



October 17, 2025

CONTRACT NO. 1797

OHIO RIVER TUNNEL

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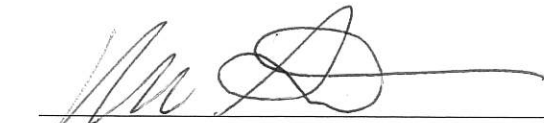
Erica LaMar Motley
*Director
Scholastic Programs*

ADDENDUM No. 5

All bidders bidding **Contract No. 1797** shall read and take note of this **Addendum No. 5**. The Contract Documents for **Contract No. 1797 – Ohio River Tunnel** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1797; Addendum No. 5

The Acknowledgement attached to **Addendum No. 5** is to be signed and returned immediately via email to ORT.bids@alcosan.org and acknowledged with Bidder's Proposal.



Michael Lichte, P.E.

Director of Regional Conveyance

ACKNOWLEDGEMENT OF
CONTRACT NO. 1797 – OHIO RIVER TUNNEL
**** return via email to ORT.bids@alcosan.org ****

ADDENDUM No. 5

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

October 17, 2025
CONTRACT NO. 1797
OHIO RIVER TUNNEL
ADDENDUM No. 5

ATTENTION:

BIDS DUE: 11:00 A.M., prevailing time, on Monday, January 26, 2026
DEADLINE FOR QUESTIONS: 5:00 P.M., Friday, December 19, 2025
DEADLINE FOR CORE SHED VISITS: Wednesday, December 17, 2025

This Addendum No. 005 consists of 51 total pages including the following attachments:

- Attachment A – APPENDIX B – CONTRACT DRAWINGS (10 pages)
 - Revised O27-ST-142 (Sheet 245 of 770)
 - Revised O27-ST-143 (Sheet 246 of 770)
 - Revised O41-ST-226 (Sheet 341 of 770)
 - Revised A48-ST-315 (Sheet 376 of 770)
 - Revised A58-ST-438 (Sheet 439 of 770)
 - Revised A58-ST-440 (Sheet 441 of 770)
 - Revised O14-ST-628 (Sheet 568 of 770)
 - Revised O07-ST-713 (Sheet 602 of 770)
 - Revised O06A-ST-814 (Sheet 637 of 770)
 - Revised O06A-ST-815 (Sheet 638 of 770)
- Attachment B – APPENDIX B – CONTACT DRAWINGS,
 - Revised A58-CI-400 (Sheet 386 of 770) (1 page)
- Attachment C – APPENDIX A – TECHNICAL SPECIFICATIONS, Section 01 31 00, Attachment 9 – Pennsylvania State Programmatic General Permit – 6 (PASPGP-6) Issued by the U.S. Army Corps of Engineers (Permit Number 2022-00267) - Federal Authorization portion of the Joint Permit (20 pages)
- Attachment D – APPENDIX A- TECHNICAL SPECIFICATIONS, Section 01 31 00, Attachment 10 – City of Pittsburgh DOMI Encroachment Permit (DOMI-EN-2024-10274) for new retaining wall at O14 (3 pages)

ATTENTION BIDDERS

The following additions to and modifications of the Contract Documents will be included in and become part of the Contract for the Allegheny County Sanitary Authority (ALCOSAN) Ohio River Tunnel. Bidders are instructed to take the following into account in rendering any Bid for this work

The Bidder is responsible for verifying that he/she has received and reviewed all of the pages of the Contract Documents as well as all of the pages and attachments of all addenda. The Bidder shall verify all pages with the table of contents in the Contract Documents and the first page of all Addenda. Receipt of this Addendum must be noted on the Bid Form. These items modify the portions of the documents specifically noted; all other provisions of the Contract Documents shall remain in effect.

CONTRACT NO. 1797
OHIO RIVER TUNNEL
ADDENDUM NO. 5

A. QUESTIONS & ANSWERS FROM RFI'S SENT TO
ORT.bids@alcosan.org

Note to Bidders: some RFI questions within a bidders RFI package/submittal were omitted and will be answered in a future Addendum.

- Q1 *Construction Photographs, Section 01 32 33 - Under which Pay Item will the Contractor be paid for Construction Photographs, Specification Section 01 32 33?*
- A1 **Construction photographs are incidental to the work.**
- Q2 *Security Manager Requirements, Section 01 35 53 - Paragraph 3.2 of Specification Section 01 35 53 dictates that the Contractor submit qualifications for a Security Manager that has 10 years of experience managing security for heavy civil engineering projects. Can this person fulfill other duties on the project or is this a dedicated position?*
- A2 **This is a dedicated full-time position.**
- Q3 *Ventilation Diffuser SOE - For all sites that contain ventilation diffusers, a support of excavation design is to be designed by the contractor, and submitted to the owner for review and approved. The contract drawings reference in the support of excavation notes under note C, "Any excavation for the ventilation vaults deeper than 4 feet shall be supported by a temporary excavation support system without internal bracing or any elements of the SOE system intruding into the excavation footprint."*
- Please remove these internal bracing restrictions to allow the Contractor and their Engineer to determine the best solution for shoring these excavations.*
- A3 **Drawings O27-ST-142, O27-ST-143, O41-ST-226, A48-ST-315, A58-ST-438, A58-ST-440 O14-ST-628, O07-ST-713, O06A-ST-814, and O06A-ST-815 are revised and attached to this Addendum. See CHANGES TO CONTRACT DOCUMENTS section below and Attachment A of this Addendum.**

- Q4 *Quality Control Manager Requirements, Section 01 45 00 - Paragraph 1.3 of Specification Section 01 45 00 dictates that the Contractor shall provide a full time, onsite Quality Control (QC) Manager who will be responsible for implementing the QC Program and overseeing the quality of the Work from Notice to Proceed until final completion. Can this person fulfill other duties on the project or is this a dedicated position?*
- A4 **This is a dedicated full-time position.**
- Q5 *Potable Water for Campbell Transportation - Paragraph 1.5.B of Specification Section 01 51 00 dictates Contractors are to provide temporary potable water service for Campbell Transportation at the SMRT-O14 site. Please provide the volume of water Contractors need to provide on a monthly basis*
- A5 **Contractor is advised to review the following CONTRACT DOCUMENTS for reference to the temporary potable water service needed to provide uninterrupted water to Campbell Transportation at the SMRT-O14 site during construction:**
- **APPENDIX A TECHNICAL SPECIFICATIONS 01 14 19 Use of Sites, 3.6.D.1 (reference “Pittsburgh Water will require a tap-in plan for the water service.”)**
 - **APPENDIX A TECHNICAL SPECIFICATIONS 01 51 00 Temporary Utilities, 1.5.B**
 - **APPENDIX A TECHNICAL SPECIFICATIONS 01 51 00 Temporary Utilities, 3.1.C**
 - **APPENDIX B CONTRACT DRAWINGS O14-CI-603 Proposed Site Plan During Construction (522 of 770), Note 3**
- Q6 *Site O14 Existing and Relocated Laterals - Please provide invert elevations and/or profiles of the existing and relocated laterals shown on sheets O14-CI-608 and O14-ST-603 in order to evaluate the need for temporary SOE, potential drop manholes, and potential impacts to the proposed permanent pipe pile wall.*
- A6 **Invert elevations for sewer laterals are not available. Bidders are advised to review the CCTV files and the section 5.5.1 REFERENCE DRAWINGS, both provided in Appendix E, Supplemental Information. Bidders are advised to review Note 1 on drawing O14-CI-604. Drop manholes are not to be used without Owner approval except for locations were shown on the Contract Documents.**
- Q7 *Interlocking Pipe Pile Installation Qualifications - The qualifications for Interlocking Pipe Pile Wall Constructor and Superintendent outlined in Section 35 31 30 will be difficult to meet given the inordinately specific requirements listed in the Specification. Please consider revising the Pipe Pile Wall Constructor requirements to a minimum of 10 years experience and 2 separate projects of interlocking pile and/or sheet pile cofferdam experience and the Superintendent to a minimum of 5 years interlocking pile and/or sheet pile cofferdam experience.*

- A7 **No change to Contract Documents.**
- Q8 *Surety Signature - Page 1-10 in Article 1 of the specifications only provides the ability for one surety to be listed. How are we to address multiple sureties?*
- A8 **Typically, multiple sureties can issue the same bond by identifying their portion of the penal sum, putting their own bond number the bond (often under their name) and signing/sealing it. Sureties should have a process/procedure for this. If not, then Bidders can make additional copies of page 10.1.**
- Q9 *Joint Venture Signatures - Page 1-12 in Article 1 of the specifications only provides the ability for two Joint Venture Partners to be listed. How are we to address more than two Joint Venture Partners?*
- A9 **Bidders can make additional copies of page 1-12 and submit one page per Joint Venture signature.**
- Q10 *Minority & Women's Business Enterprise Participation Plan - Submission Timeframe - Article 1, "Certificate of Minority and Women's Business Enterprise Participation" on page 1-21 directs bidders to "submit, as part of their Bid, a specific proposal indicating the manner in which it will attempt to comply with this requirement. Failure of the Bidder to attempt to comply with these conditions or failure to submit with the Bid the proposal described above, or failure to sign and submit this Certificate with the Bid may disqualify the Bid as being nonresponsive."*
- Please change this language to allow submission of the participation plan within three days of bid opening for the two apparent lowest bidders, matching the Escrow document submission requirements and Pennsylvania Department of Transportation bidding procedures. Should this change be adopted, bidders will still be held to the minority and women's business enterprise participation goals and can have their bid be found unresponsive if not submitted within three days of bid opening.*
- A10 **The form on page 1-21 is simply requesting the Bidder's proposal or plan for complying with M/WBE goals and commitment to meeting stated goals. The form on page 1-22 represents which M/WBE firms the bidder plans to utilize.**
- Q11 *Bid Bond Form for Joint Venture - The Bid Bond form in your spec provides signature pages for use by a corporation, a partnership, and an individual. It does not provide a signature page for use by a joint venture. Which one of those bid bond signature pages do you want us to use for a joint venture?*
- A11 **Joint ventures should use the partnership signature page.**
- Q12 *Liquidated Damages - In Article 3SC, Section 3.29C Liquidated Damages contains contradictory language governing the damages a Contractor will pay for work not completed within the Contract Time. Paragraph one of the specifications ends by stating that "The provision for liquidated damages is intended to compensate Owner for damages*

due to delays and shall be Owner's sole and exclusive remedy against Contractor for damages due to delay." Paragraph two of the specifications states that "The remedies provided herein are not exclusive and are in addition to any other rights and remedies provided by law or under the Contract and the Contractor remains liable for damages caused by reasons other than delay."

So the Contractor can quantify their bid, please clarify if liquidated damages are the sole remedy against a Contractor for damages due to delay OR define all other rights and remedies provided by law or under the Contract that are available to the Owner.

- A12 Sole remedy was already addressed in Addendum #3. No further changes will be made.**
- Q13 Access to Sites During Local Events - Specification Section 01 14 13 - Access to Sites Section 1.6 states that access to sites may be restricted periodically during local events. Please provide specific timeframes that access to each site may be restricted.*
- A13 It is the Contractor's sole responsibility to coordinate, as required, with local and sporting event organizers so that adjacent disruption is mitigated and cost and delay to the ORT project are minimized.**
- Q14 Restricted Access to Sites from Local Construction Projects - Specification Section 01 14 13 - Access to Sites Section 1.8 states that access to sites may be restricted periodically to accommodate construction traffic related to local construction projects. Please provide specific timeframes that access to each site may be restricted.*
- A14 It is the Contractor's sole responsibility to coordinate, as required, with other contractors performing construction activities (excluding ALCOSAN projects) in the vicinity, or adjacent to the ORT project. The Contractor is responsible to mitigate any disruption to the ORT project so that cost and delay is minimized and eliminated.**
- Q15 App A Technical Specifications, 31 41 00, 3.9D. Specifications state that sheet piles for NSF are to be removed 3' below finished grade. For NSF structures whose top slab is less than 3' below FG, please confirm sheets can be cut to top of slab, or specify if top slab needs edge forms.*
- A15 Temporary Wall piles of any type shall be removed 3 feet below finished grade.**
- Q16 Contract Documents Article 1. The bid quantities for the pre-excavation grout drilling seem to include linear footage for primary and secondary grout holes at all locations except for O06A (items 86 & 87) and O14 (items 93 & 94), which seemingly only include linear footage for primary grout holes. Is the intention to not drill secondary grout holes at these locations?*
- A16 The quantities provided in Section 01 22 00 for soil and rock drilling for shaft grouting are for bidding purposes and are based on the minimum requirements shown in the Contract Drawings. The actual number, spacing, and depth of the**

grout holes at each site shall be determined by the Contractor based on the ground and groundwater conditions described in the Geotechnical Baseline Report, and in accordance with the requirements included in Specification Section 31 23 20 – Probing, Pre-Excavation Drilling, and Grouting. Measurement and payment for these bid items will be made per linear foot of drilled hole.

- Q17 *Specification 31 62 16, 1.7. Please provide minimum concrete cover between embedded steel and sides of pre-drilled holes.*
- A17 **Specification 31 62 16, 1.7 is revised as follows “Clear cover between H-Piles and concrete/grout outer edge shall be a minimum of 3.0 inches.” See CHANGES TO CONTRACT DOCUMENTS section below.**
- Q18 *Drawing O27-ST-157, O27-ST-158, O27-ST-159, O27-ST-160. Drawings listed refer to Pile Schedule for Rock Elevations and Pile Tip Elevations. Please provide this missing Pile Schedule.*
- A18 **See Drawing O27-ST-149.**
- Q19 *Drawing O41-ST-225 Pile Schedule. Please clarify the pile lengths for O41 MH3. Using Top of Pile (705) - Pile Tip listed (684) = 21 LF OAL. Also listed on pile schedule is 5-foot min. rock socket. Top (705) - TOR (660) + 5 = 50 LF OAL. Which is the correct pile length required?*
- A19 **Revised Drawing O41-ST-225 provided as Addendum No. 2 - Attachment E.**
- Q20 *Contract Documents Article 3, 3.37. Please confirm the amount of retainage that is to be withheld by Alcosan as the referenced document in Article 3.37 only indicates the maximum retainage permitted.*
- A20 **Initial Withholding: 6% of the amount due to a contractor until 50% of the contract is completed. After 50% completion, 3% of the retained amount will be released.**
- After Substantial Completion, retainage will be calculated at 1.5 times the value of incomplete work and punchlist items.**
- Q21 *App B Contract Drawings. Can each baffle slab that is cast and cured support the live load of the above one or two slabs? Or will each slab need to be reshored all the way to the base?*
- A21 **Refer to Specification Section 03 10 00 - Concrete Forming and Accessories for minimum requirements regarding form removal and rebracing. Need of supporting/reshoring for each specific application shall be determined by the Contractor based on their selected methods, sequence of construction, and concrete mix design.**

- Q22 *App C Geotechnical Baseline Report (GBR). Appendix C – Geotechnical Baseline Report (GBR) states that it serves as the contractual reference for administering the Differing Site Conditions (DSC) clause.*
For alignment with ALCOSAN, we kindly request confirmation that:
- *All parameters, conditions, and baselines described in the GBR (e.g., stratigraphy, rock mass properties, groundwater inflows, gas conditions, etc.) are to be considered the contractual baselines;*
 - *The GBR is to be applied in its entirety, rather than only selected definitions or portions, when evaluating potential DSC events.*
- This clarification is important to ensure a consistent interpretation of the GBR during pricing, risk allocation, and contract administration, and to avoid future ambiguities in the management of potential DSCs.*
- A22 **This was addressed in Addendum #2, Section B.13.**
- Q23 *Drawings ORT-TC-400, ORT-TC-501. ORT-TC-501 shows a road closure of both lanes from Madison Avenue to the west of the intersection of Progress Street/Warfield Street. ORT-TC-400 shows a road closure of one lane from Madison Avenue to the east of the intersection of Progress Street/Warfield Street. Please confirm that Progress Street will have a road closure of both lanes from Madison Avenue to the east of the intersection of Progress Street/Warfield Street to facilitate the installation of AS1-MH3 and AS1-MH4 and the appropriate piping.*
- A23 **Full Progress Street closure is not intended for the dewatering sewer installation; however, traffic control detours must be approved by the City of Pittsburgh for work in the City's right of way.**
- Q24 *Note 4 on Sheet A58-ST-400 instructs to bypass pump to MH A-58-00. MH A-58-00 location is not identified on the civil plan A58-CI-400. Please provide location of MH A-58-00.*
- A24 **Manhole A-58-00 is shown on A58-CI-400 at the Madison Avenue outfall structure, however the manhole location was not labeled. Drawing A58-CI-400 is revised and attached to this Addendum. See CHANGES TO CONTRACT DOCUMENTS section below and Attachment B of this Addendum.**
- Q25 *Can arrangements be made for contractors to enter and inspect the building ALCOSAN owns, and is to remain and be protected, on the AS1 site?*
- A25 **Yes, arrangements can be made. Please follow the same instructions for Core Shed Visits and submit requests through ORT.Bids@alcosan.org.**

Q26

We seek clarification regarding the minimum ventilation flow rate requirement specified in the contract documents.

On Page 13 of Specification Section 01 35 26, under Section 3.2.B.3.a, the following is stated:

“The Contractor’s minimum ventilation volume and air velocities in the tunnel must be at least in accordance with OSHA and other applicable regulations, but may not be less than a minimum volumetric flow rate (in cfm) equal to (250 feet per minute) × (excavated face area, in sf), when measured at the greatest extension of the ventilation system, and regardless of number of personnel or types/numbers of equipment used in the tunnel. In no case shall the volume of flow be less than 75,000 cubic feet of air per minute in total.”

This requirement appears to mandate a minimum flow rate of 75,000 cfm, which is significantly higher than typical industry standards. For example, in a tunnel with a 12 ft × 12 ft cross-section, this would result in an air velocity exceeding 3 m/s, which is considered unusually high, even in potentially gassy environments.

Such a high flow rate would necessitate:

- Substantial fan power requirements*
- Larger diameter ventilation ducts*
- Reduced usable tunnel cross-section*

Given these implications, please clarify the following:

- Is the stated minimum flow rate of 75,000 cfm correct and intended to be enforced regardless of tunnel size and conditions?*
- If not, please provide the correct minimum flow rate or guidance on how it should be calculated.*
- If correct, can the Owner provide justification or background for this unusually high requirement?*

A26

REPLACE Specification Section 01 35 26, Section 3.2.B.3.a in its entirety and replace with the following text.

- a. The Contractor’s minimum ventilation volume and air velocities in the tunnel must be at least in accordance with OSHA and other applicable regulations, but may not be less than a minimum volumetric flow rate (in cfm) equal to (**115** feet per minute) × (excavated face area, in sf), when measured at the greatest extension of the ventilation system, and regardless of number of personnel or types/numbers of equipment used in the tunnel.

See CHANGES TO CONTRACT DOCUMENTS section below.

B. CHANGES TO CONTRACT DOCUMENTS

1. APPENDIX B – CONTRACT DRAWINGS

- a) DELETE O27-ST-142 (Sheet 245 of 770) and ADD Revised O27-ST-142 (Sheet 245 of 770), which is Attachment A to this Addendum.
- b) DELETE O27-ST-143 (Sheet 246 of 770) and ADD Revised O27-ST-143 (Sheet 246 of 770), which is Attachment A to this Addendum.
- c) DELETE O41-ST-226 (Sheet 341 of 770) and ADD Revised O41-ST-226 (Sheet 341 of 770), which is Attachment A to this Addendum.
- d) DELETE A48-ST-315 (Sheet 376 of 770) and ADD Revised A48-ST-315 (Sheet 376 of 770), which is Attachment A to this Addendum.
- e) DELETE A58-ST-438 (Sheet 439 of 770) and ADD Revised A58-ST-438 (Sheet 439 of 770), which is Attachment A to this Addendum.
- f) DELETE A58-ST-440 (Sheet 441 of 770) and ADD Revised A58-ST-440 (Sheet 441 of 770), which is Attachment A to this Addendum.
- g) DELETE O14-ST-628 (Sheet 568 of 770) and ADD Revised O14-ST-628 (Sheet 568 of 770), which is Attachment A to this Addendum.
- h) DELETE O07-ST-713 (Sheet 602 of 770) and ADD Revised O07-ST-713 (Sheet 602 of 770), which is Attachment A to this Addendum.
- i) DELETE O06A-ST-814 (Sheet 637 of 770) and ADD Revised O06A-ST-814 (Sheet 637 of 770), which is Attachment A to this Addendum.
- j) DELETE O06A-ST-815 (Sheet 638 of 770) and ADD Revised O06A-ST-815 (Sheet 638 of 770), which is Attachment A to this Addendum.

2. APPENDIX B – CONTRACT DRAWINGS

- a) DELETE A58-CI-400 (Sheet 386 of 770) and ADD Revised A58-CI-400 (Sheet 386 of 770), which is Attachment B to this Addendum.

3. APPENDIX A – Specification Section 31 62 16, Section 1.7

- a) ADD the following in its entirety. **G. Cover: Clear cover between H-Piles and concrete/grout outer edge shall be a minimum of 3.0 inches.**

4. APPENDIX A – Specification Section 01 35 26, Section 3.2.B.3.a (page 559 of 2656) REPLACE in its entirety with the following:

- a. The Contractor's minimum ventilation volume and air velocities in the tunnel must be at least in accordance with OSHA and other applicable regulations, but may not be less than a minimum volumetric flow rate (in cfm) equal to (**115** feet per minute) x (excavated face area, in sf), when measured at the greatest extension of the ventilation system, and regardless of number of personnel or types/numbers of equipment used in the tunnel.

5. ADD the following 3.37 MONIES MAY BE RETAINED OR WITHHELD to Article 3SC

ADD the following after the 2nd Paragraph in 3.37.

Retainage shall be 6% until 50% of the contract is completed. When the contract is 50% completed, retainage shall be reduced to 3%. After Substantial Completion, retainage will be calculated at 1.5 times the value of incomplete work and punchlist items.

6. APPENDIX A - Specification Section 01 31 00, Attachment 9:
 - a) ADD in its entirety the Pennsylvania State Programmatic General Permit – 6 (PASPGP-6) Issued by the U.S. Army Corps of Engineers (Permit Number 2022-00267) - Federal Authorization portion of the Joint Permit, which is Attachment C to this Addendum, including Attachment 9 flysheet. (20 pages)
7. APPENDIX A - Specification Section 01 31 00, Attachment 10:
 - a) ADD in its entirety the City of Pittsburgh DOMI Encroachment Permit (DOMI-EN-2024-10274) for new retaining wall at O14, which is Attachment D to this Addendum, including Attachment 10 flysheet. (3 pages)

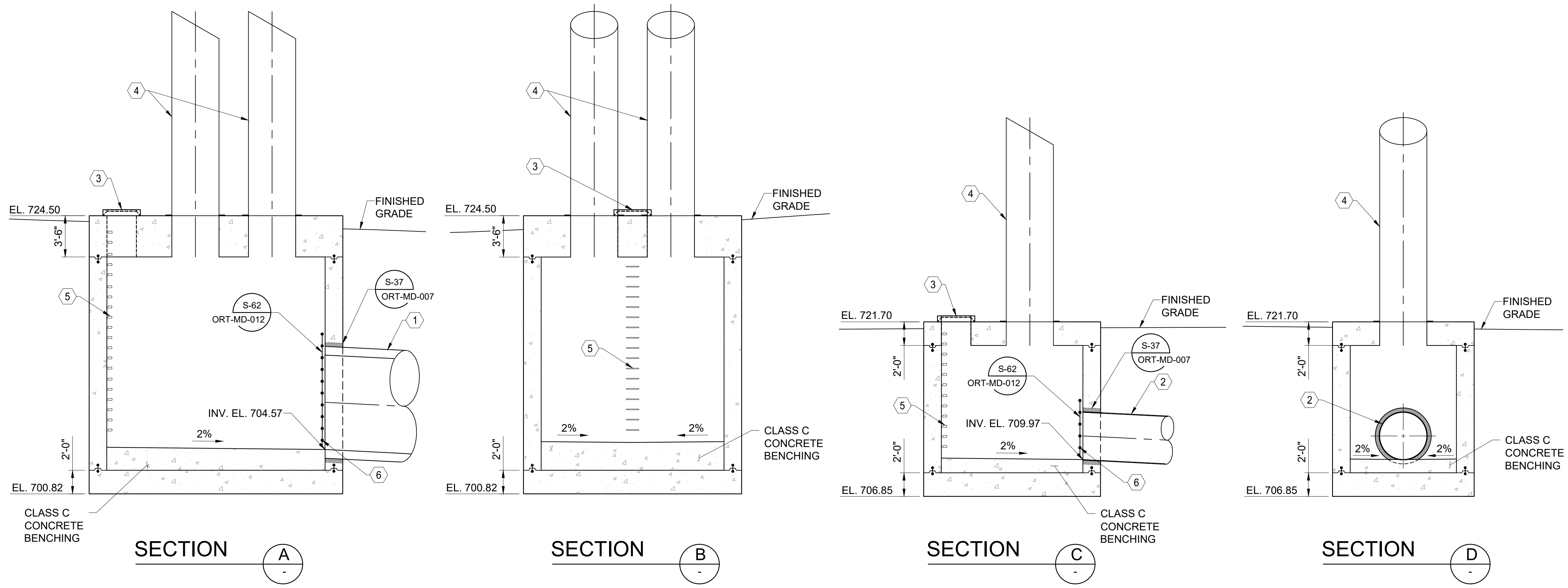
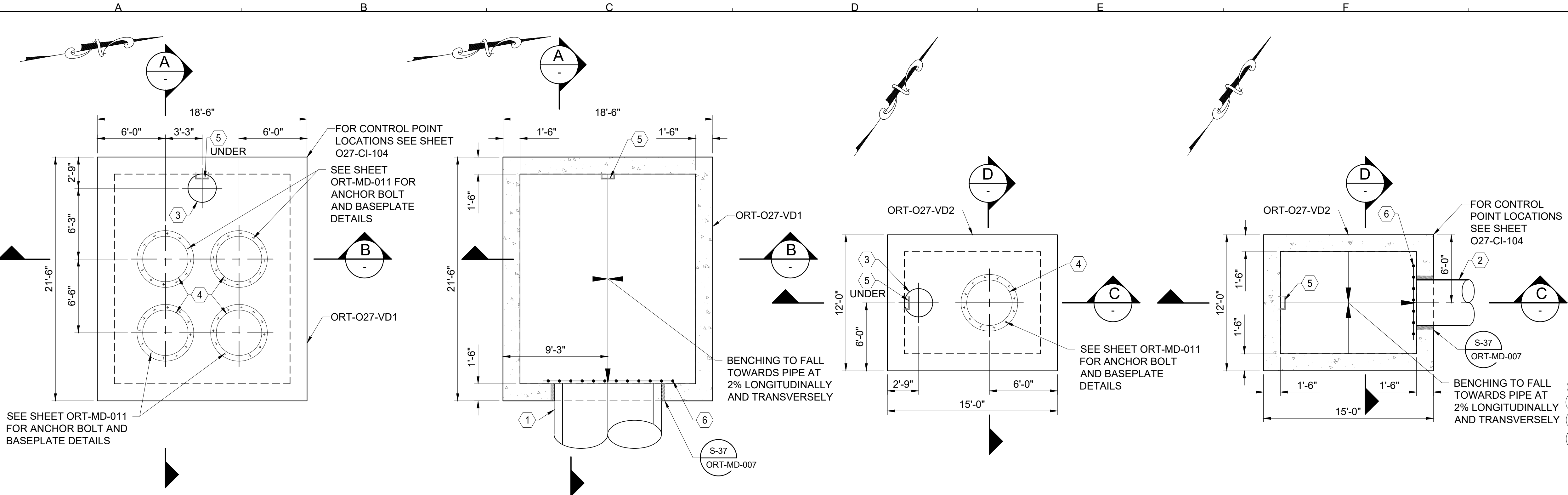
Addendum No. 5

Attachment A

APPENDIX B – CONTRACT DRAWINGS

- Revised O27-ST-142 (Sheet 245 of 770) (1 page)
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NOTES

1. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR AND MANHOLE DRAWINGS. SEE SHEETS O27-ST-121 TO O27-ST-134.
2. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT DRAWINGS. SEE SHEETS ORT-ST-104 TO ORT-ST-114.
3. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE MANHOLE SUPPORT OF EXCAVATION DRAWINGS. SEE SHEETS O27-ST-115 TO O27-ST-117.
4. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION DRAWINGS. SEE SHEETS ORT-ST-101 TO ORT-ST-103.
5. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION DRAWINGS. SEE SHEETS O27-ST-108 TO O27-ST-110.
6. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE DRAWINGS. SEE SHEETS O27-CI-100 TO O27-CI-112.
7. FOR TYPICAL DETAILS RELATED TO THIS WORK, SEE SHEETS ORT-MD-001 TO ORT-MD-014.
8. CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

SUPPORT OF EXCAVATION NOTES

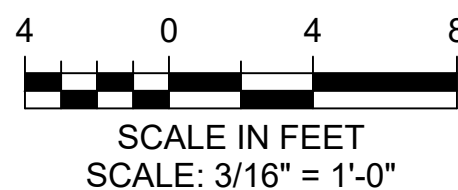
- A. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINED GROUND AND GROUNDWATER CONDITIONS.
 - B. SEE CIVIL DRAWINGS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, THE SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 6).
- (SUPPORT OF EXCAVATION NOTES CONTINUE ON SHEET O27-ST-143.)

