

# **SPECIAL PROVISIONS**

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## **WATERWAY PERMITS CONDITIONS**

**C-R-S: ATB/TRU-SR7/SR5-  
18.62/30.50**

**PID: 115015**

**Date: 05/08/2026**

1. Waterway Permits Time Restrictions:

Regional General Permit (RGP), Section A (Linear Transportation Projects) is **pending** authorization for TRU-SR 5-30.50, PID: 115015. Temporary and permanent fill activities in aquatic resources are not authorized until the permit is acquired. A copy of the RGP and authorization letter will be provided after it is issued and shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit will expire: February 11, 2030.

Regional General Permit (RGP) Section A (Linear Transportation Projects) is authorized for ATB-SR 7-20.12, PID: 115015 and Section B (Maintenance) is authorized for ATB-SR 7-18.62, PID: 115015. A copy of the RGP shall be kept at the work site at all times and made available to all contractors and subcontractors. The permit is effective starting: May 8, 2026. The permit expires: February 11, 2030.

For authorized work in aquatic resources (including streams, wetlands, jurisdictional ditches, captured streams, lakes, ponds), the Department will consider the Contractor’s submission of a reauthorization to the waterway permit expiration date based on project constraints. If more than one permit is authorized for the project, then all permits become invalid once the first permit expires. In order for the request to be considered, the Contractor must submit a justification to the Engineer at least 90 days prior to the waterway permit expiration date. The Engineer will submit the request for a time extension to the Ohio Department of Transportation, Office of Environmental Services, Waterway Permits Unit (ODOT-OES-WPU) for consideration and coordination with the U.S. Army Corps of Engineers (USACE), Ohio Environmental Protection Agency (OEPA), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), and Ohio Department of Natural Resources (ODNR) as appropriate.

2. Deviations From Permitted Construction Activities:

No deviation from the requirements for work in aquatic resources depicted in the plans, Special Provisions, and/or Working Drawings may be made unless a modification has been submitted to ODOT-OES-WPU and approved by the appropriate agencies (i.e., USACE, OEPA, USCG, ODNR, and USFWS).

NOTE: Plan sheets submitted with the Pre-Construction Notification for TRU-5-30.50 are **pending** authorization by the USACE in accordance with RGP A and are included in these Special Provisions.

For emergency situations resulting in unanticipated impacts to aquatic resources, provide notification (verbal or written) to the Engineer as soon as possible following discovery of the situation. Written notification to the Engineer and notification to the ODOT-OES-WPU (614-466-2159) must be made within 24 hours.

For non-emergency situations, notify the Engineer in writing for submission to the ODOT-OES-WPU (614-466-2159) for consideration and coordination with the appropriate agencies. Notification must be made at least 90 days prior to planned, non-permitted activities. Consideration of the requested deviation is at the discretion of the Director and must be coordinated with the appropriate regulatory agencies.

3. In-Stream Work Restrictions:

Work in the following aquatic resources is further restricted as follows:

Stream Name /Description	Location	Work restriction dates (No in-stream work permitted)
UT Pymatuning	STA 240+38.68 (TRU-5-30.50)	None
UNT to East Branch Ashtabula River 1	STA 449+33.00 (ATB-7-18.62)	None
UNT to East Branch Ashtabula River 2	STA 528+78.00 (ATB-7-20.12)	None

*UT/UNT = unnamed tributary stream*

In-stream work has been defined as the placement and/or removal of fill materials (temporary or permanent) below ordinary high water of a stream. Examples of “fill” include, but are not limited to: bridge piers, abutments, culverts, rock channel protection, scour protection, and temporary access fills.

Fills placed within a stream identified in the above table (outside of the work restriction dates) can continue to be worked from during the work restriction dates, but cannot be expanded, removed, or otherwise modified (below ordinary high water) until once again outside of the work restriction dates.

**4. Materials:**

Materials utilized in or adjacent to aquatic resources for temporary or permanent fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Asphalt products are specifically excluded for use as fill. Chromated Copper Arsenate (CCA), creosote, and other pressure treated lumber shall not be used in structures that are placed in aquatic resources.

**5. Aquatic Resource Demarcation:**

The table below includes detailed fill quantities authorized within the aquatic resources on ATB-SR 7-18.62/20.12 and the tables attached (Table C and Table D) includes detailed fill quantities **pending** authorization within the aquatic resources on TRU-SR 5-30.50. Aquatic resources not authorized for impact by these Special Provisions shall be demarcated in the field as per SS 832 prior to site disturbance. The fence shall remain in place and be maintained throughout the construction process. Following the completion of the project, the fence and posts shall be removed.

Resource ID	Resource Location	Impact Location	Temporary Impact Amount	Permanent Impact Amount	Total Impact Amount
UNT to East Branch Ashtabula River 1	ATB-7-18.62	STA 449+33	20 feet (0.006 acre)	40 feet (0.009 acre)	60 feet (0.015 acre)
UNT to East Branch Ashtabula River 2	ATB-7-20.12	STA 528+78	15 feet (0.003 acre)	65 feet (0.015 acre)	80 feet (0.018 acre)

**6. Spill containment:**

Provide and Maintain an Oil Spill Kit with a minimum capacity of 65 gallons. The Spill Kit shall contain:

- 6 - 3 in. X 8 ft. oil only socks
- 4 - 18 in. X18 in. oil only pillows
- 2 - 5 in. X 10ft. booms
- 50 - 16in. X 20 in. oil only pads
- 10 - disposable bags
- 1 - 65 gallon drum with lid
- 25 pounds of granular oil absorbent

The Oil Spill Kit shall be located within 150 feet of any equipment working in a stream or wetland. The oil Spill Kit shall be maintained for the life of the contract. Any materials utilized during the project will be replaced within 48 hours. All costs associated with furnishing and maintaining the above referenced spill containment kit are incidental to work.

## 7. Project Inspection:

Inspection of Work may include inspection by representatives of other government agencies or railroad corporations that pay a portion of the cost of the Work or regulate the Work through State and Federal law. Comments from the representatives of these agencies shall be directed to the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159.

## 8. Temporary Access Fills:

### **Definitions:**

#### **Hydraulic Opening**

The cross-sectional area allowing an unimpeded discharge equal to twice the highest monthly flow without producing a rise in the backwater above the Ordinary High Water Mark (OHWM).

#### **Standard Temporary Discharge**

Discharge equal to twice the *highest monthly flow* without producing a rise in the backwater above the OHWM. The U.S. Geologic Service publication "Techniques for estimating Selected Streamflow Characteristics of Rural Unregulated Streams in Ohio" provides equations that estimate monthly flow for Ohio Waterways. These flows are also available in a web application by USGS StreamStats, (<https://water.usgs.gov/osw/streamstats/ohio.html>). The highest monthly flow is the highest monthly mean discharge occurring in a 12-month period from January to December.

#### **Average Monthly Flow**

The average monthly flow represents the estimated "normal" flow.

#### **Temporary Access Fills (TAFs)**

Include, but are not limited to, dewatering fills, causeways, cofferdams, access pads, temporary bridges, etc. below the OHWM.

#### **Requirements**

21 calendar days prior to the initiation of any in-stream work, provide the Engineer with Working Drawings that include:

- Plan view drawing (50 scale or less) showing the location of all TAFs proposed for use on the project.
- Scaled cross section and profile drawing showing the OHWM and the proposed hydraulic opening.
- Identify the minimum diameter size, placement location and thickness of non-erodible Dumped Rock Fill material on the plan and profile.
- Calculations analyzing the hydraulic impacts of the TAF on the waterway. Include in the calculations an analysis of the hydraulic opening sized adequately to pass the Standard Temporary Discharge without producing a rise in backwater above the OHWM. Include, in the analysis, calculated channel velocities adjacent to the TAF, culvert exit velocities, calculated headwater and tailwater elevations, and any additional appropriate calculations to assess potential impacts to the waterway during normal and anticipated high flow (twice the highest monthly flow) events.
- A description of all temporary material to be placed below the OHWM elevation.
- A description of the installation and staging of all temporary fill over the life of the contract.
- Identify the protection methods and/or structural Best Management Practices for minimizing impacts to the waterway.

- Volume of temporary fill below the OHWM elevation.
- A description of the diversion ditches, equipment, conduits or means for maintaining normal flows in the waterway.
- A description of the removal of all temporary fill and restoration of the channel and all areas impacted by the TAFs.
- A schedule outlining the timing of the placement and removal of all temporary fill.
- Have competent individuals prepare and check the Working Drawings and hydraulic calculations. Provide a cover sheet containing the preparer(s) and checker(s): First Name, Last Name and Initials. The preparer(s) and checker(s) shall not be the same individual. Have an Ohio Registered Engineer review, approve, sign, seal and date the Working Drawings and hydraulic calculations according to ORC 4733 and OAC 4733-35. Include the following statement on the Working Drawings:

“These Working Drawings were prepared in compliance with the terms of these Special Provisions and all contract documents.”

Do not begin in-stream work until the Engineer has accepted the Working Drawings and hydraulic calculations.

The design and construction of the Contractor’s TAF must minimize impacts to water bodies, stream banks, stream beds, and riparian zones to the maximum extent practicable.

Fording of waterways and other aquatic resources is prohibited.

Construct TAFs in such a manner that will maintain flows, minimize upstream flooding, and avoid overtopping the TAF on a regular basis. ***TAFs shall be designed and constructed so that the hydraulic opening provides capacity for a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the (OHWM).***

If the Contractor proposes a TAF which does not meet all the requirements of these Special Provisions, the Contractor must submit a request in writing for a modified TAF to the Engineer. The request must include all Working Drawings and hydraulic calculations required by these Special Provisions. The Department makes no guarantee to grant the request. The Contractor’s proposed TAF request will be coordinated by OES with the USACE and the OEPA, as appropriate. The time frame allowed for the coordination of the contractor’s proposed TAF will be a minimum of 60 days.

Installation of any temporary fill without appropriate authorization is strictly prohibited. All direct coordination with the USACE and/or OEPA will be performed through OES.

#### **TAFs Construction and Payment**

Begin planning and installing causeways and access fills as early in construction as possible to avoid conflicts with these Special Provisions or other environmental commitments that have been included in the construction plans.

TAFs in Streams and Rivers may include, but are not limited to, causeways, cofferdams, access pads, sheet piling, temporary bridges, etc. The Contractor must make every attempt to minimize disturbance to waterbodies, stream banks, stream beds and riparian zones during the construction, maintenance, and removal of the TAF. Construct the TAFs as narrow as practical. Install in-stream conduits parallel to the stream banks. Make the TAFs in shallow areas rather than deep pools where possible. Minimize clearing, grubbing, and excavation of stream banks, and approach sections. Construct the TAFs as to not cause erosion or allow sediment deposits in the waterway.

Prior to the initiation of any in-stream work, establish a monument upstream of the proposed TAF to visually monitor the water elevation in the waterway where the fill is permitted. Maintain the monument throughout the project. Provide a visual mark on the monument that identifies the elevation 1 foot above the OHWM. Ensure that the monument can be read from the bank of the waterway. Have this elevation set and certified by an Ohio Registered Surveyor. All costs associated with furnishing and maintaining the above referenced monument are incidental to the work.

Should the surface water elevation exceed the elevation 1 foot above OHWM, the Department will compensate the Contractor for repair of any resulting damage to the TAF up to the elevation of 1 foot above the OHWM, except as noted. The Department will recognize this event as an excusable, non-compensable delay in accordance with Section 108.06 B. of the Construction & Materials Specifications.

Follow the requirements in Item 502 for Structures for Maintaining Traffic and in Item 503 for Cofferdams and Excavation Bracing and any modifications to these items as shown in the plans. The Department will not pay for repair and maintenance of TAFs associated with Items 502 and 503 as a result of surface water elevation exceeding 1 foot above the OHWM. Compensation for damages associated with waterway flows will be provided as described in Items 502 and 503.

Construct the TAFs, not including Items 502 and 503, to a water elevation at least 1 foot (0.3 m) above the OHWM. If more than one-third the width of the stream is filled, then use culvert pipes to allow the movement of aquatic life. Ensure that any ponding of water behind the TAF will not damage property, flood roadways, or threaten human health and safety.

The following minimum requirements apply to TAFs where culverts are used:

- A. Furnish culverts on the existing stream bottom.
- B. Avoid a drop in water elevation at the downstream end of the culvert that would result in an adverse impact to the waterway.
- C. Furnish a sufficient number of culverts in addition to stream openings to provide a discharge equal to twice the highest monthly flow without producing a rise in the backwater above the OHWM.
- D. Furnish culverts with a minimum diameter of 18 inches (0.5 m).

All TAFs must be constructed of suitable materials. Causeways and access fills must be encapsulated with clean, non-erodible, nontoxic Dumped Rock Fill, Type A, B, C, or D, meeting the requirements of C&MS 703.19.B. Utilize appropriately sized Dumped Rock Fill determined by the Contractor's engineer for encapsulating the sides of the TAF. Encapsulate all sides of the TAF with the non-erodible material. For causeways, contractors may use clean aggregate meeting C&MS 703.01 Size Number 1 and 2 for creating a working surface above the OHWM. Extend the non-erodible encapsulating material to at least the elevation of the top of the working surface. Extend clean aggregate up the slope from the original stream bank for 50 feet (10 m) to remove erodible material and prevent tracking from equipment onto the TAF.

When the work requiring TAF is complete, all portions of the TAF (including all rock and culverts) will be removed in its entirety. Do not dispose of TAF material in other aquatic resources or where erosion into another aquatic resource is possible. The stream bottom affected by the TAFs will be restored to its pre-construction elevations. The TAFs will not be paid as a separate item but will be included by the Contractor as part of the total project cost.

Unless specific TAF compensation is included in the plans, all environmental protection and control associated with the authorized activities are incidental to the work within the boundaries of the aquatic resources.

9. Excavation Activities:

Excavated material will be placed at an upland site and disposed of in such a manner that sediment and runoff to streams and other aquatic resources is controlled and minimized. Additionally, no more than incidental fallback into aquatic resources is permitted during the excavation process. If any changes to the proposed work are deemed necessary, notify the Engineer who will immediately contact the ODOT-District Environmental Coordinator and ODOT-OES-WPU at 614-466-2159.

10. Demolition Debris:

The intentional discharge of demolition debris from any structure (including but not limited to bridges, culverts, abutments, wing walls, piers) is not authorized for this project. If any demolition debris inadvertently falls into aquatic resources, it must be removed immediately. Notify the Engineer immediately in writing of any inadvertent fill discharged into aquatic resources. The Engineer will immediately contact ODOT-OES-WPU at 614-466-2159 if any unintentional discharge occurs.

11. Construction Completion Certification:

Upon completion of the work, notify the Engineer. The USACE Construction Completion Certification must be completed and signed by the Engineer then provided via US mail or email to:

Waterway Permits Program Manager  
ODOT - Office of Environmental Services  
1980 West Broad Street, Mail Stop 4170  
Columbus, Ohio 43223  
Adrienne.Earley@dot.ohio.gov

A copy of the certification will be provided after the USACE issues the permit.

Version: January 2026

TABLE C. STREAM DISCHARGE AND FILL QUANTITIES

Stream	Station (Sta.)	Description of Impacts	Length (LF)	Width (LF)	Depth (LF)	Permanent Fill Below OHWM									Total Permanent Fill			Total Temporary Fill			Total Impact Length
						Proposed Concrete (Includes Culvert, Piers, Walls, Abutments, etc.)			Proposed RCP <sup>2</sup>			Proposed Earthen, Granular, or Embankment Fill <sup>3</sup>									
						Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)	Area (AC)	Volume (CY)	Length (LF)
UT Pymatuning Creek	Sta. 240+38.68	Culvert Replacment with Rock Channel Protection (RCP) Installation above the OHWM, Concrete Fill, Cofferdam, and TAF	65.0	10	1	41.5	0.019	50.10	11.0	0.02	48	0.0	0.000	0	52.5	0.039	98.10	20.0	0.009	20.76	65.0
<b>SUM:</b>						41.5	0.019	50.10	11.0	0.020	48.00	0.0	0.000	0.00	52.5	0.039	98.10	20.0	0.009	20.76	65.0

LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); NA = Not Applicable

<sup>1</sup> Average channel width or depth within Construction limits.

