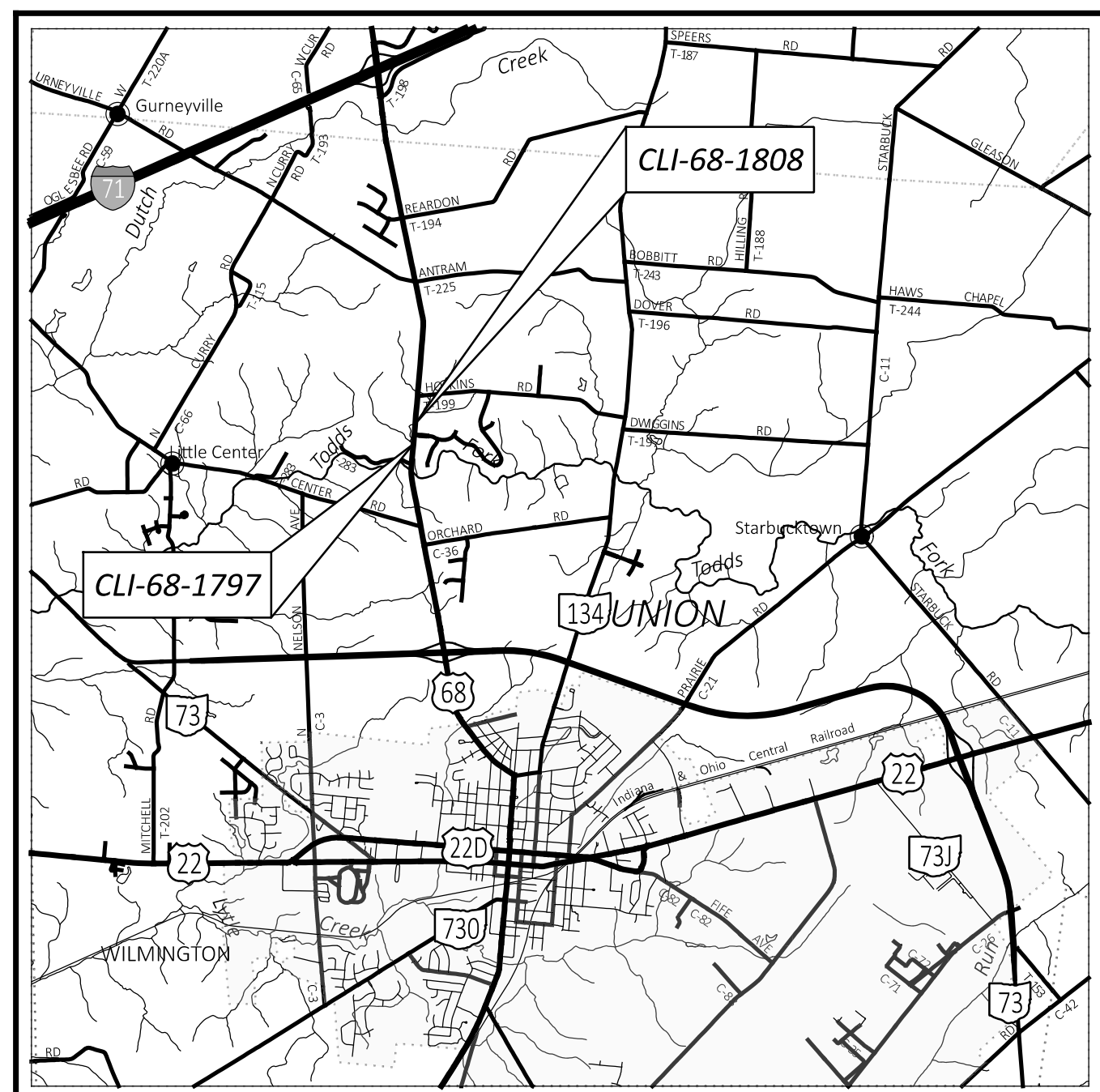


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

CLI-US 68-17.97/18.08

UNION TOWNSHIP
CLINTON COUNTY



LOCATION MAP

LATITUDE: 39°29'16.95" LONGITUDE: -83°50'32.89"



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

DESIGN DESIGNATION

CURRENT ADT (2023)	12,000
DESIGN YEAR ADT (2043)	15,000
DESIGN HOURLY VOLUME (2043)	1,500
DIRECTIONAL DISTRIBUTION	0.54
TRUCKS (24 HOUR B&C)	7.0%
DESIGN SPEED	55
LEGAL SPEED	55
DESIGN FUNCTIONAL CLASSIFICATION:	
04 - MINOR ARTERIAL (RURAL)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 ENGINEERING
505 S. S.R. 741 LEBANON, OH 45036

INDEX OF SHEETS:

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MAINTENANCE OF TRAFFIC NOTES	4
DETOUR PLAN	5
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ROADWAY SUBSUMMARY	7
STRUCTURE 20 FOOT SPAN AND UNDER	
CLI-68-1808	
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HEADWALL DETAILS	13 - 16
CLI-68-1797	
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CULVERT DETAILS	19
GEOTECHNICAL PROFILE - CULVERT	20 - 22
RIGHT OF WAY PLANS	23 - 32

FEDERAL PROJECT NUMBER

E161446

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

REPLACEMENT OF STRUCTURE CLI-68-18.08 WITH A PRECAST CONCRETE BOX CULVERT WITH FULL HEIGHT HEADWALLS. LINE STRUCTURE CLI-68-17.97 WITH PRECAST CONCRETE BOX INSTALL STEEL CASING PIPE LINER TO EXISTING STRUCTURE CLI-68-17.97. PROJECT ALSO INCLUDES SHOULDER WIDENING AND GUARDRAIL REPLACEMENT.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.70 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES

2023 SPECIFICATIONS

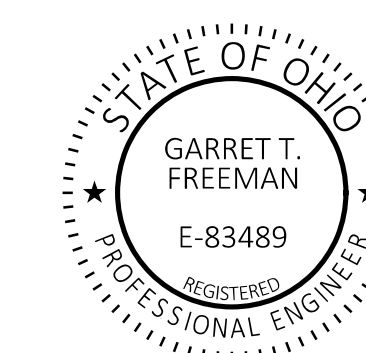
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 5 .

Tammy K. Campbell, P.E.
District 08 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

ENGINEER'S SEAL



STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/21/22	MT-97.10	4/19/19	800-2023	7/21/2023 WATERWAY PERMITS
BP-4.1	7/19/13	MT-101.60	4/26/23	832	7/21/23 CONDITIONS SPECIAL
		MT-105.10	1/17/20	837	1/28/23 PROVISIONS
DM-1.1	7/17/20			878	1/21/22 8/23/23
DM-4.3	1/15/16	TC-61.30	7/19/19	902	7/19/19
DM-4.4	1/15/16	TC-65.10	1/17/14		
		TC-65.11	7/15/22		
MGS-1.1	7/16/21				
MGS-2.1	1/19/18				
MGS-2.3	1/20/23				
MGS-4.2	7/19/13				
MGS-5.3	7/15/16				
RM-1.1	1/20/23				

TITLE SHEET

DESIGN AGENCY



DESIGNER	GTF
REVIEWER	JDO 7-31-23
PROJECT ID	100828
SHEET	TOTAL
1	32

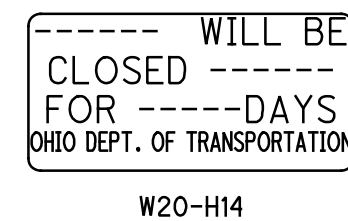
CLI US 68 17.97/18.08

MODEL: Sheet PAPER: 34x22 (in.) DATE: 9/12/2023 TIME: 3:22:48 PM USER: gfreeman pvc:\ohio\dot-pw-bentley.com\ohio\dot-pw-02\Documents\01 Active Projects\District 08\Clinton\100828\1400-Engineering\Roadway\Sheets\100828_GT001.dgn

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 30 CONSECUTIVE CALENDAR DAYS, WHEN THROUGH TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 5. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT SPECIFIED IN THE WINDOW CONTRACT TABLE FOR EACH DAY THE ROADWAY IS NOT MAINTAINED WITH ONE LANE IN EACH DIRECTION BEYOND THE SPECIFIED LIMIT.

NOTICE OF CLOSURE SIGNS (W20-H13), SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. (AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.)



THE SIGNS SHALL BE ERECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE.

NOTICE OF CLOSURE SIGN TIME TABLE		
ITEM	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP & ROAD CLOSURES	> 2 WEEKS	14 CALENDER DAYS PRIOR TO CLOSURE
	> 12 HOURS < 2 WEEKS	7 CALENDER DAYS PRIOR TO CLOSURE
	< 12 HOURS	2 CALENDER DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MMM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LASTLINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH AMOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TOBE A SPECIFIC OFFICE WITHIN THE DISTRIC RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES, PER SCD MT-101.60 AT THE FOLLOWING LOCATIONS:

STA. 273+50 & STA. 280+00

FOR MORE DETAILS SEE DETOUR PLAN ON THE SHEET 5

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 LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

WINDOW CONTRACT TABLE

DESCRIPTION OF CRITICAL WORK	CALENDER DAYS TO COMPLETE	DISINCENTIVE \$ PER DAY	WORK WINDOW	
			START	END
TRAFFIC DETOURED PER SHEET 5	30	\$25,600	7/10/2024	10/1/2024

DESIGN AGENCY



DESIGNER

GTF

REVIEWER

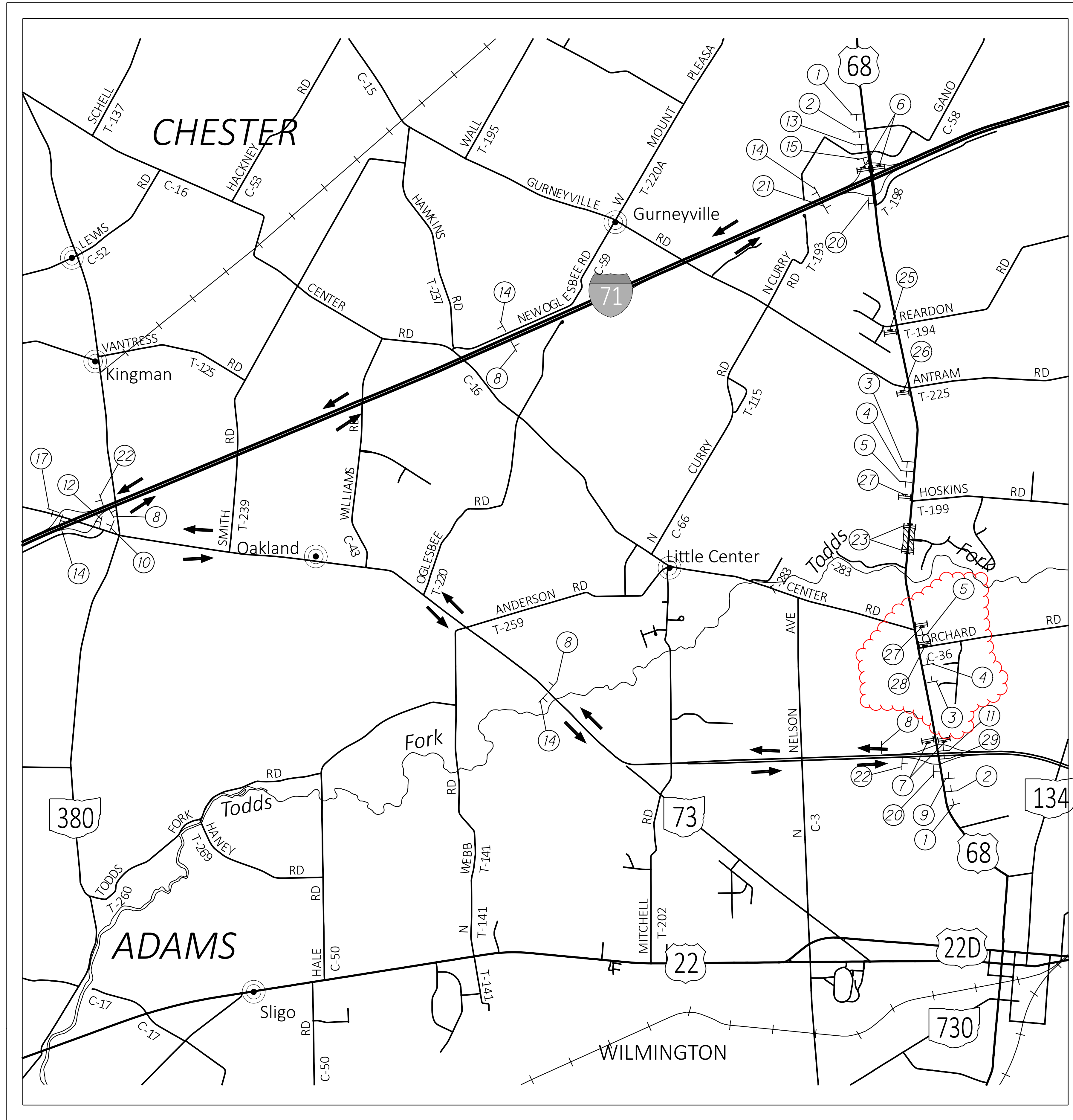
SK MM-DD-YY

PROJECT ID

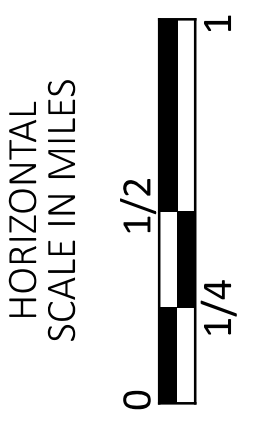
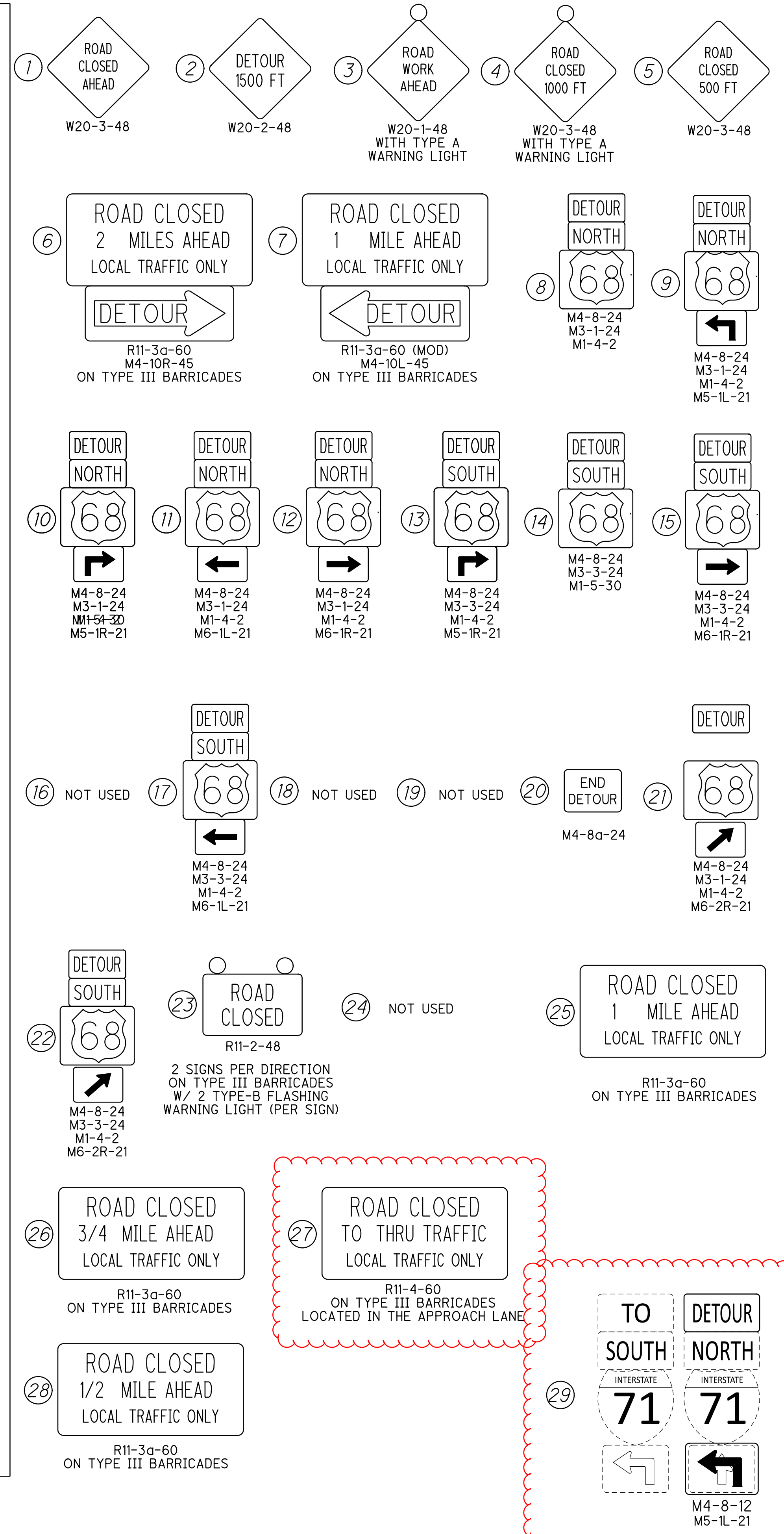
100828

SHEET TOTAL

4 | 32



NOT TO SCALE



TOUR PLAN
CLI-68-17.97/18.08


DESIGN AGENCY



DESIGNER: GTF
 REVIEWER:
 TCS 07-29-23
 PROJECT ID:
 100828
 SHEET TOTAL:
 5 | 32

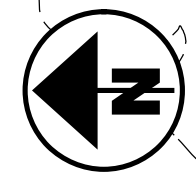
SHEET NUM.												PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
3	7	24										01/NHS/04	EXT	TOTAL					
LUMP												LUMP	201	11000	LS		ROADWAY		
	228											LUMP	202	23000	228	SY	CLEARING AND GRUBBING PAVEMENT REMOVED		
	191											191	203	10000	191	CY	EXCAVATION		
	396											396	203	20000	396	CY	EMBANKMENT		
	156.25											156.25	606	15100	156.25	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS		
	100											100	606	17350	100	FT	GUARDRAIL, TYPE MGS, 25' LONG-SPAN		
	2											2	606	26150	2	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)		
	2											2	606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T		
		7										7	623	40520	7	EACH	RIGHT-OF-WAY MONUMENT, TYPE B		
												LUMP	878	25000	LS		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS		
												EROSION CONTROL							
1,136												1,136	659	10000	1,136	SY	SEEDING AND MULCHING		
0.15												0.15	654	11000	0.15	TON	COMMERCIAL FERTILIZER		
0.23												0.23	659	31000	0.23	ACRE	LIME		
6.1												6.1	659	35000	6.1	MGAL	WATER		
												14,500	832	30000	14,500	EACH	EROSION CONTROL		
												PAVEMENT							
	757											757	254	01000	757	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.25" DEPTH		
	103											103	301	56000	103	CY	ASPHALT CONCRETE BASE, PG64-22, (449)		
	83											83	304	20000	83	CY	AGGREGATE BASE		
	122											122	407	20000	122	GAL	NON-TRACKING TACK COAT		
	42											42	441	50000	42	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22		
	22											22	441	50200	22	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)		
												TRAFFIC CONTROL							
	13											13	614	13312	13	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)		
	5											5	621	00100	5	EACH	RPM		
	5											5	621	54000	5	EACH	RAISED PAVEMENT MARKER REMOVED		
	0.11											0.11	644	00104	0.11	MILE	EDGE LINE, 6"		
	0.05											0.05	644	00300	0.05	MILE	CENTER LINE		
												STRUCTURE 20 FOOT SPAN AND UNDER (CLI-68-1808)							
												SEE SHEET 13							
												STRUCTURE 20 FOOT SPAN AND UNDER (CLI-729-1797)							
												SEE SHEET 18							
												MAINTENANCE OF TRAFFIC							
												LUMP	614	12420	LS		DETOUR SIGNING		
												INCIDENTALS							
												LUMP	614	11000	LS		MAINTAINING TRAFFIC		
												LUMP	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
												LUMP	624	10000	LS		MOBILIZATION		

