ALLEGHENY COUNTY SANITARY AUTHORITY

March 1, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 8

All bidders bidding Contract No. 1729 G, E, H, P shall read and take note of this Addendum No. 8. The Contract Documents for **Contract No. 1729 G, E, H, P – East Headworks** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1729 G, E, H, P; Addendum No. 8

The Acknowledgement attached to Addendum No. 8 is to be signed and returned immediately via email to Kathleen Uniatowski at contract.clerks@alcosan.org and acknowledged with the Bidder's Proposal.

Kimberly Kennedy, P.E.
Director – Engineering and Construction

ACKNOWLEDGEMENT OF

CONTRACT NO. 1729 G, E, H, P – EAST HEADWORKS

ADDENDUM NUMBER 8

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

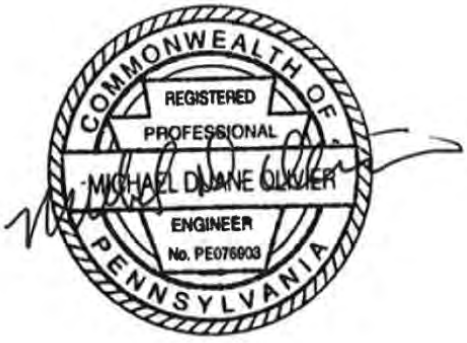
DATE: _____

February 26, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 8



March 1, 2021

CONTRACT NO. 1729 G, E, H, P

EAST HEADWORKS

ADDENDUM NO. 8

A. Contract Documents – Volume 1

1. Article 2 – 2.04 Submission and Opening of Bids

    a) DELETE "Bids shall be submitted on the Bid Form which is attached hereto and shall state the proposed price of the Work (typewritten or in ink), both in words and in figures." And REPLACE with "Bids shall be submitted on the Bid Form which is attached hereto and needs to be printed and shall state the proposed price of the Work (typewritten or in ink), both in words and in figures."

2. Article 3 – INSERT Exhibit D – Tax Exemption Form

B. Contract Specifications – Volume 2

1. Testing Concrete Structures for Watertightness (Section 01 45 25)

    a) Section Title and Footers, CORRECT spelling of "Structures."

    b) Paragraph 3.1.A.5.c, DELETE paragraph in its entirety.

    c) Paragraphs 3.1.A.5.d, e, f, and g, RE-NUMBER to c, d, e, and f, respectively.

    d) Paragraph 3.2.A.1, DELETE the following line from the table, "120-inch Conduit (Facility 509); Section 2; 0.05% of volume per day."

    e) Paragraph 3.2.A.1, Table 2nd Column titled, "SECTION OF ACI 350.1 FOR TESTING PROCEDURES," REVISE "Section 1" to read, "Section 2" (3 places); REVISE "Section 2" to read, "Section 3" (6 places).

2. Construction Facilities, Temporary Controls and Utilities (01 50 00)

    a) Paragraph 1.6 Permits – A.5. DELETE "The Owner will pay an initial payment for plan review. This payment is approximately 20% of the Engineers estimate. This amount will be credited toward the Building Permit amount. The owner will furnish the exact amount that was paid prior to the bid date." And REPLACE with "Owner has paid $46,769.16 toward a plan review. This amount will be credited to General Contractor's building permit."

3. Maintenance of Plant Operations (Section 01 52 00)

    a) Paragraph 1.7.P.4, DELETE paragraph in its entirety and REPLACE with, "Target date for completion of work described in paragraphs 1, 2, and 3 is December 2021."

4. Facility Sanitary Sewers (Section 22 13 13)

    a) Paragraph 3.7.B.3, DELETE paragraph in its entirety and REPLACE with, "The PCCP shall be supplied with double gasketed, air testable joints. The spigot rings for these joints shall have two equal sized grooves for gaskets separated sufficiently to allow an air pressure test of the small annular space between the gaskets once the joint is assembled. A test port shall be provided through the spigot for introducing air pressure into the area between the gaskets. The Contractor shall test each of these joints after it is assembled to a gauge pressure 50 psi for a minimum of 5 minutes. Once the pressure has stabilized, a valve in the air supply line shall be closed. The joint is acceptable if the pressure drop is less than 5 psi. If the joint does not pass this air test, it must be disassembled, re-assembled using new gaskets, and re-tested."

C. Contract Specifications – Volume 3

1. Low-Voltage Electrical Power Conductors and Cables (Section 26 05 19)

    a) Paragraph 3.2.A, REVISE to read, "For All Interior and Exterior Process Areas: Type XHHW or XHHW-2 (90 deg C rating in dry and wet locations), single conductors in raceway."

2. Concrete Paving (Section 32 13 13)

    a) Paragraph 2.5.A, REVISE to read, "Longitudinal Joints."

3. Water Utility Distribution Piping (Section 33 14 16)

    a) DELETE section and its entirety and REPLACE with new section 33 14 16 included herein.

4. Sanitary Sewerage Gravity Piping (Section 33 31 13)

    a) DELETE section and its entirety and REPLACE with new section 33 31 13 included herein.

5. Stormwater Conveyance (Section 33 42 00)

    a) Paragraph 2.5.A, ADD paragraph 3 as follows,
    "3. See Section 40 05 19 "Ductile Iron Process Pipe" for nuts and bolts requirements."

6. Common Work Results for Process Interconnections (Section 40 05 00)

    a) Paragraph 3.13.B.2.a.1.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

    b) Paragraph 3.13.B.2.a.1.c) DELETE "Lining: Unlined" and REPLACE with "Lining: Cement lined in accordance with ANSI Specifications A21.4 Section 4-10.1, with curing to be effected by application of a bituminous seal coating which shall cover and seal the cement mortar. The thickness of the cement lining shall be standard thickness."

    c) Paragraph 3.13.C.2.a.1.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

    d) Paragraph 3.13.C.2.a.2.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

    e) Paragraph 3.13.C.2.b.1.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

    f) Paragraph 3.13.C.2.c.1.a) REVISE to, "… See Section 40 05 24 'Steel Process Pipe.'"

    g) Paragraph 3.13.D.2.a.1.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

h) Paragraph 3.13.D.2.a.2.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

i) Paragraph 3.13.H.2.a.1.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

j) Paragraph 3.13.H.2.a.2.a) REVISE to, "… See Section 40 05 19 'Ductile Iron Process Pipe.'"

7. Couplings, Adapters, and Specials for Process Piping (Section 40 05 06)

a) Paragraph 1.5.A, REVISE to read, "Underground ductile iron piping and fittings are specified in Section 33 14 16 "Water Utility Distribution Piping", Section 33 31 13 "Sanitary Sewerage Gravity Piping", and Section 33 42 00 "Stormwater Conveyance", specific to each application."

8. Hangers and Supports for Process Piping (Section 40 05 07)

a) Paragraph 1.4.A, REVISE to read, "Underground ductile iron piping and fittings are specified in Section 33 14 16 "Water Utility Distribution Piping", Section 33 31 13 "Sanitary Sewerage Gravity Piping", and Section 33 42 00 "Stormwater Conveyance", specific to each application."

9. Wall Pipes, Floor Pipes, and Pipe Sleeves (Section 40 05 09)

a) Paragraph 1.4.A, REVISE to read, "Underground ductile iron piping and fittings are specified in Section 33 14 16 "Water Utility Distribution Piping", Section 33 31 13 "Sanitary Sewerage Gravity Piping", and Section 33 42 00 "Stormwater Conveyance", specific to each application."

10. Ductile Iron Process Pipe (Section 40 05 19)

a) Paragraph 1.4.A, REVISE to read, "Underground ductile iron piping and fittings are specified in Section 33 14 16 "Water Utility Distribution Piping", Section 33 31 13 "Sanitary Sewerage Gravity Piping", and Section 33 42 00 "Stormwater Conveyance", specific to each application."

b) PART 2 – PRODUCTS, ADD Paragraph 2.4 as follows,
"2.4. NUTS AND BOLTS

A. Buried: Wax Tape Coatings per AWWA C217-16.

B. Exposed and Interior: See Section 40 05 06 “Couplings, Adapters, and Specials for Process Piping”

11. Stainless Steel Process Pipe and Tubing (Section 40 05 23)

a) Paragraph 1.4.A, REVISE to read, “Underground ductile iron piping and fittings are specified in Section 33 14 16 “Water Utility Distribution Piping”, Section 33 31 13 “Sanitary Sewerage Gravity Piping”, and Section 33 42 00 “Stormwater Conveyance”, specific to each application.”

12. Steel Process Pipe (Section 40 05 24)

a) Paragraph 1.4.A, REVISE to read, “Underground ductile iron piping and fittings are specified in Section 33 14 16 “Water Utility Distribution Piping”, Section 33 31 13 “Sanitary Sewerage Gravity Piping”, and Section 33 42 00 “Stormwater Conveyance”, specific to each application.”

13. Common Requirements for Process Valves (Section 40 05 51)

a) Paragraph 2.4.c.7.a, DELETE “Cadmium-plated”, and REPLACE with, “Stainless steel”

b) Paragraph 2.4.c.7, ADD paragraphs d and e as follows,

“d. Chain actuators installed in classified areas shall be constructed of stainless steel and other materials to make them corrosion and spark resistant.

e. Chain actuators installed in NEC non classified areas shall be fabricated with ductile iron wheels and guides.”

14. Fiberglass Ductwork and Dampers (Section 40 10 16)

a) Paragraph 2.5.B.1.c.9, ADD the following to the end of the paragraph, “Chain wheels located in classified areas shall be constructed of stainless steel and other materials to make them corrosion and spark resistant. Chain wheels installed in NEC non classified areas shall be fabricated with ductile iron wheels and guides and provided with stainless steel chain.”

Contract Drawings

15. Drawing 530-A-26

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-26.

16. Drawing 530-A-27

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-27.

17. Drawing 530-A-28

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-28.

18. Drawing 530-A-46

    a) DELETE this drawing and REPLACE with the attached drawing 530-A-46.

