

December 9, 2025

**CONTRACT NO. 1797** 

#### OHIO RIVER TUNNEL

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#### ADDENDUM No. 8

All bidders bidding Contract No. 1797 shall read and take note of this Addendum No. 6. 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. 8

The Acknowledgement attached to **Addendum No. 8** is to be signed and returned immediately via email to <u>ORT.bids@alcosan.org</u> 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 <a href="mailto:ORT.bids@alcosan.org">ORT.bids@alcosan.org</a> \*\*

# **ADDENDUM No. 8**

FIRM NAME:	 	 	
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# December 9, 2025 CONTRACT NO. 1797 OHIO RIVER TUNNEL ADDENDUM No. 8

#### 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. 008 consists of 40 total pages including the following attachments:

- Attachment A APPENDIX B CONTRACT DRAWINGS (1 sheet)
  - Revised ORT-ST-501 (Sheet 153 of 770)

#### 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. 8

### A. QUESTIONS & ANSWERS FROM RFI'S SENT TO

ORT.bids@alcosan.org

- Q1 Temporary Sewer Service for Hunt Stained Glass Paragraph 1.5.C of Specification Section 01 51 00 dictates Contractors are to provide temporary sewer service for Hunt Stained Glass at the SMRT-014 site. Please provide the volume of sewage Contractors need to account for on a monthly basis.
- A1 Sanitary flow monitoring was not conducted; however, the following information was provided by the owners of the Hunt Stained Glass Studio. Hunt Stained Glass Studios' monthly water usage (gallons for the following months in 2025) include:

May - 3,000 gallons June - 2,000 gallons July - 3,000 gallons August - 1,000 gallons September - 1,000 gallons

October - 2,000 gallons

- Q2 GBR Section 7.4 and Figures 2 through 6 and 8 through 12 include specific values and histograms of data. The histograms show relative probability distribution histograms (i.e., frequency of measurement divided by total number of measurements) that include only one bar and others that illustrate near uniform distributions (where one value is just as equally likely as another), bimodal distributions, or distributions that approximate a normal probability distribution. While minimum and maximum values are provided, in some cases these conflict with the histograms, it is unclear how the minimum, maximum and mean values are to be interpreted in relation to their probability of occurrence. Please clarify how these graphs and values are to be interpreted and used in the context of estimating and dispute resolution.
- The histograms were not meant to develop continuous probability distribution functions for each data set as mentioned in the RFI, but were developed to provide a graphic presentation of factual test data with a discrete frequency of occurrence distribution for each property. To clarify the use of these graphic data presentations for baseline purposes, GBR Section 7.4 has been updated to clearly define soil/rock property baselines in terms of ranges of values between minimum and maximum for each property; and baseline frequency of occurrence are defined only where test sample sizes are 20 or greater. Otherwise, frequency of occurrence shown on the histograms should be regarded as graphic presentation of test data only.

Conflicts in data have been amended through response to RFI Answer A7.

# See Section B, Item 1 for Changes to Contract Documents for REVISIONS to GBR Section 7.4.

- Q3 GBR Section 7.4 and Figures 8 through 13: Please clarify whether the baseline mean hydraulic conductivity values are arithmetic or geometric mean values and whether these are to be understood to represent test values only or the rock mass. Further, please clarify how the minimum and maximum hydraulic conductivity values are to be understood in the context of baselining the rock mass characteristics where the minimum and maximum values differ by 3 to 5 orders of magnitude.
- The mean hydraulic conductivity values are arithmetic mean values. Hydraulic conductivity values in the range between the minimum and the maximum values with the arithmetic mean, as tabulated on the hydraulic conductivity graphs of Figure 9 through 13, are to be taken as the baseline rock mass hydraulic conductivities for each Rock Class. They are not to be understood to represent test values only as stated in the RFI. It is common that hydraulic conductivities vary over orders of magnitude in natural ground media like fractured / bedded rocks. The baselined range of values was derived from factual test data reflecting in-situ rock conditions. The Bidder's independent geotechnical engineer or engineering geologist shall review the baselined range and frequency of occurrence within this baselined range shown on the hydraulic conductivity graphs of Figure 9 through 13 in the context of overall rock mass characteristics provided in the GBR descriptions of these rock class.
- Q4 GBR Section 7.4, 7.8.3, 7.8.5, 7.9.5, 7.9.6, 8.3.1, 8.3.2, 8.4.1 and 8.5 and Figures 9 and 11 describe the breakdown of Class 2 and Class 4 rocks into materials that have caused clogging problems and claims. Please provide relevant details on the procedures and raw data associated with the tests described in Section 7.9.6 and baselines to correlate the slake durability tests (i.e., breakdown after multiple cycles of wetting and drying) to the increase in water content used in the clogging potential tests and the breakdown and increase in water content of cuttings that might occur in a TBM head without drying cycles.
- The tests referred to in the GBR Section 7.9.6 Paragraph 2 were Atterberg Limits tests. They are not direct clogging potential tests (which do not exist) but are indirect tests to measure parameters (LL, PL, and PI) related to clogging potential. The relevant details on the procedures and raw data associated with these Atterberg Limits tests are summarized in GDR Tables 8.10 and 8.11 and detailed in GDR Appendix M.

To determine if baseline conditions are exceeded in relation to clogging, GBR Section 8.3.1 Paragraph 7 has been updated to clarify that the upper-bound PI line on Figures 9 and 11 are the baseline PI boundary line beyond which baseline conditions are said to have been exceeded in relation to clogging.

See Section B, Item 2 - CHANGES TO CONTRACT DOCUMENTS for revisions to GBR Section 8.3.1.

Slake durability tests were performed per methods described in GDR Table 5.2 and GDR – Appendix M. These tests were performed to inform the breakdown potential of each rock class during wetting-drying cycles. Refer to the Slake Durability Index (SDI) table on Figure 7 for durability classification of each rock. Note that the GBR only identifies the siltstone and claystone as having clogging potential based on their tested SDI values. Baseline SDI values are to be taken as the range between the minimum and the maximum values with a mean as tabulated on the SDI graphs of Figure 8through Figure 11 (and provisional values on Figure 12). Frequency of occurrences on these graphs are for information only due to limited data points.

It is not the intent of the GBR (nor an industry practice for GBRs) to "provide baselines correlating slake durability to the increase in water content used in the clogging potential tests..." as stated in the RFI. Such a relationship would be a deterministic predictive model that cannot be established due to the multiple factors involved including Contractor's TBM cutterhead design, flushing/cleaning mechanisms, slurry/water additives, and maintenance practices.

- Q5 The GBR baselines the RQD, intact rock properties, and the orientations of joint sets J1 and J2 but does not provide baselines for other characteristics necessary for judging support requirements or TBM advance rates such as joint aperture, infill, roughness, or spacing that would assist with using more modern rock mass characterization systems such as RMR, Q or GSI. Please also clarify how the RQD of exposed faces in shafts and tunnels will be defined in the event of real or perceived differences as compared to the GBR.
- A5 Regarding excavation support requirements:

For Non-TBM Tunnels, Adits and Shafts, rock supports are shown on the Contract Drawings, and pricing or payment are described in the corresponding Bid Items of Section 01 22 00. Variations from Contract Drawings to accommodate actual conditions of exposed rock faces will be paid for as prescribed in Section 01 22 00 – Bid Items 110 and 111. Bid all tunnel and shaft supports as shown or specified in the Contract Documents and ground conditions as given in the GBR and GDR.

#### **Regarding TBM advance rate estimate:**

It is Bidder's responsibility to utilize all relevant parameters as provided in the GBR and GDR, and the Bidder's proposed means and methods.

#### **Regarding RQD determination in the field:**

RQD values of actual exposed faces shall be completed, if determined necessary by the Contractor, by a qualified geotechnical engineer or geologist at the Contractor's own choice and cost. While there is no ASTM standard method, the empirical Scan Line Mapping Method suggested by IRSM is recommended, or as proposed by the Contractor and approved by the Owner.

The effects of rock mass discontinuities (J1 and J2) on tunnel and shaft excavation are described in a general manner in GBR Sections 8 and 9, respectively, to inform their effects of cutterhead behavior if these discontinuities are encountered.

- Q6 GBR Section 7.13.2.1 defines baselines for soil hydraulic conductivity in terms of "as high as" values, with no lower bound or average values. Please clarify how these ambiguous baselines are to be used for bidding, construction planning, and dispute resolution.
- A6 GBR Section 7.13.2.1 REVISED to include baseline permeability ranges and mean values for all soil Classes.

See Section B, Item 3 - CHANGES TO CONTRACT DOCUMENTS for revisions to GBR Section 7.13.2.1.

- Q7 GBR Section 7.13.2.2 provides a baseline range of hydraulic conductivity for the rock mass of four orders of magnitude from nearly impermeable to highly permeable (1x10-6 to 1x10-2 cm/sec). This baseline range conflicts with the baseline values provided in Figures 8 through 12 in some instances. Further, it is unclear how the bidders are to use this range to evaluate potential grouting requirements or inflow rates for interventions or any other purpose. Please clarify the baseline rock mass hydraulic conductivity for the individual units and/or overall rock mass without the potential conflicts and with ranges that can be used for planning and pricing
- A7 GBR Section 7.13.2.2 has been revised to be consistent with the baselined range of conductivity values shown on Figures 9 through 13. Also refer to Answers to RFI A3 addressing essentially the same issue.