STRUCTURAL KEY NOTES

- 1 96" ID RCP - SEE CIVIL SHEETS (NOTE 6)
- 2 48" ID DI PIPE - SEE CIVIL SHEETS (NOTE 6)
- 3 30" DIAMETER MANHOLE OPENING AND COVER ON ROOF SLAB - SEE CIVIL SHEETS (NOTE 6) AND MANHOLE COVER DETAIL S-63 / ORT-MD-012.
- 4 48" DIAMETER VENT STACK OPENING IN ROOF SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- 5 MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- 6 SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

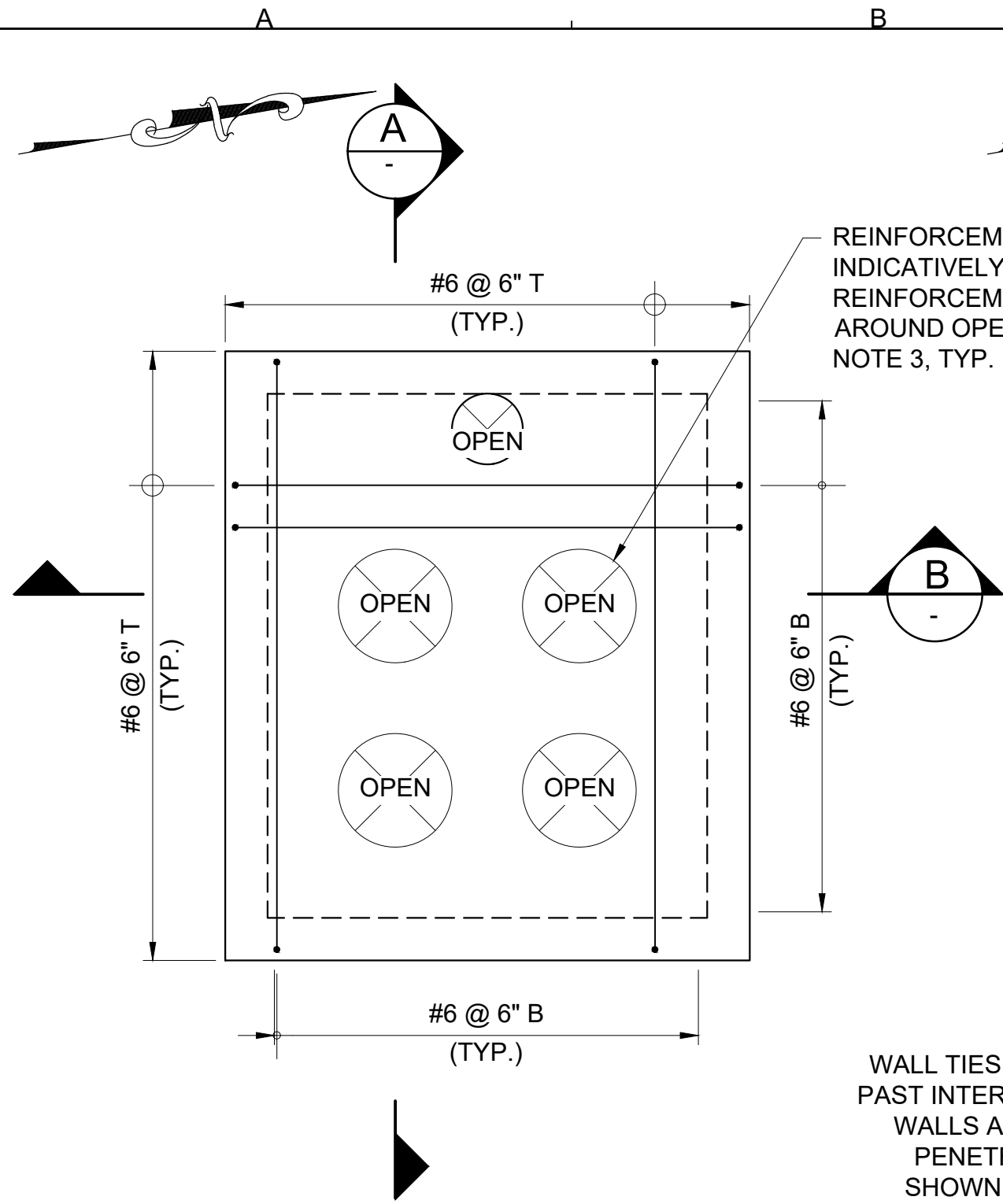
LEGEND

- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE PENETRATION
- CAST-IN-PLACE CONCRETE
- REGULAR CONSTRUCTION JOINT

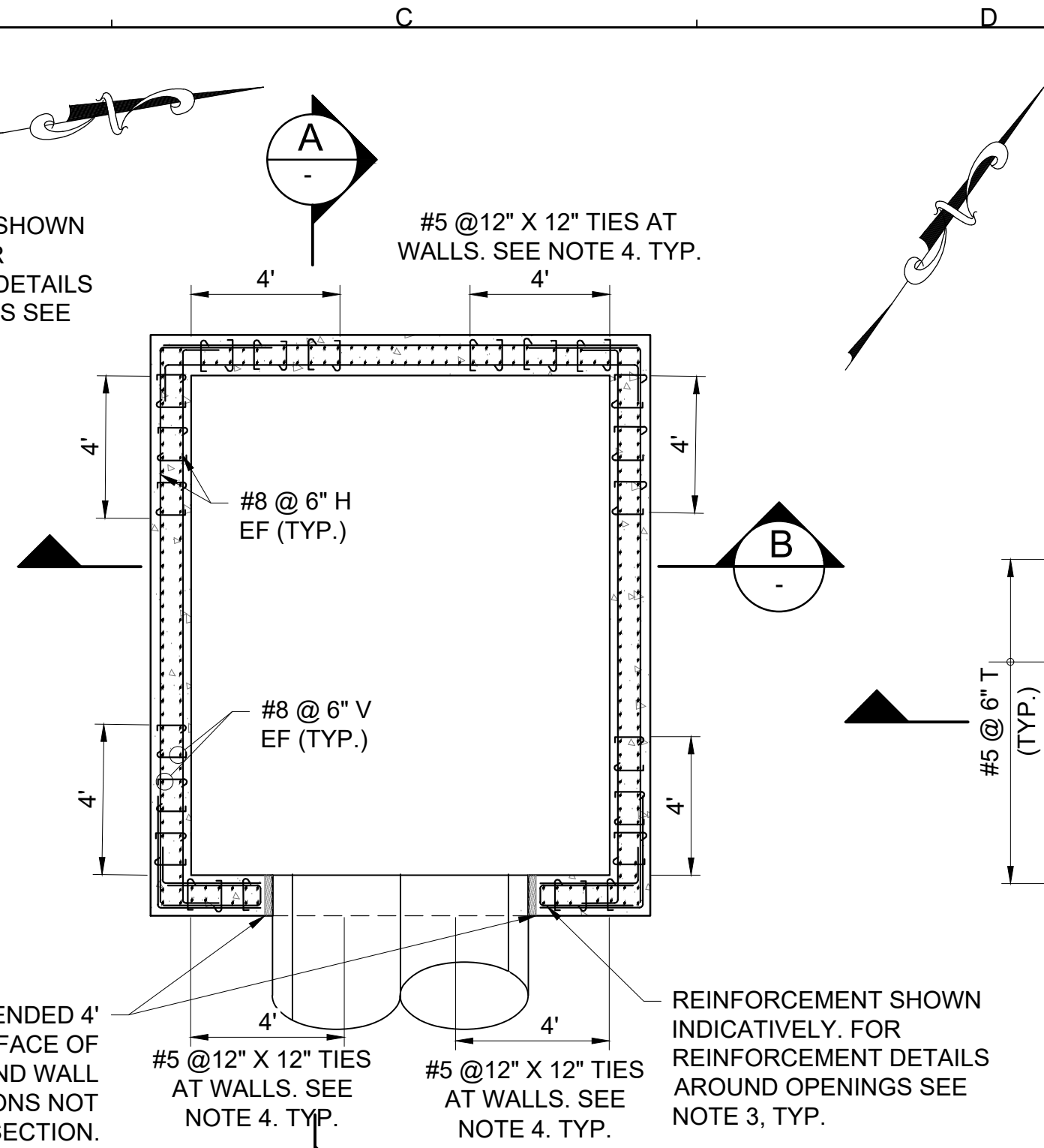


Designed by:	HTV	REVISION	DESCRIPTION	APPV	PSK	M M MOTT MACDONALD Two Allegheny Center Nova Tower 2, Suite 1301 Pittsburgh, PA 15212 (412) 497 - 2900	811 Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation. Pennsylvania One Call System Serial Number FINAL DESIGN TICKET # 20250040208	COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ALCOBAN alcohan alleggheny county sanitary authority www.alcohan.org	ARLETTA SCOTT WILLIAMS EXECUTIVE DIRECTOR, ALCOBAN 3300 PREBLE AVE. PITTSBURGH, PA 15233 (412) 766 - 4810	ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOBAN) OHIO RIVER TUNNEL (ORT)	Contract:	1797
Drawn by:	JMS	REV No.	DATE	DESCRIPTION	APPV					PSK	File:	O27-ST-142.dwg
Checked by:	PSK	1	10/03/25	CONSTRUCTION JOINT NOTE UPDATE							Date:	07/30/2025
											Sheet:	245 OF 770

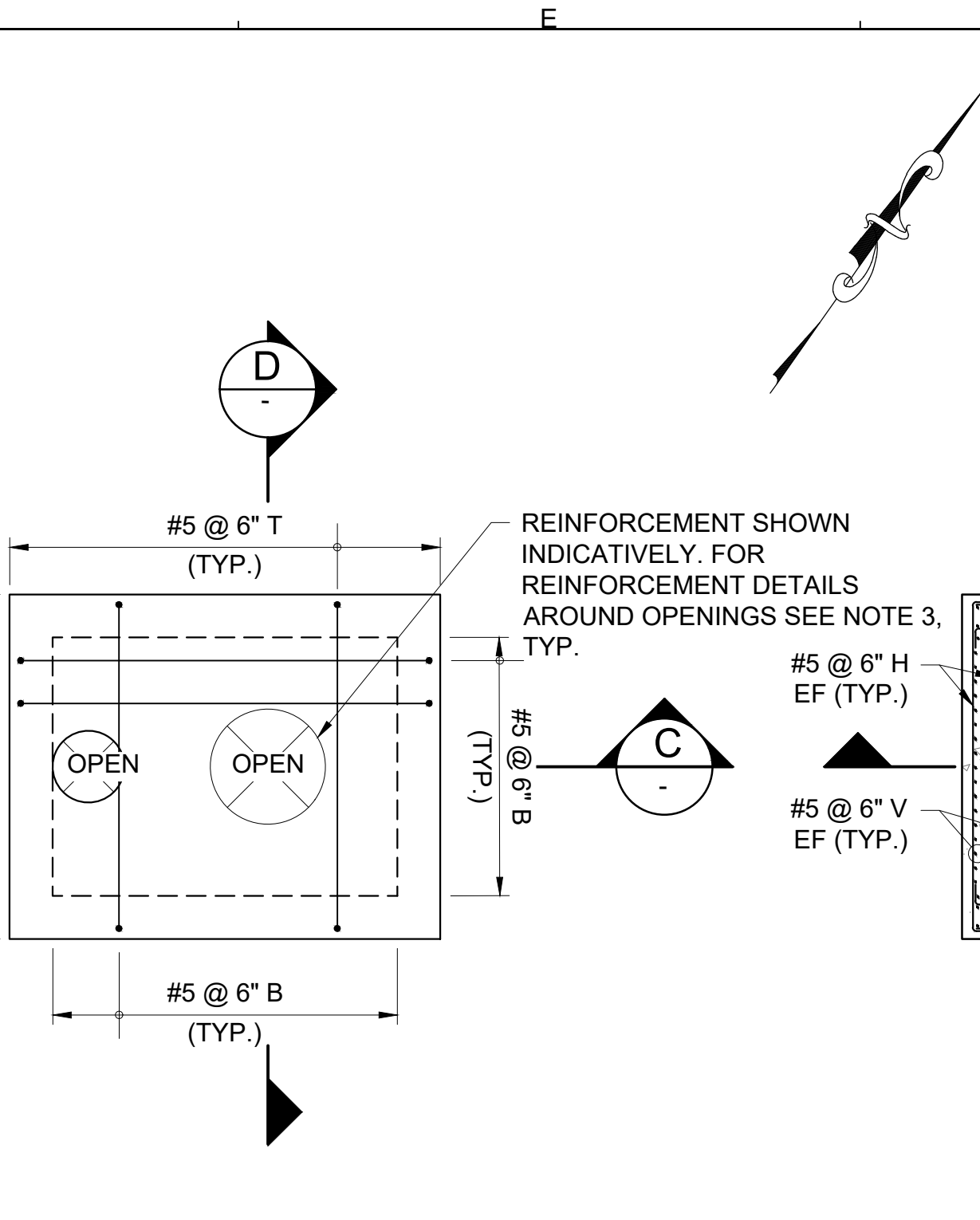
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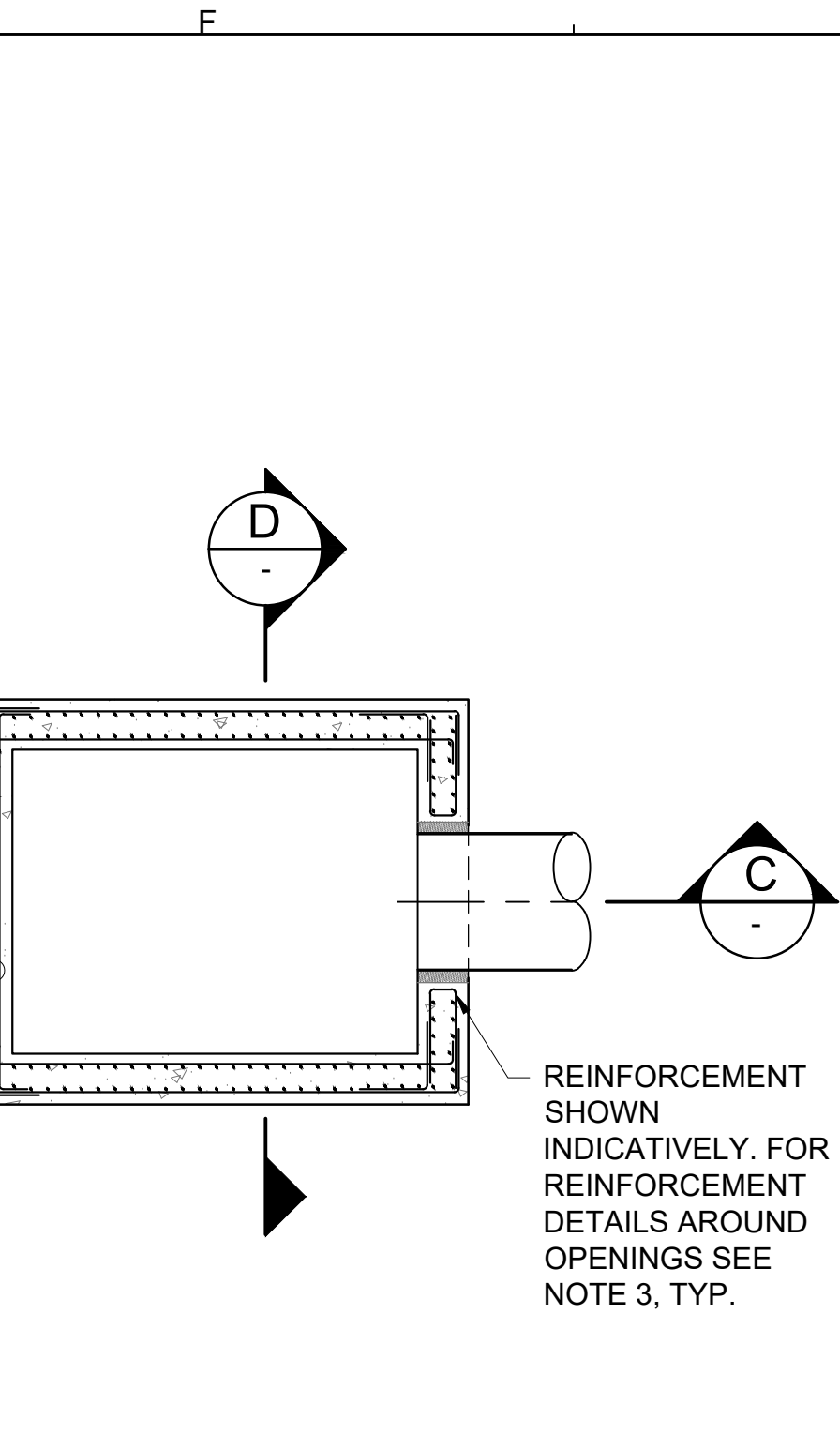
PLAN @ EL. 724.50 (TOP SLAB)



PLAN @ EL. 708.57 (SPRINGLINE)



PLAN @ EL. 721.64 (TOP SLAB)



PLAN @ EL. 711.97 (SPRINGLINE)

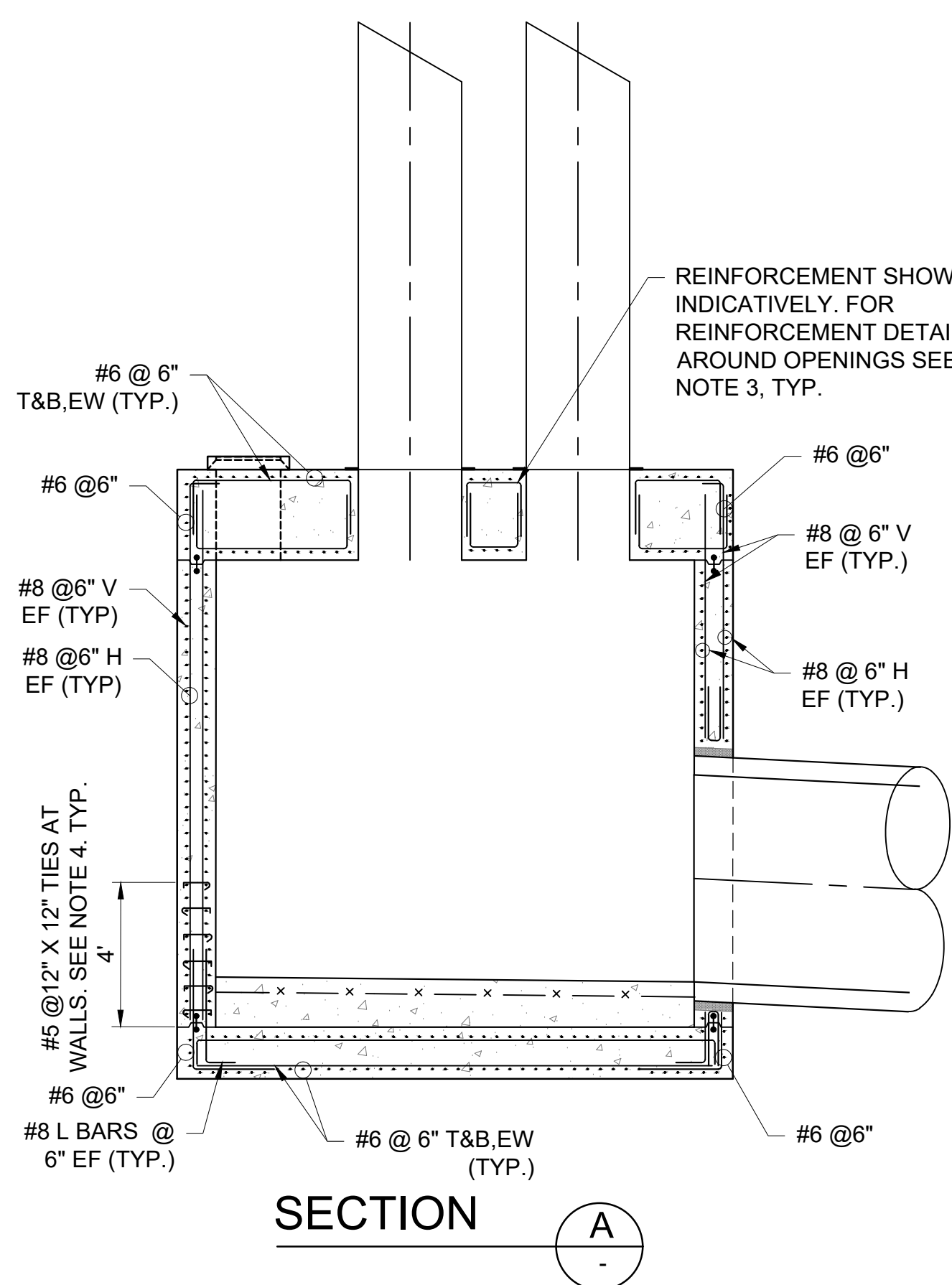
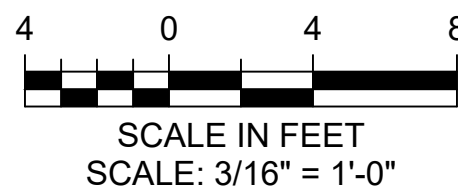
NOTES

- SEE SHEET O27-ST-142 FOR NOTES RELATED TO THIS WORK.
- REBAR SPLICES ARE SHOWN INDICATIVELY. THE CONTRACTOR IS TO DETERMINE ALL SPLICES REQUIRED TO SATISFY SHIPPING AND CONSTRUCTABILITY REQUIREMENTS.
- FOR REINFORCEMENT DETAILS AT ROOF AND WALL OPENINGS, SEE DETAIL S-15, SHEET ORT-MD-002, AND S-64, SHEET ORT-MD-012.
- SHEAR LINKS SHALL BE HOOKED AROUND LAYER FURTHEST TO THE OUTSIDE CONCRETE FACE THAT LIES PERPENDICULAR TO THE SHEAR REINFORCEMENT.

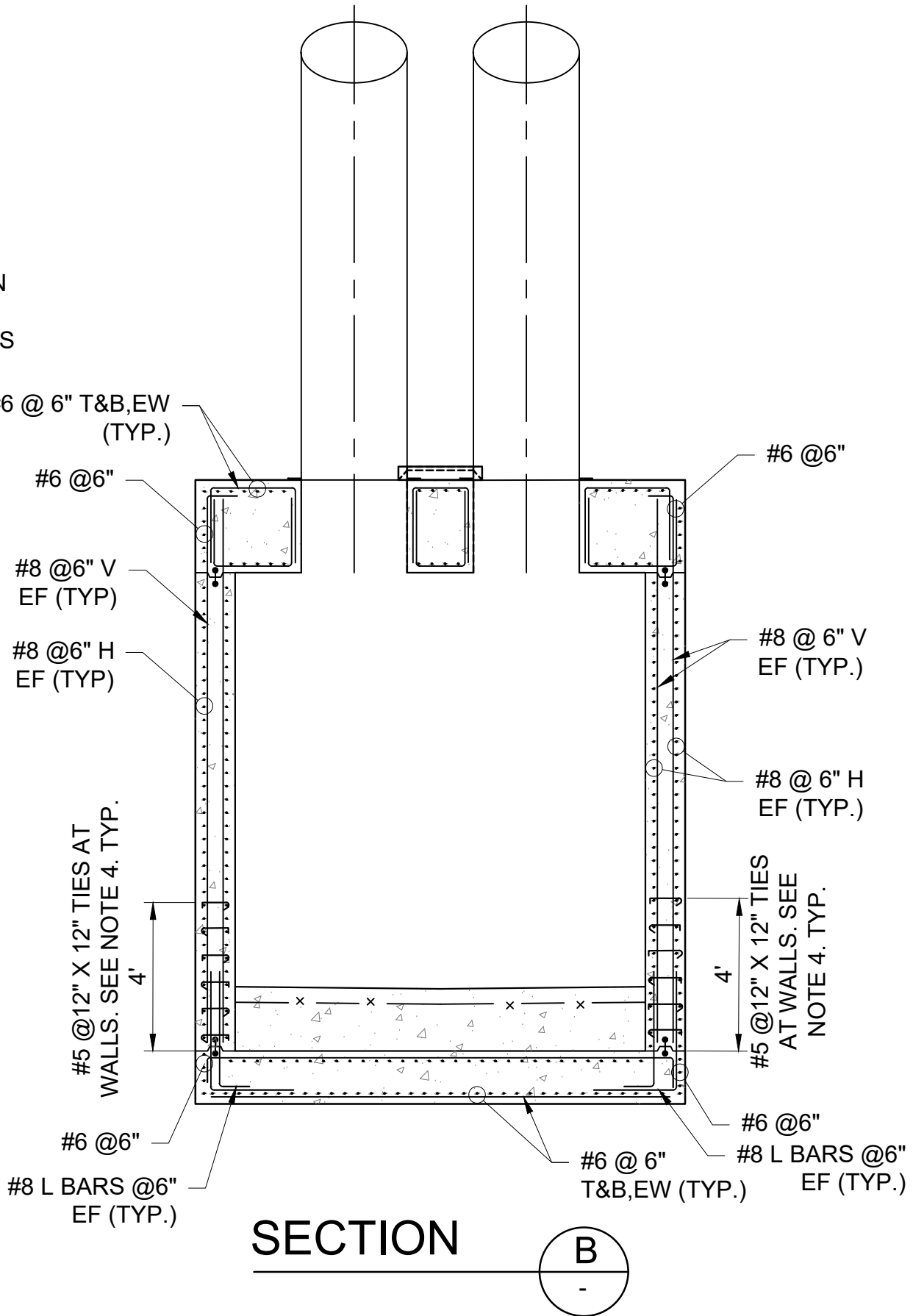
SUPPORT OF EXCAVATION NOTES

(SUPPORT OF EXCAVATION NOTES CONTINUED FROM SHEET O27-ST-142.)

