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OTHER OFFICE LOCATIONS

Bloomfield Hills
Detroit
Grand Rapids
Howell
Jackson
Kalamazoo
Lansing

**ADDENDUM NO. 1
PROPOSED CEDAR ST
DELHI CHARTER TOWNSHIP
INGHAM COUNTY, MICHIGAN**

March 19, 2018

HRC Job No. 20161043

ONLINE ONLY

<http://www.hrcengr.com/bid-info/>

INTENT:

This Addendum No. 1 is issued prior to receipt of bids to provide for certain changes and clarifications to the specifications and/or the plans, as herein specified, and is hereby made a part of the Contract Documents and shall be taken into consideration in preparing the Proposal. The General Conditions and Specifications for the original work and the Contract Drawings are to govern this work unless otherwise revised herein. All other conditions remain the same.

The Bidder shall acknowledge the receipt of this Addendum on Page 9 of Proposal.

CONTRACT DOCUMENTS

1. SPECIFICATION SECTION 00100 – INSTRUCTIONS TO BIDDERS HRC
 - Revised Article 14 as it was not applicable to the project.
2. SPECIAL PROVISIONS
 - Specifications for Sanitary Sewer updated.
 - Specifications for Abandoning Sanitary Sewer updated.

A copy of the amended pages of the Contract Documents noted in this Addendum No. 1 have been posted online at <http://www.hrcengr.com/bid-info/> and should be utilized during the preparation of the bids and incorporated into the Bid Documents.

The Contractor shall acknowledge receipt of this Addendum No. 1 by signing in the location provided below and incorporating this Addendum No. 1 with the submission of this bid.

Failure to include Addendum No. 1 and its attachments may result in rejection of the bid.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Lia Michaels

LFM/lfm

Attachment

pc: All Prospective Bidders

Delhi Charter Township; Tracy Miller, Lori Underhill, Howard Haas

HRC; J. Burton, T. Sneathen, C. Butler

Accepted by:

Company Name: _____

Name: _____

Written Name: _____

Address: _____

Telephone: _____ Fax: _____

SECTION 00100 INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

- 1.1 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.1 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.2 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.1 To demonstrate Bidder's qualifications to perform the Work, within 3 days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.
- 3.2 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

- 4.1 *Subsurface and Physical Conditions*
- A. The Supplementary Conditions identify:
1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site.
 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

- B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.2 *Underground Facilities*

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.3 *Hazardous Environmental Condition*

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.
- B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

- 4.4 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

- 4.5 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

- 4.6 A. Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as

utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of contract documents (other than portions thereof related to price) for such other work.

- B. Paragraph 6.13.C of the General Conditions indicates that if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.7 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in Paragraph 4.02 of the Supplementary Conditions as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in the Paragraph 4.06 of the Supplementary Conditions as containing reliable "technical data";
- E. consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs;
- F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
- G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by

Engineer is acceptable to Bidder; and

- I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

- 4.8 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – SITE AND OTHER AREAS

- 5.1 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 6 – INTERPRETATIONS AND ADDENDA

- 6.1 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 7 – BID SECURITY

- 7.1 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 7.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to

execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

- 7.3 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 8 – CONTRACT TIMES

- 8.01 The number of days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 9 – LIQUIDATED DAMAGES

- 9.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 10 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 10.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 11 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

- 11.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 11.2 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.
- 11.3 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 12 – PREPARATION OF BID

- 12.1 The Bid Form is included with the Bidding Documents.
- 12.2 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each Bid item listed therein. In the case of optional alternatives the words “No Bid,” “No Change,” or “Not Applicable” may be entered.
- 12.3 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 12.4 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 12.5 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 12.6 A Bid by an individual shall show the Bidder’s name and official address.
- 12.7 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 12.8 All names shall be printed in ink below the signatures.
- 12.9 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.

- 12.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 13 – BASIS OF BID; COMPARISON OF BIDS

13.1 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- A. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 14 – SUBMITTAL OF BID

- 14.1 The Bid Form is to be completed and submitted with the Bid security no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the entity provided in the Bid Advertisement.

ARTICLE 15 – MODIFICATION AND WITHDRAWAL OF BID

- 15.1 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 15.2 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 16 – OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.1 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 18.2 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 18.3 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 18.4 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 18.5 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.
- 18.6 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Project.

ARTICLE 19 – CONTRACT SECURITY AND INSURANCE

- 19.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 20 – SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the

required number of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 21 – SALES AND USE TAXES

21.01 The Contractor is responsible for payment of all State of Michigan sales and use tax on this project. Refer to Paragraph 6.10 of the Supplementary Conditions for additional information.

ARTICLE 22 – RETAINAGE

22.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

DELHI TOWNSHIP

SPECIAL PROVISION
FOR
SANITARY SEWER

HRC: JJS

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MARCH, 2018

a. Description. This work shall consist of furnishing and installing sanitary sewers in accordance with the Charter Township of Delhi Sanitary Sewer Standard Details and Materials & Construction Specifications.

b. Materials. Materials shall conform to the Charter Township of Delhi Sanitary Sewer Materials & Construction Specifications. Material for the 10 inch sanitary sewer shall be PVC SDR26 pipe with push-on, elastomeric gasket joints meeting ASTM Designation D3034. Material for the 6 inch sanitary leads shall be PVC SDR 23.5 pipe and fittings with push-on, elastomeric gasket joints or approved equal. Elastomeric Gasket Joints shall meet the requirements of ASTM D3212. Materials for sanitary sewer clean-outs shall be PVC SDR 23.5 pipe and fittings with solvent welded joints.

c. Methods of Construction. Construction shall conform to the Charter Township of Delhi Sanitary Sewer Standard Details and Materials & Construction Specifications. Contractor shall utilize necessary means and methods to maintain trench width and slopes within the right of way limits.

The bottom of the trench must be excavated neatly to the required grade so that minimum bedding requirements are met. If unsuitable bearing soils are encountered, remove unsuitable material and replace with crushed stone bedding to the required grade.

Standard Class B bedding shall consist of crushed limestone aggregate meeting MDOT 6AA requirements, and shall extend a minimum of 12 inches above the top of pipe. All trenches and excavations shall be backfilled with compacted sand backfill (CSB) meeting MDOT granular material Class II requirements.

Sanitary service connections to the new sewer, and the sanitary service leads shall be constructed in accordance with the Building Lead Details and Notes sheet included in the Drawings. Sanitary service connections to the new sewer shall be made using manufactured wye fittings. Sanitary service clean-outs shall be installed per the detail included in the Drawings and as specified on the Building Lead Details and Notes sheet. Finish clean-out flush with surface grades where directed by the Owner.

During backfilling of an excavation that is sheeted and braced, earth supports must be carefully removed so as to prevent soil loss or destabilizing earth banks. Sheeting and bracing may be left in place during initial backfilling and pulled as backfilling is completed. Sheeting and bracing impossible to remove may be left in place, provided it is cut off 5 feet below ground surface.

d. Basis of Payment. The completed work, as measured will be paid for at the following Contract Items (pay items):

<u>Contract Item</u>	<u>Pay Unit</u>
San Sewer, PVC SDR26, ___ inch, CSB.....	Foot
San Service Lead, PVC SDR 23.5, 6 inch, CSB.....	Foot
San Service Connection, 6 inch.....	Each

DELHI TOWNSHIP

SPECIAL PROVISION
FOR
SANITARY SEWER

HRC: JJS

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MARCH, 2018

San Service Clean-Out, Double Wye, 6 inch..... Each

San Sewer, PVC SDR26, __ inch, CSB, will be measured in place, by length in feet, from center to center of manholes, with no deductions in length for intermediate structures or fittings including all testing and inspection in accordance with the Michigan Department of Environmental Quality (MDEQ) permit requirements and Delhi Township standards. Payment includes excavation and backfill, removal and disposal of existing sewer pipes located within the trench or excavation for the new sewer, undercutting up to 3 feet of unsuitable soils if necessary and replacing with crushed stone bedding, connecting to the existing sewer sewers at limits of work, dewatering if necessary, and utilizing necessary means and methods to maintain trench width and slopes within the right of way limits, and all costs associated with maintaining sanitary sewer flow throughout construction.

San Service Lead, PVC SDR 23.5, 6 inch, CSB, will be measured in place, by length in foot, from center of sewer to connection to existing sewer service, with no deductions in length for intermediate cleanouts. Payment includes excavation and backfill, removal and disposal of existing sewer pipes located within the trench or excavation for the new service lead, undercutting up to 3 feet of unsuitable soils if necessary and replacing with crushed stone bedding, dewatering if necessary, and utilizing necessary means and methods to maintain trench width and slopes within the right of way limits, and all costs associated with maintaining sanitary sewer flow throughout construction.