19. Drawing MS-02

    a) REVISE size for valve Tag No. KGV606-530 from "12" to "6."

20. Drawing E-02

    a) REPLACE General Note No. 38 with, "INTERIOR AND EXTERIOR PROCESS AREAS SHALL USE XHHW OR XHHW-2 (90 DEG C RATING IN DRY AND WET LOCATIONS)"

D. Questions

161. **QUESTION:** Reference Specification 26 05 19 2.3.2.A Low Voltage Electrical Power Conductors and Cables: This Spec Section calls for a single conductor cable type for all exterior and interior process areas to be Type XHHN/XHWN-2. This conductor type has not yet been standardized and put into production. Large quantities required, very high price and long delivery dates would be expected if this cable type is to be utilized. Can we substitute XHHW instead?

RESPONSE: Wire types XHHW or XHHW-2 (90 deg C rating in dry and wet locations) are acceptable.

162. **QUESTION:** Reference Addendum No. 6, E. Questions. The response to question no. 76 indicates that duct banks will be abandoned and relocated as part of Contract 1739 and that coordination via the construction manager will be necessary. As a bidder for Contract 1729G the current location of this duct bank, as well as others on the site, have a negative impact on our ability to perform excavations, utility installations, and other portions of the work. Since the detailed scope of work and schedule information for Contract 1739 has not been provided, please confirm that bidders for Contract 1729 should anticipate that (with proper coordination efforts) the abandoning and relocation of the ductbanks under Contract 1739 will not cause a negative impact to the construction sequence and schedule for Contract 1729.

RESPONSE: Contract 1739 work in areas of conflict with Contract 1729 work is considered priority work and is anticipated to be completed by December 2021.

163. **QUESTION:** Reference Addendum No. 6, E. Questions. Question no. 99 specifically cites as an example the 'relocation of electric lines' to which the response indicates that "Relocation of underground utilities are part of the G Contract". Please further clarify the requirements (if any) that are the responsibility of the general contractor related to relocation of electric lines given that this work is typically included as part of the electrical prime contract rather than that of the general. Also the response to question no. 76 refers to abandoning existing ductbanks and installing new ductbanks as part of a separate contract 1739 which further confuses the scope of electric line relocations by the G contract. We suggest that any relocation of existing electric lines be by other contracts or by the 1729E contractor and not by the 1729G contractor.

RESPONSE: Per Question 151, There is no work in this contract associated with referenced Contract 1739 work, only requirements to coordinate with that Contractor, ALCOSAN and the CM. The contractors are to coordinate the installation of the new utilities with demolition of existing utilities. Coordination of this work should be with the other prime contractors, ALCOSAN and the CM. Existing utilities that the contractor wishes to relocate for its own convenience shall be done so at its own expense after coordination of the other Prime Contractors and approval from the CM and the Owner. Specific responsibilities of each contract for work is described in the contract documents and indicated in section 01 11 00. All utility outages shall be represented in the CPS and three-week look-ahead schedule presented at the bi-weekly progress meetings.

164. **QUESTION:** Reference Contract Documents Volume 1, Article 3.21. The last sentence of the first paragraph indicates that Exhibit D is attached, however we have only found Exhibit A – Exhibit C in the documents. Please advise.

RESPONSE: Attached.

165. **QUESTION:** I am contacting you to ask if "or equal" bar screens are being accepted for this project? My Company, Daman Superior, represents Lakeside Equipment and they have their "FalconRake Bar Screen." This screen is very similar to the specified Duperon. We would like to offer a pre-submittal for your review. Would that be acceptable? If so is there a section in the specification that details "or equal" requirements?

RESPONSE: ALCOSAN will not be adding any products to the list for any of the listed products during the bid period. Not listed products will have to go through the substitution process if submitted by the successful bidder after the notice to proceed. Reference Article 2 – 2.05 B.3.

166. **QUESTION:** Are the bulkheads required per the MOPO specification 01 52 00 existing at the plant that we can install or do we have to fabricate new ones?

RESPONSE: Contractor must provide new temporary bulkhead. Bulkhead design is delegated to contractor per drawing S-03.

167. **QUESTION:** Upon analysis of Article 2, the specifications, geotechnical reports, the addenda, and without an extensive sampling and classification program, there is no way to categorize excavated waste materials and determine how much of the material can be wasted at a permitted facility as clean/uncontaminated material or wasted under a PA Form U disposal permit and disposed of at a licensed facility (e.g.: Republic Services' Imperial site). To make all bids consistent, should all bidders assume, as a basis of their base bid, that all excavated material be disposed of at a licensed facility (e.g.: PA Form U disposal permit at Republic Services' Imperial site)?

RESPONSE: All excavated soils and other excavated materials are assumed to be Residual Waste per 31 23 00 – 1.5.C 1.a.

168. **QUESTION:** Pumped water volumes from dewatering operations could average 1.5 million gallons per day or more which would render off site disposal unachievable. To make all bids consistent, should all bidders assume as a basis of their bid, that all pumped groundwater will be disposed of in ALCOSAN's system? If yes, what level of pretreatment falls under the responsibility of the Contractor? Furthermore, if the testing indicates the water is outside of ALCOSAN's permit acceptance requirements, will off-site disposal or elevated on-site decontamination efforts be paid under force account?

RESPONSE: Contractor shall pump groundwater, through a filter bag, and into ALCOSAN's system. If testing indicates water is outside of ALCOSAN's permit acceptance requirements, off-site disposal will be paid under force account.

169. **QUESTION:** If localized contaminated waters and or liquids are encountered during construction, will additional handling, treatment, and disposal costs be paid under force account?

RESPONSE: If the testing indicates the water is outside of ALCOSAN's permit acceptance requirements, yes.

170. **QUESTION:** Provide hardware material requirements for buried DI piping, fitting and accessories.

RESPONSE: Hardware materials have been added herein to Section 40 05 19 and apply to all ductile iron pipe.

171. **QUESTION:** Provide pipe class and restraint requirements for buried DIP and update piping schedule accordingly.

RESPONSE: PC350 for 12" and smaller and PC300 for 14" and larger, unless otherwise specified. Restraints for buried piping shall be as specified.

172. **QUESTION:** Drawing 420-M-23 (Odor Control Chemical Building), Drawing MS-02 (Valve Schedule) & Check Valve Spec 40 05 65 - There are (2) 8" Check Valves (#'s SVC005 & 006-420) servicing the discharges of SRC Pumps 3A & 3b. They are listed on the schedule as just "Check Valve". I put them on our takeoff as "swing type" with weight & levers. However, since the piping is CPVC, does the designer prefer ball checks with true union ends, which the spec seems to indicate. Please clarify.

RESPONSE: Check valves in CPVC piping shall comply with Specification Section 40 05 65 Check Valves paragraph 2.02 and shall be ball check valves. Paragraph 2.02.D states,

"Unions shall be provided in the line at the check valve for ease of removal." Providing true union end CPVC ball check valves complies with this requirement.

173. **QUESTION:** Reference Specification 34 78 13 Truck Scales:
    1. What is the Dead weight of the roll-off dump trailer that being used on the scales?
    2. What is the Live weight of the roll-ff dump trailer?
    3. Which direction will the they be compacting waste when sitting on the scales (vertical or horizontal)?
    4. How much pressure is on the scale when compacting the waste?

    RESPONSE: The dead weight of the roll-off dumpster is 8,500 lbs. The live weight of the roll-off dumpster is 60,000 lbs. Compacting will be horizontal. The compactor action does not cause pressure on the scale other than its weight.

174. **QUESTION:** Will PennDOT approved Air-Cooled Blast Furnace Slag (ACBF) be acceptable to use on this project for the following applications?
    a. Structure backfill?
    b. Road base?
    c. Structure bedding/under slabs**?**

    RESPONSE: Air-Cooled Blast Furnace Slag (ACBF) will be acceptable if meeting the quality requirements of PennDOT 703.2 and the physical properties and gradation requirements of its intended use.

175. **QUESTION:** Drawing MS-02 Process Mechanical Schedule please verify that the size of East Headworks Grit Classifier Overflow 6 Valve No. KGV608-530 is 12" as shown on the Schedule and not 6".

    RESPONSE: It is assumed the question is referring to Valve No. KGV606-530 which is a 6" valve, not 12" valve as indicated in the schedule. Valve KGV608-530 is for Bar Rack Channel No. 6 drain line.

176. **QUESTION:** Please provide Series 700 Drawings that show the locations of butterfly valves BFV000-700, 001-700 and 002-700: Reference Drawings MS-02 Valve Schedule, last column at the bottom and Process Air PFD Detail 1 on Drawing M-3 Process Air and Steam Schematics.

    RESPONSE: Valves BFV000-700, 001-700, and 002-700 are indicated on Drawing 725-M-10.

177. **QUESTION:** Reference Specification 40 05 51 2.4.C.7: Please clarify the chainwheel material.

RESPONSE: Chain actuators installed in classified areas shall be constructed of stainless steel and other materials to make them corrosion and spark resistant. Chain actuators installed in NEC non classified areas shall be fabricated with ductile iron wheels and guides.

178. **QUESTION:** Reference concrete finish: Does the underside of the suspended concrete slab (ceiling) in any structure containing process fluid receive a rubbed finish?

RESPONSE: Yes. As specified in 03 30 00, paragraph 3.7.B.g.: Provide smooth rubbed finish to concrete surfaces such as: "Interior concrete surfaces containing process liquid." This includes the ceiling, walls, and slab of the structures containing process liquid.

179. **QUESTION:** Reference specification section 32 13 13 Concrete Paving: Indicates dowel baskets in both longitudinal and transverse joint. Drawings indicate dowel baskets at longitudinal only. Please clarify what is required.

RESPONSE: Drawings are correct. Provide dowel baskets at longitudinal only.