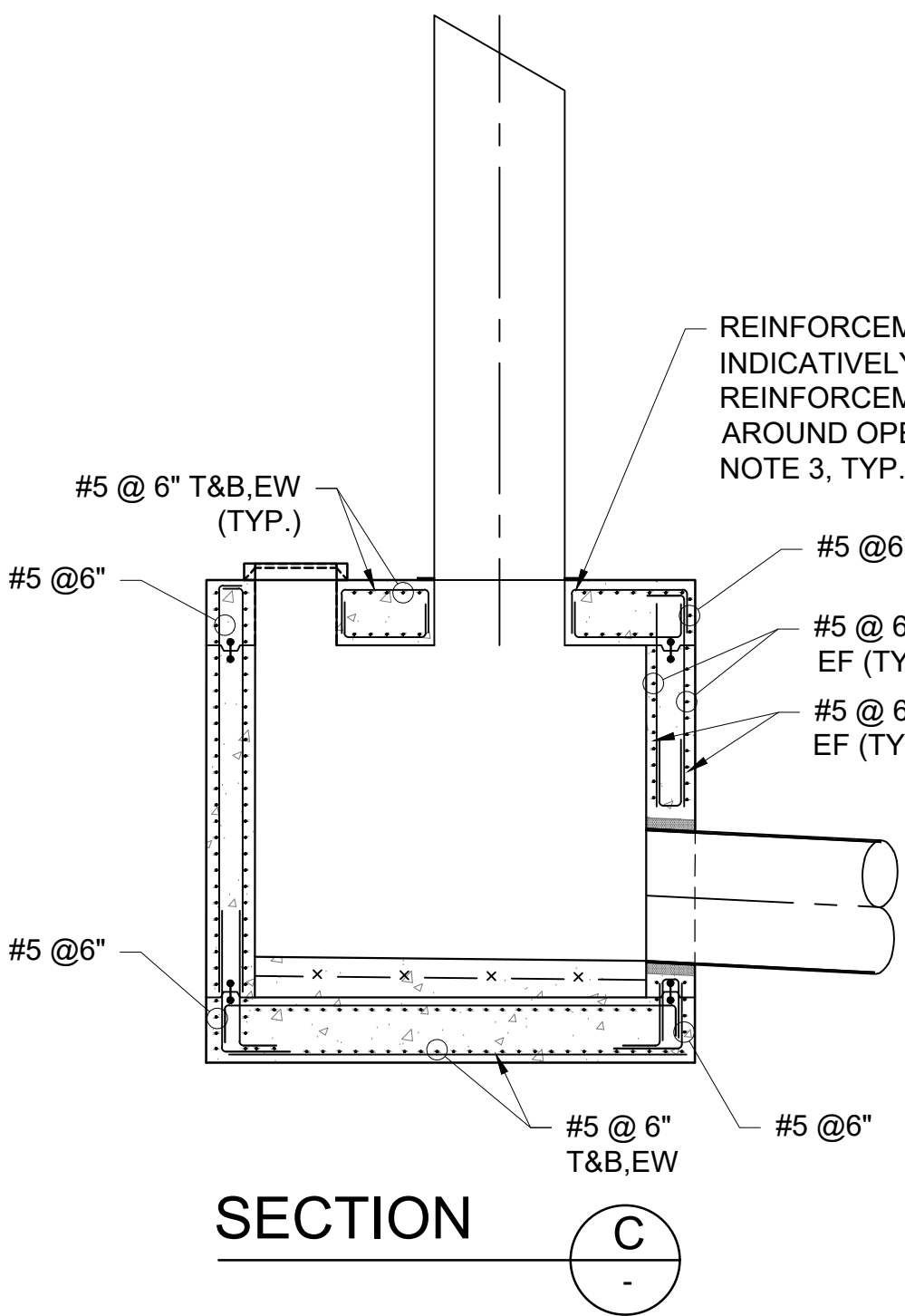
- C. ANY EXCAVATION FOR THE VENTILATION VAULTS DEEPER THAN 4 FEET SHALL BE SUPPORTED BY A TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGNED BY THE CONTRACTOR. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL NOT INDUCE ANY LOADING ONTO THE PERMANENT STRUCTURE UNTIL AFTER ALL PORTIONS OF THE PERMANENT STRUCTURE ARE INSTALLED IN THEIR FINAL STATE.
- D. WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- E. CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.
- F. THE SOE DESIGN FOR THE VENTILATION VAULTS SHALL MAKE ALLOWANCE FOR ALL LOADING CONDITIONS THAT WILL BE ENCOUNTERED DURING THE DESIGN LIFE OF THE SOE SYSTEM, INCLUDING BUT NOT LIMITED TO:
- EARTH LOADS DUE TO THE GROUND CONDITIONS DESCRIBED IN THE GEOTECHNICAL DESIGN REPORT.
 - SURFACE AND GROUNDWATER.
 - SURCHARGE LOADING DUE TO ADJACENT STRUCTURES, ROADS OR CONSTRUCTION LOADING.
 - DEFORMATION OF SUPPORT SYSTEM UNDER LOAD.
 - EXISTING UNDERGROUND AND ABOVE-GROUND STRUCTURES INCLUDING UTILITIES.
 - VIBRATION FROM DRIVING AND PULLING SUPPORT ELEMENTS.
 - DELAY IN ADDING SUPPORT MEMBERS, REMOVAL OF SUPPORT MEMBERS AND DYNAMIC LOADING.
 - CONSTRUCTION OF PERMANENT LINING AND STRUCTURES.
 - LOADING EFFECTS DUE TO ALL ADJACENT EXCAVATIONS AND SUPPORT OF EXCAVATION SYSTEMS FOR OTHER WORKS PRESENT DURING THE DESIGN LIFE OF THE SOE SYSTEM INCLUDING EFFECTS DUE TO OUT OF BALANCE AND SURCHARGE LOADING.
- G. CONTROL OF SURFACE AND GROUNDWATER SHALL ENSURE THAT A DRY EXCAVATION IS ACHIEVED AND THAT THERE IS NO STANDING OR RUNNING WATER DURING CONCRETE PLACEMENT FOR CONSTRUCTION OF THE PERMANENT WORKS. DRY WORKING CONDITION MUST BE MAINTAINED UNTIL THE STRUCTURE HAS BEEN COMPLETED AND BACKFILLED.
- H. ALL SUPPORT OF EXCAVATION SHALL BE REMOVED TO A MINIMUM DEPTH OF 3-FEET BELOW THE FINISHED GROUND SURFACE.



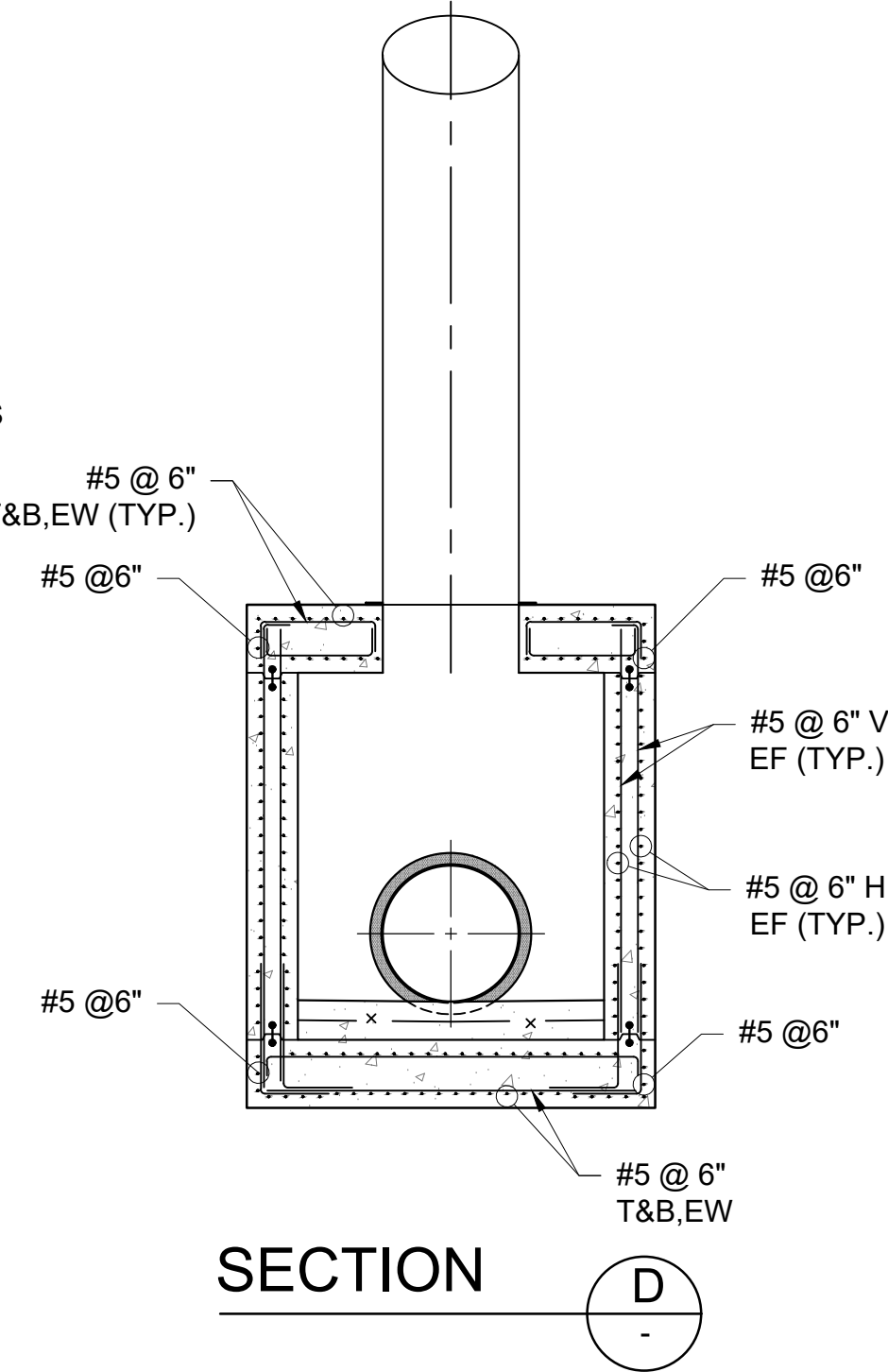
SECTION A



SECTION B



SECTION C



SECTION D

Designed by:	HTV	REV No.	DATE	REVISION	DESCRIPTION	APPV	PSK
Drawn by:	JMS	1	10/03/25		SOE NOTE UPDATE		
Checked by:	PSK						

MOTT MACDONALD

Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

811

Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040208

REGISTERED PROFESSIONAL ENGINEER
NO. 098314
PENNSYLVANIA

alcosan
allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

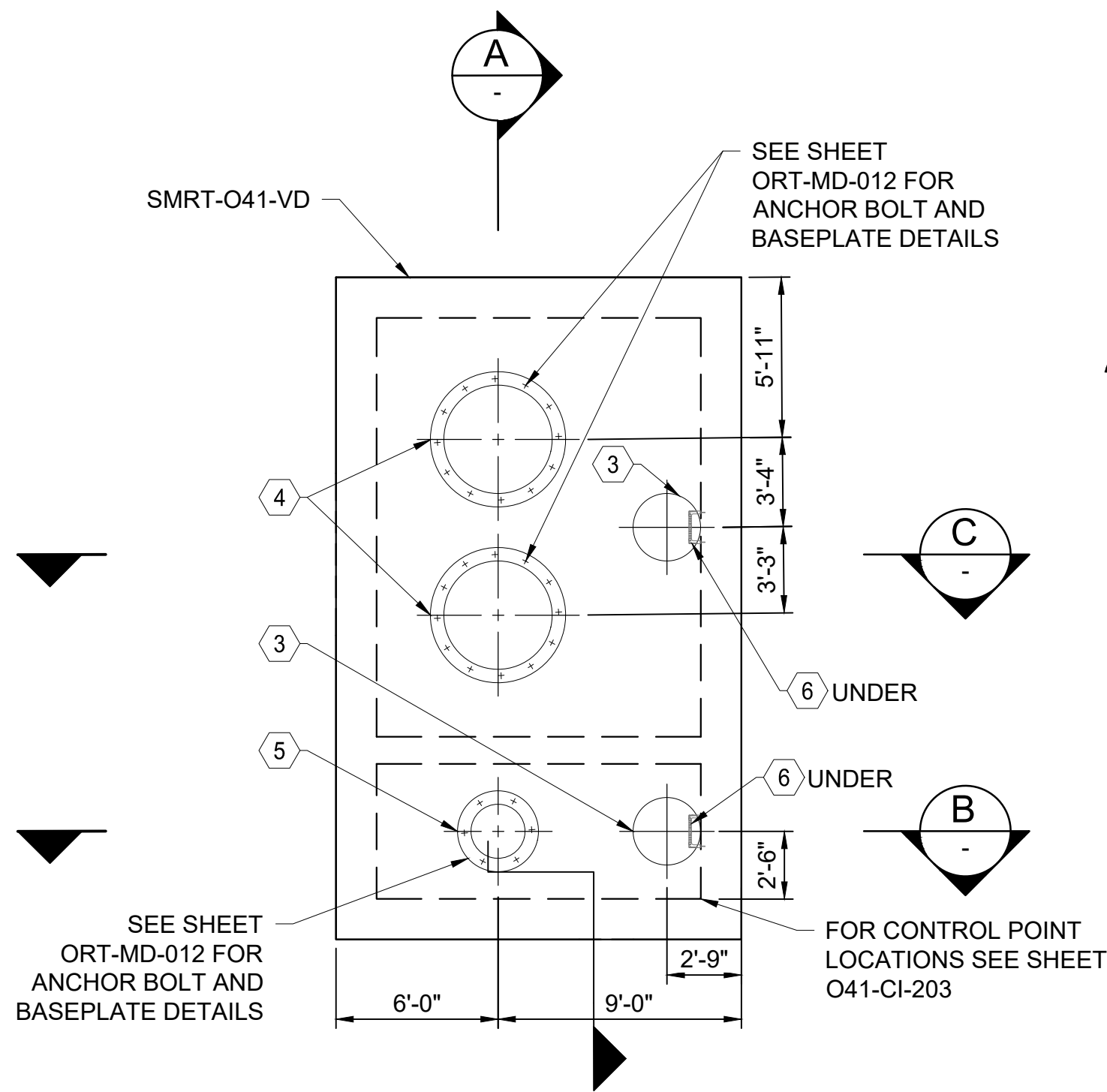
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

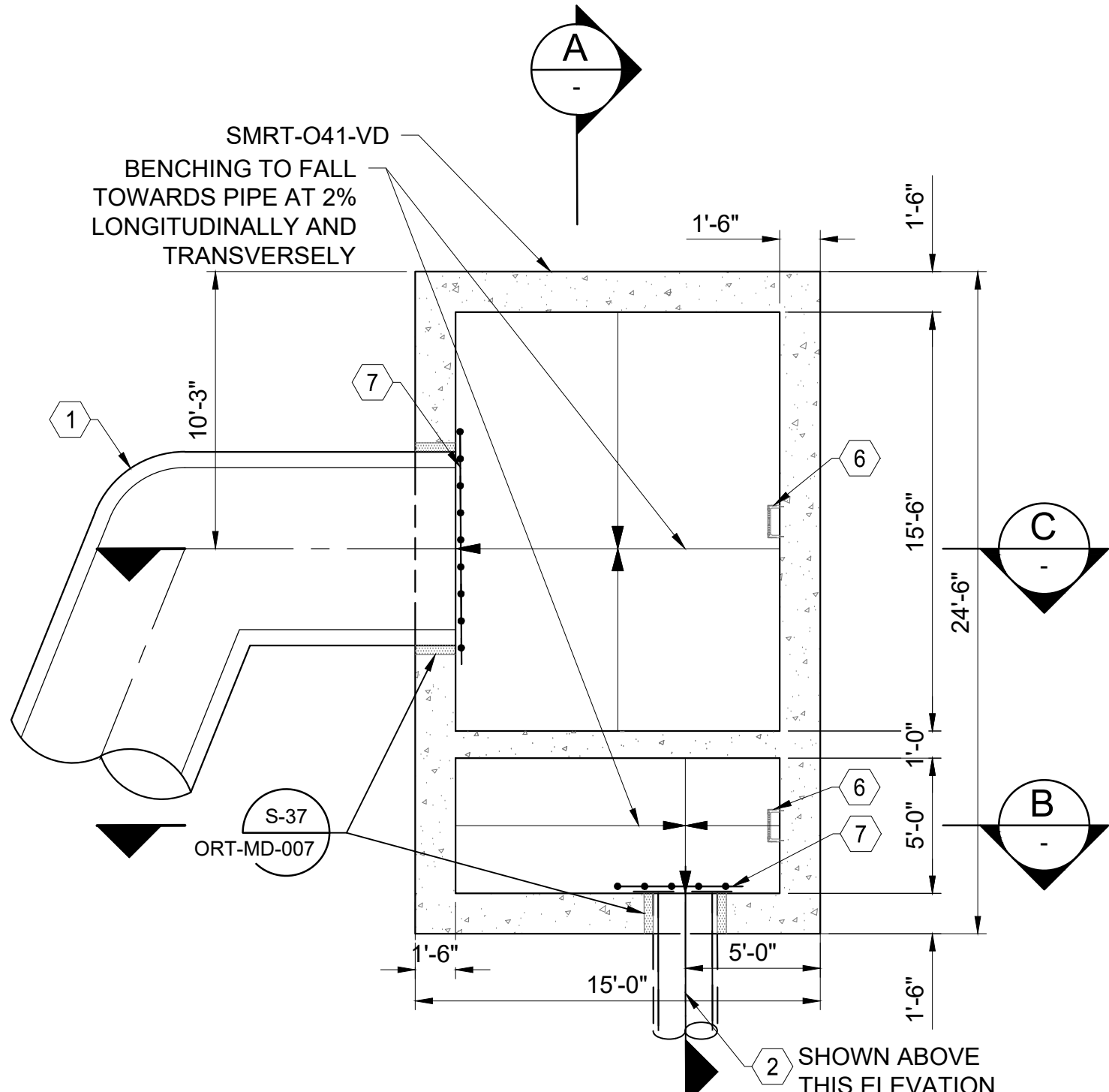
O27-ST-143
ORT-O27-VD REINFORCEMENT PLANS
AND SECTIONS

Contract: 1797
File: O27-ST-143.dwg
Date: 07/30/2025
Sheet: 246 OF 770

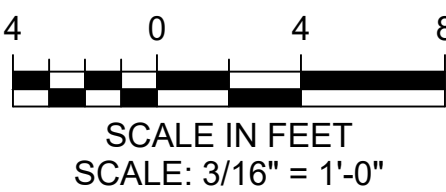
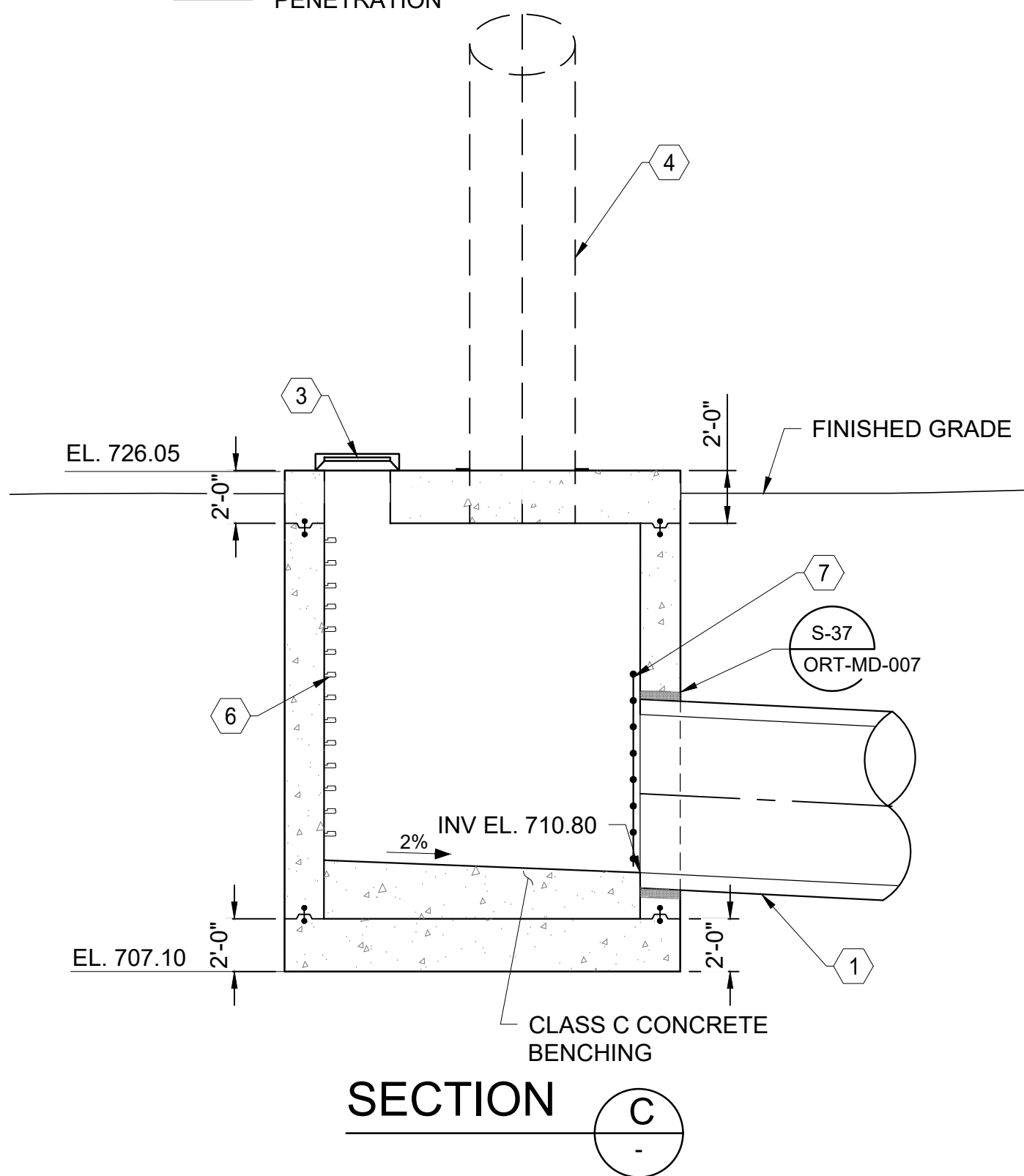
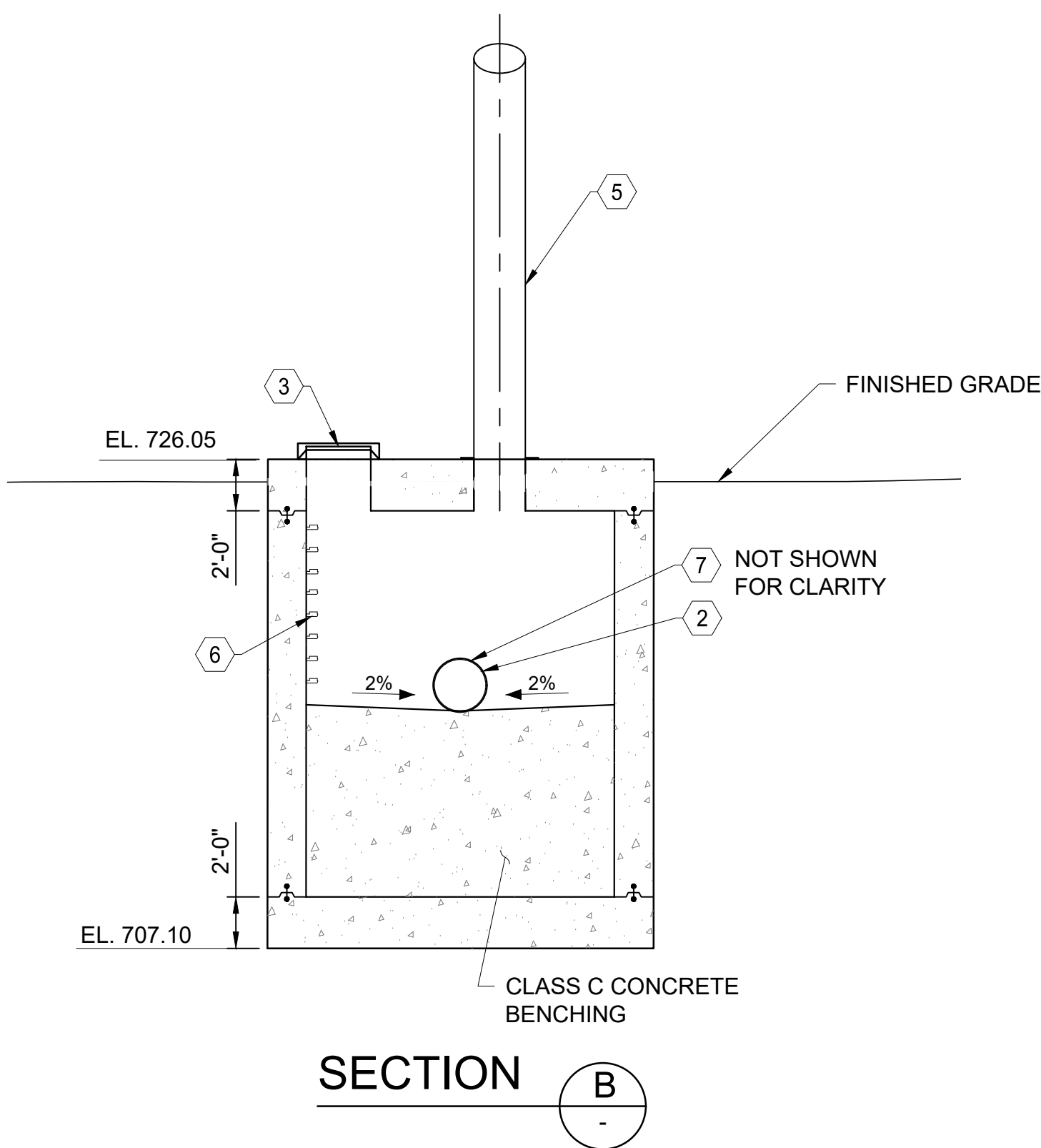
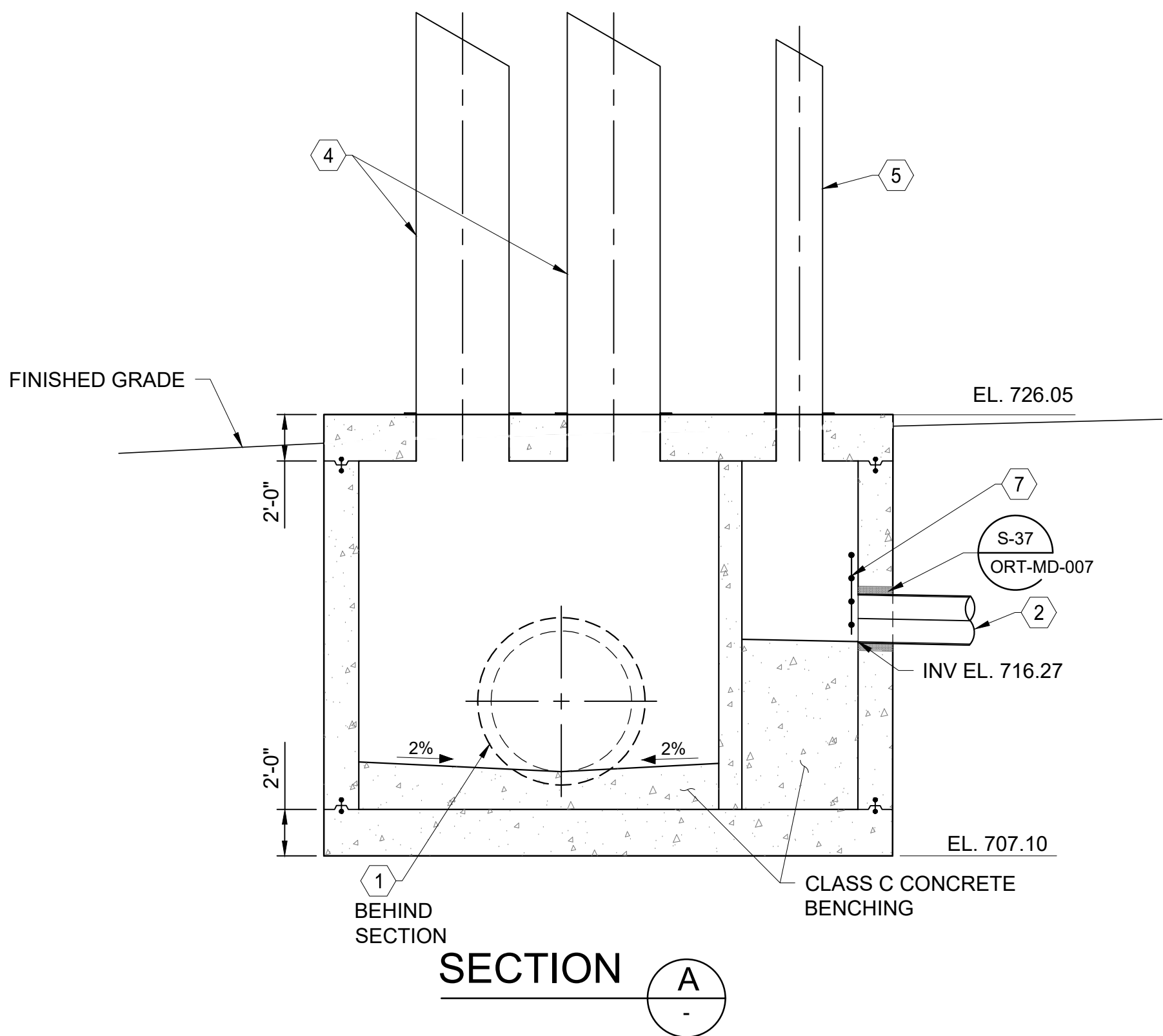
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PLAN @ EL. 726.05 (TOP SLAB)



PLAN @ EL 713.80



NOTES

1. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SHEETS. SEE SHEETS O41-ST-209 TO O41-ST-216.
2. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION SHEETS. SEE SHEETS O41-ST-204 TO O41-ST-205.
3. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SHEETS. SEE SHEETS ORT-ST-202 TO ORT-ST-212.
4. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-200 TO ORT-ST-201.
5. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS O41-CI-200 TO O41-CI-215.
6. FOR TYPICAL DETAILS RELATED TO THIS WORK SEE SHEETS ORT-MD-001 TO ORT-MD-014.

7. CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

STRUCTURAL KEY NOTES

- 1 72" ID RCP - SEE CIVIL SHEETS (NOTE 5)
- 2 24" ID DI PIPE - SEE CIVIL SHEETS (NOTE 5)
- 3 30" DIAMETER MANHOLE OPENING IN TOP SLAB - SEE CIVIL SHEETS (NOTE 5) AND MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012.
- 4 48" DIAMETER VENT STACK OPENING IN TOP SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- 5 24" DIAMETER VENT STACK OPENING IN TOP SLAB AND 24" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- 6 MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- 7 SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- REGULAR CONSTRUCTION JOINT
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE PENETRATION

SUPPORT OF EXCAVATION NOTES

- SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINED GROUND AND GROUNDWATER CONDITIONS.
- SEE CIVIL SHEETS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, GENERAL SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 5).
- ANY EXCAVATION FOR THE VENTILATION VAULTS DEEPER THAN 4 FEET SHALL BE SUPPORTED BY A TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGNED BY THE CONTRACTOR. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL NOT INDUCE ANY LOADING ONTO PERMANENT STRUCTURE UNTIL AFTER ALL PORTIONS OF THE PERMANENT STRUCTURE ARE INSTALLED IN THEIR FINAL STATE.
- WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION VAULT STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.
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 - SURFACE AND GROUNDWATER.
 - SURCHARGE LOADING DUE TO ADJACENT STRUCTURES, ROADS OR CONSTRUCTION LOADING.
 - DEFORMATION OF SUPPORT SYSTEM UNDER LOAD.
 - EXISTING UNDERGROUND OR ABOVE-GROUND STRUCTURES INCLUDING UTILITIES.
 - VIBRATION FROM DRIVING AND PULLING SUPPORT ELEMENTS.
 - DELAY IN ADDING SUPPORT MEMBERS, REMOVAL OF SUPPORT MEMBERS AND DYNAMIC LOADING.
 - CONSTRUCTION OF PERMANENT LINING AND STRUCTURES.
 - LOADING EFFECTS DUE TO ALL ADJACENT EXCAVATIONS AND SUPPORT OF EXCAVATION SYSTEMS FOR OTHER WORKS PRESENT DURING THE DESIGN LIFE OF THE SOE SYSTEM INCLUDING EFFECTS DUE TO OUT OF BALANCE AND SURCHARGE LOADING.