<sup>2</sup> Stream channel profile adjustment includes possible placement of clean, non-erodible stone backfill material in proximity of the new structure inlet and outlet areas.

<sup>3</sup> Granular backfill bedding material to be placed under the concrete box structure.

, while 0.026-acre is in the footprint of existing fills.

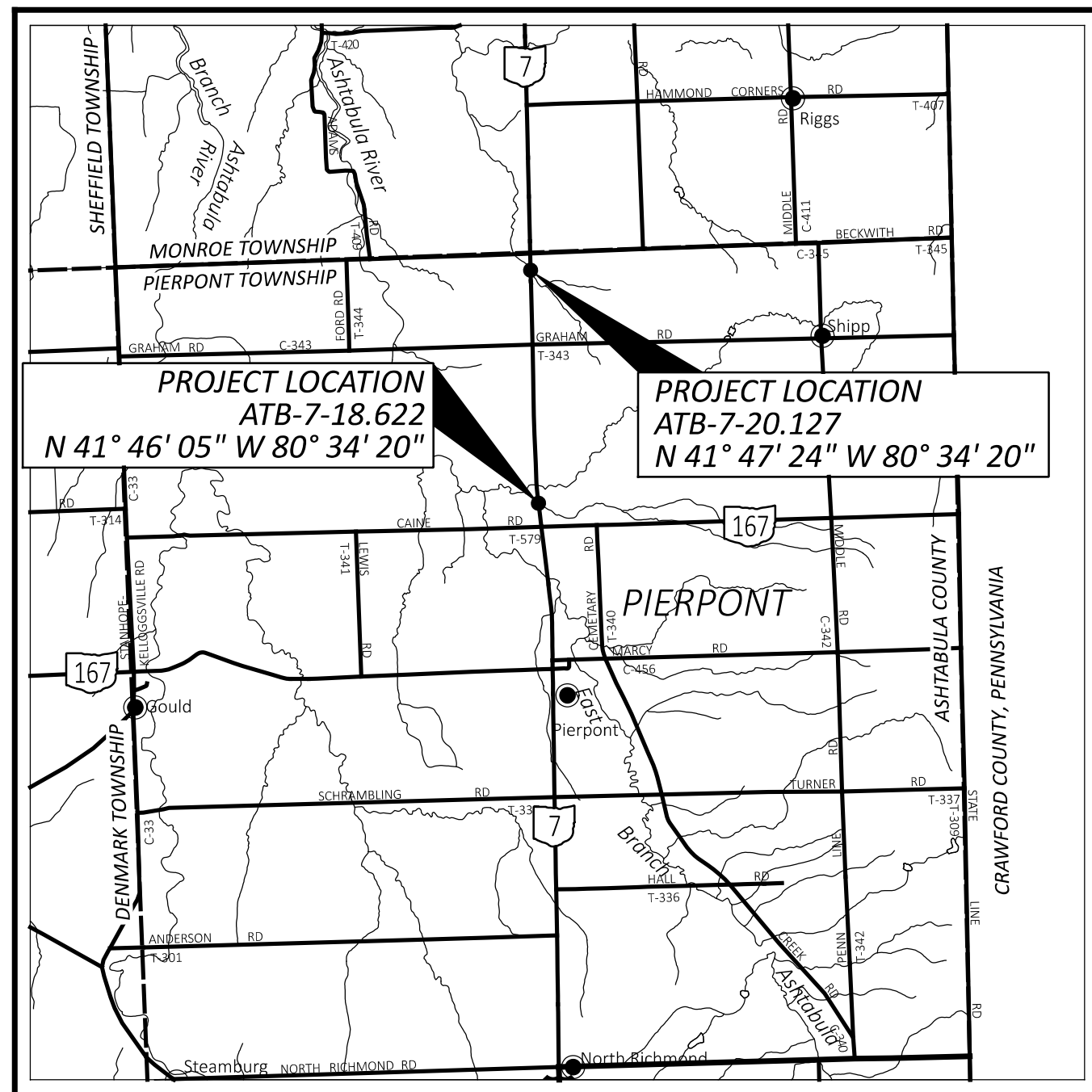
**TABLE D. WETLAND DISCHARGE AND FILL QUANTITIES**

Wetland	Station	Description of Impacts	Acreage (AC)	Depth (LF)	Permanent Fill Within Wetland Boundary				Total Permanent Fill		Total Temporary Fill		Total Impact Acreage
					Proposed RCP <sup>1</sup>		Proposed Earthen, Granular, or Embankment Fill						
					Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)	Volume (CY)	Area (AC)
Wetland A	Sta. 239+25 to 240+25, 240+50 to 242+00	Culvert Replacment, Rock Channel Protection	0.048	1.0	0.001	80.56	0.046	348.68	0.047	429.24	0.00	0.00	0.047
<b>SUM:</b>					0.001	80.56	0.046	348.68	0.047	429.24	0.00	0.00	0.047

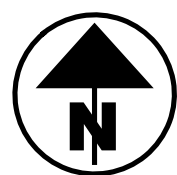
LF = linear feet; AC = acres; CY = cubic yards; RCP = rock channel protection or the like (specify if different, i.e.. concrete block matting); N/A = Not Applicable

<sup>1</sup> Stream channel profile adjustment includes possible placement of clean, non-erodible stone backfill material in proximity of the new structure inlet and outlet areas





LOCATION MAP



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

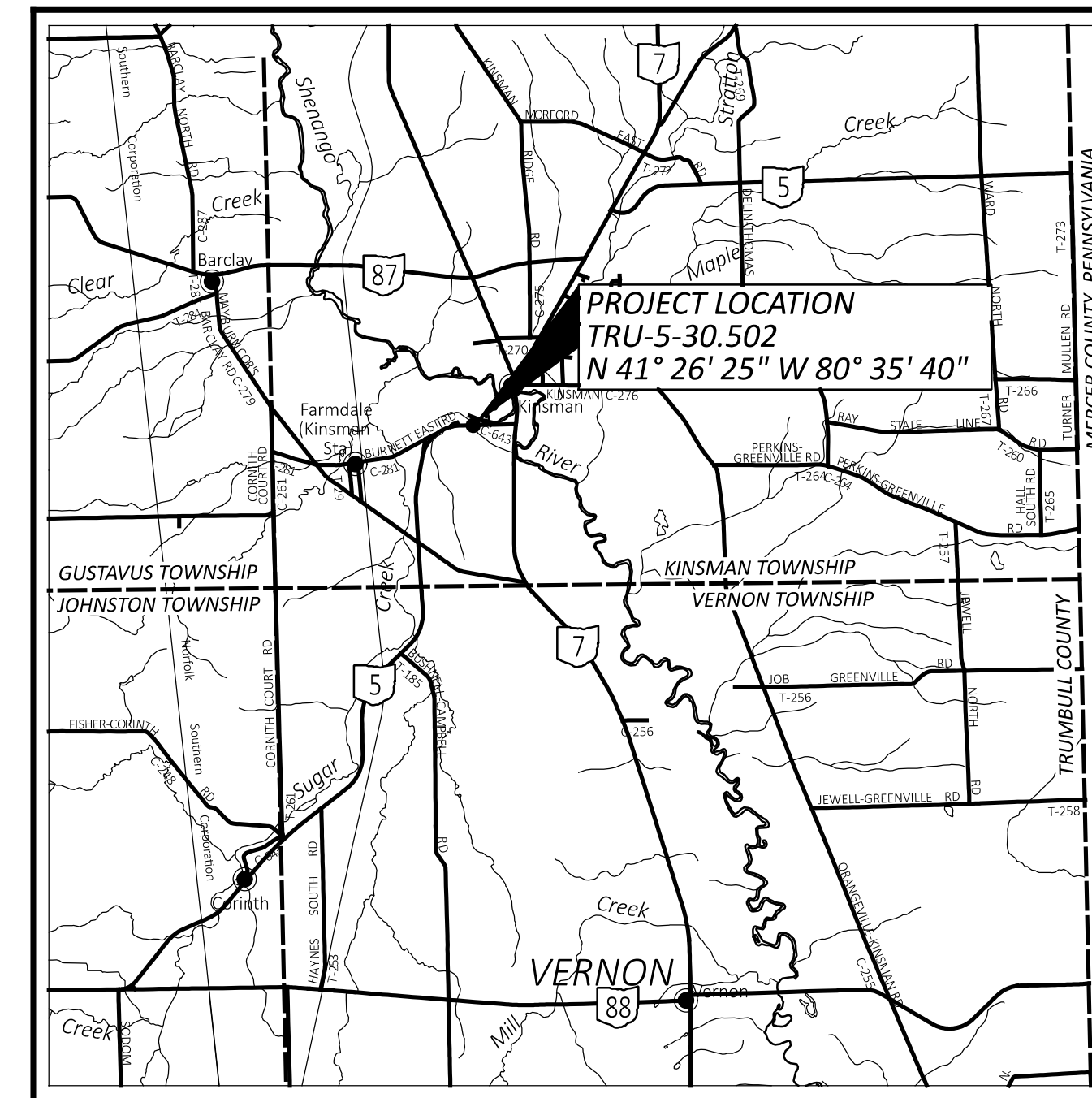
**DESIGN DESIGNATION**

	<u>ATB-7</u>
CURRENT ADT (2027)	1,900
DESIGN YEAR ADT (2047)	2,500
DESIGN HOURLY VOLUME (2047)	300
DIRECTIONAL DISTRIBUTION	62%
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	04 MINOR ARTERIAL (RURAL)

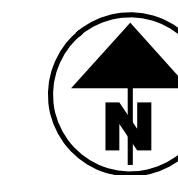
NHS PROJECT ----- NO

**EARTH DISTURBED AREAS**

	<u>ATB-7-18.622</u>	<u>ATB-7-20.127</u>
PROJECT EARTH DISTURBED AREA:	0.25 ACRES	0.25 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 ACRES	0.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES	N/A ACRES



LOCATION MAP



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

**DESIGN DESIGNATION**

	<u>TRU-5</u>
CURRENT ADT (2027)	2,500
DESIGN YEAR ADT (2047)	2,600
DESIGN HOURLY VOLUME (2047)	300
DIRECTIONAL DISTRIBUTION	54%
TRUCKS (24 HOUR B&C)	7%
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	04 MINOR ARTERIAL (RURAL)

NHS PROJECT ----- NO

**EARTH DISTURBED AREAS**

	<u>TRU-5-30.502</u>
PROJECT EARTH DISTURBED AREA:	0.25 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES

LOCATION MAPS

ATB/TRU-7/5-18.62/30.50

MODEL: Sheet 2 PAPER SIZE: 34x22 (in.) DATE: 1/15/2026 TIME: 4:05:04 PM PLTDRV: OHDOT\_PDF.plt PENTBL: OHDOT\_Pen.tbl USER: Nichole.Filleky@dot.ohio.gov WORKSPACE: OHDOTCEV02 WORKSET: 115015 PRODUCT: OpenRoadsDesigner 24.00.00.205 pvc:\ohdot\pwr-bentley.com\ohdot\pwr-02\Documents\07 Active Projects\District 04\Ashtabula\115015\1400-Engineering\Roadway\Sheets\115015\_GT001.dgn

NOTE: PROJECT LOCATIONS ARE GREATER THAN 0.25 MILE APART

DESIGN AGENCY



DESIGNER

NKF

REVIEWER

MJA 03-13-25

PROJECT ID

115013

SHEET TOTAL

P.2 | 60

**UTILITIES**

THE CONTRACTOR SHALL USE THE FOLLOWING PROCEDURE AT EACH LOCATION WHERE WORK IS PERFORMED, IN ACCORDANCE WITH SECTIONS 105.07 AND 107.16 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, OHIO811, THE OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 4 HEADQUARTERS AND ALL NON REGISTERED UTILITY OWNERS AT LEAST TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN ALL AREAS.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE NOT SHOWN ON THE PLANS, BUT CAN BE OBTAINED FROM THE OWNERS OF THE UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES.

Enbridge Gas Ohio DBA Dominion Energy  
ATTN: Ryan Bond  
Supervisor - Gas Operations  
Distribution Design  
320 Springside Drive  
Akron, OH 44333  
330-807-2285 Cell  
ryan.a.bond@dominionenergy.com  
relocation@dominionenergy.com

Tussel, Jr. Company  
ATTN: Carl Tussel  
141 E. Jefferson St.  
Jefferson, OH 44047  
440-576-3415  
440-645-4550 (cell)  
mimpa11@yahoo.com

GreatWave Communications  
ATTN: Jason Picard  
224 State Street  
Conneaut, OH 44030  
440-969-4866  
jpicard@greatwavecom.com  
kknapp@greatwavecom.com

Allied Universal  
ATTN: Mark Bradford  
4 Walker Way, Suite 1  
Albany, NY 12205  
518-527-5064 ext. 107  
518-362-6060 (cell)  
mark.bradford@aus.com  
michael.dandaraw@aus.com

Brightspeed/Lumen/CenturyLink  
ATTN: Adam Fields  
3801 Elm Road  
Warren, OH 44502  
937-217-0774  
afields@congruex.com  
relocations@lumen.com  
relocations@brightspeed.com

Ohio Edison  
ATTN: Phillip Rawson  
730 South Avenue  
Youngstown, OH 44502  
724-255-1332 (cell)  
prawson@firstenergycorp.com  
jazzsack@firstenergycorp.com

Brightspeed/Lumen/CenturyLink  
ATTN: Adam Fields  
3801 Elm Road  
Warren, OH 44502  
937-217-0774  
afields@congruex.com  
relocations@lumen.com  
relocations@brightspeed.com

Armstrong Cable  
ATTN: Rob Wolthers  
9328 Woodworth Road  
North Lima, OH 44452  
330-953-0705 ext. 224  
rwolthers@agoc.com

CEI The Illuminating Company  
ATTN: John Zassick  
6896 Miller Road  
Brecksville, OH 44141  
440-546-8706  
216-538-1580 (cell)  
jzassick@firstenergycorp.com

Utility Pipeline Ltd.  
ATTN: Kyle Underwood  
4100 Holiday St NW  
Suite 201  
Canton, OH 44718  
330-498-9130 ext. 310  
740-605-0713 (cell)  
kunderwood@utilitypipelineld.com

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE BELOW FOR TABLES CONTAINING PROJECT CONTROL INFORMATION.

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

ATB-7-18.622  
PROJECT CONTROL

POSITIONING METHOD: STATIC  
MONUMENT TYPE: B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88  
GEOID: 2018

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011) (EPOCH: 2010.0000)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)  
COMBINED SCALE FACTOR: 0.99997320162

ORIGIN OF COORDINATE SYSTEM: EASTING (X): 0, NORTHING (Y): 0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

FURNISH UNITS IN U.S. SURVEY FEET.  
USE THE FOLLOWING CONVERSION FACTOR:  
1 METER = 3.2808333333 U.S. SURVEY FEET.

CONTROL POINT (U.S. SURVEY FEET GROUND)					
POINT	NORTHING	EASTING	STATION	OFFSET	ELEV.
CP10	770494.671	2494684.246	441+39.67	27.34' RT.	974.18
CP20	771324.767	2494576.466	449+76.68	17.96' RT.	960.72
CP30	772343.051	2494465.945	460+00.87	25.20' LT.	972.05
CENTERLINE ALIGNMENT					
MN429	769135.848	2494825.429	-	0.00'	-
MN439	770312.293	2494678.321	439+59.25	0.00'	-
MN452	771620.517	2494523.349	452+76.56	2.57' LT.	-
MN461	771943.814	2494508.951	456+00.11	0.00'	-
BENCHMARK					
SV500	771267.558	2494587.695	528+85.24	29.94' LT.	959.87

ATB-7-20.127  
PROJECT CONTROL

POSITIONING METHOD: STATIC  
MONUMENT TYPE: B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88  
GEOID: 2018

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011) (EPOCH: 2010.0000)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)  
COMBINED SCALE FACTOR: 0.99998048698

ORIGIN OF COORDINATE SYSTEM: EASTING (X): 0, NORTHING (Y): 0

FURNISH UNITS IN U.S. SURVEY FEET.  
USE THE FOLLOWING CONVERSION FACTOR:  
1 METER = 3.2808333333 U.S. SURVEY FEET.