See Section B, Item 4 for CHANGES TO CONTRACT DOCUMENTS for REVISIONS to GBR Section 7.13.2.2.

For TBM intervention grouting, it is the Bidders' responsibility to determine the location and frequency for interventions (refer to GBR Section 8.4.1). Results from Packer testing along the alignments are provided in the GDR for the Bidders' additional use in planning intervention locations and estimating the flows. Payment for grouting for free air TBM Interventions is addressed in Bid Items 11 and 17 of Section 01 22 00. Also refer to Answer to Addendum 7, A26 in Section A and Addendum 7 Section B Item 10 for revised Bid Items 10 and 11 regarding grouting to facilitate hyperbaric interventions.

For non-TBM tunnel / shaft grouting, baseline inflow rates for ungrouted tunnels and shafts are provided in GBR Section 7.13.3.2.

- Q8 Please provide copies of all railroad agreements referenced in specification section 01 90 00.
- A8 Railroad agreements are pending and will be provided upon receipt from each of the three railroads.

- Q9 Please confirm the form on page 1-22 in Article 1 (SOLICITATION AND COMMITMENT STATEMENT MINORITY (MBE) AND FEMALE (WBE) OWNED BUSINESS ENTERPRISES) of the contract documents can be converted to a spreadsheet, printed and submitted with the bid in lieu of utilizing the form provided.
- A9 This is acceptable.
- Q10 Please provide the number, type, and mph of trains per day for the Norfolk Southern Railroad.
- Bidders can obtain railroad information from the U.S. Department of Transportation (DOT), Federal Railroad Administration's (FRA) U.S. DOT Crossing Inventory Forms, which can be viewed and downloaded for various railroads and locations at the FRA website entitled "FRA Rail Network", accessed at this link: FRA Rail Network.

  https://experience.arcgis.com/experience/b6c12fd0a4774f38a303e3d034775854/#data\_s=i d%3AdataSource 1-195ba26502a-layer-5%3A185986



- Q11 Please provide the number, type, and mph of trains per day for the CSX Railroad.
- All Please refer to A10 response.
- Q12 Please provide the number, type, and mph of trains per day for the Pittsburgh & Ohio Central Railroad.
- A12 Please refer to A10 response.
- Q13 Is there a page limit for the Bidder's Qualification Statement Schedule A through Schedule C?
- A13 There is no page limit.
- Q14 Section 2.22 Qualification and Experience of Bidders requests that "The Bidder must complete the Bidder's Qualification Statement included in Article 1. Bidder shall provide information such as evidence of financial responsibility, a list of available facilities including equipment and personnel, and evidence of ability to perform the Contract based upon projects of a similar nature. Owner may require the Bidder to identify contact persons for such projects to facilitate investigation of the Bidder's qualifications." Is this required for the Bidder's Qualification Statement submittal or is this something that may be requested at a later date?
- A14 Contact persons are required with the qualification statement.

- Q15 Reference Drawing ORT-ST-100 Table 1 and Note 1.
  Question: Does the Minimum Clear Radius in Soil (RS) in Table #1 (which equals the 'A' Line in soil) already include the allowance for the 0.5 percent verticality tolerances listed in Specification 31 56 00 Slurry Wall (Section 1.8.B) and Specification 31 57 00 Secant Pile Wall (Section 1.8.A)?
- A15 No. Refer to shaft SOE drawings for shaft SOE minimum diameters and definition of 'A' Line for soil in Part 1.2.E.2 of Section 31 75 00.
- indicated on the Contract Drawings around the circumference of the shaft...

  Drawing ORT-ST-101 Note 3 states that "Grouting is required around the perimeter of the shaft and below the shaft base...". However, the only grout holes shown in the plan view are around the perimeter of the shaft.

  Drawing ORT-ST-102 The section views show the vertical grout holes around the perimeter of the shaft and what appears to be vertical grout holes under the base of the shaft.

  The Drawings for all of the other shafts have similar details and notes.

Question - Are vertical grout holes under the base of the shafts required? If so, is there any minimum quantity and depth for these holes required?

Specification 31 23 20 Section 3.6.m.2 states "Drill pre-excavation grout holes in the locations

- No details are provided on the drawing plans/sections for internal shaft grouting. Refer to Section 31 23 20 Part 3.6.N "For Shaft Internal Pre-Excavation Grouting" for details regarding minimum requirements for shaft internal grouting, including grouting through the SOE wall, rock wall, and shaft base. Also refer to Addendum 7, Section A, response A32 for related information.
- Q17 Specification 31 23 20 Section 3.5.B states "Drill with casing through soil and stop the casing at the soil/rock interface. Drilling mud or water shall be used for soil drilling to prevent bottom heave."

  Question Due to chance of encountering Obstructions as outlined in the GBR can the Contractor use rotary percussive duplex drilling with air flush to advance the casings through
- A17 No changes will be considered during the bidding process.

soil?

Q16

Q18 Specification 31 23 20 Section 3.5.C states "If refusal is encountered during drilling in soil, relocate the hole and perform re-drilling upon the approval of the Owner."

Question #1 – Will drilling through obstructions in the soil for Pre-Excavation Grout Holes be paid for under BID ITEM 117. SPECIFIC ALLOWANCE #5 – Obstructions to Shaft and Near Surface Support of Excavation and Piling? If not, how will the Contractor be reimbursed?

Question #2— If refusal is encountered during drilling of a grout hole in soil and the Owner approves relocating the grout hole will the Contractor be reimbursed for the time and effort spent drilling the abandoned grout hole under BID ITEM 117. SPECIFIC ALLOWANCE #5—Obstructions to Shaft and Near Surface Support of Excavation and Piling? If not, how will the Contractor be reimbursed?

Answer to Question #1: Yes, provided obstruction encountered meets the definition of obstruction stated in BID ITEM 117.

Answer to Question #2: Yes, provided the refusal encountered meets the definition of obstruction stated in BID ITEM 117.

BID ITEM 117 has been revised to include refusal to shaft external pre-excavation grout drilling in the definition of obstruction.

See Section B, Item 6 - CHANGES TO CONTRACT DOCUMENTS.

Q19 Specification 31 23 20 Section 3.6.F states "Supplemental chemical grout to the above grouting operations shall be conducted (as approved by the Owner) at locations where groundwater infiltration is not being arrested to below the infiltration criteria specified."

Question #1 – Please confirm that this requirement is for grouting in rock as the shaft progresses and not for the pre-excavation grouting performed from the surface prior to shaft excavation.

Question #2 – Where in the Contract Documents can the "infiltration criteria" be found?

Answer to Question #1 - Confirmed, but locations should include also non-TBM tunnels, not just shafts, since the requirements are under Part 3.6 "GENERAL GROUTING PROCEDURES".

Answer to Question #2 - Refer to Section 31 23 20 Part 1.7 "Performance Criteria", 1.7.B for requirements related to groundwater inflow limitations. "infiltration" criteria has been REVISED to "performance" criteria in Part 3.6.F.

See Section B, Item 7, for CHANGES TO CONTRACT DOCUMENTS.

Q20 Specification 31 23 20 Section 3.6.F states "Grout holes shall be grouted through a manifold fitted with valves, gauges, meters, and controls to enable grouting of each hole independently. Additional drilling and grouting shall then be performed as directed by the Owner or required."

Question – Please clarify, where and what type of additional drilling and grouting is anticipated to be performed at the direction of the Owner?

A20 See Specification 31 23 20, Part 3.6.K "....Additional drilling and grouting shall then be performed as directed by the Owner or required." is removed. Requirements for supplemental or additional (or verification) grouting are already covered in Part 3.6.F, L, M and N.

#### See Section B, Item 8 for CHANGES TO CONTRACT DOCUMENTS.

Q21 Specification 31 23 20 Section 3.6.C states "The lengths of the stages for grouting shall be a maximum of 10 feet but may be changed based upon field observations as agreed between the Contractor and Owner."

Question – Rock mass grouting is typically done in stages up to 40 feet in length with average stage lengths being 20 feet in length. Can the Contractor base his bid on grouting in 20-footlong stages?

- A21 Bid as stated in Section 31 23 20, Part 3.6.C.
- Q22 Specification 31 23 20 Section 3.6.M.5 states "Number of verification holes shall be no less than 4 per shaft excavation and increased based on the drilling and grouting results of the primary holes as proposed by the Contractor and approved by the Owner."

Question #1 – Will Verification Hole drilling be paid for under the soil and rock drilling unit prices for each Shaft site?

Question #2 – Will Verification Hole grouting be paid for under BID ITEM 102. Shaft Pre-Excavation Grouting Exclusive of Grout Materials?