(SUPPORT OF EXCAVATION NOTES CONTINUE ON SHEET O41-ST-227)

Designed by:	HTV	REVISION	APPV
Drawn by:	JMS	REV No. DATE DESCRIPTION	PSK
Checked by:	PSK	1 10/03/25 SOE AND JOINT NOTES UPDATE	

M

MOTT MACDONALD

Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

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Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040206

REGISTERED PROFESSIONAL ENGINEER

ARLETTA SCOTT WILLIAMS

NO. 098314

alcosan

alleggheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

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ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O41-ST-226
SMRT-O41-VD PLANS AND SECTIONS

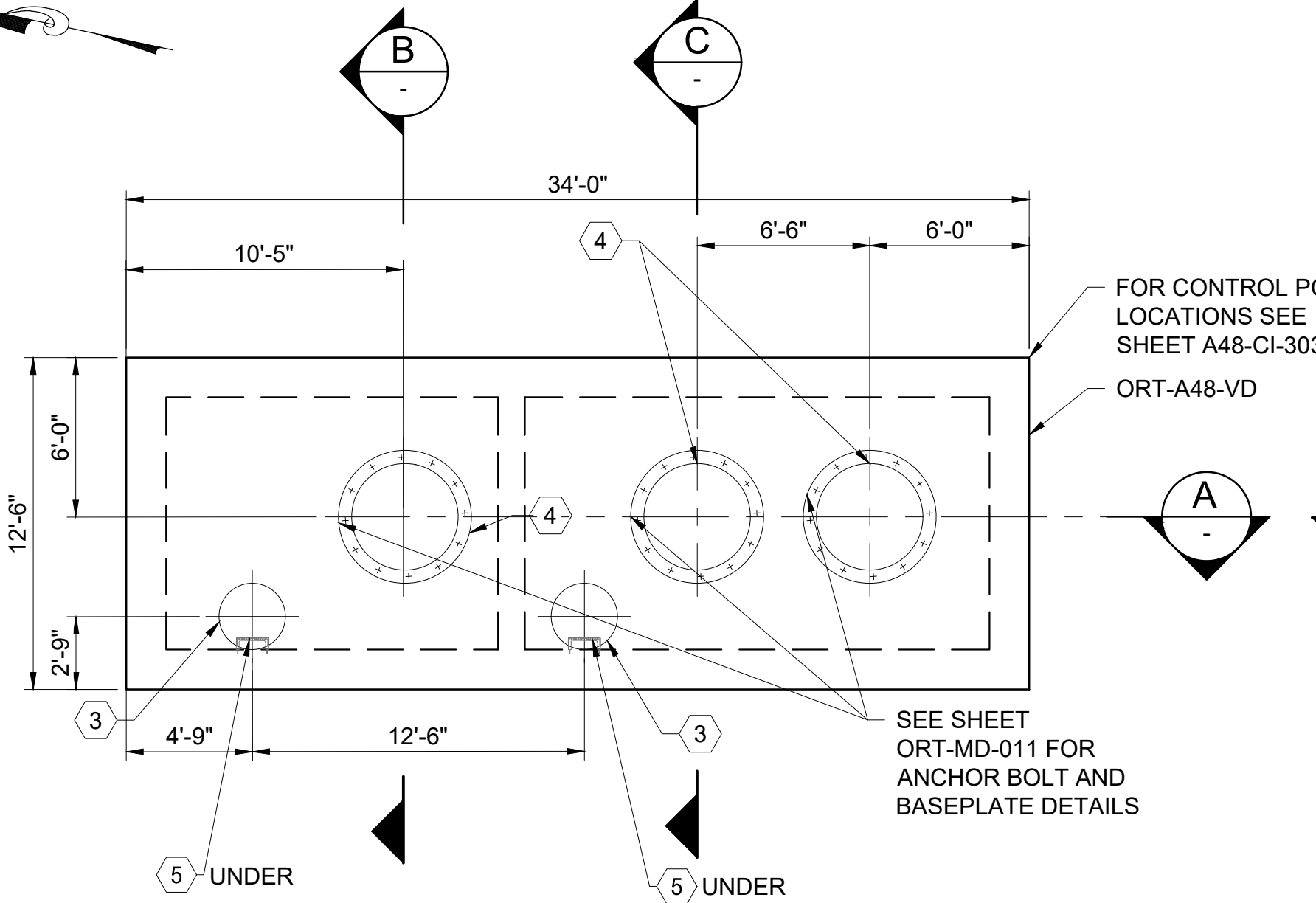
Contract: 1797

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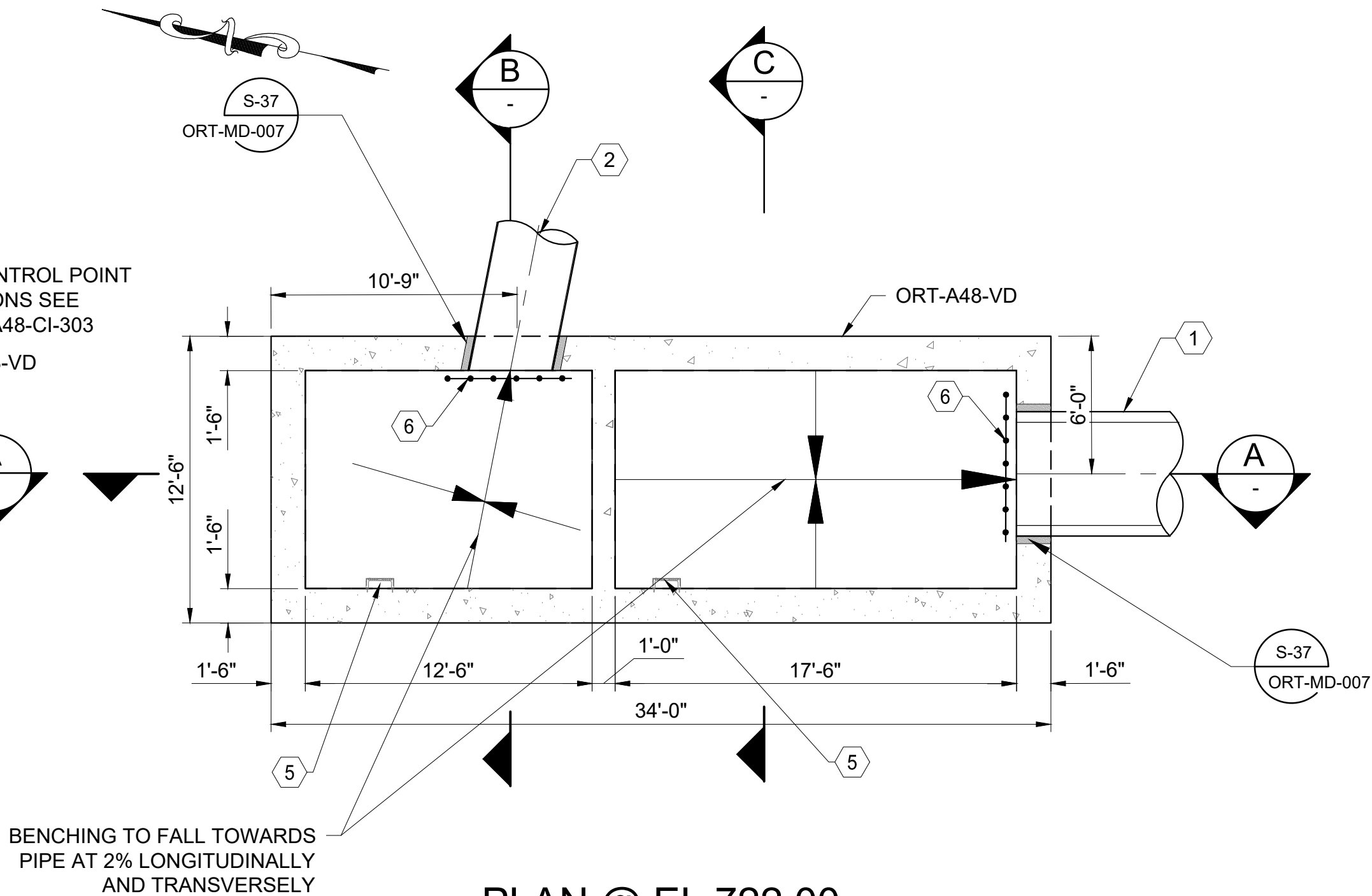
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Sheet: 341 OF 770

FILE NAME: C:\Users\JPLE92466\Documents\T&M\Project Files\5 - A48\05-Structural\Sheets - A48-ST-315 LAST SAVED BY: JPLE92466 PLOT DATE: 10/2/2025 2:36:16 PM



PLAN @ EL. 728.25 (TOP SLAB)



PLAN @ EL 722.00

NOTES

- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SHEETS. SEE SHEETS A48-ST-306 TO A48-ST-314.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION SHEETS. SEE SHEETS A48-ST-300 TO A48-ST-302.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SHEETS. SEE SHEETS ORT-ST-302 TO ORT-ST-310.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-300 TO ORT-ST-301.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS A48-CI-300 TO A48-CI-307.
- FOR TYPICAL DETAILS RELATED TO THIS WORK SEE SHEETS ORT-MD-001 TO ORT-MD-014.

7. CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

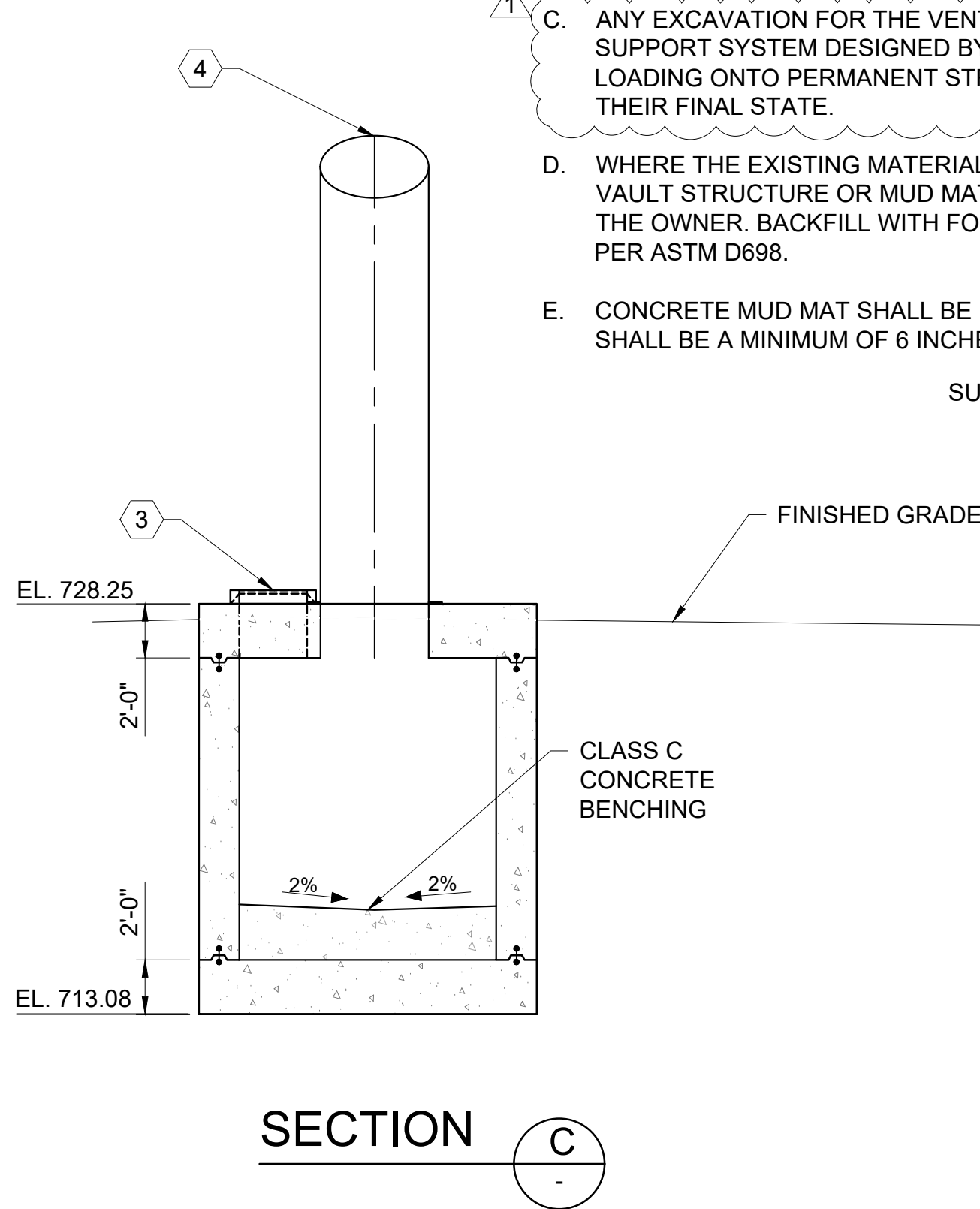
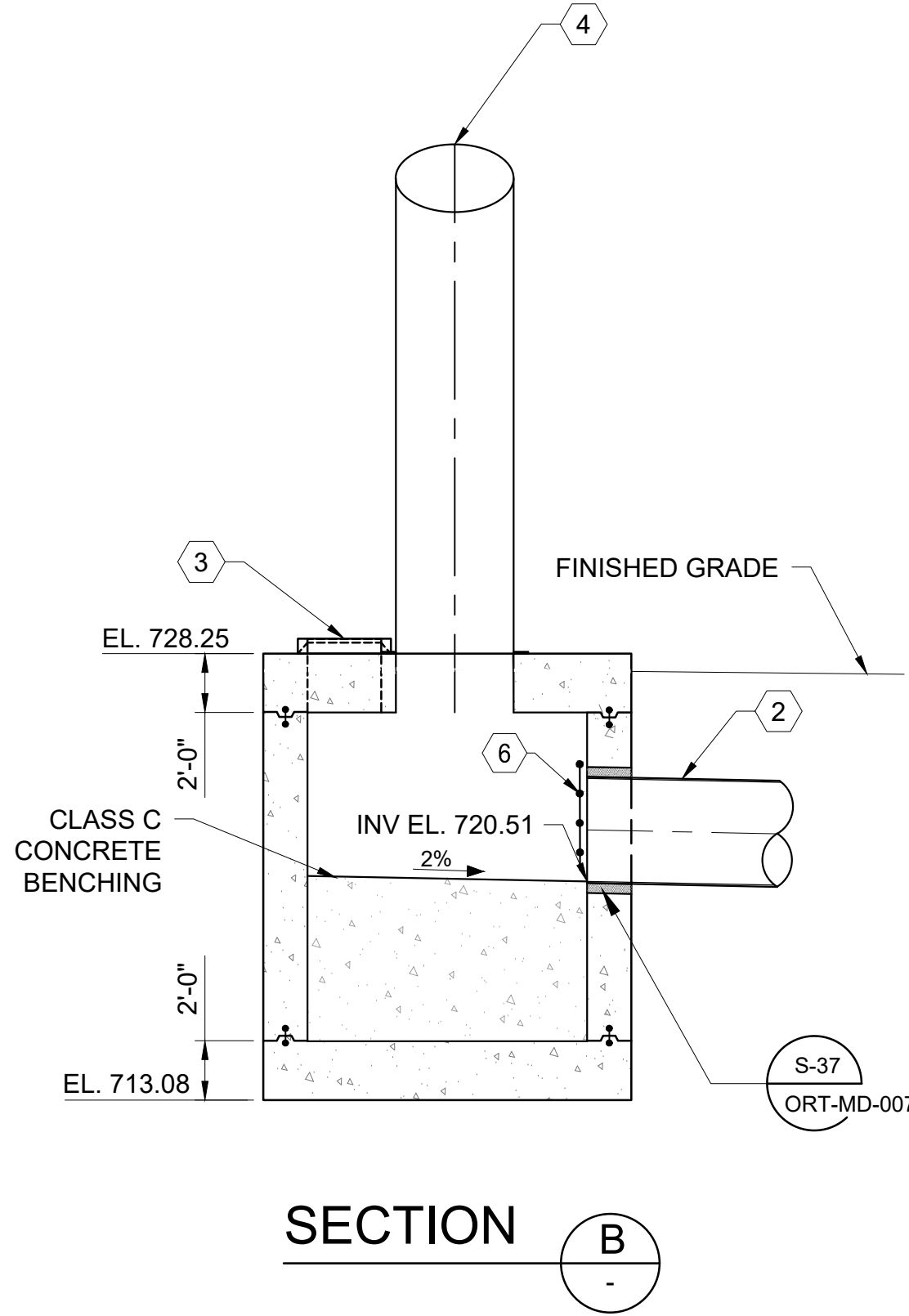
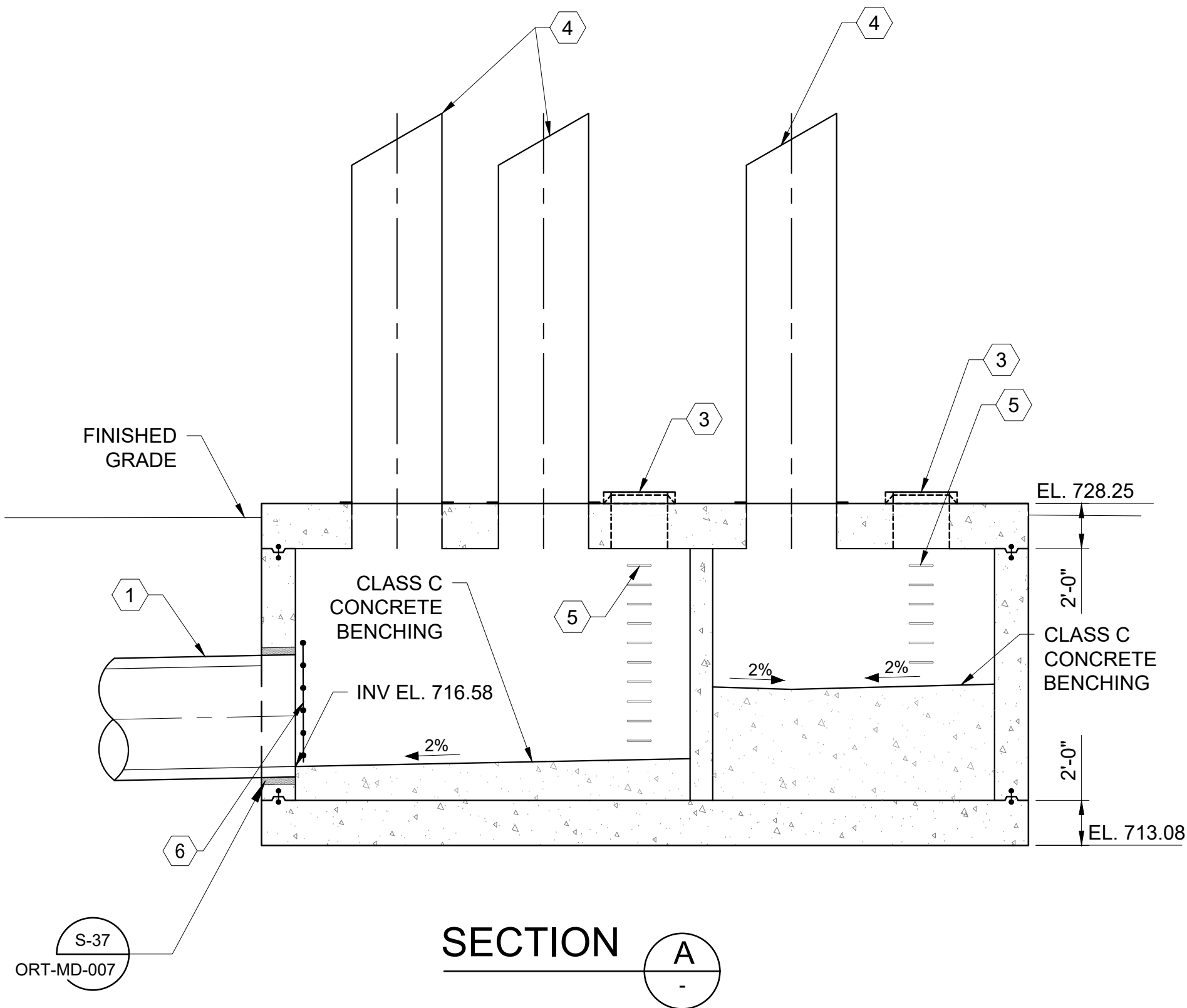
STRUCTURAL KEY NOTES

- 54" ID RCP - SEE CIVIL SHEETS (NOTE 5)
- 42" ID DI PIPE - SEE CIVIL SHEETS (NOTE 5)
- 30" DIAMETER MANHOLE OPENING IN TOP SLAB - SEE CIVIL SHEETS (NOTE 5) AND MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012.
- 48" DIAMETER VENT STACK OPENING IN TOP SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

SUPPORT OF EXCAVATION NOTES

- SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINED GROUND AND GROUNDWATER CONDITIONS.
- SEE CIVIL SHEETS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, GENERAL SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 5).
- ANY EXCAVATION FOR THE VENTILATION VAULTS DEEPER THAN 4 FEET SHALL BE SUPPORTED BY A TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGNED BY THE CONTRACTOR. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL NOT INDUCE ANY LOADING ONTO PERMANENT STRUCTURE UNTIL AFTER ALL PORTIONS OF THE PERMANENT STRUCTURE ARE INSTALLED IN THEIR FINAL STATE.
- WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION VAULT STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.

SUPPORT EXCAVATION NOTES CONTINUE ON SHEET A48-ST-316



LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- REGULAR CONSTRUCTION JOINT
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE

4 0 4 8
SCALE IN FEET
SCALE: 3/16" = 1'-0"

Designed by:	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
HTV	1	10/03/25	SOE AND JOINT NOTES UPDATE	PSK
Drawn by:				
JMS				
Checked by:				
PSK				

M

MOTT MACDONALD

Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900

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Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040205

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
NO. 098314

alcosan
allegheny county sanitary authority

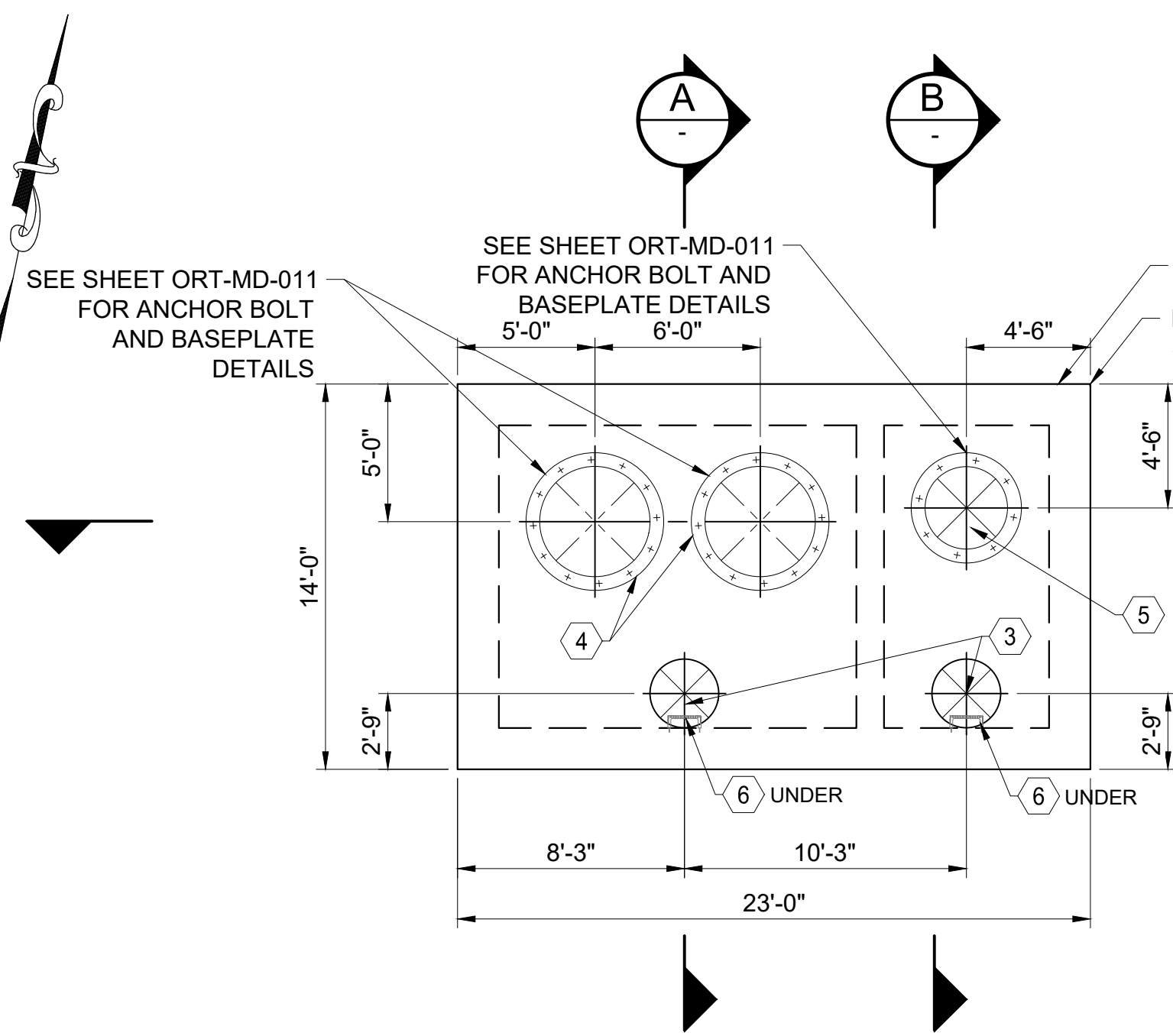
ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

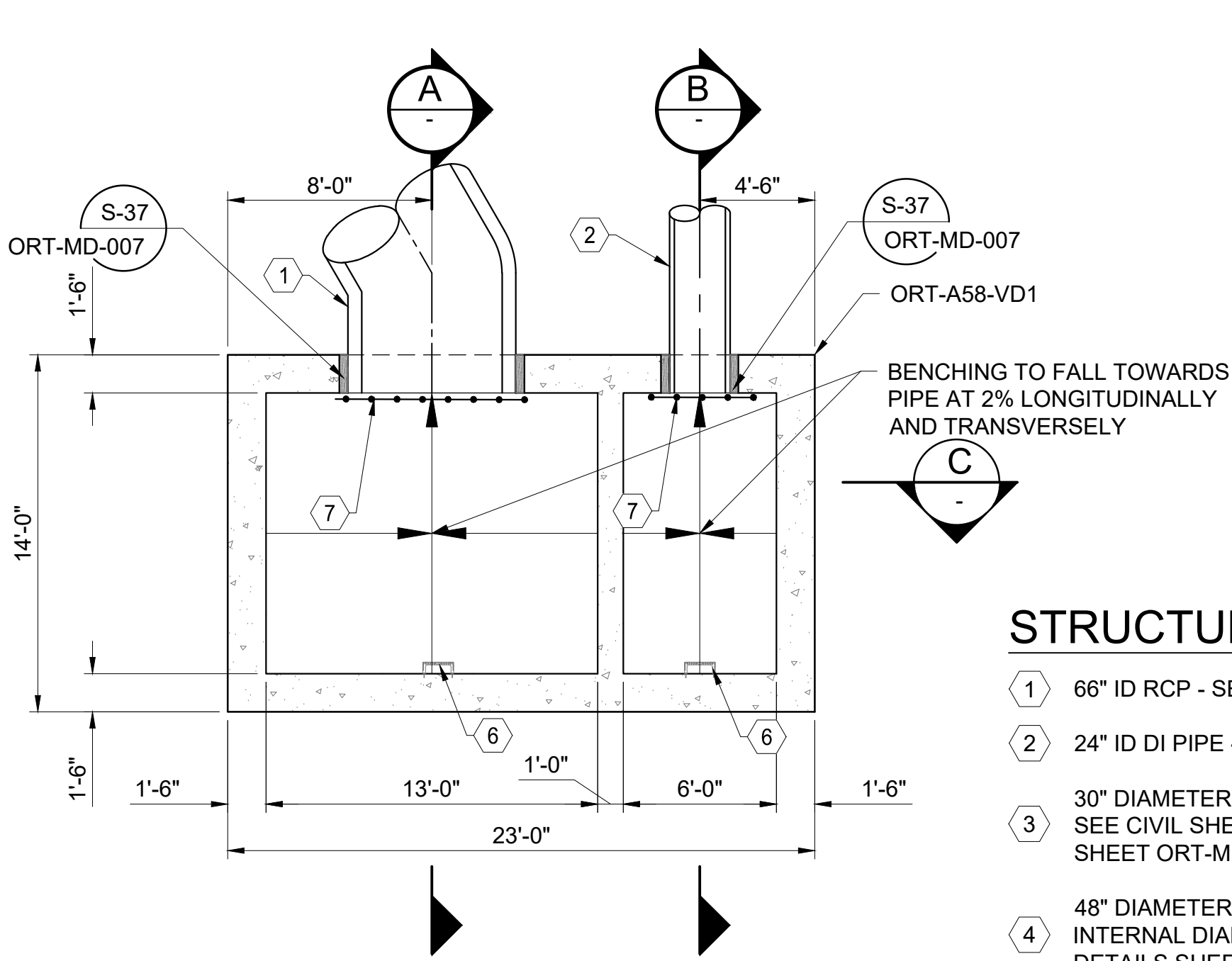
www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN) OHIO RIVER TUNNEL (ORT)		Contract: 1797
A48-ST-315 ORT-A48-VD PLANS AND SECTIONS		File: A48-ST-315.dwg
		Date: 07/30/2025
		Sheet: 376 OF 770