CONTROL POINT (U.S. SURVEY FEET GROUND)					
POINT	NORTHING	EASTING	STATION	OFFSET	ELEV.
CP10	778166.780	2494295.083	-	-	961.46
CP20	779025.010	2494268.150	526+91.29	23.42' LT.	947.87
CP30	779986.036	2494287.033	-	-	952.00
CENTERLINE ALIGNMENT					
MN1000	778556.412	2494304.167	522+21.89	0.00'	-
MN1001	779606.239	2494275.964	532+72.10	0.00'	-
BENCHMARK					
BM1	779218.716	2494256.424	528+85.24	29.94' LT.	944.09

TRU-5-30.502  
PROJECT CONTROL

POSITIONING METHOD: STATIC GNSS  
MONUMENT TYPE: B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88  
GEOID: 2018

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011) (EPOCH: 2010.0000)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO NORTH ZONE (3401)  
COMBINED SCALE FACTOR: 0.99991811401

ORIGIN OF COORDINATE SYSTEM: EASTING (X): 0, NORTHING (Y): 0

FURNISH UNITS IN U.S. SURVEY FEET.  
USE THE FOLLOWING CONVERSION FACTOR:  
1 METER = 3.2808333333 U.S. SURVEY FEET.

CONTROL POINT (U.S. SURVEY FEET GROUND)					
POINT	NORTHING	EASTING	STATION	OFFSET	ELEV.
CP10	651524.656	2489829.571	224+71.32	80.06' LT.	931.29
CP20	657901.604	2490695.785	234+11.67	24.80' RT.	926.43
CP30	651989.503	2491805.980	245+27.42	22.04' LT.	928.13
CP300	645527.686	2489650.721	164+30.62	17.16' RT.	-
CENTERLINE ALIGNMENT					
MN10	652008.345	2492217.368	249+39.18	29.40' LT.	-
MN11	652010.456	2492277.915	249+99.76	29.82' LT.	-
MN12	651991.147	2491578.707	243+00.28	30.03' LT.	-
MN13	652001.200	2491578.405	243+00.26	40.09' LT.	-
MN14	651931.241	2491579.978	242+99.88	29.89' RT.	-
MN15	651970.892	2490854.127	235+75.42	30.00' LT.	-
MN16	651912.411	2491021.049	237+40.65	33.12' RT.	-
MN205	649666.533	2489438.372	205+82.80	30.00' RT.	-
MN211	650185.845	2489464.373	210+99.28	30.07' LT.	-
MN217	650849.291	2489636.308	217+82.01	30.00' RT.	-
MN223	651435.011	2489822.515	223+99.59	30.08' LT.	-
MN224	651399.194	2489870.709	223+99.65	29.97' RT.	-
CENTERLINE ALIGNMENT					
PT205	649671.485	2489408.783	205+82.80	0.00'	-
PC217	650854.243	2489606.720	217+82.01	0.00'	-
PT235	651940.894	2490854.602	165+69.78	0.00'	-
MN255	651994.613	2492778.992	255+00.20	0.00'	-
BENCHMARK					
BM1	651969.335	2491307.949	240+29.02	15.78' LT.	925.47







**DRAINAGE DISCHARGE CONTINUANCE**

FURNISH A DRAINAGE DISCHARGE CONTINUANCE FOR ANY DRAINAGE DISCHARGE DISTURBED BY THE WORK AND NOT SHOWN IN THE PLANS. THE LOCATION, TYPE (CONDUIT OR SWALE), SIZE AND GRADE OF THE DRAINAGE DISCHARGE CONTINUANCE WILL BE AGREED TO BY THE ENGINEER

FURNISH AN INSPECTION WELL AT THE RIGHT OF WAY LINE IN ACCORDANCE WITH SCD DM-3.1 FOR EACH DRAINAGE DISCHARGE THAT OUTLETS THROUGH A CURB OPENING, OR INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST IS INCLUDED IN ITEM 611, INSPECTION WELL.

FURNISH A WELL GRADED TRANSITION BETWEEN THE DITCH AND THE SWALE WHEN OUTLETTING A SWALE TO A DITCH. THE COST FOR THE GRADED TRANSITION IS INCLUDED IN ITEM 203, EMBANKMENT AS PER PLAN.

FURNISH AN EROSION CONTROL PAD AS SHOWN IN SCD DM-1.1 WHEN OUTLETTING A CONDUIT TO A DITCH. THE COST FOR THE EROSION CONTROL PAD IS INCLUDED IN ITEM 611, CONDUIT, MISC: TYPE \_ FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED HOLE OR A CURB SECTION WITH A HOLE WHEN OUTLETTING A CONDUIT THROUGH A CURB OPENING. THE COST OF DRILLING, OR FURNISHING THE CURB SECTION WITH HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE \_ FOR DRAINAGE DISCHARGE CONTINUANCE.

FURNISH A DRILLED CORE HOLE WHEN OUTLETTING INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE COST OF THE DRILLED CORE HOLE IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE \_ FOR DRAINAGE DISCHARGE CONTINUANCE.

**DOCUMENTATION**

THE CONTRACTOR SHALL FURNISH WRITTEN DOCUMENTATION TO THE ENGINEER AND TO THE DISTRICT R/W PERMIT OFFICE. THE DOCUMENTATION INCLUDES THE CONSTRUCTION PROJECT NUMBER, PID, COUNTY, ROUTE, SECTION, LATITUDE AND LONGITUDE OF THE DRAINAGE DISCHARGE AT THE R/W, THE NAME OF PROPERTY OWNER WITH ADDRESS, THE DATE THE DRAINAGE DISCHARGE WAS LOCATED, THE DATE THE DRAINAGE DISCHARGE CONTINUANCE WAS FURNISHED, A DETAILED DESCRIPTION OF THE WORK AND PICTURES OF THE DRAINAGE DISCHARGE CONTINUANCE (IN PDF OR JPEG FORMAT). THE DOCUMENTATION IS INCLUDED IN ITEM 611, CONDUIT, MISC.: TYPE \_ FOR DRAINAGE DISCHARGE CONTINUANCE OR ITEM 203, EMBANKMENT AS PER PLAN.

**DRAINAGE DISCHARGE CONTINUANCE REMOVAL**  
THE ENGINEER MAY REQUIRE THE NEWLY INSTALLED DRAINAGE DISCHARGE CONTINUANCE TO BE REMOVED.

REMOVE THE NEWLY INSTALLED CONDUIT AND ANY EXISTING CONDUIT TO THE RIGHT OF WAY LINE. FOR CONDUIT THAT OUTLETS THROUGH THE CURB RESTORE THE CURB BY FILLING THE HOLE WITH CLASS QC 1 CONCRETE OR REPLACE THE CURB SECTION. FOR CONDUIT THAT OUTLETS TO A STORM SEWER OR DRAINAGE STRUCTURE LEAVE 6 INCHES PROTRUDING OUTSIDE OF THE CONDUIT. PLUG THE PROTRUDING CONDUIT WITH EITHER A MANUFACTURED CAP OR CLASS QC 1 CONCRETE. FOR CONDUIT THAT OUTLETS TO THE DITCH REMOVE THE EROSION CONTROL PAD. RESTORE ALL AREAS AS REQUIRED. PLUG THE EXISTING CONDUIT REGARDLESS OF SIZE AT THE RIGHT OF WAY LINE WITH CLASS QC 1 CONCRETE AND RESTORE ALL AREAS AS REQUIRED. ALL COSTS ARE INCLUDED IN ITEM 202, REMOVAL MISC. CONDUIT.

DAM THE SWALE THAT OUTLETS TO THE DITCH AT THE R/W AS DIRECTED BY THE ENGINEER. ALL COSTS ARE INCLUDED IN ITEM 203, EMBANKMENT AS PER PLAN.

**DRAINAGE DISCHARGE CONTINUANCE (CONT..)**

REMOVE THE INSPECTION WELL AND RESTORE ALL AREAS AS REQUIRED. THE COST IS INCLUDED IN ITEM 202, REMOVAL MISC. INSPECTION WELL.

**CONDUIT MATERIAL TYPES**  
THE FOLLOWING CONDUIT MATERIAL TYPES ARE PERMITTED: 707.33, 707.41 NON- PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, AND 707.52 SDR35.

**PAY ITEMS**  
EACH OF THE PAY ITEMS LISTED BELOW FOR CONDUIT MISCELLANEOUS TYPES B, C, E AND F FOR DRAINAGE DISCHARGE CONTINUANCE INCLUDE CONDUIT SIZES 2 INCH TO 10 INCH. THERE IS NO COST DIFFERENTIATION FOR SIZE IN THESE PAY ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE DRAINAGE DISCHARGE CONTINUANCE:

**FOR EACH STRUCTURE:**  
ITEM 611, 1 EACH INSPECTION WELL  
ITEM 611, 10 FT. CONDUIT, MISC TYPE B FOR DRAINAGE DISCHARGE CONTINUANCE  
ITEM 611, 10 FT. CONDUIT, MISC TYPE C FOR DRAINAGE DISCHARGE CONTINUANCE  
ITEM 611, 10 FT. CONDUIT, MISC TYPE E FOR DRAINAGE DISCHARGE CONTINUANCE  
ITEM 611, 10 FT. CONDUIT, MISC TYPE F FOR DRAINAGE DISCHARGE CONTINUANCE  
ITEM 202, 10 FT. REMOVAL MISC CONDUIT  
ITEM 202, 1 EACH REMOVAL MISC INSPECTION WELL  
ITEM 203, 3 CUBIC YARD EMBANKMENT AS PER PLAN

**EXISTING SUBSURFACE DRAINAGE**

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605, AGGREGATE DRAINS 90 FT

**STRUCTURE IDENTIFICATION SIGNS**

STRUCTURE IDENTIFICATION SIGNS (I-H25b) 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:

ATB-7-18.622  
ATB-7-20.127  
TRU-5-30.502

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

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED FOR ATB-7-18.622 AND ATB-7-20.127 APPROACHES:

ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL, 1 EACH  
ITEM 630 - REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, 1 EACH