Question #3 – Will grout materials used to grout the Verification Holes be paid for under BID ITEM 115. SPECIFIC ALLOWANCE #3 – Grout Materials Used for Shaft Excavation and Cut-Off?

- A22 Answer to all 3 questions Yes.
- Q23 Specification 31 23 20 Section 3.6.M.10 states "At its sole discretion, the Owner may direct changes in the pre-excavation grouting efforts. Such changes May include increasing or decreasing allowable inflow rates from routine drill holes or verification holes."

Question – How will the Contractor be compensated for these Owner directed changes if they cause increased time and effort compared to the Contractor's approved Quality Control Plan?

- A23 If the Owner directed changes cause increased cost beyond the bid price, Articles 3.31.C and 3.32.B shall apply. Additional contract time will only be agreed to if the Owner directed changes fall on the Critical Path.
- Q24 Specification 31 55 00 Section 3.2.A.5 states "Do not jet grout alongside existing brick sewers. Horizontal jet grouting pressures can weaken sewer structure and cause collapse."

  Question Can jet grouting be performed underneath of existing brick sewers?
- A24 Refer to Addendum 7, Section A response A42 and Section B Item 18.
- Q25 Specification 31 55 00 Section 2.2.C.3.a states "Grout holes may be drilled by fluid rotary methods."

  Question Due to chance of encountering Obstructions as outlined in the GBR can the Contractor use rotary percussive duplex drilling with air flush to advance grout casings through soil?
- A25 No changes will be considered during the bidding process.
- Specification 31 55 00 Section 3.2.B.5 states" Production jet grouting shall not begin until the Contractor has received approval from the Owner based on the results of the trial programs."

  Question How long will the Owner take to review and approve the results of the Jet Grout trial program after the completion of the installation of the 5 trial columns?
- A26 Refer to Section 01 33 00 Submittals, Part 1.9.B for review time of Contractor's submittals.
- Q27 Specification 31 55 00 Section 3.2.C.1 states" Perform one (1) coring of grout columns for every 10 jet grouted columns but no less than two (2) per jet grouted site..."

  Performing confirmation coring on 10% of the jet grout production columns is well beyond industry norms and seems excessive given the small volumes of ground to be jet grouted.

Question - Please revise this requirement to be 1 confirmation cire hole for every 50 jet grouted production columns.

- A27 No changes will be considered during the bidding process.
- Specification 31 57 00 Section 3.2.E states "In addition to using the temporary casing, the secant piles must be installed and excavated with bentonite slurry to maintain stability against heave or blow-in in the bottom of the secant pile excavation. All drilling operations shall be accomplished while maintaining a positive fluid head to within 2 feet of the ground surface."

Question - Can the Contractor base his bid on using water and / or polymer in lieu of bentonite slurry if he can demonstrate via calculation that the water and / or polymer will maintain stability against heave or blow-in in the bottom of the secant pile?

A28 No changes will be considered during the bidding process.

Q29 Specification 31 57 00 Section 3.3.B states "Do not place soldier beams that are distorted or inadequately spliced. Use suitable guides, centralizers, and spacers to maintain a minimum 3 inches cover between the soldier beam and the walls of the pile excavation as the soldier beam is lowered into the pile casing."

Specification 31 57 00 Section 3.4.B states "Do not place reinforcing steel assemblies that are distorted. Accurately locate and secure in place the reinforcing steel assemblies prior to and during the concrete placement. Use suitable guides and spacers to maintain cover between reinforcing steel and the walls of the pile excavation as the reinforcing steel assembly is lowered into the casing.

Question #1 - Can the Contractor elect to place the beam or reinforcing cage into the casing after it is filled with concrete?

Question #2 - Can the Contractor elect to place the beam or reinforcing cage into the pile hole after it is filled with concrete and the casing has already been removed?

- A29 Answer to both questions No.
- Q30 Specification 31 56 00 Section 3.4.B.4 states "At a minimum, check the verticality of the panel every 10 feet of excavated depth..."

Question #1 - Does this requirement mean checking verticality every 10 feet of depth after the panel has been fully excavated to the panel tip (i.e. full depth) or does this mean to check the verticality every 10 feet as the panel excavation proceeds?

Question #2 - If the check is to be made every 10 feet as the panel excavation proceeds can check be made using the excavation equipment's on-board real time monitoring system or does it require withdrawal of the excavation tool and use of the Koden ultrasonic measurement tool?

A30 Answer to Question #1: Check verticality every 10 feet of depth as the excavation proceeds. Refer to Specification 31 56 00, Part 3.4.B.9 for verticality check requirements once the full depth of panel is completed.

Answer to Question #2: On board monitoring system is considered process control, not independent verification of achieved verticality. Therefore, withdrawal of cutting equipment is required to perform the verticality checks using the Koden ultrasonic or equivalent measurement tool. Part 3.4.B.4 has been REVISED to clarify this requirement.

See Section B, Item 9 for Changes to Contract Document.

- Q31 Drawing ORT ST- 103, Table titled Slurry Wall Panel Reinforcement Schedule shows the:
   Steel horizontal stirrups (Bars C,D, H & I) as being #7 bars at 6" centers. This leaves a theocratical clear distance between bars of only 5.13".
  - FRP horizontal stirrups (Bars C,D, H & I) as being #10 bars at 6" centers. This leaves a theoretical clear distance between bars of only 4.75".

Drawing ORT – ST- 500, Table titled Slurry Wall Panel Reinforcement Schedule shows the: FRP horizontal stirrups (Bars C,D, h & i) as being #7 bars at 6" centers. This leaves a theoretical clear distance between bars of only 5.13". Experience has shown that using #7 bars for these types of stirrups can be problematic.

Theoretical clear spacing of less than 6" minimum is inadequate to ensure proper flow of the concrete which can lead to in the concrete panel.

Question #1 – Given the above can the drawing be revised to at least show no larger than a #6 bar on 9" centers for the horizontal stirrups?

Question #2 – If the horizontal stirrup size and spacing shown on the Drawings is not changed, will the Contractor be compensated for the cost and contract time required to correct any honeycombing, mattressing and other defects in the Slurry Wall panels?

Answer to Question #1: A clear spacing of 4" between rebars is acceptable for tremie concreting if required slump is maintained; (See Answer to RFI #A35). No changes are made to Contract Document during bidding process.

Answer to Question #2: Defects in slurry wall can be caused by many factors. Refer to Section 31 56 00 Part 3.6 for "Repair and Restoration".

Q32 Drawing ORT–ST-103, Note #7 states "Contractor shall design the tremie pipe diameter, location, and number of pipes per panel in coordination with required reinforcement cage" Specification 31 56 00 Section 3.4.G.2 states "Use a minimum of one (1) tremie pipe for each 8 feet of panel length."

The DFI Guidelines for Structural Slurry Walls recommends using 2 tremie pipes for standard panels and specifically discourages the use of more than 2 tremie pipes for standard panels. In this context the standard panel is a triple bite panel in the 22-24 ft long range.

Question - Can this requirement be revised to say that 2 tremie pipes can be used in a triple bite panel so long that concrete will not need to flow more than 6 feet laterally in either direction (This will mean that 2 tremie pipes can be used for up to a 24 foot long panel)?

A32 No changes will be considered during the bidding process.

Q33 Specification 03 30 00 Section 1.2.B states" Defective Areas: Surface defects that include honeycomb, rock pockets, indentations, cracks 0.005 inch wide and larger, and cracks that leak in water-holding structures, spalls, chips, air bubbles, pinholes, bug holes, embedded debris, lift lines, sand lines, bleed lines, leakage from form joints, fins and other projections, form popouts, texture irregularities, and stains and other color variations that cannot be removed by cleaning."

Question - Does the above definition apply to Slurry Walls and Secant Pile Walls, both of which are temporary SOE?

- A33 No. Slurry Wall and Secant Pile Wall defects, associated repair plans and requirements for execution of repairs are defined in Section 31 56 00 and Section 31 57 00, respectively.
- Specification 03 30 00 Section 2.1.G states "Design mix so shrinkage test is in accordance with ASTM C157. Shrinkage test results at 28 days shall not exceed 0.048 percent."

  Specification 03 30 00 Section 2.1.G states "All concrete shall have a maximum water-soluble chloride ion (CL -) of 0.08 percent when tested in accordance with ASTM C1218, or a maximum acid-soluble chloride limit of 0.1 percent when tested in accordance with ASTM C1152."

Specification 03 30 00 Section 2.1.G states "Design mix so shrinkage test is in accordance with ASTM C157. Shrinkage test results at 28 days shall not exceed 0.048 percent."

Question - Do the above requirements apply to Slurry Wall, Secant Piles and Interlocking Pipe Piles?

- Yes. These requirements do apply to Slurry Walls, Secant Piles and Interlocking Pipe Piles. No changes to Contract Documents.
- Q35 Specification 03 30 00 Section 3.1.C .5 states "The total time interval from when the cement makes contact with the aggregates to the completion of discharge shall not exceed 90 minutes."