FILE NAME: C:\Users\JPLE92468\Documents\Mott MacDonald\507105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\6 - A58\05-Structural\Sheets - A58-ST-438 LAST SAVED BY: JPLE92468 PLOT DATE: 10/6/2025 10:29:29 AM



PLAN @ EL. 722.56 (TOP SLAB)



PLAN @ EL. 714.04

LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE PENETRATION
- REGULAR CONSTRUCTION JOINT

STRUCTURAL KEY NOTES

- 66" ID RCP - SEE CIVIL SHEETS (NOTE 5)
- 24" ID DI PIPE - SEE CIVIL SHEETS (NOTE 5)
- 30" DIAMETER MANHOLE OPENING AND COVER ON TOP SLAB - SEE CIVIL SHEETS (NOTE 5) AND MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012.
- 48" DIAMETER VENT STACK OPENING IN TOP SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- 36" DIAMETER VENT STACK OPENING IN TOP SLAB AND 36" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

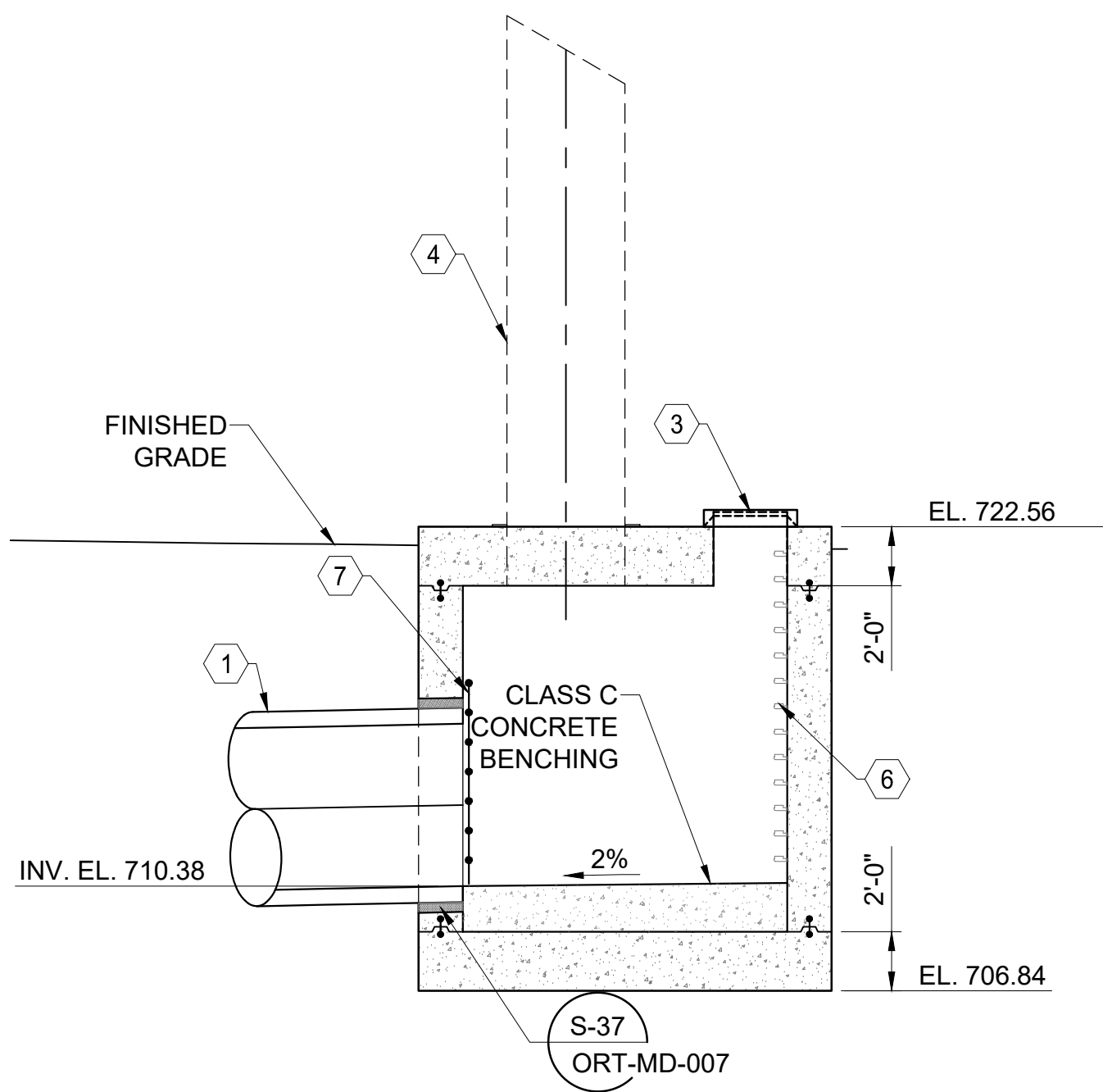
NOTES

- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SHEETS. SEE SHEETS A58-ST-424 TO A58-ST-431.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION SHEETS. SEE SHEETS A58-ST-400 TO A58-ST-402.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SHEETS. SEE SHEETS ORT-ST-402 TO ORT-ST-410.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-400 TO ORT-ST-401.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS A58-CI-400 TO A58-CI-414.
- FOR TYPICAL DETAILS RELATED TO THIS WORK, SEE SHEETS ORT-MD-001 TO ORT-MD-014.
- CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

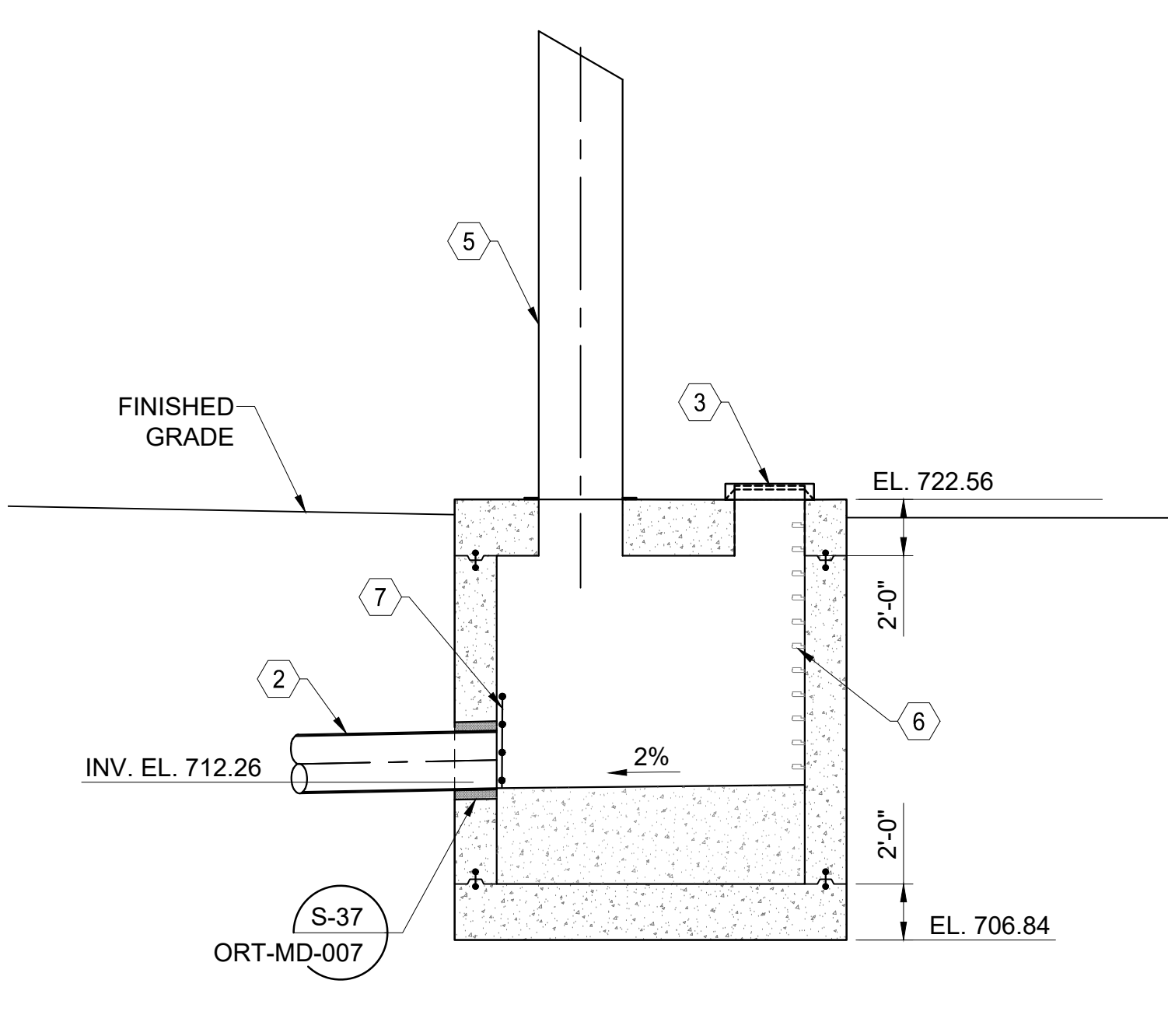
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- SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINED GROUND AND GROUNDWATER CONDITIONS.
- SEE CIVIL SHEETS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, GENERAL SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 5).
- ANY EXCAVATION FOR THE VENTILATION VAULTS DEEPER THAN 4 FEET SHALL BE SUPPORTED BY A TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGNED BY THE CONTRACTOR. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL NOT INDUCE ANY LOADING ONTO PERMANENT STRUCTURE UNTIL AFTER ALL PORTIONS OF THE PERMANENT STRUCTURE ARE INSTALLED IN THEIR FINAL STATE.
- WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.
- THE SOE DESIGN FOR THE VENTILATION VAULTS SHALL MAKE ALLOWANCE FOR ALL LOADING CONDITIONS THAT WILL BE ENCOUNTERED DURING THE DESIGN LIFE OF THE SOE SYSTEM. INCLUDING BUT NOT LIMITED TO:
 - EARTH LOADS DUE TO THE GROUND CONDITIONS DESCRIBED IN THE GEOTECHNICAL DESIGN REPORT.
 - SURFACE AND GROUNDWATER.
 - SURCHARGE LOADING DUE TO ADJACENT STRUCTURES, ROADS OR CONSTRUCTION LOADING.
 - DEFORMATION OF SUPPORT SYSTEM UNDER LOAD.
 - EXISTING UNDERGROUND OR ABOVE-GROUND STRUCTURES INCLUDING UTILITIES.
 - VIBRATION FROM DRIVING AND PULLING SUPPORT ELEMENTS.
 - DELAY IN ADDING SUPPORT MEMBERS, REMOVAL OF SUPPORT MEMBERS AND DYNAMIC LOADING.
 - CONSTRUCTION OF PERMANENT LINING AND STRUCTURES.
 - LOADING EFFECTS DUE TO ALL ADJACENT EXCAVATIONS AND SUPPORT OF EXCAVATION SYSTEMS FOR OTHER WORKS PRESENT DURING THE DESIGN LIFE OF THE SOE SYSTEM INCLUDING EFFECTS DUE TO OUT OF BALANCE AND SURCHARGE LOADING.

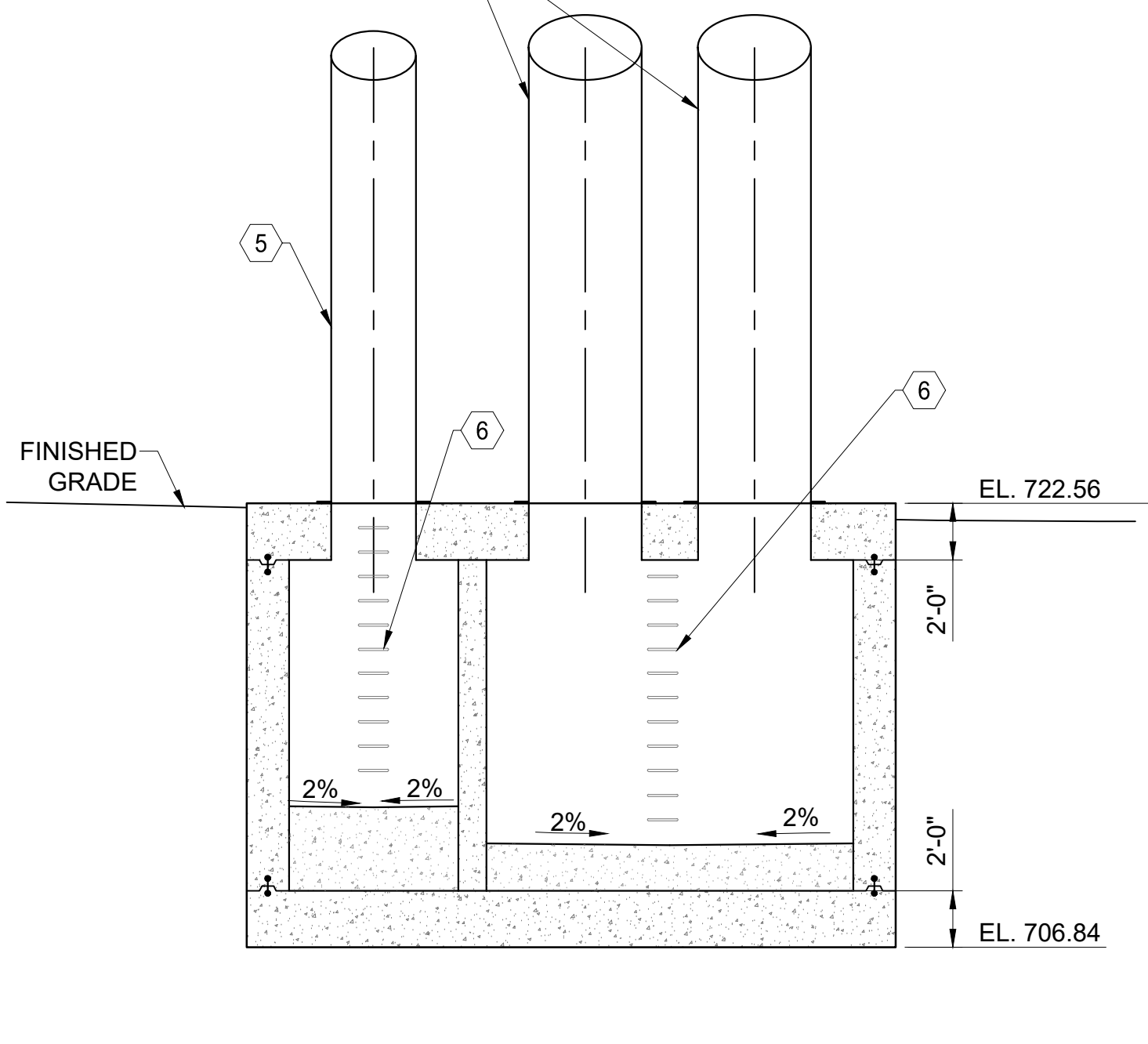
SUPPORT OF EXCAVATION NOTES CONTINUE ON SHEET A58-ST-439.



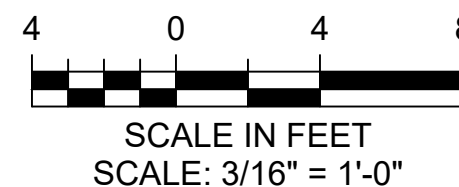
SECTION A-A



SECTION B-B



SECTION C-C



Designed by:	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
HTV	1	10/03/25	SOE AND JOINT NOTES UPDATE	PSK
Drawn by:				
JMS				
Checked by:				
PSK				

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Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204

REGISTERED
PROFESSIONAL
ENGINEER
NO. 098314
PENNSYLVANIA

alcosan

allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
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ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

A58-ST-438
ORT-A58-VD1 PLANS AND SECTIONS

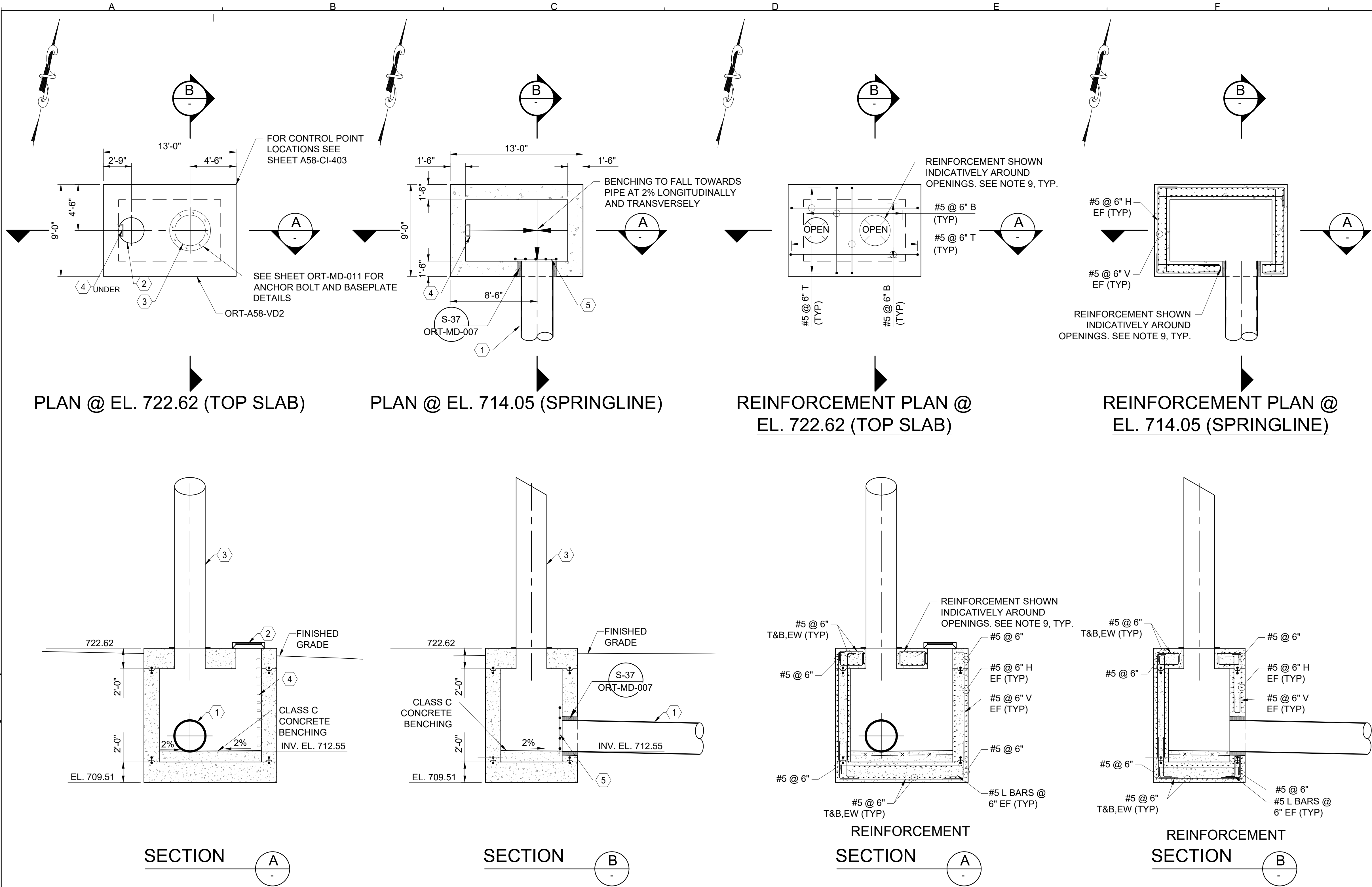
Contract: 1797

File: A58-ST-438.dwg

Date: 07/30/2025

Sheet: 439 OF 770

FILE NAME: C:\Users\PLE92466\Documents\ALCOSAN Ohio River Tunnel Design - T&M\Project\Sheets - A58-ST-440 LAST SAVED BY: PLE92466 PLOT DATE: 10/20/2025 12:23:20 PM



NOTES

- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SHEETS. SEE SHEETS A58-ST-432 TO A58-ST-437.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION SHEETS. SEE SHEETS A58-ST-403 TO A58-ST-405.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SHEETS. SEE SHEETS ORT-ST-402 TO ORT-ST-410.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-400 TO ORT-ST-401.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS A58-CI-400 TO A58-CI-414.
- FOR TYPICAL DETAILS RELATED TO THIS WORK, SEE SHEETS ORT-MD-001 TO ORT-MD-014.
- CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.
- NOT ALL SPLICES ARE SHOWN. THE CONTRACTOR IS TO DETERMINE ALL SPLICES REQUIRED TO SATISFY SHIPPING AND CONSTRUCTABILITY REQUIREMENTS.
- FOR REINFORCEMENT DETAILS AT ROOF AND WALL OPENINGS, SEE DETAIL S-15, SHEET ORT-MD-002 AND S-64, SHEET ORT-MD-012.

STRUCTURAL KEY NOTES

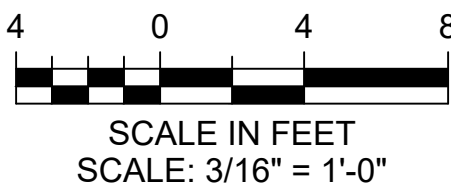
- 36" ID DI PIPE - SEE CIVIL SHEETS (NOTE 5)
- 30" DIAMETER MANHOLE OPENING AND COVER ON TOP SLAB - SEE CIVIL SHEETS (NOTE 5) AND MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012.
- 36" DIAMETER VENT STACK OPENING IN TOP SLAB AND 36" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS, SHEETS ORT-MD-011 AND ORT-MD-012.
- MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

SUPPORT OF EXCAVATION NOTES

SEE SUPPORT OF EXCAVATION NOTES ON SHEETS A58-ST-438 AND A58-ST-439

LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- REGULAR CONSTRUCTION JOINT
- WWF - 4 X 4 X W6 X W6
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE



Designed by:	ARY/RNT	REVISION		
Drawn by:	JMS	REV No.	DATE	DESCRIPTION
Checked by:	PSK	1	10/03/25	CONSTRUCTION JOINT NOTE UPDATE
				APPV
				PSK

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(412) 497 - 2900

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Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
ALCOBAN
NO. 098314

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allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