DESIGN AGENCY

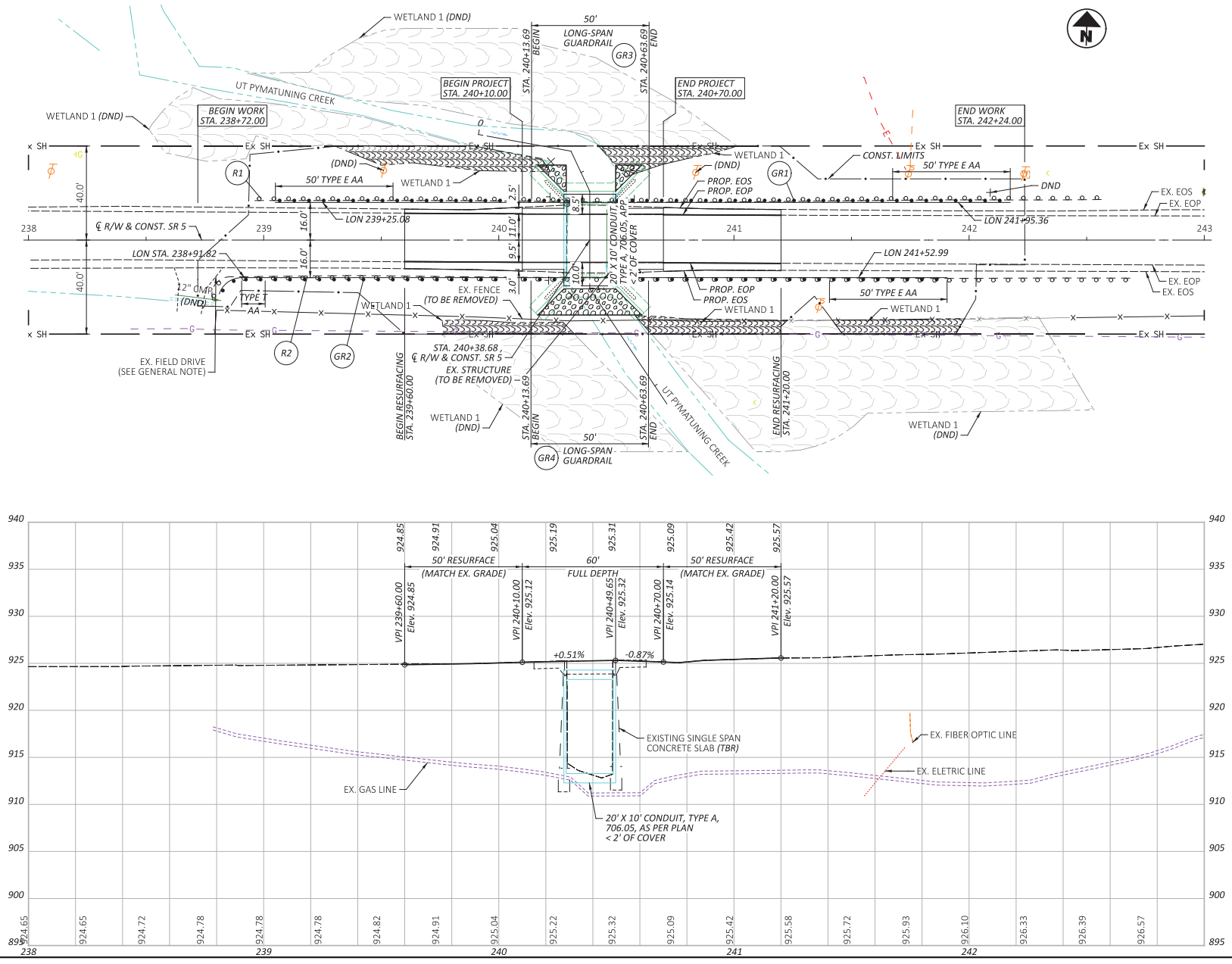


DESIGNER  
NKF

REVIEWER  
MJA 03-13-25

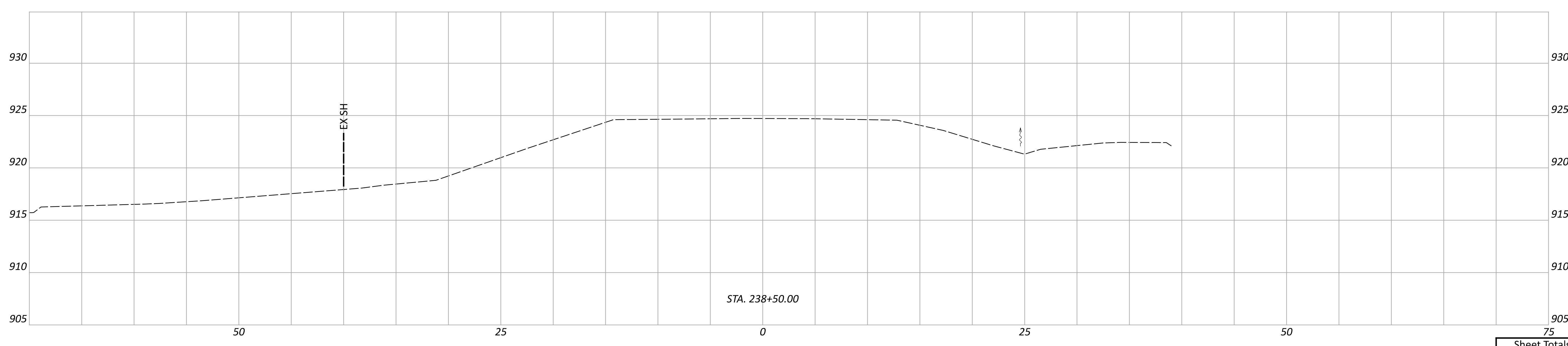
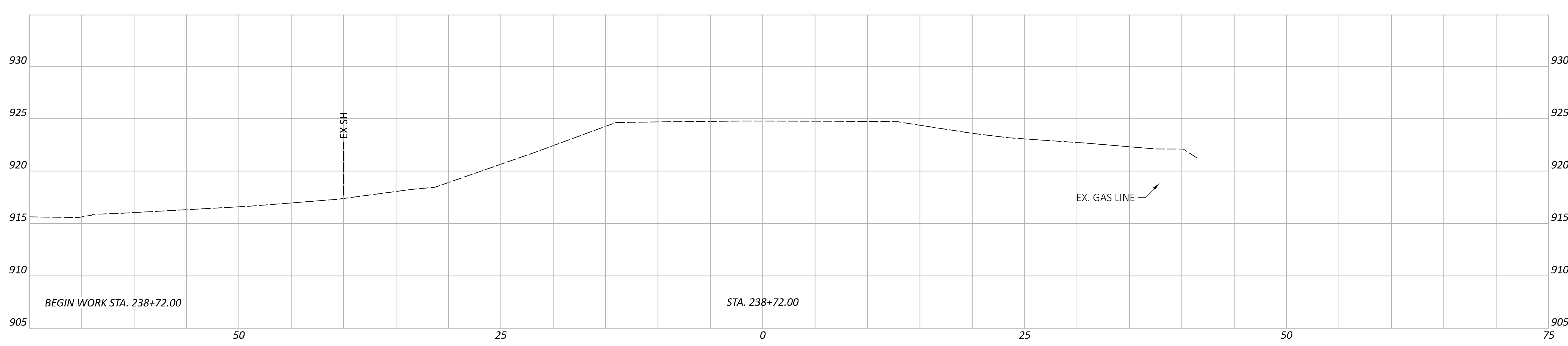
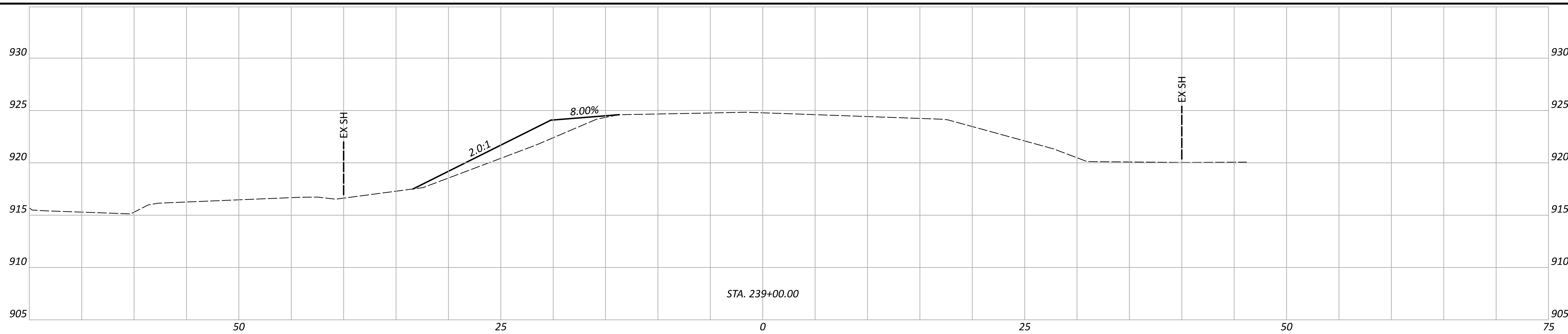
PROJECT ID  
115013

SHEET	TOTAL
P.6	60



PLAN AND PROFILE - TRU-5-30.502  
 STA. 238+00.00 TO STA. 243+00.00

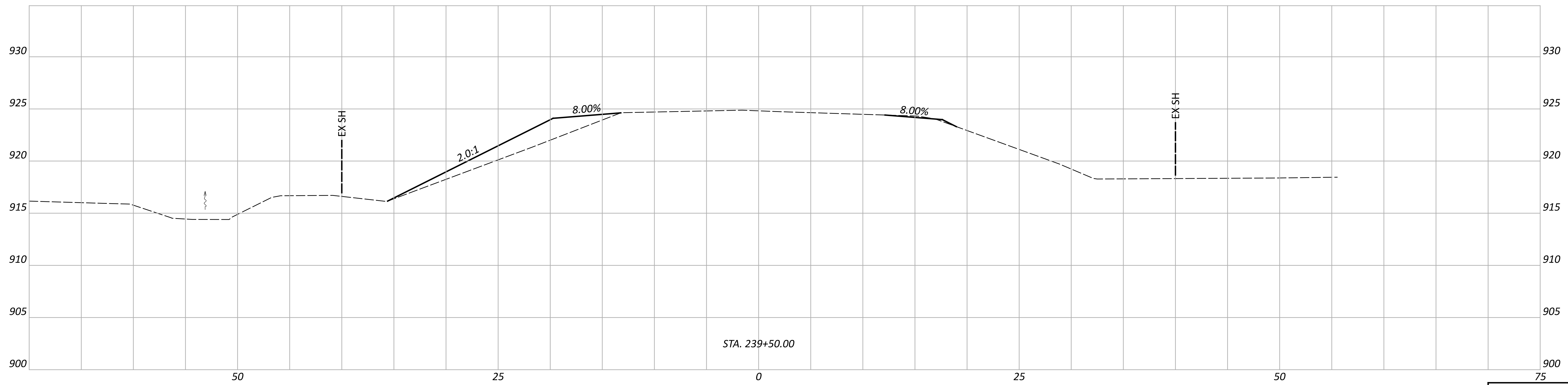
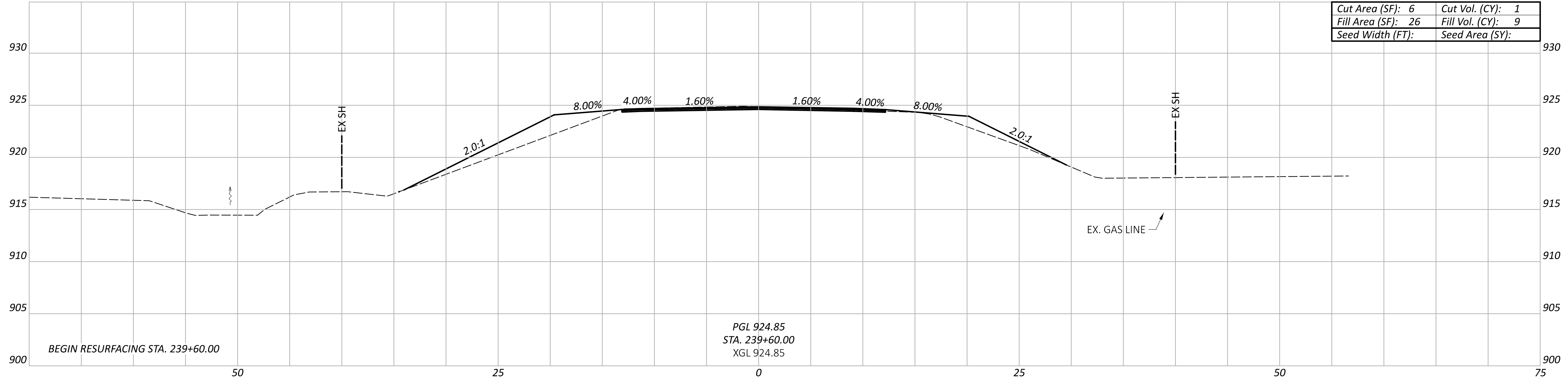
DESIGN AGENCY	
DESIGNER	NKF
REVIEWER	RHC
PROJECT ID	115013
SHEET	P.46
TOTAL	60



CROSS SECTIONS - TRU-5-30.502  
 STA. 238+50.00 TO STA. 239+00.00

DESIGN AGENCY	
DESIGNER	SJD
REVIEWER	MJA
PROJECT ID	115013
SHEET	P.47
TOTAL	60

Sheet Totals			115013
Seeding	Cut	Fill	TOTAL
			P.47   60



CROSS SECTIONS - TRU-5-30.502  
 STA. 239+50.00 TO STA. 239+60.00

DESIGN AGENCY

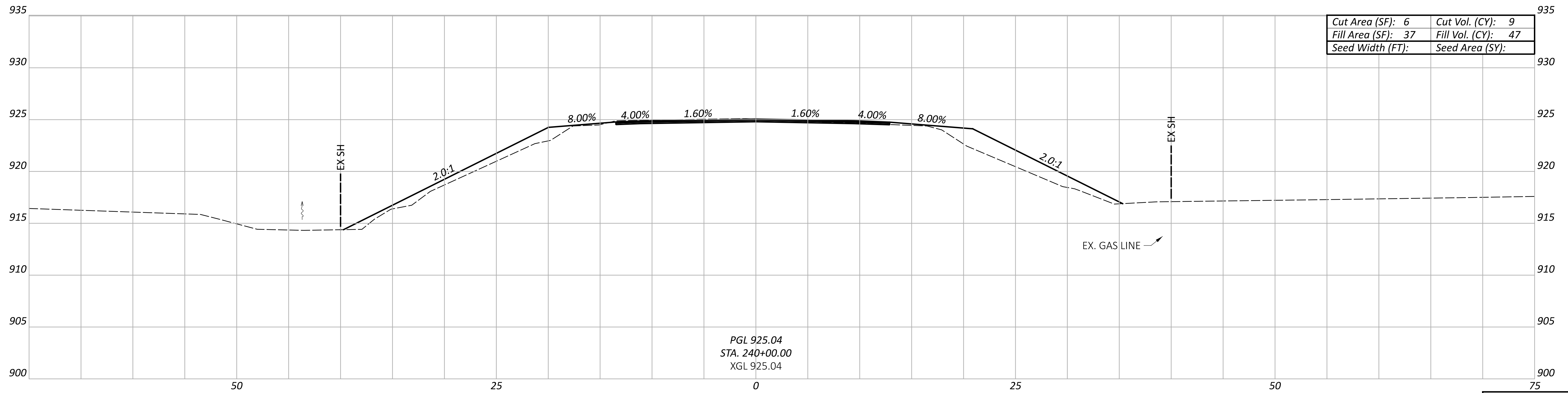
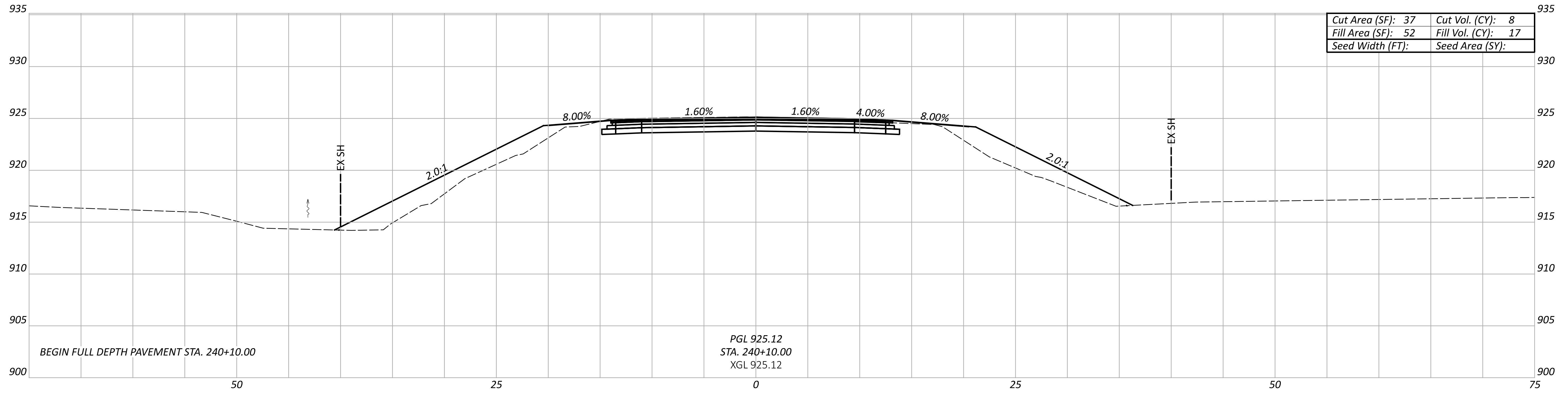


DESIGNER  
 SJD

REVIEWER  
 MJA 03-13-25

PROJECT ID  
 115013


Sheet Totals			SHEET	TOTAL
Seeding	Cut	Fill		
1	1	9	P.48	60



Sheet Totals			115013	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - TRU-5-30.502  
 STA. 240+00.00 TO STA. 240+10.00

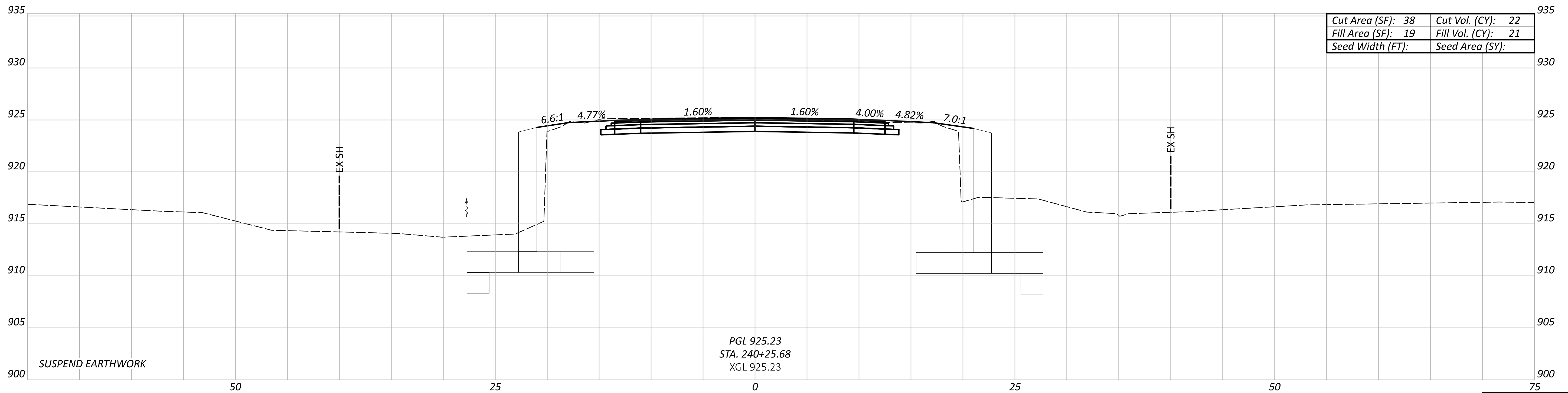
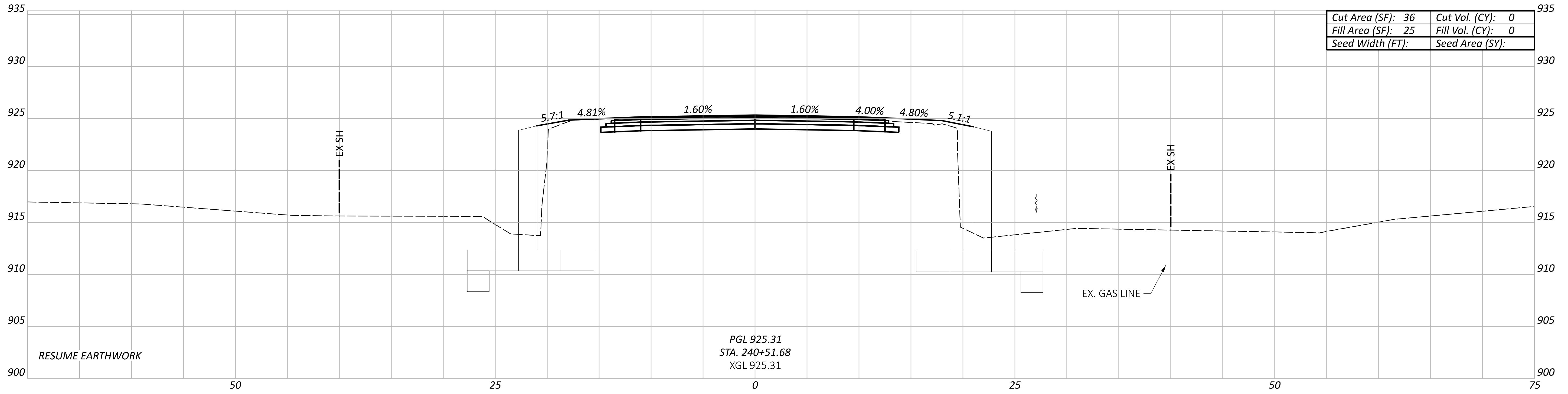
DESIGN AGENCY