The 90-minute discharge time limit is too restrictive for tremie pours for Slurry Wall, Secant Piles and Interlocking Pipe Piles, especially when on site slump testing is required to ensure proper flow through the tremie tubes.

Question – Can this requirement be revised to at least 120 minutes, and preferably 150 minutes, provided that the slump retention time for the tremie concrete (proven through the mix trials) is 5 hours or greater?

The following requirement has been ADDED to Specification 03 30 00, Part 3.1.C.5
"....For concrete placed by tremie method under bentonite slurry, the maximum time interval may be extended to 120 minutes, provided the approved retarding admixtures and/or superplasticizers are incorporated into the mix design to ensure slump retention of no less than 5 hours and the concrete maintains the specified slump at the point of discharge without the addition of water. Extension to 120 minutes shall be subject to prior approval by the Owner based on trial mixes and field performance testing conducted by the Contractor's testing agency at intervals not exceeding 30 minutes to verify compliance at no additional costs to the Owner. The Owner reserves the right to

revert to the 90 minutes requirements at ambient temperatures higher than 90 degrees F."

#### See Section B, Item 10 for CHANGES TO CONTRACT DOCUMENTS.

Q36 Specification 31 23 20 Section 3.6.M.6 states "Perform packer testing inside the verification holes at the depths where the largest grout or water take was measured."

Question – Are verification holes to be pressure grouted after testing is completed, similar to the procedures for primary and secondary grout holes?

- A36 Yes.
- Specification 31 23 20 Section 2.4.D states "Drilling equipment for probe holes, grout holes, and test holes for shafts and Non-TBM tunnels shall be capable of drilling holes ahead of the excavation for a minimum of 120 feet at acceptable rates of penetration (at least 2.0 feet per minute) in the strata through which the shaft or tunnel will be excavated"

Question – Please confirm that the acceptable minimum rate of penetration of 2 ft/min, which appears to be interpreted as an instantaneous penetration rate. Please confirm that this requirement does not apply to the vertical pre-excavation grout holes drilled from the surface.

- A37 Confirmed.
- Specification 31 23 20 Section 3.3.B states "Only carry out drilling and grouting through standpipes/packers of adequate length, properly secured into the rock."

  And Specification 31 23 20 Section 2.3.B states "Standpipes shall consist of a minimum of 2-inch, Schedule 80, seamless steel pipe. The inner pipe on the packers shall also consist of a minimum of 2-inch, seamless steel pipe fitted with external rubber sleeves, which are capable of being expanded against the side of the initial collar section of the borehole into which the standpipe is to be installed."

Question – Please confirm that the use of schedule 80 seamless steel pipe is not intended for use with the vertical pre-excavation drilling and grouting outside of the shafts. Please confirm that for pre-excavation drilling and grouting, temporary steel casing can be used to drill from the surface into rock and that installation of a Schedule 40/80 PVC standpipe would be acceptable.

- A38 Bid the standpipe material for vertical external shaft pre-excavation grouting holes as specified in Specification 31 23 20, Part 2.3.B.
- Q39 Specification 31 23 20 Section 3.5.D states "Drill inside of the casing and into rock to a minimum depth of 10 feet below the maximum depth of planned shaft excavation as shown on the Contract Drawings."

Question – The drawing ORT-ST-501 for the AS1 shaft does not show a bottom elevation for the grouted zone. Please provide the required elevation of the bottom of the grouted zone. Sheet ORT-ST-501 has been REVISED to add the elevation.

See Section B, Item 11 for CHANGES TO CONTRACT DOCUMENTS for revisions to ORT-ST-501.

- Q40 Specification Section 01 50 00, AS1 Owner's Field Office Specification 01 50 00, paragraph 1.1.C.3 notes that "the Owner's Field Office shall remain after Contractor demobilizes at the ORT-AS1 site."
  - If Contractors cannot remove the field office when they demobilize from the site, please provide the number of calendar days from notice to proceed Contractors should expect to have this office on the AS1 site.
- A40 The Owners Field Office will stay for the future ART and MRT projects. The Contractor will be responsible for the Owners Field Office at ORT AS1 site until Final Completion whereas it shall be turned over to the Owner at zero cost and without a pass through of a rental or lease costs. Offices shall be left with all furnishings and in good condition.
- Q41 Shaft Shotcrete Is the 3" shotcrete layer on the shaft walls intended to provide corrosion protection of the rock bolts and mesh?
- A41 No. It is intended as part of the shaft rock wall initial support design.
- Q42 Reference GC Section 3.8 COOPERATION BETWEEN CONTRACTORS/DISPUTES OR ACTIONS BETWEEN CONTRACTORS As this section covers work by others, including potentially by the "(and the Owner, if the Owner is performing additional work with the Owner's employees)", we request that the last sentence of the sixth paragraph and the last paragraph be deleted that reads: "Under no circumstances shall the Owner, the Final Design Consultants, the Construction Manager or any of the Owner's other agents or employees be made a party to such claim, dispute, or other matter in question."
- A42 No changes to the Contract Documents will be made.

A39

Q43 Reference GC Section 3.14 - Patents and Proprietary Rights - Contractor must be able to reasonably rely on the specifications provided by the owner, and should not be required to waive rights to impacts caused by compliance with the specifications provided by the Owner if compliance with the specifications causes the infringement, as such we request the following language be removed from the last paragraph of the section:

"The Owner and the Contractor further agree that the Contractor waives any and all claims, rights and causes of action it may have, now or in the future, against the Owner arising out of compliance with any specifications the Owner furnishes to the Contractor. To wit, the Contractor hereby waives and relinquishes any claim, right or cause of action it may have against the Owner deriving from the Owner's duty, under state law or otherwise, to hold the Contractor harmless against claims for infringement or the like which arises out of compliance with said specifications."

- No changes to the Contract Documents will be made. The first sentence of the first paragraph of GC section 3.14 requires the Contractor to "acquire (in a form acceptable to legal counsel of the Owner) through assignment, purchase, license, or other means all rights to fully utilize all" things "that are to be used in pursuance of performance of the Work under the terms and conditions of this Contract." If the Contractor abides by this obligation, there should be no problems with respect to claims for infringement of intellectual property rights by the Contractor and no cause for claims against ALCOSAN related to the same.
- Q44 Reference GC Section 3.34D Delays and Extension of Time We request that the Owner revise Section 3.34D as follows:

The Contractor agrees that it shall have no claim against the Owner for an increase in the Contract Sum or for any other monetary damages resulting from delays, disruptions, or interference on account of or resulting from conditions set forth in Subparagraph 3.34.A except only for claims for delays caused by the Owner, as set forth in Subparagraph 3.34.A.1, A.2, A.5, A.7 and A.8. (These additional sections are all Owner-related items).

- A similar RFI was addressed in Addendum 6 A11 and Addendum 6 Item 5. No additional changes to the Contract Documents will be made at this time.
- Q45 Reference GC Section 3.10 Indemnification We request that the Owner delete the second paragraph of Section 3.10 and replace with -

"The liability for the foregoing indemnity obligations shall be limited by the available insurance proceeds of Contractor and its Subcontractors".

A45 No changes to the Contract Documents will be made.

Q46 Reference GC Section 3.34G - Delays and Extension of Time - We request that the Owner modify Section 3.34G as follows -

"Delays to Subcontractors will be valid reasons for time extension and/or money only under the same conditions as set forth in this Paragraph 3.34. (as modified above)

- A46 No changes to the Contract Documents will be made. General Contractors are responsible for their own Subcontractors.
- Q47 Reference GC Section 3.34(I) Delays and Extension of Time We request that the Owner delete the following language from Section 3.34(I) –

"Contractor agrees that it shall have no claim for an increase in the Base Bid Amount, any Specific Allowance or the Contract Sum for delay, disruption, interference, acceleration, or hindrance caused, in whole or in part, by reason of any delay events not proximately caused by Owner. Contractor agrees to accept, as its sole and exclusive remedy, an extension of time unless the Owner elects to accelerate Contractor's performance in lieu of granting an extension of time."

- A47 No changes to the Contract Documents will be made. Addressed in previous Addendums.
- Q48 Reference GC Section 3.34A Delays and Extension of Time We request that the Owner modify the following sentence in Section 3.34A -

"The time of completion of the portion or portions of the Work directly affected by such delay, shall, upon request of Contractor as provided in Subparagraph 3.34.B, be extended by a reasonable period, in no event to exceed the time lost on the critical path of the latest Owner accepted Contract Schedule.

- A48 No changes to the Contract Documents will be made.
- Q49 Reference GC Section 3.19 Concerning Subcontractors and Others We request the Owner to add the following sentence to the end of Paragraph 5 in Section 3.19 -

"Notwithstanding the foregoing, Contractor will not be required to indemnify the Owner for payment claims arising from the Owner's breach of its payment obligations."

A49 The following modification will be added.

"Notwithstanding the foregoing, Contractor will not be required to indemnify the Owner for any damages brought by subcontractors, suppliers, and material men arising solely from Owner's breach of the payment obligations in this Agreement, subject to any rights of Owner to suspend, stop, or change payments in accordance with this Agreement."