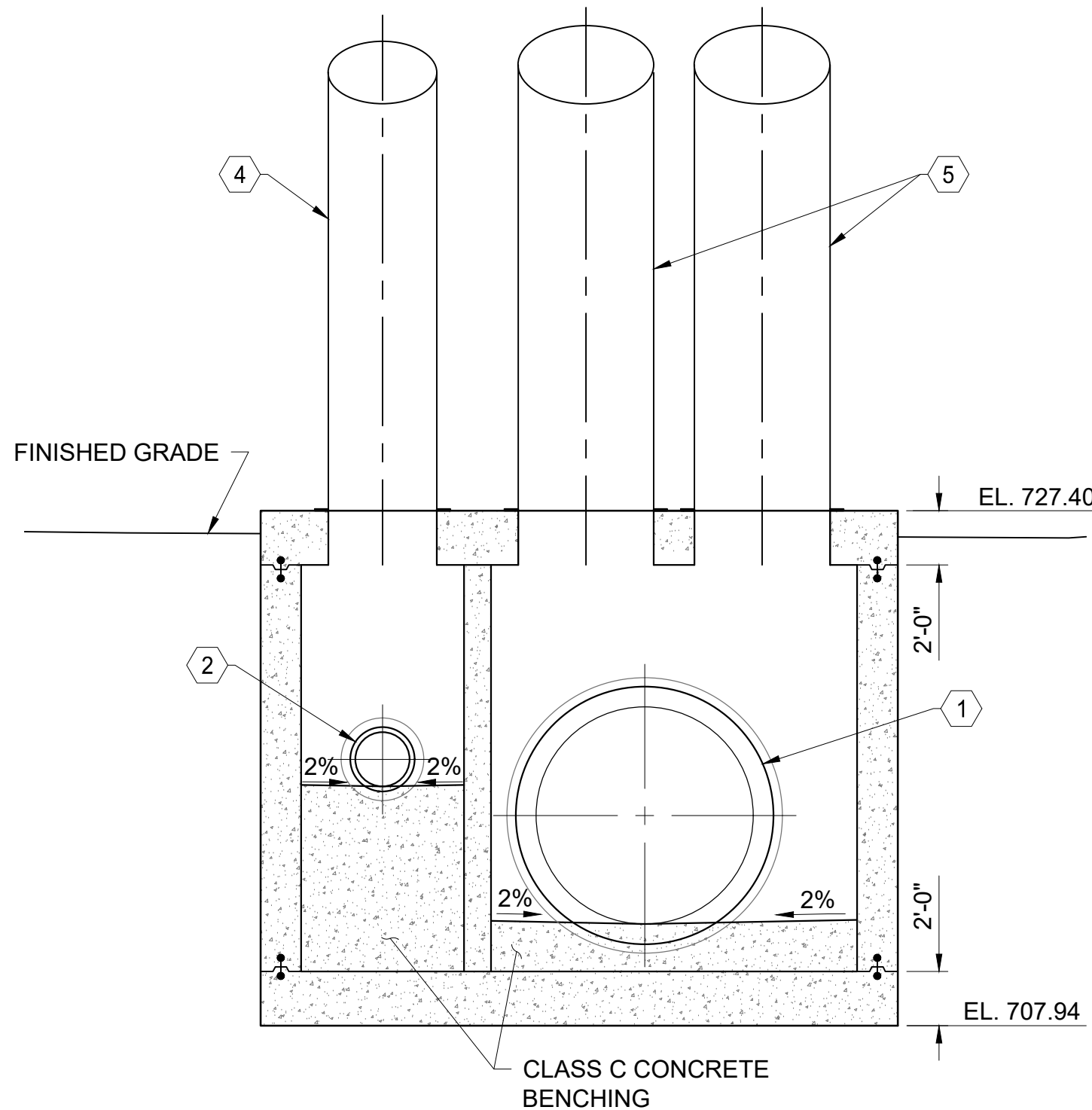
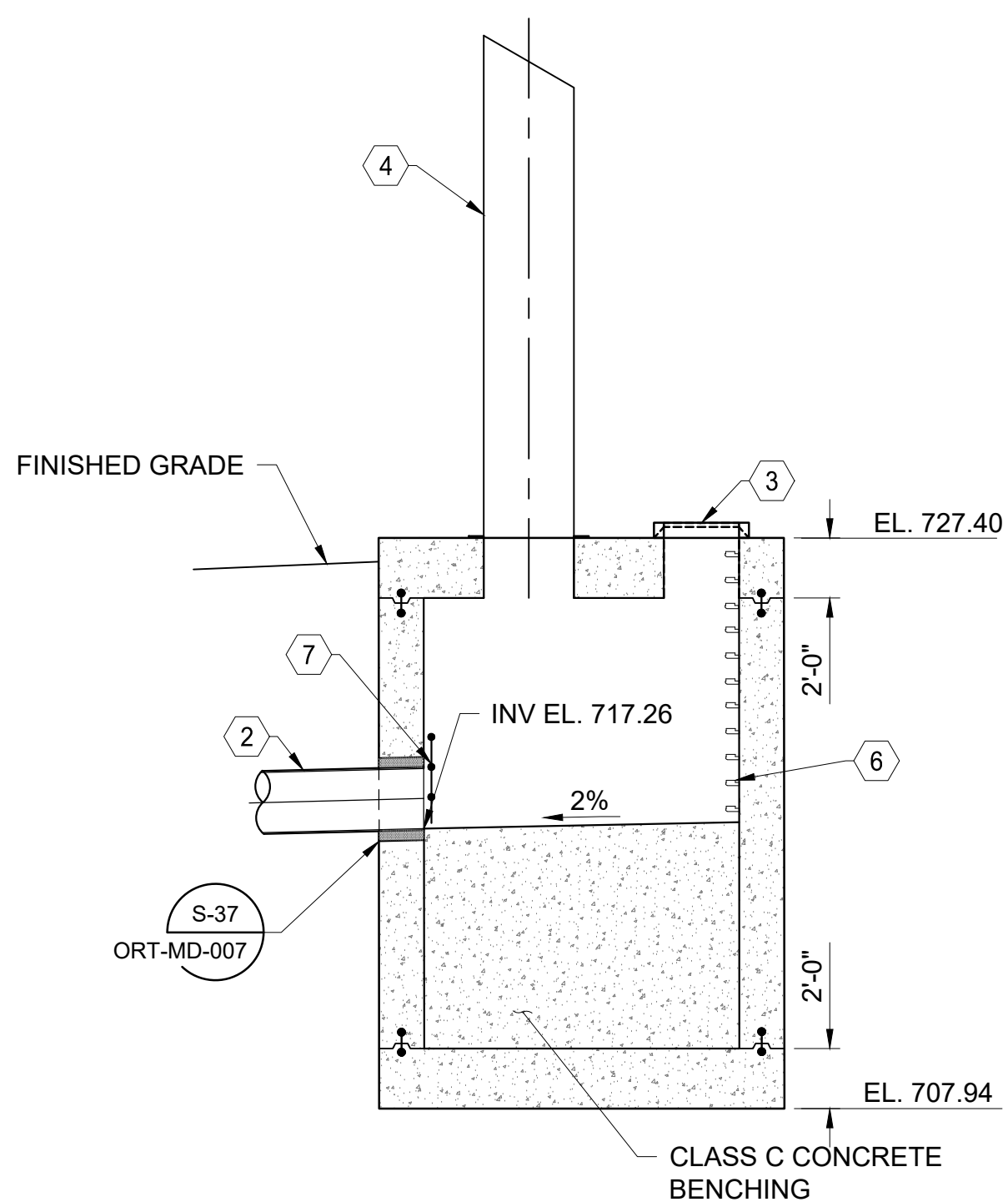
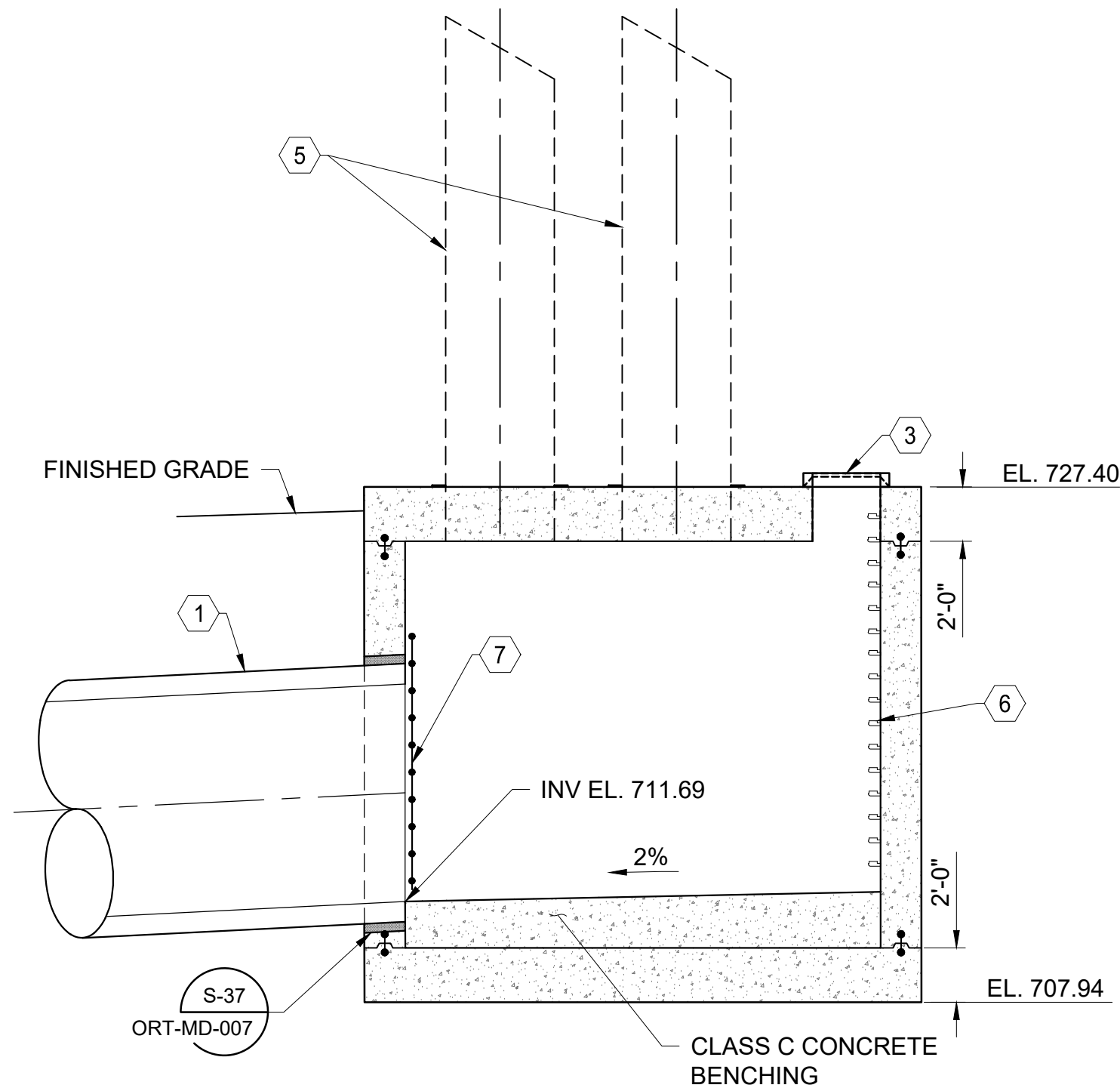
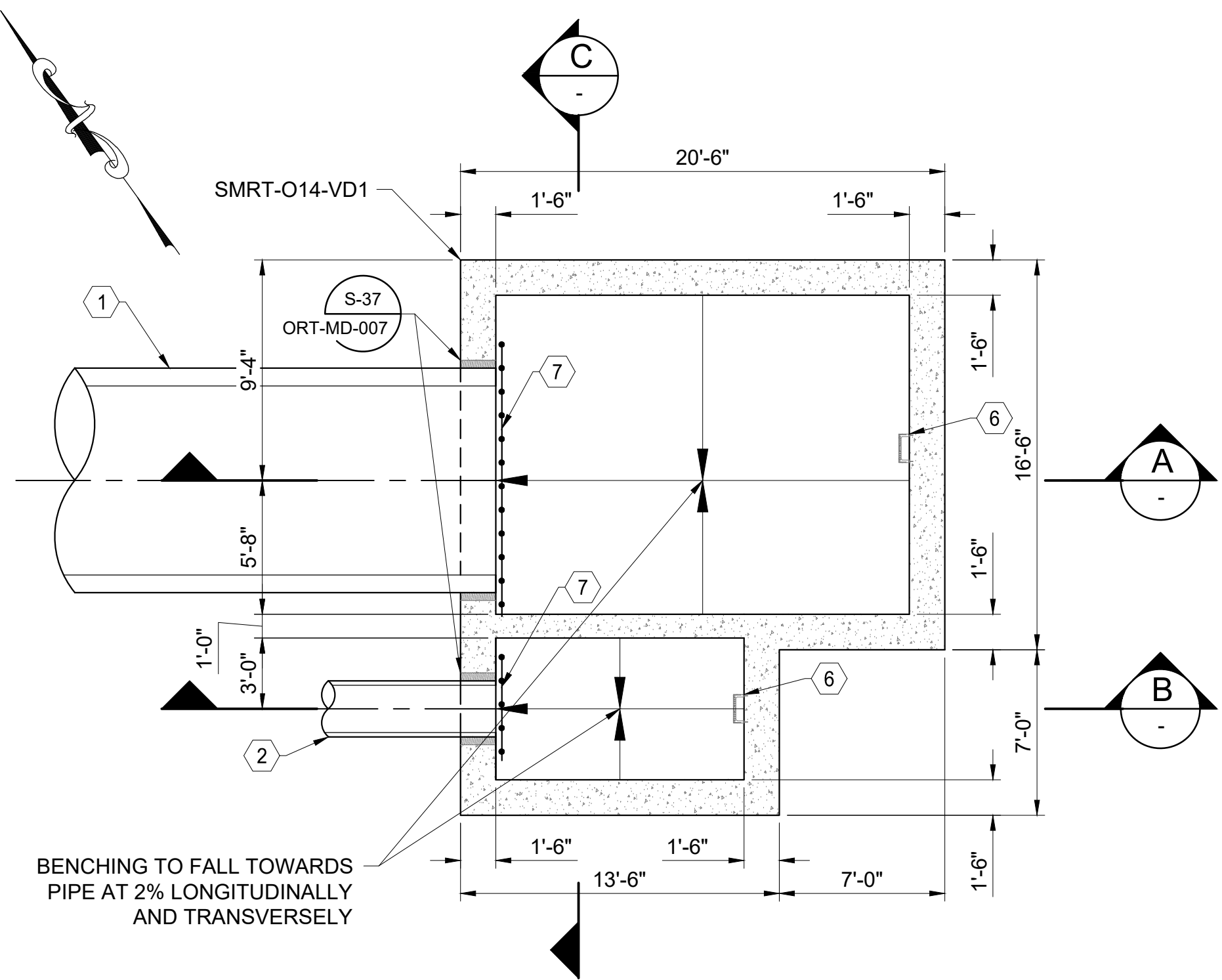
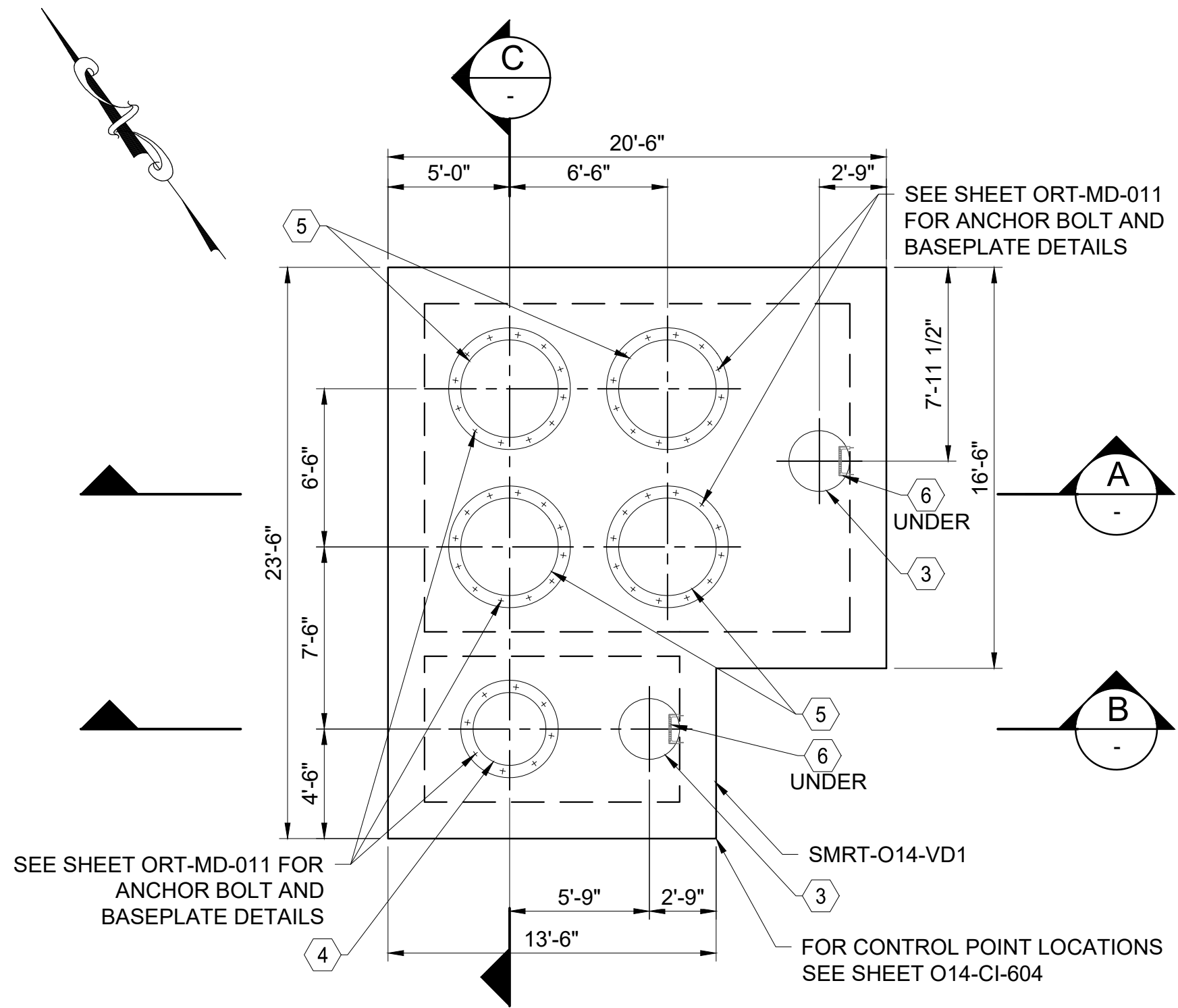
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ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

A58-ST-440
ORT-A58-VD2 PLANS AND SECTIONS

Contract:	1797
File:	A58-ST-440.dwg
Date:	07/30/2025
Sheet:	441 OF 770

FILE NAME: C:\Users\PLE92468\Documents\Mott MacDonal\07105621 - ALCOSAN Ohio River Tunnel Design - T&M\Project Files\3 - O14\05-Structural\Sheets - O14-ST-628
LAST SAVED BY: PLE92468
PLOT DATE: 10/2/2025 2:41:04 PM



NOTES

- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SHEETS. SEE SHEETS O14-ST-615 TO O14-ST-624.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE REGULATOR SUPPORT OF EXCAVATION SHEETS. SEE SHEETS O14-ST-604 TO O14-ST-611.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SHEETS. SEE SHEETS ORT-ST-602 TO ORT-ST-609.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE DROP SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-600 AND ORT-ST-601.
- THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS O14-CI-600 TO O14-CI-620.
- FOR TYPICAL DETAILS RELATED TO THIS WORK, SEE SHEETS ORT-MD-001 TO ORT-MD-014.
- CONSTRUCTION JOINTS ARE SHOWN ON THE DRAWINGS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

STRUCTURAL KEY NOTES

- 96" ID RCP - SEE CIVIL SHEETS (NOTE 5)
- 24" ID DI PIPE - SEE CIVIL SHEETS (NOTE 5)
- 30" DIAMETER MANHOLE OPENING AND COVER ON ROOF SLAB - SEE CIVIL SHEETS (NOTE 5) AND MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012.
- 36" DIAMETER VENT STACK OPENING IN ROOF SLAB AND 36" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 AND ORT-MD-012.
- 48" DIAMETER VENT STACK OPENING IN ROOF SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 AND ORT-MD-012.
- MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- SECURITY MESH AT PIPE OPENINGS - SEE DETAILS S-62, SHEET ORT-MD-012.

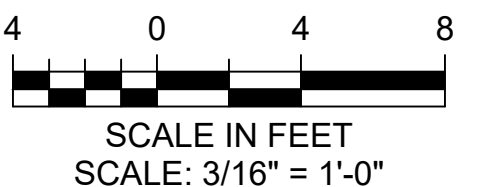
SUPPORT OF EXCAVATION NOTES

- SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINED GROUND AND GROUNDWATER CONDITIONS.
- SEE CIVIL SHEETS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, GENERAL SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 5).
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- WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.

(SUPPORT OF EXCAVATION NOTES CONTINUE ON SHEET O14-ST-629)

LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- REGULAR CONSTRUCTION JOINT
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE PENETRATION



Designed by:	REV No.	DATE	REVISION DESCRIPTION	APPV
CMHTV	1	10/03/25	SOE AND JOINT NOTES UPDATE	PSK
Drawn by:				
JMS				
Checked by:				
PSM				

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Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040207

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
NO. 098314

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ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

O14-ST-628
SMRT-O14-VD1 PLANS AND SECTIONS

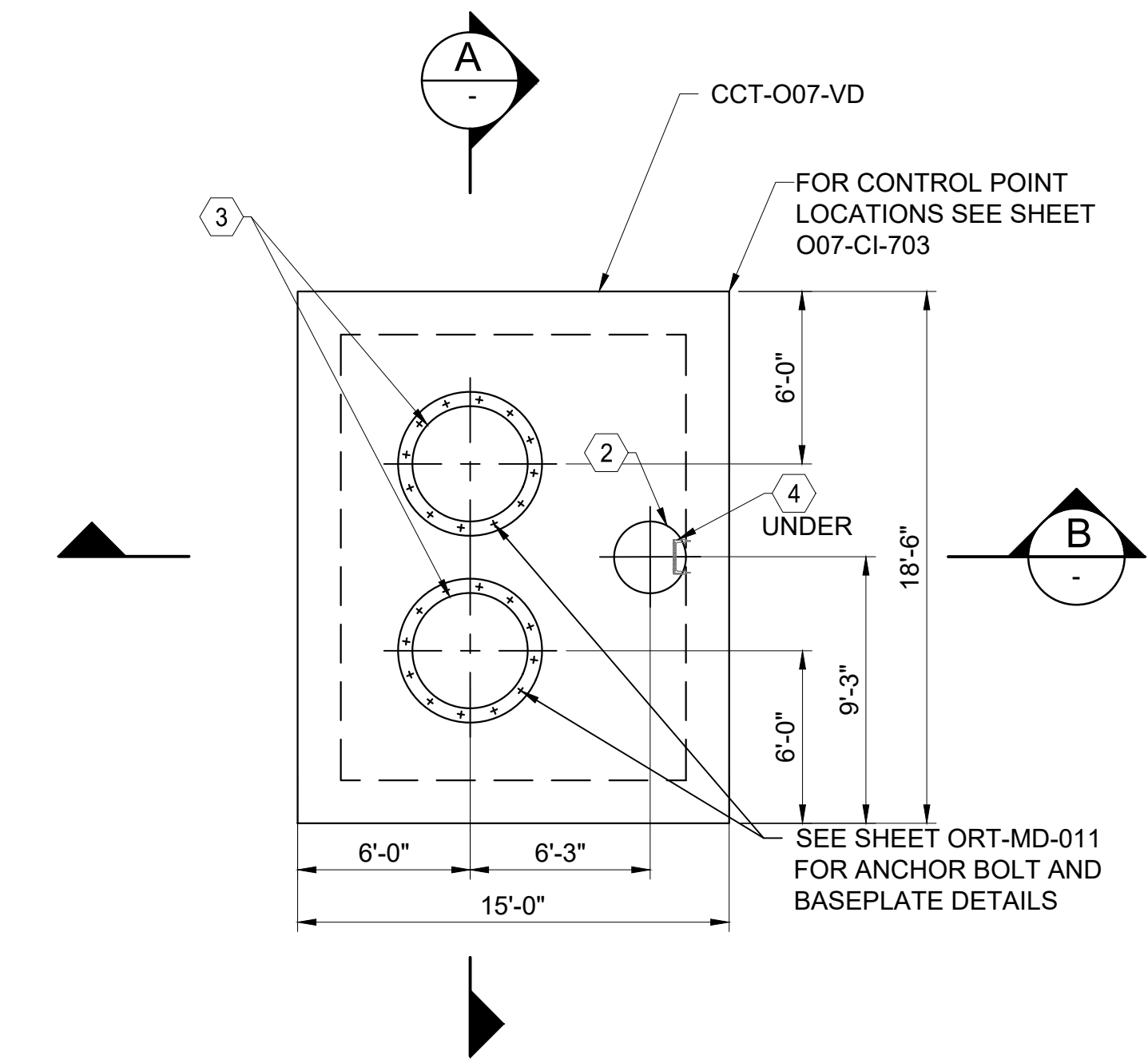
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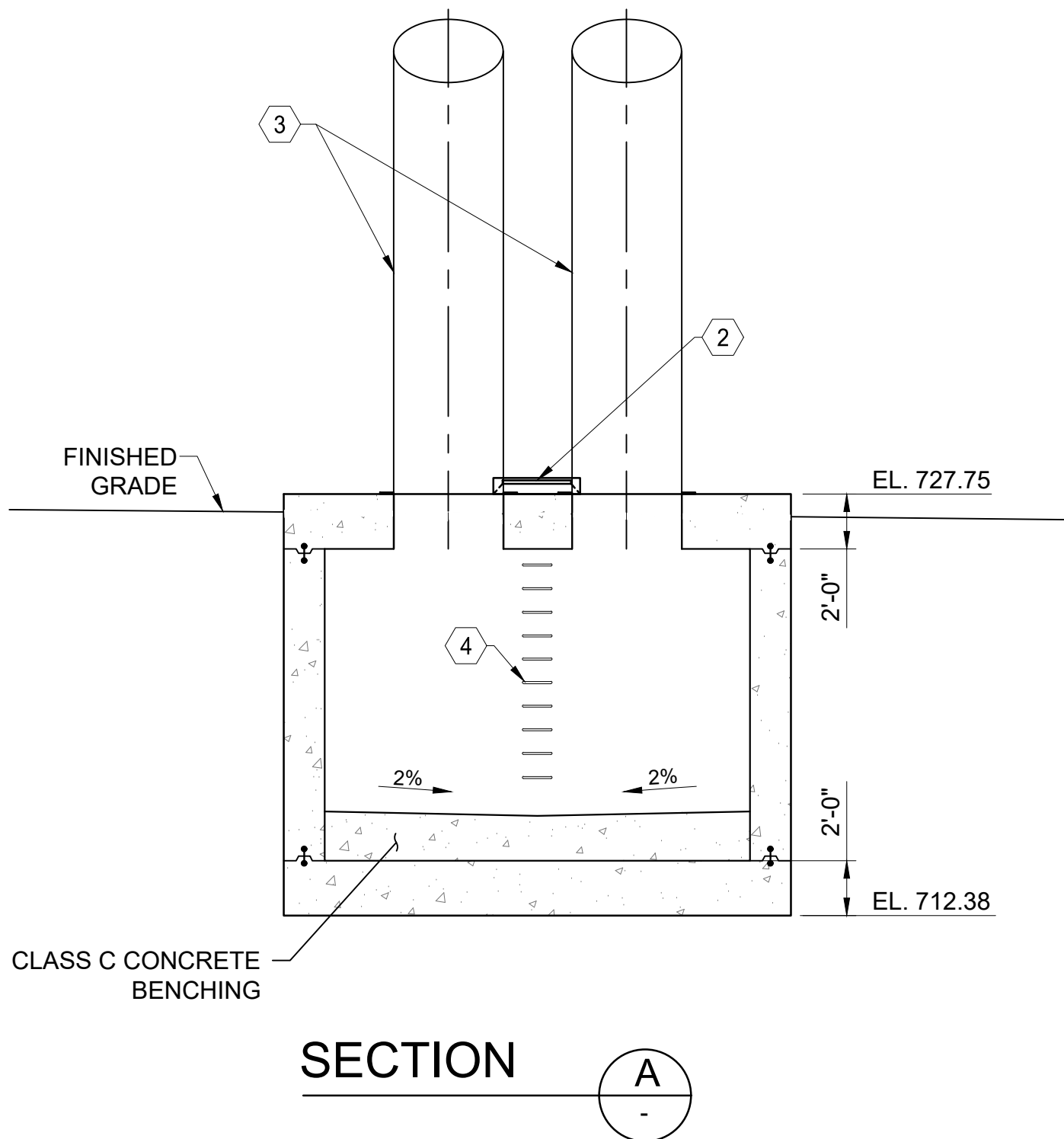
Date: 07/30/2025

Sheet: 568 OF 770

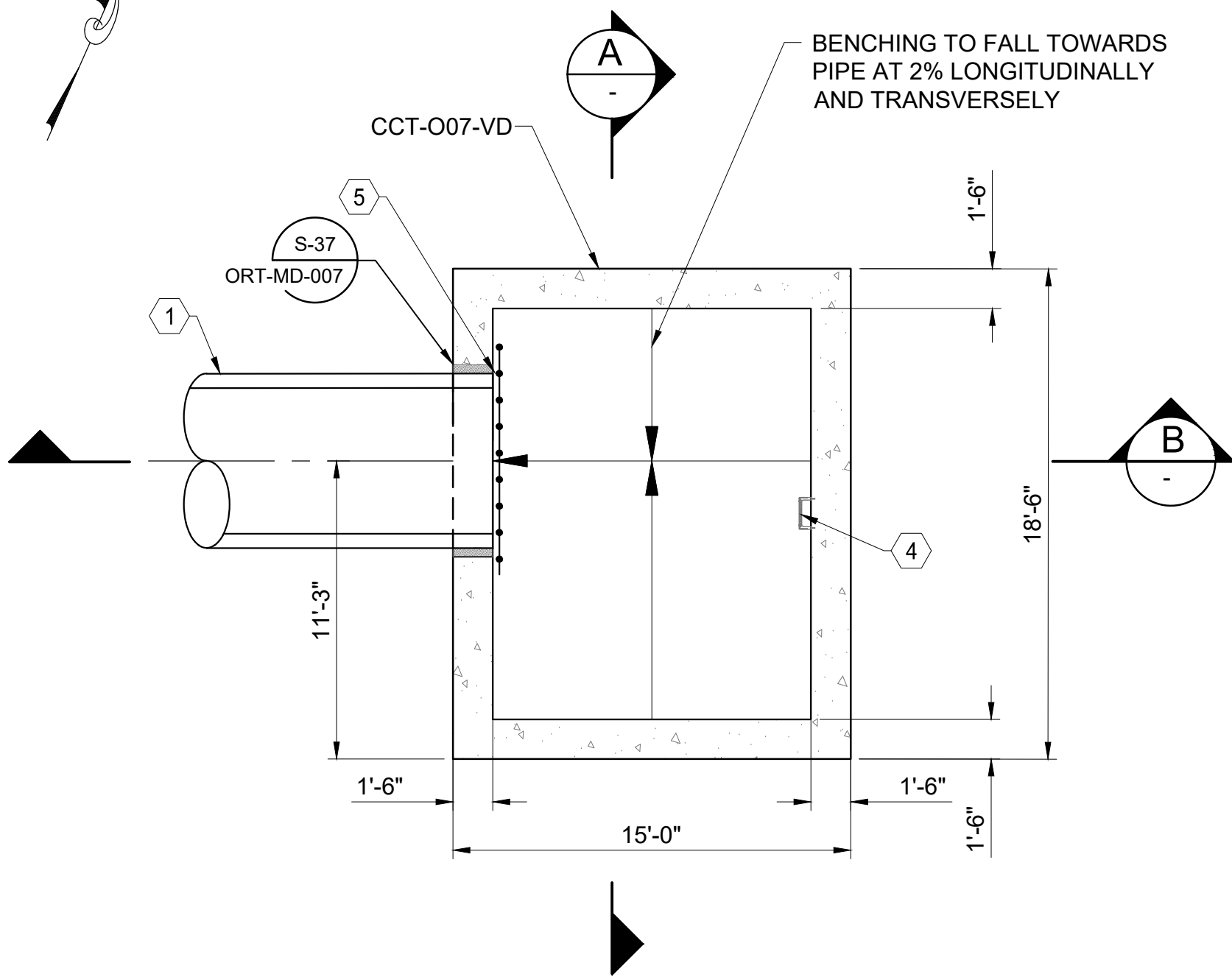
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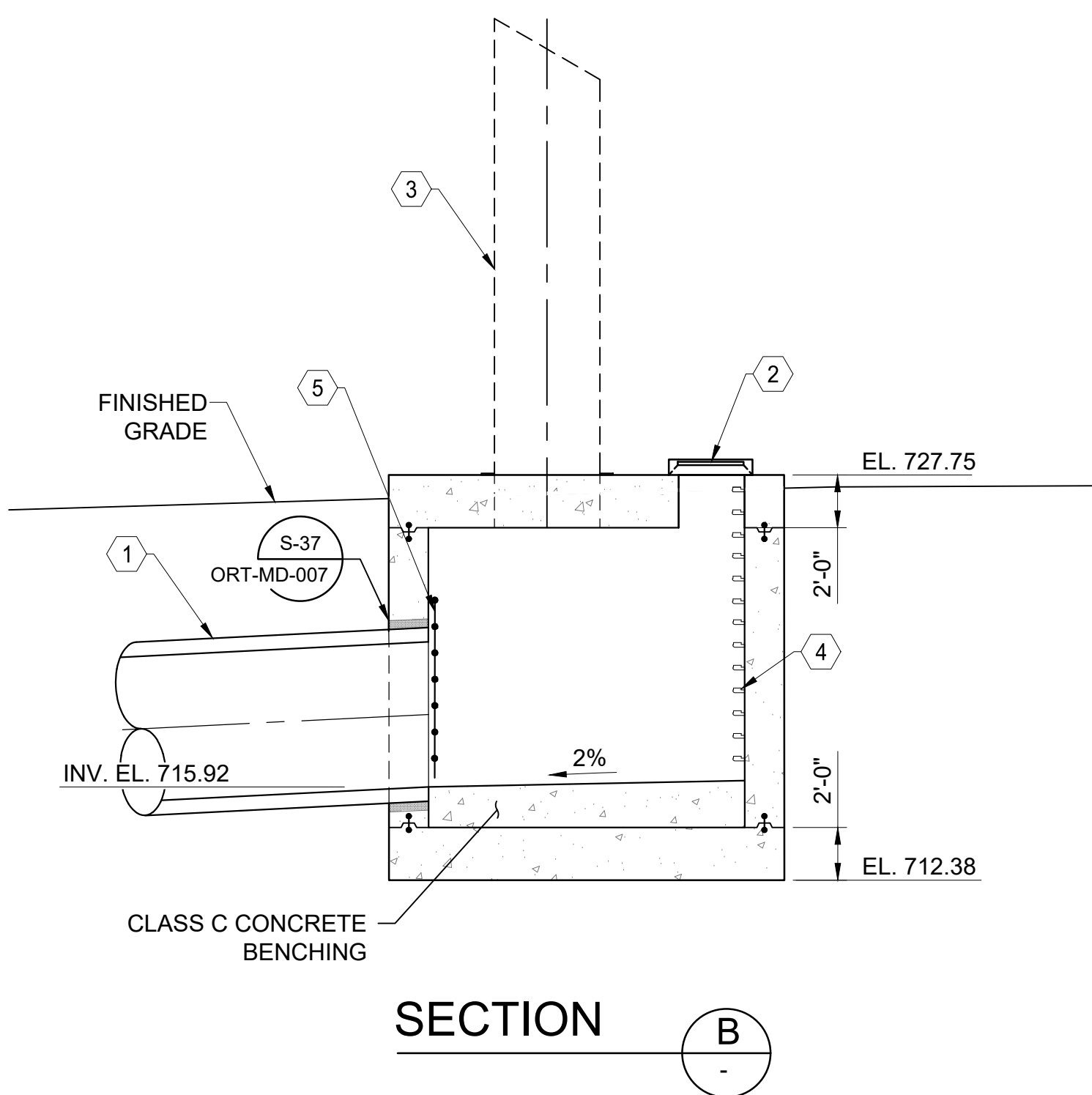
PLAN @ EL. 727.75 (TOP SLAB)



SECTION A



PLAN @ EL. 718.67 (SPRINGLINE)



SECTION B

NOTES

1. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE OUTFALL SHEETS. SEE SHEETS O07-ST-707 TO O07-ST-712.
2. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE OUTFALL SUPPORT OF EXCAVATION SHEETS. SEE SHEETS O07-ST-700 TO O07-ST-704.
3. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE ACCESS SHAFT SHEETS. SEE SHEETS ORT-ST-702 TO ORT-ST-709.
4. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE ACCESS SHAFT SUPPORT OF EXCAVATION SHEETS. SEE SHEETS ORT-ST-700 & ORT-ST-701.
5. THE CONTRACTOR TO COORDINATE ALL WORK WITH THE CIVIL SITE SHEETS. SEE SHEETS O07-CI-700 TO O07-CI-708.
6. FOR TYPICAL DETAILS RELATED TO THIS WORK SEE SHEETS ORT-MD-001 TO ORT-MD-014.
7. CONSTRUCTION JOINTS ARE SHOWN ON THE SHEETS. ANY ADDITIONAL CONSTRUCTION JOINTS SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED TO THE OWNER FOR REVIEW AND ACCEPTANCE. ALL CONSTRUCTION JOINTS PROPOSED BY CONTRACTOR SHALL ADHERE TO DETAIL S-9, SHEET ORT-MD-001.