DESIGNER  
 SJD

REVIEWER  
 MJA 03-13-25

PROJECT ID  
 115013



Sheet Totals			115013	
Seeding	Cut	Fill	SHEET	TOTAL
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CROSS SECTIONS - TRU-5-30.502  
 STA. 240+25.68 TO STA. 240+51.68

DESIGN AGENCY



DESIGNER

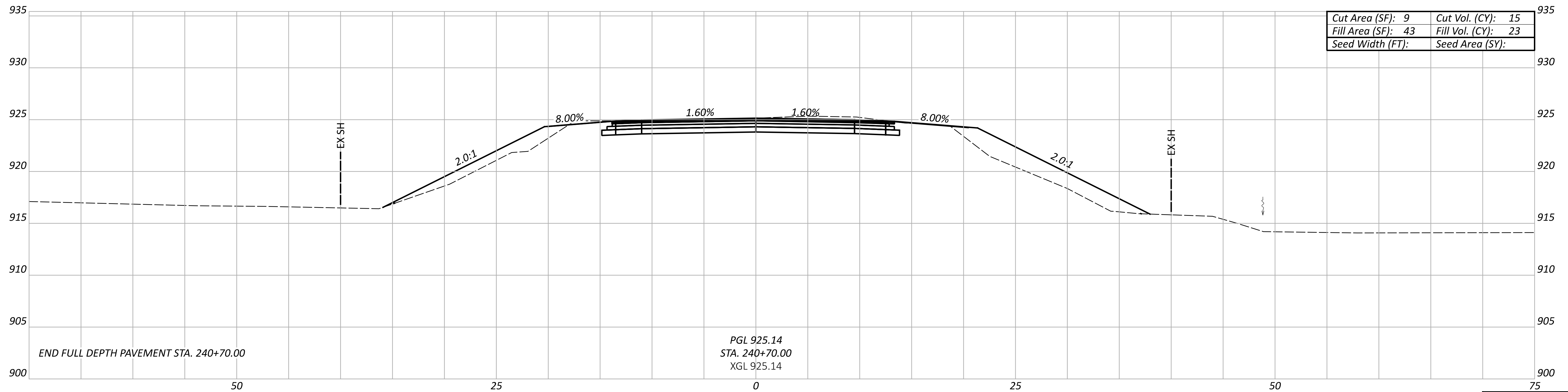
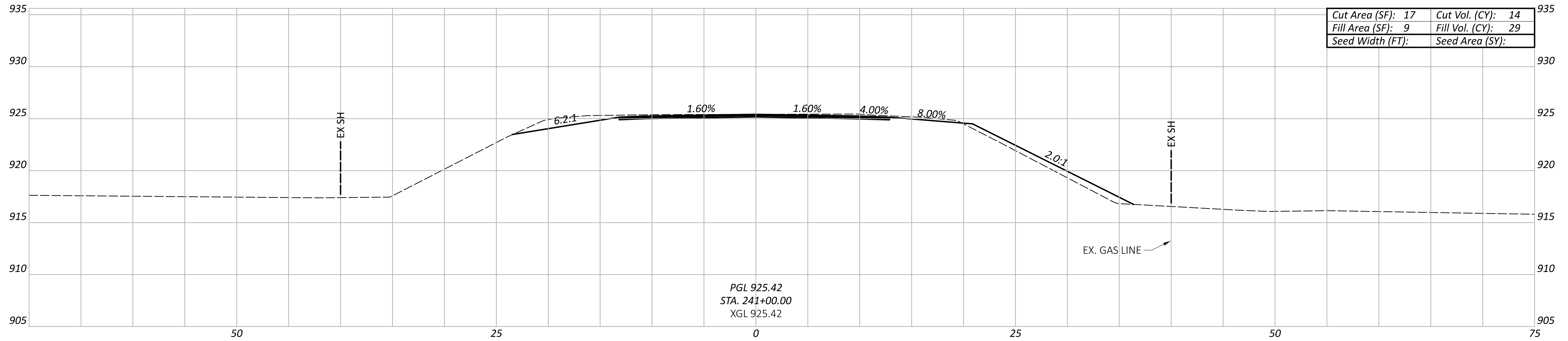
SJD

REVIEWER

MJA 03-13-25

PROJECT ID

115013



CROSS SECTIONS - TRU-5-30.502  
 STA. 240+70.00 TO STA. 241+00.00

DESIGN AGENCY



DESIGNER

SJD

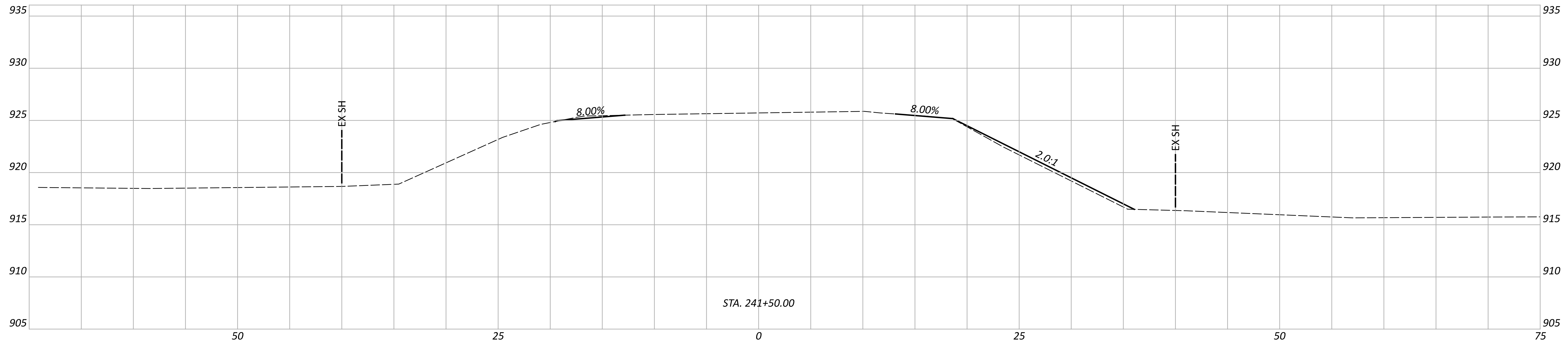
REVIEWER

MJA 03-13-25

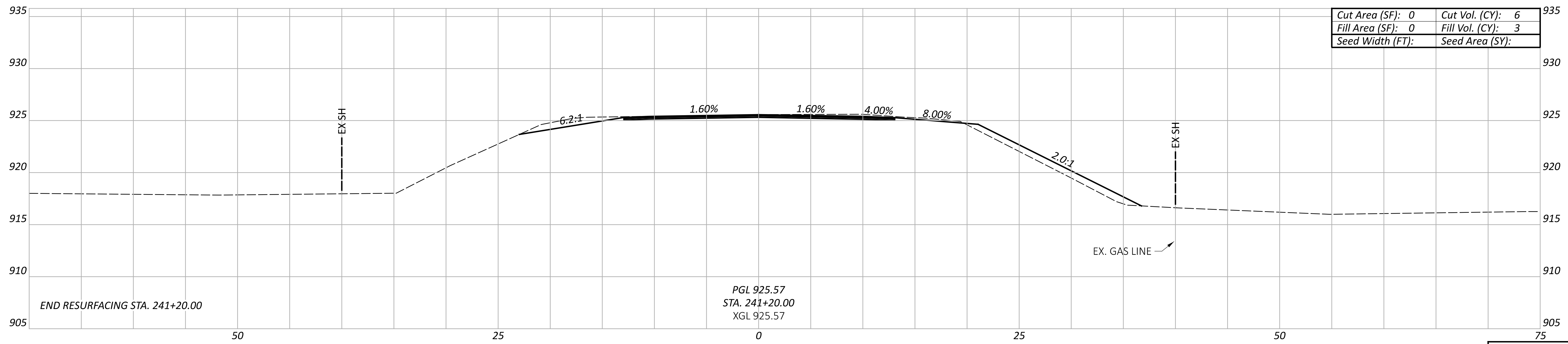
PROJECT ID

115013

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	P.51	60
29	52			



STA. 241+50.00



END RESURFACING STA. 241+20.00

PGL 925.57  
 STA. 241+20.00  
 XGL 925.57

Cut Area (SF):	0	Cut Vol. (CY):	6
Fill Area (SF):	0	Fill Vol. (CY):	3
Seed Width (FT):		Seed Area (SY):	

CROSS SECTIONS - TRU-5-30.502  
 STA. 241+20.00 TO STA. 241+50.00

DESIGN AGENCY



DESIGNER

SJD

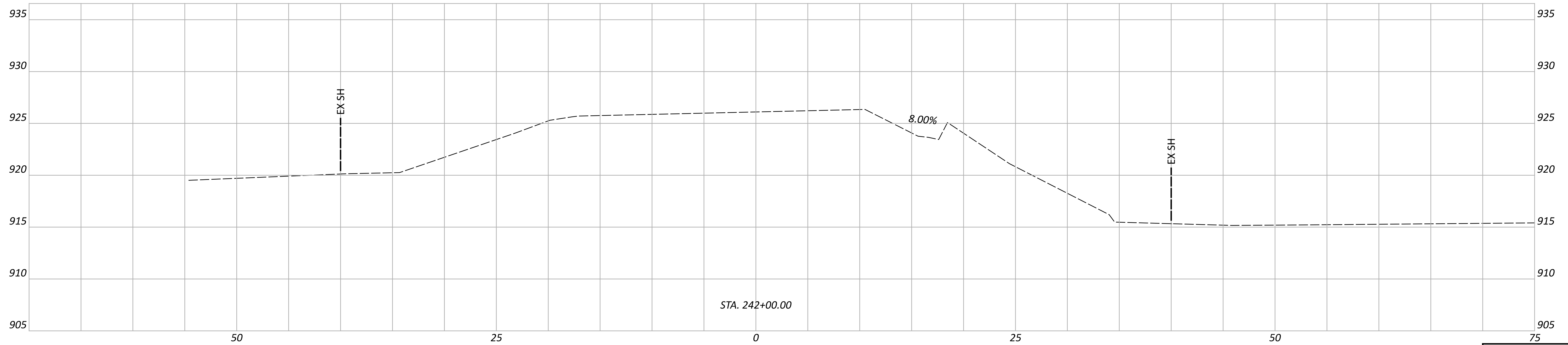
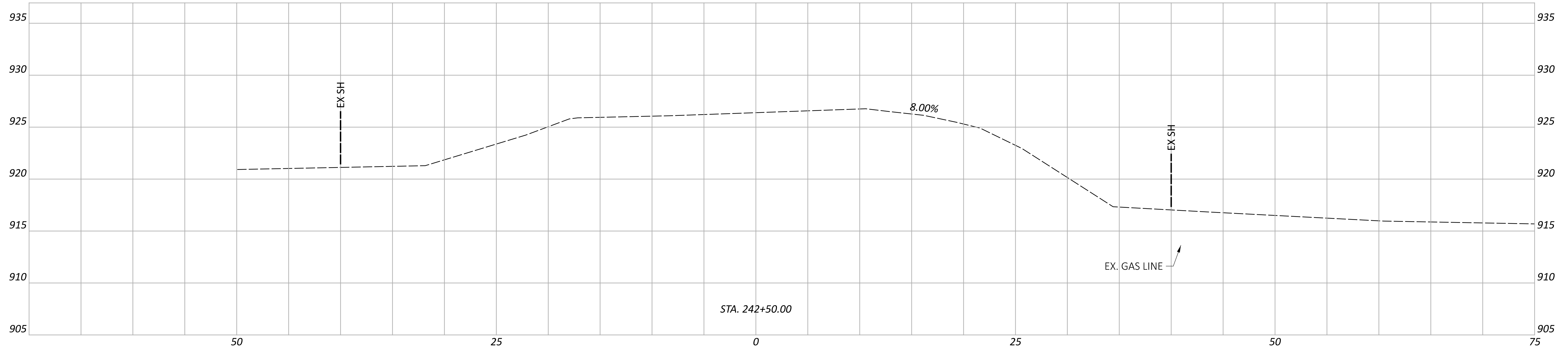
REVIEWER

MJA 03-13-25

PROJECT ID

115013

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.52	60
6	6	3		



CROSS SECTIONS - TRU-5-30.502  
 STA. 242+00.00 TO STA. 242+50.00

DESIGN AGENCY



DESIGNER

SJD

REVIEWER

MJA 03-13-25

PROJECT ID

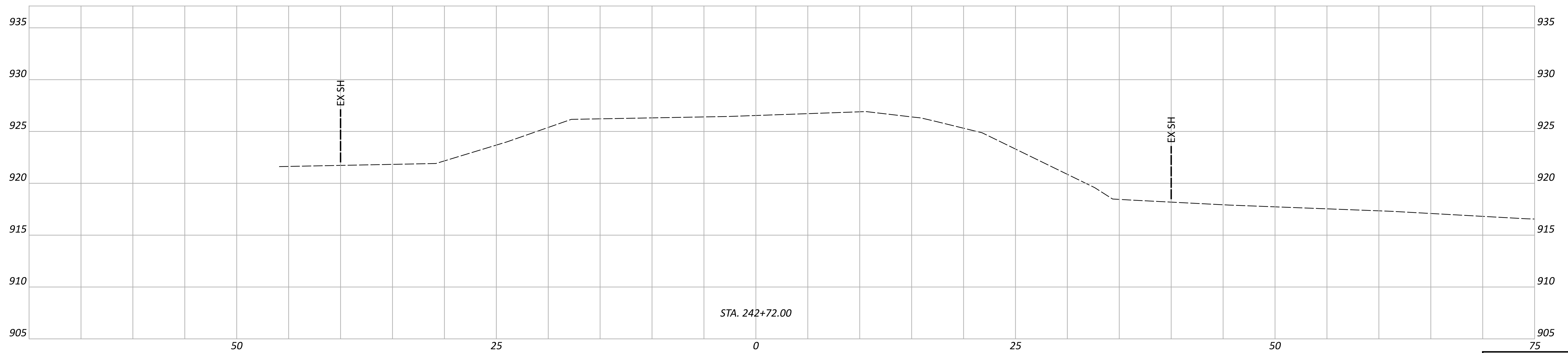
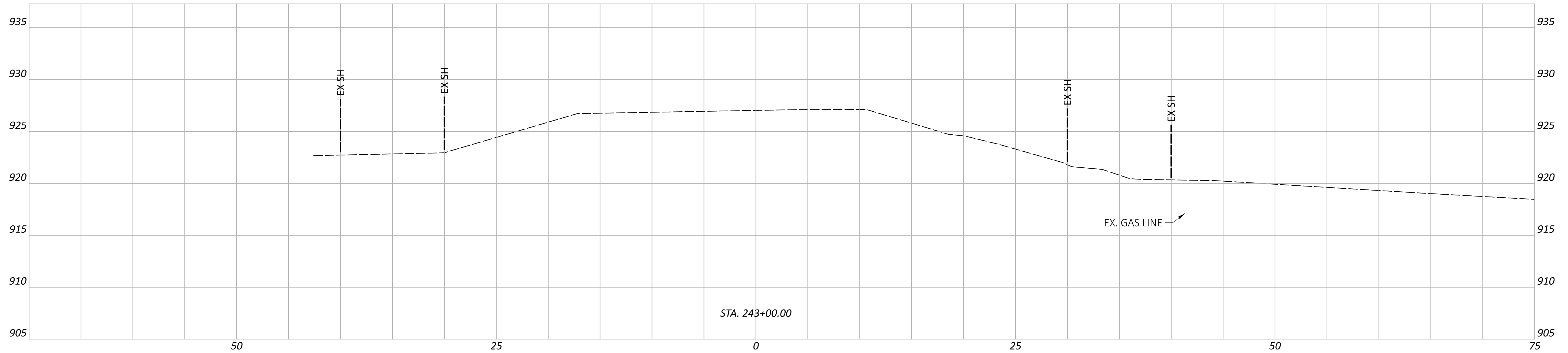
115013