180. **QUESTION:** Reference wall section 1 on sheet 530-A-26: This section shows the UHPC panels over "rigid insulation". Other similar wall sections, such as 3 on sheet 530-A-26, identify the insulation as "foam insulation". These sections and other similar wall sections refer to details 2 and 7 on sheet 530-A-46. These two details, however, show the UHPC panel system installed over the 2" insulated back-up metal panel system on hat channels. Please clarify if the UHPC panels are to be installed over rigid foam insulation or the insulated back-up metal panel system. Also, we do not believe details 2 and 7 on sheet 530-A-46 show all of the necessary sub-framing components for both the back-up metal panel and the UHPC panel systems.

RESPONSE: The UHPC panel system is installed over 2" insulated back-up metal panel system on hat channels per Details 2 and 7 on 530-A-46. The UHPC panels and back up panel manufacturers are responsible for providing the required panel supports, at spacing as required by the manufacturer. For the UHPC panel system, provide concealed attachment system per Specification Section 07 42 47, Part 2.3. For the 2" insulated backup panels, provide subgirts (hat channels) and panel attachment clips per Specification Section 07 42 17.10, Part 2.4.

181. **QUESTION:** Drawing M-02 Effluent Flushing Water Schematic Valves No. 22 thru 71: This Drawing indicates that valves No. 22 thru 71 are located in the East Headworks Basement. Review of Drawings 530-M-10, 530-M-11, and 530-M-12 do not indicate the referenced valves. Please indicate which drawing(s) show the referenced valve numbers (Note: The balance of valves indicated on M-02 in Bldg. 530 are all shown on Drawing 530-M-13).

RESPONSE: Drawing M-02 shows the area near the grit pumps schematically and the various effluent water connections. The Contractor shall field coordinate the final location of the effluent water system valves and piping as indicated in M-02. Basement effluent water piping is also shown on Drawings 530-M-32 and 530-M-35.

182. **QUESTION:** Reference specification 01 45 25, 3.1.A.5.c & 3.2.A.1 which indicate that 120-inch conduit (Facility 509) will be tested for watertightness with a surcharged hydrostatic test. Since the 120" conduit is PCCP there an extremely low chance that the line would leak at any location other than the pipe joints and by the time that a hydrostatic test could be performed there would likely be only two options available to correct such leaks. One would be to perform internal/external patching which would be unfavorable for quality and may not be acceptable by the pipe manufacturer, the other option would be to remove and re-install the line which would be extremely cost prohibitive and may cause additional damage to the line. For these reasons we suggest removing the hydrostatic testing requirements for the 120-inch conduit (Facility 509) and replacing with a requirement to perform joint testing. This method allows the contractor to test each joint as the pipe is installed which permits immediate correction if a joint is found to leak which avoids excessive rework that would otherwise be found only at the end of installation using the hydrostatic testing method.

RESPONSE: Agreed, hydrostatic testing of the 120-inch conduit PCCP sections is not needed and has been removed from Section 01 45 25. Joint testing is required and specific testing requirements will be added to Section 22 13 13.

183. **QUESTION:** Reference specification 01 45 25, 3.1.A.4 & 3.1.A.5 which make reference to structures being testing in accordance with ACI 350.1 section 2 and section 3 respectively. In specification 01 45 25, 3.2.A.1 the table indicates testing in accordance with ACI 350.1 section 1 and section 2 which does not agree with the previously listed specification paragraphs. Please advise.

RESPONSE: The table will be updated to match the specification.

184. **QUESTION:** Referencing Specification 01 45 25, 3.2. Please confirm it is acceptable to test multiple structures together at the contractor's discretion.

RESPONSE: The specifications require that the watertightness test must be performed for each section that can be isolated during operation (see paragraph 3.2.C.1). So, combining multiple structures is not permitted per the language in the specification. Additionally, for the grit tank and east headworks, the contractor would have to isolate the cells and channels and test them separately.

185. **QUESTION:** Reference drawing C-22 (39 of 645) and C-25 (42 of 645). Please confirm that the new 3" Gas line (SSP 3 NGS) shown in plan view on C-22 and in profile on C-25 falls under the Plumbing prime contractor as part of Division 22 and is not part of the General prime contractors scope.

RESPONSE: As per note 3 on sheet C-22, the Plumbing Contractor is responsible for the installation of the entire proposed gas line from the building to connection point at the existing line. The General Contractor will be responsible for trenching, bedding and backfill.

186. **QUESTION:** Bid Document Section 312300 Management, Handling and Disposal of Excavated Soil and Other Excavated Materials, states" for purposes of this project, excavated soils and other excavated soils and other material are anticipated to fall under the following classification: residual Waste, Other Contaminated Waste, Excavated Clean Fill, Regulated Fill or Construction/Demolition Waste. Each of these waste soil classifications incur different and significant handling costs. None of these handling costs can be accurately determined at bid time because ALCOSAN has not sampled to determine the waste code or codes for the on-site soil would be classified.

In order to provide a fair and equal proposal for all bidders. ALCOSAN should provide an estimated quantity of each waste stream per ton for disposal to be anticipated. For example:
Residual Contaminated Form U Profile _____tons
Other Contaminated Waste_____tons
Clean Fill _____tons etc.

As an alternative, the entire Handling and Off-Site Disposal of Waste Soil could be assigned Force Account reimbursement.

RESPONSE: All excavated soils and other excavated materials are assumed to be Residual Waste per 31 23 00 – 1.5.C 1.a.

F. Clarifications

1. Addendum No. 7, Question No. 127 response should have "Utilities not shown on the drawings as being relocated, but need to be relocated for convenience by a Prime Contractor shall…"

2. Addendum No. 7, Question No. 129.c response should have also included, "Also see Drawing 530-M-51, Detail D."

3. This addendum changes the response to question 88 in Addendum #6, which had stated the ductile iron pipe was to be unlined and is being updated per 3.C.b of this Addendum #8.

4. The new targeted completion date for the 1739 electrical contract is December 2021, not September 2021 as was indicated in Addendum #1.

Attachments:

Articles:

Article 3, Exhibit D – Tax Exemption Form

Specifications:

33 14 16 – Water Utility Distribution Piping

33 31 13 – Sanitary Sewerage Gravity Piping

Drawings:

530-A-26

530-A-27

530-A-28

530-A-46

*** * * * END OF ADDENDUM NO. 8 * * * ***

EXHIBIT D

TAX EXEMPTION CERTIFICATE

REV-1220 AS + (9-08)(I)

pennsylvania
DEPARTMENT OF REVENUE

BUREAU OF
BUSINESS TRUST FUND TAXES
PO BOX 280901
HARRISBURG, PA 17128-0901

PENNSYLVANIA EXEMPTION CERTIFICATE

CHECK ONE:

- [x] STATE OR LOCAL SALES AND USE TAX
- [ ] STATE OR LOCAL HOTEL OCCUPANCY TAX
- [ ] PUBLIC TRANSPORTATION ASSISTANCE TAXES AND FEES (PTA)
- [ ] VEHICLE RENTAL TAX (VRT)

(Please Print or Type)

This form cannot be used to obtain a Sales Tax License Number, PTA License Number or Exempt Status.

Read Instructions On Reverse Carefully

THIS FORM MAY BE PHOTOCOPIED – VOID UNLESS COMPLETE INFORMATION IS SUPPLIED

CHECK ONE: [ ] **PENNSYLVANIA TAX UNIT EXEMPTION CERTIFICATE** (USE FOR ONE TRANSACTION)
[ ] **PENNSYLVANIA TAX BLANKET EXEMPTION CERTIFICATE** (USE FOR MULTIPLE TRANSACTIONS)

Name of Seller, Vendor, or Lessor

Street | City | State | ZIP Code

NOTE: Do not use this form for claiming an exemption on the registration of a vehicle. To claim an exemption from tax for a motor vehicle, trailer, semi-trailer or tractor with the PA Department of Transportation, Bureau of Motor Vehicles, use one of the following forms:

FORM MV-1 Application for Certificate of Title (first time registrations)

FORM MV-4ST Vehicle Sales and Use Tax Return/Application for Registration (other registrations)

Property and services purchased or leased using this certificate **are exempt** from tax because: (Select the appropriate paragraph from the back of this form, check the corresponding block below and insert information requested.)

- [ ] 1. Property or services will be used directly and predominately by purchaser in performing purchaser's operation of:
- [x] 2. Purchaser is a/an: Municipal Authority created under the "Municipality Authorities Acts".
- [ ] 3. Property will be resold under License Number _____. (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)
- [ ] 4. Purchaser is a/an: _____ holding Exemption Number _____
- [ ] 5. Property or services will be used directly and predominately by purchaser performing a public utility service.
  [ ] PA Public Utility Commission PUC Number _____ and/or [ ] US Department of Transportation MC/MX _____
- [ ] 6. Exempt wrapping supplies, License Number _____. (If purchaser does not have a PA Sales Tax License Number, include a statement under Number 7 explaining why a number is not required.)
- [ ] 7. Other _____
  (Explain in detail. Additional space on reverse side.)

I am authorized to execute this Certificate and claim this exemption. Misuse of this Certificate by seller, lessor, buyer, lessee, or their representative is punishable by fine and imprisonment.

Name of Purchaser or Lessee | Signature | EIN | Date

Street	City	State	ZIP Code
3300 Preble Avenue	Pittsburgh	PA	15233

1. ACCEPTANCE AND VALIDITY:

For this certificate to be valid, the seller/lessor shall exercise good faith in accepting this certificate, which includes: (1) the certificate shall be completed properly; (2) the certificate shall be in the seller/lessor's possession within 60 days from the date of sale/lease; (3) the certificate does not contain information which is knowingly false; and (4) the property or service is consistent with the exemption to which the customer is entitled. For more information, refer to Exemption Certificates, Title 61 PA Code §32.2. An invalid certificate may subject the seller/lessor to the tax.

2. REPRODUCTION OF FORM:

This form may be reproduced but shall contain the same information as appears on this form.

3. RETENTION:

The seller or lessor must retain this certificate for at least four years from the date of the exempt sale to which the certificate applies.

DO NOT RETURN THIS FORM TO THE PA DEPARTMENT OF REVENUE.