STRUCTURAL KEY NOTES

- 1 66" ID RCP - SEE CIVIL SHEETS (NOTE 5).
- 2 30" DIAMETER MANHOLE OPENING AND COVER ON TOP SLAB - SEE CIVIL SHEETS (NOTE 5) AND TYPICAL MANHOLE COVER DETAIL S-63, SHEET ORT-MD-012
- 3 48" DIAMETER VENT STACK OPENING IN TOP SLAB AND 48" INTERNAL DIAMETER VENT STACK OVER - SEE VENT STACK DETAILS SHEETS ORT-MD-011 TO ORT-MD-012.
- 4 MANHOLE STEPS - SEE MANHOLE STEPS DETAIL S-30, SHEET ORT-MD-005.
- 5 SECURITY MESH AT PIPE OPENINGS - SEE DETAIL S-62, SHEET ORT-MD-012.

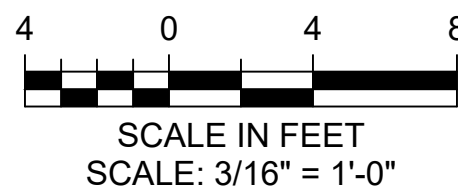
SUPPORT OF EXCAVATION NOTES

- A. SEE GEOTECHNICAL BASELINE REPORT (GBR) FOR SITE SPECIFIC BASELINES GROUND AND GROUNDWATER CONDITIONS.
- B. SEE CIVIL SHEETS FOR SITE EXISTING CONDITIONS, REQUIRED UTILITY RELOCATIONS, DEMOLITIONS, GENERAL SITE LAYOUT, DESIGNATION OF SITE STRUCTURES, COORDINATES OF HORIZONTAL CONTROL POINTS, AND PROPOSED FINAL SITE RESTORATION (NOTE 5).
- 1 C. ANY EXCAVATION FOR THE VENTILATION VAULTS DEEPER THAN 4 FEET SHALL BE SUPPORTED BY A TEMPORARY EXCAVATION SUPPORT SYSTEM DESIGNED BY THE CONTRACTOR. THE TEMPORARY EXCAVATION SUPPORT SYSTEM SHALL NOT INDUCE ANY LOADING ONTO PERMANENT STRUCTURE UNTIL AFTER ALL PORTIONS OF THE PERMANENT STRUCTURE ARE INSTALLED IN THEIR FINAL STATE.
- D. WHERE THE EXISTING MATERIAL IN THE BOTTOM OF THE EXCAVATION IS UNSUITABLE FOR SUPPORTING THE VENTILATION VAULT STRUCTURE OR MUD MAT CONSTRUCTION, OVER-EXCAVATE AND REMOVE THE UNSUITABLE MATERIAL, AS APPROVED BY THE OWNER. BACKFILL WITH FOUNDATION STABILIZATION MATERIAL AND COMPACT TO 90 PERCENT OF MAXIMUM DRY DENSITY PER ASTM D698.
- E. CONCRETE MUD MAT SHALL BE PLACED ON THE EXCAVATION BOTTOM FOR THE VENTILATION VAULT STRUCTURES. MUD MAT SHALL BE A MINIMUM OF 6 INCHES THICK.
- F. THE SOE DESIGN FOR THE VENTILATION VAULTS SHALL MAKE ALLOWANCE FOR ALL LOADING CONDITIONS THAT WILL BE ENCOUNTERED DURING THE DESIGN LIFE OF THE SOE SYSTEM, INCLUDING BUT NOT LIMITED TO:
 - I. EARTH LOADS DUE TO THE GROUND CONDITIONS DESCRIBED IN THE GEOTECHNICAL DESIGN REPORT.
 - II. SURFACE AND GROUNDWATER.
 - III. SURCHARGE LOADING DUE TO ADJACENT STRUCTURES, ROADS OR CONSTRUCTION LOADING.
 - IV. DEFORMATION OF SUPPORT SYSTEM UNDER LOAD.
 - V. EXISTING UNDERGROUND AND ABOVE-GROUND STRUCTURES INCLUDING UTILITIES.
 - VI. VIBRATION FROM DRIVING AND PULLING SUPPORT ELEMENTS.
 - VII. DELAY IN ADDING SUPPORT MEMBERS, REMOVAL OF SUPPORT MEMBERS AND DYNAMIC LOADING.
 - VIII. CONSTRUCTION OF PERMANENT LINING AND STRUCTURES.
 - IX. LOADING EFFECTS DUE TO ALL ADJACENT EXCAVATIONS AND SUPPORT OF EXCAVATION SYSTEMS FOR OTHER WORKS PRESENT DURING THE DESIGN LIFE OF THE SOE SYSTEM INCLUDING EFFECTS DUE TO OUT OF BALANCE AND SURCHARGE LOADING.

(SUPPORT OF EXCAVATION NOTES CONTINUE ON SHEET O07-ST-714)

LEGEND

- CAST-IN-PLACE CONCRETE
- UPTURN-KEY CJ WITH WATER-STOP BAR
- DOWNTURN-KEY CJ WITH WATER-STOP BAR
- REGULAR CONSTRUCTION JOINT
- NON-SHRINK GROUT FOR POST-INSTALLED PIPE PENETRATION



Designed by:	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: HTV	1	10/03/25	SOE AND JOINT NOTES UPDATE	PSK
Checked by: JMS				
PSK				

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FINAL DESIGN TICKET # 20250040203

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ENGINEER
NO. 098314
PENNSYLVANIA

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ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

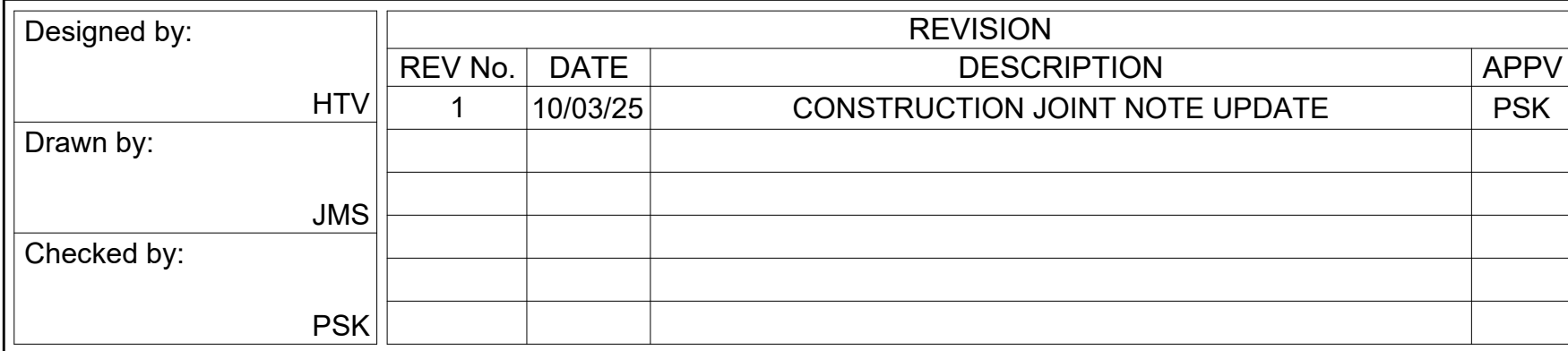
O07-ST-713
CCT-007-VD PLANS AND SECTIONS

Contract: 1797

File: O07-ST-713.dwg

Date: 07/30/2025

Sheet: 602 OF 770



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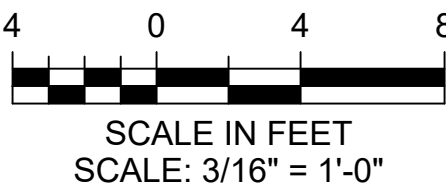


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than 3 business days
10 business days prior
® excavation.

Pennsylvania One Call System
FINAL DESIGN TICKET # 202505



- | | | |
|--|--|---|
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EXECUTIVE DIRECTOR, ALCOSAN</p> <p>3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810</p> <p>www.alcosan.org</p> | <p>ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)</p> | <p>Contract: 1</p> |
| | <p>O06A-ST-814</p> <p>CCT-O06A-VD PLANS AND SECTIONS</p> | <p>O06A-ST-814</p> <p>Date: 07/30/21</p> <p>Sheet: 637 OF</p> |



SCALE: 3/8" = 1'-0"

Contract:	1797
File:	O06A-ST-815.dwg
Date:	07/30/2025
Sheet:	638 OF 770

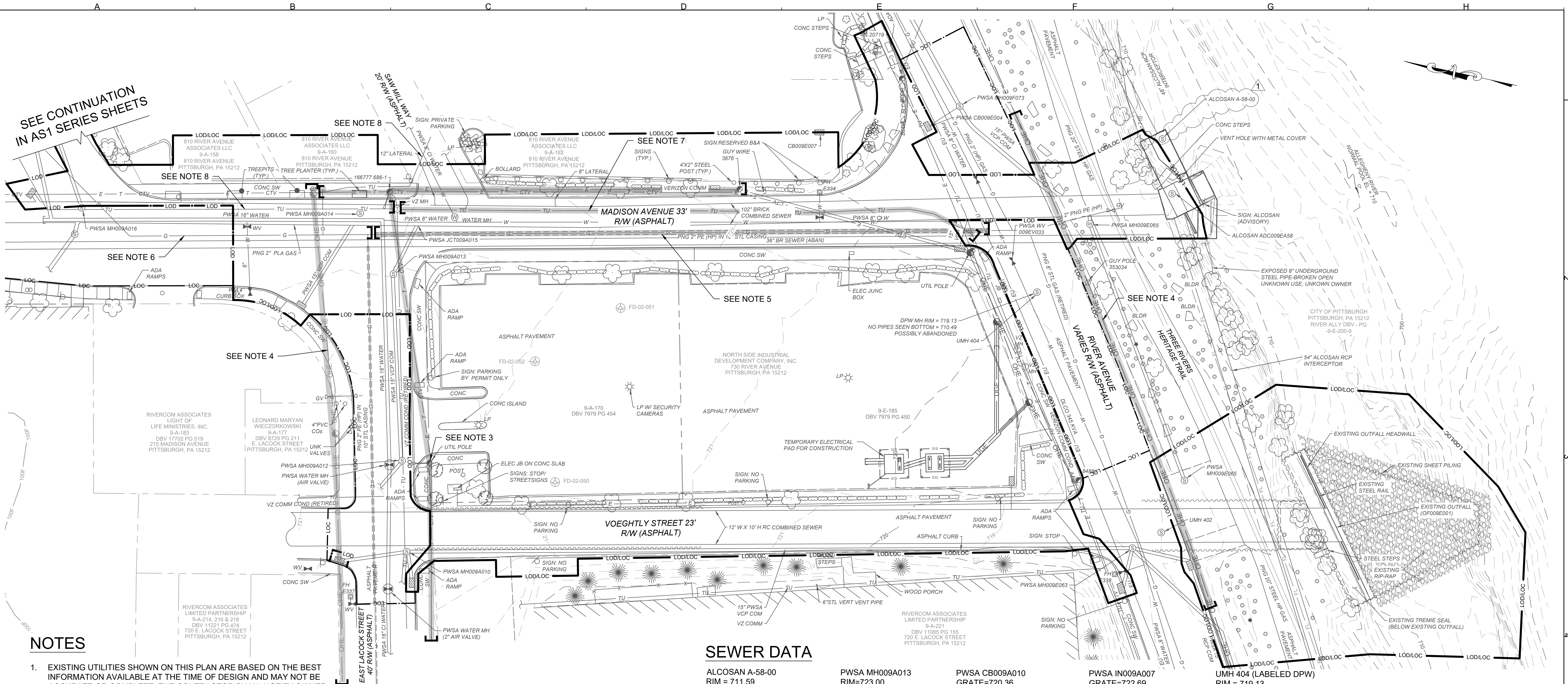
Addendum No. 5

Attachment B

APPENDIX B – CONTRACT DRAWINGS

- Revised A58-CI-400 (Sheet 386 of 770) (1 page)

FILE NAME: C:\Users\bow101681\OneDrive\Documents\Mott MacDonaldd507105621 - ALCOSAN Ohio River Tunnel Design - T&MP\Project Files\6 - A5802-Civil\Sheets - A58-CI-400 LAST SAVED BY: TRAVIS THOMAS PLOT DATE: 10/1/2025 3:56:18 PM



- NOTES**
- EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN AND MAY NOT BE ACCURATE OR COMPLETE. THE CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF SIGNIFICANT DISCREPANCIES OR ADDITIONAL UTILITIES ARE FOUND THAT WILL IMPACT THE WORK.
 - INFORMATION REGARDING THE EXISTING OUTFALL (VOEGHTLY STREET) HAS BEEN OBTAINED FROM THE FOLLOWING DRAWING SET: COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DESIGN

AUGUST 29, 1984
ALLEGHENY COUNTY
1021 SEC. 2A-2B
12'x10' R.C. BOX CULVERT STORM SEWER
25+93.70 TO 47+13.45
 - DEMOLITION OF EXISTING POWER AND COMMUNICATION OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS.
 - CONSTRUCTION OF EXISTING POWER AND OVERHEAD UTILITIES TO BE COMPLETED BY OTHERS

- ABANDONMENT OF EXISTING UNDERGROUND GAS LINE TO BE COMPLETED BY OTHERS
- CONSTRUCTION OF UNDERGROUND GAS LINE TO BE COMPLETED BY OTHERS
- DEMOLITION OF EXISTING UNDERGROUND COMMUNICATION LINES TO BE COMPLETED BY OTHERS
- CONSTRUCTION OF UNDERGROUND COMMUNICATION LINES TO BE COMPLETED BY OTHERS

SEWER DATA

ALCOSAN A-58-00
RIM = 711.59
WORK PLATFORM = 702.19
(UNABLE TO MEASURE INVERT BECAUSE OF VOLUME OF FLOWING WATER)

ALCOSAN ADC009EA58
RIM=720.16
PIPES RECESSED
BOTTOM STRUCT=700.16

PWSA MH009A010
RIM=720.70
INV=715.9115" VCP SW
INV=710.14 15" VCP W
INV=715.61 15" VCP N
INV=708.35 15" VCP S

PWSA MH009A012
RIM= 721.26
INV=717.83 15" VCP NW
INV=712.53 15" VCP E

PWSA MH009A013
RIM=723.00
INV=711.10 15" VCP W
INV=711.0615" VCP SE

ALCOSAN MH009A014
RIM=723.28
INV=715.39 15" VCP NW
INV=704.99 N
INV=704.38 S

PWSA MH009E063
RIM=718.06
INV=710.07 15" VCP W
INV=707.99 15" VCP N
INV=710.48 15" VCP S
INV=707.95 15" VCP SW

PWSA MH009F073
RIM=719.71
INV=PIPE NOT SEEN NW
INV=707.43 15" VCP NE
INV=707.30 15" VCP SW

PWSA CB009A010
GRATE=720.36
TOP STENCH PLATE=717.95 S
BOTTOM BOX=714.56

PWSA CB009A004
GRATE=723.28
TOP STENCH PLATE=717.97 NE
BOTTOM BOX=714.60

PWSA CB009E003
TOP=719.56
WATER FILLED

PWSA CB009E004
GRATE=719.08
WATER FILLED
BOTTOM BOX=713.75

PWSA CB009E005
TOP=718.59
FULL OF WATER
BOTTOM OF STRUCT=713.19

PWSA IN009A007
GRATE=722.69
TOP STENCH
PLATE=720.89 SE

PWSA SI009E019
GRATE=717.88
INV=713.57 15" RCP SW
INV=713.43 15" RCP N

UMH 401
RIM = 719.22
(FULL OF WATER)
BOTTOM STRUCT = 709.12

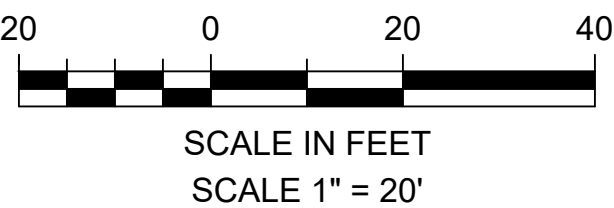
UMH 402
RIM = 717.94
(NO PIPES SEEN)
BOTTOM = 703.44

UCB 403
GRATE = 719.65
TOP STENCH PLATE = 718.86
BOTTOM BOX = 716.86

UMH 404 (LABELED DPW)
RIM = 719.13
NO PIPES SEEN
BOTTOM STRUCT=710.49
POSSIBLY ABANDONED

REFERENCE

- SEE SHEET ORT-GN-008 FOR PROJECT LOCATION MAP.
- SEE SHEET A58-ST-412 FOR EXISTING OUTFALL.



Designed by:	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
JRL	1	10/03/25	A-58-00 ANNOTATION ADDITION	SBP
Drawn by:				
MJN				
Checked by:				
DLM				

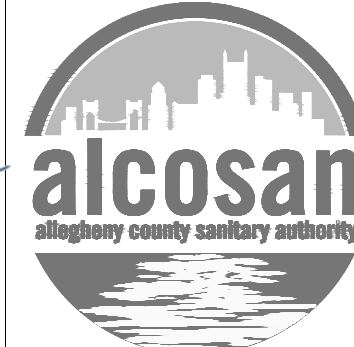


Two Allegheny Center
Nova Tower 2, Suite 1301
Pittsburgh, PA 15212
(412) 497 - 2900



Dial 8-1-1 or 1-800-242-1776 not less than 3 business days nor more than 10 business days prior to the start of excavation.

Pennsylvania One Call System Serial Number
FINAL DESIGN TICKET # 20250040204



ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY (ALCOSAN)
OHIO RIVER TUNNEL (ORT)

A58-CI-400
EXISTING CONDITIONS PLAN

Contract: 1797

File: A58-CI-400.dwg

Date: 07/30/2025

Sheet: 386 OF 770

Addendum No. 5

Attachment C

APPENDIX A – TECHNICAL SPECIFICATIONS

- Section 01 31 00, Attachment 9 – Pennsylvania State Programmatic General Permit – 6 (PASPGP-6) Issued by the U.S. Army Corps of Engineers (Permit Number 2022-00267) - Federal Authorization portion of the Joint Permit (20 pages)

Attachment 9

Pennsylvania State Programmatic General Permit – 6 (PASPGP-6) Issued by the
U.S. Army Corps of Engineers (Permit Number 2022-00267) - Federal
Authorization portion of the Joint Permit



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PITTSBURGH DISTRICT
PITTSBURGH DISTRICT OFFICE
1000 LIBERTY AVENUE SUITE 2200
PITTSBURGH PENNSYLVANIA 15222-4186

September 17, 2025

Regulatory Division
CELRP 2022-00267

Ms. Michelle Buys
Allegheny County Sanitary Authority
3300 Preble Avenue
Pittsburgh, Pennsylvania 15233

Dear Ms. Buys:

I am replying to Pennsylvania Department of Environmental Protection (PADEP) Joint Permit No. E0205224-001 received in this office March 26, 2024, requesting our comments on eligibility of your Ohio River Tunnel (ORT) Project for authorization under the Pennsylvania State Programmatic General Permit (PASPGP-6). The ORT Project is the first of three tunnel projects to be implemented as part of the Regional Conveyance Facilities component of the Interim Measures Wet Weather Plan to reduce combined overflows located in the City of Pittsburgh and Borough of McKees Rocks, Allegheny County, Pennsylvania. (40.47355 N, -80.044506 W).

The ORT project involves constructing a deep tunnel system in rock, about 150 feet below ground surface and nine combined sewage overflow (CSO) diversion and tunnel access sites with associated near surface facilities. There are three tunnels associated with the ORT project which includes the Chartiers Creek Tunnel (CCT), the Sawmill Run Tunnel (SMRT), and the Ohio River Tunnel (ORT). The main ORT alignment is along the right descending bank of the Ohio River and the Northside neighborhood of Pittsburgh. The CCT and SMRT will cross the Ohio River at approximately River Mile 2.9 and 0.7, respectfully, and connect to the ORT. None of the tunnels or upland features involve fill as these activities occur below ground or in upland areas. This authorization involves upgrades to four existing outfall facilities, one along Chartiers Creek (ORT-007), one along Allegheny River (ORT-A58), and two along the Ohio River (ORT-027 & ORT-041).

The activities described above results in 7 single and complete projects under PASPGP-6 resulting in approximately 17,054 Square Feet (Sq. ft.) of permanent and 5,680 Sq. ft. of temporary riverine impacts. No wetlands will be impacted by this project.

Our review and internal coordination have determined that the proposed project qualifies for Federal authorization by PASPGP-6. You are authorized to perform the work in accordance with the terms and conditions outlined in the enclosure. In accordance with General Condition 34 of PASPGP-6 you are required to submit a

signed certification form (included in the enclosure) documenting completion of the authorized activity and implementation of any required compensatory mitigation.

You and your contractor are also requested to sign, date, and return the acknowledgment form attached to this verification letter whereby you are acknowledging and agreeing to comply with the terms and conditions, including any special conditions, of this PASPGP-6 verification.

These documents should be submitted to the following email address: Regulatory.Permits@usace.army.mil, with the Corps permit number (2022-00267) included in the subject line.

Project Specific Special Conditions:

1. It is anticipated that a barge will be utilized for the installation and removal of the temporary stream diversion system associated with the O27 outfall area along the right descending bank of the Ohio River. Coordination with the PFBC and U.S. Coast Guard must be conducted to ensure all signage and/or buoys associated with an approved **Aids to Navigation Plan** are visible to commercial traffic and recreational boaters traversing the area.
2. ALCOSAN shall provide USACE with a copy of the as-awarded contractor's schedule for tunneling work associated with the CCT and SMRT.
3. ALCOSAN shall notify USACE when tunneling activities are scheduled to commence for the CCT and SMRT and when tunneling progresses within 100 feet of the federal navigation channel.
4. ALCOSAN shall notify USACE when tunneling activities have passed 100 feet beyond the federal navigation channel.
5. ALCOSAN shall notify USACE during any emergency that may occur during the tunnel process that impacts navigation, the river, and riverbanks.

In accordance with PASPGP-6, Part V, A (29) state authorization from the PADEP is required to be obtained prior to commencement of any work authorized by PASPGP-6.

This verification is valid for the length of the PADEP permit, including 401 Water Quality Certification, or until the PASPGP-6 expires (June 30, 2026), is modified, reissued, suspended, or revoked. Activities authorized under the PASPGP-6 that have commenced construction or are under contract to commence construction, will remain authorized provided the activity is completed within 12 months of the date of the PASPGP-6's expiration (June 30, 2026), modification, reissuance, suspension, revocation; or until the expiration date of the project specific verification, whichever is sooner.

If you have any questions related to this verification or have issues accessing documents referenced in this letter, please contact Allen R. Edris by phone at (412) 395-7158 or email at allen.r.edris@usace.army.mil. Please take a moment to complete our customer satisfaction survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,

//SIGNED//

Alyssa B. Barkley
Chief, South Branch
Regulatory Division

Enclosure(s)
PASPGP-6

cc:
Pennsylvania Department of Environmental Protection (Garbark)
MottMac (Chavara)
USACE (Sakmar)

**Acknowledgment and Agreement for Compliance with Terms &
Conditions of PASPGP-6**

Corps Permit Number: 2022-00267

Project Location: in the City of Pittsburgh and Borough of McKees Rocks, Allegheny County, Pennsylvania. (40.47355 N, -80.044506 W).

I hereby accept and agree to comply with the terms and conditions, of the PASPGP-6 authorizations, as stated.

Applicant's Signature

Date

I hereby accept and agree to comply with the terms and conditions, of the PASPGP-6 authorizations, as stated.

Applicant's Contractor's Signature

Date

Contractor Name (please print)

AREA CODE/TELEPHONE NO.

ADDRESS

Please return form by email to allen.r.edris@usace.army.mil or by mail to the following address:

U.S. Army Corps of Engineers, Regulatory Branch
William S. Moorhead Federal Building, 20th floor
Attn: Allen Edris
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186

PASPGP-6 PERMIT COMPLIANCE, SELF-CERTIFICATION

PASPGP-6 General Condition 34 requires submittal of a signed certification documenting the completion of the authorized activity and implementation of any required compensatory mitigation. This certification should indicate if the success of any required permittee-responsible mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits. The signature of the permittee is also required to certify the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later. Below are Corps District mailing and email addresses, and a list of the information to be included as part of the certification submittal.

Project Name: Ohio River Tunnel

Applicant Name: ALCOSAN

PADEP Permit No: E0205224-001

Date of Issuance:

Corps Permit Number: 2022-00267

Date of Issuance: 17 September 2025

Waterway: Ohio River

County: Allegheny

Corps District:

☐

Baltimore District

U.S. Army Corps of Engineers State College Field Office
1631 South Atherton Street
Suite 101
State College, Pennsylvania 16801-6260
Email: NAB-Regulatory@usace.army.mil

☐

Philadelphia District

U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East Regulatory Branch
Philadelphia, Pennsylvania 19107-3390
Email: PhiladelphiaDistrictRegulatory@usace.army.mil

☒

Pittsburgh District

U.S. Army Corps of Engineers, Regulatory Branch
William S. Moorhead Federal Building, 20th floor
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186
Email: Regulatory.Permits@usace.army.mil

The following information is required by PASPGP-6 General Condition 34:

1. Date authorized work commenced:
2. Date authorized work completed:
3. Was all work, including any required mitigation, completed in accordance with your PASPGP-6 authorization?
☐ YES ☐ NO
4. Explain any deviations (use additional sheets if necessary)

July 1, 2021

5. Was compensatory wetland/stream mitigation accomplished through an approved Mitigation Bank and/or In-Lieu fee program?

☐ YES ☐ NO (if **YES**, attach proof of transaction, if **NO** complete Number 6 and 7 below).

