

**City of Lancaster  
Engleside Combined Sewer Rehabilitation**

**ADDENDUM NO. 3  
2/21/20**

In accordance with the requirements of the Instructions to Bidders, this Addendum shall be attached to and become a part of the Contract Documents for the above referenced project.

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**General**

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This Addendum No. 3 to the above referenced project modifies, corrects and/or supplements the original Contract Documents dated November 2019 and shall become a part of the Contract Documents.

Acknowledge receipt of the Addendum by inserting its number in the space provided on the Bid Form. Failure to do so may subject the bidder to disqualification.

**Note that the Bid Opening time has been revised to 11:00 a.m. local time on March 12, 2020. The locations for bid submission and opening will remain as originally advertised.**

**The previous deadline for questions of February 17, 2020 has not been extended. This deadline has passed, and new questions will not be responded to by formal addendum.**

This Addendum consists of a total of 9 pages. In addition, electronic copies of the original contract documents are being distributed to planholders.

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**Concerning the Drawings**

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STRUCTURAL DRAWINGS

A. Drawing C-2 - Maintenance of Flow Plan

1. Based on a site inspection by the City of Lancaster, it was determined that the two stormwater inlets along Engleside identified to receive bypass flows are connected to the 108-in sewer instead of the 96-in sewer. Contractor will need to establish two temporary/permanent access points on the 96-in sewer to convey the bypass flows in this area.
2. Replace this drawing with the revised Drawing C-2 attached to this addendum.

B. Drawing S-2A - Existing Combined Sewer Details

1. Replace Note 4 with the following: "Remove and replace pipe invert as indicated. If scouring occurs below bottom of pipe, fill with Type C Flowable Fill."

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**Concerning the Specifications**

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DIVISION 00 – BIDDING AND CONTRACT REQUIREMENTS

A. Section 00020 – Advertisement for Bids

1. Page 00020-1, Paragraph 1, Line 3: Replace “February 26, 2020” with “March 12, 2020”.
2. Page 00020-1, Paragraph 3, Line 3: Replace “bwagner@cityoflancaster.com” with “bwagner@cityoflancasterpa.com”.

B. Section 00100 – Instructions to Bidders

1. Page 00100-2, Article 4.1: Replace “at least 10 days before the date set herein for the opening of bids” with “by February 17, 2020”.
2. Page 00100-2, Article 4.2: Replace “five days before the bid opening date” with “February 21, 2020”.

DIVISION 01 – GENERAL REQUIREMENTS

A. Section 01025 – Measurement and Payment

1. Page 01025-2, Paragraph 1.04.B.1: Add the following bullet item:  
“Install temporary and/or permanent access points for Bypass Pumping as indicated on the Drawings.”

B. Section 01300 – Submittals

1. Page 01300-2, Paragraph 1.03.F.1: Add the following at the end of the paragraph:  
“Include information for temporary and/or permanent access points to facilitate bypass pumping.”

DIVISION 02 – SITEWORK

A. Section 02270 – Centrifugally Cast Cementitious Pipe Liner (CCCPL)

1. Page 02270-9, Paragraph 2.02.3.c: Delete this section and replace with the following:  
“c. Factor of Safety shall be 2.0”

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**Submitted Questions**

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The following questions were asked in writing. The answers shall be considered part of the Addendum.

1. I noticed on the advertisement for bids that the mandatory prebid was January 21st. is it possible to waive the mandatory portion of this scope or provide a second mandatory pre-bid so that we may have an opportunity to bid on this contract? I noticed you extended the bid already and am hoping that you may allow for this adjustment.

Answer: The Owner is maintaining the provision for mandatory attendance of the pre-bid meeting.

2. Per your spec that reference the DBE solicitation effort, we have a question about the “follow up” or second solicitation to firms. Page 221 of the spec say that the follow up should be approximately one week after the initial solicitation, however on page 236 it says that it should be 4-5 days afterwards. Can you confirm which is accurate please? I see that the spec has a date of August 8, 2012 and I want to be sure that we have received the updated and/or current information for bidding requirements please.

Answer: The guidance document dated August 8, 2012 is the current information. Guidance that a follow-up solicitation should be approximately one week after the initial solicitation is for the grant/loan recipient (City of Lancaster). Guidance that a follow-up solicitation should be approximately 4-5 days after the initial solicitation is for the prime contractor.