See Section B, Item 12 - CHANGES TO CONTRACT DOCUMENTS.

Q50 Reference GC Section 3.29C - Liquidated Damages - We request the Owner to modify the following sentence in in Section 3.29C -

"It is therefore agreed that the Contractor will be required to pay, as liquidated damages and not as penalty, for delay damages sustained solely by the Owner and its Separate Contractors, the sum of money stipulated in Paragraph 3 of the Contract Agreement for each and every calendar day delay in finishing the Work beyond the Contract Time prescribed for each Construction Milestone."

- A50 This was addressed in Addendum 2 Item 10. No further changes to the Contract Documents will be made.
- Q51 Reference GC Section 3.34A Delays and Extension of Time We request that the Owner add the following new item (11) to Section 3.34A "11. The actual quantity of a unit-priced item exceeding the contractual estimated quantity by 15% or more."
- A51 No changes to the Contract Documents will be made.
- Q52 Performance and Payment Bond form Obligee We ask that the Performance and Payment Bond forms be amended to limit the definition of Obligee, thereby excluding the list of overly broad and vague potential entities or persons such as what is reflected in the proposed bond forms.

We request limiting Obligee to Allegheny County Sanitary Authority.

- We do not understand the issue or concern. Per 3.58 of the Agreement, the Performance Bond is payable to ALCOSAN (no other Obligees are contemplated).
- Q53 Performance Bond form Recoverable Damages We ask that the Performance Bond form be amended to clarify that the damages recoverable under the Performance Bond are only those arising under or related to the Contract such as the following:

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that, if the Principal shall well and faithfully perform its obligations under the Contract and associated Contract Documents, and shall indemnify and save harmless the Obligee from all cost, expenses, damages, injury or loss arising under or relating to the Contract and associated Contract Documents that the Obligee may suffer by reason of Principal's failure to fully perform its obligations under the Contract, then this obligation shall be void; otherwise, to remain in full force and effect.

A53 No changes to the Contract Documents will be made.

Q54 Performance and Payment Bond Form - Requested Change - We ask that the Performance and Payment Bond forms be amended to delete the following provision in full:

Delete: "Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to execute this Bond or otherwise."

- A54 No changes to the Contract Documents will be made.
- Q55 Performance Bond form Requested Change We ask that the Performance Bond form be amended to delete the following references:

The proposed performance bond references an undefined "supplier." We request this provision to be removed.

- A55 No changes to the Contract Documents will be made.
- Q56 Performance Bond form Requested Change We ask that the Performance Bond form be amended to expressly provide as follows:

We ask that the Performance Bond form be amended to expressly provide as follows:

Once the Owner has satisfied the conditions of declaring a Contractor Default and terminating the Contract, the Surety shall promptly and at the Surety's expense take one of the following actions:

- 1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Contract:
- 2. Undertake to perform and complete the Contract itself, through its agents or independent contractors:
- 3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to the Owner the amount of damages in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default for (i) the responsibilities of the Contractor for correction of defective work and completion of the Contract, (ii) additional legal, design professional and delay costs resulting from the Contractor's Default, and (iii) liquidated damages, or if no or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor; or
- 4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:
- 1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
  - 2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial

The following definitions apply to the above provision:

Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.

Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Contract.

Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Contract or to perform and complete or comply with the other material terms of the Construction Contract.

- A56 No changes to the Contract Documents will be made.
- Q57 Performance and Payment Bond forms Waiver of Changes In the Performance and Payment Bond forms, we ask that the Surety's waiver of changes be limited to cumulative changes of less than 20% of the Contract Price. The following sample wording could be inserted into the bond form:

"If there is any change in the aggregate contract price of more than 20%, Surety consent must be obtained, which shall not be unreasonably withheld."

- A57 No changes to the Contract Documents will be made.
- Q58 Performance and Payment Bond Surety's Liability We ask that the both the Performance and Payment Bond forms be modified to include an express statement that the Surety's liability thereunder is limited to the penal sum of the bond.

"It is expressly understood and agreed that the Surety's total liability under this bond is limited to the penal sum, and the Surety shall not be liable for any amount in excess thereof."

- A58 No changes to the Contract Documents will be made.
- Q59 Payment Bond form Surety's Obligations We ask that the Payment Bond form be amended to expressly provide as follows:

The Surety's obligations do not arise unless the Obligee is in compliance with its obligation to remit payment to the Contractor.

A59 No changes to the Contract Documents will be made.

- Q60 Payment Bond form Claimant We ask that the Payment Bond form be amended as to who may constitute a proper "claimant" under the Payment Bond. The class of claimants under the Payment Bond should align with established Pennsylvania law and not be subject to a broader interpretation.
- A60 No changes to the Contract Documents will be made.
- Q61 Maintenance Bond form Changes to match Performance and Payment Bond changes We ask that the Maintenance Bond form be amended in similar fashion to the Performance and Payment Bonds:

We request similar changes in the Maintenance Bond including (1) inclusion of an express penal sum limitation provision, and (2) removal of the following provision consistent with changes made in the other bond forms: "Said Surety agrees that its liability hereunder shall be absolute regardless of any liability of the Principal hereunder whether by reason of any irregular or unauthorized execution of or failure to execute this Bond or otherwise."

In addition, the scope of the Maintenance Bond should not exceed the scope of work of the Contractor, which will require modification of the bond form to remove obligations related to design.

- A61 No changes to the Contract Documents will be made.
- Q62 01 35 53, Paragraph 3.4.D Roving Site Security Considering the requirement to have roving site security between the project sites twenty-four hours per day, seven days per week, three hundred sixty-five days per year for the duration of the contract, please confirm if a security subcontractor will have to use a union workforce.
- A62 The Contractor shall comply with the requirements in the Project Stabilization Agreement.
- Q63 01 35 53, Paragraph 3.2 Security Manager Considering the resume requirements for the Security Manager, please confirm if the Security Manager position can be filled by a subcontractor.
- A63 Yes this can be filled by a subcontractor.
- Q64 Is there anything precluding the contractor from extending the starter tunnel at AS1? If not, could we also extend starter tunnel into the PennDOT ROW using controlled blasting techniques?
- A64 Yes. The Contractor is precluded from extending the starter tunnel at AS1.

- The Contract Agreement Article 4 page 4-3 states, "Further, the receipt of liquidated damages by the Owner shall in no way limit or reduce the Owner's right to pursue other rights and remedies as provided in the Contract with the Contractor or otherwise available to the Owner." Will this be removed and replaced with LD sole remedy language as it was replaced in other parts of the contract?
- A65 Please refer to Addendum 2 Item 10.
- Q66 Agreement Article IV section 2 excludes non-manual employees. Do Change Orders allow for compensation of designers, engineers and other Non-manual employees?
- A66 Yes.
- Q67 SECTION 01 50 00 TEMPORARY CONSTRUCTION FACILITIES 2.1 requires 2 washrooms at the AS1 site. In the same spec 2.2 MATERIALS.I. requires sanitary facilities (washroom) suitably enclosed within the field office... Are all other trailers 1 washroom?
- A67 No, assume two washrooms at all locations.
- Q68 SECTION 01 50 00 TEMPORARY CONSTRUCTION FACILITIES requires noise barrier around site 6A. It also requires noise barrier to the common line between ALCOSAN's property and Sherwin Williams' property. Sheet O27-CI-103 doesn't clearly define the common line. Should we assume the entire temp fencing to the east and facing Sherman Williams property needs barrier?
- A68 Yes.
- Q69 SECTION 01 50 00 TEMPORARY CONSTRUCTION FACILITIES 1.12 TEMPORARY FENCES AND BARRICADES Provide acoustical barriers to minimize noise impacts to the surrounding areas. Is noise barrier required on all temp fencing and barricades or just the area identified in this section (06A and 027)?
- A69 For bidding purposes please follow the information given in Section 01 50 00.
- Q70 Permits and Right of Entry Agreements Specification Section 31 09 13, Section 1.6.E & 01 45 23, Section 3.5 Per the referenced specification sections, the Contractor is responsible for obtaining permits and right-of-entry agreements necessary to conduct the Pre-Construction Survey. Considering the extensive list of properties and structures involved—including roadways, buildings, railroads, easements, bridges/piers, and utilities—the process of securing these permits and access agreements is anticipated to be time-consuming and may adversely affect the project schedule. Based on industry practice for similar large-scale tunneling projects, it is typical for the Owner to initiate and coordinate the permitting process through a designated community liaison to ensure timely access and minimize schedule impacts. We respectfully request that the Owner initiate the permitting and right-of-entry coordination process and provide the necessary approvals to the Contractor concurrent with the Notice to Proceed (NTP). We further request that the relevant specification sections be revised accordingly to reflect this approach.

- As per Specification Sections 31 09 13, 01 45 23, 01 31 00, and 01 90 00, obtaining permits and approvals for entry is the Contractor's responsibility.
- Q71 Severe Weather & Weather Delays Specification Section 01 32 16 Construction Progress Schedule Section 1.15.H Severe Weather states that the contractor is to include weather delays into the schedule based on local NOAA historical climatology data.