Sheet Totals		
Seeding	Cut	Fill

SHEET	TOTAL
P.53	60

TOTALS CARRIED TO GENERAL NOTES:	
SEEDING AND MULCHING *	602 SY
EXCAVATION	75 CY
EMBANKMENT	149 CY
TOPSOIL **	67 CY

\* SEEDING AREA CALCS GENERATED FROM CADD AREAS  
 \*\* 111 CY OF TOPSOIL PER 1000 SY OF SEEDING AREA



CROSS SECTIONS - TRU-5-30.502  
 STA. 242+72.00 TO STA. 243+00.00

DESIGN AGENCY



DESIGNER

SJD

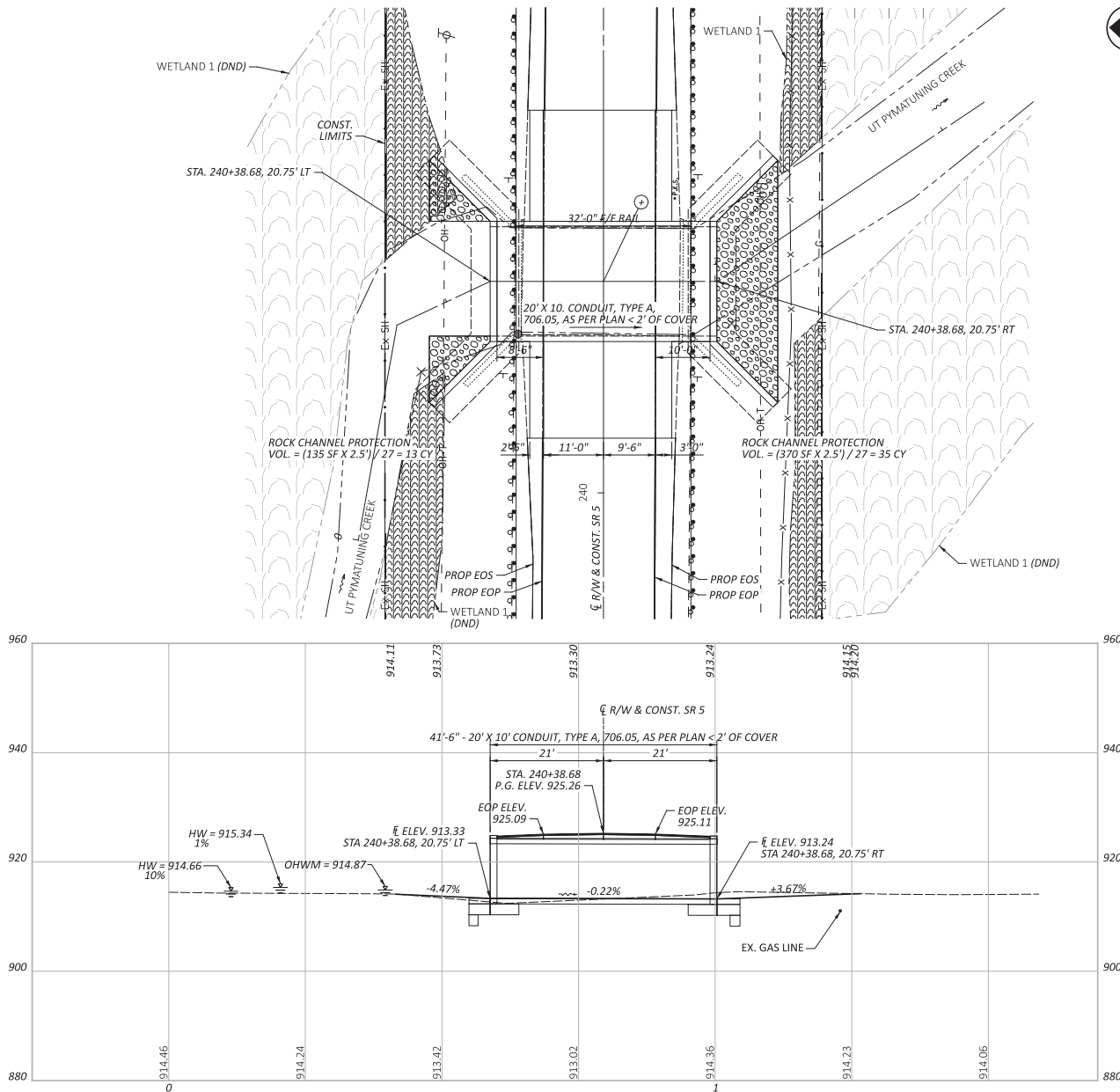
REVIEWER

MJA 03-13-25

PROJECT ID

115013

Sheet Totals			TOTAL	
Seeding	Cut	Fill	P.54	60



BENCHMARK				
BM1	651969.335	2491307.949	240+29.02	15.78' LT, 925.47

- LEGEND**
- EOP - EDGE OF PAVEMENT
  - EOS - EDGE OF SHOULDER
  - ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER (30" DEPTH)
  - ⊙ - STA. 240+38.68, C/R/W & CONST. SR 5 SKEW 0°

**HYDRAULIC DATA**

DRAINAGE AREA = 0.63 SQ. MILES  
 Q (10%) = 93 CFS V (10%) = 5.0 FT/S  
 Q (1%) = 172 CFS V (1%) = 6.5 FT/S  
 STRUCTURE CLEARS THE 25 YEAR  
 DESIGN HW BY FEET.

EXISTING STRUCTURE	
TYPE:	SINGLE SPAN CONCRETE SLAB ON REINFORCED CONCRETE ABUTMENTS WITH SPREAD FOOTINGS
SPANS:	20'
ROADWAY:	32'-3" F/F GUARDRAIL
LOADING:	H15
SKEW:	0°
WEARING SURFACE:	ASPHALT
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	NORMAL
STRUCTURE FILE NUMBER:	7801440
DATE BUILT:	1931
DISPOSITION:	TO BE REMOVED AND REPLACED

PROPOSED STRUCTURE	
TYPE:	20' X 10' CONDUIT, TYPE A, 706.05, AS PER PLAN < 2' OF COVER
SPANS:	20'
ROADWAY:	39'-0" 32'-0" F/F GUARDRAIL
LOADING:	HL-93 WITH 60 PSF FUTURE WEARING SURFACE
SKEW:	0°
WEARING SURFACE:	ASPHALT
APPROACH SLABS:	NONE
ALIGNMENT:	TANGENT
CROWN:	NORMAL
DECK AREA:	N/A SF
COORDINATES:	LATITUDE 41°26'25" LONGITUDE -80°35'38"
SFN:	7801441

SITE PLAN  
 TRU-5-30.502  
 OVER UNNAMED TRIBUTARY OF PYMATUNING CREEK

DESIGNER	CHKR
NKF	RHC
REVIEWER	
BMC	02/17/26
PROJECT ID	115013
SUBSET	TOTAL
1	6
SHEET	TOTAL
P.55	60

**DESIGN SPECIFICATIONS**

THIS STANDARD DRAWING CONFORMS TO "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE BRIDGE DESIGN MANUAL.

**DESIGN DATA**

CONDUIT: AS PER CMS 706.05  
 ALL REMAINING COMPONENTS:  
 HL-93 WITH 60 PSF FUTURE WEARING SURFACE

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 - 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 THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED; OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

**UNSUITABLE SOILS**

THE FOLLOWING ITEMS AND QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO ADDRESS UNSUITABLE SOILS ENCOUNTERED IN THE AREA UNDER THE PROPOSED BOX CULVERT.

- ITEM 203 - EXCAVATION, 60 CU YD
- ITEM 203 - GRANULAR MATERIAL, TYPE C (703.16), 60 CU YD
- ITEM 204 - GEOTEXTILE FABRIC, 120 SQ YD

**POROUS BACKFILL WITH FILTER FABRIC**

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WING-WALLS 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.

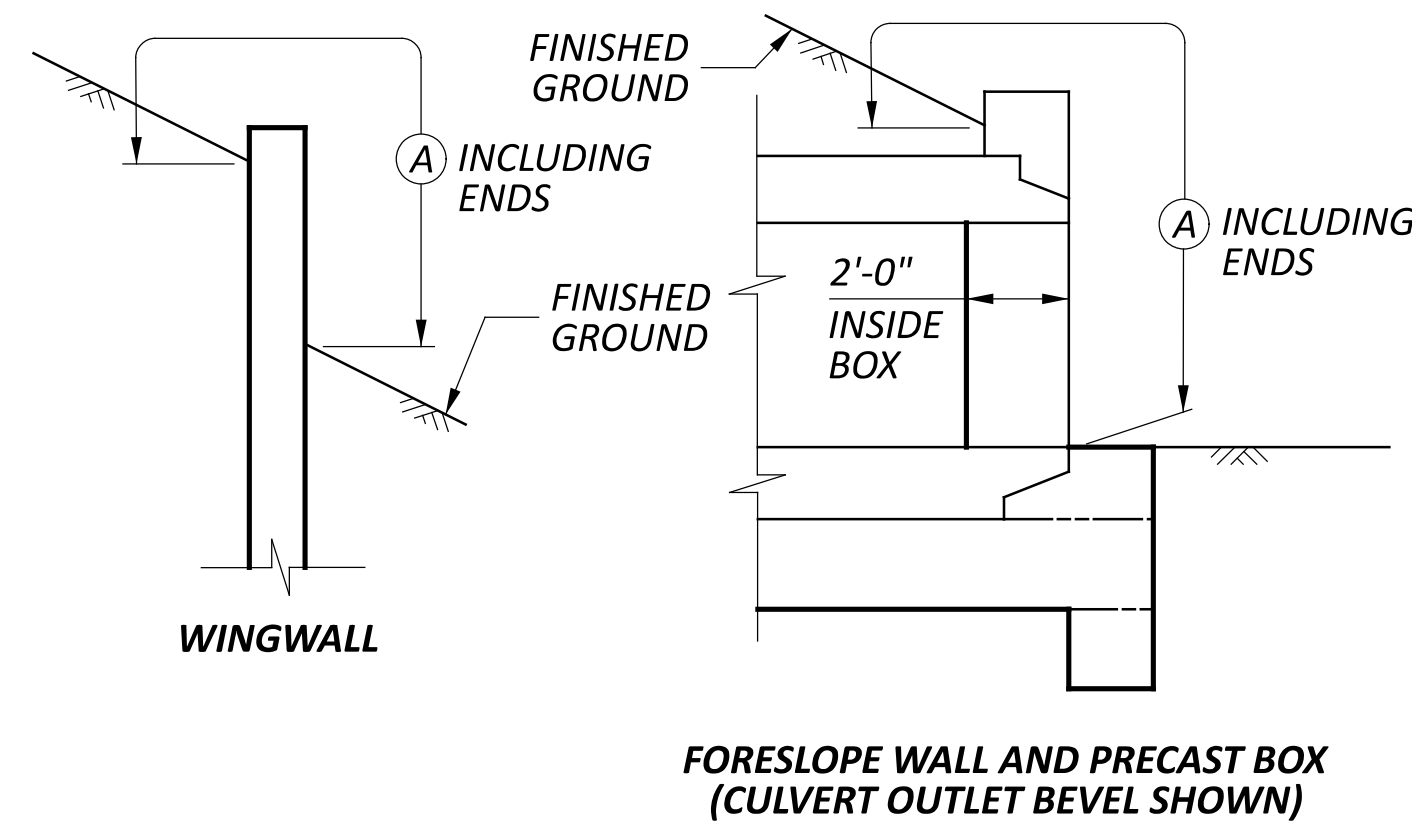
WEEPHOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF ONE WEEPHOLE SHALL BE PROVIDED PER WINGWALL.

**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 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 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

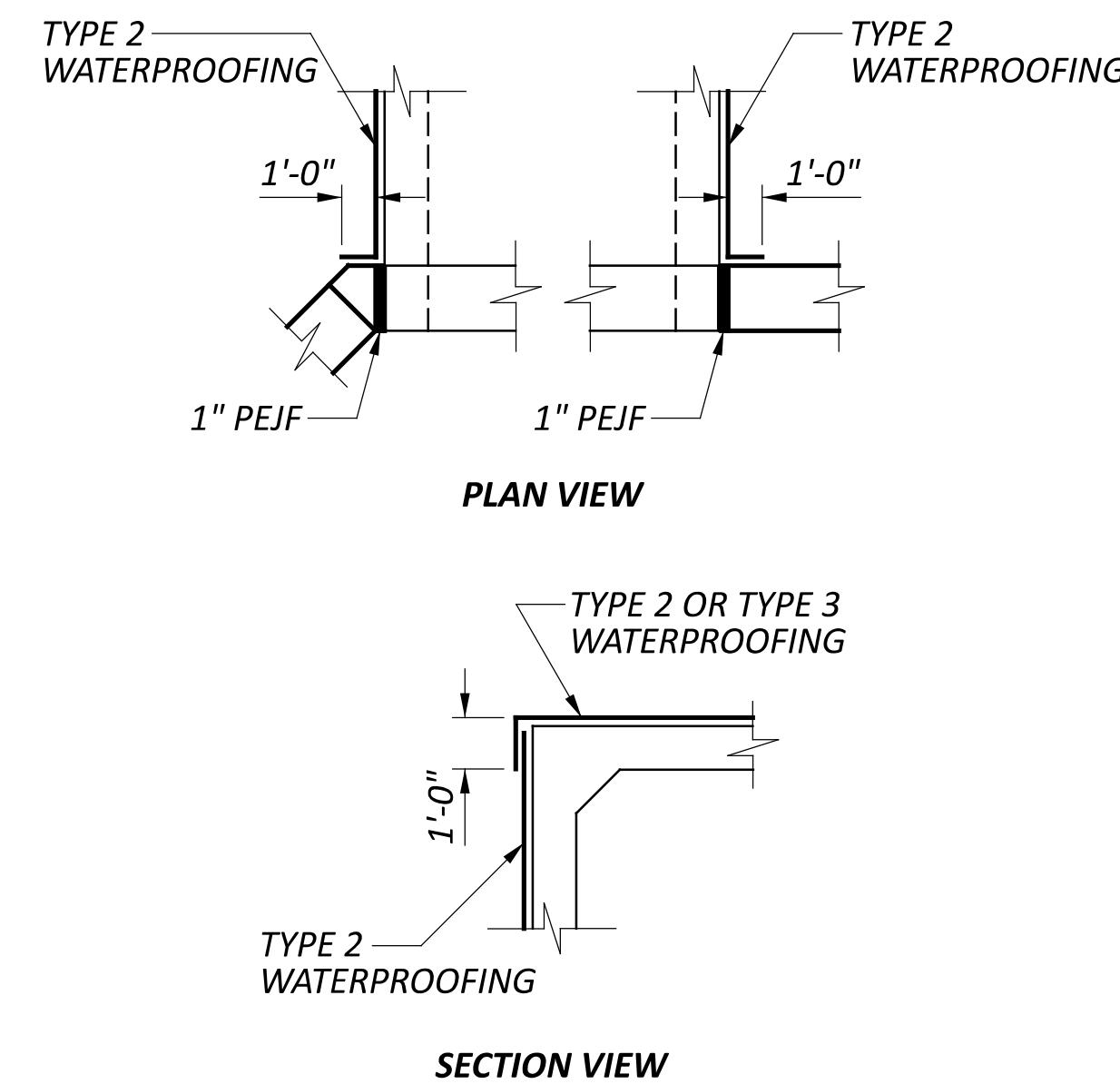
**LIMITS OF ITEM 512-SEALING CONCRETE SURFACES DETAILS**

**WATERPROOFING**

TYPE 2 WATERPROOFING, PER CMS 512.08 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.

IF PAVEMENT IS NOT PLACED DIRECTLY ON TOP OF THE CULVERT, TYPE 2 WATERPROOFING, PER CMS 512.08 AND 711.25 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRE-CAST 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 2 WATERPROOFING.

