMOVED	
			19.43							10.76	8.11	0.56		209	60500	19.43	MILE	LINEAR GRADING	
		3									3			623	38500	3	EACH	MONUMENT ASSEMBLY	
		6									6			623	39500	6	EACH	MONUMENT BOX ADJUSTED TO GRADE	
		3									3			623	39600	3	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	
																		EROSION CONTROL	
														832	30000	2,000	EACH	EROSION CONTROL	
																		DRAINAGE	
		4									3	1		611	99654	4	EACH	MANHOLE ADJUSTED TO GRADE	
																		PAVEMENT	
737										407	309	21		253	02000	737	CY	PAVEMENT REPAIR	
22,847			5,675							15,674	12,190	658		254	01001	28,522	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	15
1,942			15,177							9,579	6,974	566		407	20000	17,119	GAL	NON-TRACKING TACK COAT	
400			4,960							3,000	2,181	179		424	12001	5,360	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN	19
1,022			106							618	481	29		441	50000	1,128	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
			631							351	262	18		617	10100	631	CY	COMPACTED AGGREGATE	
					42						42			618	40101	42	FT	RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN	30
19.43										10.76	8.11	0.56		618	41000	19.43	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	
			8,512							4,726	3,537	249		875	10000	8,512	LB	LONGITUDINAL JOINT ADHESIVE, 1 LB/6 FT	
																		TRAFFIC CONTROL	
		719								384	287	48		621	00100	719	EACH	RPM	
		719								384	287	48		621	54000	719	EACH	RAISED PAVEMENT MARKER REMOVED	
				19.43						10.76	8.11	0.56		642	00094	19.43	MILE	EDGE LINE, 6"	
				10.42						5.77	4.35	0.3		642	00290	10.42	MILE	CENTER LINE	
				370						125		245		644	00400	370	FT	CHANNELIZING LINE, 8"	
				98						15	38	45		644	00500	98	FT	STOP LINE	
				1,518						325	510	683		644	00700	1,518	FT	TRANSVERSE/DIAGONAL LINE, YELLOW	
				5						2		3		644	01300	5	EACH	LANE ARROW, LEFT	
																		STRUCTURE OVER 20 FOOT SPAN (FUL-109-1698)	
																		SEE SHEET	36
																		MAINTENANCE OF TRAFFIC	
	35									19	15	1		614	12460	35	EACH	WORK ZONE MARKING SIGN	
	5									5				614	12500	5	EACH	REPLACEMENT SIGN	
	5									5				614	12600	5	EACH	REPLACEMENT DRUM	
	10.42									5.77	4.35	0.3		614	21550	10.42	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
	370									370				614	23660	370	FT	WORK ZONE CHANNELIZING LINE, CLASS II, 8", 642 PAINT	
	98									15	38	45		614	26000	98	FT	WORK ZONE STOP LINE, CLASS I	
																		INCIDENTALS	
										LS				614	11000	LS		MAINTAINING TRAFFIC	
										LS				623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
										LS				624	10000	LS		MOBILIZATION	

CALCULATED RSH CHECKED DAR

GENERAL SUMMARY

FUL-108/109-6.77/14.90

STATION	SIDE	OFFSET	611 MANHOLE ADJUSTED TO GRADE EACH		623 MONUMENT BOX ADJUSTED TO GRADE EACH		202 MONUMENT ASSEMBLY REMOVED EACH		623 MONUMENT BOX RECONSTRUCTED TO GRADE EACH		623 MONUMENT ASSEMBLY EACH						FOR INFORMATION ONLY FEATHER TO GRADE - WATER EACH		
FUL-108																			
357+50	R	27.0															2		
357+62	R	30.0	1																
FUL-109																			
798+89	C	0.0			1														
812+14	C	0.0			1														
825+34	C	0.0					1		1		1								
838+53	C	0.0			1														
864+86	C	0.0					1		1		1								
889+01	R	14.5	1																
890+64	R	15.0	1																
891+39	C	0.0			1														
892+07	R	15.0	1																
917+66	C	0.0			1														
944+20	C	0.0			1														
950+72	C	0.0					1		1		1								
SUBTOTALS			4		6		3		3		3								
TOTALS CARRIED TO GENERAL SUMMARY			4		6		3		3		3								

STATION			SIDE	INTERVAL	621 RPM, YELLOW/YELLOW EACH	621 RPM, WHITE/RED EACH	621 RPM, WHITE/WHITE EACH	621 RAISED PAVEMENT MARKER REMOVED EACH
FUL-108								
357+57	TO	360+00	R	40		6	6	
			C	80	4			
360+70		365+10	R	80			10	
			C	80	13			
365+10		372+24	C	80	9			
372+24		419+75	C	80	59			
425+50		426+75	R	40		4		
419+75		422+93	C	80	8			
422+93		430+25	C	80	18			
430+25		698+19	C	80	335			
698+19		700+11	R	80				719
			C	80	3			
700+11		706+48	R	40			16	
			C	80	8			
FUL-109								
786+88	TO	790+76	R	40			14	
			C	80	5			
790+76		795+00	R	80				
			C	80	6			
795+00		950+71	C	80	195			
SUBTOTALS					663	10	46	719
TOTALS CARRIED TO GENERAL SUMMARY					663	10	46	719

CALCULATED RSH CHECKED DAR

SUBSUMMARY

FUL-108 / 109 - 6.77 / 14.90

18
39

I:\ProjectData\FUL\102802_FUL-108_109-6.7\Design\Roadway\Sheets\102802_GS001.dgn Sheet 12/5/2017 8:06:20 AM rhanna

STATION RANGE			SIDE	DISTANCE (D)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=DxW/9	209 LINEAR GRADING	202 WEARING COURSE REMOVED	254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	407 NON-TRACKING TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, 1"	424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN, 1"	875 LONGITUDINAL JOINT ADHESIVE, 1 LB/6 FT	617 COMPACTED AGGREGATE
				FT	FT	SY	MILE	SY	SY	GAL	CY	CY	LB	CY
FUL-108														
357+35.00	TO	**359+10.00**	**LT & RT**	175.00	46.52	904.56	0.07	225.44		76.89		25.13	29.17	2.16
359+10.00		**372+24.00**	**LT & RT**	1314.00	34.83	5085.18	0.50			432.24		141.26	219.00	16.22
372+24.00		**380+05.00**	**LT & RT**	781.00	34.83	3022.47	0.30			256.91		83.96	130.17	9.64
380+05.00		**385+55.00**	**LT & RT**	550.00	30.52	1865.11	0.21			158.53		51.81	91.67	6.79
385+55.00		**389+55.00**	**LT & RT**	400.00	29.84	1326.22	0.15			112.73		36.84	66.67	4.94
389+55.00		**396+45.00**	**LT & RT**	690.00	30.34	2326.07	0.26			197.72		64.61	115.00	8.52
396+45.00		**404+55.00**	**LT & RT**	810.00	29.84	2685.60	0.31			228.28		74.60	135.00	10.00
404+55.00		**414+00.00**	**LT & RT**	945.00	29.79	3127.95	0.36	359.89		265.88	10.00	86.89	157.50	11.67
414+00.00		**419+30.00**	**LT & RT**	530.00	31.12	1832.62	0.20			155.77		50.91	88.33	6.54
419+30.00		**422+92.80**	**LT & RT**	362.80	46.75	1884.54	0.14			160.19		52.35	60.47	4.48
422+92.80		**428+00.00**	**LT & RT**	507.20	46.75	2634.62	0.19			223.94		73.18	84.53	6.26
428+00.00		**434+30.00**	**LT & RT**	630.00	43.25	3027.50	0.24		3027.50	257.34		84.10	105.00	7.78
434+30.00		**440+00.00**	**LT & RT**	570.00	30.00	1900.00	0.22			161.50		52.78	95.00	7.04
440+00.00		**462+95.00**	**LT & RT**	2295.00	31.01	7907.55	0.87			672.14		219.65	382.50	28.33
462+95.00		**506+05.00**	**LT & RT**	4310.00	28.04	13428.04	1.63	394.96		1141.38	10.97	373.00	718.33	53.21
506+05.00		**511+95.00**	**LT & RT**	590.00	28.04	1838.18	0.22			156.25		51.06	98.33	7.28
511+95.00		**535+45.00**	**LT & RT**	2350.00	28.67	7486.06	0.89	538.82		636.31	14.97	207.95	391.67	29.01
535+45.00		**536+60.00**	**LT & RT**	115.00	29.50	376.94	0.04			32.04		10.47	19.17	1.42
536+60.00		**573+95.00**	**LT & RT**	3735.00	32.00	13280.00	1.41	283.62		1128.80	7.88	368.89	622.50	46.11
573+95.00		**577+95.00**	**LT & RT**	400.00	32.00	1422.22	0.15			120.89		39.51	66.67	4.94
577+95.00		**585+95.00**	**LT & RT**	800.00	32.00	2844.44	0.30			241.78		79.01	133.33	9.88
585+95.00		**590+95.00**	**LT & RT**	500.00	32.16	1786.67	0.19			151.87		49.63	83.33	6.17
590+95.00		**706+48.00**	**LT & RT**	11553.00	32.81	42117.10	4.38	665.43		3579.95	18.48	1169.92	1925.50	142.63
FUL-109														
786+87.96	TO	**793+00.00**	**LT & RT**	612.04	32.64	2219.67	0.23		2219.67	188.67		61.66	102.01	7.56
793+00.00		**794+25.00**	**LT & RT**	125.00	30.75	427.08	0.05		427.08	36.30		11.86	20.83	1.54
794+25.00		**797+40.00**	**LT & RT**	315.00	30.82	1078.70	0.12	114.67		91.69	3.19	29.96	52.50	3.89
797+40.00		**800+30.00**	**LT & RT**	290.00	30.91	995.99	0.11			84.66		27.67	48.33	3.58
800+30.00		**835+95.00**	**LT & RT**	3565.00	30.28	11994.24	1.35			1019.51		333.17	594.17	44.01
835+95.00		**839+65.00**	**LT & RT**	370.00	29.75	1223.06	0.14	360.11		103.96	10.00	33.97	61.67	4.57
839+65.00		**851+20.00**	**LT & RT**	1155.00	29.75	3817.92	0.44			324.52		106.05	192.50	14.26
851+20.00		**887+05.00**	**LT & RT**	3585.00	30.01	11953.98	1.36			1016.09		332.06	597.50	44.26
887+05.00		**888+95.00**	**LT & RT**	190.00	30.03	633.97	0.07			53.89		17.61	31.67	2.35
888+95.00		**892+45.00**	**LT & RT**	350.00	29.75	1156.94	0.13	414.85		98.34	11.52	32.14	58.33	4.32
892+45.00		**894+20.00**	**LT & RT**	175.00	29.50	573.61	0.07			48.76		15.93	29.17	2.16
894+20.00		**894+85.00**	**LT & RT**	65.00	29.50	213.06	0.02			18.11		5.92	10.83	0.80
897+15.00		**913+70.00**	**LT & RT**	1655.00	29.50	5424.72	0.63			461.10		150.69	275.83	20.43
913+70.00		**923+30.00**	**LT & RT**	960.00	30.28	3229.87	0.36			274.54		89.72	160.00	11.85
923+30.00		**926+95.00**	**LT & RT**	365.00	30.13	1221.94	0.14			103.86		33.94	60.83	4.51
926+95.00		**946+05.00**	**LT & RT**	1910.00	31.47	6678.63	0.72	379.89		567.68	10.55	185.52	318.33	23.58
946+05.00		**949+05.00**	**LT & RT**	300.00	30.90	1030.00	0.11			87.55		28.61	50.00	3.70
949+05.00		**950+71.00**	**LT & RT**	166.00	30.68	565.88	0.06	299.88		48.10	8.33	15.72	27.67	2.05
			SUBTOTALS				19.43	4037.56	5674.25	15176.66	105.89	4959.71	8511.01	630.44
			TOTALS CARRIED TO GENERAL SUMMARY				19.43	4038	5675	15177	106	4960	8512	631

CALCULATED RSH CHECKED DAR

PAVEMENT CALCULATIONS

FUL-108/109-6.77/14.90

GENERAL SPEC: 640
MATERIAL TYPE: 642

CALCULATED RSH | CHECKED DAR

ITEM 642 - EDGE LINE

CTY	ROUTE	STATION	FROM	STATION	TO	WHITE EDGE LINE TOTAL	WHITE EDGE LINE HIGHWAY	WHITE EDGE LINE RAMP	YELLOW EDGE LINE TOTAL	YELLOW EDGE LINE HIGHWAY	YELLOW EDGE LINE RAMP	COMMENTS
FUL	108	357+35	PROJECT START	372+24		0.28						RIGHT EDGE LINE
FUL	108	372+24		422+93		0.96						RIGHT EDGE LINE
FUL	108	422+93		706+48	END PROJECT	5.37						RIGHT EDGE LINE
FUL	108	357+35	PROJECT START	372+24		0.28						LEFT EDGE LINE
FUL	108	372+24		422+93		0.96						LEFT EDGE LINE
FUL	108	422+93		706+48	END PROJECT	5.37						LEFT EDGE LINE
FUL	109	786+88	PROJECT START	950+71	END PROJECT	3.10						RIGHT EDGE LINE
FUL	109	786+88	PROJECT START	950+71	END PROJECT	3.10						LEFT EDGE LINE
TOTAL MILES						19.43						