4. EXEMPT ORGANIZATIONS:

This form may be used in conjunction with form REV-1715, Exempt Organization Declaration of Sales Tax Exemption, when a purchase of $200 or more is made by an organization which is registered with the PA Department of Revenue as an exempt organization. These organizations are assigned an exemption number, beginning with the two digits 75 (example: 75-00000-0).

GENERAL INSTRUCTIONS

Those purchasers set forth below may use this form in connection with the claim for exemption for the following taxes:

a. State and Local Sales and Use Tax;
b. PTA rental fee or tax on leases of motor vehicles;
c. Hotel Occupancy Tax if referenced with the symbol (●);
d. PTA fee on the purchase of tires if referenced with the symbol (+);
e. Vehicle Rental Tax (VRT)

EXEMPTION REASONS

1.) Property and/or services will be used directly and predominately by purchaser in performing purchaser's operation of:

A. Manufacturing B. Mining C. Dairying D. Processing E. Farming F. Shipbuilding

This exemption is not valid for property or services which are used in: (a) constructing, repairing, or remodeling of real property, other than real property which is used directly in exempt operations; or (b) maintenance, managerial, administrative, supervisory, sales, delivery, warehousing or other nonoperational activities. Effective October 1, 1991, this exemption does not apply to certain services and PTA tire fee.

2.) Purchaser is a/an:

+ A. Instrumentality of the Commonwealth.
+ B. Political subdivision of the Commonwealth.
+ ● C. Municipal Authority created under the "Municipality Authorities Acts".
+ ● D. Electric Cooperative Corporations created under the "Electric Cooperative Law of 1990".
● E. Cooperative Agricultural Associations required to pay Corporate Net Income Tax under the Cooperative Agricultural Association Corporate Net Income Tax Act (exemption not valid for registered vehicles).
+ ● F. Credit Unions organized under "Federal Credit Union Act" or Commonwealth "Credit Union Act".
+ ● G. United States Government, its agencies and instrumentalities.
● H. Federal employee on official business (Exemption limited to Hotel Occupancy Tax only. A copy of orders or statement from supervisor must be attached to this certificate.)
I. School Bus Operator (This Exemption Certificate is limited to the purchase of parts, repairs or maintenance services upon vehicles licensed as school buses by the PA Department of Transportation. For purchase of school buses, see NOTE below.)

3.) Property and/or services will be resold or rented in the ordinary course of purchaser's business. If purchaser does not have a PA Sales Tax License Number, complete Number 7 explaining why such number is not required. This Exemption is valid for property or services to be resold: (1) in original form; or (2) as an ingredient or component of other property.

4.)

Renewable Entities beginning with the two numbers 75:

A. Religious Organization
B. Volunteer Firemen's Organization
C. Nonprofit Educational Institution
D. Charitable Organization

Permanent Exemptions beginning with the two numbers 76:

E. School District

Special Exemptions:

F. Direct Pay Permit Holder
+ ● G. Individual Holding Diplomatic ID
H. Keystone Opportunity Zone
I. Tourist Promotion Agency

Exemption limited to purchase of tangible personal property or services for use and not for sale. The exemption shall not be used by a contractor performing services to real property. An exempt organization or institution shall have an exemption number assigned by the PA Department of Revenue and diplomats shall have an identification card assigned by the Federal Government. The exemption for categories "A, B, C and D" are not valid for property used for the following: (1) construction, improvement, repair or maintenance or any real property, except supplies and materials used for routine repair or maintenance of the real property; (2) any unrelated activities or operation of a public trade or business; or (3) equipment used to maintain real property.

5.) Property or services will be used directly and predominately by purchaser in the production, delivery, or rendition of public utility services as defined by the PA Utility Code.

This Exemption is not valid for property or services used for the following: (1) construction, improvement, repair or maintenance of real property, other than real property which is used directly in rendering the public utility services; or (2) managerial, administrative, supervisor, sales or other nonoperational activities; or (3) tools and equipment used but not installed in maintenance of facilities or direct use equipment. Tools and equipment used to repair "direct use" property are exempt from tax.

6.) Vendor/Seller purchasing wrapping supplies and nonreturnable containers used to wrap property which is sold to others.

7.) Other (Attach a separate sheet of paper if more space is required.)

SECTION 33 14 16 - WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawing and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Pipe and fittings for site water lines including domestic water lines.

B. Hydrants and Valves.

1.3 RELATED REQUIREMENTS

A. Section 31 21 00 - Earthwork, Excavation, Trenching and Backfilling.

1.4 REFERENCE STANDARDS

A. AWWA C104/A21.4 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water; 2013.

B. AWWA C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings; 2012.

C. AWWA C151/A21.51 - Ductile-Iron Pipe, Centrifugally Cast; 2009.

D. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service; 2009.

E. AWWA C502 - Dry-Barrel Fire Hydrants; 2014.

F. AWWA C504 - Rubber-Seated Butterfly Valves 3 In. (75 mm) Through 72 In. (1,800 mm); 2010.

G. AWWA C508 - Swing-Check Valves for Waterworks Service, 2 In. (50 mm) Through 24 In. (600 mm) NPS; 2011.

H. AWWA C600 - Installation of Ductile-Iron Water Mains and Their Appurtenances; 2010.

I. AWWA C502 – Standard for Dry-Barrel Fire Hydrants

J. UL 246 - Hydrants for Fire-Protection Service; Current Edition, Including All Revisions.

1.5 SUBMITTALS

A. Product Data: Provide data on pipe materials, pipe fittings, valves and accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specifiedrequirements.

C. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and invert elevations. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with utility company requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store valves in shipping containers with labeling in place.

PART 2 PRODUCTS

2.1 WATER PIPE

A. Ductile Iron Pipe: AWWA C151:

1. Fittings: Ductile iron, standard thickness. – AWWA C151 for fittings
2. Joints: AWWA C111/A21.11, Styrene butadiene rubber (SBR) or vulcanized SBR gasket with rods.
3. Jackets: AWWA C105/A21.5 polyethylene jacket.
4. Nominal Pipe Size:
   a. Water Supply: 6 - 8 Inches per plan
   b. Fire Protection: 6 - 8 Inches per plan
5. Double Cement lined
6. Pressure Class 350
7. Thickness Class 52

B. Install Tracer Wire: Magnetic detectable conductor, clear plastic covering, imprinted with "Water Service" in large letters or in the conduit per Alcosan.

C. Establish elevations of buried piping to ensure not less than 3 ft of cover.

D. Install ductile iron piping and fittings to AWWA C600.

E. Route pipe in straight line.

F. Install pipe to allow for expansion and contraction without stressing pipe or joints.

2.2 VALVES

A. Gate Valves 3 Inches and Over:
1. AWWA C500, iron body, bronze trim, non-rising stem with square nut, single wedge, flanged ends, control rod, post indicator, valve key, valves, and extension box.

B. Swing Check Valves From 2 Inches to 24 Inches:
   1. AWWA C508, iron body, bronze trim, 45-degree swing disc, renewable disc and seat, flanged ends.

C. Butterfly Valves From 2 Inches to 24 Inches:
   1. AWWA C504, iron body, bronze disc, resilient replaceable seat, water or lug ends, ten position lever handles.

D. Where fire service lines from the distribution system are required, each fire line shall have an isolation valve. The valve type for a fire service line shall be as illustrated in the standard detail on the drawings.

E. Set valves on solid bearing.

F. Center and plumb valve box over valve.

G. Set box cover flush with finished grade.

2.3 FIRE HYDRANTS

A. Fire Hydrants: AWWA C502

1. Fire Hydrants shall comply with contract documents. Fire hydrants shall be of the following manufacturers, or equal:
   a. Mueller
   b. American Flow Control
2. Design and Fabrication:
   a. Conform to AWWA C502
   b. Provide with a 5 in valve opening, nozzle section consisting of two, 2 – ½ in hose nozzles and one, 4-1/2 in steamer.
   c. Provide with water passages to permit full flow of water to minimize friction loss.
   d. Furnish with mechanical (gland type) joint inlet connections.
   e. Design to break off at ground line when struck by a vehicle.
   f. Furnish with O-ring packing only.
   g. Furnish hose and steamer nozzles with threads conforming to standard threads used by local Fire Department.
   h. Furnish with direction of opening as required by local Fire Department with direction of opening cast on dome.
   i. Paint above grade with color conforming to the requirements of the local Fire Department.

2.4 BEDDING AND COVER MATERIALS

B. Bedding: As specified in Section 31 21 00.

C. Cover: As specified in Section 31 21 00.

2.5 ACCESSORIES

A. Concrete for Thrust Restraints.

B. See Section 40 05 19 “Ductile Iron Process Pipe” for nuts and bolts requirements.

PART 3 EXECUTION

2.1 EXAMINATION

A. Verify that building service connection and municipal utility water main size, location, and invert are as indicated.

2.2 PREPARATION

A. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare pipe connections to equipment with flanges or unions.

2.3 TRENCHING

A. See the sections on excavation and fill for additional requirements.

B. Hand trim excavation for accurate placement of pipe to elevations indicated.

C. Form and place concrete for pipe thrust restraints at each change of pipe direction. Place concrete to permit full access to pipe and pipe accessories. Provide 2 sq ft thrust restraint bearing on subsoil.

D. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

2.4 INSTALLATION - PIPE

A. Maintain separation of water main from sanitary sewer piping in accordance with utility company requirements.

B. Group piping with other site piping work whenever practical.

C. Install ductile iron piping and fittings to AWWA C600.

D. Route pipe in straight line.

E. Install pipe to allow for expansion and contraction without stressing pipe or joints.

F. Slope water pipe and position drains at low points.

G. Install tracer wire 6" above top of pipe.

2.5 INSTALLATION – FIRE HYDRANTS

A. Install hydrants at locations indicated in accordance with AWWA M17 and the following:
   1. Remove foreign material from barrel of hydrant before placement.
   2. Install plumb and at same elevation as connecting pipe and main.
   3. Place each hydrant on a slab of concrete not less than 6 in thick and 18 in square.
   4. Block backside of hydrant, opposite pipe connection, with concrete firmly wedged between hydrant and vertical face of undisturbed trench.
   5. Place granular bedding material around base of hydrant to the dimensions shown in the Drawings.
   6. Firmly tamp carefully compacted backfill around hydrant to surface of ground and to distance of 5 ft in front of hydrant.
   7. Clearance from the ground surface to the steamer nozzle shall be between eighteen (18) in and twenty-four (24) in.
   8. Hydrant leg shall be installed at a 90˚ angle with respect to the main water line; no bends in hydrant legs shall be permitted.
   9. No water services shall be permitted on hydrant legs.

