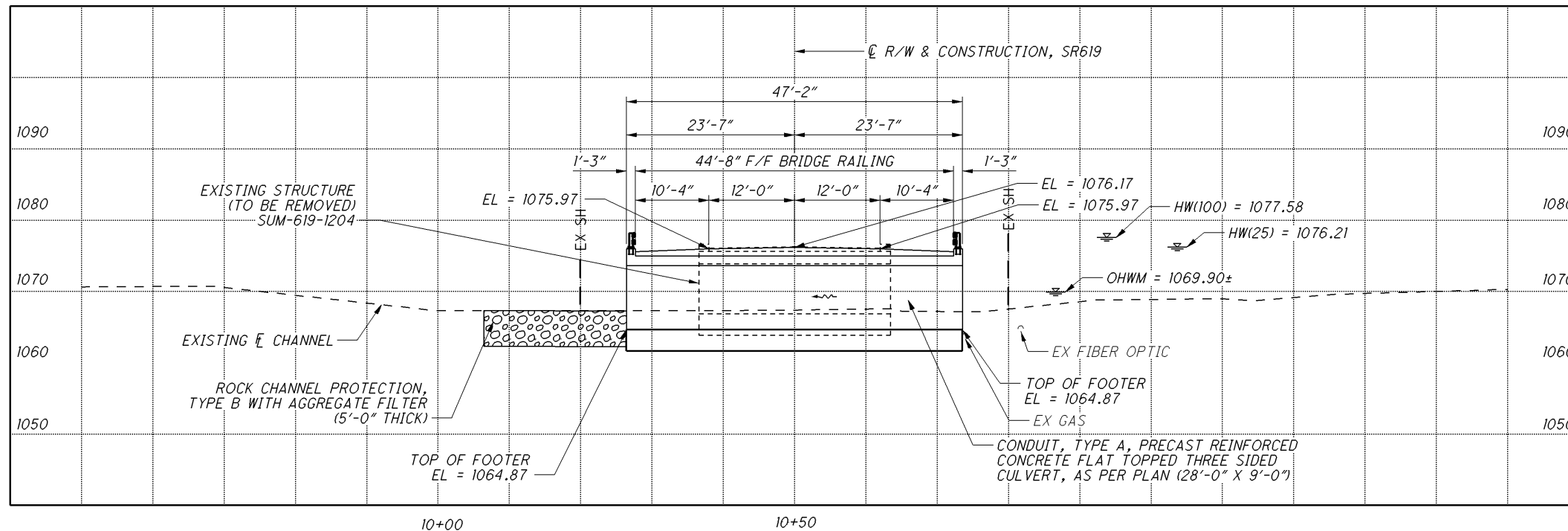
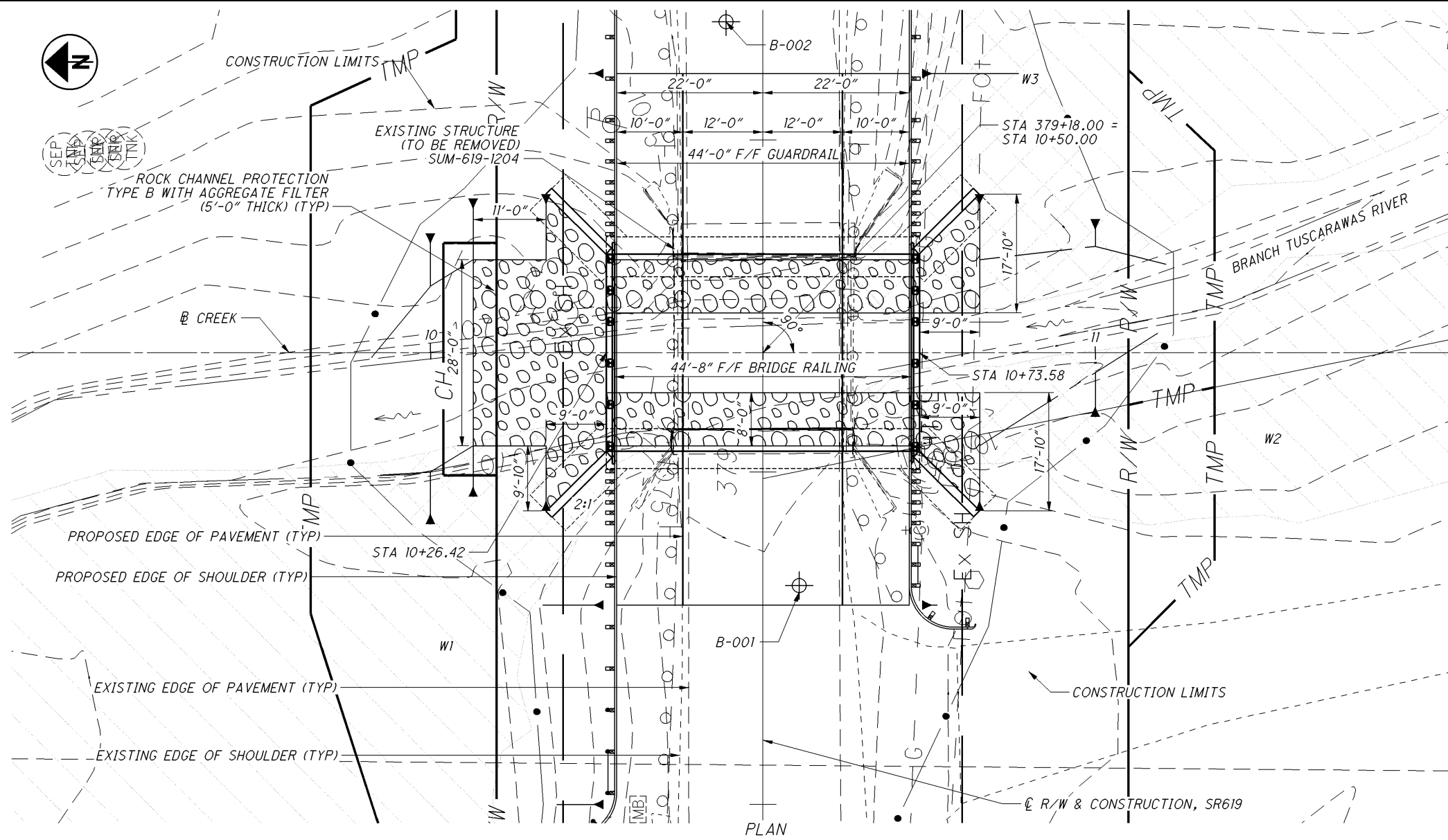


I:\Projects\SUM-619-1204\81599\structures\SUM619_1204\CSheets\619_1204\SP001.dgn 12-DEC-2012 8:05AM mchaney



NOTES

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2013 ADT = 11,900 2013 ADTT = 357
2033 ADT = 15,300 2033 ADTT = 459
DIRECTIONAL DISTRIBUTION = 0.60

LEGEND

⊕ BORING LOCATION

HYDRAULIC DATA

DRAINAGE AREA = 11 SQ. MILES
Q (25) = 652 CFS V (25) = 3.6 FT/S
Q (100) = 800 CFS V (100) = 8.6 FT/S

EXISTING STRUCTURE

TYPE: CONCRETE SLAB DECK ON STONE ABUTMENTS, WITH 60° CONCRETE WINGWALLS

SPANS: 25'-10"
ROADWAY: 24'-0" F/F SAFETY CURB
LOADING: H-15
SKEW: 0°00'00"
APPROACH SLABS: NONE
ALIGNMENT: NONE
CROWN: 0.016
STRUCTURAL FILE NUMBER: 7711166
DATE BUILT: 1936
DISPOSITION: TO BE REMOVED

PROPOSED STRUCTURE

TYPE: CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE FLAT TOPPED THREE SIDED CULVERT (28' X 9')

SPANS: 28'-0"
ROADWAY: 44'-8" FACE/FACE BRIDGE RAILING
LOADING: HL-93 PLUS FUTURE WEARING SURFACE OF 0.06 KIP/SF
SKEW: 0°00'00"
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: VARIES FT/FT
COORDINATES: LATITUDE N40°58'34"
LONGITUDE W81°25'34"

I:\Projects\SUM\81599_619-1204\81599\structures\SUM619_1204\CSheets\619_1204\CGN001.dgn 12-DEC-2012 8:05AM mchaney

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 4TH EDITION, INCLUDING THE 2007 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL, AND FORESLOPE WALL)

REINFORCING STEEL - ASTM A615, A616, OR A617
GRADE 60 MINIMUM YIELD STRENGTH
60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

DEWATERING

ALL AREAS OF EXCAVATION WILL HAVE TO BE KEPT DRY BY MEANS OF CONSTANT DEWATERING. PAYMENT FOR THIS OPERATION WILL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 503 COFFERDAMS AND EXCAVATION BRACING ITEM.

BACKFILL LIMITATION:

THE BACKFILL BEHIND THE WINGWALLS SHALL NOT BE PLACED HIGHER THAN THE ELEVATION OF THE SOIL ABOVE THE TOE. WHEN THE SOIL ABOVE THE TOE IS AT ITS FINISHED ELEVATION, THE REMAINDER OF THE BACKFILL MAY BE PLACED.

POROUS BACKFILL WITH FILTER FABRIC

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOP ELEVATION OF THE WEEPHOLE. WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

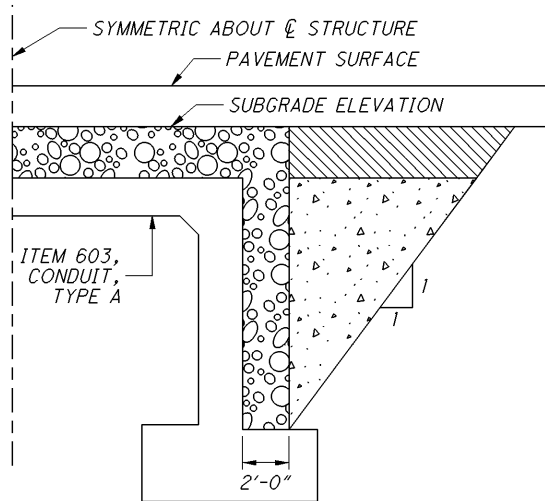
PREFORMED EXPANSION JOINT FILLER:

PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

CONDUIT BACKFILL REQUIREMENTS

LOW STRENGTH MORTAR BACKFILL AND EMBANKMENT (EMBANKMENT WILL BE OMITTED IF THE SUBGRADE ELEVATION IS AT THE TOP OF THE CONDUIT) WILL BE PLACED AS SHOWN (IN THE DETAIL) AND Laterally TO THE EDGE OF THE SHOULDER. PAYMENT FOR THIS WORK WILL BE MADE ONLY FOR MATERIAL PLACED TO THE LIMITS SHOWN. ADDITIONAL PAYMENT WILL NOT BE MADE FOR WORK PERFORMED AND MATERIAL PLACED OUTSIDE OF THESE LIMITS. THE EXCAVATION REQUIRED FOR THIS WORK WILL BE INCLUDED IN ITEM 603 FOR PAYMENT. THE FOLLOWING ITEM HAS BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS WORK:

613, LOW STRENGTH MORTAR BACKFILL 187 CU YD



- BACKFILL AS PER CMS 603
PAYMENT INCLUDED IN ITEM 603, CONDUIT, TYPE A
- ITEM 613, LOW STRENGTH MORTAR BACKFILL
- ITEM 203, EMBANKMENT

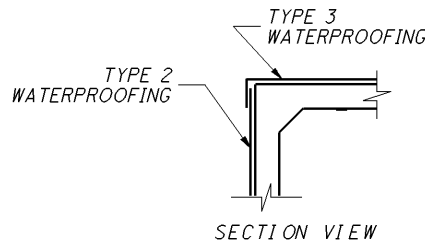
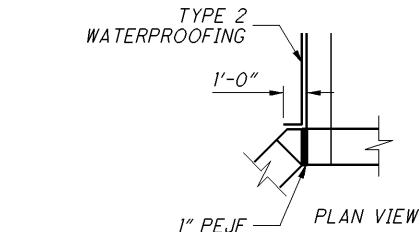
FOUNDATION BEARING RESISTANCE

ALL FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 2.26 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 2.26 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 3.50 KIPS PER SQUARE FOOT.

WATERPROOFING:

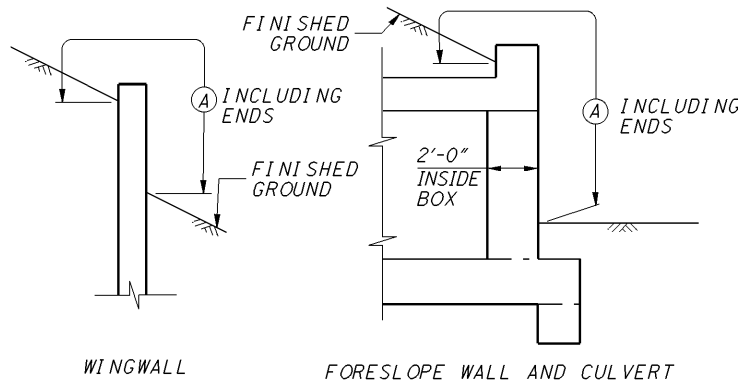
TYPE 2 WATERPROOFING, PER CMS 512.09 AND 711.25, SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512, TYPE 2 WATERPROOFING.

TYPE 3 WATERPROOFING, PER CMS 512.10 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH ASPHALT. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512, TYPE 3 WATERPROOFING.



SEALING OF FORESLOPE WALL AND WINGWALLS:

ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH EPOXY-URETHANE SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE EPOXY-URETHANE SEALER SHALL BE PER ITEM 512, SEALING OF CONCRETE SURFACES.



(A) - SEAL ENTIRE CONCRETE SURFACE AREA

STRUCTURE IDENTIFICATION SIGNS

STRUCTURE IDENTIFICATION SIGNS (I-H25a) WILL BE PLACED ON EACH APPROACH OFF THE RIGHT SHOULDER, FACING TRAFFIC, AND BEHIND THE GUARDRAIL IF APPLICABLE. A QUANTITY OF ONE SIGN PER APPROACH WILL BE INSTALLED. THE SIGNS WILL HAVE A NON-REFLECTIVE WHITE SHEETING BACKGROUND.

THE SIGNS WILL BE MOUNTED ON NEW NO. 2 POSTS AND WILL BE INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-41.20, MOST CURRENT REVISION. EACH POST WILL BE 7.5' IN LENGTH.

INSTALL SIGNS FOR THE FOLLOWING STRUCTURES:
SUM-619-1204 (2 APPROACHES)

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR EACH APPROACH:

- ITEM 630 - SIGN, FLAT SHEET, 730.20, 1 SQ FT
- ITEM 630 - GROUND MOUNTED SUPPORT, NO. 2 POST, 7.5 FT
- ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH
- ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

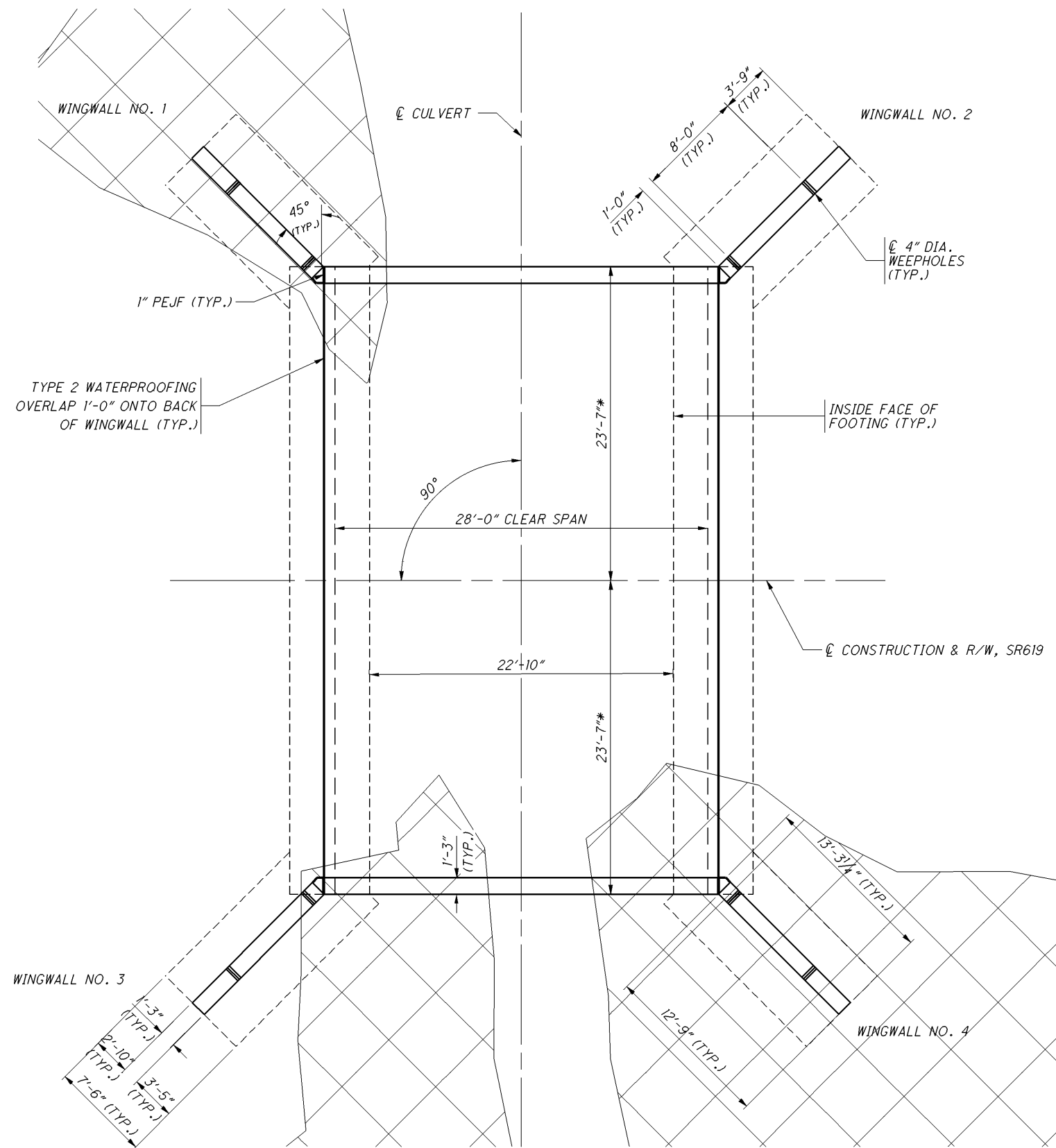
ITEM 517 - RAILING (TWIN STEEL TUBE), AS PER PLAN

ALL POSTS WILL BE FLUSH MOUNTED POST ANCHORED INTO THE TOP OF THE FORESLOPE WALLS ON BOTH ENDS OF THE STRUCTURE PER TST-I-99. ANCHOR BOLTS SHALL BE PRE-CAST INTO THE FORESLOPE WALL AT THE SHOP. ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS WORK WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 517, RAILING (TWIN STEEL TUBE), AS PER PLAN.

ITEM 603 - CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE FLAT TOPPED THREE SIDED CULVERT, AS PER PLAN (28' X 9')

THE FORESLOPE WALLS WILL BE PRECAST AT THE SHOP. ALL REINFORCING STEEL, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS WORK WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 603, CONDUIT, TYPE A, PRECAST REINFORCED CONCRETE FLAT TOPPED THREE SIDED CULVERT, AS PER PLAN (28' X 9').

I:\Projects\SUM\619-1204\81599\structures\SUM619_1204\sheets\619_1204\CD001.dgn 12-DEC-2012 8:05AM mchaney

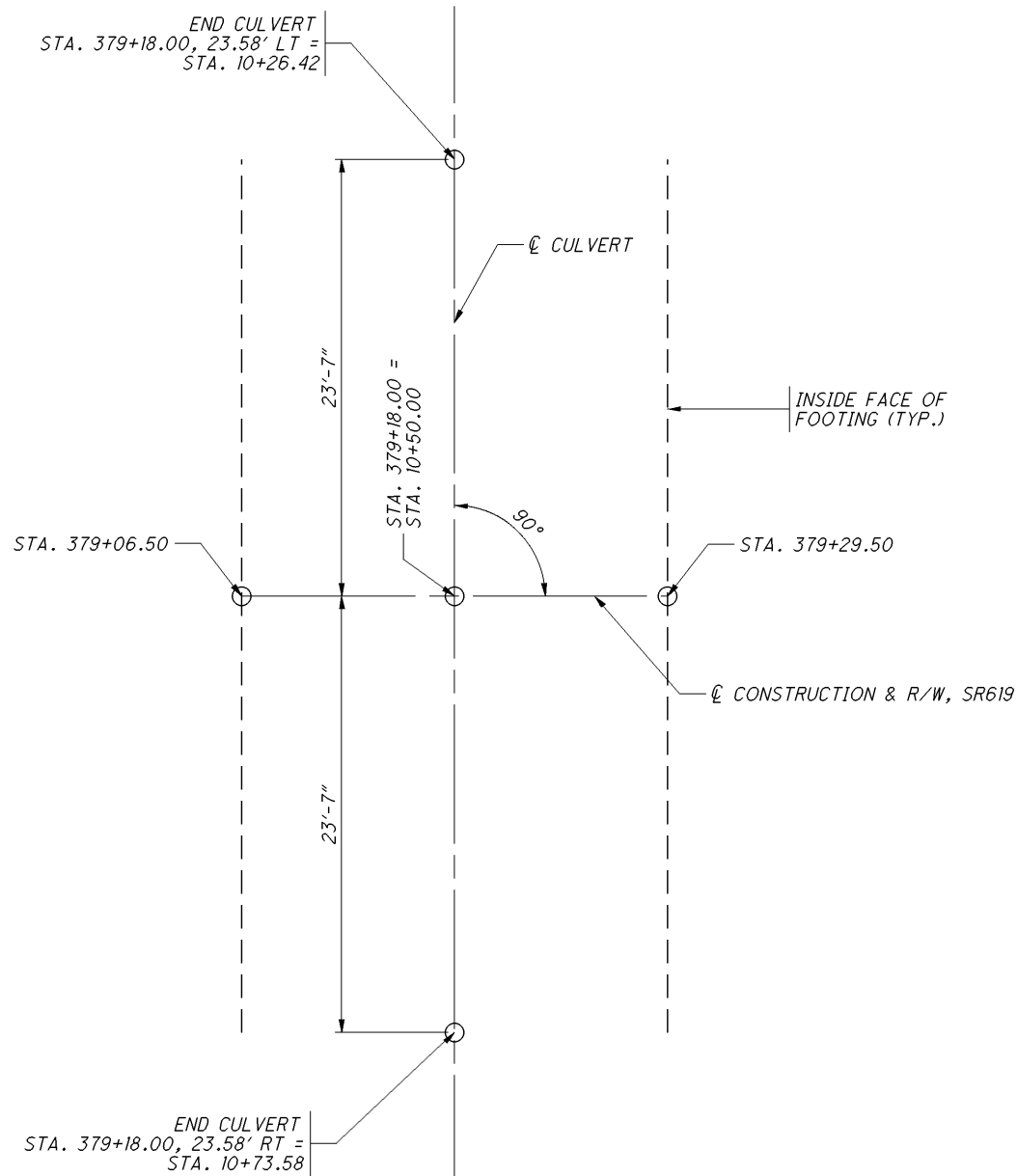


CULVERT & WINGWALL LAYOUT

* PLUS FIT-UP

LEGEND:

C.J.	CONSTRUCTION JOINT	N.F.	NEAR FACE
CLR.	CLEAR	SER.	SERIES
DIA.	DIAMETER	STR.	STRAIGHT
E.F.	EACH FACE	(T)	TOP
F.F.	FAR FACE	(B)	BOTTOM
MAX.	MAXIMUM	T&B	TOP AND BOTTOM
MIN.	MINIMUM	TYP.	TYPICAL
PEJF	PREFORMED EXPANSION JOINT FILLER	INC.	INCREMENT
		WW	WINGWALL



REFERENCE DIAGRAM

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

DATE
08-10-12
REVIEWED
TJP
STRUCTURE FILE NUMBER
7711174

DRAWN
LMP
REVIS
DESIGNED
LMP
CHECKED

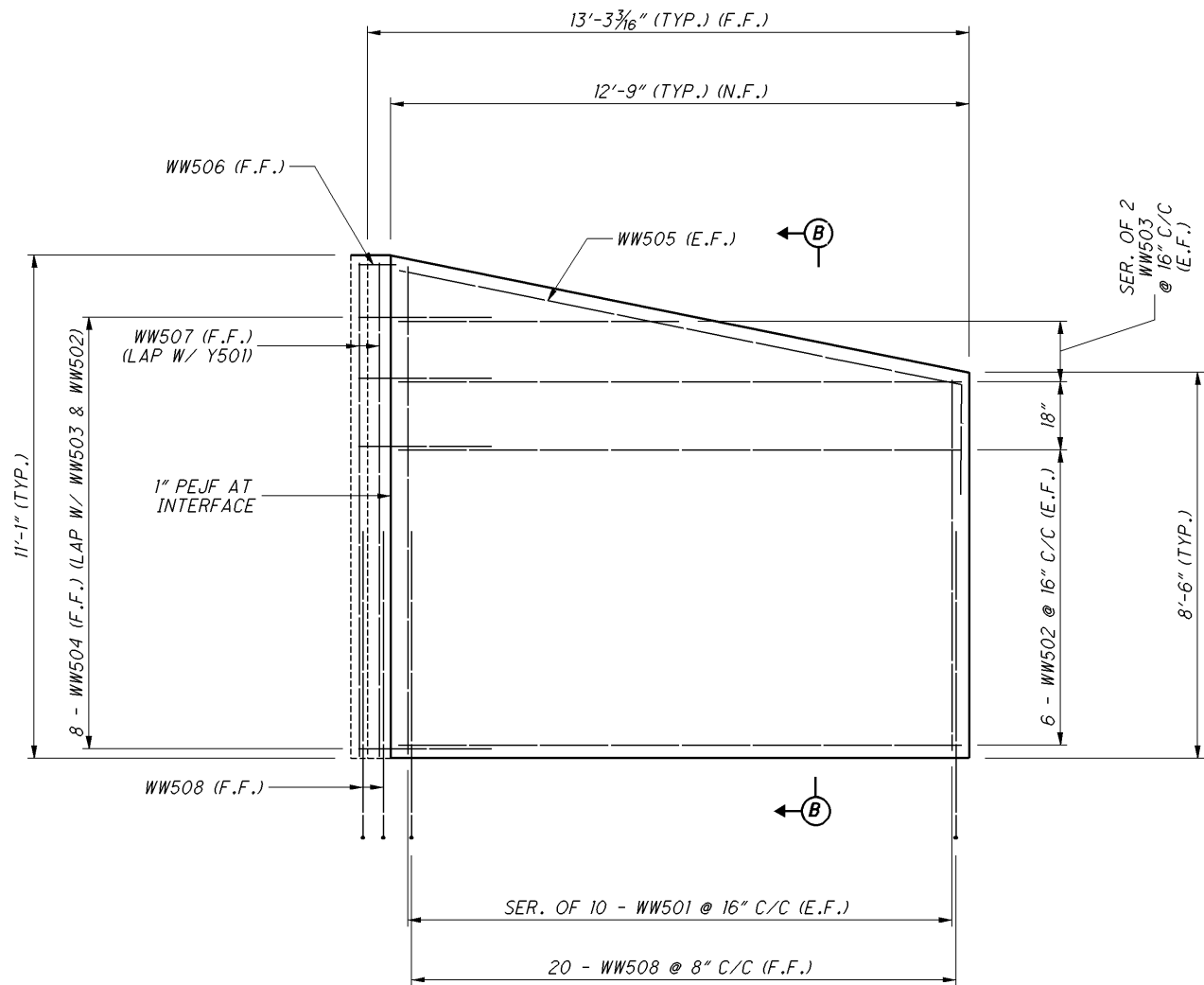
CULVERT LAYOUT
BRIDGE NO.: SUM-619-1204
SR619 OVER BRANCH TUSCARAWAS RIVER

SUM-619-
(12.03)(12.33)
PID No. 81599

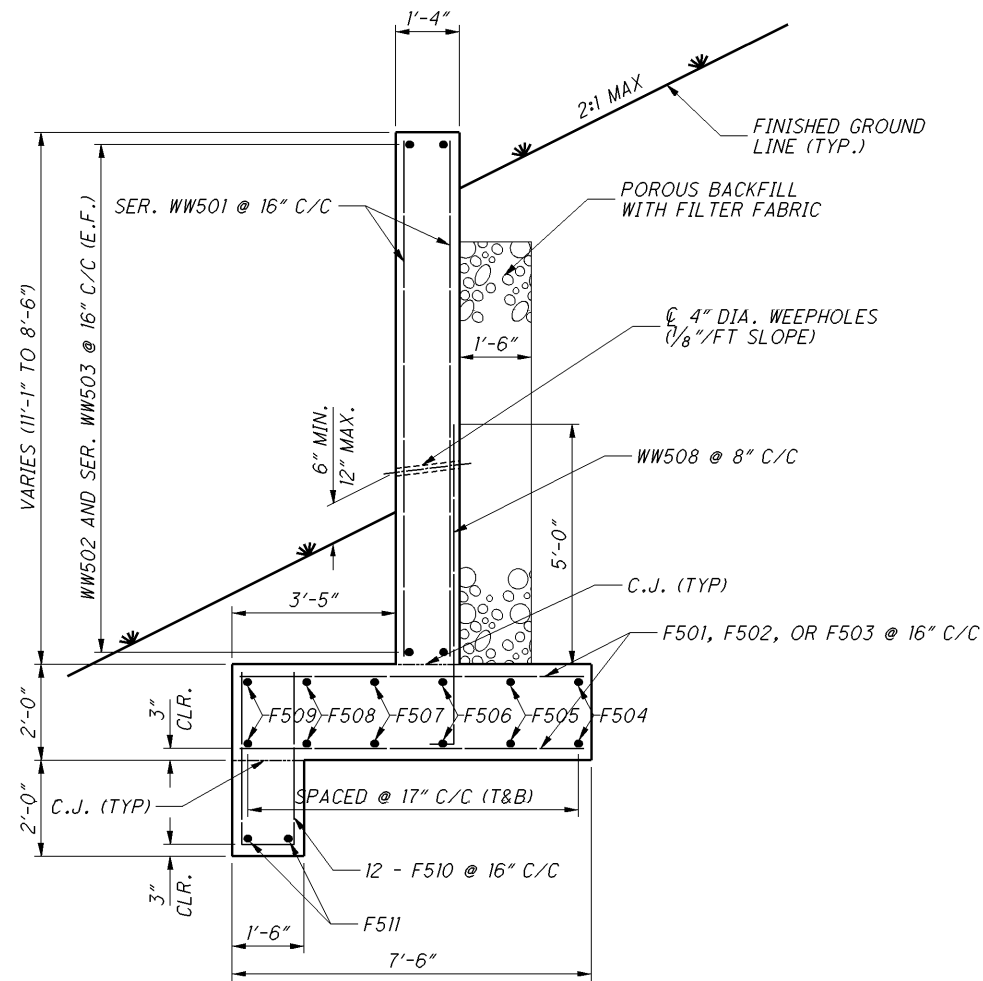
4 / 8

38
46

I:\Projects\SUM\81599_619-1204\structures\SUM619_1204\sheets\619_1204\SD003.dgn 12-DEC-2012 8:05AM mchaney



WINGWALL ELEVATION
TYPICAL FOR ALL WINGWALLS
(FOOTER NOT SHOWN FOR CLARITY)



SECTION B-B

SUM-619-
(12.03)(12.33)
PID No. 81599

WINGWALL DETAILS
BRIDGE NO.: SUM-619-1204
SR619 OVER BRANCH TUSCARAWAS RIVER

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

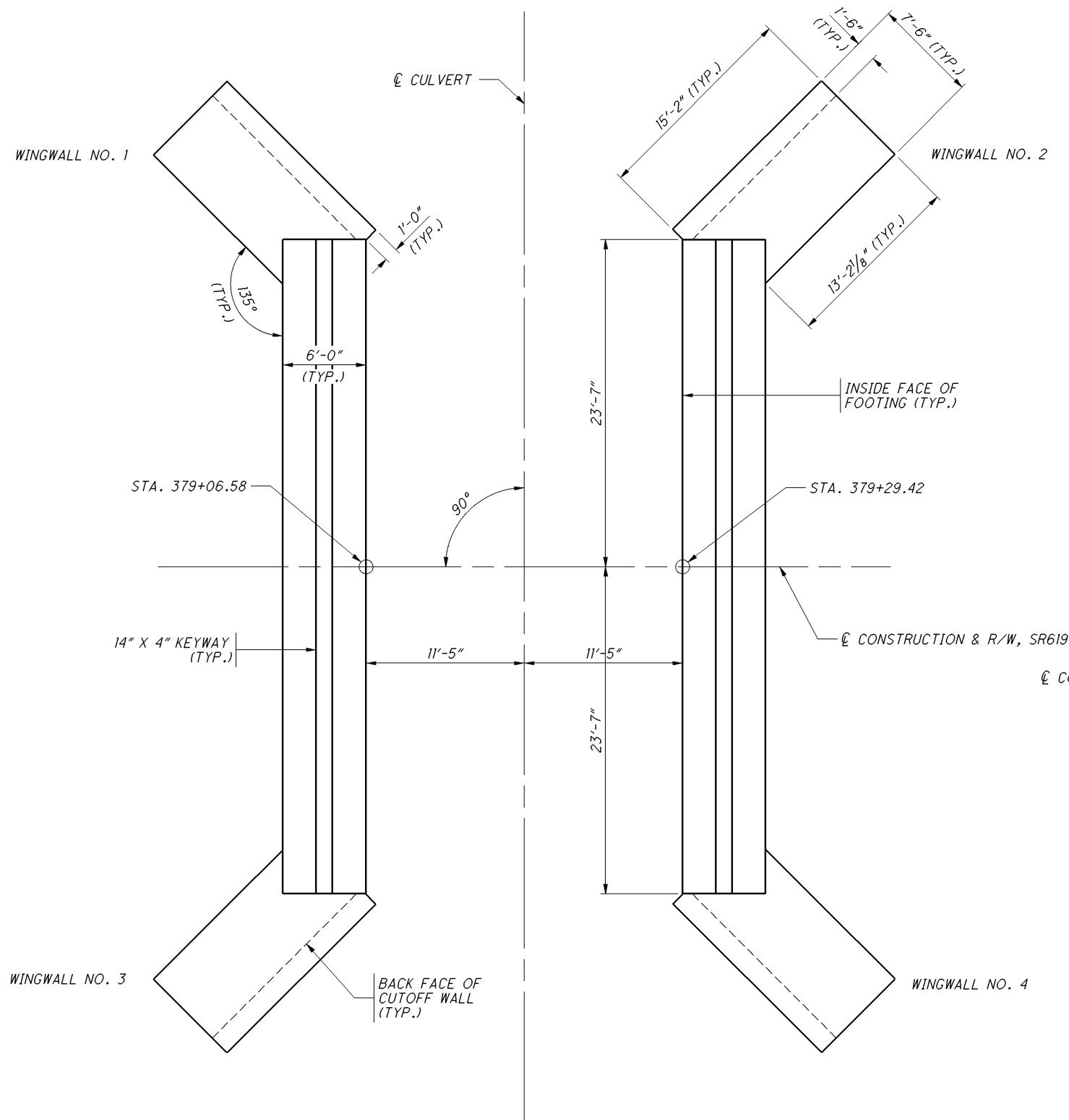
DESIGNED
LMP
CHECKED

DRAWN
LMP
REVISED

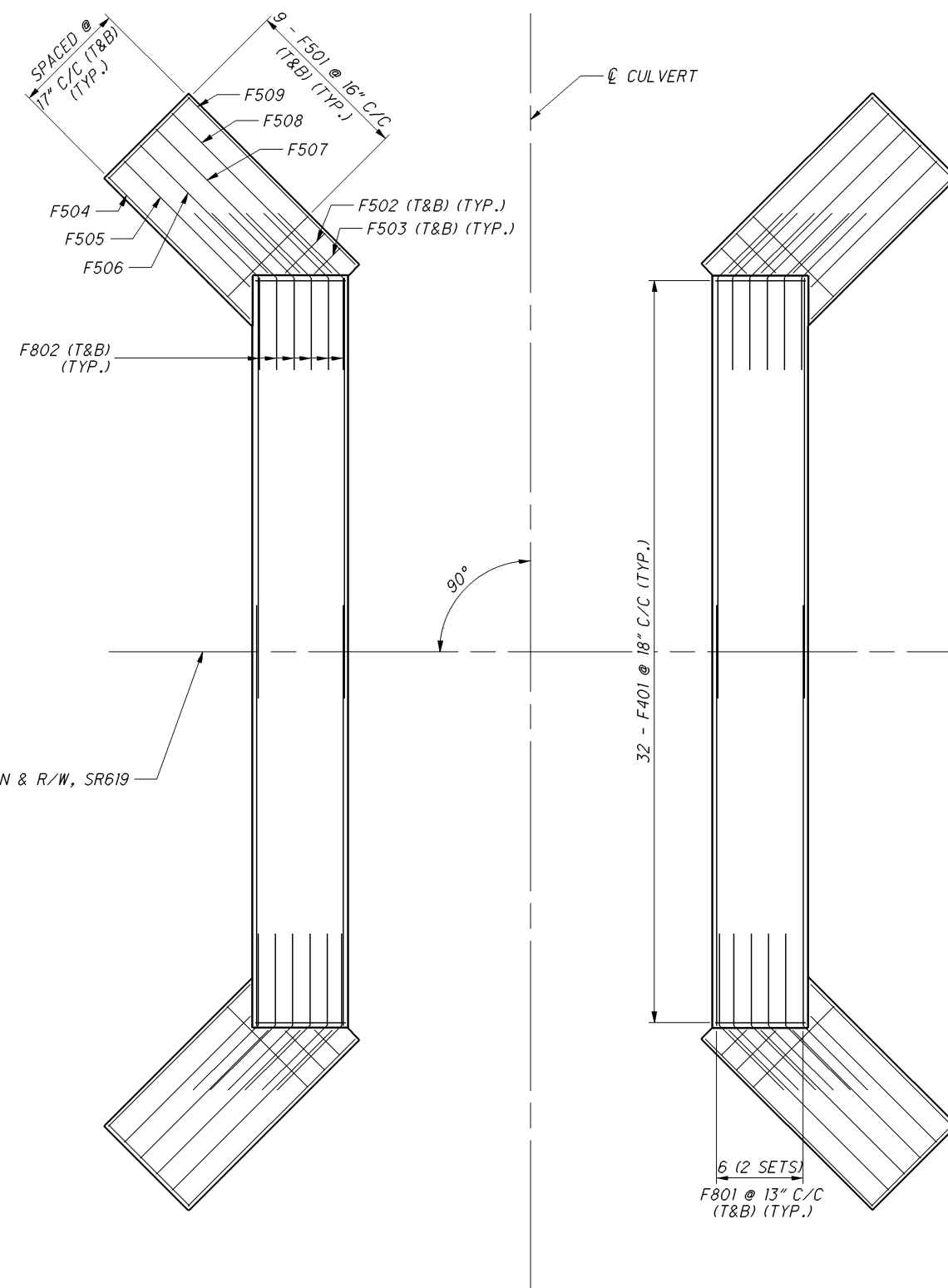
REVIEWED
LMP
STRUCTURE FILE NUMBER

DATE
08-10-12
7711174

I:\Projects\SUM\81599_619-1204\structures\SUM619_1204\sheets\619_1204CFP001.dgn 12-DEC-2012 8:05AM mchaney



FOOTER LAYOUT



FOOTER REINFORCING PLAN

SUM-619-
(12.03)(12.33)
PID No. 81599

FOOTING DETAILS
BRIDGE NO.: SUM-619-1204
SR619 OVER BRANCH TUSCARAWAS RIVER

DESIGNED	DRAWN	REVIEWED	DATE
LMP	LMP	TJP	08-10-12
CHECKED	REVISED	STRUCTURE FILE NUMBER	7711174

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

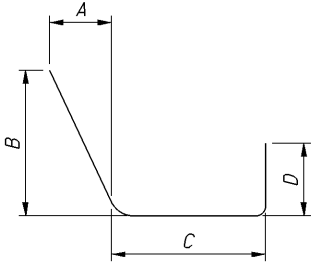
I:\Projects\SUM\81599_619-1204\81599\structures\SUM619_1204C\sheets\619_1204CRL001.dgn 12-DEC-2012 8:05AM mchaney

MARK	NUMBER				LENGTH	WEIGHT (LBS)	TYPE	INC.	DIMENSIONS				
	INLET	OUTLET	SUPER	TOTAL					A	B	C	D	E
	4	4			8'-3 3/4"								
WW501	SERIES	SERIES		80	TO	856	STR	0'-3 1/4"					
	OF 10	OF 10			10'-9"								
WW502	24	24		48	12'-5"	622	STR						
	4	4			6'-3"								
WW503	SERIES	SERIES		16	AND	156	STR	6'-2"					
	OF 2	OF 2			12'-5"								
WW504	16	16		32	3'-10 1/2"	130	10		2'-1 3/8"	2'-1"	3 1/4"	10"	
WW505	4	4		8	14'-11 1/4"	125	19		12'-7 3/4"	5 1/2"	2'-4 1/2"		
WW506	2	2		4	1'-6"	7	14		10"	3 1/4"	4 1/2"	4 1/2"	
WW507	4	4		8	10'-11"	92	STR						
WW508	44	44		88	7'-1 1/2"	654			6"	6'-9"			
	WINGWALL SUB-TOTAL					2642							
FS501	35	35		70	4'-2"	*	2		1'-9"	11"	1'-9"		
FS502	29	29		58	1'-10"	*	2		7 1/2"	10"	7 1/2"		
FS503	4	4		8	29'-4"	*	STR						
	FORESLOPE WALL SUB-TOTAL					*							
F401			64	64	15'-6"	663	3		5'-8"	2'-4"			
F501	36	36		72	7'-2"	539	STR						
F502	4	4		8	3'-6"	30	STR						
F503	4	4		8	2'-3"	19	STR						
F504	4	4		8	12'-7"	105	STR						
F505	4	4		8	11'-2"	94	STR						
F506	4	4		8	11'-4"	95	STR						
F507	4	4		8	12'-9"	107	STR						
F508	4	4		8	14'-2"	119	STR						
F509	4	4		8	14'-10"	124	STR						
F510	24	24		48	8'-1"	405	2		3'-7"	1'-2"	3'-7"		
F511	4	4		8	14'-10"	124	STR						
F801			56	56	26'-4"	3938	STR						
F802	24	24		48	11'-5 1/2"	1469	19		5'-9"	4'-3/4"	4'-3/4"		
	FOOTER SUB-TOTAL					7831							
	GRAND TOTAL					10473							

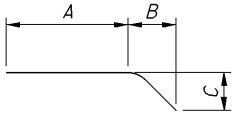
THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

ALL REINFORNCING STEEL TO BE EPOXY COATED

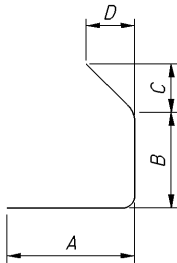
* FS BARS ARE SHOWN FOR INFORMATION ONLY.
WILL BE CAST-IN PLACE WITH THE FORELOPE
WALL IN THE SHOP.



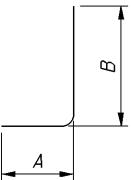
TYPE-10



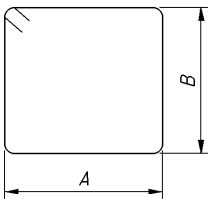
TYPE-19



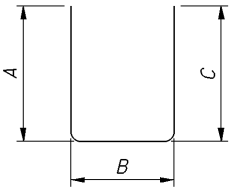
TYPE-14



TYPE-1



TYPE-3



TYPE-2

REINFORCING STEEL LIST

BRIDGE NO.: SUM-619-1204
SR619 OVER BRANCH TUSCARAWAS RIVER

SUM-619-
(12.03)(12.33)
PID No. 81599

8 / 8

42
46

DESIGN AGENCY
ODOT --- DISTRICT 4
PLANNING AND ENGINEERING

REVIEWED
TJP
DATE
08-10-12
STRUCTURE FILE NUMBER
7711174

DRAWN
LMP
DESIGNED
LMP
CHECKED