ITEM 642 - CENTER LINE

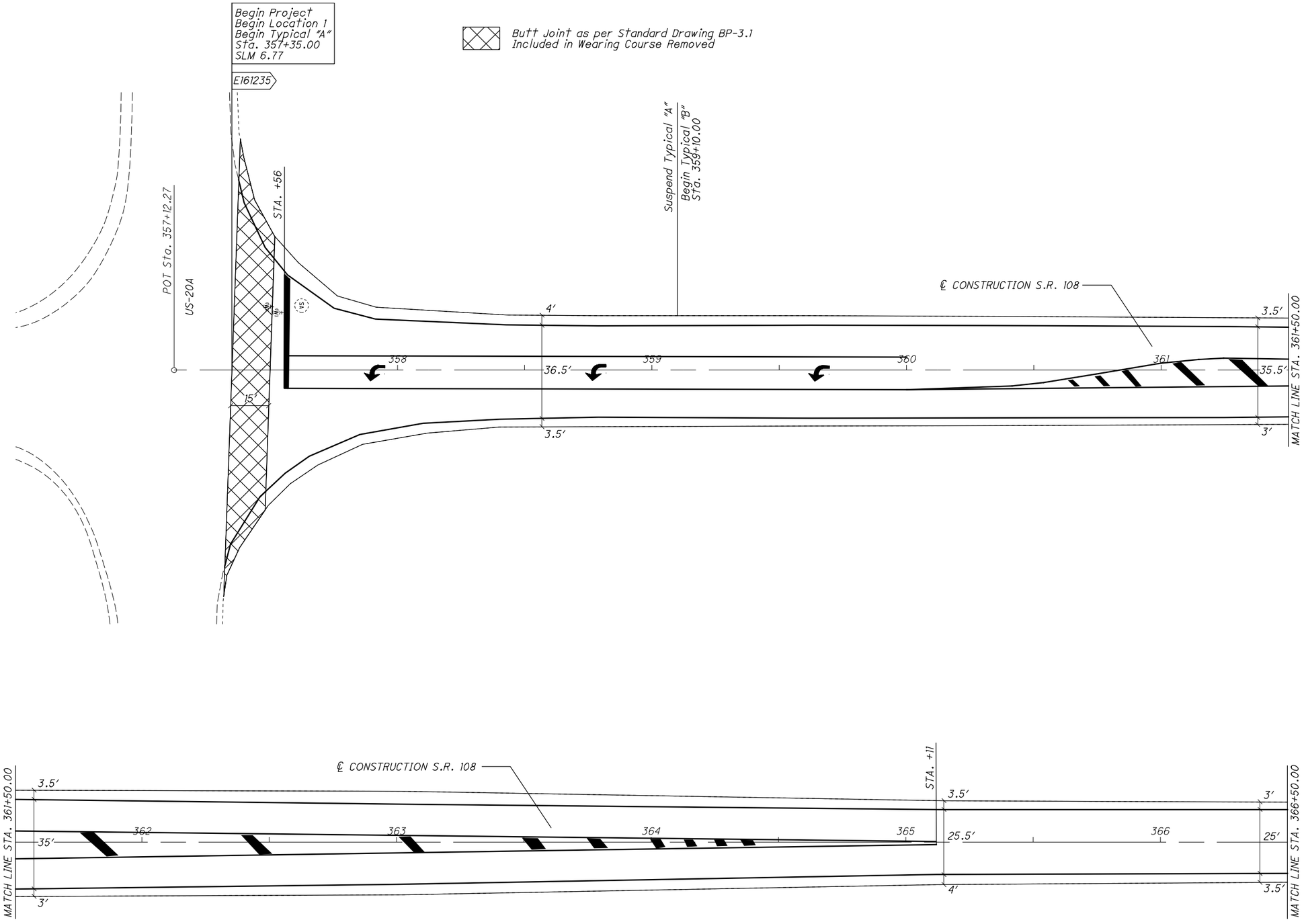
CTY	ROUTE	STATION	FROM	STATION	TO	TOTAL MILES	EQUIVALENT SOLID LINE	COMMENTS
FUL	108	357+35	PROJECT START	360+36		0.06		DOUBLE-SOLID
FUL	108	360+36		365+06		0.18		DOUBLE-SOLID
FUL	108	365+06		368+73		0.07		DOUBLE-SOLID
FUL	108	368+73		372+24		0.07		DASHED
FUL	108	372+24		381+05		0.17		DASHED
FUL	108	381+05		386+95		0.11		SOLID-DASHED
FUL	108	386+95		389+75		0.05		DASHED
FUL	108	389+75		399+23		0.18		SOLID-DASHED
FUL	108	399+23		401+68		0.05		DASHED
FUL	108	401+68		407+08		0.10		SOLID-DASHED
FUL	108	407+08		415+38		0.16		DASHED
FUL	108	415+38		419+18		0.07		DOUBLE-SOLID
FUL	108	419+18		422+93		0.14		DOUBLE-SOLID
FUL	108	422+93		423+93		0.04		DOUBLE-SOLID
FUL	108	423+93		424+90		0.02		DOUBLE-SOLID
FUL	108	426+90		428+28		0.05		DOUBLE-SOLID
FUL	108	428+28		431+93		0.07		DOUBLE-SOLID
FUL	108	431+93		458+58		0.50		DASHED
FUL	108	458+58		465+58		0.13		SOLID-DASHED
FUL	108	465+58		506+18		0.77		DASHED
FUL	108	506+18		515+13		0.17		SOLID-DASHED
FUL	108	515+13		530+03		0.28		SOLID-DOUBLE
FUL	108	530+05		539+73		0.18		SOLID-DASHED
FUL	108	539+73		568+13		0.54		DASHED
FUL	108	568+13		571+58		0.07		SOLID-DASHED
FUL	108	571+58		574+63		0.06		DASHED
FUL	108	574+63		579+93		0.10		SOLID-DASHED
FUL	108	579+93		600+63		0.39		DASHED
FUL	108	600+63		607+78		0.14		SOLID-DASHED
FUL	108	607+78		609+08		0.02		DASHED
FUL	108	609+08		614+98		0.11		SOLID-DASHED
FUL	108	614+98		687+85		1.38		DASHED
FUL	108	687+85		695+95		0.15		SOLID-DASHED
FUL	108	670+08		706+46	PROJECT END	0.69		SOLID-DOUBLE
FUL	109	786+88	PROJECT START	788+76		0.04		SOLID-DASHED
FUL	109	788+76		887+50		1.87		DASHED
FUL	109	887+50		890+51		0.06		SOLID-DASHED
FUL	109	890+51		893+52		0.06		SOLID-DASHED
FUL	109	893+52		950+71	PROJECT END	1.08		DASHED
TOTAL						10.42		

ITEM 644 - AUXILIARY

CTY	ROUTE LOCATION	STATION	CHANNELIZING LINE WHITE FT	CHANNELIZING LINE YELLOW FT	CROSS WALK LINES FT	TRANSVERSE DIAGONAL LINES WHITE FT	TRANSVERSE DIAGONAL LINES YELLOW FT	STOP LINE FT	SYMBOL MARKINGS RxR EACH	SYMBOL MARKINGS SCHOOL 72" EACH	SYMBOL MARKINGS HANDICAP EACH	LANE ARROWS TURN LEFT EACH	LANE ARROWS TURN RIGHT EACH	LANE ARROWS THRU EACH	LANE ARROWS COMB. EACH	PARKING LOT STALL MARKING WHITE FT	PARKING LOT STALL MARKING BLUE FT	DOTTED LINES FT	COMMENTS
FUL	SR-108 AT US-20 A	357+56						45											
FUL	SR-108 AT US-20 A	357+86	245									3							
FUL	SR-108 AT US-20 A	360+42					683												
FUL	SR-108 AT I-80 RAMP	419+70					510												
FUL	SR-108 AT I-80 RAMP	425+80	125									2							
FUL	SR-108 AT I-80 RAMP	427+58					325												
FUL	SR-108 AT US-20	706+33						15											
FUL	SR-109 AT SR-120	891+50						38											
TOTAL			370				1518	98				5							

PAVEMENT MARKING SUBSUMMARY

FUL-108/109-6.77/14.90



N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED RSH | CHECKED DAR

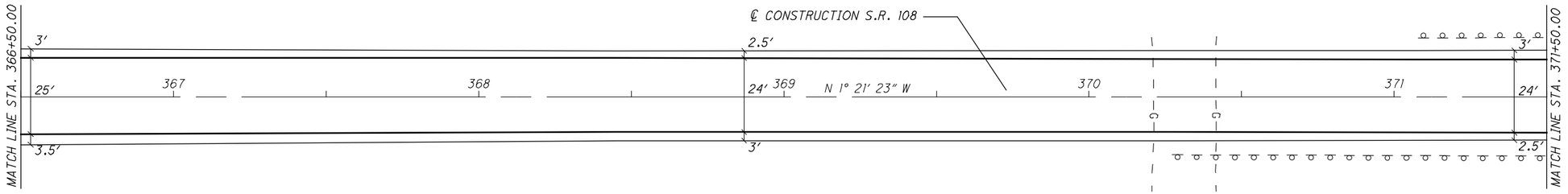
FUL-108 PLAN SHEET (LOCATION 1)
STA. 357+35.00 TO STA. 366+50.00

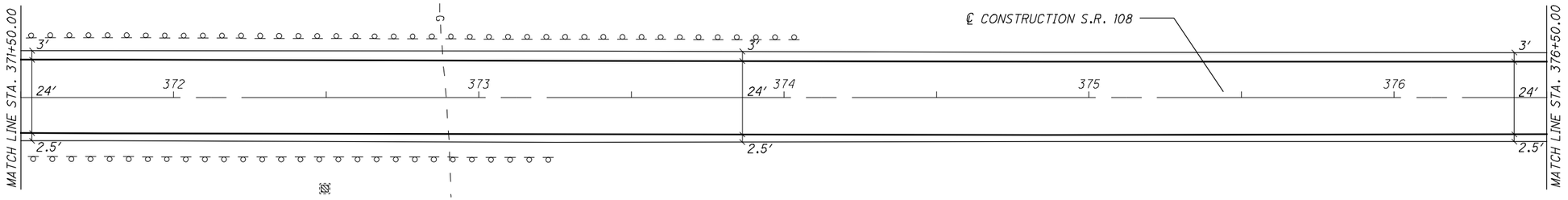
FUL-108/109-6.77/14.90

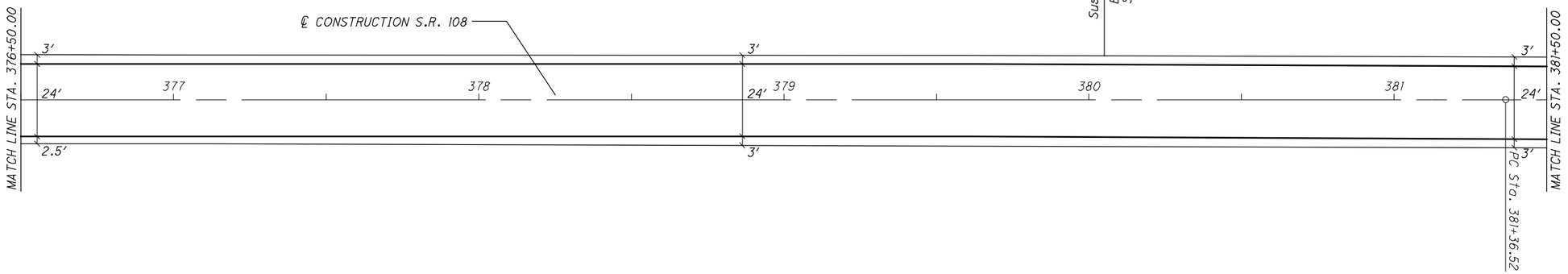
21
39

I:\Project Data\FUL\102802_FUL-108_109-6.7\Design\Roadway\Sheets\102802_GP001.dgn Sheet 12/4/2017 6:59:19 AM rhanna