2.6 SERVICE CONNECTIONS

A. Provide sleeve in foundation wall for service main. Anchor service main to interior surface of foundation wall.

B. Provide 18 gage, 0.0478-inch galvanized sheet metal sleeve surrounding service main to 6 inches above floor and 6 feet minimum below grade. Size for 2 inches minimum of glass fiber insulation stuffing.

2.7 FIELD QUALITY CONTROL

A. Pressure test water piping and hydrant locations to manufacturers recommendations and ASTM standards

B. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest at no cost to Alcosan.

2.8 CLEANING AND DISINFECTION

A. Cleaning:
   1. Clean interior of piping systems thoroughly before installing.
   2. Maintain pipe in clean condition during installation.
   3. Before jointing piping, thoroughly clean and wipe joint contact surfaces and then properly dress and make joint.
   4. At completion of work and prior to final acceptance, thoroughly clean work installed under this Specifications.
      a. Clean equipment, fixtures, pipe, valves, and fittings of grease, metal cuttings, and sludge which may have accumulated by operation of system, from testing, or from other causes.
      b. Repair any stoppage or discoloration of other damage to parts of building, its finish, or furnishings, due to failure to properly clean piping system, without cost to Owner.

B. Disinfection of Potable Water Systems:
   1. After favorable performance of pressure test and prior to final acceptance, thoroughly flush entire potable water piping system including supply, source and any appurtenant devices and perform disinfection as prescribed.
   2. Perform work, including preventative measures during construction, in full compliance with AWWA C651.
   3. Perform disinfection using sodium hypochlorite complying with AWWA B300.
   4. Flush each segment of system to provide flushing velocity of not less than 2.5 ft per second.
   5. Drain flushing water to sanitary sewer.
   6. Use continuous feed method of application.
      a. Tag system during disinfection procedure to prevent use.
   7. After required contact period, flush system to remove traces of heavily chlorinated water.
   8. After final flushing and before placing water in service, obtain an independent laboratory approved by the Owner to collect samples and test for bacteriological quality.
      a. Repeat entire disinfection procedures until satisfactory results are obtained.
   9. Secure and deliver to owner, satisfactory bacteriological reports on samples taken from system.
      a. Ensure sampling and testing procedures are in full compliance to AWWA C651, local water purveyor and applicable requirements of the State of Pennsylvania.

END OF SECTION

SECTION 33 31 13 - SANITARY SEWERAGE GRAVITY PIPING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Sanitary sewerage drainage piping, fittings, and accessories.

B. Connection of building sanitary drainage system to municipal sewers.

C. Cleanout access.

D. View Port.

E. Traps.

1.3 RELATED REQUIREMENTS

A. Section 31 21 00 - Earthwork, Excavation, Trenching and Backfilling.

1.4 DEFINITIONS

A. Bedding and Cover: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.5 REFERENCE STANDARDS

A. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120; 2015.

B. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2014.

C. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2011.

D. ASTM A716 – Standard Specifications for Ductile Iron Pipe (DIP)

E. ASTM A746 – Standard Specifications for Ductile Iron Pipe (DIP) – Gravity Sewers

F. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2015.

G. The Allegheny County Health Department's Rules and Regulations for Plumbing and Building Drainage.

1.6 SUBMITTALS

A. Product Data: Provide data indicating pipe, pipe accessories.

B. Manufacturer's Installation Instructions: Indicate special procedures required to install Products specified.

C. Project Record Documents:
1. Record location of pipe runs, connections, manholes, cleanouts, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

PART 2 PRODUCTS

2.1 SEWER PIPE MATERIALS

A. Provide products that comply with the Allegheny County Health Department's Rules and Regulations.

B. Plastic Pipe: ASTM D3034, Type PSM, Poly(Vinyl Chloride) (PVC) material; inside nominal diameter of ten and twelve inches, bell and spigot style solvent sealed joint end.

C. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

D. Ductile Iron Pipe: Buried DIP as PC 350 for 12” and smaller in size; PC300 for 14” and greater in size.
1. Jacket: AWWAC105/A21.5 polyethylene jacket.

2.2 PIPE ACCESSORIES

A. Trace Wire: Magnetic detectable conductor, clear plastic covering, imprinted with "Sewer Service" in large letters.

B. Ductile Iron Pipe: HP LOK restrained Joint or Equal. See 2.1.D above.

C. Ductile Iron Pipe: TR FLEX or HP LOK on pressure pipe runs longer than 18’. See 2.1.E above.

D. Use LINK SEAL for connection to existing manholes.

E. See Section 40 05 19 “Ductile Iron Process Pipe” for nuts and bolts requirements.

2.3 CLEANOUT AND INSPECTION PORT

A. Fittings and pipe of the same material as pipe constructed for cleanouts.

B. Base Pad: Cast-in-place concrete of type specified in Section 033000, levelled top surface to receive concrete shaft sections, sleeved to receive sanitary sewer pipe sections.

2.4 BEDDING AND COVER MATERIALS

A. Pipe Bedding Material: As specified in Section 31 21 00.

B. Pipe Cover Material: As specified in Section 31 21 00.

PART 3 EXECUTION

3.1 GENERAL

A. Perform work in accordance with applicable code(s).

3.2 TRENCHING

A. See Section 312100 for additional requirements.

B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.3 INSTALLATION - PIPE

A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.

B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.
1. Plastic Pipe: Comply with ASTM D2321.
2. Ductile Iron Pipe: Comply with ASTM A746.

C. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.

D. Install tracer wire 6" above top of pipe;

3.4 INSTALLATION MANHOLES

A. Coring of Manholes:
   1. Do not allow any part of the pipe sleeve to extend past the inside face of the manhole.
   2. Core manhole wall to a neat hole within the riser section to provide a tight fit.
   3. Do not impact the existing manhole steps nor compromise the manhole structure in any way.

3.5 INSTALLATION - CLEANOUTS AND INSPECTION PORTS

3.5.1 Form bottom of excavation clean and smooth to correct elevation.

3.5.2 Form and place cast-in-place concrete base pad, with provision for sanitary sewer pipe end sections.

3.6 FIELD QUALITY CONTROL

A. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

B. All new sanitary sewers shall be Mandrel Tested Gravity sewer pipelines may be tested using Infiltration, Exfiltration, or the Low-Pressure Air Test, in accordance with Allegheny County Plumbing Code and (Alcosan) testing requirements.

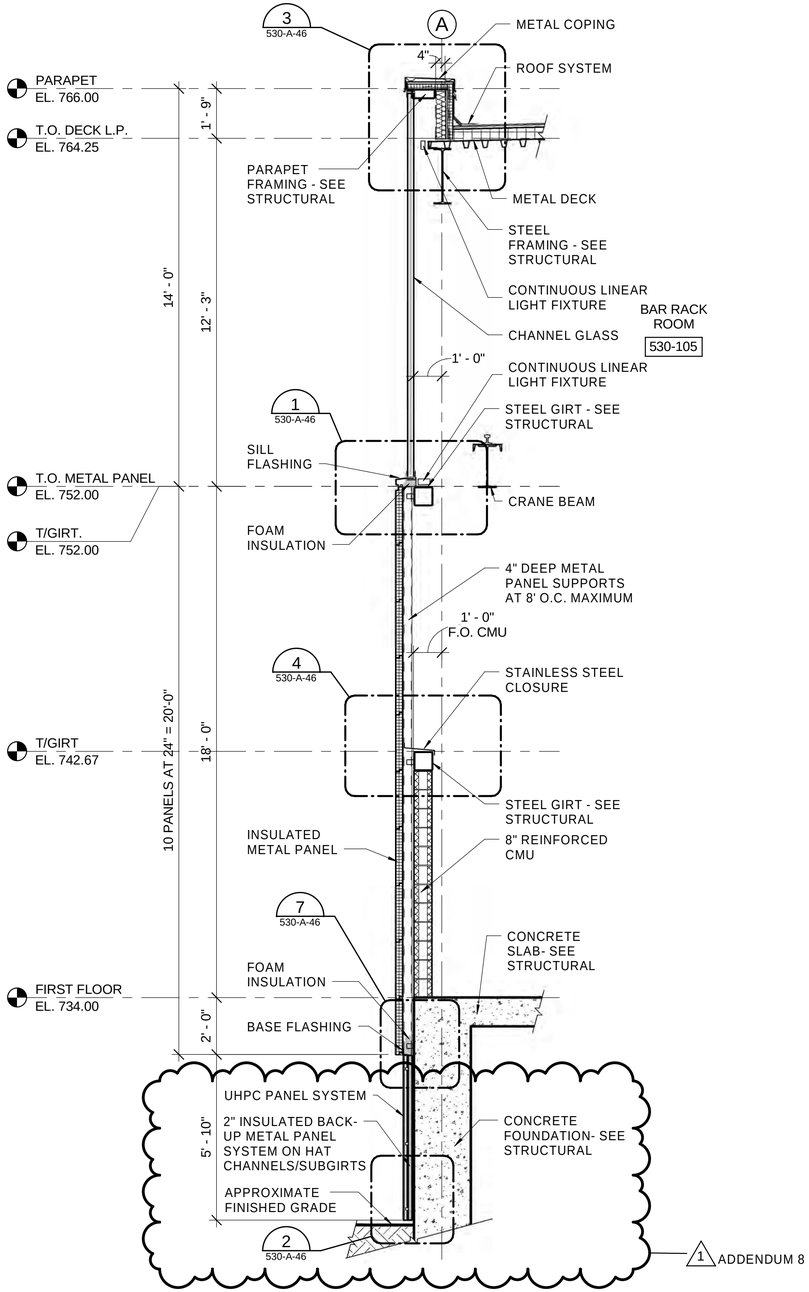
C. Submit results of the test reports for each test performed on each segment of sanitary sewer.