Article 3.34 of the General Contract Conditions states that time of completion may be extended due to adverse weather conditions not reasonably anticipated (based on last 5 years on a monthly average) which impact the job site in such a way as to prevent the performance of any work schedule or any other work available to be performed in a safe and efficient manner.

These requirements leave the contractor to assume the appropriate number of non-working days due to inclement weather in the CPM schedule. Given the aggressive project duration and the inclusion of contractor assumed non working days in the CPM schedule, the project cannot be completed on time.

We request that the Owner revise the specifications to include the number monthly anticipated inclement weather days that the contractor is to include in the CPM Schedule and revise the project completion date accordingly.

The inclusion of monthly anticipated inclement weather days in the project specifications is common on projects of similar scope and size and will ensure that all bidders are using the same assumed weather days in the preparation of the bid and CPM Schedule.

- A71 The impacts of weather for underground construction cannot be established the same way as for surface construction. Not all inclement weather days stop work. Contractors shall build lost work days into their schedules based on their experience and specify their assumptions in their Bidder Execution Statements.
- Q72 DBE Participation PAUCP Currently the PAUCP website indicates that due to the October 3, 2025 USDOT decision, they are not accepting new DBE/ACDBE certification applications at this time. If ALCOSAN will not reduce the DBE goal (PennDOT and PA Turnpike have reduced their DBE goals to 0% for lettings after the October 3, 2025 USDOT decision), and PAUCP is not accepting new DBE/ACDBE applications at this time, please add additional certifying agencies to be able to reach the 10% goal.
- A72 **DBE Participation has been addressed in previous addendums and shall remain unchanged.**

Q73 Bid Date Move from Monday - Requiring an in-person, hard copy submission of the bidding documents will substantially impact the time available to General Contractors to adjust and finalize their bids on the morning the bid is due. A bid due on a Monday morning will only exacerbate the problems.

Subcontractors and suppliers will guard their best and final pricing until the last minute which will impact the ability of the General Contractor

to evaluate the scope of the quote and discuss any omissions with the subcontractors and suppliers.

Similar to questions answered as part of Addendum No. 06, please reconsider moving the proposed bid day to Wednesday January 28, 2026

- A73 The Bid Date shall remain unchanged.
- Q74 O27 High Voltage Power Line Voltage and Elevation The Plans and Specifications indicate that existing high voltage power lines will restrict access and impact the work at site O27. Please provide elevations of the existing lines and expected voltage in order for the contractor to evaluate how the lines and associated OSHA regulations will impact the work.
- A74 Refer to Addendum 7, Section A, response A4.
- Q75 SECTION 03 10 00 CONCRETE FORMING AND ACCESSORIES 3.4 A and 3.4 B require forms to be in place until reaching 80% specified strength and in no event shall forms be loosened prior to 24 hours' wet cure time at not less than 50 degrees F. Could the Owner/Engineer approve a variance of the stripping requirement demonstrating an earlier acceptable stripping time? An allowance for "unless permitted by owner" in 3.4 A and B would allow contractor schedule flexibility typically allowed for concrete formwork. If this requirement can't be waived or deleted, is this requirement project wide or are there specific locations where it shall be applied?
- A75 Refer to Addendum 7, Section A, response A11 and Addendum 7, Section B Item 6.
- Q76 Please confirm Contractor will be reimbursed via change order for any and all trade tariffs implemented after bid due date that affect items delivered for use on the project.
- A76 The Contractor shall include all tariffs, duties, and import/export charges applicable under current laws and regulations as part of their Bid Price.

- The site-inspection representations risk undercutting valid differing site condition relief and appear to question the GBR's status. Please (i) delete the last sentence of the first paragraph of Section 3.6 of the General Conditions (i.e., "failure to make any examinations necessary..."), (ii) modify the representations and warranties set forth in Section 6 of the Agreement such that they only apply to conditions readily ascertainable from the surface during a site visit, (iii) confirm the GBR is a Contract Document and remove the second sentence in Section 6(b) of the Agreement (i.e., "Contractor acknowledges that such reports and drawings are not Contract Documents"), and (iv) make clear that Contractor may rely on the GBR and make reasonable inferences therefrom.
- A77 Section 3.6 of the General Conditions with reference to bidder item (i) No changes to the bid documents will be made. ALCOSAN does not expect the contractor to make unreasonable investigations or otherwise act in a manner that is not reasonable.

Bidder Item (ii) "modify the representations and warranties set forth in Section 6 of the Agreement (Contract Agreement) such that they only apply to conditions readily ascertainable from the surface during a site visit," will not be changed as requested. ALCOSAN does not expect the contractor to make unreasonable investigations or otherwise act in a manner that is not reasonable.

Bidder Item (iii), the language in Article 4, Contract agreement, section 6.b. "Contractor acknowledges that such reports and drawings are not Contract Documents" will be deleted. Refer to Section B, Item 13 CHANGES TO CONTRACT DOCUMENTS.

Bidder item (iv), please refer to Addendum No. 002, B. CHANGES TO CONTRACT DOCUMENTS, items 11,12,13, and 14.

- Q78 Language allows Owner to refuse partial payments for any work after a Milestone date, regardless of other earned work. Please delete the sentence permitting refusal of partial payments after a Milestone from the seventh paragraph of Section 3.35 of the General Conditions.
- A78 Article 3.35 of the General Contract Conditions has been updated in the Supplemental Contract Conditions Article 3SC. Refer to Section B, Item 5 CHANGES TO CONTRACT DOCUMENTS.
- Q79 The contract does not currently contemplate price and schedule relief for various events that lie beyond the reasonable control of Contractor. As such, we respectfully request that Owner include provisions permitting equitable adjustments to the contract price and schedule for events such as the following to the extent they materially impact the Contractor's performance of the work:
  - a. Delays, impacts, or changed requirements from third parties beyond Contractor's control;
  - b. Changes in applicable law or permit, utility, agency, or other third-party requirements;
  - c. Delays in issuance of permits or other governmental action or inaction;

- d. Interference of Owner or Owner's other contractors at the Site; and
- e. Owner's failure to provide site access or obtain required permits or third-party agreements.
- For the events listed in the bidders question and other events not yet determined, the Contractor may submit change requests per Contract, Article 3, Section 3.32 PROPOSED CHANGE ORDERS, CHANGE ORDERS, AND CHANGE DIRECTIVES and Section 3.34 DELAYS AND EXTENSION OF TIME. No changes to the Contract Documents will be made.
- As currently drafted, the contract does not appear to expressly allocate generator responsibility regarding third-party or pre-existing hazardous materials, which should not be Contractor's responsibility. Contractor is happy to be considered the generator of hazardous materials, if any, Contractor brings onto the site, but it cannot accept generator status for other hazardous materials. Please (i) add language to that effect in the contract, (ii) make clear that Contractor is only responsible for its own negligence or willful misconduct with regard to hazardous material releases or exacerbations, (iii) make clear that Owner cleans up unknown hazardous materials and does not have the unilateral right to add unknown hazardous materials to the scope of work; and (iv) make clear that delay caused by Owner's handling of unknown hazardous materials is handled under the DSC clause, entitling Contractor to time and price adjustment.
- A80 No changes to the Contract Documents will be made. Bid Item #118 provides an allowance for hazardous waste material.
- Q81 Section 3.30 of the General Conditions does not expressly grant schedule relief for an Owner-ordered suspension. Please revise Section 3.30 to include an equitable adjustment to the Contract Time for any Owner-directed suspension.
- A81 Please see Addendum 006. Section B CHANGES TO CONTRACT DOCUMENTS. Item 5.(Article 3.34D. DELAYS AND EXTENSIONS OF TIME (Article 3, Section 3.34, page 3-41))
- Q82 Please modify or clarify Section 3.34(H) of the General Conditions to make clear that any schedule adjustments made at Owner's request/direction also entitle Contractor to an equitable price adjustment.
- A82 Please see Addendum 006. Section B CHANGES TO CONTRACT DOCUMENTS. Item 5.(Article 3.34D. DELAYS AND EXTENSIONS OF TIME (Article 3, Section 3.34, page 3-41))
- Q83 Please replace "negligence" in Section 3.34(A)(1) of the General Conditions with "acts or omissions" such that any Owner conduct that materially impacts Contractor's performance of the work is sufficient to trigger relief.
- A83 No changes to the Contract Documents will be made.