IF PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512.08 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.



**WATERPROOFING DETAILS**

**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 WALL/WINGWALL NOT INCLUDING FOOTING ITEM 511 - CLASS QC1 CONCRETE, FOOTING, AND ITEM 511 - CLASS QC1 CONCRETE HEADWALL. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCMENT.

**ITEM 611 - 20' X 10' CONDUIT, TYPE A, 706.05, AS PER PLAN < 2' OF COVER**

THREADED INSERTS AS PER MGS-2.4 SHALL BE CAST INTO THE CULVERT BY THE MANUFACTURER. THEY SHALL BE DESIGNED TO RESIST AN ULTIMATE PULL-OUT STRENGTH OF 12 KIPS AND MAINTAIN A MINIMUM OF 3 INCHES OF COVER AT THE BOTTOM OF THE CULVERT SLAB. THE THREADED INSERTS MUST PROVIDE AN "L-SHAPED" BAR INSIDE THE CULVERT WITH A MINIMUM HORIZONTAL LENGTH OF 12 INCHES. PAYMENT FOR THE THREADED INSERTS SHALL BE INCLUDE WITH ITEM 611.

**ASBESTOS NOTIFICATION**

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST INSPECTED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION;

THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE STRUCTURE.

THE DEPARTMENT HAS PROVIDED A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM (PARTIALLY COMPLETED) AND THE ASBESTOS INSPECTION REPORT IN THE REFERENCE FILES FOR THIS PROJECT. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO THE OEPA AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. ONLINE SUBMISSION IS AVAILABLE AT <http://www.epa.ohio.gov/asbestos> AND IS ENCOURAGED OR, THE CONTRACTOR SHALL SUBMIT IT TO ONE OF THE ADDRESSES BELOW

ASBESTOS PROGRAM  
 OHIO EPA, DAPC  
 P.O. BOX 1049  
 COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM  
 OHIO EPA, DAPC  
 50 W. TOWN ST., SUITE 700  
 COLUMBUS, OH 43215

THE FORM SHALL INCLUDE:

1. THE CONTRACTORS NAME AND ADDRESS
2. THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE STRUCTURE DEMOLITION AND/OR RENOVATION
3. DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHODS BE USED
4. ALL NECESSARY FEES

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED NOTIFICATION OF DEMOLITION AND RENOVATION FORM TO THE PROJECT ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIALS NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN AS PER PLAN



CALC: SJD DATE: 3/4/2025  
 CHECKED: DATE:

ESTIMATED QUANTITIES (01/STR/10)

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
203	10000	60	CY	EXCAVATION				60	2 / 6
203	35120	60	CY	GRANULAR MATERIAL, TYPE C (703.16)				60	2 / 6
204	50000	120	SY	GEOTEXTILE FABRIC, TYPE D				120	2 / 6
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING				LS	
509	10000	4977	LB	EPOXY COATED REINFORCING STEEL				4977	
511	46010	30	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING				30	
511	46510	88	CY	CLASS QC1 CONCRETE, FOOTING				88	
511	46610	2	CY	CLASS QC1 CONCRETE, HEADWALL				2	
512	10050	97	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)				97	2 / 6
512	33000	121	SY	TYPE 2 WATERPROOFING				121	2 / 6
512	33010	111	SY	TYPE 3 WATERPROOFING				111	2 / 6
516	13600	63	SF	1" PREFORMED EXPANSION JOINT FILLER				63	
518	21230	LS	LS	POROUS BACKFILL WITH GEOTEXTILE FABRIC				LS	2 / 6
601	32110	48	CY	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER (T=30")				48	
611	96461	41.5	FT	20' X 10' CONDUIT, TYPE A, 706.05, AS PER PLAN < 2' OF COVER				41.5	2 / 6