D. Test Ductile Iron Pipe Sewer per manufacturers' recommendations and ASTM Standards of practice.

3.7 PROTECTION

3.7.1 Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION



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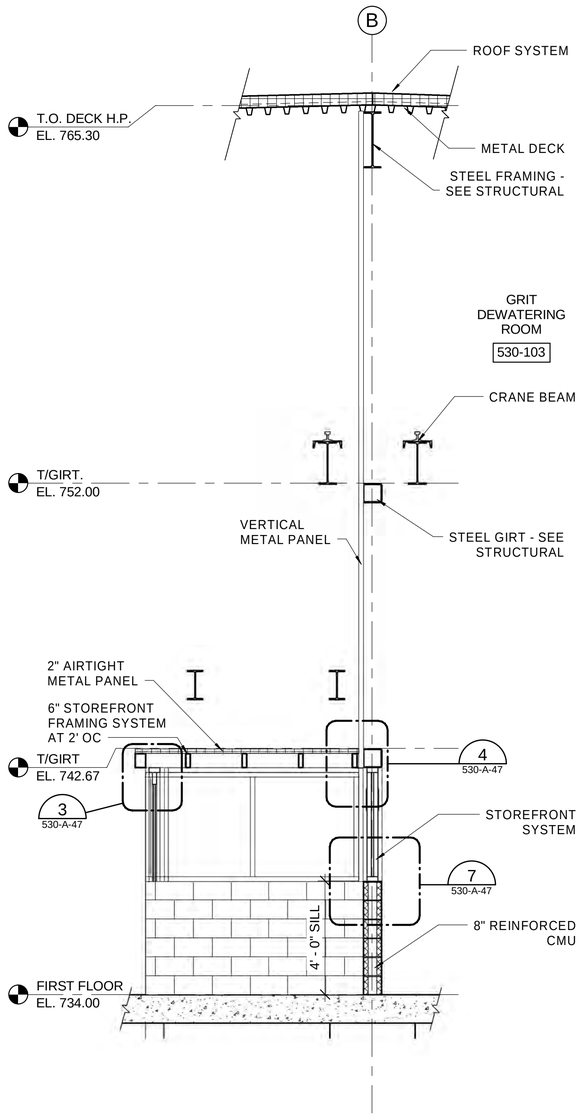

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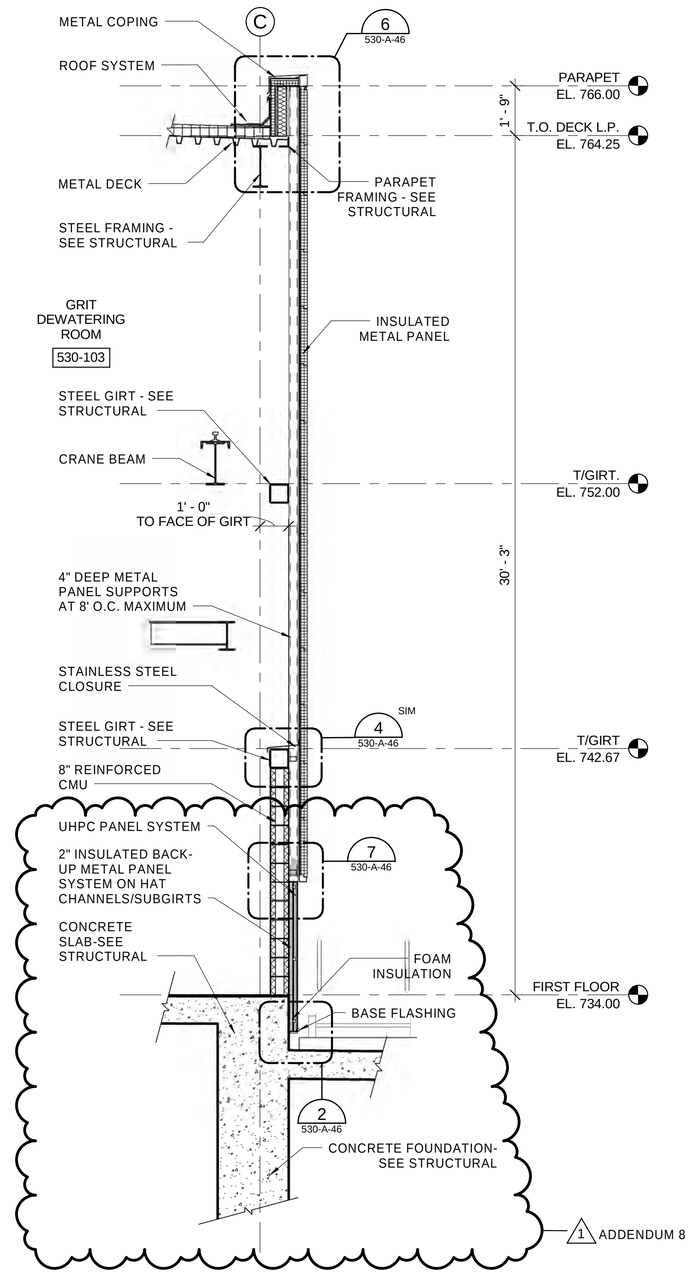

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Drawn by: KEH	REV No.	DATE	DESCRIPTION	APPV
Checked by: FAH	1	02/18/21	ADDENDUM NO. 8	

Whitman, Requardt & Associates, LLP
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www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-26
EAST HEADWORKS
WALL SECTIONS

Contract:	1729
CAD File Name:	530-A-26.DGN
Date:	OCTOBER 2020
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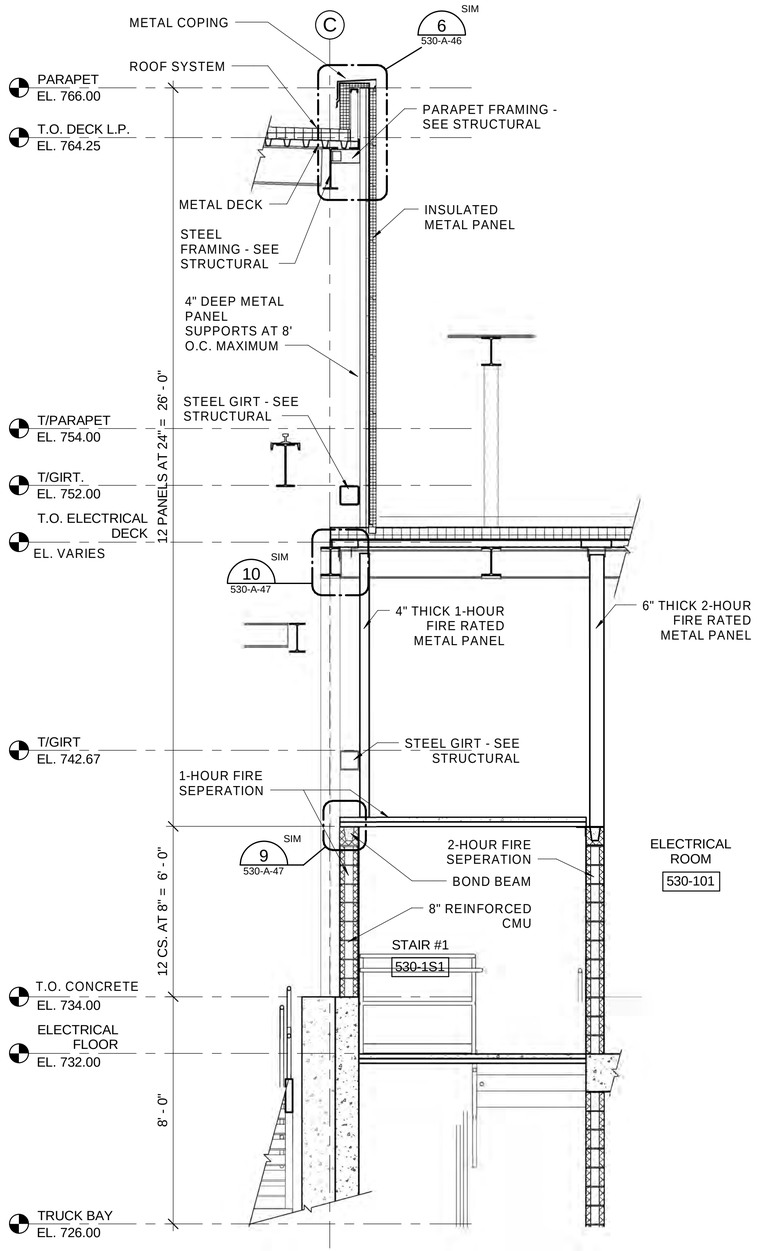

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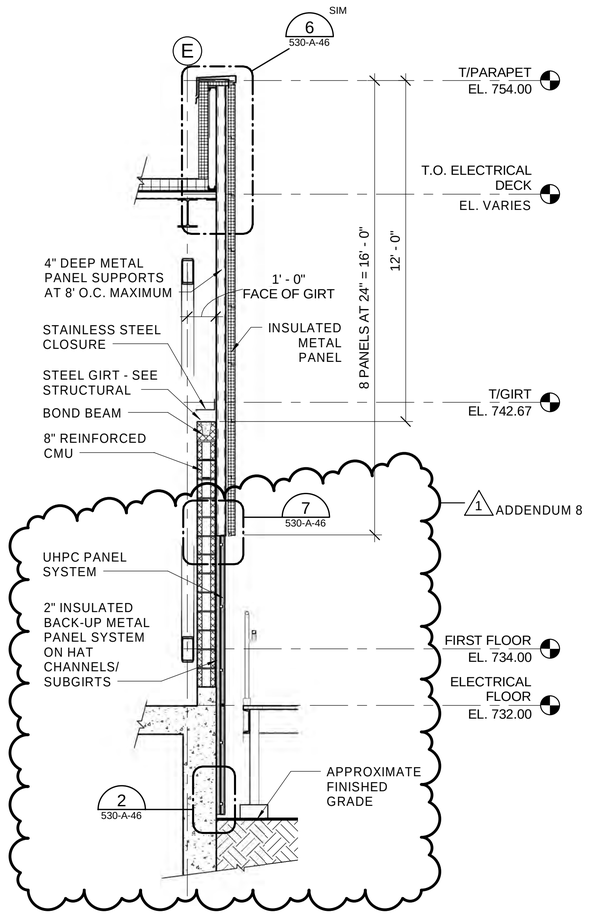