6. Was permittee compensatory wetland and/or stream mitigation required? ☐ YES ☐ NO

If YES, was the required compensatory mitigation completed in accordance with the permit and mitigation plan requirements? ☐ YES ☐ NO

7. Attach labeled color photographs showing completed work including any mitigation area(s).

I hereby certify that, except as noted above, that all work, including mitigation, has been completed in accordance with the terms and conditions, including special conditions of the above referenced permit.

(Permittee Signature): _____ (Telephone Number):

(Address): _____ (Email):

July 1, 2021

PENNSYLVANIA STATE PROGRAMMATIC GENERAL PERMIT – 6
(PASPGP-6)
July 1, 2021

Please note: the full text of the PASPGP-6 may be viewed on the Pittsburgh District web site at <https://www.lrp.usace.army.mil/Missions/Regulatory/Forms-and-Publications/> or by calling the Corps at (412) 395-7155.

Permittee: ALCOSAN

Date of PASPGP-6 Verification: 17 September 2025

State Authorization(s): E0205224-001

Corps District:



Baltimore District

U.S. Army Corps of Engineers State College Field Office
1631 South Atherton Street
Suite 101
State College, Pennsylvania 16801-6260
Email: NAB-Regulatory@usace.army.mil



Philadelphia District

U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East Regulatory Branch
Philadelphia, Pennsylvania 19107-3390
Email: PhiladelphiaDistrictRegulatory@usace.army.mil



Pittsburgh District

U.S. Army Corps of Engineers, Regulatory Branch
William S. Moorhead Federal Building, 20th floor
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186
Email: Regulatory.Permits@usace.army.mil

It has been determined that your proposed project, which includes the discharge of dredged and/or fill material and/or the placement of structures into waters of the United States, including wetlands, qualifies for federal authorization under the provisions of Section 404 of the Clean Water Act and /or Section 10 of the River and Harbor Act of 1899, under the terms and conditions of the PASPGP-6.

All activities authorized under PASPGP-6 must comply with all conditions of the authorization, including General, Procedural, and Special Conditions. Failure to comply with all the conditions of the authorization, including project special conditions, will constitute a permit violation and may be subject to criminal, civil, or administrative penalties, and /or restoration.

The authorized activity must be performed in compliance with the following General Conditions to be authorized under PASPGP-6:

General Conditions:

1. Permit Conditions: The permittee shall conduct all work and activities in waters of the United States, including jurisdictional wetlands, in strict compliance with the approved authorization/verification including all final maps, plans, profiles, and design specifications.
2. 401 State Water Quality Certification (SWQC) Conditions: The permittee shall comply with the following conditions unless a project specific SWQC is required as identified below:
 - a. Prior to beginning any activity authorized by the Corps under PASPGP-6, the applicant shall obtain from the Department all necessary environmental permits, authorizations or approvals, and submit to the Department environmental assessments and other information necessary to obtain the permits and approvals, as required under state law, including The Clean Streams Law (35 P.S. §§ 691.1—691.1001), the Dam Safety and Encroachments Act (32 P.S. §§ 693.1—693.27), the Surface Mining Conservation and Reclamation Act (52 P.S. §§ 1396.1—1396.19b), the Noncoal Surface Mining Conservation and Reclamation Act (52 P.S. §§ 3301—3326), the Bituminous Mine Subsidence and Land Conservation Act (52 P.S. §§ 1406.1—1406.21), the Coal Refuse Disposal Control Act (52 P.S. §§ 30.51—30.66), the Solid Waste Management Act (35 P.S. §§ 6018.101—6018.1003), the Hazardous Sites Cleanup Act (35 P.S. §§ 6020.101—6020.1305), the Land Recycling and Environmental Remediation Standards Act (35 P.S. §§ 6026.101—6026.908), 58 Pa.C.S. §§ 3201—3274 (related to development), the Air Pollution Control Act (35 P.S. §§ 4001—4015), the Storage Tank and Spill Prevention Act (35 P.S. §§ 6021.101—6021.2104) and the regulations promulgated thereunder, including 25 Pa. Code Chapters 16, 71, 77, 78, 78a, 86—91, 92a, 93, 95, 96, 102, 105, 106, 127, 245 and 260a—299.
 - b. Fill material may not contain any wastes as defined in the Solid Waste Management Act.
 - c. Applicants and projects eligible for the PASPGP-6 must obtain all state permits or approvals, or both, necessary to ensure that the project meets the state's applicable water quality standards, including a project-specific SWQC.

Note: As part of PADEP's issuance of 401 SWQC for PASPGP-6 on February 12, 2021, the following was included to clarify the meaning of this condition:

This 401 SWQC is only available for projects that do not require any federal authorization other than authorization from the Corps under Section 404 of the Act or Section 10 of the Rivers and Harbors Act of 1899. Applicants seeking authorization for activities not eligible for coverage under PASPGP-6, or for activities that require another federal authorization (such as an interstate natural gas pipeline, a gas storage field or a nuclear or hydroelectric project requiring authorization by another federal agency), must submit a request to the Department for a project-specific SWQC. The scope of the issuance of this SWQC is related only to the scope and applicability of the proposed PASPGP-6. Any activity or project requiring the Department to

issue 401 SWQC that is beyond the scope of the proposed PASPGP-6 or other programmatically issued SWQC (e.g. Nationwide Permits) will require the applicant to obtain a project-specific SWQC from the Department. This would include any activity or project requiring a SWQC associated with an authorization, permit or license issued by a federal agency, such as Federal Energy Regulatory Commission or Nuclear Regulatory Commission. Such activities or projects include, but are not limited to, an interstate natural gas pipeline, a gas storage field or a nuclear or hydroelectric project.

3. Terms and Conditions Related to Coastal Zone Management Act (CZMA) Certification: For those projects located within Pennsylvania's Coastal Zones, Non-Reporting Activities have General CZMA consistency determination and Reporting Activities must obtain individual CZMA consistency determination (see General Condition 30(b)).
4. Aquatic Life Movements: No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless crossing cannot be used, then culverts should be designed, constructed, and appropriately depressed, if possible, below the stream invert to minimize adverse effects to aquatic life movements.
5. Threatened and Endangered Species: By signing the Pennsylvania Natural Diversity Inventory (PNDI) receipt, the permittee has agreed to comply with all avoidance measures identified by the PNDI receipt. The applicant may also agree in writing to comply with all avoidance measures identified in U.S. Fish and Wildlife Service (USFWS) correspondence, including IPaC, as part of the application. To ensure compliance with the Endangered Species Act (ESA), those avoidance measures associated with federally listed, threatened, or endangered species are a condition of the PASPGP-6 verification, unless modified by the Corps.

If an activity is verified under the PASPGP-6, and a federally listed, threatened, or endangered species, or proposed species, is subsequently found to be present, all work must cease, and the Corps and USFWS (or National Marine Fisheries Service (NMFS)) must be notified by telephone immediately (contact information below). The PASPGP-6 verification is automatically suspended without additional notification to the permittee and will not be re-issued until consultation pursuant to Section 7 of the ESA is concluded and adverse effects to federally listed, threatened, endangered, and proposed species are avoided, or incidental take authorization issued.

Furthermore, persons have an independent responsibility under Section 9 of the ESA to avoid any activity that could result in the "take" of a federally listed species.

USFWS:
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
office phone: 814 234-4090
fax: 814-234-0748 or 814 206-7452

NMFS:
Ms. Jennifer Anderson
Assistant Regional Administrator
Protected Resources Division NOAA Fisheries
55 Greater Republic Drive
Gloucester, Massachusetts 01930

6. Spawning Areas: The permittee shall comply with all time-of-year-restrictions (see below) associated with spawning areas as set forth by the Pennsylvania Fish and Boat Commission (PFBC) or other designated agency. Discharges or structures in spawning or nursery areas shall not occur during spawning seasons unless written approval is obtained from the PFBC or another designated agency. In addition, work in areas used for other time sensitive life span activities of fish and wildlife (such as hibernation or migration) may necessitate the use of seasonal restrictions for avoidance of adverse impacts to vulnerable species. Impacts to these areas shall be avoided or minimized to the maximum extent practicable during all other times of the year.

Wild Trout	October 1 - December 31
Class A Wild Trout	October 1 - April 1

List of Trout Streams found at:

<https://www.fishandboat.com/Fish/PennsylvaniaFishes/Trout/Pages/TroutWaterClassifications.aspx>.

7. Shellfish Production: No discharge of dredged and/or fill material and/or the placement of structures may occur in areas of concentrated shellfish production, unless the discharge is directly related to an authorized shellfish harvesting activity.
8. Adverse Effects From Impoundment: If the regulated activity creates an impoundment of water, the adverse effects on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow, including impacts to wetlands, shall be minimized to the maximum extent practicable.
9. Management of High Flows: To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity,

and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Erosion and Sediment Controls: Appropriate soil erosion and sediment controls, in accordance with state regulations, must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States, including jurisdictional wetlands, during periods of low-flow or no-flow, or during low tides.
11. Suitable Material: No activities, including discharges of dredged and/or fill material or the placement of structures, may consist of unsuitable material (i.e., asphalt, trash, debris, car bodies, etc.). No material discharged shall contain toxic pollutants in amounts that would violate the effluent limitation standards of § 307 of the Clean Water Act (CWA).
12. Temporary Fill and Structures: Temporary fill (i.e., access roads and cofferdams) and structures in waters and/or wetlands authorized by PASPGP-6 shall be properly constructed and stabilized during use to prevent erosion and accretion. Temporary fill in wetlands shall be placed on geotextile fabric laid on existing wetland grade, unless such requirement is specifically waived by the Corps. Whenever possible, rubber or wooden mats should be used for equipment access through wetlands to the project area. Temporary fills and structures shall be removed, in their entirety, to an upland site, and suitably contained to prevent erosion and transport to a waterway or wetland. Temporarily impacted areas shall be restored to their preconstruction contours, elevations, and hydrology, and revegetated with a wetland seed mix that contains non-invasive, native species, to the maximum extent practicable. Unless approved by the Corps, the restoration work must be completed within 30 days of the date the temporary fill/structure is no longer needed.
13. Equipment Working in Wetlands: Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
14. Installation and Maintenance: Any regulated structure or fill authorized by PASPGP-6 shall be properly installed and maintained to ensure public safety.
15. PASPGP-6 Authorization:
 - a. PASPGP-6 expires June 30, 2026, unless suspended or revoked.
 - b. Verifications of PASPGP-6 expire June 30, 2026, unless the PASPGP-6 permit is suspended, revoked, or the PADEP authorization expires, whichever date occurs sooner. Activities authorized under PASPGP-6 that have commenced construction or are under contract to commence construction will remain authorized provided the activity is completed within 12 month of the date of the PASPGP-6 expiration, modification, or revocation; or until the expiration date of the project specific verification, whichever is sooner.

16. One-Time Use: A PASPGP-6 verification is valid to construct the project, or perform the activity, one time only, except for PASPGP-6 verifications specifically issued for reoccurring maintenance activities.
17. Water Supply Intakes: No regulated activity may occur in the proximity of a public water supply intake and adversely impact the public water supply. In order to minimize the effects of intakes on anadromous fish eggs and larvae, and oyster larvae, intake structures should be equipped with screening (with mesh size no larger than 2 mm) of wedge wire or another material of equal or better performance. Where feasible, intakes should be located away from spawning or nursery grounds, or to minimize the impingement on, or entrainment of, eggs or larvae. In addition, intake velocities should not exceed 0.5 ft/sec.
18. Historic Properties: For all activities verified under a PASPGP-6, upon the unanticipated discovery of any previously unknown historic properties (historic or archeological), all work must cease immediately, and the permittee must notify the State Historic Preservation Officer (SHPO) and the Corps. The Corps will contact the tribes with whom they routinely consult, within 24 hours in accordance with each District's tribal consultation process. PASPGP-6 may be re-verified, and special conditions added if necessary, after an effect's determination on historic properties and/or tribal resources is made, in consultation with the SHPO, the tribes and other interested parties. The PASPGP-6 verification may be modified and/or rescinded for the specific activity if an adverse effect on the historic property cannot be avoided, minimized, or mitigated.
19. Tribal Rights: No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
20. Corps Civil Works Projects: The PASPGP-6 does not authorize any work which will interfere with an existing or proposed Corps Civil Works project, or any Corps-owned or managed property or easement (i.e., flood control projects, dams, reservoirs, and navigation projects), unless specifically approved by the Corps in writing. Pursuant to 33 U.S.C 408, a review by, or permission from the Corps is required for activities that will alter or temporarily or permanently occupy or use a Corps federally authorized Civil Works project. Any activity that requires Section 408 permission and/or review is not authorized by PASPGP-6 until the appropriate Corps office issues the Section 408 permission or completes its review to alter, occupy, or use the Corps Civil Works project, and Corps issues a written PASPGP-6 verification.
21. Navigation: No activity verified under PASPGP-6 may cause more than minimal adverse effect on navigation. No attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein. In addition, activities that require temporary causeways that prohibit continued navigational use of a waterway (i.e., temporary causeways extending greater than $\frac{3}{4}$ the width across the waterway) shall be removed in their entirety upon completion of their use. Any safety lights and signals prescribed by the U.S. Coast Guard (USCG), through regulation or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. The permittee understands and agrees that, if further operations by the United States require the removal, relocation, or other alteration, of the

structure or work herein authorized, or if, in the opinion of the Secretary of the Army or an authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

22. Inspections: The permittee shall allow a District Engineer or an authorized representative(s) to make periodic inspections at any time deemed necessary in order to ensure that the work is being performed in accordance with all the terms and conditions of PASPGP-6. The District Engineer may also require post-construction engineering drawings (as-built plans) for completed work.
23. Modifications of Prior Verifications: Any proposed modification of a previously verified Single and Complete project that results in a change in the verified impact to, or use of waters of the United States, including jurisdictional wetlands, must be approved by PADEP, or the Corps if applicable. Corps written approval is required if the prior verification was reviewed by the Corps, or if the proposed modification is a Reporting Activity under PASPGP-6. Project modifications that cause a Single and Complete Project to exceed 0.5 acre of loss of waters of the United States, including jurisdictional wetlands (except those identified in Part II A.2. a. and b.), or greater than 1,000 linear feet of permanent jurisdictional stream loss (except those identified in Part II A.2. a and b.), are not eligible for PASPGP-6 and will be forwarded to the Corps for review under an alternative permit review procedure.
24. Recorded Conservation Instruments: As per Part III.D.27 and Part III.E.8 of this permit, proposed Draft Conservation Instruments may be submitted by the applicant as part of the permit application package for review and approval. When such proposed Conservation Instruments are submitted by the applicant, proof of the recorded deed restriction, conservation easement, or deed restricted open space area shall be forwarded to the appropriate Corps District and appropriate PADEP offices, prior to the initiation of any permitted work, unless specifically waived by the Corps in writing. Conservation Instrument templates can be found at: <https://www.nab.usace.army.mil/Missions/Regulatory/Permits-PA/>.
25. Property Rights: PASPGP-6 does not obviate the need to obtain other federal, state, or local authorizations required by law, nor does the permit grant any property rights or exclusive privileges or authorize any injury to the property or rights of others.
26. Navigable Waters of the United States (Section 10 Waters):

In addition to the other general conditions, the following conditions are applicable for activities in the eligible navigable waters of the United States identified in Appendix B:

- a. For aerial transmission lines, the following minimum clearances are required for aerial electric power transmission lines crossing navigable waters of the United States. These clearances are related to the clearances over the navigable channel provided by the

existing fixed bridges, or the clearances which would be required by the USCG for new fixed bridges, in the vicinity of the proposed aerial transmission line. These clearances are based on the low point of the line under conditions producing the greatest sag, taking into consideration temperature, load, wind, length of span, and type of supports as outlined in the National Electric Safety Code:

Nominal System Voltage (kV)	Minimum Additional Clearance (ft.) Above Clearance Required for Bridges
115 and below	20
138	22
161	24
230	26
350	30
500	35
700	42
750-765	45

- i. Clearances for communication lines, stream gauging cables, ferry cables, and other aerial crossings must be a minimum of ten feet above clearances required for bridges, unless specifically authorized otherwise by the District Engineer.
 - ii. Corps regulation ER 1110-2-4401 prescribes minimum vertical clearances for power communication lines over Corps lake projects. In instances where both regulation and ER 1110-2-4401 apply, the greater minimum clearance is required.
- b. Encasement: The top of any cable, encasement, or pipeline shall be located a minimum of three feet below the existing bottom elevation of the streambed and shall be backfilled with suitable heavy material to the preconstruction bottom elevation. Where the cable, encasement, or pipeline is placed in rock, a minimum depth of one foot from the lowest point in the natural contour of the streambed shall be maintained. When crossing a maintained navigation channel, the requirements are a minimum of eight feet between the top of the cable, encasement, or pipeline and the authorized depth of the navigation channel. For maintained navigational channels, where the utility line is placed in rock, a minimum depth of two feet from the authorized depth of the navigation channel shall be maintained.
- c. As-Built Drawings: Within 60 days of completing an activity that involves an aerial transmission line, submerged cable, or submerged pipeline across a navigable water of the United States (i.e., Section 10 waters), the permittee shall furnish the Corps and National Oceanic and Atmospheric Administration, Nautical Data Branch, N/CS26, Station 7317, 1315 East-West Highway, Silver Spring, Maryland, 20910 with professional, certified as-built drawings, to scale, with control (i.e., latitude/longitude, state plane coordinates), depicting the alignment and minimum clearance of the aerial wires above the mean high water line at the time of survey or depicting the elevations and alignment of the buried cable or pipeline across the navigable waterway.

d. Aids to Navigation: The permittee must prepare and provide for USCG approval, a Private Aids to Navigation Application (CG-2554). The application can be found at: https://media.defense.gov/2017/Nov/20/2001846135/-1/-1/0/CG_2554.pdf. The completed application must be sent to the appropriate USCG office as indicated below:

- i. Baltimore/Philadelphia Districts: Commander Fifth Coast Guard District, 431 Crawford Street, Room 100, Portsmouth, VA 23704-5504, Attn: Mr. Matthew Creelman; by email to Matthew.K.Creelman2@uscg.mil; or by FAX to (757) 398-6303.
- ii. Pittsburgh District: Eighth Coast Guard District, Sector Ohio Valley, USCGC Osage, 300 McKown Ln, Sewickley, PA 15143; phone (412) 741-1180

Within 30 days of the date of receipt of the USCG approval, the permittee must provide a copy to the appropriate Corps district office.

27. PADEP Waiver: If the Corps determines a specific activity, which is eligible for a PADEP Non-reporting Waiver, has a significant adverse impact on life, property or important aquatic resources, the Corps may require the owner to modify the activity to eliminate the adverse condition or to obtain a Corps Individual Permit. In accordance with 33 CFR 325.7(a), "The District Engineer may reevaluate the circumstances and conditions of any permit, including regional permits, either on his own motion, at the request of the permittee, or a third party, or as the result of periodic progress inspections, and initiate action to modify, suspend, or revoke a permit as may be made necessary by considerations of the public interest. In the case of regional permits, this reevaluation may cover individual activities, categories of activities, or geographic areas."
28. Corps Water Releases: For projects located downstream of a Corps dam, the permittee should contact the appropriate Corps, Area Engineer Office, to obtain information on potential water releases and to provide contact information for notification of unscheduled water releases. It is recommended that no in-water work be performed during periods of high-water flow velocities. Any work performed at the project site is at the permittee's own risk.
29. State Authorization: The activity must receive state authorization. For the purpose of this requirement, any one of the following is considered as a state authorization:
 - a. A PADEP Chapter 105 Water Obstruction and Encroachment Permit, including PADEP approved Environmental Assessment pursuant to 25 Pa. Code § 105.15; or
 - b. A PADEP GP issued pursuant to 25 Pa. Code §§105.441-105.449; or
 - c. A PADEP approved Environmental Assessment for activities not otherwise requiring a PADEP permit pursuant to 25 Pa. Code § 105.12; or
 - d. A PADEP Dam Permit, including maintenance or repairs of existing authorized dams, including maintenance dredging; or

- e. A PADEP Emergency Permit issued pursuant to 25 Pa. Code § 105.64; or
 - f. A PADEP permit for the construction of a bridge or culvert which allows for maintenance activities of bridges and culverts; or
 - g. A PADEP Chapter 105 Dam Safety and Encroachment Enforcement Action.
30. Other Authorizations: Additional federal, state, and/or local authorizations or approvals may be required and where applicable must be secured by the applicant, prior to initiating any discharge of dredged and/or fill material, and/or the placement of structures into waters of the United States, including jurisdictional wetlands. These approvals include, but are not limited to:
- a. A project specific 401 SWQC issued by PADEP or considered waived, consistent with Section 401 of the CWA.
- PADEP has issued 401 SWQC for activities authorized by PASPGP-6 with conditions. See General Condition 2 for conditions and for identification when a project specific 401 SWQC or a waiver thereof is required. If the permittee cannot comply with all of the conditions of the 401 SWQC previously issued for PASPGP-6, then the permittee must obtain a project specific 401 SWQC or waiver for the proposed discharge in order for the activity to be authorized by PASPGP-6. The Corps or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality; and
- b. Reporting Activities located within the designated CZM Areas. Require a CZMA consistency determination issued by PADEP or a presumption of concurrence pursuant to Section 307 of the Federal Coastal Zone Management Act.
- The District Engineer or PADEP may require additional measures to ensure that the authorized activity is consistent with state CAM requirements; and
- c. Fills within the 100-year floodplains. This activity must comply with applicable Federal Emergency Management Agency approved state or local floodplain management requirements.
31. Federal Liability: In issuing this permit and any subsequent activity verification, the federal government does not assume any liability, including but not limited to the following:
- a. Damages to permitted project or users, thereof, as a result of other permitted or unpermitted activities or from natural causes;
 - b. Damages to the permitted project or uses, thereof, as a result of current or future activities undertaken by or on behalf of the United States in the public interest;
 - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit;

- d. Design or construction deficiencies associated with the permitted work; and
- e. Damage claims associated with any future modification, suspension, or revocation of the PASPGP-6.

32. False and Incomplete Information: The Corps may modify or rescind a previously issued project specific verification, if it determines that the original verification was issued based on false, incomplete and/or inaccurate information; or other information becomes available whereby such action is necessary to ensure compliance with other federal laws and regulations.

33. Anadromous Fish Waters: To protect anadromous fish during their migration and spawning, no work can take place in the following anadromous fish waterways listed in the table below from March 15 to June 30 unless approved in writing by the Corps. Questions on the applicability of this condition should be directed to the Corps, Philadelphia District.

<u>Waterway</u>	<u>Downstream extent</u>	<u>Upstream extent</u>	<u>Upstream Latitude (N)</u>	<u>Upstream Longitude (E)</u>
<u>Delaware River in Pennsylvania (including W. Branch)</u>	<u>Rte. 220 Bridge</u>	<u>PA/NY Border</u>	<u>41.999448</u>	<u>-75.359573</u>
<u>Lehigh River and adjacent canals</u>	<u>confluence with Delaware River</u>	<u>500 feet upstream of the Cementon Dam</u>	<u>40.690275</u>	<u>-75.503800</u>
<u>Little Lehigh Creek</u>	<u>confluence with Lehigh River</u>	<u>500 feet upstream of the lowermost dam</u>	<u>40.596318</u>	<u>-75.475570</u>
<u>Hokendauqua Creek</u>	<u>confluence with Lehigh River</u>	<u>State Route 4014 (West Scenic Drive)</u>	<u>40.793273</u>	<u>-75.439262</u>
<u>Bushkill Creek</u>	<u>confluence with Delaware River</u>	<u>500 feet upstream of the lowermost dam</u>	<u>40.694859</u>	<u>-75.212406</u>
<u>Waterway</u>	<u>Downstream extent</u>	<u>Upstream extent</u>	<u>Upstream Latitude (N)</u>	<u>Upstream Longitude (E)</u>
<u>Brodhead Creek</u>	<u>confluence with Delaware River</u>	<u>500 feet upstream of the Stroudsburg Water Co. Dam</u>	<u>41.018667</u>	<u>-75.201063</u>
<u>Bush Kill</u>	<u>confluence with Delaware River</u>	<u>500 feet upstream of Resica Falls</u>	<u>41.111235</u>	<u>-75.095824</u>
<u>Lackawaxen River</u>	<u>confluence with Delaware River</u>	<u>500 feet upstream of the Woolen Mill Dam</u>	<u>40.984304</u>	<u>-75.191569</u>
<u>Dyberry Creek</u>	<u>confluence with Lackawaxen River</u>	<u>Jadwin Dam</u>	<u>41.612088</u>	<u>-75.263391</u>
<u>Darby Creek</u>	<u>Confluence with Delaware River</u>	<u>500 feet upstream of the confluence of Cobbs Creek and Darby Creek</u>	<u>39.907278</u>	<u>-75.255432</u>
<u>Schuylkill River</u>	<u>Fairmount Dam</u>	<u>500 feet upstream of the Bingaman St. Bridge in Reading, Pennsylvania</u>	<u>40.326411</u>	<u>-75.934417</u>

Neshaminy Creek	Confluence with Delaware River	500 feet upstream of the lowermost dam	40.143369	-74.915828
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34. Compliance Certification: Each permittee who receives a written PASPGP-6 verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. This certification should indicate if the success of any required permittee-responsible mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits. The signature of the permittee is also required to certify the completion of the activity and mitigation. The completed certification document must be submitted to the District Engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.
35. Migratory Birds and Bald and Golden Eagles: The permittee is responsible for ensuring that an action authorized by PASPGP-6 complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the USFWS to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity. The permittee should contact the appropriate local office of the USFWS to determine if such authorizations are required for a particular activity. Information on the conservation of migratory birds and Bald and Golden Eagles can be found at the following USFWS web site:
<http://www.fws.gov/northeast/pafo/>
36. Migratory Bird Breeding Areas: Activities in waters of the United States, including jurisdictional wetlands, that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable. Recommendations pertaining to the conservation of migratory birds can be found at the following USFWS web site:
<http://www.fws.gov/northeast/pafo/>

By Authority of the Secretary of the Army:

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John T. Litz
Colonel, U.S. Army
Commander and District Engineer
Baltimore District

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David C. Park
Lieutenant Colonel, Corps of Engineers
District Commander
Philadelphia District



Andrew J. Short
Colonel, Corps of Engineers
District Engineer
Pittsburgh District

Addendum No. 5

Attachment D

APPENDIX A – TECHNICAL SPECIFICATIONS

- Section 01 31 00, Attachment 10 – City of Pittsburgh DOMI Encroachment Permit (DOMI-EN-2024-10274) for new retaining wall at O14 (3 pages)

Attachment 10

City of Pittsburgh DOMI Encroachment Permit (DOMI-EN-2024-10274) for new retaining wall at O14



Department of Mobility and Infrastructure
City of Pittsburgh
412 Blvd of the Allies
Pittsburgh, PA 15219

DOMI-EN-2024-10274 ENCROACHMENT PERMIT

Issued Date: September 04, 2025
Expires Date: N/A

Permit Address:

Permit Holder: Debbie Healey Langley
Company: N/A
Phone: () -
Resolution Date: N/A

Ward #:
Parcel #:
Council District:
Property Owner:
Location Name:
From Street:
To Street:

Resolution Number: D-1189

PERMIT DETAILS

Work Description:	CONSTRUCTION OF A RETAINING WALL WITHIN THE SOUTH MAIN STREET RIGHT-OF-WAY AS PART OF THE OHIO RIVER TUNNEL (ORT) PROJECT. THE ZDR APPLICATION FOR THIS SITE IS DCP-ZDR-2023-04311.
Special Permit Instructions:	PLEASE BE SURE TO OBTAIN THE PROPER RIGHT-OF-WAY PERMITS THAT MAY BE REQUIRED DURING INSTALLATION. EX. MACHINERY, BARRICADE, ETC.
Inspection:	N/A

LEGISLATIVE TEXT: PROPERLY PERMITTING THE CONSTRUCTION OF A NEW RETAINING WALL WITHIN THE SOUTH MAIN STREET RIGHT-OF-WAY AS PART OF THE OHIO RIVER TUNNEL (ORT) PROJECT. D-1189

PERMIT TERMS & CONDITIONS:

- NO CHANGES OR ADJUSTMENTS MAY BE MADE TO THE APPROVED PLANS WITHOUT AUTHORIZATION BY DOMI. CHANGES OR ADJUSTMENTS WITHOUT APPROVAL MAY RESULT IN THE REVOCATION OF APPROVAL.
- THE APPROVAL OF THIS PLAN DOES NOT RELIEVE OF THE APPLICANT OF OBTAINING PERMITS REQUISITE FOR CONSTRUCTION.
- ALL WORK IN THE ROW MUST FOLLOW CITY CONSTRUCTION STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE APPROVED PLAN. NO DEVIATION FROM STANDARDS AND SPECIFICATIONS WITHOUT PRIOR APPROVAL FROM DOMI.
- A CERTIFICATE OF INSURANCE NAMING THE CITY OF PITTSBURGH AS ADDITIONALLY INSURED MUST BE MAINTAINED FOR AS LONG AS THE ENCROACHMENT IS IN PUBLIC SPACE.

INFORMATION ON THIS PERMIT CAN BE OBTAINED BY SCANNING:

