July 23, 2020

CONTRACT 1725

CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

ADDENDUM NO. 3

All bidders bidding Contract No. 1725 shall read and take note of this Addendum No. 3. The Contract Documents for **Contract No. 1725 – CIPP Rehabilitation of the Lower Saw Mill Run Interceptor** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1725; Addendum No. 3
The Acknowledgement attached to Addendum No. 3 is to be signed and returned immediately via fax or email to Sean Robertson at 412-734-8716 or sean.robertson@alcosan.org and included with Bidder's Proposal.

Jan M. Oliver
Director – Regional Conveyance

3300 Preble Avenue • Pittsburgh, PA 15233-1092 • ph: 412.766.4810
www.alcosan.org

ACKNOWLEDGEMENT OF

CONTRACT 1725 – CIPP REHABILITATION OF THE LOWER SAW MILL INTERCEPTOR

ADDENDUM NO. 3

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

CONTRACT 1725

CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

ADDENDUM NO. 3

July 23, 2020

CONTRACT 1725

CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

ADDENDUM NO. 3

This Addendum makes the following changes to the Contract Documents.

ARTICLE 1 – BIDDING DOCUMENTS
BID FORM

The Bid Form is revised to add Item 9 – Bypass Pumping in the quantity of 1 Lump Sum.

The Bid Form is revised to add Item 10 – 72" Pre-Cast Doghouse Manhole, 20' Depth in the quantity of 2 Lump Sum.

The Bid Form is revised to delete Contingent Item C-27 – 72" Pre-Cast Manhole, 20' Depth in the quantity of 1 LS.

The contingent items are renumbered from C-11 to C-28.

See the revised BID FORM attached to this Addendum for use in bidding the project.

ARTICLE 2 – INFORMATION FOR BIDDERS
SECTION 2.4 – DESCRIPTION OF BID ITEMS is modified as described below:

BID ITEM NO. 2: MAINTENANCE AND PROTECTION OF TRAFFIC
Modify the last sentence of paragraph 3 to read as follows:
"Cost for all flagpersons shall be included in Contingent Bid Item C-28."

Modify the last sentence of paragraph 4 to read as follows:
"Cost for all police officers shall be included in Contingent Bid Item C-27."

BID ITEM NO. 3 AND 4: CIPP REHABILITATION OF VARIOUS DIAMETER SEWERS
Modify the first sentence of paragraph 1 to read as follows:
"Payment for "CIPP Rehabilitation of Various Diameter Sewers" shall be paid PER LINEAR FOOT of sewer rehabilitation and shall include light cleaning, Pre- and Post-Rehabilitation CCTV inspection, all support equipment (e.g. air compressors, light plants,

etc.), grouting for minor infiltration, site restoration, testing for acceptance and any other incidental work necessary."

Modify paragraph 2 to read as follows:
"Measurement of this bid item shall be determined based on the actual quantity of linear feet of pipeline rehabilitation. Heavy cleaning, root removal, mechanical cleaning, trimming of laterals, pipe joint and pipe connection grouting, bypass pumping, and manhole rehabilitation shall be paid for under separate bid items. All superintendence, labor, materials, equipment, clearing, grubbing and site restoration, removal and replacement of fences and guide rails, filing and acquisition of permits, permit fees, and services described in the specifications or otherwise required to entirely complete all contract work associated with this item shall be considered incidental to this item."

BID ITEM NO. 5: SEWER LATERAL REINSTATEMENT
Modify the second sentence in paragraph 2 to read as follows:
"All superintendence, labor, materials, equipment, clearing, grubbing and site restoration, filing and acquisition of permits, permit fees, and services described in the specifications or otherwise required to entirely complete all contract work associated with this item shall be considered incidental to this item."

BID ITEM NO. 6: CEMENTITIOUS LINING WITH EPOXY OVERCOAT MANHOLE REHABILITATION (BRICK MANHOLES)
Modify the first sentence of paragraph 1 to read as follows:
"Payment for "Cementitious Lining with Epoxy Overcoat Manhole Rehabilitation" shall be paid PER VERTICAL FOOT of the structure to be lined regardless of the diameter or cross-sectional area dimension and shall include materials, tools, equipment, labor, cleaning and all other incidental costs necessary to complete structural repair of manhole defects using patch/grout mix, replacing brick, and coating the manhole interior."

BID ITEM NO. 7: EPOXY MANHOLE REHABILITATION (CONCRETE MANHOLES)
Modify the first sentence of paragraph 1 to read as follows:
"Payment for "Epoxy Manhole Rehabilitation" shall be paid PER VERTICAL FOOT of the structure to be lined regardless of the diameter or cross-sectional area dimension and shall include materials, tools, equipment, labor, cleaning and all other incidental costs necessary to complete structural repair of manhole defects using patch/grout mix, replacing brick, and coating the manhole interior."

Add BID ITEM NO. 9: BYPASS PUMPING
BID ITEM NO. 9: BYPASS PUMPING
Payment for "Bypass Pumping" shall be made on a Lump Sum basis. This price includes preparing a detailed bypass pumping plan (stamped by a PA licensed engineer) for review and approval by the Construction Manager which will cover bypass pumping for the duration of all work performed under the Contract regardless of the Contractor's means and methods. The costs for all piping and materials, pumps and equipment, labor and superintendence, permits, power, sound attenuation, hauling, storage, and coordination

required for the bypass pumping system, regardless of the number of setups, assembly and disassembly of pumps and piping between phases of work and wet weather events, shall be included in this item. The Contractor may request the use of flow diversions to the parallel interceptor be used in conjunction with bypass pumping. ALCOSAN will not be held responsible for costs or delays related to the unavailability of flow diversions within the interceptor system, or for damage or failure of the Contractor's bypass system related location of equipment or wet weather events.

Payment for this lump sum item will be prorated according to the percentage of linear feet of CIPP Rehabilitation work completed.

Add BID ITEM NO. 10: 72" PRE-CAST DOGHOUSE MANHOLE, 20' DEPTH

BID ITEM NO. 10: 72" PRE-CAST DOGHOUSE MANHOLE, 20' DEPTH

Payment for "72" Pre-Cast Doghouse Manhole, 20' Depth" shall be paid per LUMP SUM for a manhole installed complete in place. This price includes, but is not limited to, labor, materials, equipment, excavation, backfill, concrete, cast-in-place base, pre-cast riser sections, frame and cover, protection of existing utilities, erosion and sediment control, restoration, permits, and any other costs incidental to the installation. Locating of existing underground sewer and structures and reconnecting all active combined sewers shall be considered incidental to this item.

All superintendence, labor, materials, equipment, clearing, grubbing, cleaning, testing, filing and acquisition of permits, permit fees, and services described in the specifications or otherwise required to entirely complete all contract work associated with this item shall be considered incidental to this item.

Renumber the bid items as follows:

CONTINGENT BID ITEM NO. C-11:	MISCELLANEOUS WORK FOR A FULL TIME CREW
CONTINGENT BID ITEM NO. C-12:	PERMANENT BITUMINOUS PAVEMENT RESTORATION (ALL TYPES)
CONTINGENT BID ITEM NO. C-13:	CONCRETE PAVING BASE AND PAVEMENT (W/REINFORCEMENT)
CONTINGENT BID ITEM NO. C-14:	TEMPORARY COLD PATCH
CONTINGENT BID ITEM NO. C-15:	CONCRETE SIDEWALK, DRIVEWAY AND CURBING REPLACEMENT
CONTINGENT BID ITEM NO. C-16:	LANDSCAPE RESTORATION
CONTINGENT BID ITEM NO. C-17:	REPLACE CASTINGS AS DIRECTED
CONTINGENT BID ITEM NO. C-18:	PRECAST EXTENSION OF BRICK MANHOLE
CONTINGENT BID ITEM NO. C-19:	NON-STRUCTURAL GROUT FOR JOINT AND PIPE CONNECTIONS
CONTINGENT BID ITEM NO. C-20:	DEBRIS HAULED TO AND DISPOSED OF AT APPROVED DISPOSAL SITE, AS DIRECTED BY ALCOSAN

CONTINGENT BID ITEM NO. C-21:	TRIM PROTRUDING TAPS
CONTINGENT BID ITEM NO. C-22:	ROOT REMOVAL AS DIRECTED BY ALCOSAN
CONTINGENT BID ITEM NO. C-23:	HEAVY CLEANING WITH HYDROVAC, AS DIRECTED BY ALCOSAN
CONTINGENT BID ITEM NO. C-24:	DRAG BUCKET/MECHANICAL CLEANING, AS DIRECTED BY ALCOSAN
CONTINGENT BID ITEM NO. C-25:	HYDROPHILIC GROUTING OF SEWER MANHOLES
CONTINGENT BID ITEM NO. C-26:	CCTV INVESTIGATION OF 6" TO 24" SEWER (BEYOND INCIDENTAL CCRV), AS DIRECTED BY ALCOSAN
CONTINGENT BID ITEM NO. C-27:	TRAFFIC CONTROL, OFF-DUTY POLICE OFFICER
CONTINGENT BID ITEM NO. C-28:	TRAFFIC CONTROL, FLAGPERSON

SECTION 2.5 BYPASS PUMPING is modified as described below:

Modify the first sentence of paragraph 1 to read as follows:

"The Contractor will, at all times, be required to bypass pump and will be paid separately for this work."

ARTICLE 6 – TECHNICAL SPECIFICATIONS

SECTION 02080 – BYPASS PUMPING

1.01 DESCRIPTION OF WORK

Delete paragraph F.

1.04 RELATED WORK

Modify paragraph G as follows:

G. Section 02769: CIPP Rehabilitation

Delete subparagraph 1.

1.05 GENERAL

Modify the last sentence of paragraph A to read as follows:

"The pump and bypass lines shall be of adequate capacity and size to handle one and one-half times (1.5x) the Average Daily Peak Dry Weather Flow."

1.06 SUBMITTALS

Add the following to paragraph D:

"15. Location and duration of requested flow diversions to parallel interceptor."

Revise paragraph E to read as follows:

1. Detailed plans for flow diversions, which may be possible for portions of the combined sewer rehabilitation work and must be coordinated with and conducted by

ALCOSAN. The flow in the lower Saw Mill Run Interceptor may be diverted to the parallel sewer interceptor for certain reaches.

2. Detailed plans and descriptions of the bypass pumping system to include proposed flow diversions, method of protecting stream access, bypass pumping locations, and discharge locations. Facilities must be protected from damage by erosion or contamination due to discharge flows.

3. The plan must specify methods, including the complete sequence of the operations with a sketch showing all equipment components and diversions to be used for the bypass system.

4. The plan must also outline all provisions and precautions taken by the Contractor regarding the handling of existing wastewater flows.

5. The plan must identify the sewer segment involved in the bypass pumping operations, upstream diversions, upstream/downstream structures to be utilized in pumping and discharging the existing combined flows. The Contractor is responsible for evaluating the piping route, including property owner coordination, permitting and protection measures, accessibility and system connectivity of each structure to be utilized during the bypass pumping operation.

6. Detailed schedule of the sequenced activities to include mobilization, site protection requirements (erosion and sedimentation control, traffic control etc.), diversions, system installation, start-up, testing and inspection, monitoring and maintenance of bypass pumping pumps, hoses, and generating equipment.

7. Dimensioned typical sketch of the site layout, showing arrangement, spacing, and proximity of all systems, including:
   a. Locations of existing structures to be used.
   b. Staging areas for pumps and other equipment, bypass pumping hoses and routing.
   c. Identification of public and private property, existing structures, verification of property owner coordination and permission, and any pedestrian or vehicle crossings within the pumping area.

8. Condition documentation of public and private property, existing structures.

9. Copies of applicable permits.

10. Equipment to be used including primary and backup pumps, hoses, power supply, plugs, and stand-by pumps/power supply.

11. Capacities of equipment and materials to include:
    a. Capacity of parallel interceptor needed to handle diverted flows; this volume shall not exceed 85% of the pipe capacity.
    b. Verification of available capacity in the parallel interceptor through independent flow monitoring or field flow measurements.

c. Bypass pump sizes, capacity, number of each size on site, power requirements, and main piping type and size.
d. Size, material, and location of discharge piping.
e. Sewer plugging method and types of plugs.
f. Pumps and bypass lines of adequate capacity to handle the sewage flows at the applicable pipe segment shall be provided and operated by the Contractor.

12. Method of monitoring to be used for ensuring that no sewage overflows or backups occur within the bypassed system.

13. All other incidental items necessary and/or required to ensure proper protection of the facilities.

14. Compliance with the requirements specified in the contract documents and any other regulatory permit requirements.

3.01 BYPASS PUMP SYSTEM REQUIREMENTS
Modify the first sentence of paragraph G to read as follows:
"It is essential to the operation of the existing sewerage system that there is no interruption in the flow of sewage throughout the duration of the segment rehabilitation."

PART 4 MEASUREMENT AND PAYMENT
Modify paragraph 4.01 to read as follows:
"The furnishing, installation and operation of any required bypass pumping system(s) shall be measured and paid for separately under this Contract."

ADD SECTION 02727 – MANHOLES

See attached Section 02727 - Manholes

SECTION 02769 – CIPP REHABILITATION

1.02 DESCRIPTION OF WORK
Modify paragraph B to read as follows:
"The Contractor shall provide all materials, labor, equipment, and services for the following as incidental costs of the lining linear foot bid price:"
Delete subparagraph 7.
Delete subparagraph 11.

3.01 GENERAL
Modify paragraph H as follows:
Delete the last sentence.

4.01 GENERAL
Modify the second sentence of paragraph A to read as follows:
"This bid price shall include all pre-CCTV and post-CCTV inspection, submission of all curing log sheets, light cleaning, locating all active laterals, grouting infiltration, lining

through manholes where needed, removal and replacement of manhole frame and covers as needed to complete the work, site restoration, and testing for acceptance."

DRAWINGS

Sheet 3 of 30
See Revision No. 1 – added Points of Connection

Sheet 5 of 30
Delete the last sentence of SEWER REHABILITATION Note 4.

Sheets 8 and 9 of 30
Delete pipe upstream and downstream invert elevations and modify Note 3 to include adding upstream and downstream pipe invert elevations.

Sheet 10 of 30
See Revision No. 1 – add new MH-45A

Sheet 29 of 30
Delete "BY OTHERS"

Sheet 30 of 30
Add NEW MANHOLE DETAIL 1 and NEW MANHOLE DETAIL 2.

Questions

1.) Question: Regarding Section 02080 – Bypass Pumping, Section 1.05, Paragraph A

a. Given that the Contractor shall schedule work during dry weather conditions. Will consideration be given to reducing the requirement of the bypass system handling double (2x) the Peak Dry Weather flow?

Answer: By this Addendum, ALCOSAN has reduced the requirements of bypass pumping to handle 1.5x the Average Daily Peak Dry Weather flow. The flow depth shall remain as 0% during CIPP lining work.

2.) Question: Will ALCOSAN ensure and enforce that the bypass needed for the project is designed to the specifications (see Article 6, page 92)? Our concern is that other lining companies will not design to the '2x peak dry weather flow' spec and low bid the project.

Follow up to question #1, How will ALCOSAN determine that the bid submitted has bypass designed to the specifications before award is given? Critical comment on suction points on bypass. IF a company does design to the specifications (i.e. 2x peak dry weather flow), the suction point manholes are not large enough to allow for the number of stingers needed to pull the water into the pumps. Basically whichever manhole that is chosen to be the suction point needs to be opened up to allow for either (4) 18" stingers or (2) 24" stingers. Shoring would need to be installed all the way down to the base of that manhole to allow the stingers to fit. This is a signification cost for each suction points (i.e. up to $100k/suction point). Insituform is asking ALCOSAN to consider this concern and either have an allowance allocated for the installment of the suction points or have detail given requiring

that the suction points be created to meet the bypass needs and as such increase the engineer's estimate to reflect this need.

Answer: Contractors are advised to bid this project based on the Contract requirements contained in the bid documents including Addenda. The flow depth shall be 0% during CIPP lining work. Bypass pumping plans are required to be submitted by the selected contractor to ALCOSAN for approval as part of the Contract submittal process. Means and methods for suction piping shall be designed by the Contractor for review and approval by the engineer and Alcosan. All costs should be included with the bid submitted.

3.) Question: In Section 02080 1.05 General: Item A reads, "...The pump and bypass lines shall be of adequate capacity and size to handle double (2x) the Peak Dry Weather Flow."

- The absolute maximum flow listed in Appendix B is 23.5MGD (16,450 GPM) at SMR-48 (MH-06A) in Q1 of 2019, which is also dependent on gate activity. If we are to size for double that rate, we would have to size for 47 MGD (32,900 GPM) which would exceed the capacity of a 36" discharge line. There is almost no room for the 36" line, let alone a bigger pipe or multiple discharge lines. Please advise if this requirement will hold, or if Alcosan is agreeable to instituting a lower safety factor for bypass sizing.

Answer: See response to Question 1. The flow depth shall be 0% during CIPP lining work. Note that MH-06A is close to the downstream end of the interceptor, indicative of the highest flows seen in the interceptor. This area is also called out in the Suggested Sequence of Installation to divert flows to the parallel interceptor.

Sheet 3 of 30 – KEY MAP was modified to show the locations of points of connection where flows previously included in Appendix B enter the interceptor system to further clarify how the system functions.

4.) Question: The specifications require the proposed bypass system to be of adequate capacity and size to handle double (2x) the Peak Dry Weather Flow. Can this requirement be relaxed? In order to achieve this requirement, a whole new bypass suction chamber will have to be constructed in order to install bypass system suction lines to the existing pipeline. This will require a very large footprint with additional LOD, additional time to the contract to construct, and additional costs to ALCOSAN which may not be necessary.

Answer: See answer to question 1.

5.) Question: Can we get a bid extension on the project 1725 – Saw Mill Run Blvd Interceptor for 1 to 2 weeks from the current bid date since the question deadline is so close to the bid date and an addendum is sure to come out which will need to time to review with the subs?

Answer: Bid extension was granted in Addendum No. 2.

6.) Question: Spec. states "FLOW DIVERSION MAY BE POSSIBLE FOR PORTIONS OF THE COMBINED SEWER REHABILITATION WORK AND MUST BE COORDINATED WITH AND CONDUCTED BY ALCOSAN. THE FLOW IN THE LOWER SAWMILL RUN INTERCEPTOR MAY BE DIVERTED TO THE PARALLEL SEWER INTERCEPTOR FOR CERTAIN REACHES; HOWEVER, THIS SHOULD NOT BE CONSIDERED A PRIMARY FLOW CONTROL OPTION DUE TO OPERATIONAL RESTRICTIONS." Will the Owner clarify what reaches will be allowed for diversion or partial diversion? Will the Owner clarify what volume of flow can be diverted to the parallel interceptor during dry weather?

Answer: Constructed flow diversions are present at the following locations: SMR34-2 (upstream of MH-45), SMR-28-1, SMR09-1, and SMR-01. Conditions in the parallel

interceptor may prevent usage for diverting or bypassing flows and delay work, for which ALCOSAN will not be held responsible.

7.) Question: Will the Owner provide a spreadsheet of the detailed flow data for both the North and South Interceptors, so the contractor can better understand the flows.

Answer: Available flow information for the parallel interceptor is attached for inclusion in Appendix B. See "Summary of Monitored Dry Weather Flows – SMR-42 (MH N.22)"

8.) Question: Spec. states "Flow data provided in Appendix B is For Information Only and may not represent the actual flow requiring bypass pumping during Construction." Section 02080 1.05 states: "The pump and bypass lines shall be of adequate capacity and size to handle double (2x) the Peak Dry Weather Flow" Appendix B state the Average Daily Peak Dry Weather Flow per quarter over five years which vary greatly. Will the Owner direct the contractor on exactly what flow needs to be bypassed so all contractors are bidding on the same scope?

Answer: Contractor shall bypass enough of the flow in the interceptor to limit the average flow depth to less than 30 percent of pipe height during inspection work and to 0 percent during rehabilitation work.

9.) Question: Due to the size and complexity of the project, will the Owner move the bid date two weeks to give the contactors time to review and respond the questions' answers. At a minimum, will the Owner move the bid date to Friday, 17 July 2020?

Answer: Bid date was extended in Addendum No. 2.

10.) Question: MH-45 cannot be located, how should bypass pumping be handled for lining at the upstream end of the project?

Answer: Installation of a new manhole upstream of MH-45 has been added to this Contract. MH-45 is not accessible.

11.) Question: For the Sawmill Run Lining Project how much can we surcharge the interceptor? Surcharging will help our pumps tremendously but I want to make sure we stay below your overflow elevations.

Answer: There is not one overflow elevation for the system. You should field verify overflow and lateral connection information for each of your bypass scenarios.

Attachments: Article 1 – BID FORM

Article 6 – Section 02727 - Manholes

Summary of Monitored Dry Weather Flows – SMR-42 (MH N.22)

Drawings: Sheets 3, 5, 8, 9, 10, 29 and 30 of 30

*** * * * END OF ADDENDUM NO. 3 * * * ***

BID FORM

This Bid is submitted to the Allegheny County Sanitary Authority, herein called the Owner or the Authority, acting through its Chairman, which advertised for sealed bids for **CONTRACT NO. 1725, CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR** by:

Bidder's Name and Address: _____

_____

_____

Attn.: _____

Telephone Number: _____ Facsimile Number: _____

The undersigned as Bidder, hereinafter referred to as the Contractor or Bidder, declares that the only parties interested in this Bid as Principals are named herein; that this Bid is made without collusion with any other person, firm or corporation; that no officer or agent of the Authority is directly or indirectly interested in this Bid; that it has carefully examined the annexed form on the Contract Agreement and all accompanying Contract Documents and it proposes and agrees that, if its Bid is accepted, it shall contract with the Authority in the language of the Contract Agreement to supply the necessary materials and equipment and to perform the necessary work for **CONTRACT NO. 1725, CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR** within four hundred fifty (450) days for the Contract after receiving from the Authority the Notice of Award of the Contract, and the Notice to Proceed, and that they shall complete the work required by the Contract Documents including the Reference Drawings, and Specifications, in its entirety in the manner and under the conditions required at the prices listed as follows:

NOTE: Prices shall be either in ink or typewritten in both figures and words. In case of a discrepancy between the price written in words and the price written in figures, the price written in words will govern.

Unit Price Work:

Bidder proposes to accept as full payment for the Unit Price Work proposed herein the amounts computed under the provisions of the Bidding Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the item, including all allowances for overhead and profit for each type and unit of Work called for in these Bidding Documents.

Bidders are advised that the Authority reserves the right to have all, a portion, or none of the unit price work completed during CONTRACT NO. 1725.

CONTRACT NO. 1725
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

ITEM	DESCRIPTION	QUANTITY		UNIT PRICE	TOTAL PRICE
GENERAL WORK					
1	Bonds, Insurance, and Mobilization/ Demobilization (not to exceed 5% of total bid price)	1	Lump Sum	$	$
2	Maintenance and Protection of Traffic	1	Lump Sum	$	$
3	CIPP Rehabilitation of 42" Diameter RCP Sewer (MH44A TO NEW MH)	7,355	Linear Ft.	$	$
4	CIPP Rehabilitation of 48” Diameter RCP Sewer (NEW MH to O-14W-00_TS)	9,076	Linear Ft.	$	$
5	Sewer Lateral Reinstatement	350	Each	$	$
6	Cementitious Lining with Epoxy Overcoat Manhole Rehabilitation (Brick Manholes)	590	VF	$	$
7	Epoxy Manhole Rehabilitation (Concrete Manholes)	420	VF	$	$
8	GPS and Inspection of Manholes and Structures	70	Each	$	$
9	Bypass Pumping	1	Lump Sum	$	$
10	72” Pre-Cast Doghouse Manhole, 20’ Depth	2	Lump Sum	$	$
CONTINGENT WORK					
C-11	Miscellaneous Work for a Full-Time Crew	72	Crew Hours	$	$
C-12	Permanent Bituminous Pavement Restoration (All Types)	100	TON	$	$
C-13	Concrete Paving Base and Pavement (w/ Reinforcement)	100	CY	$	$
C-14	Temporary Cold Patch	50	TON	$	$
C-15	Concrete Sidewalk, Driveway and Curbing Replacement	60	SY	$	$
C-16	Landscape Restoration	700	SY	$	$
C-17	Replace Castings as Directed	60	Each	$	$
C-18	Pre-Cast Extension of Brick Manhole	160	VF	$	$
C-19	Non-Structural Grouting for Joints and Pipe Connections	1,100	Gallon	$	$
C-20	Debris Hauled to and Disposed of at an Approved Disposal Site, As Directed by ALCOSAN	30	TON	$	$
C-21	Trim Protruding Taps, As Directed by ALCOSAN	40	Hours	$	$
C-22	Root Removal, as Directed by ALCOSAN	80	Hours	$	$
C-23	Heavy Cleaning with Hydrovac, As Directed by ALCOSAN	180	Hours	$	$
C-24	Drag Bucket/Mechanical Cleaning, as Directed by ALCOSAN	40	Hours	$	$

ITEM	DESCRIPTION	QUANTITY		UNIT PRICE	TOTAL PRICE
C-25	Hydrophilic Grouting of Sewer Manholes	40	Each	$	$
C-26	CCTV Investigation of 6"-24" Sewers (beyond incidental CCTV), as Directed by ALCOSAN	1,000	LF	$	$
C-27	Traffic Control, Off-Duty Police Officer	400	Hours	$	$
C-28	Traffic Control, Flagperson	2000	Hours	$	$

TOTAL COST, CONTRACT NO. 1725, CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR	**$**

Contract 1725, CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR Bid Total Cost (GENERAL WORK and CONTINGENT WORK)

_____ dollars/cents (words)

The Authority is exempt from the payment of Commonwealth of Pennsylvania Selective Sales and Use Tax. The Bidder should disregard such tax in calculating its Bid.

It is understood that the Authority reserves the right to waive any informality in or reject any or all Bids and to withhold the awarding of the Contract for sixty (60) calendar days after the date set for the opening of the Bids.

If the Bid is accepted by the Authority, and the undersigned shall fail to enter into a formal Contract as aforesaid, within ten (10) calendar days (not including Sunday or a legal holiday) from the date of receipt of notice from the Authority to the undersigned, at the address given herewith, that the Contract is ready for signature, then the Authority may procure the required **CONTRACT NO. 1725, CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR** from others.

The undersigned Bidder agrees that the Contract, if awarded to the Bidder, shall be entered into, under and pursuant to the laws of the Commonwealth of Pennsylvania and shall in all respects be construed in accordance with the laws of said Commonwealth.

Should the Bidder change the wording of the language employed in the Contract Documents including the Bid so as to alter, modify or change the Contract Documents in any degree or manner the Authority may at its discretion reject the Bid or accept it with the changes. The same applies to any letter, printed form or other document inserted in the Contract Documents accompanying the Bid. The successful Bidder shall be legally bound to comply strictly with the provisions of the Authority's Contract Documents exactly as accepted by the Authority.

SECTION 02727
MANHOLES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Work necessary for construction of manholes complete in place.

1. Precast and cast-in-place concrete manholes with tongue-and-groove joints, flexible boots, frame, covers, anchorage and accessories.

2. Manhole connections to existing sewers.

3. Joints

4. Bedding and Cover Materials.

1.02 REFERENCES

A. ASTM International

1. ASTM C443 Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.

2. ASTM C478 Standard Specification for Precast Reinforced Concrete Manhole Sections.

3. ASTM C497 Standard Test for Concrete Pipe, Manhole Sections, of Tile.

4. ASTM C913 Standard Specification for Precast Concrete Water and Wastewater Structures.

5. ASTM C923 Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.

1.03 SUBMITTALS

A. Section 01300 Submittals

B. Shop Drawings:

1. Indicate structure locations, elevations, piping, sizes, and elevations of penetrations and configuration.

2. Indicate cofferdam locations, configuration, elevation, construction sequencing and dewatering plans.

C. Product Data:

1. Submit Manhole Castings, component construction, features, configuration and dimensions.

1.04 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with a minimum of 10 years experience.

B. Company specializing in installing products specified in this Section with a minimum of 10 years experience

1.05 DELIVERY STORAGE AND HANDLING

A. Comply with precast concrete manufacturer's instructions for unloading, storing and moving precast manholes and drainage structures.

B. Store precast concrete manholes and drainage structures to prevent damage to OWNERSs property or other public or private property. Repair property damaged from material storage of other activity.

C. Mark each precast structure with paint and stenciling showing date of manufacturer and compliance with applicable ASTM standards.

1.06 DESIGN CONDITIONS

A. Manholes, Structures, Frames and Castings shall be certified by the manufacturer as being capable of withstanding AASHTO HS-25 loading.

PART 2 PRODUCTS

2.01 SUBBASE

A. Clean gravel or crushed rock conforming to PENNDOT No. 2A coarse aggregate, Section 703.2, Table C of the Standard Specifications.

2.02 CONCRETE

A. As specified in Section 03300, CAST IN-PLACE CONCRETE.

B. Cement Shall be Type II with Limestone Aggregate.

2.03 MORTAR

A. Mortar shall meet the requirements of ASTM C270, Type M, 2500psi.

B. Mix shall consist of 1 part cement, ¼ part lime and 2 ½ parts sand. Two pounds of Medusa (or equal) integral waterproofing powder shall be used per bag of cement.

2.04 BONDING AGENT

A. As manufactured by:

1. Sika Corp., Sikadur 32 Hi Mod.

2. Horn Co., Epoxtite Binder 2390.

3. Or Approved Equal.

2.05 FORMS

A. Exposed Surfaces: Plywood or steel panels.

B. Other Surfaces: Matched boards, plywood, or other approved material.

C. Trench walls, large rock, or earth are not acceptable form material.

2.06 REINFORCING STEEL

A. Conform to ASTM A615, Grade 60, deformed bars.

2.07 CAST IN-PLACE MANHOLES

A. Acceptable, subject to Owner's approval.

B. Bases shall be reinforced as in Section 2.09. Use City of Pittsburgh Class AAA or approved HES mix. Minimum 4000 psi 28 day compressive strength.

C. All slopes (benches) outside flow channels shall be sloped gradually toward the invert at an approximate two (2) to five (5) percent slope.

2.08 PRECAST MANHOLE RISER SECTIONS

A. Minimum 48 inches in diameter, conforming to ASTM C478 and the following:

1. Minimum Wall Thickness: five (5) inches for 48 inch diameter, six (6) inches for 60 inch diameter, seven (7) inches for 72 inch diameter.

2. When requested, provide 24 inch by 60 inch eccentric cone for manhole.

3. Type II Cement with Limestone Aggregate

4. Joints: Confined rubber O-ring Gasket meeting ASTM C443 and capable of exceeding 13 psi of hydrostatic testing.

5. Flat slap tops shall have a minimum thickness of six inches and shall be reinforced with steel in accordance with the design requirements specified in ASTM C478.

6. Top Sections of eccentric cones or flat tops shall have an opening of 30 inches and contain 4 anchoring devices to mate with the specified casting.

7. All sections shall contain factory installed lifting keys or lugs. No perforated lifting holes through the concrete will be allowed.

B. Source Tests:

1. Prior to delivery of any size precast manhole section to job site, conduct yard tests at point of manufacture.

2. Precast sections to be tested will be selected at random from stockpiled material to be supplied for the job.

3. All test specimens shall be mat tested and meet the permeability test requirements of ASTM C497.

2.09 BASE SECTIONS

A. Cast in Place concrete bases shall normally be used in lieu of Pre-Cast concrete bases.

B. The base for either type shall extend six inches beyond the outside face of the manhole, unless otherwise indicated on plans, and shall be at least eight (8) inches thick.

C. Both precast and cast-in-place concrete bases shall be constructed in accordance with ASTM C478.

D. With the permission of the OWNER, bases may consist of a poured in place saddle cast over the pipe.

E. No. 5 Grade 80 reinforcing steel, 12 inch centers in both directions.

2.10 GRADE ADJUSTMENT

A. Grade adjustment material to be brick, polypropylene or pre-cast grade riser as approved by the Owner.

B. Brick adjustment shall not exceed 6 inches in height, unless approved by the Owner.

C. Rubber fiber polyurethane or polypropylene grade adjustment ring.

1. As manufactured by:

a. East Jordan Iron Works

b. Pro-Ring Cretex Specialty Products

2. Maximum two rings of ½ to 3 inches height, combined height not to exceed 6 inches.

D. Pre-cast Concrete Grade Rings for Extensions manufactured in accordance with ASTM C478.

1. In general, provide pre-cast manhole extensions on manholes in streets or other locations where a subsequent change in existing grade may be likely.

2. Limit extensions to maximum height of 12 inches, unless otherwise approved by the Owner.

E. Field molding of grade rings is not permitted.

2.11 MANHOLE FRAMES AND COVERS

A. Gray and Ductile iron castings of size and shape shown with the words "ACSA SEWER" in 2 inch raised letters.

B. Castings:

1. Gray Iron Castings shall be manufactured from iron conforming to ASTM A48.

2. Ductile Iron Castings shall conform to ASTM A536. Grade 60-40-18.

3. Casting shall be of uniform quality, smooth and clean, free from sand holes, blisters, cracks, blowholes, shrinkage, cold shuts, and defects.

4. Casting Types:

a. Hinged, Ergo assembly and cover, as manufactured by East Jordan Iron Works or Owner-approved equal. To be utilized for casting replacements and for new manholes. As directed by Owner.

b. Hinged, Water-tite Ergo assembly and cover, as manufactured by East Jordan Iron Works or Owner-approved equal. To be utilized in streams and traffic areas. As directed by Owner.

c. Revolution Access Assembly and cover, as manufactured by East Jordan or Owner-approved equal. To be utilized in areas where manholes are above grade and only as directed by the Owner.

d. 1480 Water-tite Frame and Cover, as manufactured by East Jordan Iron Works or Owner approved equal. To be utilized where infiltration is to be minimized and as directed by the Owner.

2.12 WRAP COLLAR

A. Provide a wrap collar consisting of two layers; an inner woven polypropylene reinforcing fabric containing a thick rubberized mastic sealer with a peelable protective paper that is removed when the collar is applied to a manhole or pipe; and an outer layer consisting of an impervious polyethylene with rubberized mastic that is bonded to the bottom layer. Between these layers are steel straps sheathed in tubes that allow the straps to slip freely and tighten around the manhole or pipe.

1. As manufactured by Cretex Specialty Products or Approved Equal

PART 3 EXECUTION

3.01 EXCAVATION, REINFORCEMENT, FORMWORK AND BACKFILL.

A. EXCAVATION.

1. Place cofferdams if required.

2. Remove and keep all water clear from the excavation and prevent accumulation.

3. Conduct Excavation and dewatering in accordance with Section 02140.

4. Place and maintain 6 inch minimum layer of approved aggregate on trench bottom in preparation of manhole installation. Mud mats may be approved in lieu of aggregate should the Contractor elect to submit an engineer approved design.

5. Thoroughly compact base rock with a mechanical vibrating or power tamper.

6. Form all vertical surfaces with materials as specified.

B. Reinforcing Steel:

1. Bar Splices: 24 diameters, but in no case, less than 12 inches.

2. Wire tie splices and intersections.

C. Placing Concrete:

1. Remove all water from forms prior to placing concrete.

2. Place concrete so there is no segregation of aggregate and vibrate all concrete placed.

3. Do not place concrete when ambient temperature is below 40 degrees F without special protection.

4. Cure concrete according to 03370 Concrete Curing.

D. Finish:

1. After form removal, patch rock pockets, form tie holes, and irregularities with a stiff mixture of Portland cement and sand mixed in same proportion as original mix.

2. Steel trowel slabs and tops of walls.

3. Finish exposed walls to produce a uniform, flat surface.

E. Backfill:

1. Remove all form materials and debris from excavations before placing any backfill.

2. Backfill around structures only after concrete has attained the required strength according to 03003 Cement Concrete, and 03370 Curing Concrete.

3. Obtain Owner's approval of concrete work prior to backfilling

4. Use approved backfill only.

3.02 PLACING PRECAST MANHOLE SECTIONS

A. Installation:

1. Thoroughly clean ends of sections to be joined. Thoroughly clean outside of manhole spigot of all foreign material and check for imperfections which may restrict gasket rotation.

2. Thoroughly lubricate manhole spigot before gasket is installed.

3. Lubricate gasket before installing into spigot recess.

4. Stretch gasket into spigot recess and equalize the material by inserting a screwdriver or similar tool under the gasket, traveling the total manhole circumference.

5. Clean and lubricate thoroughly inside the bell.

6. Align spigot and bell.

7. Lower sections evenly until sections seat.

8. Where possibility exists of watertight manhole or structure becoming buoyant, anchor manhole or structure to avoid floatation.

9. Follow installation by sealing all internal and external gaps and joints with waterproof unit masonry mortar.

10. Use an expansive chemical grout such as Sauereisen F-370 to seal all leaks from infiltration.

B. Rubber Gasketed Joints: Install in accordance with manufacturer's instructions and warranty requirements.

3.03 MANHOLE AND STRUCTURE INSTALLATION

A. Installation:

1. Stake out location and burial depth of existing sewer line in area of proposed manhole or structure. Use a locating Sonde with adequate frequency and sufficient power to locate structures at specified depths.

2. Install Cofferdam in accordance with Section 02140: Dewatering and Cofferdams.

3. Carefully excavate around sewer line to adequate depth for foundation slab installation. Protect existing pipe from damage.

4. Prepare crushed stone bedding or other support system shown of the standard details to receive foundation slab as specified for precast manholes and structures.

5. Prepare all surfaces for manhole installation.

6. Install pre-cast concrete manhole around existing pipe in accordance with the appropriate paragraphs specified herein. Secure manhole riser to pipe.

7. Seal manholes with external wrap.

8. Grout Pipe Entrances in accordance with Section 03300: Cast in Place Concrete.

9. Ensure system is in a gravity flow condition.

10. Use hydraulic saw to cut existing pipe at manhole or structure entrance and exit and along the length at a point halfway up the outside diameter on each side of the pipe. Bottom half of the pipe shall remain as manhole flow channel. Saw cut to have a smooth finish with top half of pipe flush with interior of manhole or structure.

11. Use an expansive chemical grout such as Sauereisen F-370 to seal all leaks from infiltration.

3.04 MANHOLE EXTENSIONS

A. Install Extensions as shown or required for grade changes, to height not exceeding 12 inches.

B. Lay grade rings in mortar with sides plumb and tops level. Seal joints with mortar as specified for manhole sections and make watertight.

C. Use stainless steel straps with anchor bolts at a four equally spaced locations around manhole to secure the manhole extension.

3.05 INSTALLATION OF CASTINGS

A. Install on top of manholes to prevent infiltration of surface or groundwater into manholes. Apply a manufacturer approved gasket or seal to prevent infiltration.

B. Set tops of covers flush with surface of adjoining pavement or ground surface, unless otherwise shown or directed.

3.06 SANITARY MANHOLE DROP CONNECTIONS

A. Construct drop connections into sanitary manholes in accordance with the Standard Details

B. Concrete encase pipe drop connections to a minimum of two feet outside of manhole.

C. Form Channel and use fittings from pipe drop to sweep gradually into main channel at a maximum angle of 30 degrees.

D. Use non shrink grout or approved flexible connection to seal the manhole perforation.

3.07 TESTING

A. Each manhole shall be tested using the vacuum testing method. Testing of raised manholes or manholes constructed over an existing sewer line where flow must be maintained will not be required.

B. All testing shall be performed in the presence of an Authority representative and to their complete satisfaction.

C. Manholes shall be complete in place and frames secured for testing performance.

D. Contractor shall furnish all equipment and tools required for satisfactory vacuum testing to include:

1. Vacuum apparatus with necessary piping, control valves and gauges to control air removal rate from manhole and monitor vacuum.

2. Provide an extra vacuum gauge of known accuracy to frequently check test equipment.

3. Manhole frame seal plate with vacuum piping connections.

4. Pipe Plugs

E. Vacuum Test Procedure

1. Clean manholes and plug pipes with properly sized plugs

2. Perform vacuum testing in accordance with testing equipment manufacturer's written instructions.

3. Draw a vacuum of 10 inches of mercury and close the valves.

4. Manhole shall be acceptable when the vacuum does not drop below 9 inches of mercury for the following manhole sizes and times.

   a. Four Foot diameter - 60 seconds

   b. Five Foot diameter -75 seconds

   c. Six Foot diameter – 90 seconds

F. Manhole test failures shall require the determination of the leakage source and correction of the same. If the contractor chooses to backfill prior to testing, re-excavation shall be at the contractor's expense. The contractor shall repair and replace defective material and workmanship using methods approved by the Authority. Repairs, replacement and retesting shall be performed at no additional cost to the Authority and the Contractor shall be liable for the additional inspection costs to the Authority.

PART 4 MEASUREMENT AND PAYMENT

4.01 Installation of Proposed Manholes will be measured and paid per Each at the bid price for the complete installation of a new manhole including all materials, tools, equipment, labor, disposal of materials offsite, and all incidentals necessary to complete the work.

4.02 Base Bid and Contingent "Replace Castings as Directed" shall be measured and paid for each manhole casting replaced with a new casting as directed by ALCOSAN. This price includes all materials, labor, equipment, disposal of materials, and all other incidentals necessary to complete the work.

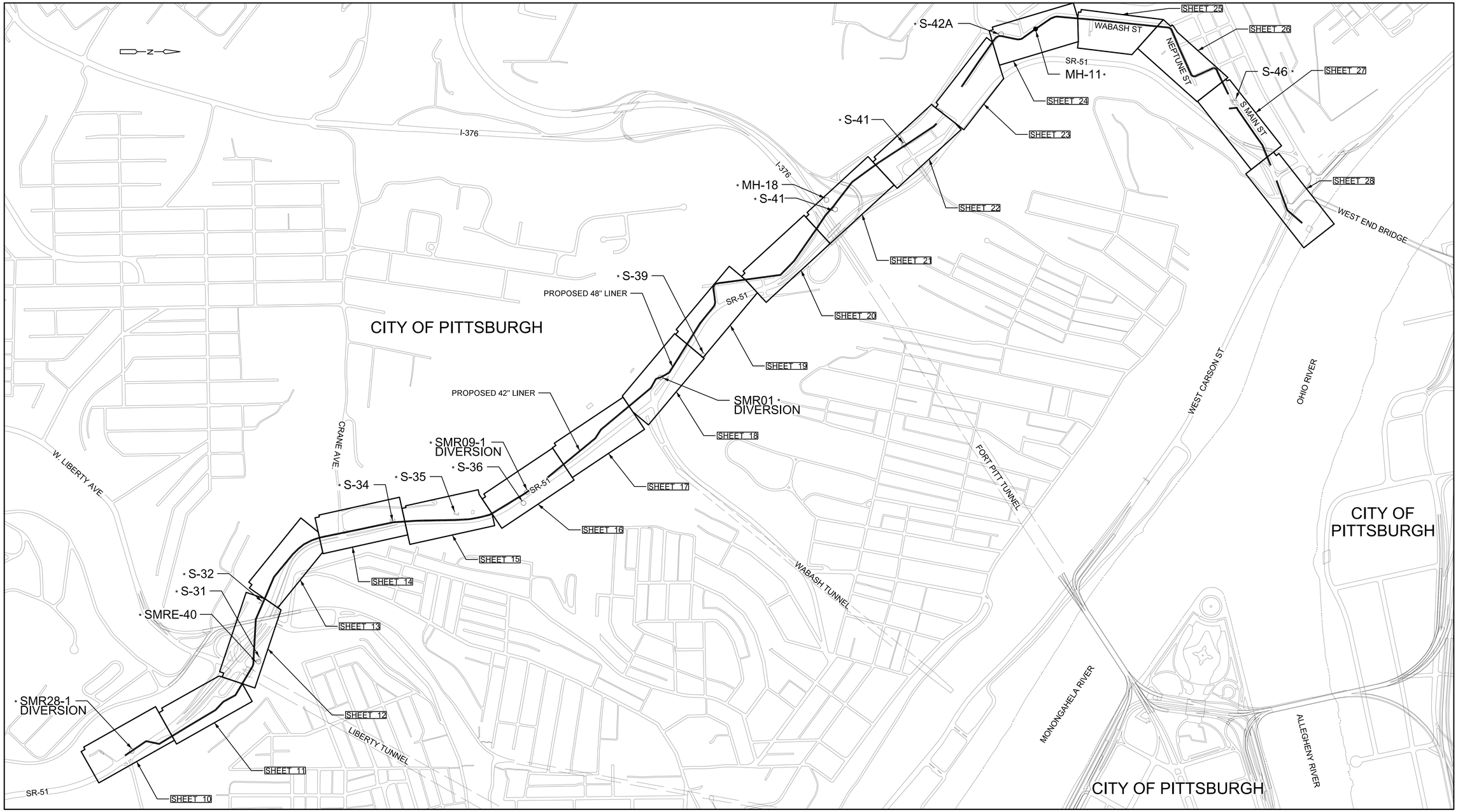
END OF SECTION

ALCOSAN Environmental Monitoring Program
Summary of Monitored Dry Weather Flows
SMR-42 (MH N.22) *

Year	Average Daily Dry Weather Flow (mgd)				Average Daily Peak Dry Weather Flow (mgd)				Precipitation Volume (in)
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	
2019	7.01	5.56	6.93	7.48	9.36	6.98	8.44	9.05	48.35
2018	10.1	14.4 *	13.1 *	8.55	11.4	16.5 *	15.1 *	11.1	56.91
2017	7.35	6.57	3.40	6.06	8.57	7.79	4.25	7.43	47.10
2016	8.25	7.11	5.83	5.43	9.73	8.40	7.02	6.65	36.70
2015	6.01	6.68	4.97	6.59	7.52	8.21	6.05	8.10	47.47

* Flows at this monitoring location partly depend on upstream gate operations. This influence is evident in Q2-18 and Q3-18 but may have had an impact on other periods as well.

INFORMATION ONLY



KEY MAP

1"=500'

500' 250' 0 500'

NOTE:

* POINT OF CONNECTION - SEE APPENDIX B FOR FLOW DATA.

Designed by: D. McCONNELL	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: N. KLEYA	1	7/23/20	SHOW POINTS OF CONNECTION PER ADDENDUM NO. 3	
Checked by: M. GRIFFIN				

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
PITTSBURGH, PA 15205

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — MALLORY J. GRIFFIN — PE086607

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

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

www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

1725_K_01
KEY MAP

Contract:	1725
CAD File Name:	1725_K_01.DGN
Date:	5/28/2020
Sheet:	3 OF 30

GENERAL NOTES

1. THE CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION OF THE AREAS REQUIRING REHABILITATION OR REPLACEMENT TO IDENTIFY ANY RELATED CONDITIONS THAT MAY IMPACT THEIR WORK, INCLUDING ACCESS REQUIREMENTS PRIOR TO BIDDING THE PROJECT. SUBMISSION OF A BID SHALL SERVE AS THE CONTRACTORS ACKNOWLEDGEMENT OF THE CONTRACT CONDITIONS AND SITE CONDITIONS REQUIRED TO COMPLETE THE WORK.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REQUIRED DEWATERING OF WORK LOCATIONS, NO MATTER WHAT THE SOURCE OF THE WATER. SOURCES INCLUDE BUT ARE NOT LIMITED TO ACCUMULATED PRECIPITATION, ENCOUNTERED GROUND WATER AND VALVE LEAKAGE.

3. ANY PORTION OF ANY WORK IN THIS CONTRACT THAT COMES INTO CONTACT WITH POTABLE WATER MUST BE IN FULL COMPLIANCE WITH 25 PENNSYLVANIA CODE 109.606.

4. ALL ELEVATIONS, INVERTS, AND DIMENSIONS SHOWN ARE APPROXIMATE AND MAY NOT REFLECT EXACT FIELD CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ANY AND ALL DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS.

5. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY FEDERAL, STATE, AND LOCAL AGENCIES FOR THE PERFORMANCE OF THE WORK OF THIS CONTRACT AND FOR DISPOSAL OF ANY SPOIL MATERIAL, DEBRIS, ETC. ALL WASTE MATERIAL, INCLUDING BROKEN CONCRETE OR OTHER DEMOLITION PRODUCTS OR CONSTRUCTION BY-PRODUCTS SHALL BE REMOVED FROM THE WORK SITES AND TRANSPORTED BY THE CONTRACTOR, AT HIS/HER EXPENSE, TO FINAL DISPOSAL.

6. THE OWNER RESERVES THE RIGHT TO SALVAGE ANY MATERIALS REMOVED FROM A CONSTRUCTION SITE. ANY MATERIALS NOT SELECTED FOR SALVAGE BY THE OWNER BECOME THE PROPERTY OF THE CONTRACTOR AND MUST BE REMOVED FROM THE SITE AS EXPEDITIOUSLY AS POSSIBLE. IN ALL CASES WHEN AN ITEM IS TO BE DISPOSED OF THE CONTRACTOR IS TO TRANSPORT THE OBJECT TO BE DISPOSED OF AT AN APPROVED DISPOSAL SITE WITHOUT ADDITIONAL COMPENSATION.

7. CONTRACTOR SHALL NOTE THE PRESENCE OF OVERHEAD POWER LINES, UNDERGROUND POWER LINES, GAS MAINS, WATER LINES AND SEWERS THROUGHOUT THE WORK AREA. ANY TEMPORARY RELOCATION NECESSARY TO COMPLETE THE WORK SHALL BE AT THE CONTRACTOR'S EXPENSE, EXCEPT WHERE NOTED. DAMAGE CAUSED BY THE CONTRACTOR TO ANY PUBLICLY OR PRIVATELY OWNED STRUCTURES SHALL BE REPAIRED, IN KIND, AT THE CONTRACTOR'S EXPENSE.

8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT AND SUPPORT EXISTING UTILITIES AND SHALL MAINTAIN UNINTERRUPTED SUPPLY OR SERVICE OF THESE UTILITIES. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE AT NO COST TO THE OWNER.

9. THE CONTRACTOR SHALL NOT, UNDER ANY CONDITIONS, OPERATE ANY HYDRANTS WITHOUT COORDINATION WITH THE OWNER OF THE WATER SUPPLY. IT SHOULD BE NOTED THAT ALL CONNECTIONS TO PENNSYLVANIA-AMERICAN WATER COMPANY'S HYDRANTS, OPERATION OF VALVES, CURB BOXES, ETC. WILL BE CONDUCTED BY PENNSYLVANIA-AMERICAN WATER COMPANY'S PERSONNEL AND NOT BY THE CONTRACTOR.

   CONTACT AT THE PENNSYLVANIA-AMERICAN WATER COMPANY IS CUSTOMER SERVICE, PENNSYLVANIA-AMERICAN WATER COMPANY, 410 COOKE LANE, PITTSBURGH, PENNSYLVANIA, 15234, (800) 474-7292.

   CONTACT AT THE PITTSBURGH WATER AND SEWER AUTHORITY IS CUSTOMER SERVICE, PITTSBURGH WATER AND SEWER AUTHORITY, 1200 PENN AVENUE, PITTSBURGH, PENNSYLVANIA, 15222, (412) 255-8800.

10. IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IMMEDIATELY. CONTINUED CONSTRUCTION IN THE AREA OF CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED. CONTRACTOR IS RESPONSIBLE TO DEVELOP BYPASS PUMPING PLAN BASED ON PROVIDED FLOW DATA, SPECIFICATIONS, APPROVED TRAFFIC PLANS, PERMITS AND SUGGESTED SEQUENCE OF CONSTRUCTION.

11. NECESSARY TEMPORARY STRUCTURES TO ACCESS OR ADJUST MANHOLE STRUCTURES, FRAMES AND COVERS AT ALL WORK LOCATIONS IS INCIDENTAL TO THIS PROJECT AND NO ADDITIONAL PAYMENT WILL BE MADE.

12. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE NEED FOR TEMPORARY COFFERDAMS OR OTHER WATER CONTROL STRUCTURES.

13. REMOVAL AND REPLACEMENT OF SANITARY MANHOLE CONES, FRAMES, AND COVERS MAY BE NECESSARY TO FACILITATE CIPP LINING. ALL ITEMS OF WORK AND COST INCURRED TO REHABILITATE THE SANITARY SEWERS SHALL BE CONSIDERED INCIDENTAL TO THE CIPP BID ITEM UNLESS EXPLICITLY STATED OTHERWISE. MANHOLE FRAME SIZES VARY AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

14. THE CONTRACTOR SHALL HAVE THE COMPLETE AND SOLE RESPONSIBILITY FOR THE JOB SITE INCLUDING THE SAFETY OF PERSONS AND PROPERTY. JOB SITE INSPECTIONS BY THE OWNER ARE TO DETERMINE COMPLIANCE WITH THE PLANS AND SPECIFICATIONS, NOT TO REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES. BARRIERS, TEMPORARY FENCING OR OTHER MEASURES MUST BE PLACED TO ELIMINATE ACCESS TO THE WORK SITE BY THE PUBLIC. NO ADDITIONAL PAYMENT WILL BE MADE FOR THESE MEASURES.

15. APPROXIMATE LOCATION OF EXISTING SEWERS ARE SHOWN. CONTINUOUS WATER AND SEWER SERVICE SHALL BE MAINTAINED THROUGHOUT THE JOB. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY CHUTES AND PLUGS OF EXISTING PIPES AS NECESSARY TO MAINTAIN SAID SERVICE. ALL BYPASS PUMPING OF SEWERS SHALL BE INCLUDED IN THE UNIT BID PRICE PER LINEAR FEET OF REPAIR OR REPLACEMENT AND SHALL BE CONSIDERED INCIDENTAL TO THE COST. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

16. WHEN TIE-INS AND RECONNECTIONS TO THE SEWER INTERCEPTOR SYSTEM ARE MADE, A CONTINUOUS WORK OPERATION MUST BE MAINTAINED UNTIL ALL SERVICE IS RESTORED.

17. ALL WORK LOCATIONS SHALL BE LEFT IN A CONDITION AT THE CONCLUSION OF THE WORK SIMILAR TO THAT BEFORE THE COMMENCEMENT OF WORK, EXCEPT FOR THE WORK PERFORMED UNDER THIS CONTRACT. DAMAGE DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE HIS RESPONSIBILITY TO REPAIR TO THE SATISFACTION OF THE OWNER. REPAIRS SHALL BE MADE WITH NO ADDITIONAL PAYMENT.

18. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ACCORDING TO THE MAINTENANCE AND PROTECTION OF TRAFFIC PLAN PERMIT OBTAINED BY THE CONTRACTOR AND THE STATE HIGHWAY OCCUPANCY PERMIT IN THE CONTRACT SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING ANY NECESSARY APPLICATIONS AND SEEKING PERMITS FROM LOCAL OR STATE AUTHORITIES.

19. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH PROPERTY OWNERS IN ADVANCE OF THE WORK, TO INCLUDE DOCUMENTATION AT EXISTING SITE CONDITIONS INCLUDING SEWER LATERAL CONNECTION LOCATIONS. THE RESTORATION OF PRIVATE AND PUBLIC PROPERTY IS THE RESPONSIBILITY OF THE CONTRACTOR, AND IS INCIDENTAL TO THE WORK.

20. THE CONTRACTOR SHALL CONFIRM WITH THE CONSTRUCTION MANAGER THAT ALL OR ANY OF THE OWNERS OF IMPACTED PROPERTIES ARE NOTIFIED IN WRITING AT LEAST TWO (2) WEEKS PRIOR TO STARTING WORK SHOWN ON THESE PLANS.

21. VEHICLE ACCESS MAY NOT BE AVAILABLE TO ALL MANHOLES AND SEWER SEGMENTS IDENTIFIED IN THIS CONTRACT, AND FOOT ACCESS MAY BE REQUIRED TO COMPLETE THE WORK IN THESE AREAS.

22. BASE PLAN INFORMATION PREPARED BY JMT. THE SOURCE OF THE BASE PLAN INFORMATION IS THE ARCGIS MAPPING DATA PROVIDED BY ALCOSAN AND SEWER AS-BUILT INFORMATION. THE COORDINATES SHOWN ON THE DRAWING ARE BASED ON NAD 1983/1981. ALL VERTICAL CONTROLS ARE BASED ON NAVD 1988.

23. THE CONTRACTOR IS RESPONSIBLE FOR ACQUIRING ANY NEEDED STAGING/STORAGE AREAS.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING SILT AND/OR DEBRIS OUT OF STORM DRAINAGE SYSTEMS, STREAMS, RIVERS, ETC. FOR THE DURATION OF THE CONTRACT.

25. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND ALLEYS OF DUST AND TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THAT ALL ROADS ARE MAINTAINED IN A MUD AND DUST FREE CONDITION AT ALL TIMES.

26. REMOVE ON A DAILY BASIS (TO MINIMIZE TRAFFIC INTERRUPTIONS) ALL EXCESS CONSTRUCTION DEBRIS AND MATERIAL FROM THE WORK SITE.

27. DISTURBED CURBS, GUTTERS AND SIDEWALKS SHALL BE REPLACED IN-KIND TO THE NEAREST EXISTING JOINTS WITH CONSTRUCTION MANAGER APPROVAL.

28. THE CONTRACTOR SHALL COMPLETE ALL REHABILITATION WORK UNDER DRY WEATHER CONDITIONS.

29. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THEIR WORK SUFFICIENTLY IN ADVANCE TO ELIMINATE DELAYS IN COMPLETING THE REQUIREMENTS OF THEIR WORK AS A RESULT OF ITEMS, SUCH AS, BUT NOT LIMITED TO PERMITTING ACCESS COORDINATION AND IMPACTED PROPERTY OWNER COORDINATION.

30. CLEARING AND GRUBBING AS REQUIRED TO ACCESS SOME MANHOLES SHALL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOT REMOVE, DAMAGE OR DISTURB ANY TREES > 3". CLEARING AND GRUBBING SHALL BE PER SPECIFICATIONS.

31. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH LOCAL AND STATE SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS, THE MOST STRINGENT WILL APPLY.

32. SOIL AND EROSION CONTROL MEASURES SHALL, AT A MINIMUM, COMPLY WITH THE FOLLOWING REGULATIONS AND STANDARDS:

    COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION; EROSION SEDIMENT POLLUTION CONTROL PROGRAM MANUAL. LATEST EDITION (MARCH 2012) WITH ALL SUPPLEMENTS AND AMENDMENTS.

    COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, PUBLICATION 408 WITH LATEST EDITION (2016) WITH CHANGE 1 EFFECTIVE OCTOBER, 7 2016 WITH ALL SUPPLEMENTS AND AMENDMENTS.

SEWER REHABILITATION

1. ALL CURED-IN-PLACE (CIPP) LINING WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

2. THE CONTRACTOR SHALL CLEAN AND CLOSED CIRCUIT TV (CCTV) INSPECT THE EXISTING SEWER PRIOR TO CURED-IN-PLACE PIPE (CIPP) LINING TO VERIFY PIPE CHARACTERISTICS, AND IDENTIFY AND LOCATE ANY SEWER PIPE DEFECTS. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DEFECTS THAT COULD AFFECT THE INSTALLATION OF CIPP LINING.

3. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL ACTIVE SANITARY SEWER LATERAL CONNECTIONS TO THE INTERCEPTOR SCHEDULED FOR CIPP LINING. REFER TO SPECIFICATIONS.

4. BYPASS PUMPING SHALL BE CONDUCTED ACCORDING TO THE CONTRACT SPECIFICATIONS. SEWER SERVICE SHALL BE MAINTAINED AT ALL TIMES. ALL KNOWN SEWER LINES THAT WILL REQUIRE THE BY-PASS PUMPING ARE SHOWN ON THE PLANS. ANY SEWER LINES, LATERALS OR DIRECT CONNECTIONS NOT SHOWN DO NOT EXCUSE THE CONTRACTOR FROM PERFORMING NECESSARY BYPASS PUMPING.

5. FLOW DIVERSIONS TO THE PARALLEL INTERCEPTOR ARE AVAILABLE AT SMR34-2 (UPSTREAM OF MH-44A), SMR28-1, SMR-09-1 AND SMR01. DIVERSIONS MAY NOT BE AVAILABLE AT ALL TIMES DUE TO WEATHER CONDITIONS OR OPERATING CONSTRAINTS.

6. GROUTING OF SEWER FOR INFILTRATION AND LATERAL TRIMMING SHALL BE COMPLETED PRIOR TO CIPP LINING.

7. EACH SECTION OF CIPP LINING SHALL BE INSTALLED AND CURED IN ONE MOBILIZATION AND REACH FROM MANHOLE TO MANHOLE. FIBER OPTIC CABLE FOR MONITORING OF CURE TEMPERATURES SHALL BE PROVIDED PER SPECIFICATIONS.

8. ALL VERIFIED ACTIVE SEWER LATERAL CONNECTIONS SHALL BE REINSTATED AND DOCUMENTED. ABANDONED OR CAPPED CONNECTIONS SHALL NOT BE REINSTATED, BUT SHALL BE DOCUMENTED. STATUS OF ALL CONNECTIONS TO BE RECORDED ON AS-BUILTS AND IN GIS DATABASE.

9. CONTRACTOR TO MARK-UP AS-BUILTS AS WORK PROGRESSES.

10. POST-INSTALLATION CCTV INSPECTION MUST BE CONDUCTED FOR EACH SEWER LINE TO CHECK FOR LINER DEFECTS OR WRINKLING, FOR APPROVAL BY THE CONSTRUCTION MANAGER. PACP DATABASE EXPORT VERSION REQUIRED FOR DELIVERABLE.

11. REFER TO SHEET 6 AND 7 FOR CIPP LINING SUGGESTED SEQUENCE OF INSTALLATION.

MANHOLE REHABILITATION

1. MANHOLES SCHEDULED FOR REHABILITATION ARE SHOWN ON THE PLAN, AND LISTED ON SHEET 8 AND 9. ALL MANHOLE REHABILITATION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.

2. EACH MANHOLE SHALL BE POWER-WASHED PRIOR TO ANY REHABILITATION WORK AND SURFACES SHALL BE PREPARED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

3. FLOW DIVERSION, BY-PASS PUMPING, OR FLOW-THROUGH PLUGS SHALL BE UTILIZED AT EACH MANHOLE TO ENSURE PROPER FUNCTION OF THE SEWER INTERCEPTOR. SEWER SERVICE SHALL BE MAINTAINED AT ALL TIMES.

4. ANY NEEDED POINT REPAIR/PATCH WORK OR INFILTRATION REPAIR SHALL BE COMPLETED AND CURED PRIOR TO ANY MANHOLE LINING.

5. CONTRACTOR SHALL CUT, PLUG, AND REHABILITATE WITH EPOXY LINING OVER WASHOUT DISCHARGE CONNECTIONS FROM THE WATER MAIN DISTRIBUTION SYSTEM AS INDICATED ON THE CONTRACT DRAWINGS WITHIN MH-13A ON SHEET 23 AND MH-09 ON SHEET 26:

   A. LOCATIONS OF PIPE PENETRATIONS IN MANHOLE SHALL BE COORDINATED WITH CONSTRUCTION MANAGER AND ENGINEER PRIOR TO BEGINNING WORK TO CONFIRM PIPE TO BE PLUGGED.

   B. CONTRACTOR SHALL NOT OPERATE ANY PITTSBURGH SEWER AND WATER AUTHORITY VALVES.

   C. PIPE PENETRATIONS SHALL BE CUT FLUSH TO MANHOLE WALL, PATCHED, AND PLUGGED WITH GROUT AS PART OF THE MANHOLE REHABILITATION SURFACE PREPARATION.

   D. REHABILITATION OVER PLUGGED PIPE PENETRATIONS SHALL BE FREE OF DEFECTS, INFILTRATION, AND SHALL FULLY SEAL THE OPENING.

6. INSTALLATION/REPLACEMENT OF FRAME AND COVER FROM CIPP LINING WORK IF REQUIRED, SHALL BE COMPLETED PRIOR TO LINING OF THE MANHOLE.

7. MANHOLE STEP REMOVAL SHALL BE CONSIDERED INCIDENTAL TO REHABILITATION WORK.

8. MANHOLE LINING SHALL BE COMPLETED AND CURED IN ONE SETUP.

9. FINAL INSPECTION AND GPS LOCATING OF REHABILITATED MANHOLES IS REQUIRED FOR ACCEPTANCE AND PAYMENT.

Designed by: D. McCONNELL
Drawn by: N. KLEYA
Checked by: M. GRIFFIN

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	7/23/20	DELETE LAST SENTENCE OF SEWER REHABILITATION NOTE 4 PER ADDENDUM NO. 3. ADD NEW SEWER REHABILITATION NOTE 5 AND SUBSEQUENT RENUMBERING.	

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
PITTSBURGH, PA 15205

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — MALLORY D. GRIFFIN — ENGINEER — PE086607

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

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

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ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

1725_LEG_02
GENERAL NOTES

Contract: 1725
CAD File Name: 1725_LEG_02.DGN
Date: 5/28/2020
Sheet: 5 OF 30

ASSET ID NODE / SEGMENT	GIS LENGTH	CCTV LENGTH	CURRENT			NEW			UPSTREAM INV. ELEV.	DOWNSTREAM INV. ELEV.	APPROX. DEPTH	EX. COVER DIA.	PIPES (INLETS/ OUTLETS)	MATERIAL	APPROX. # MH STEPS	REHAB REQUIRED
			NORTHING	EASTING	TOP ELEV.	NORTHING	EASTING	TOP ELEV.								
	(FT.)	(FT.)	(Y)	(X)	(FT.)	(Y)	(X)	(FT.)	(FT.)	(FT.)	(FT.)	(IN.)	(#)	(MH / INVERT)	(EA.)	
MH-44A			400619.985	1340298.411	863.401						21.1	26.5	3	CONCRETE	22	LINE
MH-44A.MH-44.1	21.6															
MH-44			400637.782	1340286.224	863.546						21.5	26.5	3	BRICK	22	LINE
MH-44.SMR28-1.1	35.8															
SMR28-1			400667.408	1340266.139	864.457						23.6	31.5	3	CONCRETE	--	LINE
SMR28-1.MH-43.1	137.4															
SMR28			400780.955	1340188.853	866.700						9.4	31.5	3	CONCRETE	--	NONE
MH-43.SMRE-46.1	68.6															
SMRE-46			400837.687	1340150.363	867.111						13.3	N/A	2	CONCRETE	--	LINE
SMRE-46.SMRE-45.1	138.6															
SMRE-45			400973.211	1340179.175	869.508						31.6	31.5	3	CONCRETE	--	LINE
SMRE-45.SMRE-44.1	342.2															
SMRE-44			401265.393	1340000.975	864.354						29.6	31.5	2	CONCRETE	--	LINE
SMRE-44.SMRE-43.1	337.9															
SMRE-43			401555.795	1339828.223	860.210						28.0	29.5	3	CONCRETE	--	LINE
SMRE-43.SMRE-42.1	118.7															
SMRE-42			401637.299	133974.924	840.927						12.2	N/A	2	CONCRETE	--	LINE
SMRE-42.SMR23-NORTH.1	142.1															
SMR-23 NORTH			401767.856	1339673.486	839.450						8.1	N/A	2	CONCRETE	--	LINE
SMR23-NORTH.SMRE-41.1	373.8															
SMRE-41			401948.948	1339350.446	836.891						8.8	N/A	2	CONCRETE	--	LINE
SMRE-41.SMRE-40.1	73.1															
SMRE-40			401952.191	1339277.445	842.633						7.7	32	4	CONCRETE	--	LINE
SMRE-40.SMR21-NORTH.1	391.2															
SMR-21 NORTH			401975.651	1338886.962	854.215						20.0	N/A	4	CONCRETE	20	LINE
SMR21-NORTH.SMR20-NORTH.1	218															
SMR-20 NORTH			402061.209	1338686.473	840.572						17.0	31.5	3	CONCRETE	18	LINE
SMR20-NORTH.SMR19A-EAST.1	259.4															
SMR-19A EAST			402162.883	1338447.868	834.879						29.7	N/A	2	CONCRETE	--	LINE
SMR19A-EAST.SMRE-37.1	304.4															
SMRE-37			402356.513	1338212.999	842.437						19.2	31.5	2	CONCRETE	--	LINE
SMRE-37.MH-36.1	382.6															
MH-36			402683.553	1338029.267	833.480						16.6	31.5	2	BRICK W/ CONCRETE TRANSITION	17	LINE
MH-36.MH-35.1	377.1															
MH-35			403052.943	1337953.372	828.008						14.8	N/A	3	BRICK	15	LINE
MH-35.S-34-00_PS.1	352															
S-34-00_PS.MH-34.1	243.3															
MH-34			403397.335	1337880.566	827.810						18.0	N/A	2	BRICK	18	LINE
MH-34.MH-33.1	398.5															
MH-33			404038.594	1337857.877	823.011						18.0	N/A	3	BRICK	18	LINE
MH-33.ACM-1237.1	58.6															
ACM-1237.MH-32.1	310.2															
MH-32			40440.914	1337802.125	821.060						19.7	N/A	2	BRICK	20	LINE
MH-32.MH-31.1	355															
MH-31			404705.024	1337617.372	820.272						22.4	26.5	3	BRICK	23	LINE
MH-31.SMR09-1.1	37.6															
SMR.9-1			404737.821	1337599.064	819.463						22.9	N/A	3	CONCRETE	--	LINE
SMR09-1.MH-30.1	279.6															
MH-30			404968.314	1337440.740	818.096						23.6	N/A	2	BRICK	24	LINE
MH-30.MH-29.1	294															
MH-29			405195.602	133754.241	816.008						23.7	N/A	3	BRICK W/ CONCRETE TRANSITION	--	LINE
MH-29.MH-27A.1	384.7															
MH-27A			405492.892	1337010.055	800.839						12.0	N/A	2	BRICK W/ CONCRETE TRANSITION	13	LINE
MH-27A.MH-27.1	776.2															
MH-27			406065.268	1336492.034	804.281						24.7	N/A	3	BRICK	25	LINE
MH-27.MH-26A.1	149.5															
NEW MH BY OTHERS												NEW MH		NEW MH	--	NONE
MH-26A			406159.942	1336380.522	796.959						10.0	27.5	2	BRICK	10	LINE
MH-26A.SMR01-WEST.1	11.4															
SMR01-W			406171.055	1336378.052	796.992						12.0	34	2	CONCRETE	--	LINE
SMR01-WEST.MH-25.1	703.4															
MH-25			406578.632	1335818.554	787.074						19.5	26.5	3	BRICK	20	LINE
MH-25.MH-24.1	517.5															
MH-24			406773.840	1335400.253	776.595						13.4	26.5	3	BRICK	14	LINE
MH-24.MH-23.1	262.7															
MH-23			407034.158	1335365.247	775.625						18.0	26.5	2	BRICK	18	LINE
MH-23.MH-22.1	381.9															
MH-22			407412.731	1335314.963	771.625						13.4	26.5	3	BRICK	14	LINE
MH-22.MH-21.1	203.4															
MH-21			407555.210	1335169.768	778.095						22.4	27	4	BRICK	23	LINE
MH-21.MH-20.1	407.8															
MH-20			407788.179	1334835.121	773.990						12.6	30	2	BRICK	13	LINE

NOTES:

1. CONTRACTOR TO PERFORM GPS SURVEY OF ALL MANHOLES INDICATED ON THIS SHEET IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. DATA TO BE PROVIDED IN MACP MANHOLE INSPECTION DATABASE FORMAT.
2. GPS SURVEY WORK SHALL BE COMPLETED CONCURRENTLY WITH REHABILITATION WORK.
3. CONTRACTOR TO REDLINE THIS SHEET WITH REVISED DATA AS WORK IS COMPLETED, INCLUDING UPSTREAM AND DOWNSTREAM PIPE INVERT ELEVATIONS.

PIPE AND MANHOLE REHABILITATION / GPS SCHEDULE

Designed by: D. McCONNELL
Drawn by: N. KLEYA
Checked by: M. GRIFFIN

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	7/23/20	REMOVE INVERT ELEVATIONS PER ADDENDUM NO. 3.	

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
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ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

1725_MHTBL_01
PIPE AND MANHOLE
REHABILITATION / GPS SCHEDULE

Contract: 1725
CAD File Name: 1725_MHTBL_01.DGN
Date: 5/28/2020
Sheet: 8 OF 30

ASSET ID	GIS LENGTH	CCTV LENGTH	CURRENT			NEW			UPSTREAM INV. ELEV.	DOWNSTREAM INV. ELEV.	APPROX. DEPTH	EX. COVER DIA.	PIPES (INLETS/ OUTLETS)	MATERIAL	APPROX. # MH STEPS	REHAB REQUIRED
			NORTHING	EASTING	TOP ELEV.	NORTHING	EASTING	TOP ELEV.								
	(FT.)	(FT.)	(Y)	(X)	(FT.)	(Y)	(X)	(FT.)	(FT.)	(FT.)	(FT.)	(IN.)	(#)	(MH / INVERT)	(EA.)	
MH-20.MH-19.1	167.6															
MH-19			407880.880	1334695.550	774.900						25.1	N/A	3	CONCRETE	26	LINE
MH-19.MH-18A.1	127.3															
MH-18A			407966.045	1334600.957	773.996						22.6	26.5	4	BRICK	23	LINE
MH-18A.MH-18.1	47.1															
MH-18			407992.999	1334562.287	768.927						22.0	26.5	3	CONCRETE	22	LINE
MH-18.MH-17.1	267.7															
MH-17			408157.006	1334350.713	765.283						20.2	26.5	3	BRICK	21	LINE
MH-17.MH-16.1	339.8															
MH-16			408431.383	1334150.340	763.942						N/A	N/A	2	BRICK	N/A	NONE
MH-16.MH-15.1	332.8															
MH-15			408710.048	1333968.409	761.250						12.7	26.5	3	CONCRETE	13	LINE
MH-15.MH-14A.1	36.1															
MH14A			408740.143	1333948.738	N/A						19.3	26.5	2	BRICK	20	LINE
MH-14A.MH-14.1	354.2															
MH14			409030.183	1333746.414	756.333						20.0	26.5	2	BRICK	18	LINE
MH-14.MH-13A.1	477.4															
MH13A			409302.355	1333354.265	748.318						15.8	26.5	2	BRICK	16	LINE
MH-13A.S-02A-00.1	18.8															
S-02A			409310.971	1333337.548	748.543						18.1	N/A	3	CONCRETE	19	LINE
S-02A-00.MH-13.1	274.7															
MH13			409463.900	1333109.300	747.100						16.4	26.5	2	BRICK	17	LINE
MH-13.MH-12A.1	310.9															
MH12A			409645.595	1332856.967	744.125						17.1	26.5	2	BRICK	18	LINE
MH-12A.MH-12.1	236.5															
MH12			409872.127	1332872.980	740.433						14.0	26.5	3	BRICK	14	LINE
MH-12.MH-11.1	221															
MH11			410058.181	1332763.717	737.389						12.9	26.5	2	BRICK	13	LINE
MH-11.MH-10.1	192.4															
MH10			410217.004	1332655.152	735.413						11.7	26.5	2	BRICK	12	LINE
MH-10.MH-09C.1	262.5															
MH-09C			410475.237	1332653.410	732.971						10.2	26.5	2	BRICK	11	LINE
MH-09C.MH-09B	251															
MH-09B			410725.005	1332677.399	732.180						10.4	26.5	3	BRICK	11	LINE
MH-09B.MH-09A.1	347.6															
MH-09A			411070.818	1332712.851	730.815						10.6	26.5	2	BRICK	11	LINE
MH-09A.MH-09.1	403.3															
MH-09			411466.152	1332770.968	730.700						11.8	26.5	3	BRICK	12	LINE
MH-09.MH-08.1	221.2															
MH-08			411553.023	1332974.403	729.620						11.9	26.5	2	BRICK	12	LINE
MH-08.MH-07.1	295.2															
MH-07			411673.905	1333243.760	728.058						11.6	26.5	3	BRICK	12	LINE
MH-07.MH-06.1	245.7															
MH-06			411899.887	133317.203	730.194						14.2	26.5	2	BRICK	15	LINE
MH-06.MH-06A.1	72.9															
MH-06A			411947.478	1333218.906	731.221						16.5	31.5	3	CONCRETE	--	LINE
MH-06A.S-03A.1	244.9															
MH S-03A			412050.574	1333441.030	731.629						17.4	31.5	N/A	CONCRETE	--	NONE
S-03A.MH-S02(ACOE).1	149.5															
MH S02(ACOE)			412064.725	1333589.255	731.943						21.1	31.5	4	CONCRETE	22	NONE
MH-S02(ACOE).MH-S03(ACOE).1	81.5															
MH S03(ACOE)			412145.917	1333582.028	729.726						20.0	29.5	N/A	CONCRETE	21	LINE
MH-S03(ACOE).MH-03A.1	20.9															
MH3A			412154.028	1333601.307	730.010						19.9	29.5	2	CONCRETE	--	LINE
MH-03A.MH-04.1	340.8															
MH 04			412347.767	1333881.638	729.207						19.1	29.5	2	BRICK	20	LINE
MH-04.MH 1C.1	331.5															
MH1C			412494.569	1334176.782	743.228						34.0	29.5	3	CONCRETE	--	LINE
MH 1C.MH 1B.1	95.2															
MH1B			412470.072	1334268.764	742.847						34.7	29.5	N/A	CONCRETE	--	NONE
MH 1B.MH 1A.1	109.7															
MH1A			412554.391	1334338.977	747.217						39.2	29.5	2	CONCRETE	--	LINE
MH 1A.MH-01.1	325.3															
MH-01			412667.920	1334643.790	731.600						24.1	29.5	2	BRICK	25	LINE
MH1D											N/A	N/A	N/A	BRICK	--	LINE
MH-01.O-14W-00_TS.1	202.2															
Outfall O14W_TS			412831.241	1334782.438	716.952						N/A	31.5	N/A	CONCRETE	--	