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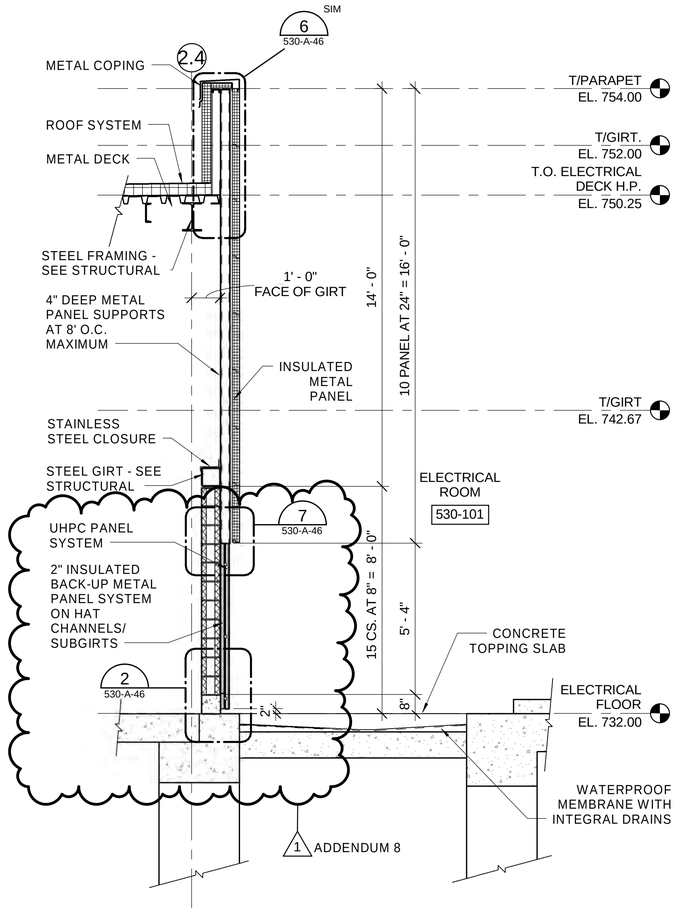

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REV No.	DATE	DESCRIPTION	APPV
1	02/18/21	ADDENDUM NO. 8	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-27
EAST HEADWORKS
WALL SECTIONS

Contract:	1729
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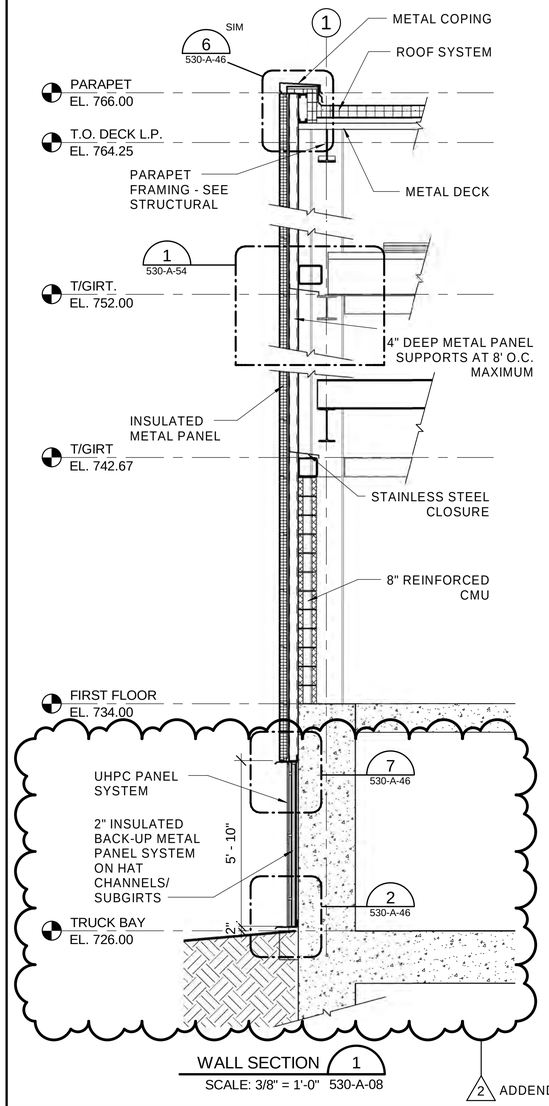

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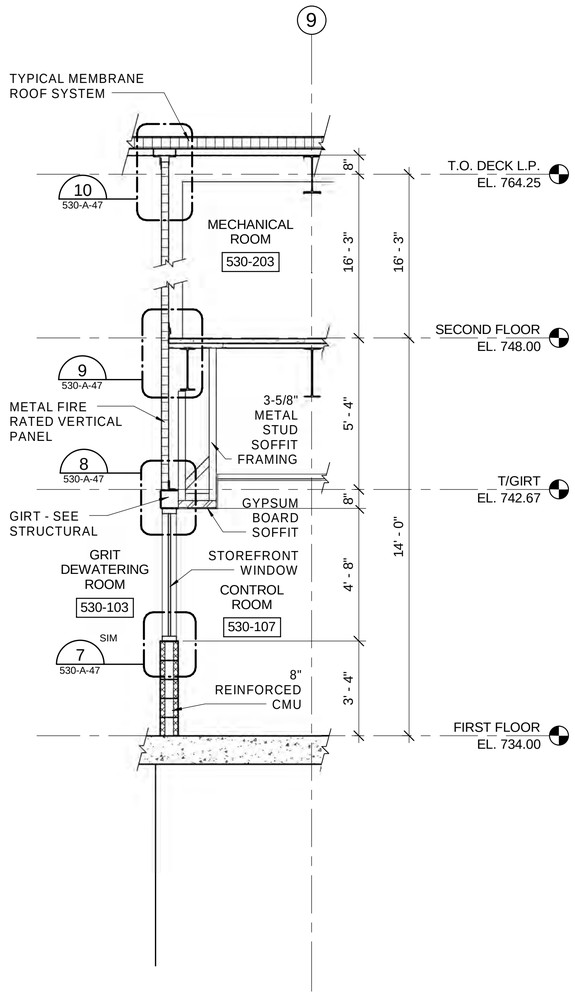

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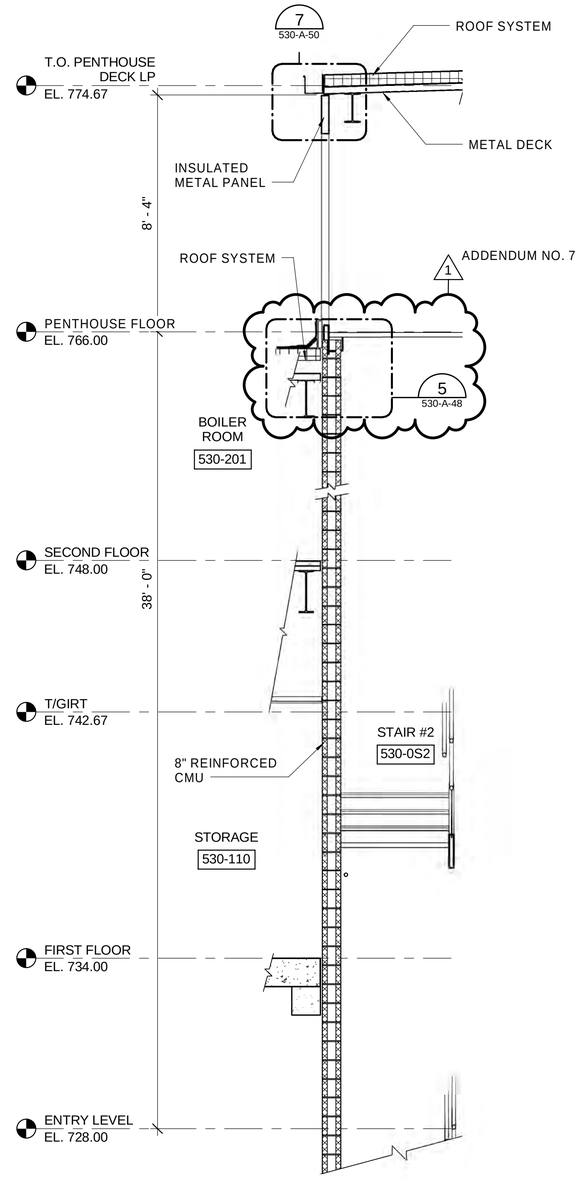