ESTIMATED QUANTITIES  
 TRU-5-30.502  
 OVER UNNAMED TRIBUTARY OF PYMATUNING CREEK

SFN  
 7801441  
 DESIGN AGENCY



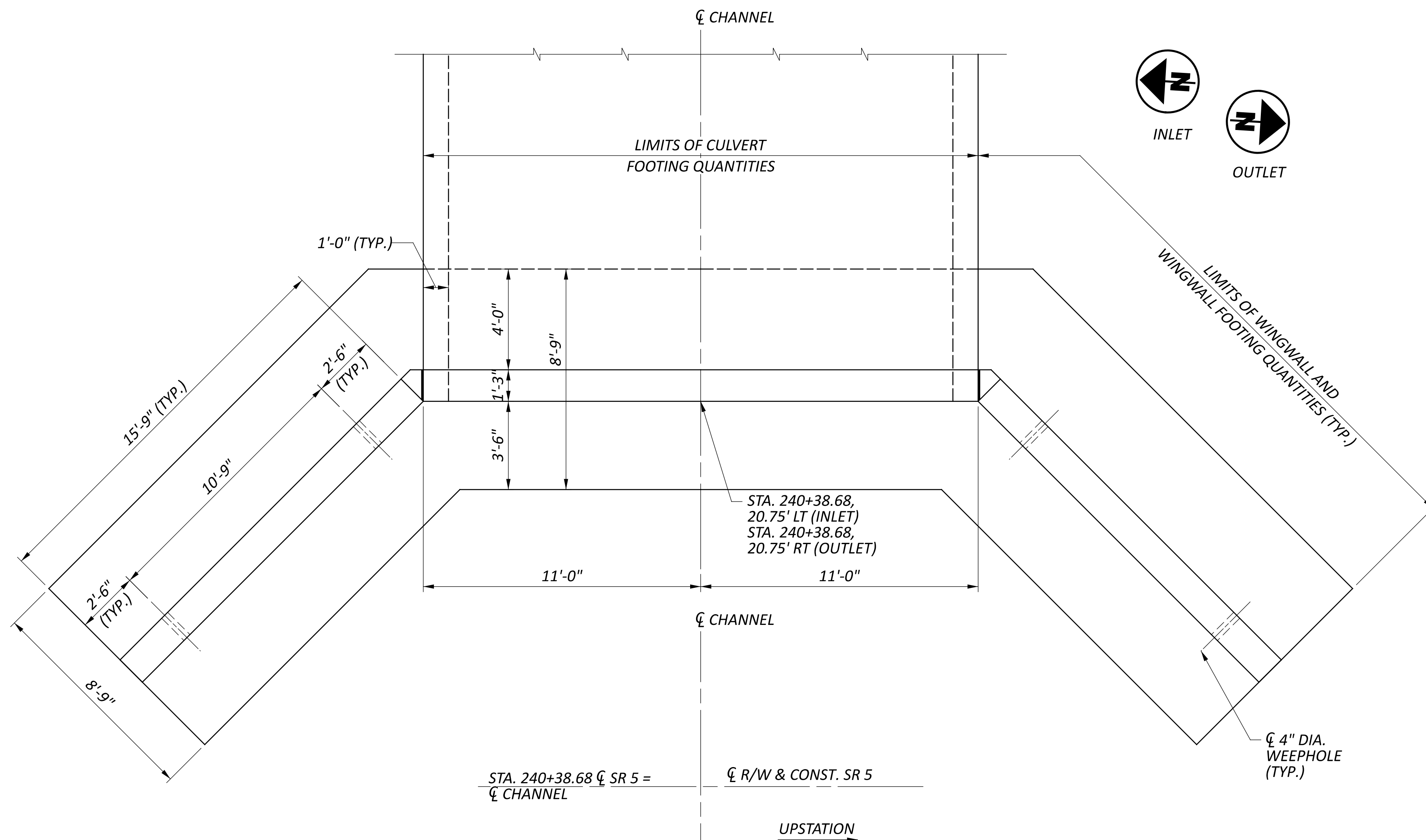
DESIGNER: SJD  
 CHECKER: MJA

REVIEWER: BMC 03-13-25

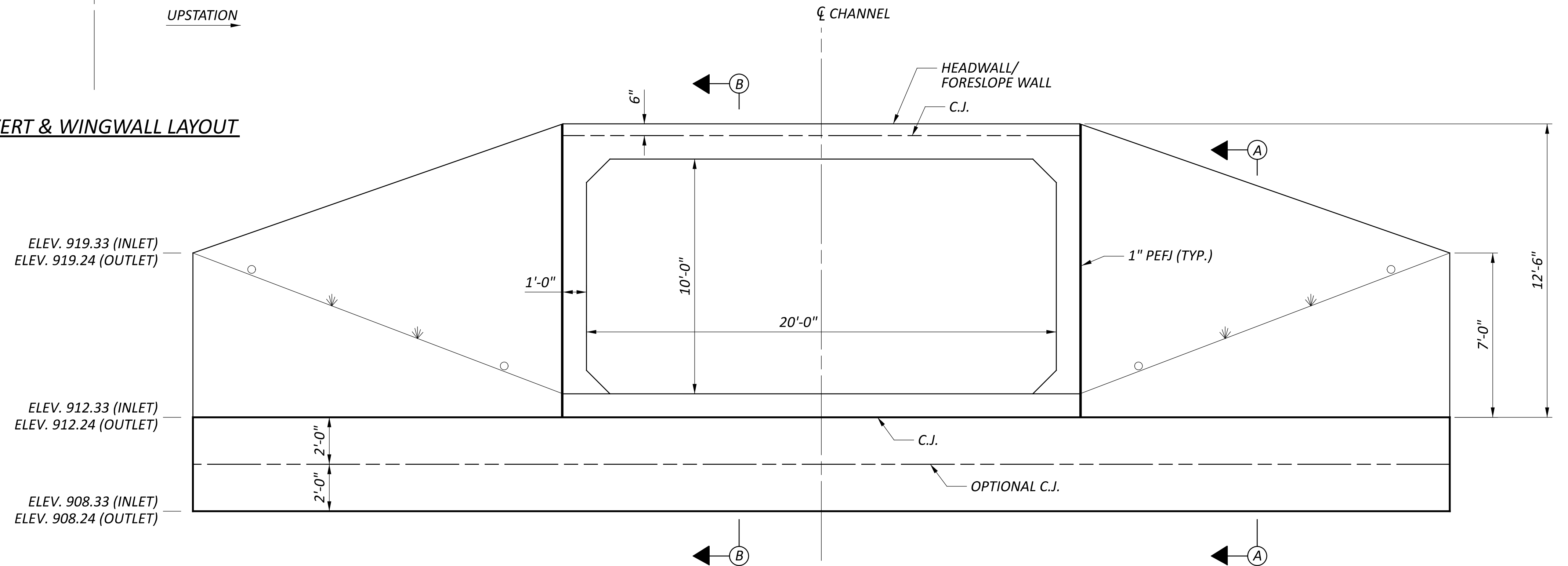
PROJECT ID: 115013

SUBSET	TOTAL
3	6

SHEET	TOTAL
P.57	60



CULVERT & WINGWALL LAYOUT



INLET AND OUTLET ELEVATION

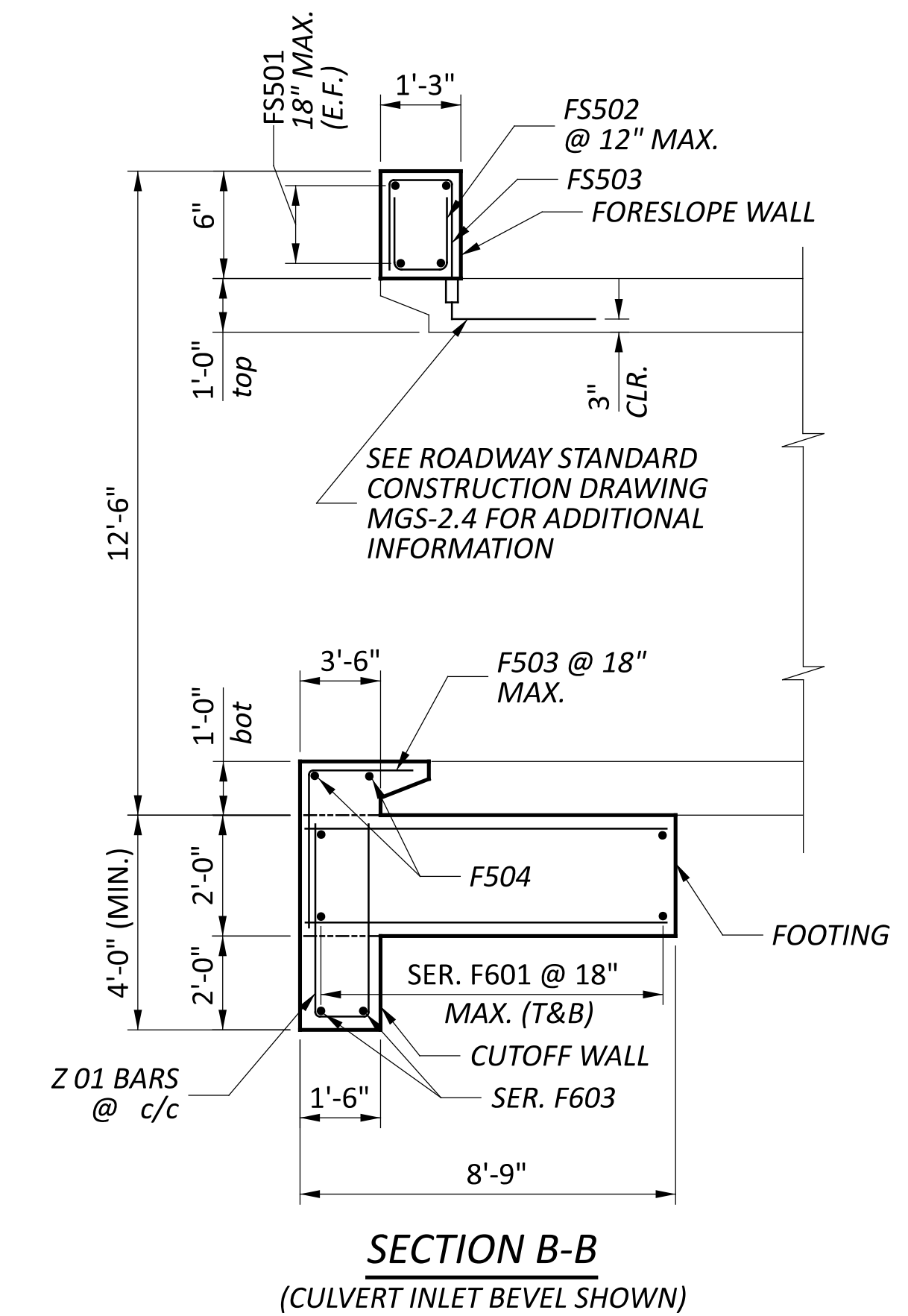
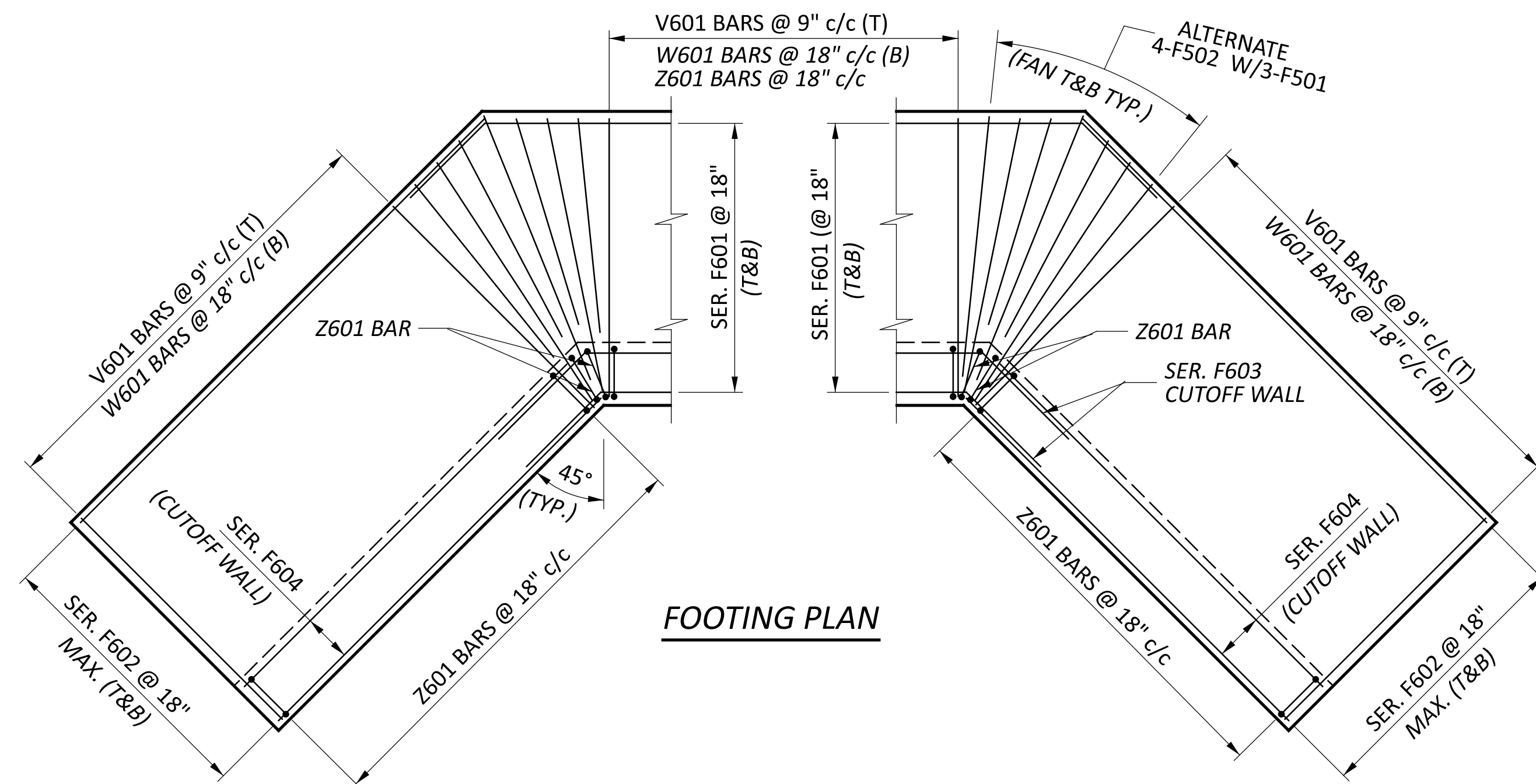
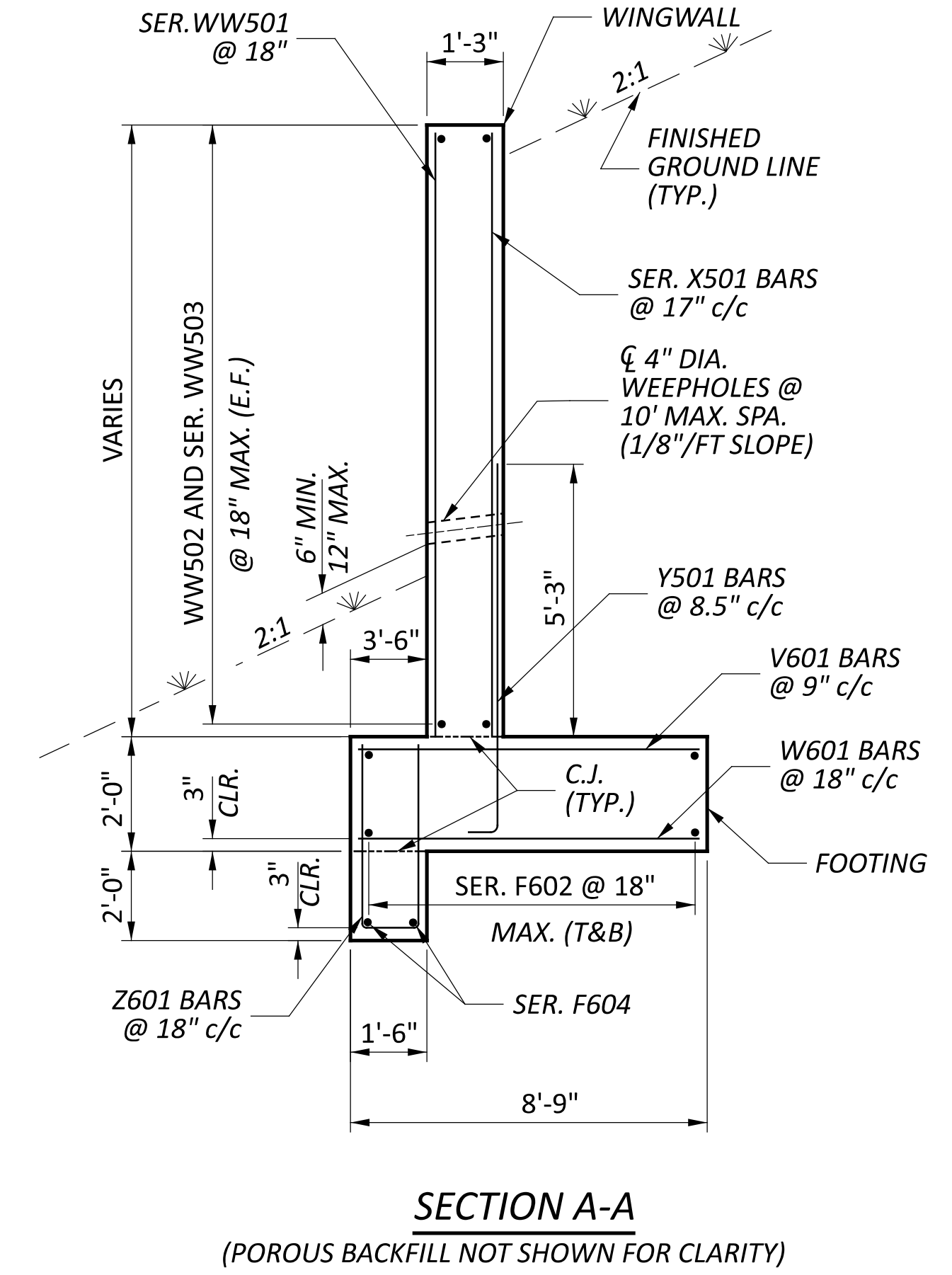
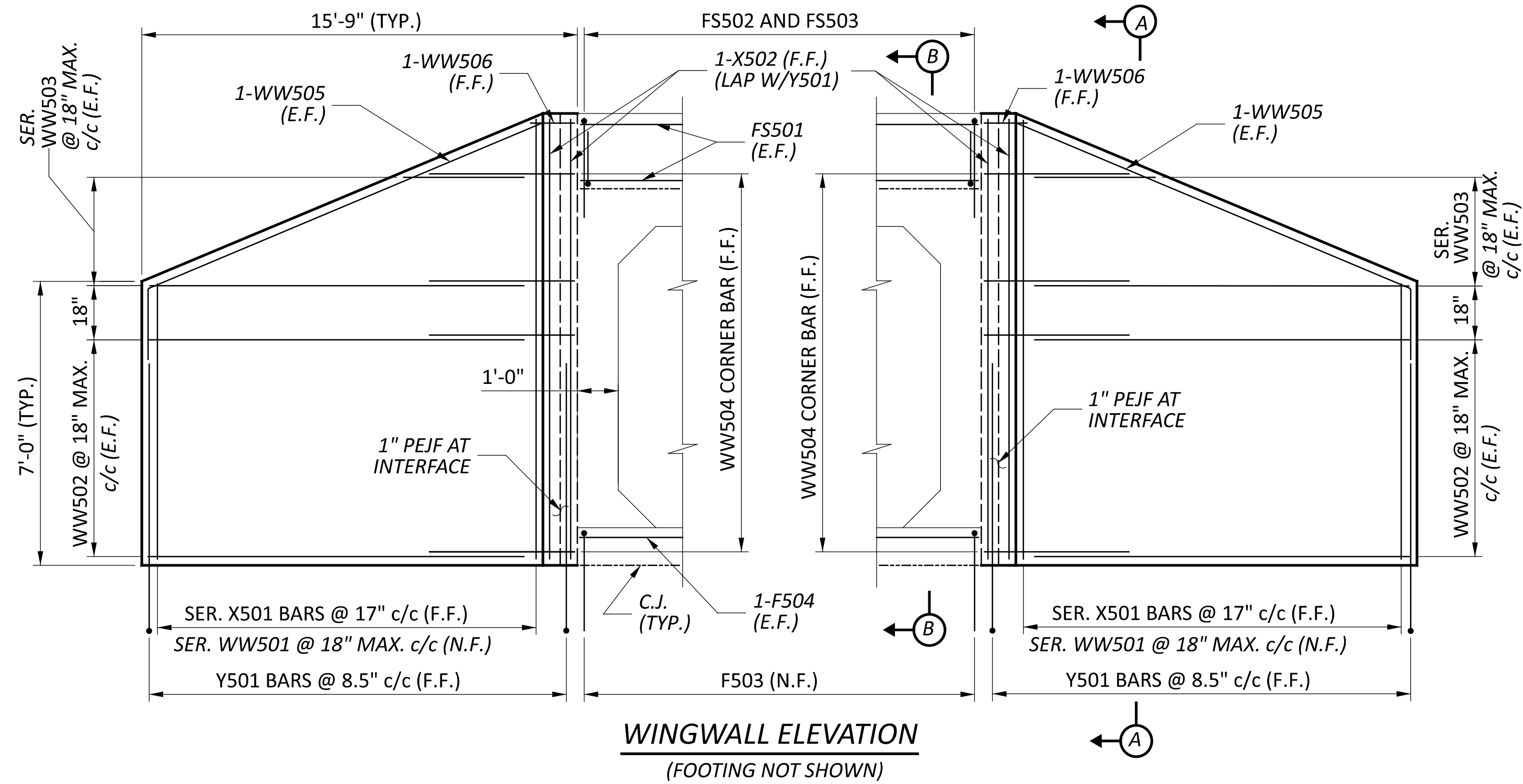
LEGEND:

C.J.	CONSTRUCTION JOINT	PEJF	PERFORMED EXPANSION JOINT FILLER
CL	CENTER LINE	QTY.	QUANTITY
CLR.	CLEAR	REINF.	REINFORCING
CONC.	CONCRETE	SER.	SERIES
DIA.	DIAMETER	SHT.	SHEET
EXTEN.	DIMENSION	SPA.	SPACING
E.F.	EXTENSION	T&B	TOP AND BOTTOM
F.F.	EACH FACE	TYP.	TYPICAL
MAX.	FAR FACE		
MIN.	MAXIMUM		
N.F.	MINIMUM NEAR FACE		

NOTES:

1. FOR SECTION A-A AND B-B, SEE SHEET X/X.
2. FOR FOOTING DESIGNS, SEE SHEET X/X.
3. FOR FORESLOPE WALL REINFORCING AND QUANTITIES, SEE SHEET X/X.
4. POROUS BACKFILL NOT SHOWN FOR CLARITY.

SFN	7801441
DESIGN AGENCY	
DESIGNER	CHECKER
SJD	MJA
REVIEWER	
BMC	03-13-25
PROJECT ID	115013
SUBSET	TOTAL
4	6
SHEET	TOTAL
P.58	60



**NOTES**

1. FOR CULVERT LOCATION PLAN, SEE SHEET X/X.
2. FOR PRECAST BOX CULVERT DETAILS, SEE SHEET X/X.
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 SPLICE LENGTHS USED IN THESE DETAILS ARE AS FOLLOWS: 2'-5" FOR #5 BARS; 2'-11" FOR #6 BARS.

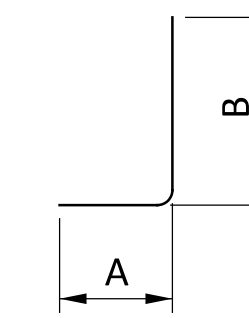
**LEGEND:**

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

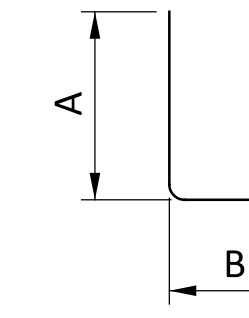
SFN	
7801441	
DESIGN AGENCY	
DESIGNER	CHECKER
SJD	MJA
REVIEWER	
BMC 03-13-25	
PROJECT ID	
115013	
SUBSET	TOTAL
5	6
SHEET	TOTAL
P.59	60

TYPE A HEADWALL REINFORCING SCHEDULE									
BAR MARK	NUMBER	LENGTH	WEIGHT (LBS.)	TYPE	BAR TYPE DIMENSIONS				INC.
					A	B	C	D	
WINGWALLS									
	2	6'- 10"							
X501	SERIES	TO	240	STR.					0'- 6 "
	of 12	12'- 4"							
X502	4	12'- 4"	52	STR.					
Y501	50	7'- 8"	400	1	0'- 10"	7'- 0"			
	2	6'- 10"							
WW501	SERIES	TO	240	STR.					0'- 6 "
	of 12	12'- 4"							
WW502	20	15'- 5"	322	STR.					
	4	3'- 11"							
WW503	SERIES	TO	162	STR.					3'- 10 "
	of 4	15'- 5"							
WW504	18	3'- 11"	74	2	0'- 10"	0'- 3 1/4"	2'- 1 "	2'- 11 1/4"	
WW505	4	18'- 9"	79	3	2'- 5"	5'- 4"	15'- 5"		
WW506	2	1'- 6"	4	4	0'- 10"	0'- 3 1/4"			
FOOTING & CUTOFF WALL									
V601	67	8'- 5"	848	STR.					
W601	36	8'- 5"	456	STR.					
Z601	40	8'- 0"	481	5	3'- 7"	1'- 2"			
F501	12	7'- 7"	95	STR.					
F502	16	5'- 11"	99	STR.					
F503	16	6'- 1"	102	1	3'- 6"	2'- 8"			
F504	2	21'- 9"	46	STR.					
F601	SERIES	TO	605	6	2'- 1"	2'- 1"	19'- 5 "		1'- 2 "
	of 7	32'- 3"					26'- 4 3/4"		
	4	14'- 2"							
F602	SERIES	TO	670	STR.					0'- 7 "
	of 7	17'- 8"							
	1	25'- 3"					19'- 5 "		
F603	SERIES	TO	78	6	2'- 1"	2'- 1"	TO		0'- 11 1/2"
	2	26'- 3"					20'- 4 1/2"		
	2	14'- 2"							
F604	SERIES	TO	87	STR.					0'- 6 "
	2	14'- 8"							
FORESLOPE WALL									
FS501	4	21'- 9"	91	STR.					
FS502	23	1'- 0"	24	5	0'- 2"	0'- 11"			
*FS503	23	1'- 11"	46	7	0'- 2"	0'- 11"	1'- 1"		
		TOTAL	5,301						

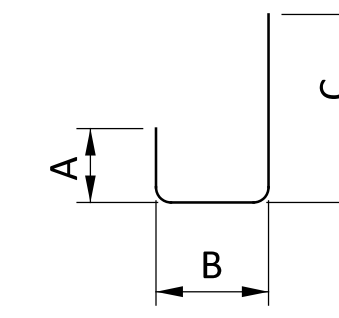
\* THESE BARS ARE TO BE THREADED ON THE LONG DIMENSION END.



TYPE-1



TYPE-5



TYPE-7

NOTES:

- REINFORCING IS FOR ONE HEADWALL.
- 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.
- FORESLOPE WALL REINFORCING IS SHOWN FOR INFORMATION ONLY. BARS WILL BE INCLUDED WITH THE PRICE OF THE BOX. BOX AND FORESLOPE WALL WILL BE CAST-IN-PLACE IN THE SHOP.

STRUCTURE DETAILS  
 TRU-5-30.502  
 OVER UNNAMED TRIBUTARY OF PYMATUNING CREEK

SFN	
7801441	
DESIGN AGENCY	
DESIGNER	CHECKER
SJD	MJA
REVIEWER	
BMC 03-13-25	
PROJECT ID	
115103	
SUBSET	TOTAL
6	6
SHEET	TOTAL
P.60	60