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed







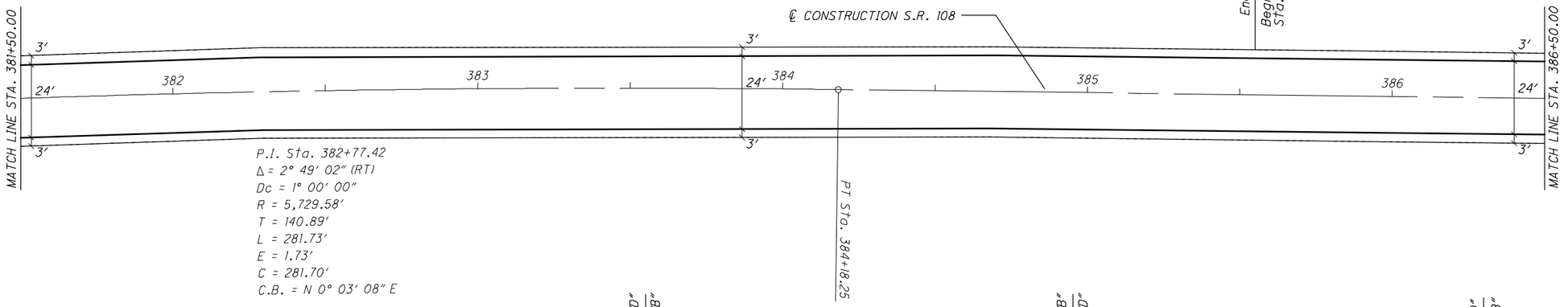
HORIZONTAL SCALE IN FEET
0 10 20 40

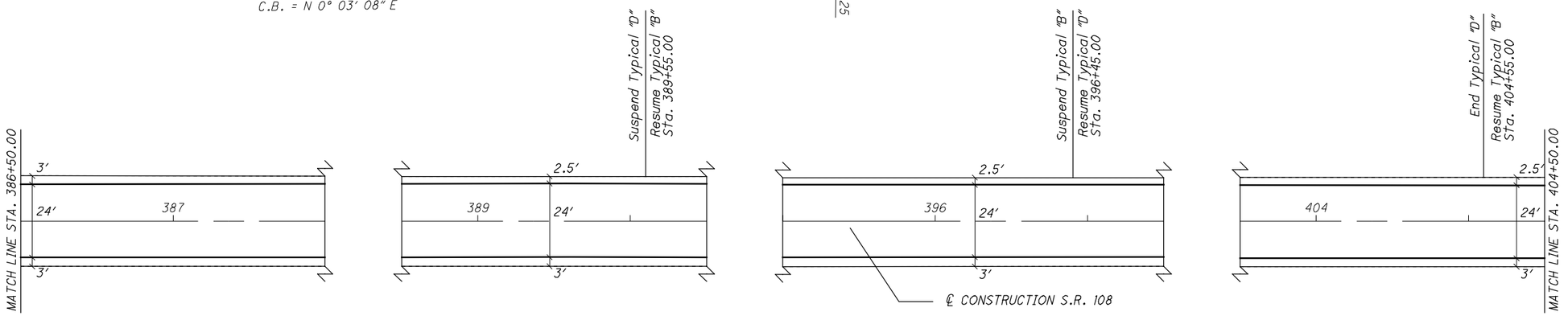
CALCULATED RSH
CHECKED DAR

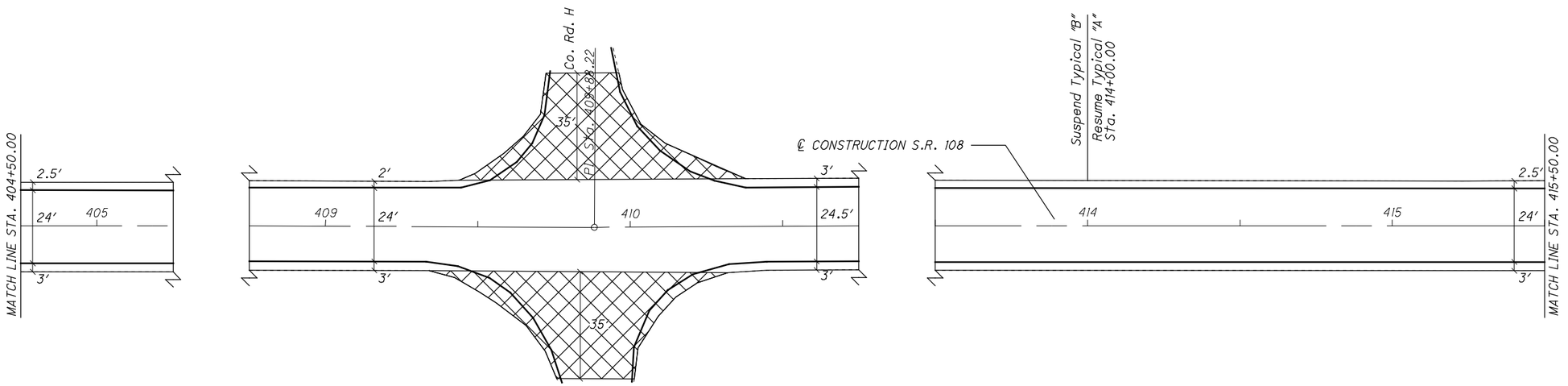
FUL-108 PLAN SHEET (LOCATION 1)
STA 366+50.00 TO STA. 381+50.00

FUL-108 / 109 - 6.77 / 14.90

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed





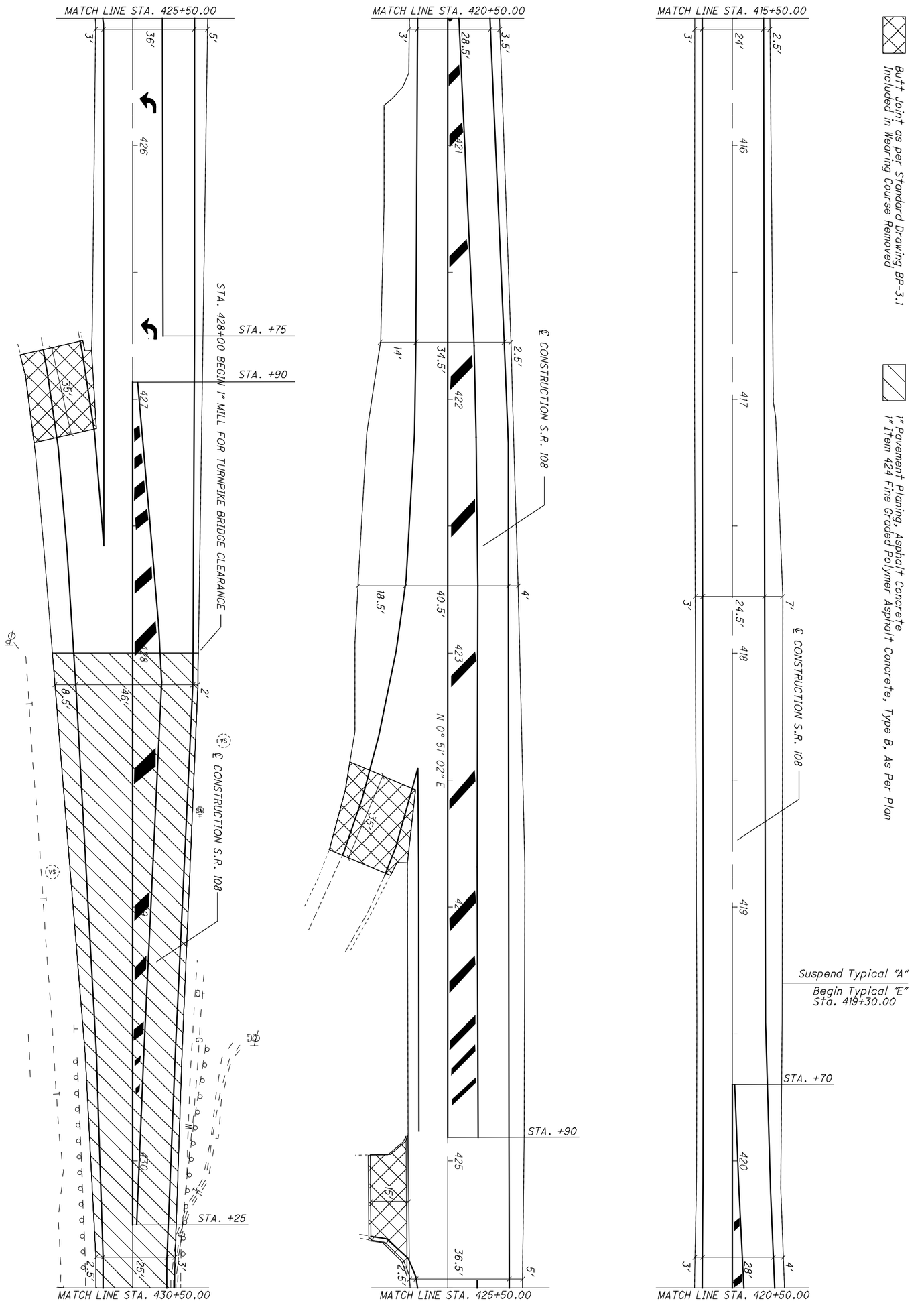


HORIZONTAL SCALE IN FEET
0 10 20 40

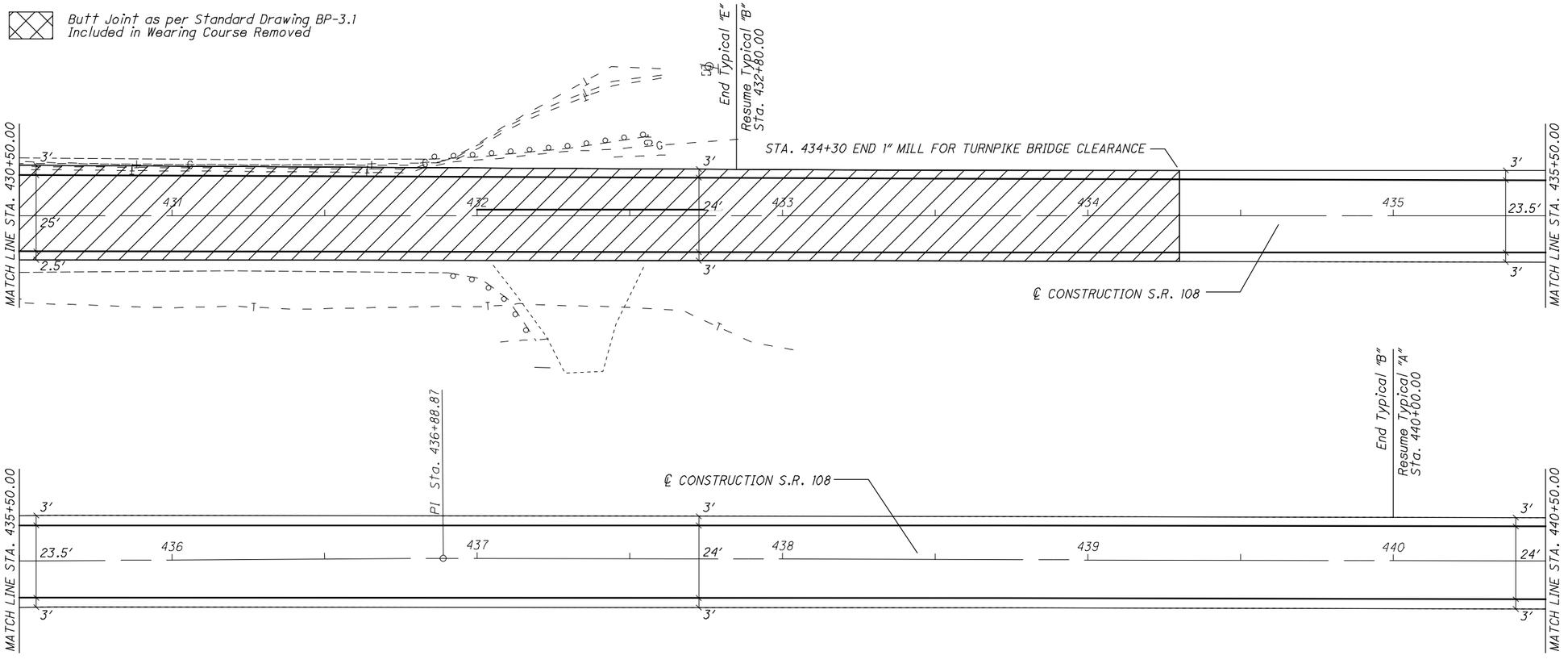
CALCULATED RSH
CHECKED DAR

FUL-108 PLAN SHEET (LOCATION 1)
STA. 381+50.00 TO STA. 415+50.00

FUL-108 / 109-6.77 / 14.90



24/39	FUL-108/109-6.77/14.90	FUL-108 PLAN SHEET (LOCATION 1) STA. 415+50.00 TO STA. 430+50.00	CALCULATED RSH CHECKED DAR	0 20 10 40 HORIZONTAL SCALE IN FEET



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RSH
CHECKED DAR

FUL-108 PLAN SHEET (LOCATION 1)
STA. 430+50.00 TO STA. 464+50.00

FUL-108/109-6.77/14.90

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed

P.I. Sta. 518+38.25 L = 942.16'
Δ = 23° 33' 15" (LT) E = 49.28'
Dc = 2° 30' 00" C = 935.54'
R = 2,291.83' C.B. = N 10° 43' 08" W
T = 477.83'

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RSH
CHECKED DAR

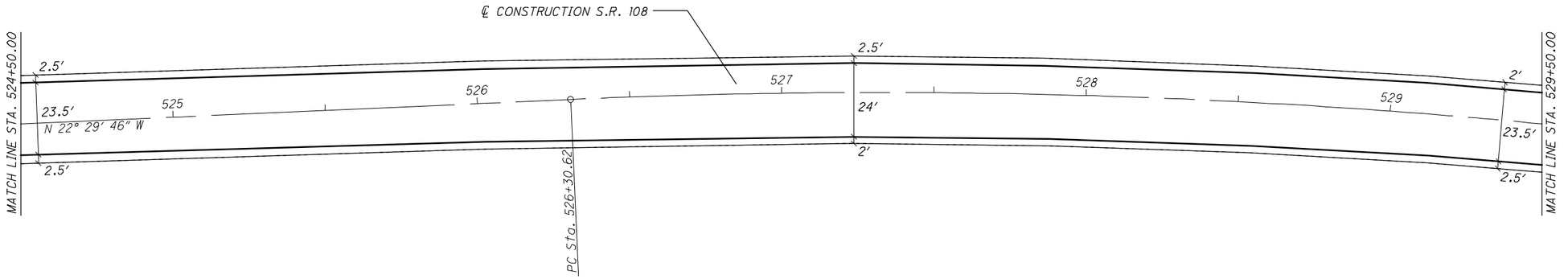
FUL-108 PLAN SHEET (LOCATION 1)
STA. 464+50.00 TO STA. 524+50.00