3. The spec 02270 section 2.02 - 3.c states factor of safety needs to be 3.0. I have never seen a job at 3.0. The typical trenchless pipe rehab design factor of safety is 2.0. Please consider lowering this to 2.0 as a safety factor of 3 may increase the thickness over the 3.5” max.

Answer: Factor of Safety was revised to 2.0 as indicated above.

4. Spec 02270 section 1.01 B suggests that thickness designs may be acceptable below the minimums specified. This provides incentive to find a less conservative design methods that would support thicknesses below the specified minimums. To eliminate this incentive, please consider striking this language and keep the minimums as stated.

Answer: The basis of the bid is the minimum thicknesses noted in the contract documents. Any consideration of a reduced thickness will be evaluated on a case-by-case basis during the submittal process during construction.

5. Spec 02270 Products 2.01 A. 1 states the material shall be a geopolymer but the spec does not define what a geopolymer is. Material strength properties alone do not characterize if it is a geopolymer or not. The trenchless industry typically qualifies if a material is a geopolymer by requiring certain minimum strengths and in addition the material must be made of 70% minimum pozzolanic material composed of SiO<sub>2</sub>, MgO, Al<sub>2</sub>O<sub>3</sub>, or Fe<sub>2</sub>O<sub>3</sub> as verified by XRF testing per ASTM 114. There are many materials that may have the strength but not the material composition to be a geopolymer. Please consider better defining what a geopolymer is with this 70% pozzolanic characteristic. This will ensure contractors provide materials that truly are geopolymers and not a data sheet with just the name geopolymer on the cover. This will ensure your client gets the benefit of geopolymers characteristics not defined by strength values including covalent chemical bonding to itself preventing cold joints, and naturally inherent corrosion resistance. As a follow up question, please consider posting what geopolymer materials are approved or not in advance of the bid. Some municipalities such as DC water have chosen to do this. They will list in their contract, or as an addendum, what materials are preapproved geopolymers or not approved so time is not wasted putting a bid together with an unapproved material. Some bids will state any materials not pre approved prior to the bid will not be permitted. I have seen bids occur where a manufacturer supplier gave pricing to multiple contractors for what they said was a geopolymer on the data sheet, and the low bid contractors used that in their bid. After the low bidder made submissions, the “geopolymer on paper” material found to be Portland

cement and was not approved. This can lead to the contractor walking away from the job and giving it to the second bidder or a rebid.

Answer: The only revisions to Section 02270 requirements have been reflected in this or previously-issued addenda.

6. Spec 02270 Section 3.13 Lining Summary A. discusses manhole depth are approximate and should be field verified. Is it intended to line the existing or proposed manholes and structures? If so, what thickness is desired and how is it to be paid?

Answer: No, in general, lining of the existing or proposed manholes is not intended. Manhole depths and the need for field verification are to ensure access for personnel and equipment. The only such area to receive the lining material is the 100 SF area of block wall noted located in the manhole riser and noted on Drawing S-4.

7. Addendum 2, Q&A no 29 indicates that a structural design submittal will be needed for Stations 5+50 to 6+75 and also 10+00 to 10+30 and that the rest of the project is a 1 inch minimum structural enhancement. Since there is no design method to characterize how much structural enhancement you need, is it safe to say the thickness will be 1" no matter what strength of material is proposed and that no design calculation needs to be provided in the 1" min areas?

Answer: Design calculations are required for all proposed applications, and a minimum thickness of 1" is required for areas not receiving a full structural repair.

8. Can you provide some guidance on what you would like the transition to look like into and out of the 3" min and 1.8" minimum areas. Obviously, you don't want it vertical as it would hang up debris and flow. Is there a distance you want it tapered at the invert and at the walls. This adds cost and it would be good if all bidders were factoring the same transition.

Answer: The liner material should be used to provide an even, tapered transition where the proposed liner thickness changes. The transition should be 1 foot in width.

9. The Spec 02270 does not call out any design methodology for liner design. To level the playing field, please consider requiring a minimum design method such as the distributed beam model that everyone can follow or increasing the minimum thickness of 3 and 1.8 to say 3.5 and 2.5 to account for the lower range of permissible material strengths that may be submitted.

Answer: The design peaking factor has been revised as part of Addendum #3. Section 02270.1.08.A.7 requires the preparation of design calculations sealed by a Professional Engineer licensed in Pennsylvania who has satisfied him or herself, among other things, that the proposed design methodology of the system CCCPL system manufacturer follows accepted engineering principles.

10. Will the Owner please confirm the type of welded wire fabric approved for pipe repair use? Should this material be steel, galvanized?

Answer: Welded wire fabric should be steel.

11. Will the Owner provide additional details regarding the plastic lumber board in Detail A, drawing S-4? Is the Owner's intent for the Contractor to utilize composite type deck boards? Will the Owner provide an approved or equal product so that all Bidders price the same?

Answer: Structural grade plastic lumber of appropriate thickness and length (as verified in the field) is to be implemented per Detail A, Drawing S-4.

12. Will the Owner provide an approved or equal product for chemical grout that should be used so all Bidders price the same?

Answer: Chemical grouts will be approved during the submittal process and should be compatible with the selected CCCPL material/application.

13. The current specification requires a safety factor of 3.0 for CCCP design. We've reviewed this with our material manufacturer and neither of us has seen a safety factor this high. This increase adds more material to the pipe, increasing cost & decreasing hydraulic capacity. Will the Owner/Engineer please reduce to an industry standard 2.0 safety factor?

Answer: Factor of Safety was revised to 2.0 as indicated above.

14. Will the Owner please confirm this project's scope does not include the rehab/ coating of any structures (diversion, manholes, intermediate or otherwise)? If structures are to be coated, please provide the application thickness.

Answer: See answer to above Question No. 6.

15. Does the City of Lancaster have a detail that the Contractor should utilize for manhole reconstruction should remove/replace of cones/risers be needed for access or bypass pumping? Will precast replacement cones/risers be acceptable? Will the provide backfill requirements for manhole reconstruction both in and outside of the roadway?

Answer: Precast replacement cones and risers are approved for such use as specified in Section 02605.

16. The transition from 1.0" to 1.8" or 1.0" to 3.0" material thickness will require additional material that should be calculated by all Bidders. This calculation is dependent upon the Engineer's transition detail. In addition, the substantial change in thickness (especially 1.0" to 3.0" on the upstream side) could present a problem with future debris accumulation. Will the Engineer please provide a transition detail from 1" application to 1.8" and 1.0" to 3.0" thicknesses (and vice versa)?

Answer: See the response to Question No. 8 above.

17. Will the Owner consider extending the due date of this project to 3/4/20?

Answer: The Bid Opening date has been revised to March 12, 2020. However, the deadline for questions has not been extended and has passed.

18. Will the Owner please provide additional information with regards to Q/A #22 of Addendum 2? The current answer opens the door to products that are neither geopolymers or only claim to be a geopolymer. Geopolymers are defined by physical strengths but they must also be 70% minimum pozzolanic material to include SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub> or MgO, verified by XRF testing per ASTM 114. Will the Owner please provide additional clarification that only geopolymers are to be used for this pipe rehabilitation, further detailing that geopolymers for this project are defined as meeting the minimum physical characteristics within the specification as well as the 70% minimum pozzolanic characteristic mentioned above? Neglecting to do so will open the door to products outside of a true geopolymer, preventing an 'apples to apples' comparison.

Answer: See response to Question No. 5 above.

19. The structural enhancement term can be defined differently by different products; for consistency, will the Owner please confirm that all areas defined as structurally enhanced for this project require a minimum of 1" of material application?

Answer: Confirmed.

20. During the pre-bid site walk, it was mentioned that the Contractor will be allowed to close Water Street to thru traffic during bypass & rehab. Will the Owner please define any roads/streets that will not be able to be closed to thru traffic?

Answer: Water Street between Seymour Street and Hazel Street is the only street that can be closed to thru traffic. Contractor should minimize the time the street is closed and must allow access for businesses or residences along this section of street.

21. Will the Owner please confirm the existing structure detail for Culliton Park? Does it match the detail shown on drawing C-1, detail A?

Answer: No, manholes for the Culliton Park sewer are directly above the crown of the brick arch. See IMG\_2784 in Appendix D of the project specifications.

22. Will the Owner provide the pump station schedule for the 24" dia forcemain on sheet C-2 (that enters the 108" at Seymour intersection)? Will the Owner be able to regulate this flow at all with periodic shutdowns? If so, will you please provide the schedule and duration?

Answer: The 24" main shown on Drawing C-2 in Seymour Street is a gravity sewer. Tributary to this sewer segment is a force main discharge from the City's Susquehanna pumping station. Flow data from LTP-03 was previously provided. As additional information, the peak instantaneous flow that one pump can produce at this site is estimated at 1,188 gallons per minute (gpm), and the maximum pumping condition is with two pumps operating at a combined pumping rate of 1,788 gpm.

23. Please confirm it is not required to complete the blue forms and submit with the bid - they may be on white paper (given the addenda issued the documents via pdf.)

Answer: Correct. Blue forms were provided for the contractor's convenience. Forms may be submitted on white paper.

24. Please confirm that these documents are required post bid by the apparent low bidder: (Found Listed Instructions to Bidders Article 18-19)

- a. Public Works Employment Verification Form
- b. Subcontractor's Compliance Form
- c. Steel Products Procurement Act
- d. Certificate of Nonsegregated Facilities
- e. Self-Certification of No Disbarment, Suspension or Ineligibility (for Prime and Subcontractors)
- f. Sub-Contracting

Answer: All documents listed above and indicated in Section 00100 - Instructions to Bidders, Articles 18-19 must be submitted with bids.

25. Is the DBE Compliance information required at the time of the bid?

Answer: DBE solicitation compliance documentation can be provided after the bid. The Owner will request this information of multiple bidders, and bidders should be prepared to provide the documentation promptly to facilitate Owner and Engineer review of the bid packages.

26. Will access to the park as a staging area be allowed during the entirety of the project considering that construction has already started there?

Answer: Only equipment and materials associated with active work ongoing at the park can be onsite. Culliton Park cannot be used as a staging area for equipment and materials associated with the Engleside work, nor can such equipment be kept at the park if active construction is not occurring at that site.

27. Will installation of doghouse manholes inside the park and at other locations to be determined be allowed?

Answer: The implementation of doghouse manholes along the Culliton Park arch sewer or Engleside sewer may prove challenging due to site constraints. That said, the Owner will consider proposed use of doghouse manholes on a case-by-case basis, and the Contractor will need to provide a design with adequate support and constructability.

28. There is a property being developed with construction equipment positioned directly behind where the bypass pumps will need to be positioned. Are we able to block this area of driveway, road, and sidewalk for the bypass operation?

Answer: Please see the response to Question No. 20 above. In addition, it is worth noting that ongoing construction at the lot in question will include relocation of the existing driveway to the north.

29. Is the invert of the Chamber adjacent to Manhole 5 equal to the invert of the pipe or is this a grit holding chamber of sorts?

Answer: The rock/debris chamber adjacent to Manhole 5 has a sump with an invert that is approximately 2.5 feet below the invert of the pipe as indicated in the Pre-Bid Meeting minutes.

30. Can we utilize the DPW or Plant for delivery/storage of materials?

Answer: The Owner's WWTP cannot be utilized as a staging area. As noted previously, the parking lot at the Engleside site can be used as a staging area.

31. If there is an issue coordinating with the owner of the lateral connections, will the County assist if they fail to cooperate since those laterals will need to be bypassed for the duration of the lining work?

Answer: The City can assist in providing owner contact information for a given address. The Contractor will be responsible for coordinating the installation, operation and removal of any bypass provisions.

32. The arch pipe cannot technically be lined with CCCPL technology since the crown of the pipe and not the invert are scheduled to be lined. Can we hand apply (gunite) concrete in the arch pipe to cover the top of the pipe and not the invert?

Answer: Approved material can be applied in manners consistent with the respective manufacturer's recommendations. Gunite concrete will not be an acceptable material.