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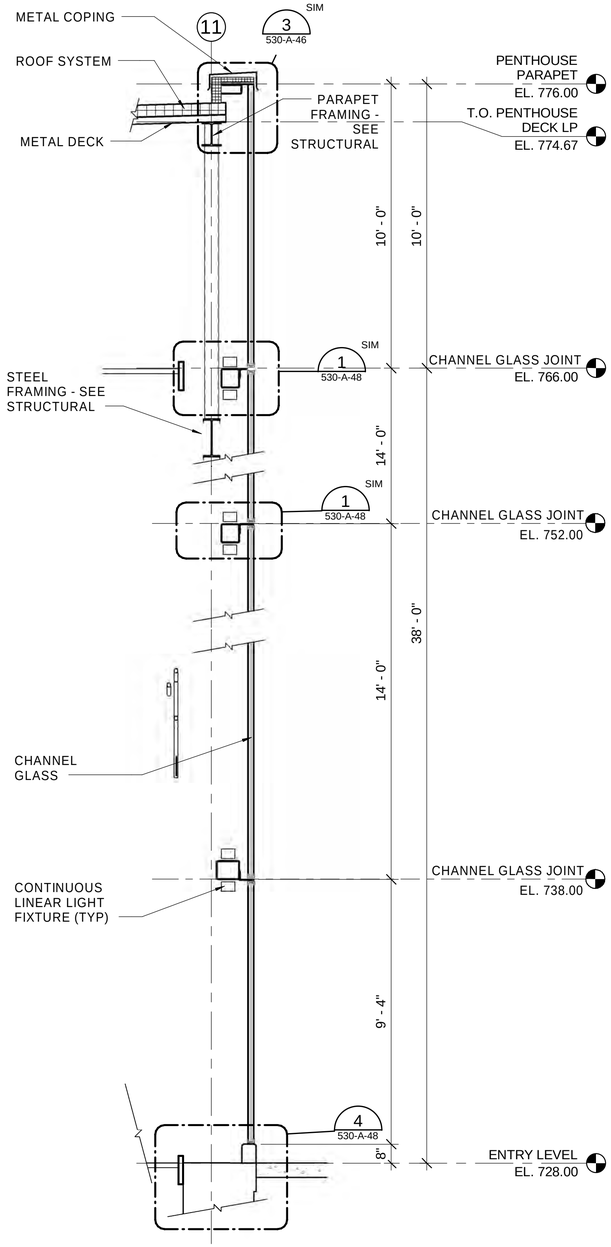

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REVISION			
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1	02/03/21	ADDENDUM NO. 7	
2	02/18/21	ADDENDUM NO. 8	

WRA
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-28
EAST HEADWORKS
WALL SECTIONS

Contract:	1729
CAD File Name:	530-A-28.DGN
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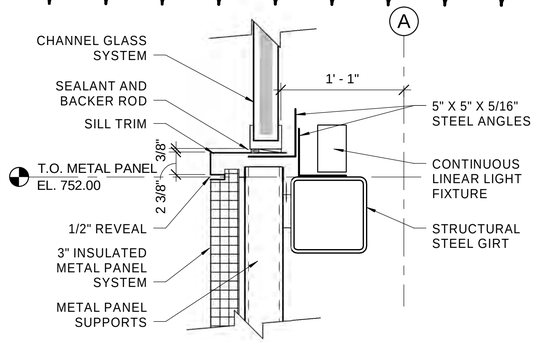
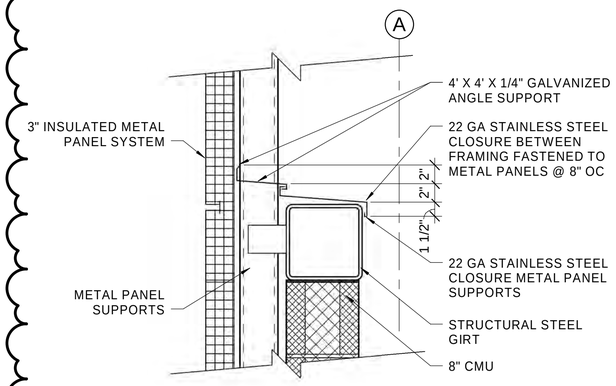


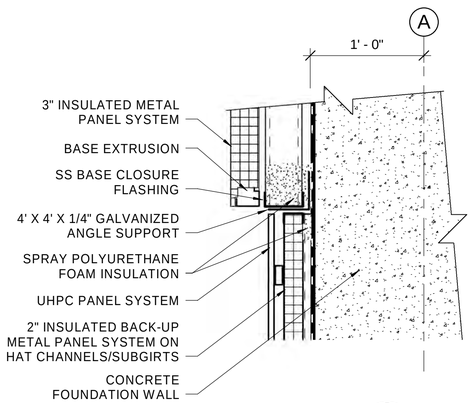
CHANNEL GLASS AT METAL PANEL 1

SCALE: 1 1/2" = 1'-0" 530-A-26



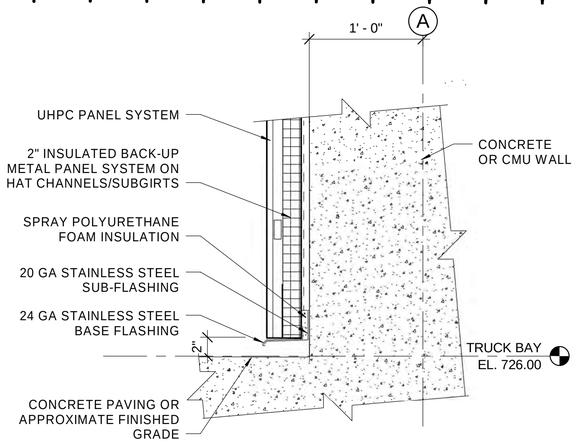
TYPICAL WALL CLOSURE 4

SCALE: 1 1/2" = 1'-0" 530-A-26



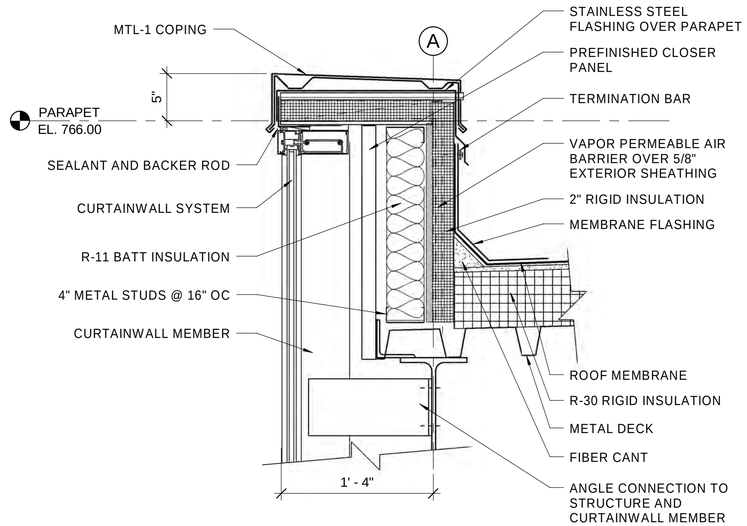
TYPICAL BASE AT METAL PANEL 7

SCALE: 1 1/2" = 1'-0" 530-A-26



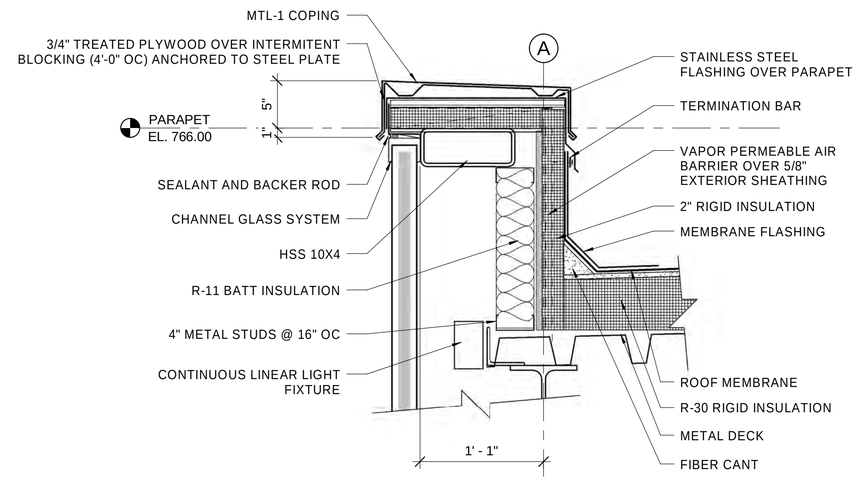
TYPICAL BASE AT UHPC PANEL 2

SCALE: 1 1/2" = 1'-0" 530-A-26



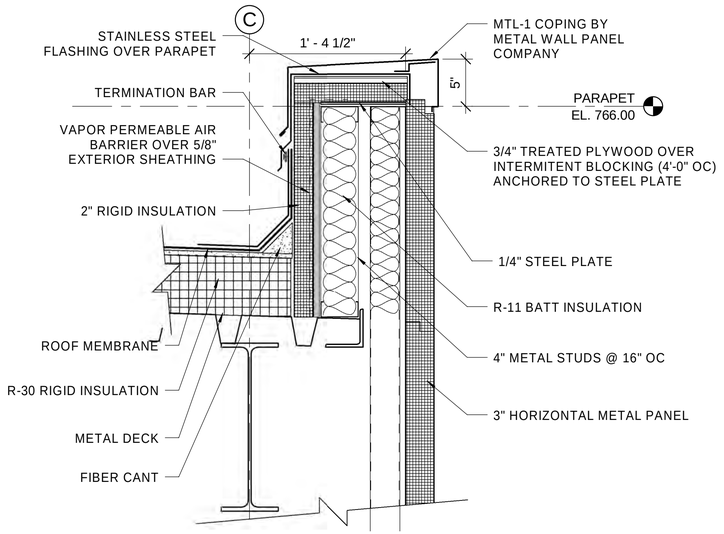
PARAPET DETAIL 5

SCALE: 1 1/2" = 1'-0" 530-A-14



TYPICAL PARAPET AT CHANNEL GLASS 3

SCALE: 1 1/2" = 1'-0" 530-A-15



TYPICAL PARAPET AT METAL PANEL 6

SCALE: 1 1/2" = 1'-0" 530-A-13

1 ADDENDUM 8

0 3" 6" 1' 2'

SCALE: 1 1/2" = 1'-0"

2/18/2021 10:10:04 AM

Designed by:	ECR
Drawn by:	KEH
Checked by:	FAH

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	02/18/21	ADDENDUM NO. 8	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
EAST HEADWORKS

530-A-46
EAST HEADWORKS
EXTERIOR WALL DETAILS

Contract:	1729
CAD File Name:	530-A-46.DGN
Date:	OCTOBER 2020
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