- Please modify Section 3.34(I) of the General Conditions to account for mixed-cause delays (e.g., incorporating a "to the extent" mechanism) such that the partial fault of Contractor or something/someone other than Owner does not potentially wipe out relief across the board for the event at issue.
- A84 No changes to the Contract Documents will be made.
- Q85 Some events of default are seemingly tied to Owner's subjectivity and are not necessarily expressly tied to material breaches. Please modify the events of default to be limited to objective and uncured material breaches.
- A85 The above RFI is too broad to answer. No changes to the Contract Documents will be made.
- Q86 Please delete the event of default item (8) listed at the end of the first paragraph in Section 3.60(A) of the General Conditions as it is overbroad.
- A86 No changes to the Contract Documents will be made.
- Please replace the "maximum liability" concept/regime in the fifth paragraph of Section 3.60 of the General Conditions with an industry-standard mechanism whereby Contractor is paid for work properly done prior to the termination (subject to offset for Owner's costs incurred as a result of Contractor's uncured material breach), and if Owner's costs are less than the unpaid Contract Sum, Owner pays the difference to Contractor.
- A87 No changes to the Contract Documents will be made.
- Please modify the language throughout Section 3.60(A) of the General Conditions to make clear that the harsh consequences therein are expressly tied to uncured material defaults/termination for cause. Alternatively, add superseding language to Section 3.60(A) of the General Conditions achieving that same effect.
- A88 Article 3.60 was addressed in Addendum 6. No changes to the Contract Documents will be made.
- Please modify the definition of Defective Work by removing the underlined portions shown here: a. "Defective Work" is defined as "Work that, in the sole discretion of the Owner, is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to Final Acceptance of the Work (unless responsibility for the protection from damage thereof has been assumed in writing by the Owner)."
- A89 No changes to the Contract Documents will be made.
- Q90 Section 3.59 of the General Conditions contemplates an elevated "highest quality / best obtainable" guarantee which exceeds industry norm. Please remove the phrase "of the highest quality and best obtainable in every respect," from Section 3.59.

A90	No changes to the Contract Documents will be made.					
Q91	Please modify the warranty period such that it is capped at a straight 12 months from substantial completion or its equivalent milestone and not subject to indefinite renewal.					
A91	The warranty period shall be 12 months from Final Acceptance.					
Q92	The contract makes progress payments contingent on Owner acceptance of multiple schedules, creating unnecessary cash-flow leverage over an administrative submittal. Please delete the sentence in Section 3.28(D) of the General Conditions conditioning payment on "schedulesfound acceptable" to the Owner.					
A92	No changes to the Contract Documents will be made.					
Q93	Payment is set at 60 days after submittal/approval, which is materially long for a tunneling project. Please revise Section 3.35 of the General Conditions to require payment of undisputed amounts within 30 days of a proper application for payment.					
A93	No changes to the Contract Documents will be made.					
Q94	There is no express provision entitling Contractor to interest on late, undisputed payments from Owner. Please add such an interest provision on overdue, undisputed payments.					
A94	No changes to the Contract Documents will be made.					
Q95	The contract lacks a right for Contractor to suspend or terminate for prolonged non-payment of undisputed amounts. Please add (i) a right for Contractor to suspend work after a specified grace period for undisputed sums and (ii) a termination right for prolonged non-payment of undisputed amounts.					
A95	No changes to the Contract Documents will be made.					
Q96	Owner's decision on the Schedule of Values is "final, binding, and non-appealable," which is overly discretionary. Please delete that sentence in the third paragraph of Section 3.35 of the General Conditions.					
A96	No changes to the Contract Documents will be made.					
Q97	The mutual waiver of consequential damages in Section 3.29(C) of the Supplemental Conditions includes "except as otherwise provided" and a broad indemnity carve-out that could re-open consequential exposure. Please (i) delete "except as otherwise provided in this agreement," and (ii) limit the indemnity carve-out strictly to direct third-party bodily injury/property damage claims.					
A97	Addressed in previous addendums. No changes to the Contract Documents will be made.					

#### CONTRACT NO. 1797 OHIO RIVER TUNNEL

Q98	As currently drafted, Contractor's indemnity obligations throughout the contract are broader than appropriate. This forces Contractor to take on the risk of events beyond its control. Please consider limiting Contractor's indemnity obligations whereby Contractor is only obligated to indemnify against third-party claims for bodily injury or property damage to the extent caused by Contractor's negligence.
A98	No changes to the Contract Documents will be made.
Q99	Please replace "acceptable" with "reasonable" in the first sentence of the second paragraph of Section 3.60(A) of the General Conditions.
A99	No changes to the Contract Documents will be made.
Q100	Please modify language in the third paragraph of Section 3.60(A) to reflect that Owner cannot takeover Contractor-owned equipment.
A100	No changes to the Contract Documents will be made.
Q101	Please remove the language in the sixth paragraph of Section 3.60(A) that imposes tail liability on Contractor for vendor breaches post-assignment.
A101	No changes to the Contract Documents will be made.
Q102	Replace "satisfactory" with "reasonable" in the following sentence in Section 3.59 of the General Conditions: "If within three (3) working days after the Contractor has been notified of a defect, the Contractor has not made substantial progress nor shown a satisfactory attempt to make the necessary corrections, the Owner is hereby authorized to make the corrections or to order the Work to be done by a third party, and the cost of the corrections shall be paid by the Contractor."
A102	No changes to the Contract Documents will be made.

## **B. CHANGES TO CONTRACT DOCUMENTS**

1. **APPENDIX C – GEOTECHNICAL BASELINE REPORT** – Section 7.4 Baseline Properties and Parameters – REMOVE the 2<sup>nd</sup> paragraph in its entirety; GBR page 15 of 44 as follows (CHANGES ARE NOTED IN RED):

Baseline geotechnical engineering parameters are provided in figures 2 to 6 for soil and Figures 8 to 13 for rock. The baselines are presented in the form of histograms, envelopes or numerical values for minimum, maximum, and average parameter values. For approximately 95% of the soil and rock materials to be encountered, the data obtained from site and laboratory investigations are considered representative of the conditions anticipated to be encountered. Where representative data is not available, provisional baselines were developed based on review of the literature or from results from nearby projects and are noted on the Figures.

APPENDIX C – GEOTECHNICAL BASELINE REPORT – Section 7.4 Baseline Properties and Parameters - REMOVE the last paragraph in its entirety; GBR page 16 of 44 and ADD the following text in its entirety as follows (CHANGES ARE NOTED IN RED):

Histograms of baseline properties and parameters reflect the full range of values as well as an average value. For certain properties, minimum, maximum, and average baseline values are presented in tables. For soil gradations, the outer distribution envelopes represent the range of gradations to be encountered for each of the soil classes.

The above geotechnical engineering parameters are provided in Figures 2 to 6 for soil and Figures 8 to 13 for rock. For baseline purposes:

- The baseline soil particle distribution curves are represented by the lower and upper bound envelope curves shown on the soil gradation graphs of Figures 2 to 5 for Soil Classes A through D. Expect soil particle distribution curves encountered to fall within the zone enclosed by the two baseline boundary envelope curves.
- The baseline value of each soil or rock property shall be taken as the range between the minimum and maximum values with a mean as tabulated on each histogram representing that soil or rock property. Where gaps in the data exist, provisional baselines were developed based on review of the literature or from results from nearby projects and are noted on the Figures. Where a

- single test data point exists, take the mean value as a provisional baseline value with range of  $\pm 10\%$  for that property.
- For test sample size of 20 or greater for each soil or rock property, the frequency of occurrence shown on the histograms with a range of +/- 5% shall be taken as the baseline frequency of occurrence for that property across the entire project. Otherwise, frequency of occurrence shown on the histograms shall be regarded as graphic presentation of test data only.
- 2. APPENDIX C GEOTECHNICAL BASELINE REPORT Section 8.3.1 ORT REVISE the 1<sup>st</sup> paragraph on GBR page 30 of 44 as follows (CHANGES SHOWN IN RED):

The Siltstone and Claystone will break down during excavation and the use of slurry will increase the effective moisture content. These two actions will transform the Siltstone and Claystone into sticky materials with significant clogging potential. This behavior occurred in claystone on the NCS as described in Section 5.2. The influence of moisture content on degraded Siltstone and Claystone is indicated in the clogging potential charts shown on Figures 9 and 11. The Siltstone and Claystone transformations from indurated rock into sticky materials with clogging potential are entirely within the Contractor's control of its means and methods. The risk of managing this adverse ground behavior, including TBM performance, muck transport, muck separation, and other muck handling and processing, is allocated to the Contractor. A DSC claim associated with Siltstone and Claystone behavior will only be considered by the Owner if there is a material increase in (1) the Plasticity Index baselined by the upper bound PI boundary lines of the degraded materials shown on Figures 9 and 11 or (2) the amount of Siltstone or Claystone encountered during ORT excavation.

- **3.** APPENDIX C GEOTECHNICAL BASELINE REPORT Section 7.13.2.1 Soil Permeability
  - **a.** DELETE 2<sup>nd</sup> paragraph of Section 7.13.2.1 Soil Permeability in its entirety and ADD the following 2<sup>nd</sup> paragraph in its entirety to Section 7.13.2.1 immediately after the first paragraph on GBR page 26 of 44 (CHANGES ARE NOTED IN RED):

#### 7.13.2.1 Soil Permeability

In situ permeability (slug) testing was performed in open standpipe wells and used to determine the hydraulic conductivity of the soils. Results from these tests are included in GDR Appendix I.