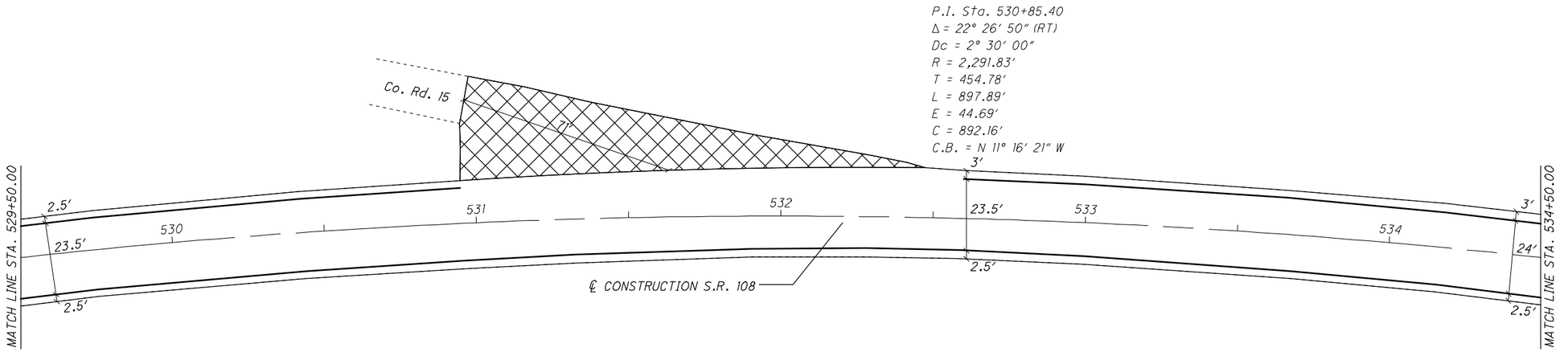
FUL-108 / 109-6.77 / 14.90

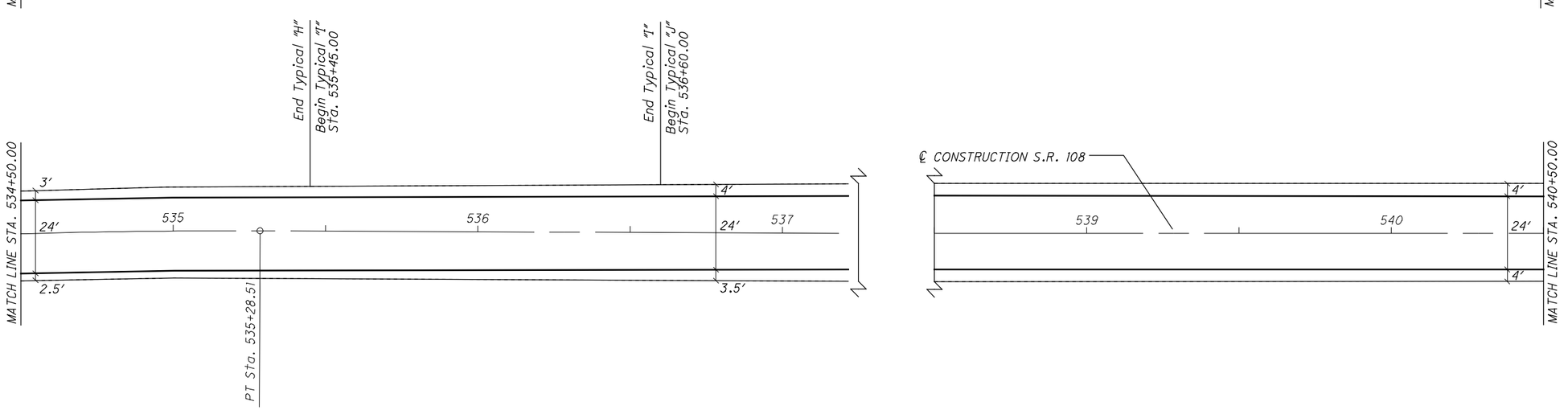
26
39

I:\ProjectData\FUL\02802_FUL-108_109-6.7\Design\Roadway\Sheets\02802_GP006.dgn Sheet 12/4/2017 7:03:30 AM rhanna

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed







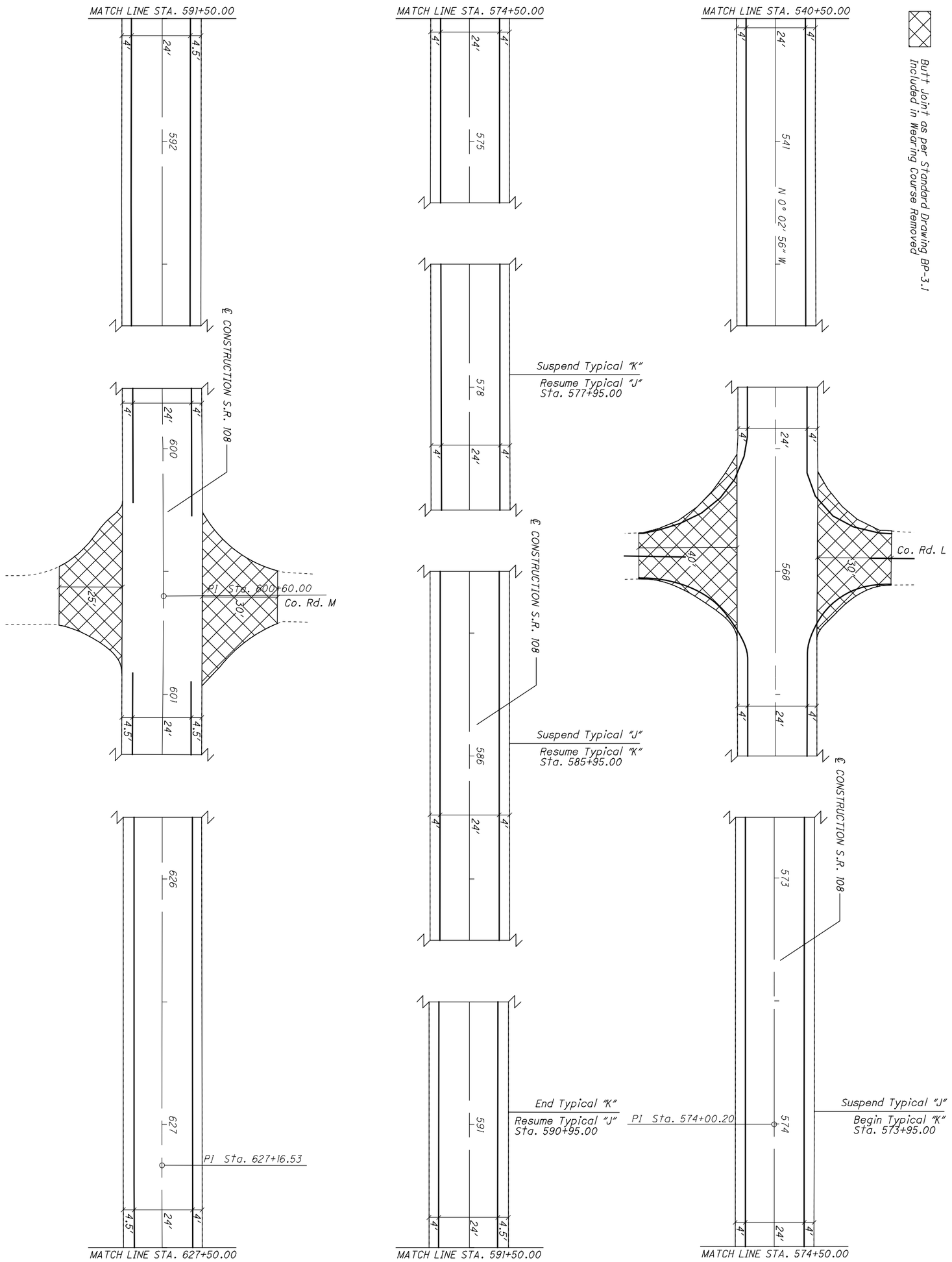
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RSH
CHECKED DAR

FUL-108 PLAN SHEET (LOCATION 1)
STA. 524+50.00 TO STA. 540+50.00

FUL-108 / 109-6.77 / 14.90

27
39

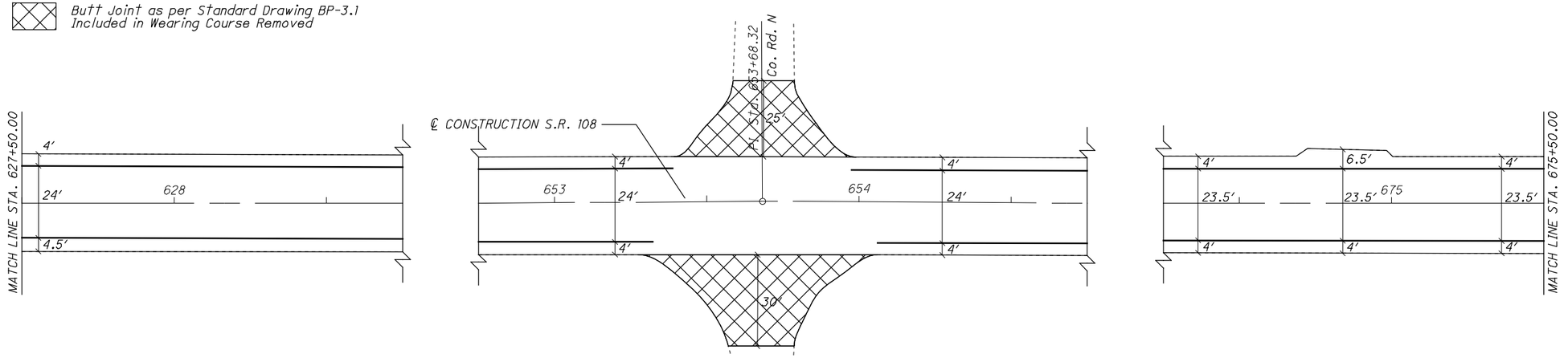


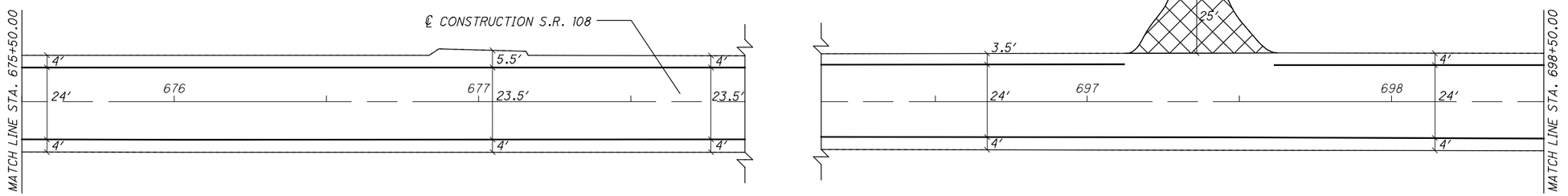
FUL-108 PLAN SHEET (LOCATION 1)
STA. 540+50.00 TO STA. 627+50.00

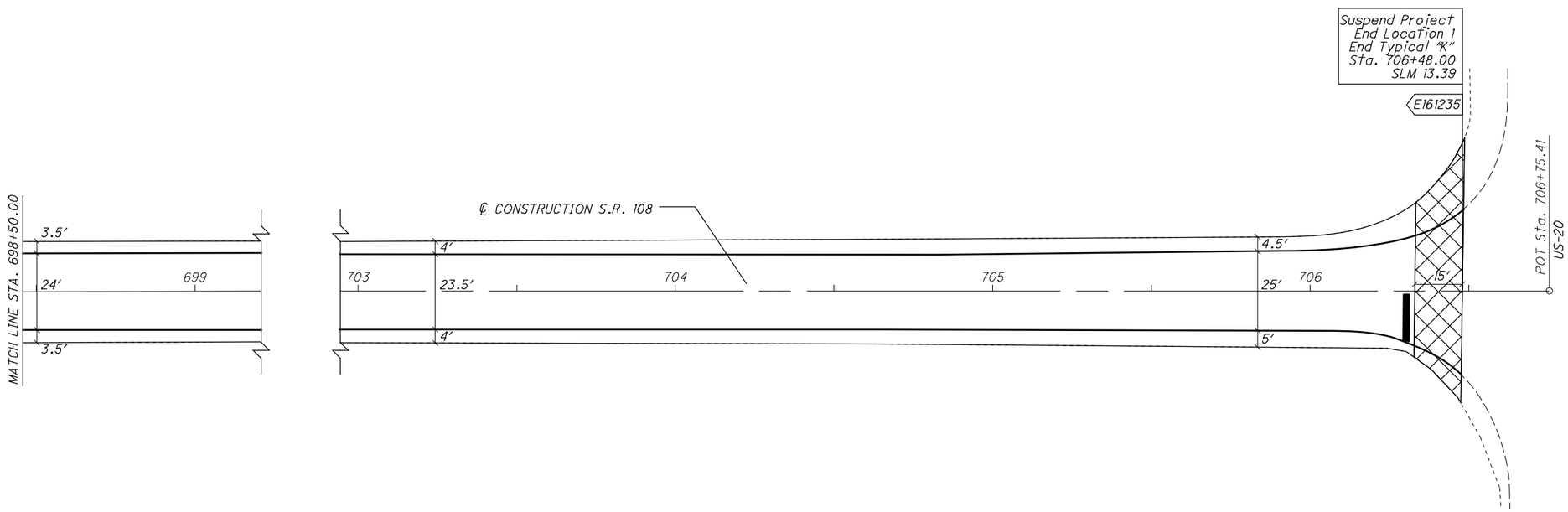
CALCULATED RSH
CHECKED DAR

0 10 20 40
HORIZONTAL SCALE IN FEET

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed







N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RSH
CHECKED DAR

FUL-108 PLAN SHEET (LOCATION 1)
STA. 627+50.00 TO STA. 706+48.00

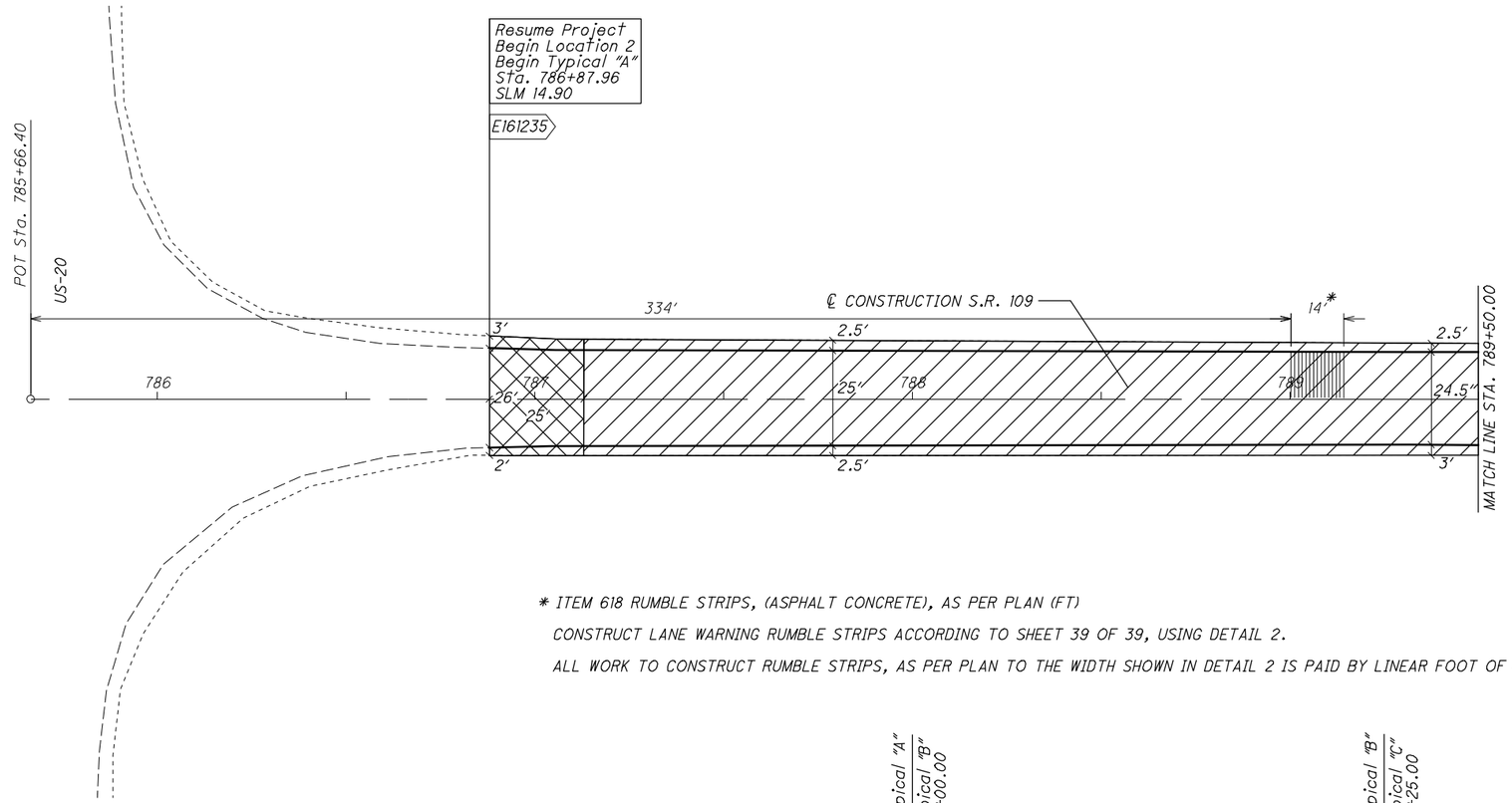
FUL-108/109-6.77/14.90

29
39

I:\ProjectData\FUL\102802_FUL-108_109-6.7\Design\Roadway\Sheets\102802_GP009.dgn Sheet 12/4/2017 7:06:04 AM rhanna

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed

1" Pavement Planing, Asphalt Concrete
1" Item 424 Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan



* ITEM 618 RUMBLE STRIPS, (ASPHALT CONCRETE), AS PER PLAN (FT)
CONSTRUCT LANE WARNING RUMBLE STRIPS ACCORDING TO SHEET 39 OF 39, USING DETAIL 2.
ALL WORK TO CONSTRUCT RUMBLE STRIPS, AS PER PLAN TO THE WIDTH SHOWN IN DETAIL 2 IS PAID BY LINEAR FOOT OF ROAD.

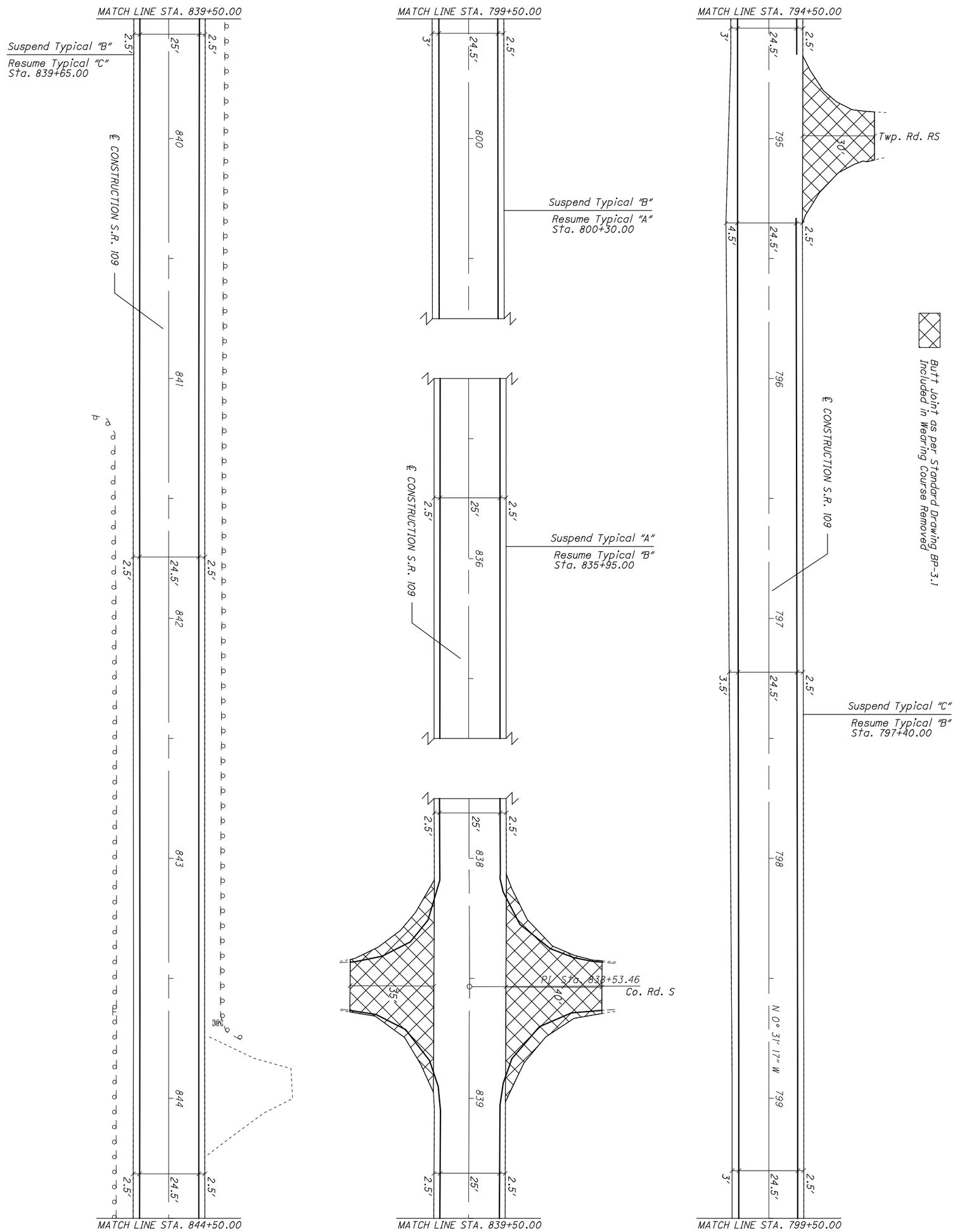
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED RSH
CHECKED DAR

FUL-109 PLAN SHEET (LOCATION 2)
STA. 786+87.96 TO STA., 794+50.00

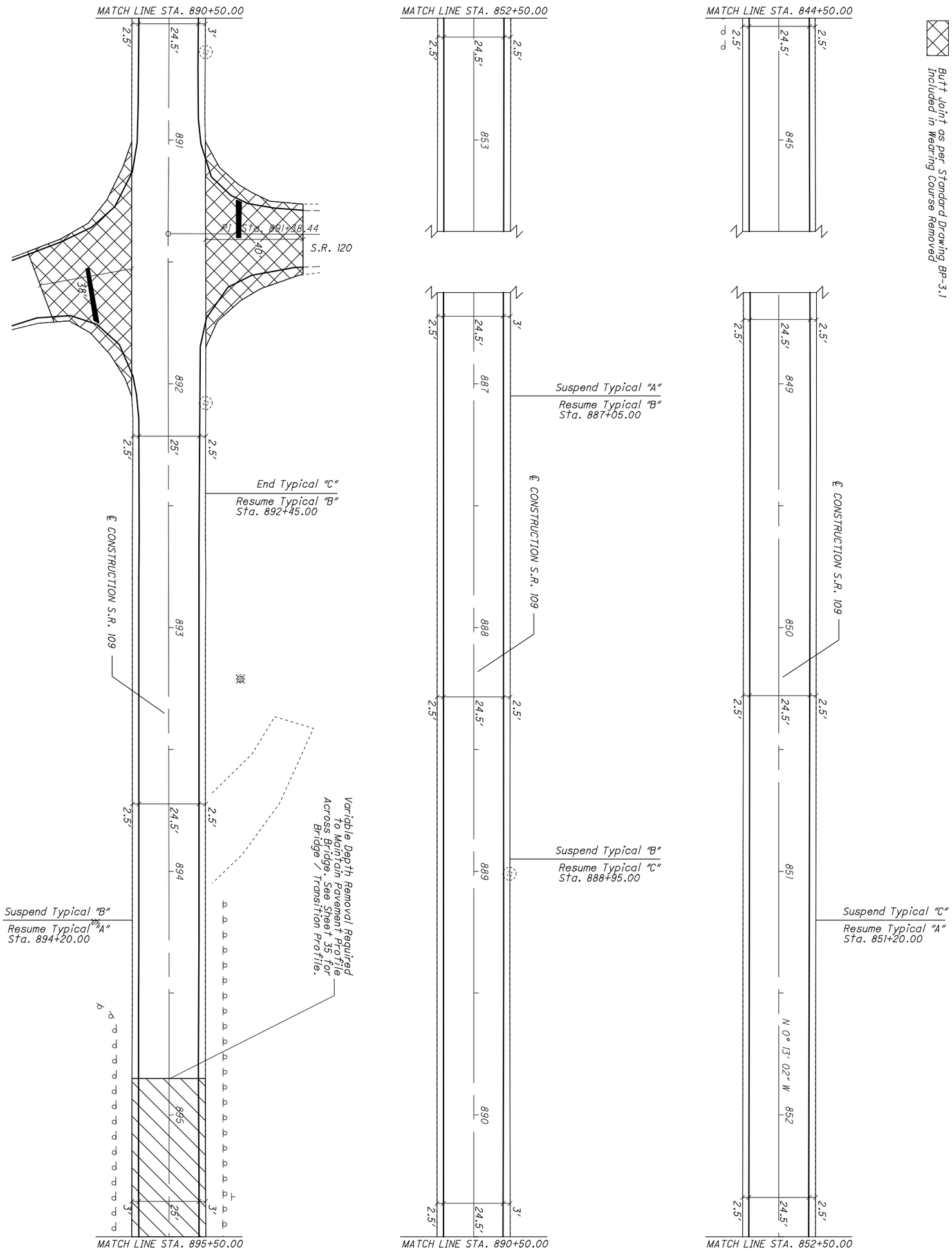
FUL-108/109-6.77/14.90

30
39



FUL-109 PLAN SHEET (LOCATION 2)
STA. 794+50.00 TO STA. 844+50.00

CALCULATED RSH
CHECKED DAR
HORIZONTAL SCALE IN FEET



FUL-109 PLAN SHEET (LOCATION 2)
STA. 844+50.00 TO STA. 895+50.00

CALCULATED RSH
CHECKED DAR

0 10 20 40
HORIZONTAL SCALE IN FEET

N

FUL-109 PLAN SHEET (LOCATION 2)
STA. 895+50.00 TO STA. 936+50.00

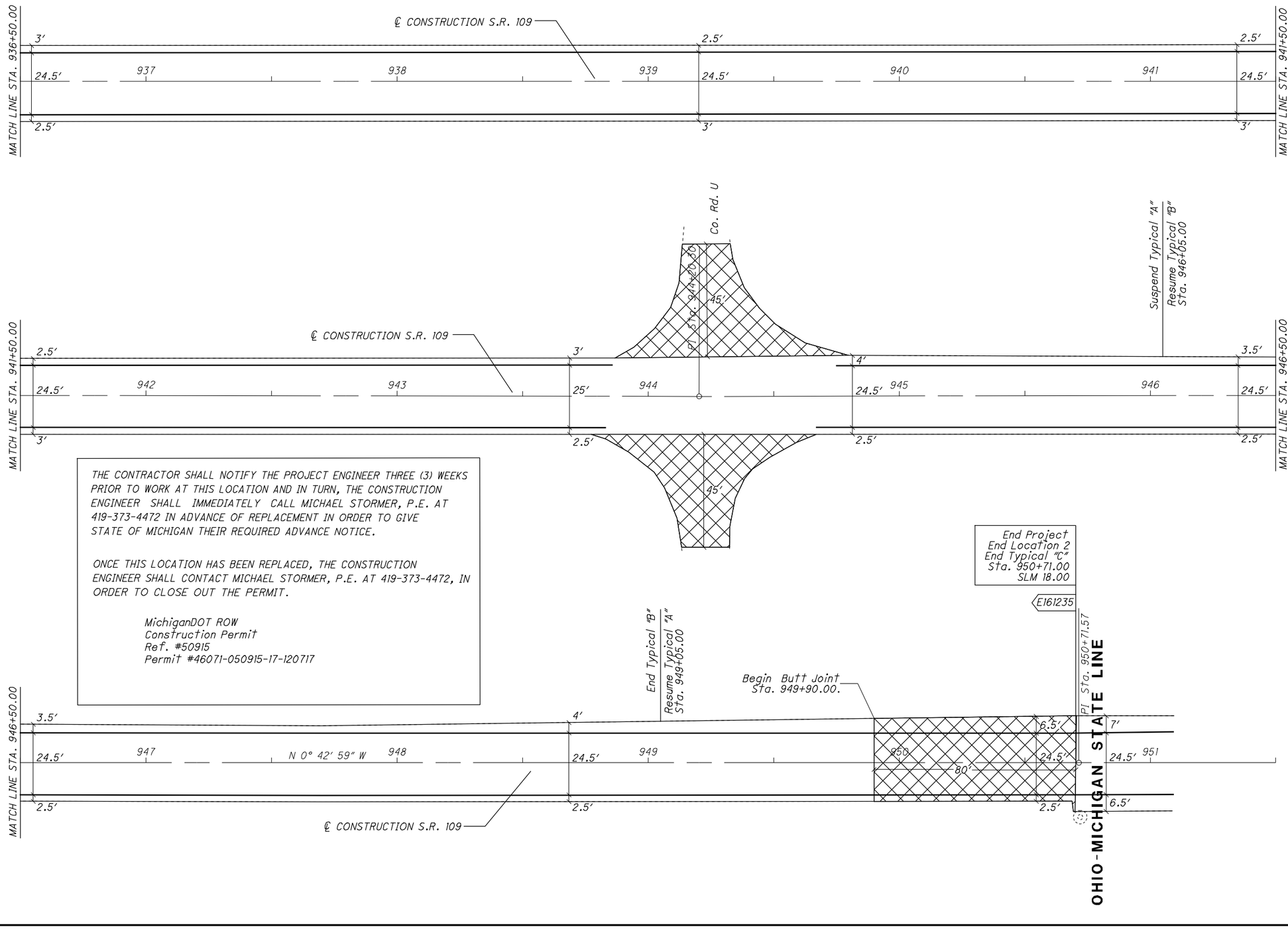
CALCULATED RSH
CHECKED DAR

HORIZONTAL SCALE IN FEET
0 10 20 40

FUL-108/109-6.77/14.90

33
39

Butt Joint as per Standard Drawing BP-3.1
Included in Wearing Course Removed



THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER THREE (3) WEEKS PRIOR TO WORK AT THIS LOCATION AND IN TURN, THE CONSTRUCTION ENGINEER SHALL IMMEDIATELY CALL MICHAEL STORMER, P.E. AT 419-373-4472 IN ADVANCE OF REPLACEMENT IN ORDER TO GIVE STATE OF MICHIGAN THEIR REQUIRED ADVANCE NOTICE.

ONCE THIS LOCATION HAS BEEN REPLACED, THE CONSTRUCTION ENGINEER SHALL CONTACT MICHAEL STORMER, P.E. AT 419-373-4472, IN ORDER TO CLOSE OUT THE PERMIT.

MichiganDOT ROW
Construction Permit
Ref. #50915
Permit #46071-050915-17-120717

℄ CONSTRUCTION S.R. 109

N

HORIZONTAL SCALE IN FEET
0 10 20 40

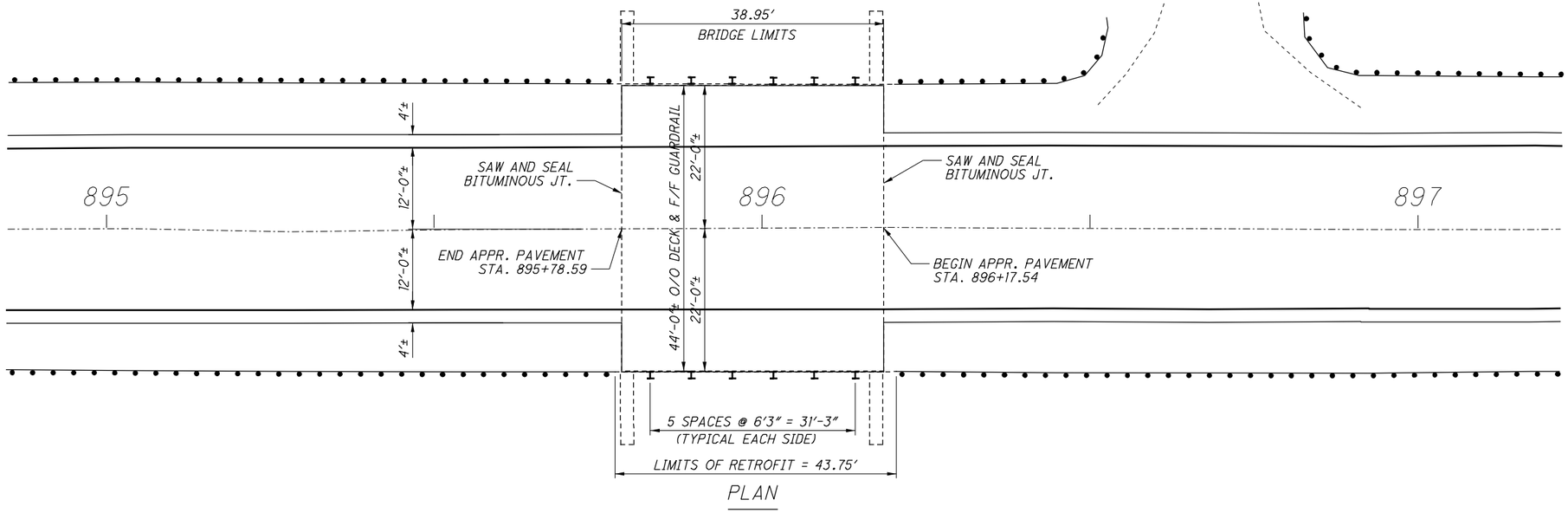
CALCULATED RSH
CHECKED DAR

FUL-109 PLAN SHEET (LOCATION 2)
STA. 936+50.00 TO STA. 950+71.00

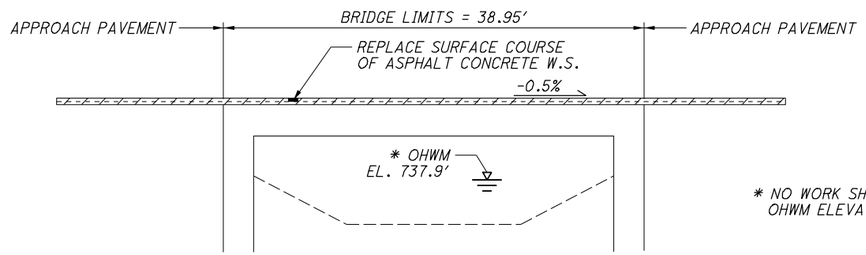
FUL-108/109-6.77/14.90

34
39

I:\ProjectData\FUL\102802_FUL-108_109-6.7\Design\Roadway\Sheets\102802_GP014.dgn Sheet 12/8/2017 7:16:49 AM rhanna

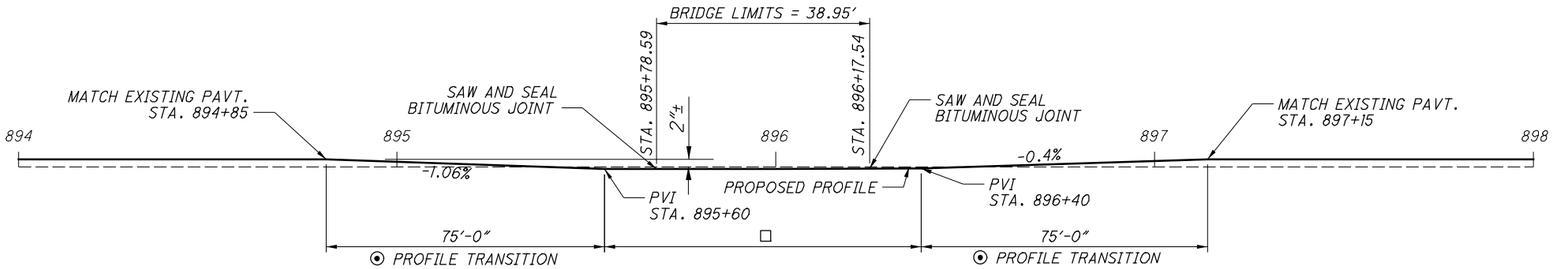


PLAN



* NO WORK SHALL BE PERFORMED BELOW THE OHWM ELEVATION OF 737.9'.

ELEVATION



PROFILE ADJUSTMENT DETAIL

⊙ PLANING SHALL VARY FROM 0" AT STATION 894+85 TO 2" AT STATION 895+60 AND 2" AT STATION 896+40 TO 0" AT STATION 897+15.

1" ITEM 424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN SHALL BE APPLIED IN THESE SECTIONS.

□ PLANING SHALL BE A CONSTANT 2" FROM STATION 895+60 TO 896+40.

1" ITEM 424 FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B AS PER PLAN SHALL BE APPLIED IN THIS SECTION.

PROPOSED WORK:

1. MAINTAIN TRAFFIC WITH FLAGGERS AS PER STANDARD DRAWING MT-97.10.
2. REPLACE SURFACE COURSE OF ASPHALT WEARING SURFACE AND RETROFIT BRIDGE RAIL.
3. SAW AND SEAL BITUMINOUS JOINTS.

EXISTING STRUCTURE

TYPE: REINFORCED CONCRETE BEAM BRIDGE
SPANS: 36'-0" (CLEAR)
ROADWAY: 44'-0" F/F GUARDRAIL
LOADING: CF = 130 (57)
SKEW: NONE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
WEARING SURFACE: BITUMINOUS
STRUCTURAL FILE NUMBER: 2601567
YEAR BUILT: 1932

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

DESIGNED GLH | CHECKED DJG
DRAWN GLH | REVISED XXX
REVIEWED XXX | DATE MM/DD/YY
STRUCTURE FILE NUMBER 2601567

COUNTY
STA. 0+00
STA. 0+00

SITE PLAN
BRIDGE NO. FUL-109-1698
OVER BEAR CREEK

FUL-108/109
-6.77/14.90
PID No. 102802

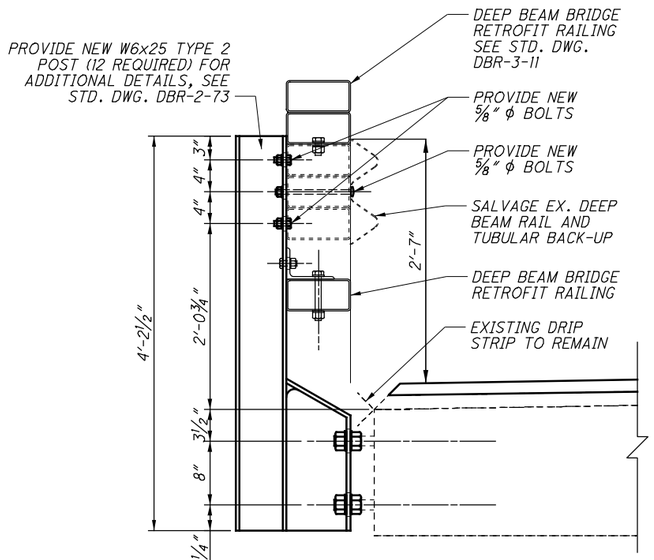
1 / 4

35
39

ESTIMATED QUANTITIES (04/STR/BR)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
202	38602	87.5	FT	BRIDGE RAILING REMOVED FOR REUSE			87.5		
254	01001	871	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, (VARIES)			191	680 *	
407	20000	78	GAL	NON-TRACKING TACK COAT			17	61 *	
424	12001	25	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN			6	19 *	
SPECIAL	51631200	64	FT	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS			64		4
517	75501	87.5	FT	BRIDGE RAILING REBUILT, AS PER PLAN			87.5		2
517	75601	87.5	FT	DEEP BEAM BRIDGE RETROFIT RAILING, AS PER PLAN			87.5		2
606	35141	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN				4	3

* APPROACH PAVEMENT



BRIDGE RAILING REBUILD DETAIL

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD DRAWING(S):

DBR-2-73	DATED/REVISED	7-19-02
DBR-3-11	DATED/REVISED	7-15-11

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 513.04.

CONTRACT BID PRICES SHALL BE BASED UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ITEM 517, BRIDGE RAILING REBUILT, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL 12 NEW RAILING POSTS AS SHOWN IN THE PLAN UTILIZING EXISTING BRIDGE BEAM ANCHOR BOLTS, DEEP BEAM RAIL AND STEEL TUBULAR BACKUP. ALL MOUNTING HARDWARE TO INSTALL THE NEW POSTS SHALL BE REPLACED WITH NEW. REBUILT BRIDGE RAILING SHALL CONFORM TO STANDARD DRAWING DBR-2-73. PAYMENT FOR REMOVAL OF OLD POSTS SHALL BE INCLUDED WITH ITEM 202, BRIDGE RAILING REMOVED FOR REUSE. ALL WORK TO INSTALL THE REBUILT RAILING SHALL BE COMPLETED WHILE THE STRUCTURE IS CLOSED TO TRAFFIC AS PER ITEM 614.

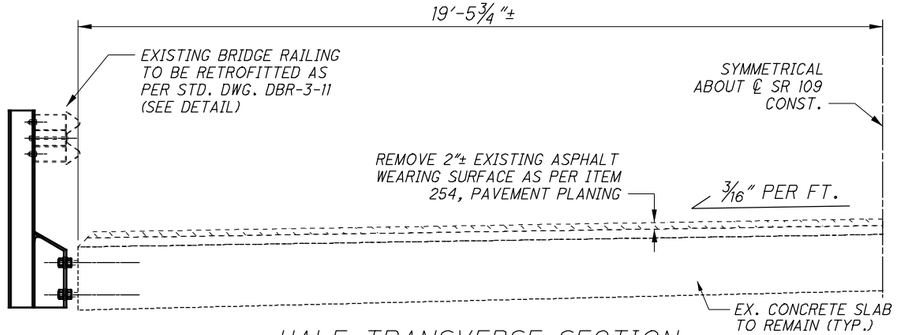
PAYMENT FOR BRIDGE RAILING REBUILD SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE THE WORK TO THE SATISFACTION OF THE ENGINEER.

EXISTING BRIDGE PLANS

EXISTING PLANS MAY BE INSPECTED IN THE ODOT DISTRICT 2 OFFICE AT 317 EAST POE RD., BOWLING GREEN, OHIO.

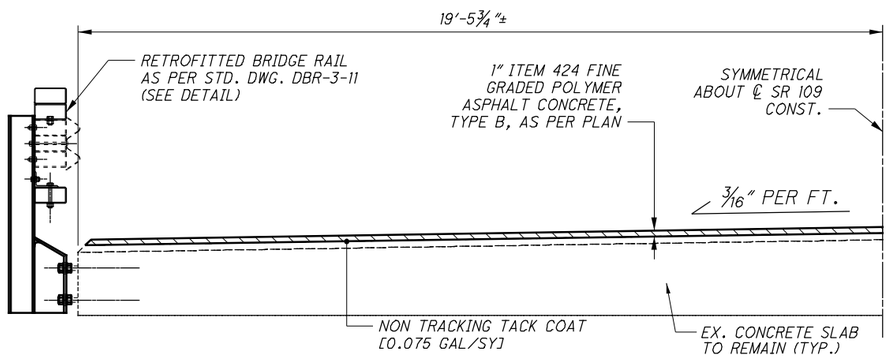
ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

GRINDINGS SHOULD BE DELIVERED TO FULTON COUNTY GARAGE. ADDRESS: 8878 SR 108 WAUSEON, OH.



HALF-TRANSVERSE SECTION

(EXISTING)



HALF-TRANSVERSE SECTION

(PROPOSED)

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

REVIEWED	DATE
XXX	MM/DD/YY

STRUCTURE FILE NUMBER 2601567

DRAWN	REVISED
GLH	XXX

DESIGNED	CHECKED
GLH	DJG

ESTIMATED QUANTITIES

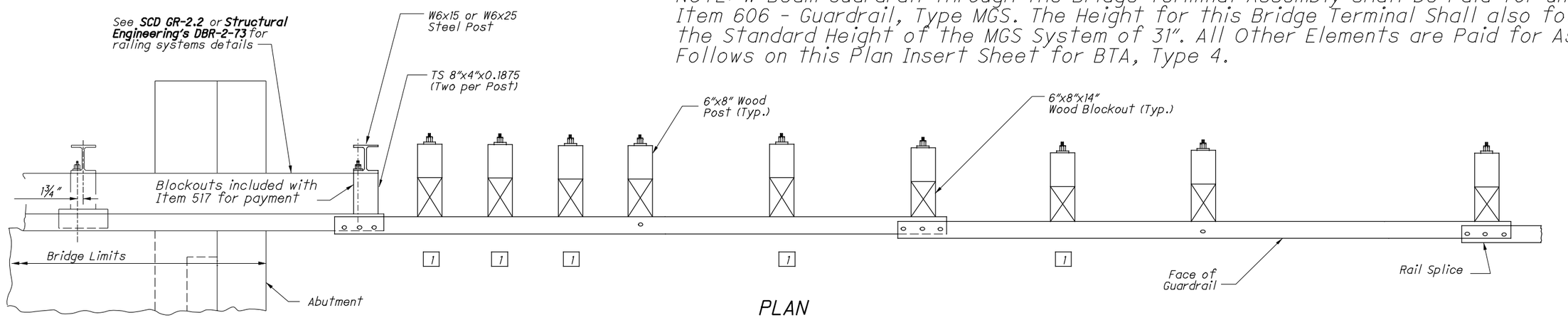
BRIDGE NO. FUL-109-1698
OVER BEAR CREEK

FUL-108/109
-6.77/14.90
PID No. 102802

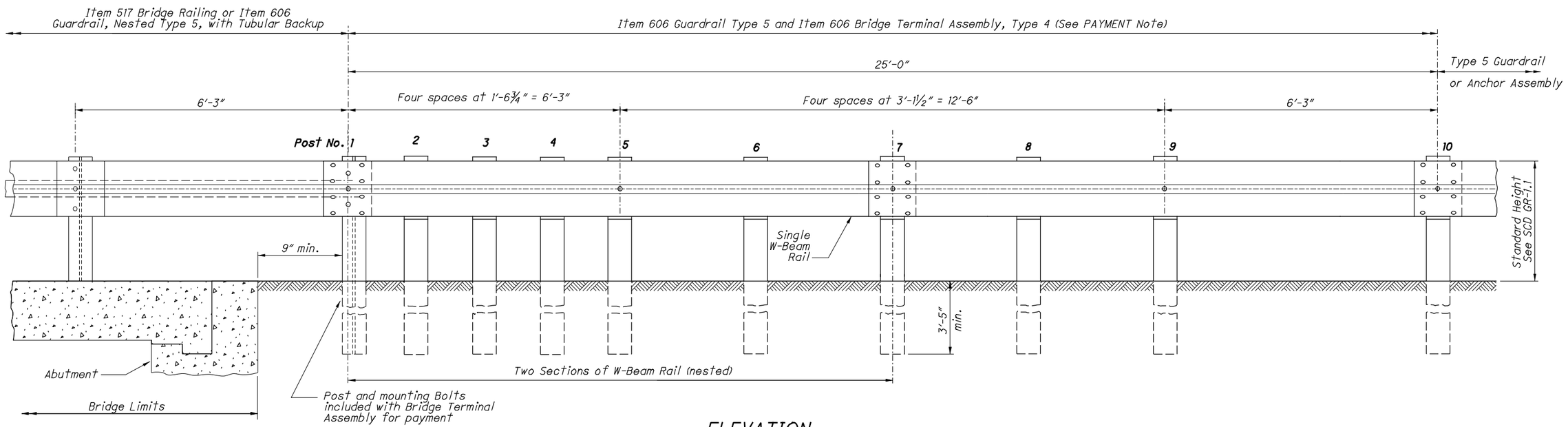
2 / 4

36
39

NOTE: W-Beam Guardrail through the Bridge Terminal Assembly Shall be Paid for under Item 606 - Guardrail, Type MGS. The Height for this Bridge Terminal Shall also follow the Standard Height of the MGS System of 31". All Other Elements are Paid for As Follows on this Plan Insert Sheet for BTA, Type 4.



PLAN



ELEVATION

NOTES

GENERAL: For additional details, see **SCD GR-1.1.**

APPLICATION: The Type 4 Bridge Terminal Assembly shall connect Type 5 Guardrail runs to Type 5 Guardrail with Tubular Backup or to Deep Beam Bridge Guardrail (as shown on **Structural Engineering SCD DBR-2-73**).

DETAIL INFORMATION: The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel rail section spanning the abutment are slotted ¾"x2½". Tighten the bolts as specified for expansion joints in Item 606.05.

POSTS: Posts may be set in drilled holes or driven to grade. See **SCD GR-1.1** for additional Post embedment details. Guardrail is not attached to certian posts (see LEGEND).

WOOD POSTS - Use square sawed pressure treated wood as specified in CMS 710.14 and fabricated with square ends. Bore bolt holes and trim the tops of posts, if required after the posts are set.

STEEL POSTS - are allowed as an alternate. Use W6x9 or W6x8.5 in lieu of the 6"x8" wood post. Use same post material through-out assembly.

BLOCKOUTS: Use wood blockouts only. Steel or plastic blockouts are not permitted. Notched wood blockouts are used with steel posts.

FLARED GUARDRAIL: Start Standard Guardrail Flares as shown on **SCD GR-5.1** at or beyond Post No. 10; however, the flare may begin at Post No. 7.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type 4, Each, includes the cost of extra components in excess of normal guardrail, such as additional posts and other hardware. The TS 8"x4" spacers and tubular backup rail extending to the first post off the bridge is included with **Item 517 - Railing,** or **Item 606 - Guardrail, Nested Type 5 with Tubular Backup,** for payment.

LEGEND

[1] Guardrail is not attached to posts at Posts 2, 3, 4, 6, and 8. Blockout is fastened to post with standard Post Bolt.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

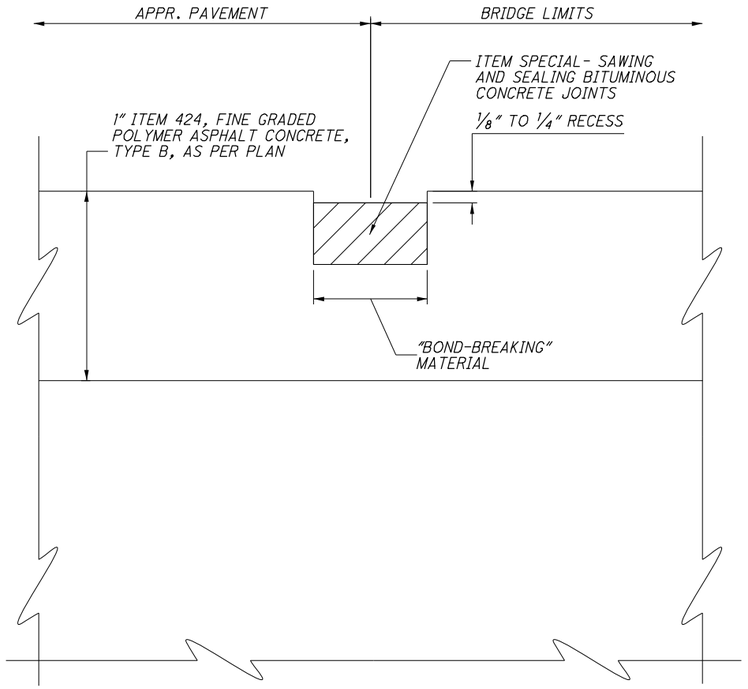
DESIGNED	DRAWN	REVIEWED	DATE
DJG	DJG	XXX	MM/DD/YY
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JTB	XXX	2601567	

BRIDGE TERMINAL ASSEMBLY, TYPE 4
BRIDGE NO. FUL-109-1698
OVER BEAR CREEK

FUL-108/109
-6.77/14.90
PID No. 102802

3 / 4

37
39



SEALING BITUMINOUS JOINTS

(TYPICAL AT EACH ABUTMENT)

ITEM SPECIAL- SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

1) DESCRIPTION:

THIS WORK SHALL CONSIST OF CUTTING AND SEALING TRANSVERSE JOINTS IN THE NEW BITUMINOUS CONCRETE OVERLAY. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE JOINT OF THE APPROACH SLAB & APPROACH PAVEMENT.

2) MATERIALS:

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ITEM 705.04, JOINT SEALANTS, HOT-POURED, FOR CONCRETE AND ASPHALT PAVEMENTS. ACCEPTABLE ALTERNATE MATERIALS ARE:

A SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-S-001543A CLASS A (ONE-PART SILICONE SEALANTS) AND TT-S-00230C CLASS A (ONE-COMPONENT SEALANTS), SUCH AS THOSE MANUFACTURED BY GENERAL ELECTRIC, SILICONE PRODUCTS DIVISION, 4015 EXECUTIVE PARK DRIVE, CINCINNATI, OHIO 45242 (513-243-1953) OR DOW CORNING, 400 TECHNE CENTER, SUITE 103, MILFORD, OHIO 45150 (513-831-3586); OR SOF-SEAL, A COLD-APPLIED, LOW-MODULUS, TWO-COMPONENT POLYMERIC COMPOUND HORIZONTAL SEALANT AS MANUFACTURED BY W.R.MEADOWS, INC., P.O. BOX 543, ELGIN, ILLINOIS 60121 (800-342-5976).

3) CONSTRUCTION DETAILS:

A) GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT THE CUTTING, CLEANING AND SEALING OF TRANSVERSE JOINTS IS A CONTINUOUS OPERATION THAT WILL BE PERFORMED AS SOON AS PRACTICAL AFTER THE PAVING, BUT NO LATER THAN FOUR (4) DAYS AFTER PLACEMENT OF THE ASPHALT CONCRETE SURFACE COURSE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE JOINT CUT PRIOR TO SEALING.

B) CUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE DETAILS ON THIS SHEET. THE CUT JOINTS SHALL LIE DIRECTLY ABOVE EACH APPROACH SLAB END. THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING WILL BE ALLOWED. JOINTS SHALL EXTEND THE FULL WIDTH OF BRIDGE.

C) CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH A SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE WASHED CLEAN OF ALL CUTTINGS BY FLUSHING WITH A JET OF WATER AND WITH OTHER TOOLS AS NECESSARY. AFTER FLUSHING, THE JOINT SHALL BE BLOWN OUT WITH COMPRESSED AIR . WHEN THE SURFACES ARE THOROUGHLY CLEAN AND DRY, AND JUST PRIOR TO PLACING THE JOINT SEALER, COMPRESSED AIR HAVING A PRESSURE OF AT LEAST 90 PSI SHALL BE USED TO BLOW OUT THE JOINT AND REMOVE ALL TRACES OF DUST. IN THE EVENT FRESHLY CUT JOINTS BECOME CONTAMINATED BEFORE THEY ARE SEALED, THEY SHALL BE RECLEANED OF ALL FOREIGN MATERIAL BY HIGH PRESSURE WATER JET.

D) SEALING JOINTS: THE JOINT SHALL BE THOROUGHLY DRY WHEN THE SEALANT IS PLACED. AFTER CLEANING AND DRYING, A BOND-BREAKER MATERIAL SHALL BE APPLIED TO THE BOTTOM OF THE GROOVE.

HOT-POURED JOINT SEALANT MATERIAL SHALL BE HEATED IN A KETTLE OR MELTER CONSTRUCTED AS A DOUBLE BOILER, WITH THE SPACE BETWEEN THE INNER AND OUTER SHELLS FILLED WITH OIL OR OTHER HEAT TRANSFER MEDIUM. POSITIVE TEMPERATURE CONTROL AND MECHANICAL AGITATION SHALL BE PROVIDED. HEATING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. JOINT SEALER MATERIAL SHALL NEVER BE KEPT HEATED AT THE POURING TEMPERATURE FOR MORE THAN FOUR (4) HOURS AND SHALL NEVER BE REHEATED. SEALER LEFT IN THE APPLICATION AT THE END OF A DAY'S WORK SHALL NOT BE USED.

HOT-POURED SEALANT SHALL BE APPLIED IMMEDIATELY THROUGH A NOZZLE, WHICH MUST PROJECT INTO THE SAWED JOINT, FILLING FROM THE BOTTOM UP. THE SEALANT SHALL COMPLETELY FILL THE JOINT IN SUCH A MANNER THAT, AFTER COOLING, THE LEVEL OF THE SEALANT WILL NOT BE HIGHER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE COOLED SEAL GREATER THAN 3/16" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT-POURED SEALANT. CARE SHALL BE TAKEN IN THE SEALING OF THE JOINTS SO THAT THE FINAL APPEARANCE WILL PRESENT A NEAT FINE LINE.

THE COLD APPLIED SEALANT MATERIALS (POLYURETHANE, SILICONE, AND POLYMERIC COMPOUNDS) SHALL BE INSTALLED AS PER MANUFACTURERS' RECOMMENDATIONS, EXCEPT AS MODIFIED BY THIS DRAWING. THE SEALANT SHALL BE INSTALLED WHEN THE AMBIENT TEMPERATURE IS 40 DEGREES F OR HIGHER. TRAFFIC SHALL NOT BE ALLOWED ON THE JOINT FOR ONE HOUR AFTER THE APPLICATION OF THE SEALANT.

4) METHOD OF MEASUREMENT:

THE QUANTITY TO BE PAID FOR UNDER THIS ITEM WILL BE THE NUMBER OF LINEAR FEET OF JOINTS SAWED AND SEALED AS PER THE ABOVE REQUIREMENTS.

5) BASIS OF PAYMENT:

THE UNIT PRICE PER LINEAR FOOT FOR ITEM SPECIAL- "SAWING AND SEALING BITUMINOUS CONCRETE JOINTS" SHALL INCLUDE THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK, INCLUDING THE FURNISHING AND PLACING OF THE JOINT SEALER MATERIAL.

THIS ITEM SHALL MEET THE MATERIAL (SECTION 2) AND SEALING (SECTION 3D) SPECIFICATIONS OF ITEM SPECIAL- SAWING AND SEALING BITUMINOUS CONCRETE JOINTS.

DESIGN AGENCY
OHIO DEPARTMENT OF TRANSPORTATION

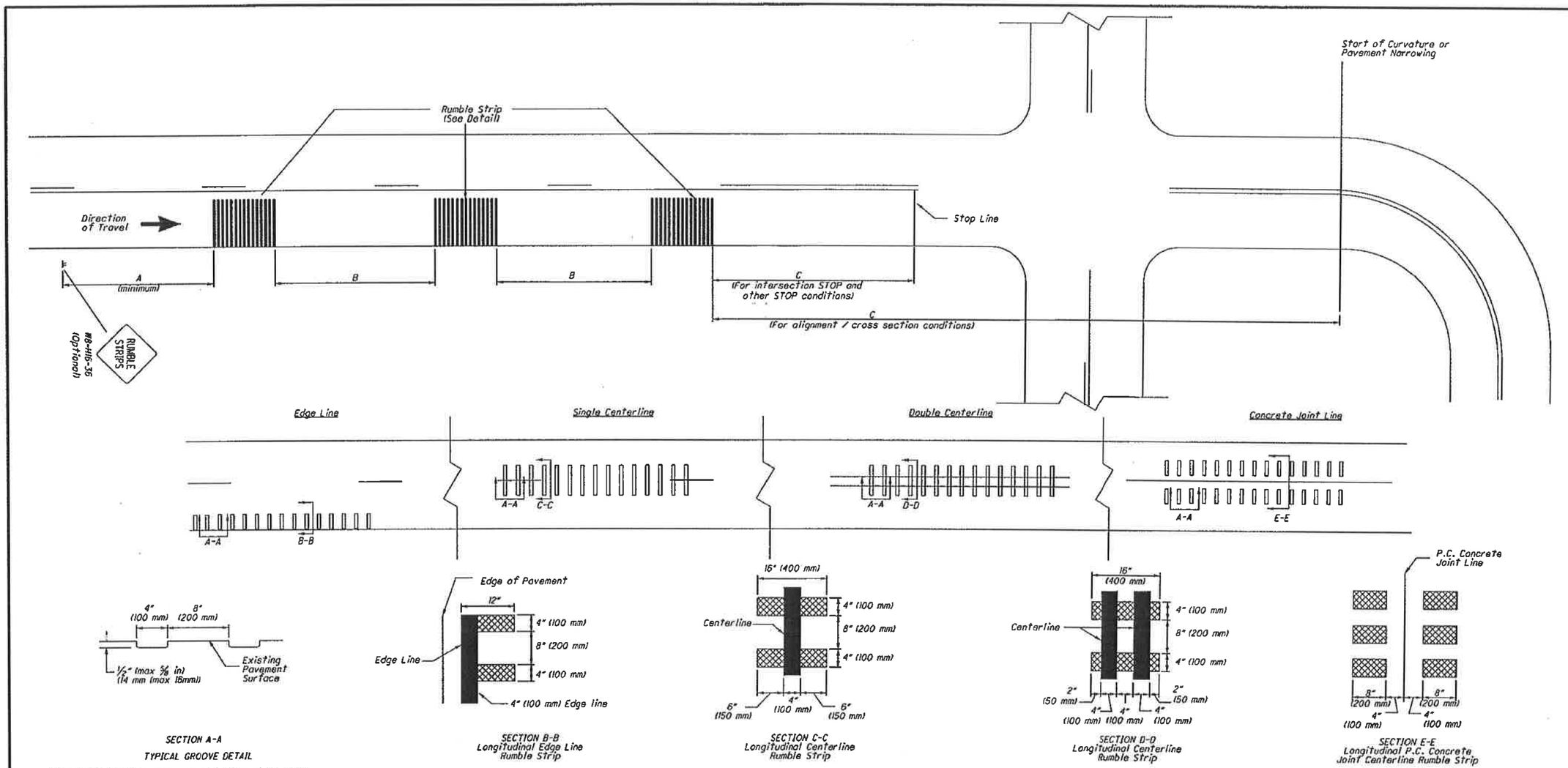
DESIGNED GLH | DRAWN GLH | REVIEWED XXX | DATE MM/DD/YY
CHECKED DJG | REVISED XXX | STRUCTURE FILE NUMBER 2601567

MISCELLANEOUS DETAILS
BRIDGE NO. FUL-109-1698
OVER BEAR CREEK

FUL-108/109
-6.77/14.90
PID No. 102802

4 / 4

38
39



SECTION A-A

TYPICAL GROOVE DETAIL

The proposed rumble strips shall consist of parallel grooves (depressions) cut at one foot (300 mm) intervals.

All dimensions shown are nominal and should be considered to be ± ⅛ inch (3mm).

Each groove shall be cut to a depth of approximately ½ inch (13 mm) with allowance for pavement surface irregularities and variations. Width of the groove is 4 inches (100 mm).

SECTION B-B
Longitudinal Edge Line Rumble Strip

SECTION C-C
Longitudinal Centerline Rumble Strip

SECTION D-D
Longitudinal Centerline Rumble Strip

SECTION E-E
Longitudinal P.C. Concrete Joint Centerline Rumble Strip

TABLE 1			
SPEED LIMIT mph (kmph)	"A" ft (m)	"B" ft (m)	"C" ft (m)
50-55 (80-89)	170 (52)	160-320 (49-98)	300 min (92 min)
40-45 (64-72)	140 (43)	130-260 (40-80)	200 min (61 min)

NOTES

1. For intersections or other stop conditions, placement of the transverse rumble strips is measured from the stop line, or if none, at the point where the roadway user should stop or, for reduced speeds, at the point of curvature or where the pavement narrows.

2. Intersection Rumble Strips- Advance warning signs, such as STOP AHEAD or SIGNAL AHEAD and regulatory signs such as STOP are not shown.

3. Alignment/Cross Section Rumble Strips- Vertical and/or horizontal warning signs, such as HAIRPIN CURVE or HILL and/or cross-section signs such as NARROW BRIDGE are not shown.

4. Center line rumble strips in P.C. concrete pavement consist of two 8 inch (200 mm) grooves each located 4 inches (100 mm) from the joint line.

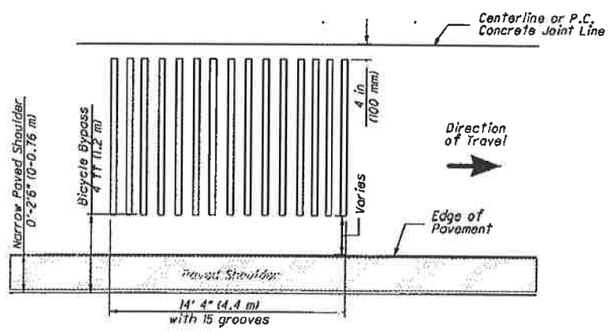
5a. Longitudinal (center line and edge line) rumble strips shall be continuous except when interrupted for driveways and intersections.

OR

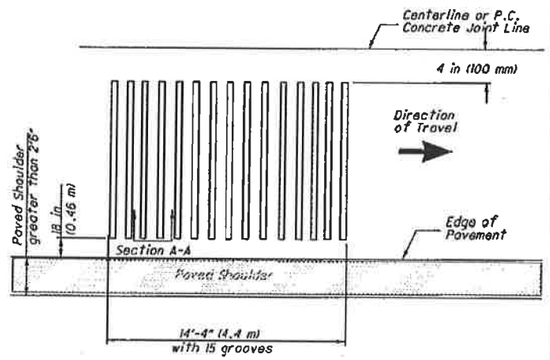
5b. Center line and edge line rumble strips shall be placed in a 60 foot (18.3 m) cycle (48 feet 4 inch (14.7 m) length of roadway with rumble strips with an 11 feet 8 inch (3.6 m) gap). The cycle shall be interrupted for driveways and intersections.

6. Centerline rumble strips and edge line rumble strips may be painted to improve visibility (centerlines are painted in both directions). When painted, they are called rumble stripes.

DETAIL 1



DETAIL 2



RUMBLE STRIPS

02-21-06

OFFICE OF TRAFFIC ENGINEERING

1 / 1

39
39