NOTES:

1. CONTRACTOR TO PERFORM GPS SURVEY OF ALL MANHOLES INDICATED ON THIS SHEET IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. DATA TO BE PROVIDED IN MACP MANHOLE INSPECTION DATABASE FORMAT.
2. GPS SURVEY WORK SHALL BE COMPLETED CONCURRENTLY WITH REHABILITATION WORK.
3. CONTRACTOR TO REDLINE THIS SHEET WITH REVISED DATA AS WORK IS COMPLETED, INCLUDING UPSTREAM AND DOWNSTREAM PIPE INVERT ELEVATIONS.

PIPE AND MANHOLE REHABILITATION / GPS SCHEDULE

Designed by: D. McCONNELL
Drawn by: N. KLEYA
Checked by: M. GRIFFIN

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	7/23/20	REMOVE INVERT ELEVATIONS PER ADDENDUM NO. 3.	

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
PITTSBURGH, PA 15205

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — MALLORY J. GRIFFIN — PE086607

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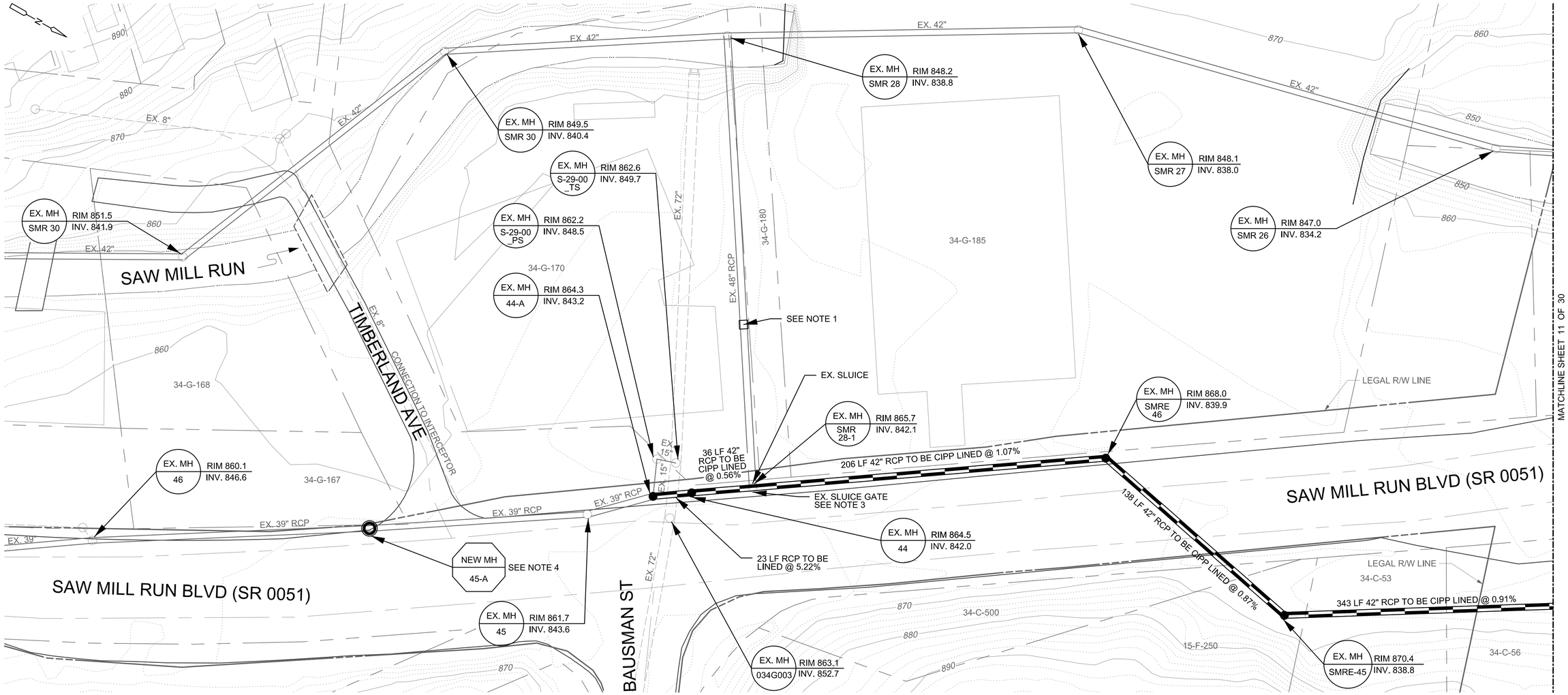
ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

1725__MHTBL__02
PIPE AND MANHOLE
REHABILITATION / GPS SCHEDULE

Contract: 1725
CAD File Name: 1725_MHTBL_02.DGN
Date: 5/28/2020



SAW MILL RUN INTERCEPTOR LINING MH 44-A TO MH SMRE-45

NOTES:

1. REPAIR LEAK AT STA 0+95 WITH GROUT, SMR-28-1 TO SMR-28.
2. REFER TO PHASE 1 OF SEQUENCE OF INSTALLATION ON SHEET 6.
3. ADJUST EXISTING SLUICE GATE BEFORE REHABILITATION IF REQUIRED. CONTRACTOR SHALL SECURELY MOUNT SLUICE GATE AFTER REHABILITATION IS COMPLETE.
4. INSTALL NEW MH-45A PER DETAILS. SEE SHEET 30 OF 30.
5. MANHOLE TO BE LOCATED IN THE FIELD BASED ON ACTUAL LOCATION OF THE INTERCEPTOR AND SUITABILITY FOR USE IN BYPASS PUMPING.

1"=30'

30' 15' 0 30'

Designed by: D. McCONNELL
Drawn by: N. KLEYA
Checked by: M. GRIFFIN

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	7/23/20	ADD NEW MH-45A PER ADDENDUM NO. 3.	

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
PITTSBURGH, PA 15205

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MALLORY J. GRIFFIN ENGINEER PE086607

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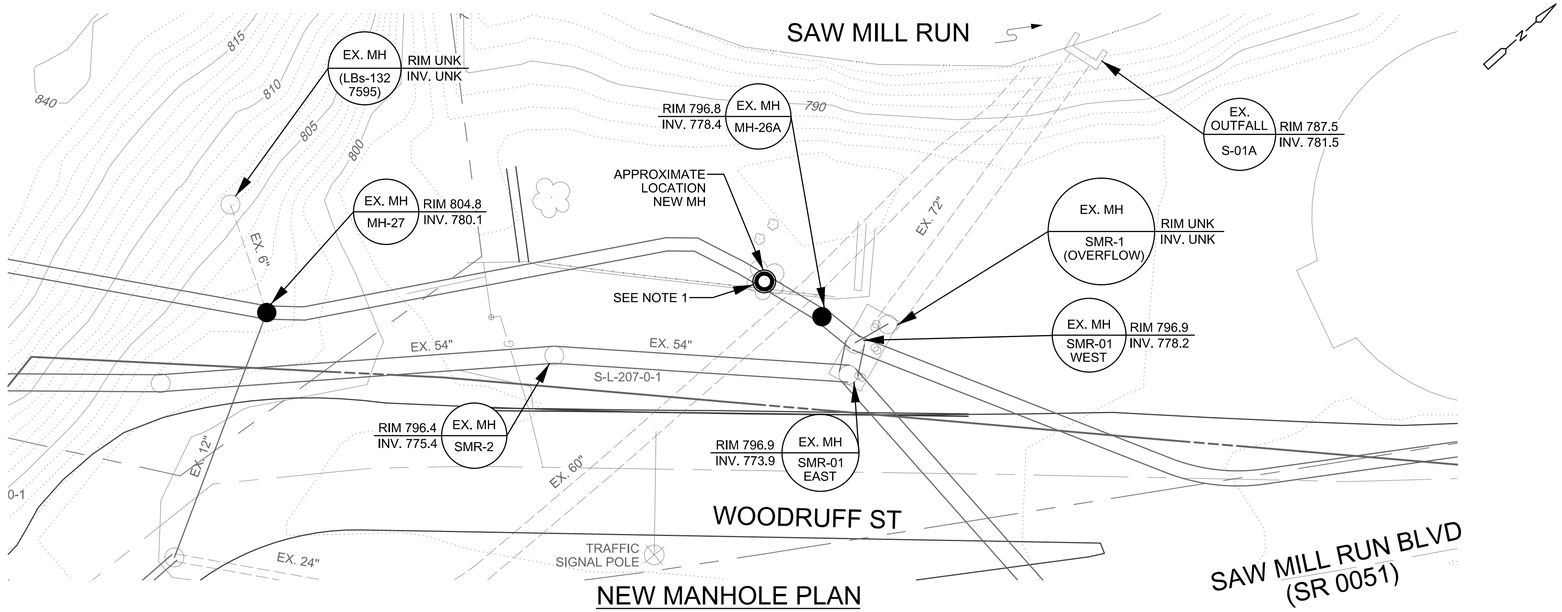
ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