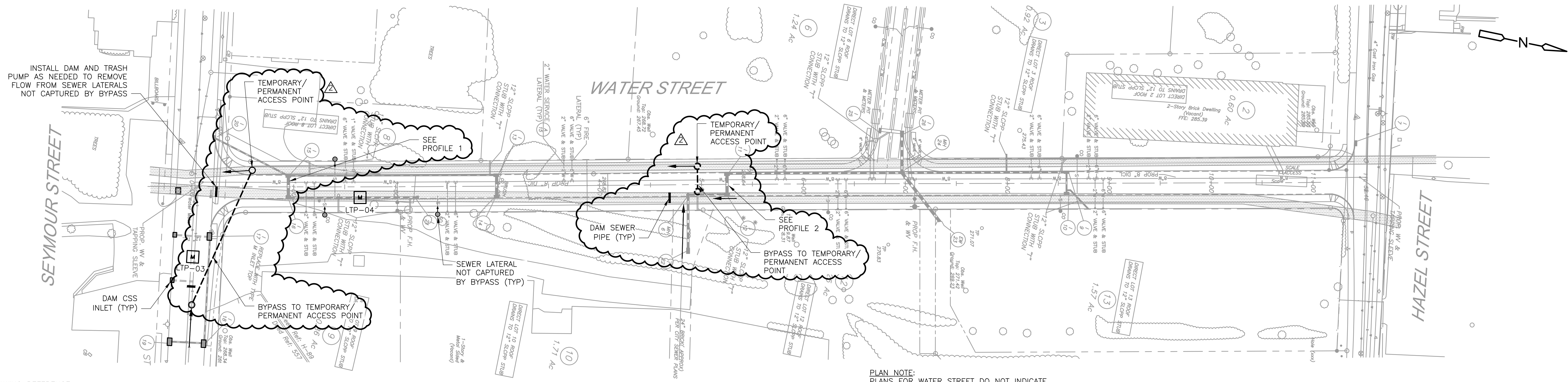
33. Drawing S-2A, detail for type 1 repair conflicts with note 4 on the same page. I think any scouring/ voids under the pipe should be filled with type C flowable fill per the detail, but note 4 references using type II sulfide resistant concrete for the same.

Answer: Correct. Per Specification 02270 Paragraph 3.02.A.5, Contractor shall completely fill scour holes below the pipe exterior with flowable fill. Segments with a completely missing invert will be repaired by anchoring epoxy coated reinforcing bars and overlaying invert with Type II Sulfide Resistant Concrete. Note 4 on Drawing S-2A has been updated as indicated above.

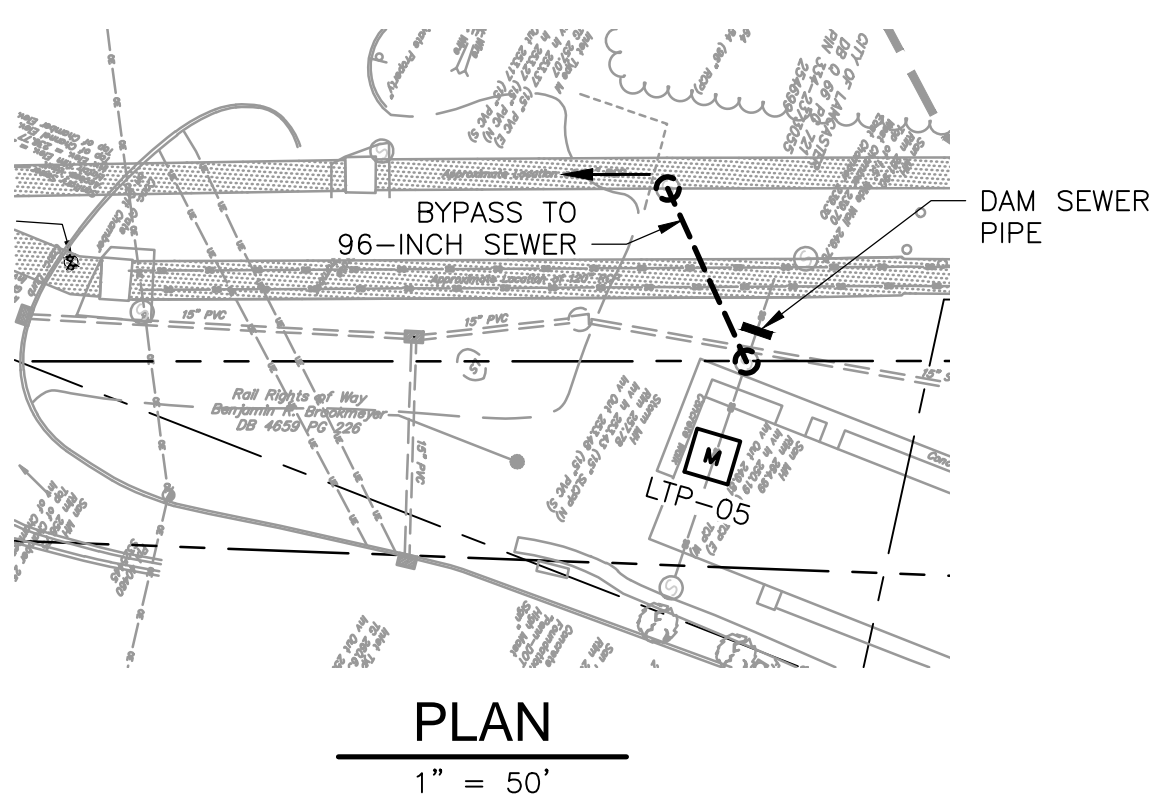
End of Addendum No. 3



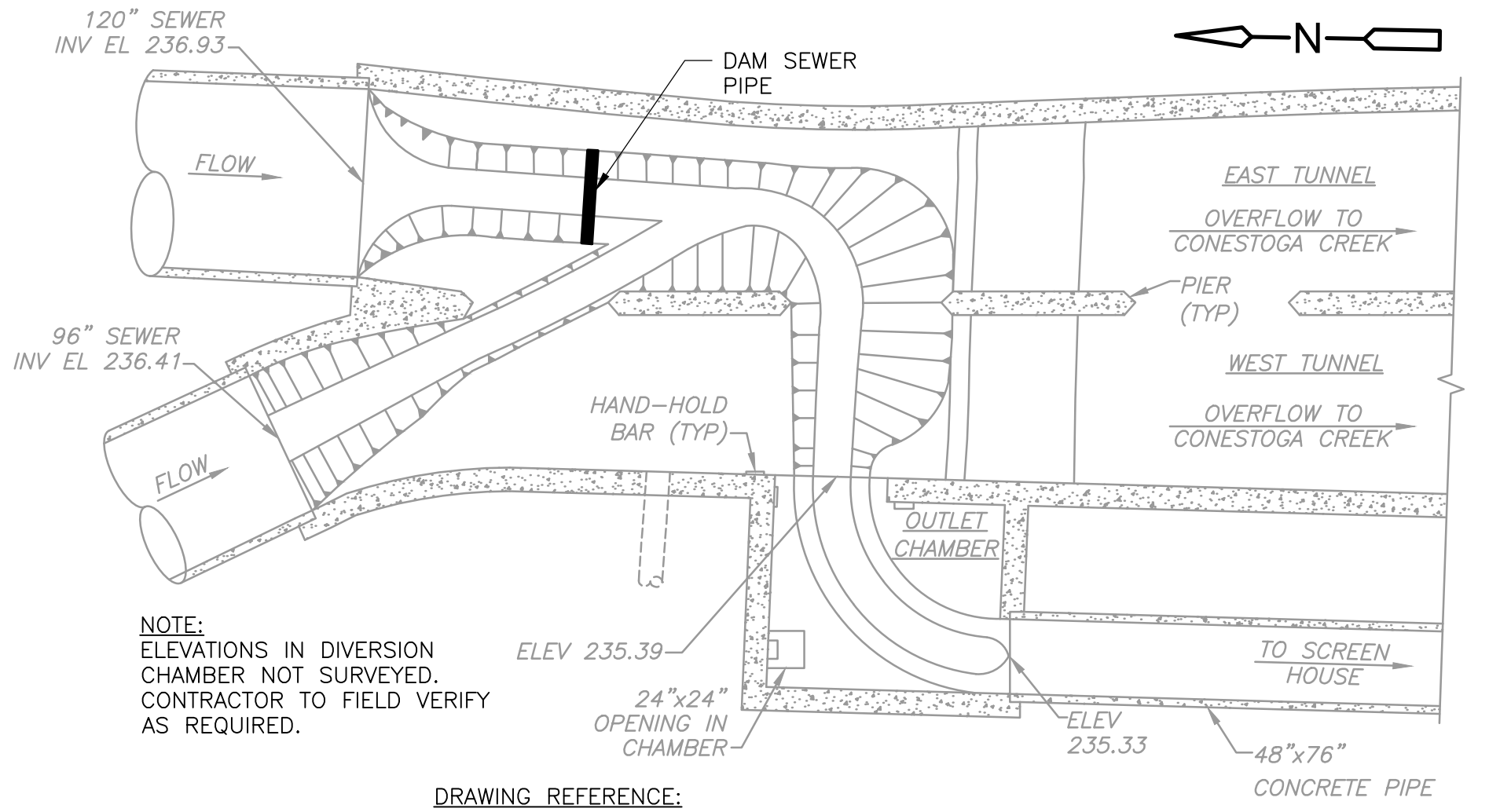
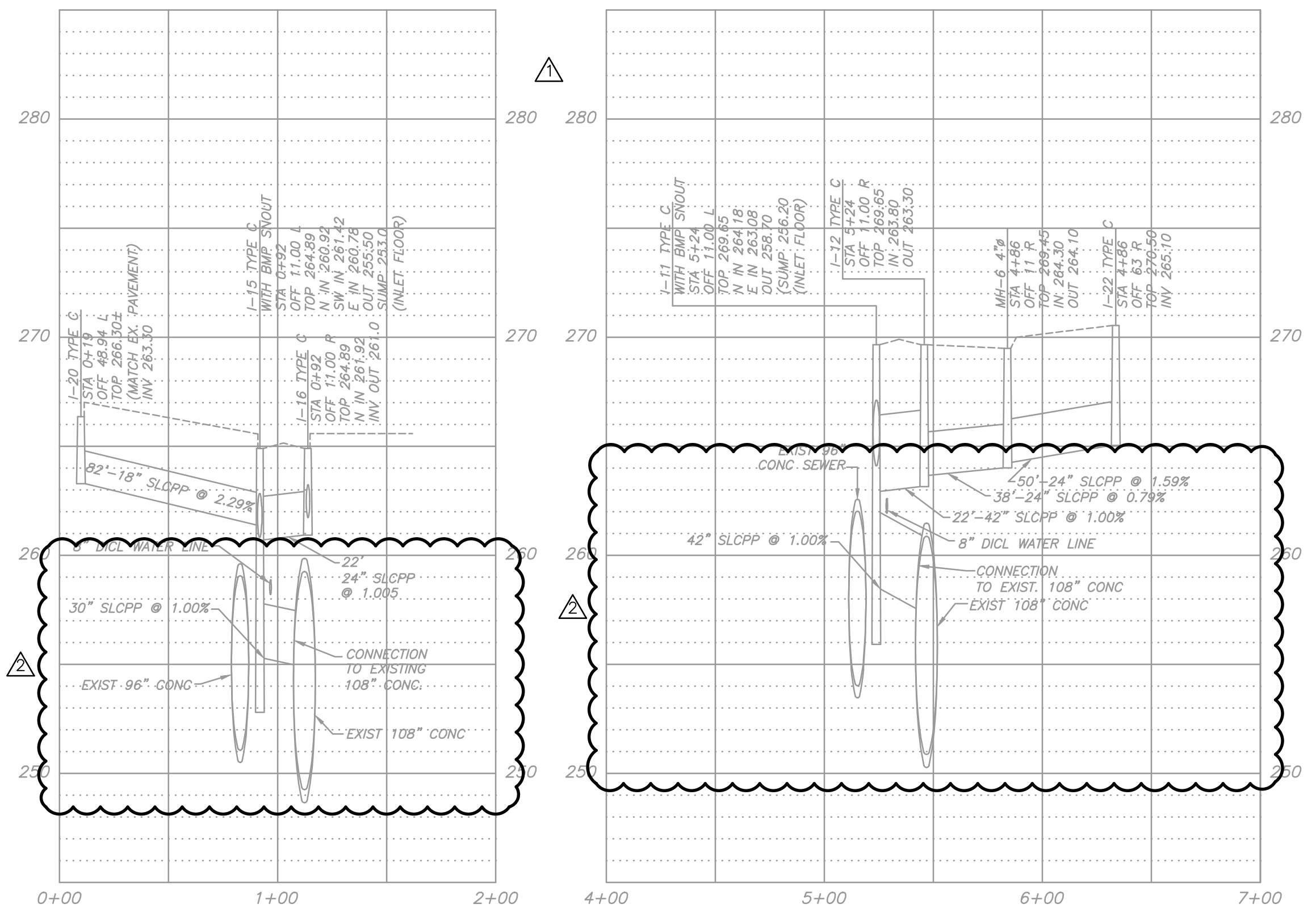
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**DRAWING REFERENCE:**  
 PLAN AND PROFILE DRAWINGS TAKEN FROM CITY OF LANCASTER PROJECT "KEYSTONE OPPORTUNITY ZONE" DRAWING NOS. 6 & 7 OF 17, AS PREPARED BY LAKE ROEDER HILLARD & BEERS, PROJECT NO. 538000, DATED DECEMBER 14, 2000 (LATEST REVISION DATE JUNE 6, 2001).



- NOTES:**
- LTP METERING LOCATIONS WERE ASSOCIATED WITH PRIOR FLOW MONITORING STUDIES. NO METERING INSTALLATIONS CURRENTLY EXIST AT THESE LOCATIONS.
  - LTP-03 WAS LOCATED ON THE 24-INCH COMBINED SEWER LINE IN FRONT OF 122 SEYMOUR STREET AND IS IMPACTED BY THE CITY'S SUSQUEHANNA PUMPING STATION.
  - LTP-04 WAS LOCATED APPROXIMATELY 500 FT. NORTH OF SITE LTP-03 ON THE 108-INCH COMBINED SEWER LINE ALONG WATER STREET.
  - LTP-05 IS LOCATED ON THE 18-INCH COMBINED SEWER LINE BEHIND 848 S. PRINCE STREET.
  - CSS INLETS CONNECT TO COMBINED SEWER SYSTEM.
  - REMOVE BMP SNOOT FROM CSS INLETS AS NECESSARY PRIOR TO INSTALLING TEMPORARY BYPASS AND REINSTALL VAPOR TRAPS AFTER TEMPORARY BYPASS IS REMOVED.
  - THE TEMPORARY DAM LOCATIONS NOTED ABOVE ARE INTENDED TO ADDRESS THE MAJORITY OF THE FLOW INPUTS TRIBUTARY TO THE OVERALL WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE TIMING OF THE INSTALLATION OF THE DAM INSTALLATION AS NEEDED TO PERFORM THE WORK, TO ALLOW FOR THE PASSAGE OF WET-WEATHER FLOWS AND TO MINIMIZE THE ACCUMULATION OF DEBRIS IN THE MAINS UPSTREAM OF THE DAMS. CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF ACCUMULATED DEBRIS FROM THE PIPE PRIOR TO DAM REMOVAL.



**DRAWING REFERENCE:**  
 PLAN DRAWINGS TAKEN FROM CITY OF LANCASTER PROJECT "IMPROVEMENTS TO ENGLISIDE DIVERSION CHAMBER" DRAWING NO. 4 OF 6, AS PREPARED BY H. F. HUTH ENGINEERS, DATED APRIL 20, 1965 (LATEST REVISION DATE DECEMBER 27, 1965).

NOTE:  
STORMWATER PROFILES ARE INTENDED AS SCHEMATICS AND MAY NOT REFLECT ACTUAL CONFIGURATIONS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	2/21/20	JDR	BER	REVISED PER ADDENDUM 3
2	1/27/20	CSM	BER	REVISED PER ADDENDUM 1

DESIGNED BY: S. COUNTNESS  
 DRAWN BY: J. ROBINSON  
 SHEET CHK'D BY: B. REMPHREY  
 CROSS CHK'D BY: R. HENNE  
 APPROVED BY: B. REMPHREY  
 DATE: NOVEMBER 2019

**CDM Smith**  
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CITY OF LANCASTER  
 LANCASTER COUNTY, PENNSYLVANIA  
**ENGLISIDE COMBINED SEWER  
 REHABILITATION**

PROJECT NO. 20467-112244  
 FILE NAME: CO02NFL.DWG  
 SHEET NO. **C-2**

**MAINTENANCE OF FLOW PLAN**

11/20/19