Soil hydraulic conductivity determined from in situ testing in the field ranges between 2.53x10<sup>-2</sup> cm/sec and 8.64x10<sup>-5</sup> cm/sec. In general, the higher values reflect more dominant granular materials in the cohesionless fill and native soils. For Class A and Class B soils, assume permeability will be as high as 1x10<sup>-1</sup> cm/sec. For Class C and Class D soils, assume that the permeability will vary between 1x10<sup>-4</sup> cm/sec and 1x10 6 cm/sec. For Class E soils, assume that the permeability will be as high as 1x10<sup>-1</sup> cm/sec. Baselines for groundwater inflows through soil for excavations are discussed in Section 7.13.3.

As baselines, assume the following ranges of soil permeability values: For Class A:  $1x10^{-6}$  to  $1x10^{-1}$  cm/sec, with a mean  $2x10^{-4}$  cm/sec For Class B:  $1x10^{-4}$  to  $1x10^{-1}$  cm/sec, with a mean  $1.2x10^{-3}$  cm/sec For Classes C and D:  $1x10^{-4}$  to  $1x10^{-6}$  cm/sec, with a mean  $1x10^{-5}$  cm/sec For Class E:  $1x10^{-3}$  to  $1x10^{-1}$  cm/sec, with a mean  $1x10^{-2}$  cm/sec. Baselines for groundwater inflows through soil excavations are discussed in Section 7.13.3.

- **4.** APPENDIX C GEOTECHNICAL BASELINE REPORT Section 7.13.2.2 Rock Mass Permeability
  - **a.** REVISE the 2<sup>nd</sup> paragraph of Section 7.13.2.2 in its entirety on GBR page 26 of 44 (CHANGES ARE NOTED IN RED):

#### 7.13.2.2 Rock Mass Permeability

Groundwater in the rock mass will flow through joints, fractures, and open bedding planes. In situ rock permeability (packer) testing was performed in selected borings.

The packer testing results were used to determine the hydraulic conductivity in the rock mass for the tunnels, adits, and shafts. Histograms for hydraulic conductivity are presented for each rock class in Figures 8 through 13. In general, measured hydraulic conductivities at the tunnel depth range between <1x10<sup>-6</sup> cm/sec to 1x10<sup>-2</sup> cm/sec. For baseline purposes, assume rock mass permeability ranges from 1x10<sup>-6</sup> cm/sec to 1x10<sup>-2</sup> cm/sec. Hydraulic conductivity values in the range between the minimum and the maximum values with the arithmetic mean, as tabulated

on the hydraulic conductivity graphs of Figure 9 through 13, are to be taken as the baseline rock mass hydraulic conductivities for each Rock Class. This data was used to evaluate groundwater inflow for the tunnels and shafts. For the shafts, it is noted that packer tests were not conducted in the materials at the soil/rock interface. Given that watertight SOE systems are to be advanced into rock, hydraulic conductivity estimates in these areas were not considered in the shaft groundwater inflow calculations. Refer to Section 7.13.3 for further discussion and baselines regarding groundwater inflow to tunnel and shaft excavations.

5. Supplemental Contract Conditions, Article 3SC, ADD Section 3.35 - PROGRESS ESTIMATES AND APPLICATIONS FOR PAYMENT heading and Seventh Paragraph in its entirety as follows (CHANGES ARE NOTED IN RED)

#### 3.35 PROGRESS ESTIMATES AND APPLICATIONS FOR PAYMENT

Any payment made pursuant to a progress estimate is not an acceptance by the Owner of any part of the Work, material, or equipment covered by such progress estimate. If the Owner determines the Contractor is not making satisfactory progress on the Work, the Owner may withhold any monies as described in Article 3.37.

- APPENDIX A TECHNCIAL SPECIFICATIONS Section 01 22 00, BID ITEM 117. SPECIFIC ALLOWANCE #5 – Obstructions to Shaft and Near Surface Support of Excavation and Piling
  - a. REVISE Bid Item 117.1 as follows (CHANGES ARE NOTED IN RED):
  - 1. Obstructions are defined herein as natural or manmade objects, including rock, concrete, asphalt, metal, bricks, wood, timber, slag, plastic, or any object encountered within the overburden material which stops the progress of construction of the excavation support systems (e.g. slurry panels/diaphragm walls, secant piles, pipe piles, steel sheetings, etc.) or foundation H-Pile driving, or refusal to shaft external pre-excavation grout hole drilling for more than 4 hours despite the Contractor's reasonable and diligent effort to overcome it, as determined by the Owner.
- 7. APPENDIX A TECHNICAL SPECIFICATIONS Section 31 23 20, Part 1 General, 1.7.B.
  - a. REVISE Section 31 23 20, Part 1.7.B. as follows (CHANGES ARE NOTED IN RED):

- B. Groundwater inflow rates to tunnel and shaft excavations in the absence of pre-excavation grouting are baselined in the Geotechnical Baseline Report. Grouting shall be performed to achieve shaft and tunnel excavations that are safe and allow for placement of concrete/final linings, and that meet the infiltration criteria and enable the construction water disposal rate to stay within the maximum discharge rate per shaft site as specified in the Contract Documents
- b. REVISE Section 31 23 20, Part 3.6.F. as follows (CHANGES ARE NOTED IN RED):
- F. Supplemental chemical grout to the above grouting operations shall be conducted (as approved by the Owner) at locations where groundwater infiltration is not being arrested to below the infiltration meet the performance criteria specified in part 1.7.B.
- 8. APPENDIX A TECHNICAL SPECIFICATIONS Section 31 23 20, Part 3 EXECUTION, 3.6.K
  - a. DELETE last sentence Section 31 23 20, Part 3.6.K. as follows (CHANGES ARE NOTED IN RED):
  - K. Grout holes shall be grouted through a manifold fitted with valves, gauges, meters, and controls to enable grouting of each hole independently.
    Additional drilling and grouting shall then be performed as directed by the Owner or required.
- 9. APPENDIX A TECHNICAL SPECIFICATIONS Section 31 56 00, Part 3 EXECUTION, 3.4.B.4.
  - a. REVISE Section 31 56 00, Part 3.4.B.4 as follows (CHANGES ARE NOTED IN RED):
  - 4. Unless otherwise approved by the Owner, the excavation of any single panel shall be continuous once excavation has commenced. At a minimum, check the verticality of the panel every 10 feet of excavated depth as excavation proceeds or as directed by the Owner. These interim verticality checks shall be performed deploying an ultrasonic technology (e.g., Koden, or equivalent as applicable) independent of on-board measurement tools after withdrawal of

the excavation equipment. If the verticality exceeds specified limits, take corrective measures to bring the panel to within the specified limits.

- 10. APPENDIX A TECHNICAL SPECIFICATIONS Section 03 30 00, Part 3 EXECUTION, 3.1.C.5.
  - a. ADD the following text in its entirety to Section 03 30 00, Part 3.1.C.5 as follows (CHANGES ARE NOTED IN RED):
  - 5. The total time interval from when the cement makes contact with the aggregates to the completion of discharge shall not exceed 90 minutes. The Owner may reduce the total time limit in hot weather or under unusual conditions if unsatisfactory results are obtained. For concrete placed in tremie method under bentonite slurry, the maximum time interval may be extended to 120 minutes, provided the approved retarding admixtures and/or superplasticizers are incorporated into the mix design to ensure slump retention of no less than 5 hours and the concrete maintains the specified slump at the point of discharge without the addition of water. Extension to 120 minutes shall be subject to prior approval by the Owner based on trial mixes and field performance testing conducted by the Contractor's testing agency at intervals not exceeding 30 minutes to verify compliance at no additional costs to the Owner. The Owner reserves the right to revert to the 90 minutes requirements at ambient temperatures higher than 90 degrees F.

#### 11. APPENDIX B - CONTRACT DRAWINGS

- a. DELETE ORT-ST-501 (Sheet 153 of 770) and ADD REVISED ORT-ST-501 (Sheet 153 of 770) which is Attachment A to this Addendum.
- 12. Supplemental Contract Conditions, Article 3SC, Section 3.19 CONCERNING SUBCONTRACTORS AND OTHERS

ADD to following Section 3.19 heading and the following sentence to the end of the 5<sup>th</sup> paragraph (CHANGES ARE NOTED IN RED):

3.19 - CONCERNING SUBCONTRACTORS AND OTHERS Notwithstanding the foregoing, Contractor will not be required to indemnify the Owner for any damages brought by subcontractors, suppliers, and material men arising solely from Owner's breach of the payment obligations in this Agreement, subject to any rights of Owner to suspend, stop, or change payments in accordance with this Agreement.

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13. Article 4 Contract Agreement, Item 5 b. [page 4-4]

DELETE the last sentence in 6b shown in RED.

Contractor has studied carefully reports of explorations and tests of subsurface conditions and drawings of physical conditions available at the project site.

Contractor acknowledges that such reports and drawings are not Contract Documents.

# Addendum No. 8

#### **Attachment A**

# APPENDIX B – CONTRACT DRAWINGS

• Revised ORT-ST-501 (Sheet 153 of 770) (1 page)