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
 GTF
 REVIEWER
 JDO MM-DD-YY
 PROJECT ID
 100828
 SHEET TOTAL
 6 32

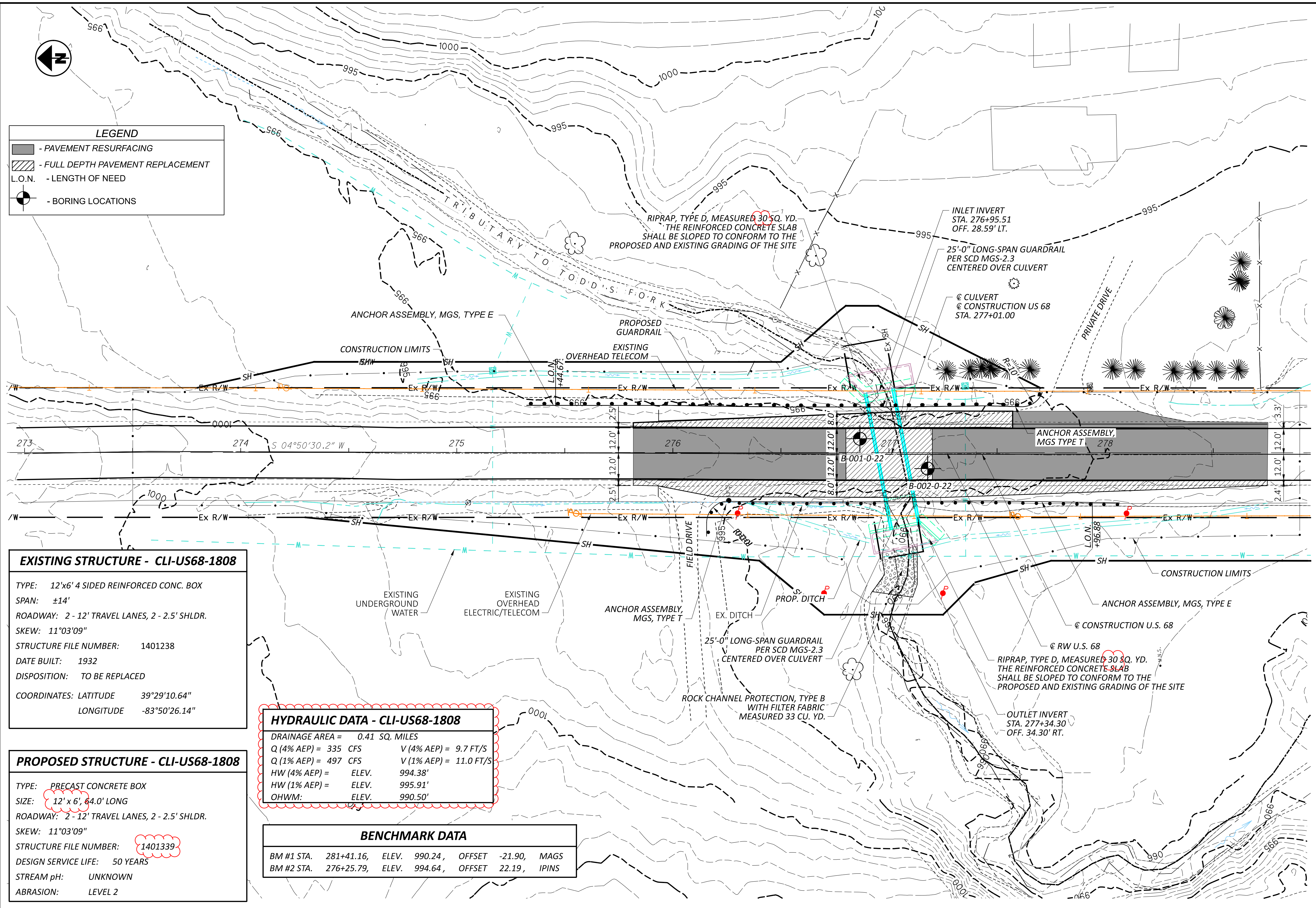
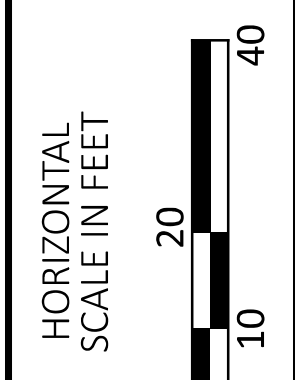
CLI US 68 17.97/18.08

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LEGEND

- PAVEMENT RESURFACING
- FULL DEPTH PAVEMENT REPLACEMENT
- L.O.N. - LENGTH OF NEED
- BORING LOCATIONS



EXISTING STRUCTURE - CLI-US68-1808

TYPE: 12'x6' 4 SIDED REINFORCED CONC. BOX
 SPAN: ±14'
 ROADWAY: 2 - 12' TRAVEL LANES, 2 - 2.5' SHLDR.
 SKEW: 11°03'09"
 STRUCTURE FILE NUMBER: 1401238
 DATE BUILT: 1932
 DISPOSITION: TO BE REPLACED
 COORDINATES: LATITUDE 39°29'10.64"
 LONGITUDE -83°50'26.14"

HYDRAULIC DATA - CLI-US68-1808

DRAINAGE AREA = 0.41 SQ. MILES
 Q (4% AEP) = 335 CFS V (4% AEP) = 9.7 FT/S
 Q (1% AEP) = 497 CFS V (1% AEP) = 11.0 FT/S
 HW (4% AEP) = ELEV. 994.38'
 HW (1% AEP) = ELEV. 995.91'
 OHWM: ELEV. 990.50'

PROPOSED STRUCTURE - CLI-US68-1808

TYPE: PRECAST CONCRETE BOX
 SIZE: 12' x 6', 64.0' LONG
 ROADWAY: 2 - 12' TRAVEL LANES, 2 - 2.5' SHLDR.
 SKEW: 11°03'09"
 STRUCTURE FILE NUMBER: 1401339
 DESIGN SERVICE LIFE: 50 YEARS
 STREAM pH: UNKNOWN
 ABRASION: LEVEL 2

BENCHMARK DATA

BM #1 STA.	281+41.16,	ELEV.	990.24,	OFFSET	-21.90,	MAGS
BM #2 STA.	276+25.79,	ELEV.	994.64,	OFFSET	22.19,	IPINS

SITE PLAN
STRUCTURE No.: CLI-68-1808

DESIGN AGENCY



DESIGNER	GTF
REVIEWER	CAH
PROJECT ID	100828
SHEET	8
TOTAL	32

GENERAL NOTES

DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL, $\phi_{bf} = 30^\circ$
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL, $\phi_f = 28^\circ$
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL, $S_{uf} = 1500$ PSF
 UNIT WEIGHT OF CONCRETE = 150 PCF
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)

CONCRETE CLASS QC1 - 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)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THEN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED: OR IF A FOUNDATION SOUL WITH A HIGHER DRAINED INTERNAL ANGEL OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

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 TYPE A 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 WEEPFOLE.

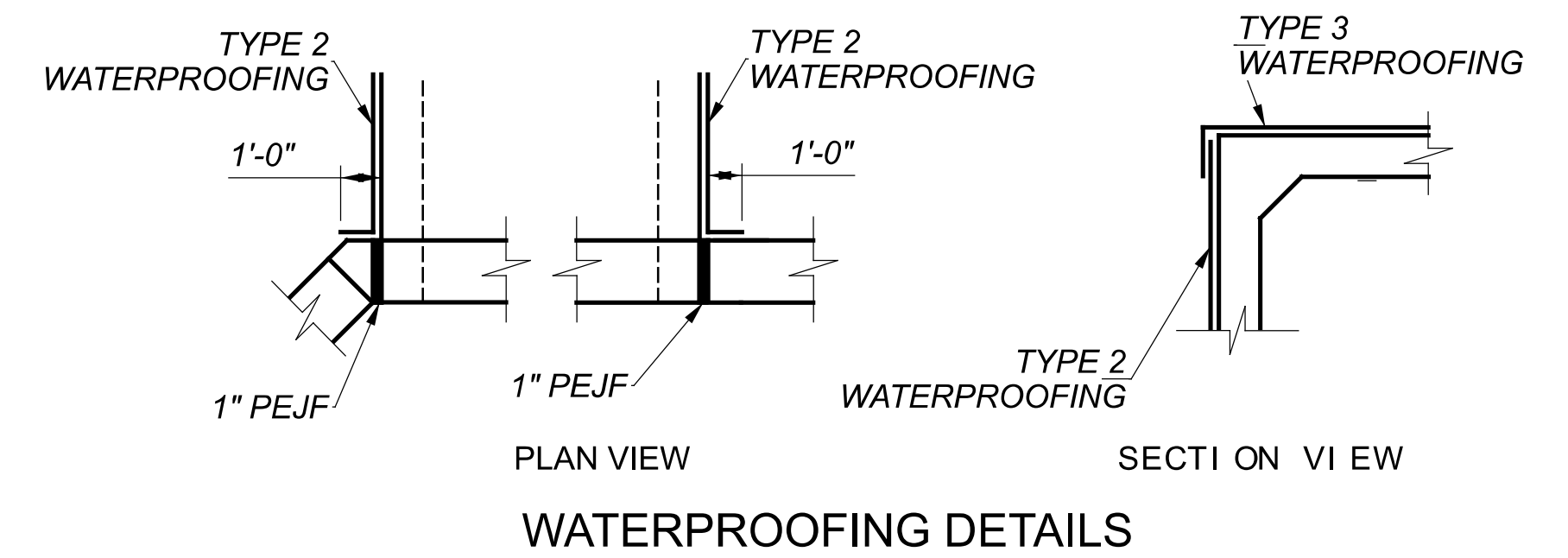
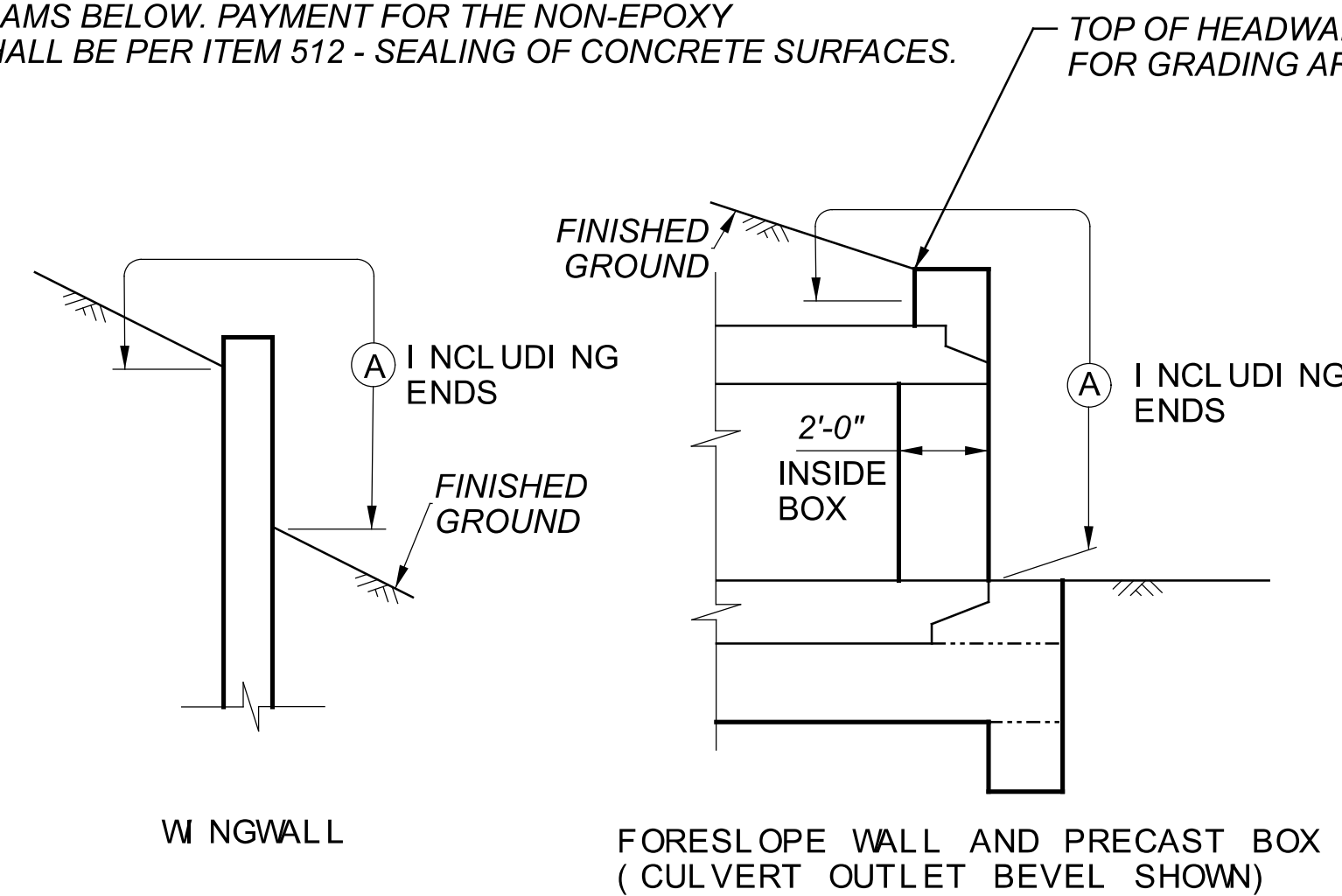
WEEPFOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF TWO WEEPFOLES SHALL BE PROVIDED PER WINGWALL.

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 BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

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

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512 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.

PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512 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 THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.



BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

ITEM 203 - GRANULAR MATERIAL, TYPE E, AS PER PLAN

PROVIDE GRANULAR MATERIAL, TYPE E CONFORMING TO ITEM 203 AND CONSISTING OF NO. 2 CRUSHED CARBONATE STONE. ALL OTHER REQUIREMENTS OF ITEM 203 APPLY.

ITEM 204 - EXCAVATION OF SUBGRADE, AS PER PLAN

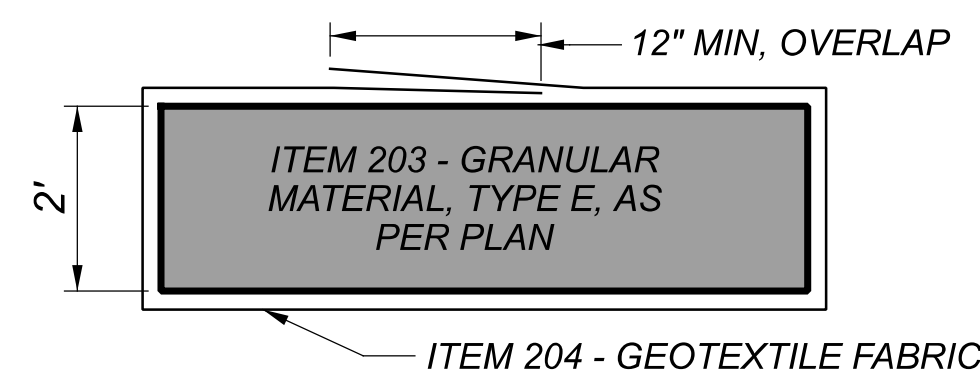
EXCAVATE AND REMOVE UNSTABLE AND WEAK SUBGRADE SOILS FOR CLI-68-1808 TO A DEPTH WHERE STABLE SUBGRADE CAN BE ACHIEVED, WHICHEVER IS LESS. DEPTH TO BE DETERMINED BY ENGINEER IN THE FIELD.

ITEM 204 - GEOTEXTILE FABRIC, AS PER PLAN

ENCAPSULATE THE BOTTOM, SIDES, AND TOP OF THE CULVERT UNDERCUT WITH ITEM 204 - GEOTEXTILE FABRIC. OVERLAP ALL SEAMS A MINIMUM OF 12". GEOTEXTILE FABRIC OVERLAPS CONSIDERED INCIDENTAL TO THE GEOTEXTILE FABRIC QUANTITY AND ADDITIONAL PAYMENT WILL NOT BE CONSIDERED FOR OVERLAPS.

CULVERT UNDERCUT DETAIL

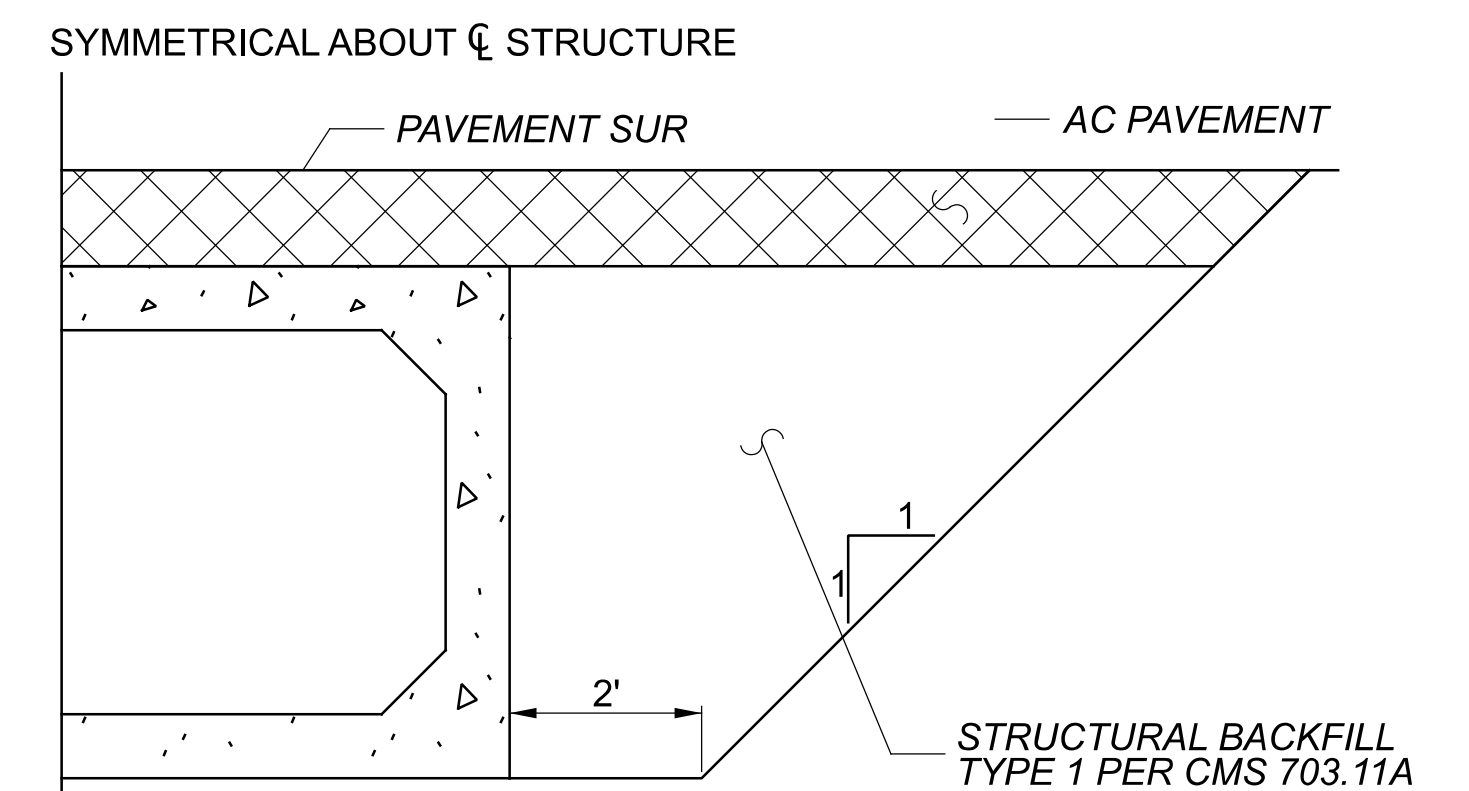
PROVIDE A 2 FOOT UNDERCUT AS SHOWN IN THE CULVERT PROFILE VIEW ON THIS SHEET AND IN THE CULVERT UNDERCUT DETAIL BELOW. THE WIDTH OF THE UNDERCUT SHALL BE THE WIDTH OF THE CULVERT PLUS 1 FOOT ON EACH SIDE FOR EXCAVATION AND BEDDING PER CMS 611. THE CULVERT UNDERCUT SHALL BE BACKFILLED WITH ITEM 203-GRANULAR MATERIAL, TYPE E, AS PER PLAN AND WRAPPED WITH ITEM 204-GEOTEXTILE FABRIC.



ITEM 611 - CONDUIT, MISC.: 12'x6' CONDUIT, TYPE A, 706.05, AS PER PLAN

FOLLOW ALL REQUIREMENTS OF CMS 611 AND 706.05.

STRUCTURAL BACKFILL TYPE 1 CONSISTING OF CRUSHED CARBONATE STONE, THAT MEETS THE GRADATIONS OF ITEM 304 SHALL BE PLACED AS SHOWN IN THE DETAIL BELOW. QUANTITY SHALL BE BASED ON A TRENCH LENGTH OF 64 FEET MEASURED ALONG THE CENTERLINE OF THE CULVERT. PAYMENT FOR STRUCTURAL BACKFILL TYPE 1 AND THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE STRUCTURAL BACKFILL SHALL BE INCLUDED IN ITEM 611 FOR PAYMENT.



ESTIMATED QUANTITIES CLI-68-1808 (PLAN SPLIT 01/NHS/04)				
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
203	35141	75	CU. YD.	GRANULAR MATERIAL TYPE E, AS PER PLAN
204	50001	259	SQ. YD.	GEOTEXTILE FABRIC, AS PER PLAN
204	13000	75	CU. YD.	EXCAVATION OF SUBGRADE, 24" DEEP
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTINGS)
509	10000	4655	LB.	EPOXY COATED STEEL REINFORCEMENT
511	46012	12	CU. YD.	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/ WING WALL NOT INCLUDING FOOTING
511	46510	37	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	10100	54	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	118	SQ. YD.	TYPE 2 WATERPROOFING
512	33010	114	SQ. YD.	TYPE 3 WATERPROOFING
516	13600	34	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	11000	60	SQ. YD.	RIPRAP, TYPE D
601	32104	33	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC
611	95801	64	LIN. FT.	12'-0" SPAN x 6'-0" RISE CONDUIT, TYPE A, 706.05, (DESIGN EARTH COVER = 1'), AS PER PLAN

CLI US 68 17.97/18.08

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STRUCTURE NOTES AND ESTIMATED QUANTITIES
 STRUCTURE No.: CLI-68-1808
 OVER TRIBUTARY TO TODD'S FORK

1401238
 DESIGN AGENCY



DESIGNER: GTF
 CHECKER: CAH

REVIEWER

TRB MM-DD-YY

PROJECT ID

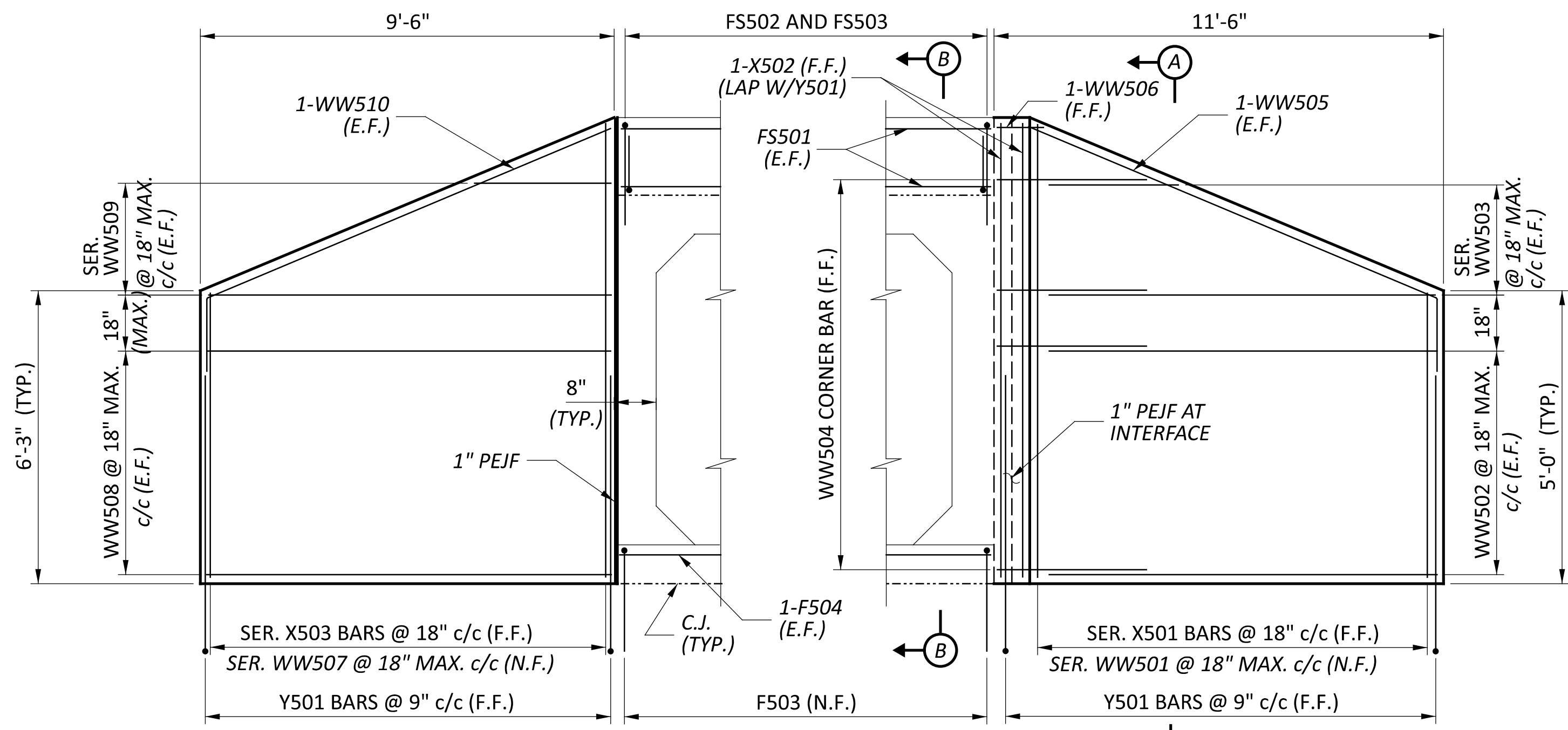
100828

SUBSET TOTAL

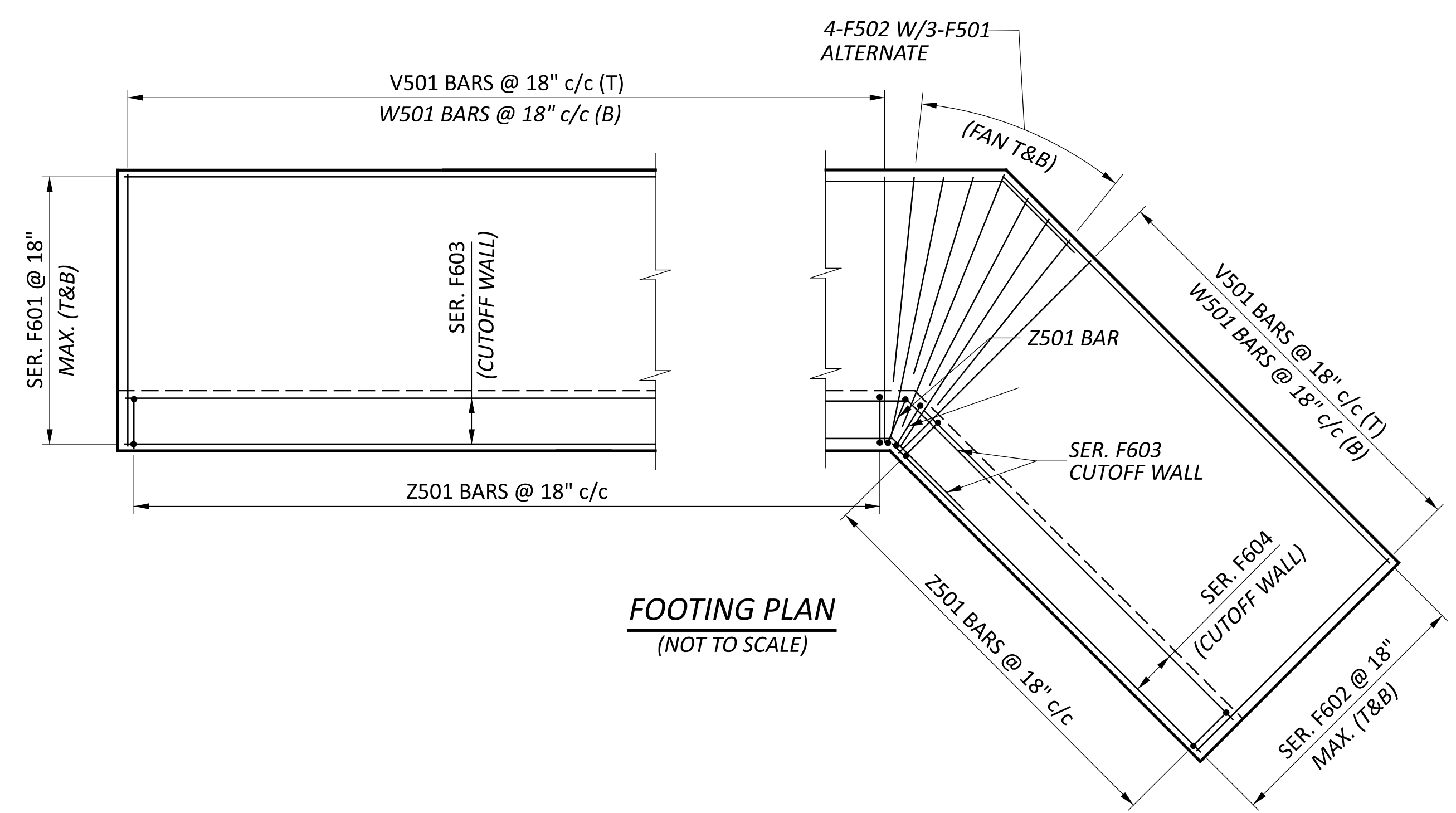
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SHEET TOTAL

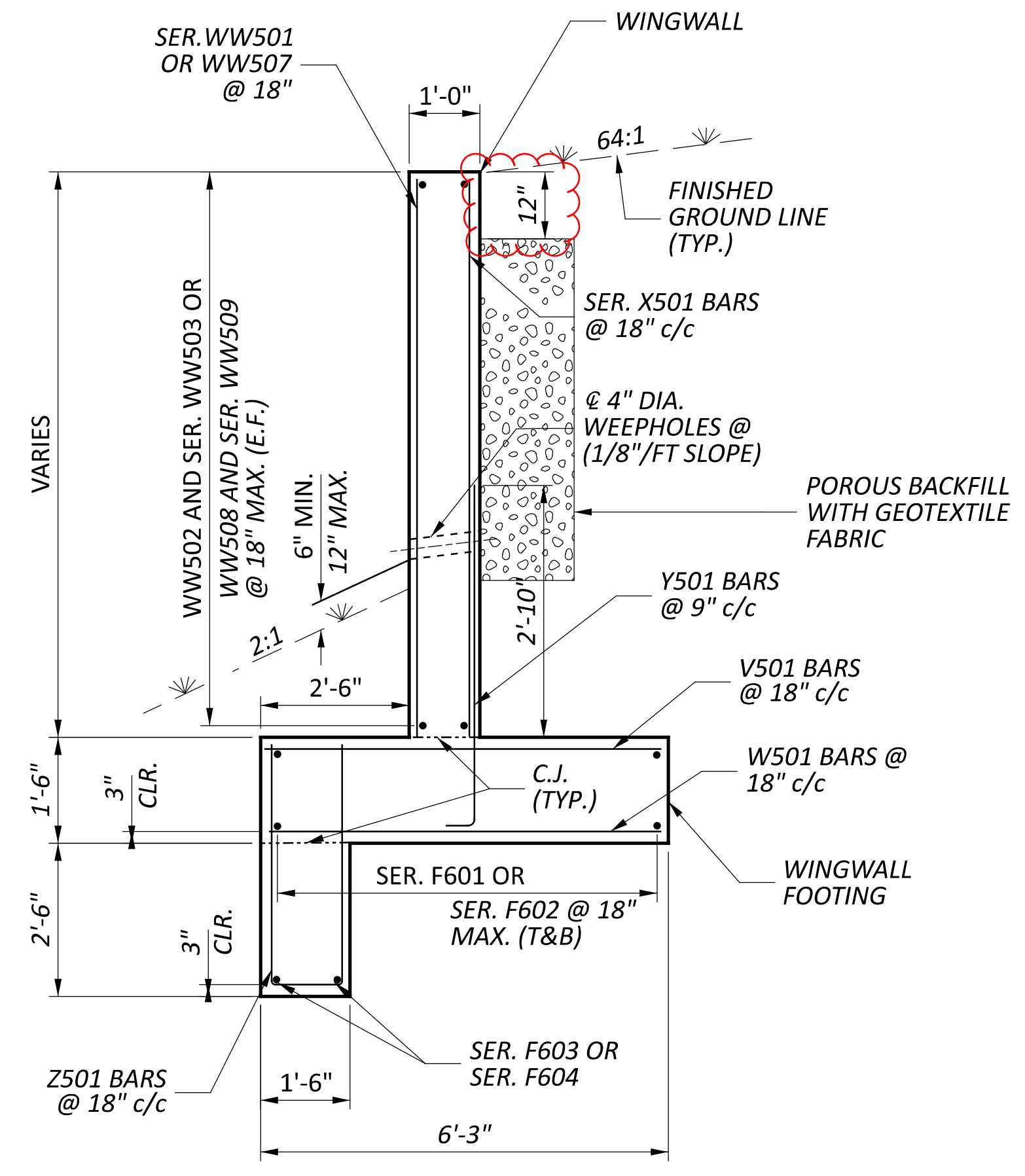
13 32



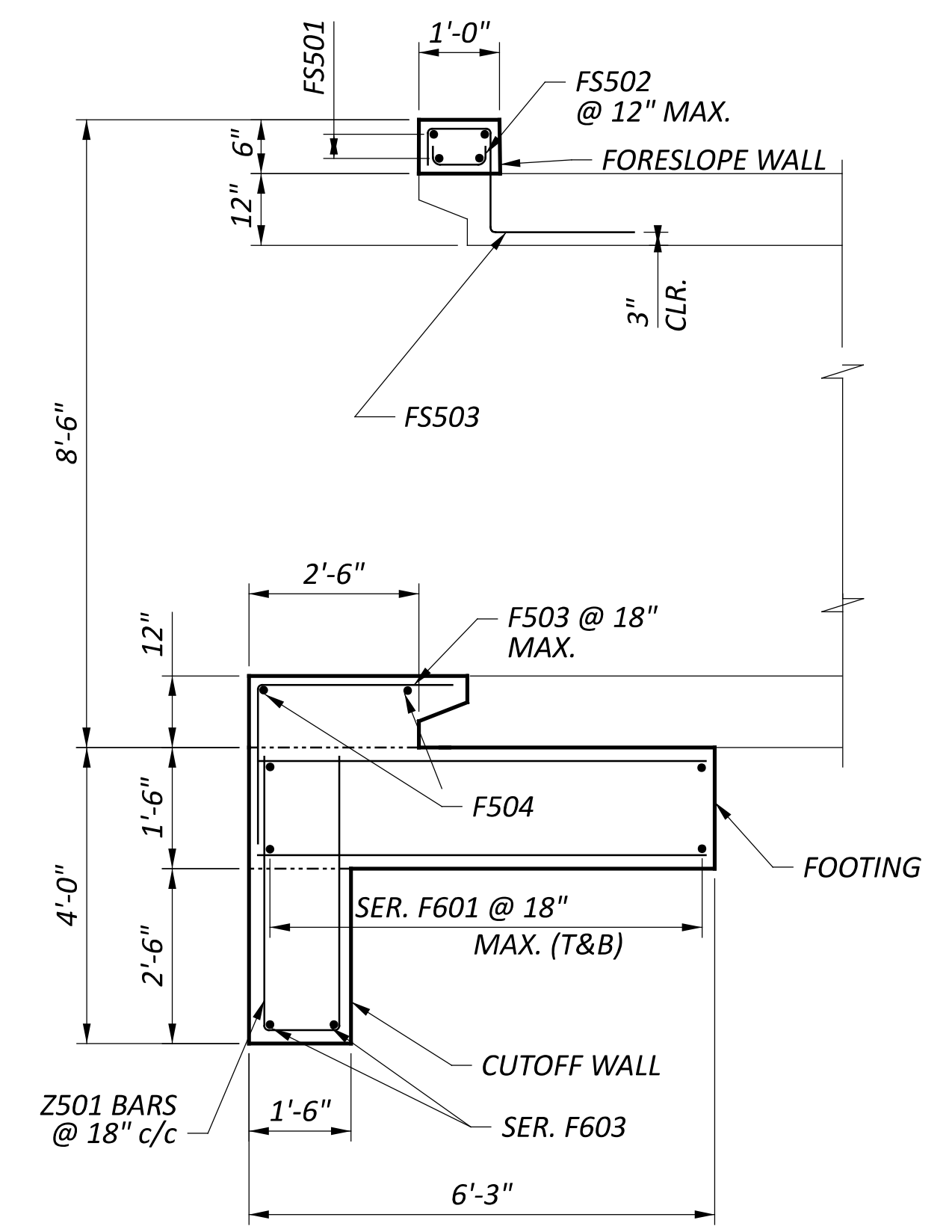
WINGWALL ELEVATION
 (FOOTING NOT SHOWN)
 (NOT TO SCALE)



FOOTING PLAN
 (NOT TO SCALE)



SECTION A-A
 (NOT TO SCALE)



SECTION B-B
 (CULVERT INLET BEVEL SHOWN)
 (NOT TO SCALE)

NOTES

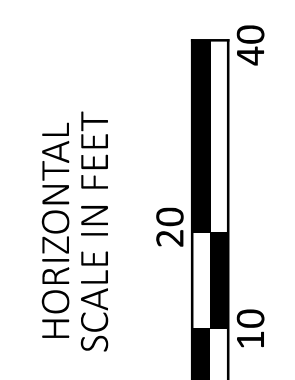
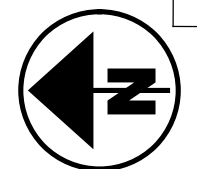
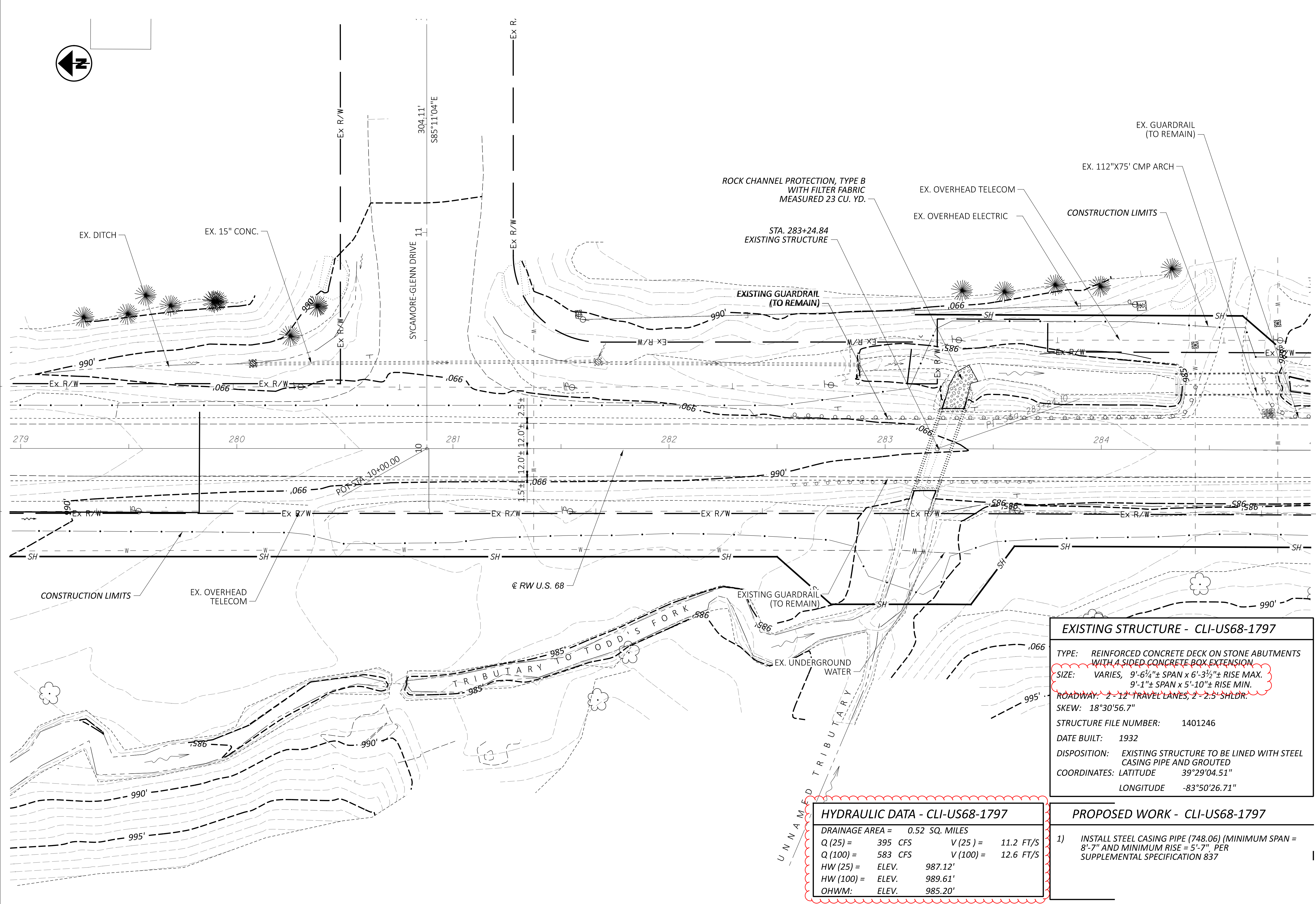
1. FOR CULVERT LOCATION PLAN, SEE SHEET 8/32.
2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEET 14/32.
3. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, WW501 IS A NO.5 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
4. THE LAP SPICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS: 2'-5" FOR #5 BARS; 2'-11" FOR #6 BARS.
5. FROM BOTTOM OF POROUS BACKFILL, CARRY GEOTEXTILE FABRIC 6" MIN. ABOVE TOP OF WEEP HOLES

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

REINFORCING STEEL PLACEMENT
STRUCTURE No.: CLI-68-1808
OVER TRIBUTARY TO TODD'S FORK

SFN	
1401238	
DESIGN AGENCY	
DESIGNER	CHECKER
GTF	CAH
REVIEWER	
TRB MM-DD-YY	
PROJECT ID	
100828	
SUBSET	TOTAL
3	4
SHEET	TOTAL
15	32



SITE PLAN
 STRUCTURE No.: CLI-68-1797

EXISTING STRUCTURE - CLI-US68-1797	
TYPE:	REINFORCED CONCRETE DECK ON STONE ABUTMENTS WITH 4 SIDED CONCRETE BOX EXTENSION
SIZE:	VARIABLES, 9'-6 1/4" ± SPAN x 6'-3 1/2" ± RISE MAX. 9'-1" ± SPAN x 5'-10" ± RISE MIN.
ROADWAY:	2 - 12' TRAVEL LANES, 2 - 2.5' SHLDR.
SKEW:	18°30'56.7"
STRUCTURE FILE NUMBER:	1401246
DATE BUILT:	1932
DISPOSITION:	EXISTING STRUCTURE TO BE LINED WITH STEEL CASING PIPE AND GROUTED
COORDINATES:	LATITUDE 39°29'04.51" LONGITUDE -83°50'26.71"

HYDRAULIC DATA - CLI-US68-1797			
DRAINAGE AREA =	0.52 SQ. MILES		
Q (25) =	395 CFS	V (25) =	11.2 FT/S
Q (100) =	583 CFS	V (100) =	12.6 FT/S
HW (25) =	ELEV. 987.12'		
HW (100) =	ELEV. 989.61'		
OHWM:	ELEV. 985.20'		

PROPOSED WORK - CLI-US68-1797	
1)	INSTALL STEEL CASING PIPE (748.06) (MINIMUM SPAN = 8'-7" AND MINIMUM RISE = 5'-7" PER SUPPLEMENTAL SPECIFICATION 837

DESIGN AGENCY	
DESIGNER	GTF
REVIEWER	TRB 7-31-23
PROJECT ID	100828
SHEET	TOTAL
17	32

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

837 DATED (REVISED) 1/20/2023

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 C&MS, SECTIONS 102.05 & 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM SPECIAL - PIPE CLEAN-OUT OVER 48"

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING DRAINAGE CONDUIT SPECIFIED IN THE PLANS. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEAN OUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEAN-OUT OVER 48". THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEAN-OUT.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE ABOVE NOTED WORK:

SPECIAL - PIPE CLEAN-OUT OVER 48" 41 FT

ITEM 837 - LINER PIPE, AS PER PLAN, 8'-7" SPAN x 5'-7" RISE (748.06)

THE EXISTING STRUCTURE SHALL BE LINED USING A STEEL BOX CULVERT LINER WITH A MINIMUM SPAN OF 8'-7" AND A MINIMUM RISE OF 5'-7". THE CROSS SECTION OF THE LINER SHALL MATCH THE EXISTING OPENING AS CLOSELY AS POSSIBLE ALLOWING SUFFICIENT ROOM FOR ITEM 837, BACKFILL FOR LINER PIPE TO BE INSTALLED.

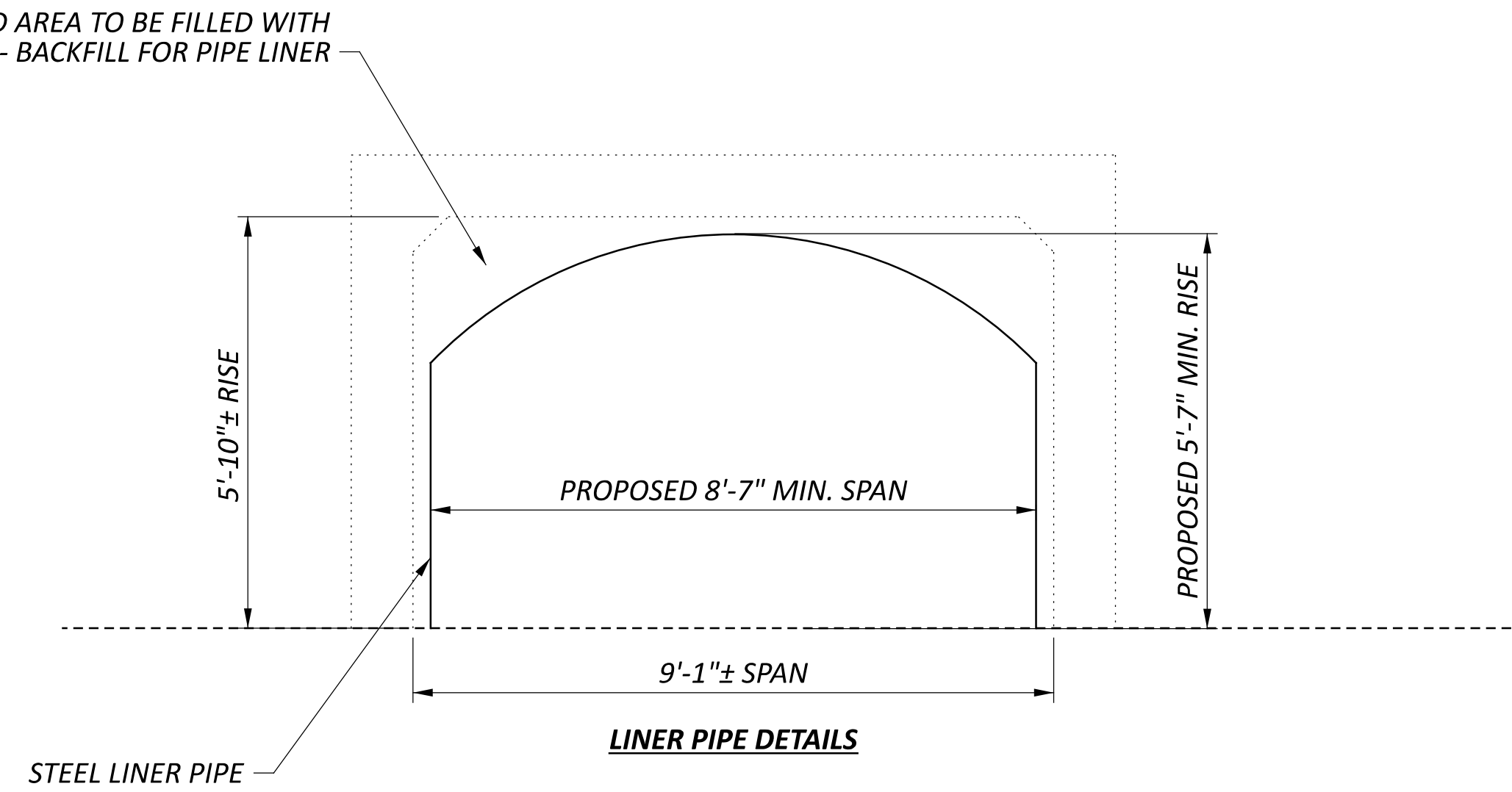
SUPPLEMENTAL SPECIFICATION 837 SHALL APPLY EXCEPT AS MODIFIED HEREIN.

THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE STARTING THE WORK:

- A. PIPE LINER LAYOUT INCLUDING DIMENSIONS AND CONSTRUCTION SEQUENCE.
- B. LOCATION OF PIPE SUPPORTS AND/OR BLOCKING.
- C. PIPE MANUFACTURER'S LIMITATIONS FOR GROUTING PRESSURES SPECIFIC TO GROUTING THE ANNULAR SPACE BETWEEN THE LINER PIPE AND THE EXISTING CULVERT.
- D. THE CONTRACTOR SHALL SUBMIT CALCULATIONS DOCUMENTING THAT THE ACTUAL PRESSURE APPLIED TO THE LINED PIPE DURING CONSTRUCTION DOES NOT EXCEED THE MANUFACTURER'S MAXIMUM ALLOWABLE.
- E. IF THE CONTRACTOR'S GROUTING PROCEDURE REQUIRES INTERNAL BRACING OF THE LINER PIPE DURING CONSTRUCTION, CALCULATIONS AND DETAILS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

ACCEPTABLE PIPE LINER FABRICATORS INCLUDE INFRASTEEL, [HTTPS://WWW.INFRASTEEL.COM/](https://www.infrasteel.com/), PHONE: (205) 327-8171 OR APPROVED EQUAL.

VOID AREA TO BE FILLED WITH ITEM 837 - BACKFILL FOR PIPE LINER



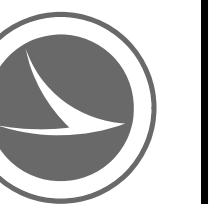
ESTIMATED QUANTITIES CLI-68-1797 (PLAN SPLIT 01/NHS/04)				
ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
SPECIAL	202E70130	41	LIN. FT.	PIPE CLEAN-OUT OVER 48"
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
601	32104	23	CU. YD.	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC
837	10001	41	LIN. FT.	LINER PIPE, AS PER PLAN, 8'-7" SPAN x 5'-7" RISE (748.06)
837	21000	41	LIN. FT.	BACKFILL FOR LINER PIPE

STRUCTURE NOTES AND ESTIMATED QUANTITIES
 STRUCTURE No.: CLI-68-1797
 OVER TRIBUTARY TO TODD'S FORK

SFN

1401246

DESIGN AGENCY



DESIGNER: GTF
 CHECKER: CAH

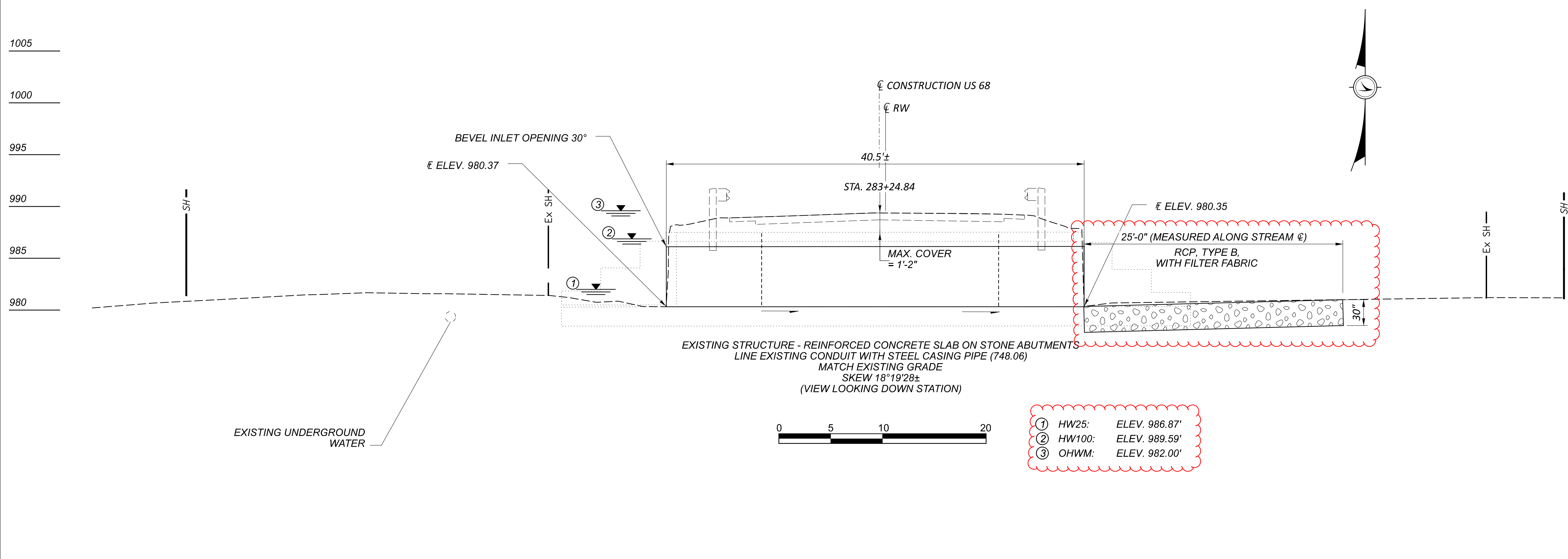
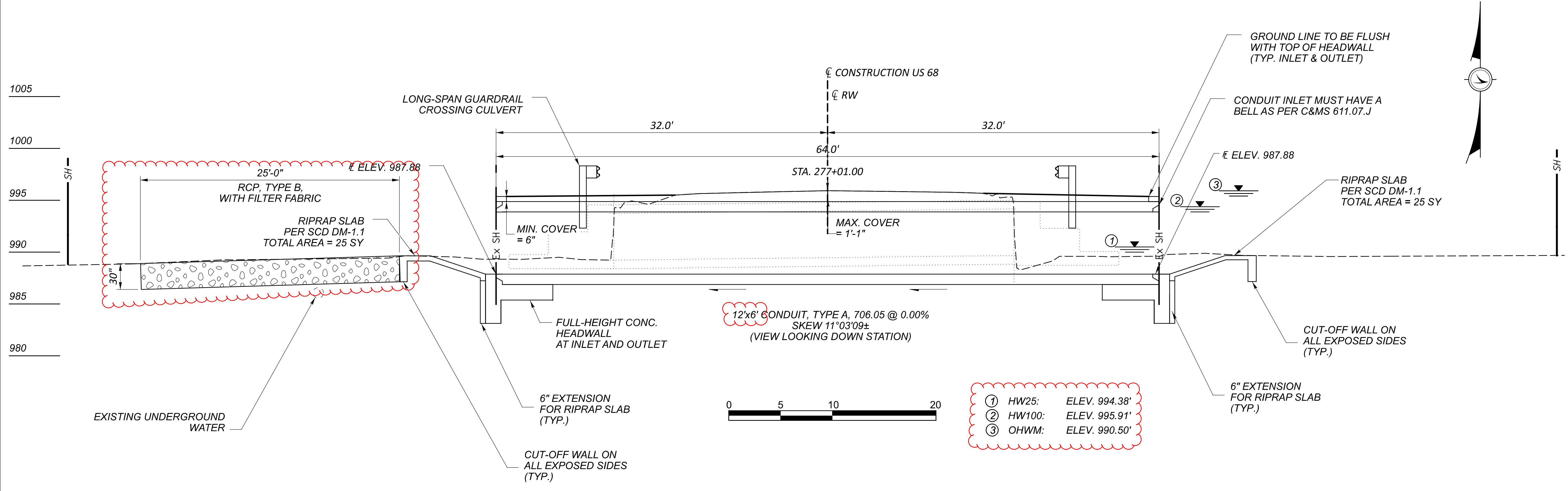
REVIEWER

TRB MM-DD-YY

PROJECT ID
 100828

SUBSET	TOTAL
1	2

SHEET	TOTAL
18	32



CULVERT DETAILS
 CULVERTS CLI-68-17.97 & CLI-68-18.08
 OVER TRIBUTARY TO TODD'S FORK

SFN	1401238
	1401246
DESIGN AGENCY	
DESIGNER	CHECKER
GTF	CAH
REVIEWER	
TRB MM-DD-YY	
PROJECT ID	100828
SUBSET	TOTAL
2	2
SHEET	TOTAL
19	32