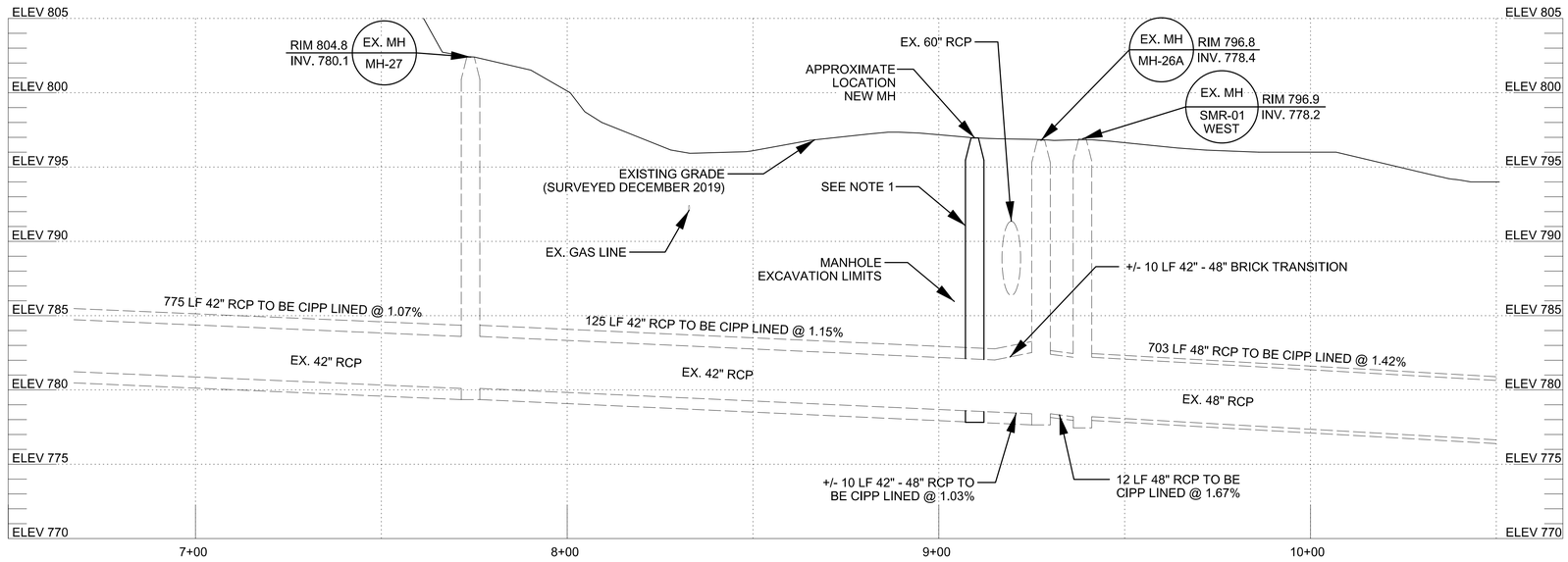
1725_034G_PLN_01
SAW MILL RUN INTERCEPTOR
MH-44A TO MH SMRE-45

Contract: 1725
CAD File Name: 1725_034G_PLN_01.DGN
Date: 5/28/2020
Sheet: 10 OF 30



NEW MANHOLE PLAN

SCALE: 1"=20'



NEW MANHOLE PROFILE

1"=20' - HORIZ.
1"=5' - VERT.

NOTES:

1. NEW MANHOLE TO BE COMPLETED PRIOR TO CIPP LINING .

1"=20' - HORIZ.
20' 10' 0 20'
1"=5' - VERT.
5' 2.5' 0 5'

Designed by: D. McCONNELL	REVISION			
Drawn by: N. KLEYA	REV No.	DATE	DESCRIPTION	APPV
Checked by: M. GRIFFIN	1	7/23/20	DELETE "BY OTHERS" PER ADDENDUM NO. 3.	

FINAL DESIGN

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
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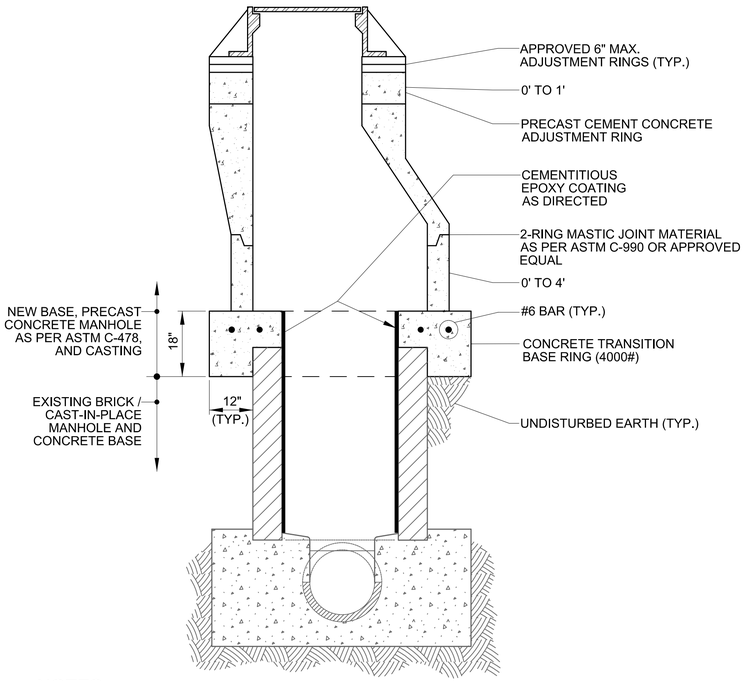
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

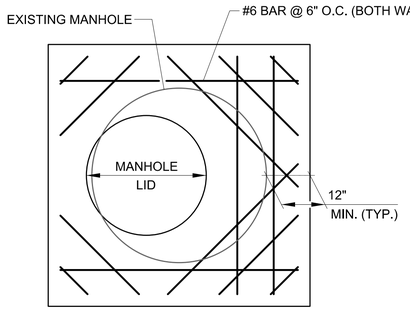
1725__MHPS__01
NEW MANHOLE PLAN
AND PROFILE

Contract: 1725
CAD File Name: 1725_MHPS_01.DGN
Date: 5/28/2020
Sheet: 29 OF 30



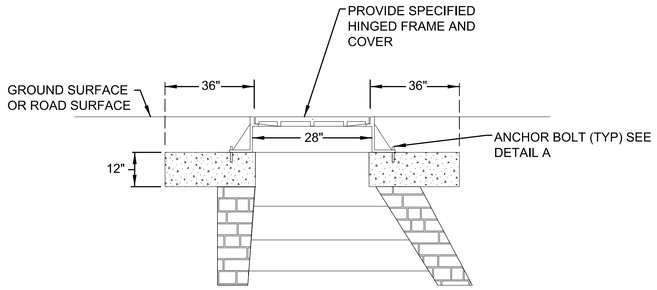
NOTES:

1. PRECAST MANHOLE SECTIONS SHALL COMPLY WITH ASTM C-478. LENGTHS MAY BE VARIED TO OBTAIN DESIRED DEPTH.
2. SANITARY SEWER MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR WITH AN APPROVED ASPHALT EMULSION FOUNDATION COATING. MATERIALS AND APPLICATION SHALL BE IN ACCORDANCE WITH ASTM D-1227.



PRECAST EXTENSION OF BRICK MANHOLE AND DIVERSION STRUCTURE MODIFICATIONS

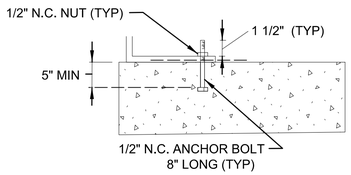
(N.T.S.)



CASTING REPLACEMENT DETAIL

NOTES:

1. CONSTRUCT MANHOLE WITH HINGE DIRECTION TO CLOSE WITH TRAFFIC FLOW
2. USE MANHOLE CASTING EJIW ERGO-28.

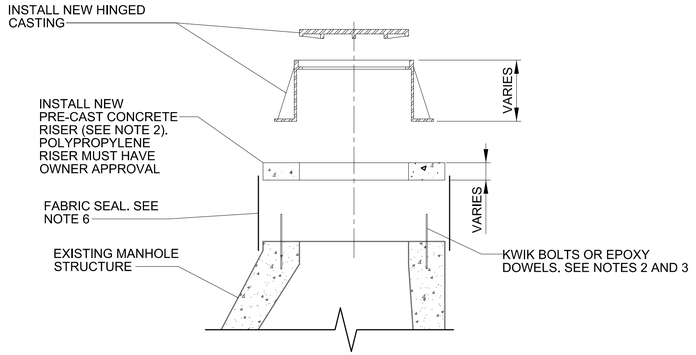


DETAIL A

REPLACE CASTING DETAIL

(N.T.S.)

*DETAIL INTENDED FOR CASTING REPLACEMENT ON BRICK MANHOLE WITH 6" OR LESS GRADE ADJUSTMENT.

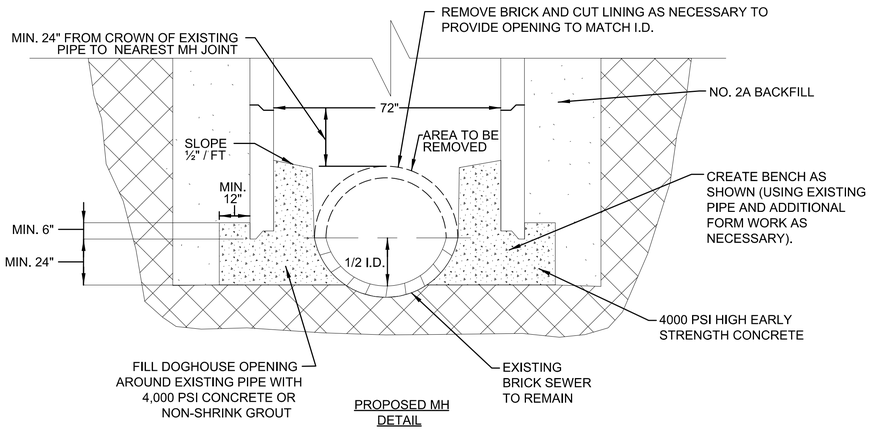


NOTES:

1. REMOVE EXISTING CAST OR DUCTILE IRON MANHOLE FRAME AND LID. EXISTING MANHOLE FRAME AND LID TO BE TURNED OVER TO OWNER.
2. SECURE PRECAST CONCRETE RISER TO MANHOLE CONE USING A MINIMUM SIX (6) DOWELS SPACED EVENLY AND CENTERED ON TOP OF MANHOLE. EMBED 3/4" DIA. DOWELS A MINIMUM OF 3" AND EPOXY IN PLACE.
3. SECURE MANHOLE FRAME TO PRECAST CONCRETE RISER TO MANHOLE USING A MINIMUM OF FOUR (4) SS 3/4" DIA. HILTI KWIK BOLTS WITH 3/4" MIN. EMBEDMENT. MANHOLE FRAME TO BE BOLTED THROUGH POLYPROPYLENE RISER ALTERNATIVE TO EXISTING MANHOLE STRUCTURE (OPTION WITH OWNER APPROVAL).
4. USE AN ELASTOMERIC JOINT SEALER BETWEEN THE FRAME FLANGE AND CONCRETE RISER, AND BETWEEN THE CONCRETE RISER AND THE MANHOLE.
5. HINGED CASTING TO BE EAST JORDAN ERGO XL OR APPROVED EQUAL.
6. CRETEX WRAP (9-INCH) OR APPROVED EQUAL.

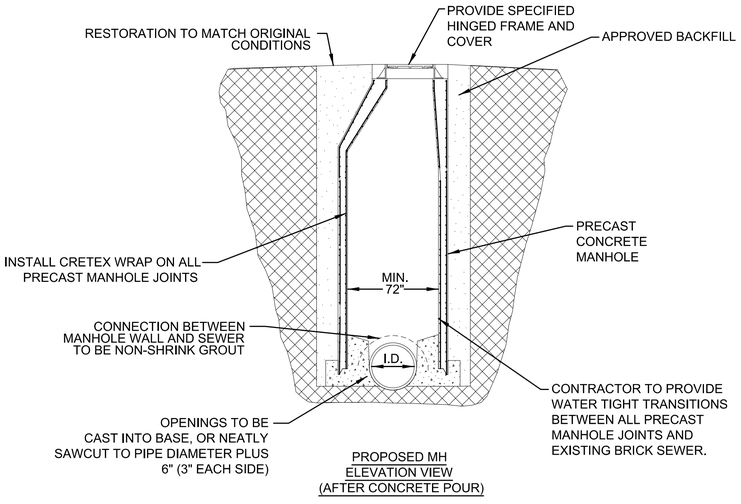
REPLACE EXISTING CONCRETE MANHOLE COVER

(N.T.S.)



PROPOSED MH DETAIL

NEW MANHOLE DETAIL 1



PROPOSED MH ELEVATION VIEW (AFTER CONCRETE POUR)

NOTE:

WHERE EXISTING SEWER IS CIPP-LINED, TIE THE NEW EPOXY MANHOLE LINER INTO THE CIPP LINER.

NEW MANHOLE DETAIL 2

Designed by: D. McCONNELL	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: N. KLEYA	1	7/16/20	ADD NEW MH DETAILS PER ADDENDUM NO. 3.	
Checked by: M. GRIFFIN				

FINAL DESIGN

JOHNSON, MIRMIRAN & THOMPSON, INC.
MARQUIS CORPORATE CENTER TWO
5313 CAMPBELLS RUN ROAD
SUITE 100
PITTSBURGH, PA 15205

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL ENGINEER — MALLORY L. GRIFFIN — PE086607

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN

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

www.alcosan.org

ALLEGHENY COUNTY SANITARY AUTHORITY
REGIONAL CONVEYANCE SYSTEM
CIPP REHABILITATION OF THE LOWER SAW MILL RUN INTERCEPTOR

1725_DET_01
DETAILS

Contract:	1725
CAD File Name:	1725_DET_01.DGN
Date:	5/28/2020
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