San Service Connection, 6 inch, will be measured by each. Payment includes providing the necessary fittings and bends to complete both the connection to the new sewer.

San Service Clean-Out, Double Wye, 6 inch, will be measured by each. Payment includes providing all piping, fittings and bends needed to complete the clean-out in accordance with standard Delhi Township detail. Payment also includes final adjustment of riser heights and providing watertight caps.

DELHI TOWNSHIP
SPECIAL PROVISION
FOR
ABANDONING SANITARY SEWER

HRC: JJS

1 of 2

MARCH, 2018

a. Description. This work shall consist of abandoning portions of the existing sanitary sewer system in accordance with the Charter Township of Delhi Sanitary Sewer Standard Details and Materials & Construction Specifications.

b. Materials. Materials shall conform to the Charter Township of Delhi Sanitary Sewer Materials & Construction Specifications.

Material for flowable fill to be used in abandonment of sanitary sewers and structures shall consist of a mixture of fly ash, cement and water. Cement shall be Portland Cement conforming to A.S.T.M. C 150 Type I. Air entrained cement, pozzolan, and other types of cement shall not be used. Fly ash shall conform to the requirements of A.S.T.M. C618, Class F. Water shall be potable.

The stabilized fly ash mixture shall contain 4 to 5% Portland cement based on the dry weight of the fly ash. Occasional batches of mixture with a cement content of 3-4% will be allowed provided immediate action is taken to restore the cement content to the specified range. Mixtures containing less than 3% shall not be used. The mixture shall have a slump of 10 to 12 inches at the point of placement. The mix temperature shall not be lower than 50°. The mixture shall have a compressive strength of 100 psi minimum at 28 days.

The method used to measure fly ash and cement shall be submitted for acceptance. The contractor's proposed method shall be one that compliments the type of mixing plant being used and provides assurance that the percentage of cement is being satisfactorily controlled. Cement content shall be based on the dry weight of the fly ash in the mix. The batched weight of fly ash shall be corrected for its moisture content. Water shall be measured, although its control will be a function of consistency (slump and workability) of the mix.

The flowable fill may be mixed by a pug mill, central concrete mixer, turbine mixer or other acceptable equipment or method. Provisions shall be made to maintain the mix temperatures and slump as stated. The material shall be placed by end or side dumping, tremie, pump, conveyors, or other suitable method. Lines and grades shall be as shown on the design drawings. Stabilized fly ash shall be protected from freezing temperatures for the initial 24 hours after placement. Protection may consist of earth cover, straw, or a sacrificial layer of the stabilized fly ash mix.

Sewer Bulkheads shall be 8 inches thick, constructed of masonry or plain concrete. Masonry bulkheads shall be brick or solid concrete block with mortar consisting of one part Portland cement, one-quarter part lime, and three and one-half parts sand. Plain concrete bulkheads shall be 3,500 psi concrete.

c. Methods of Construction. Construction shall conform to the Charter Township of Delhi Sanitary Sewer Standard Details and Materials & Construction Specifications. Contractor shall utilize necessary means and methods to maintain trench width and slopes within the right of way limits.

DELHI TOWNSHIP
 SPECIAL PROVISION
 FOR
ABANDONING SANITARY SEWER

HRC: JJS

2 of 2

MARCH, 2018

During backfilling of an excavation that is sheeted and braced, earth supports must be carefully removed so as to prevent soil loss or destabilizing earth banks. Sheeting and bracing may be left in place during initial backfilling and pulled as backfilling is completed. Sheeting and bracing impossible to remove may be left in place, provided it is cut off 5 feet below ground surface. Install flowable fill thoroughly so that all voids are filled. Provide pressure sufficiently high to force the flowable fill to completely fill the voids but not so high as to cause damage to the sewer, adjacent structures, or utilities.

d. Basis of Payment. The completed work, as measured will be paid for at the following Contract Items (pay items):

<u>Contract Item</u>	<u>Pay Unit</u>
San Manhole, Rem.....	Each
Sewer Bulkhead, 10 inch or Less	Each
Sewer, Abandon.....	Foot

San Manhole, Rem, will be measured in place, by length by each, in accordance with Delhi Township standards. Payment includes excavation and backfill, dewatering if necessary, and utilizing necessary means and methods to maintain trench width and slopes within the right of way limits, disconnecting all existing pipes entering the structure, and all costs associated with maintaining sanitary sewer flow throughout construction. The existing frame and cover shall be salvaged, cleaned, and delivered to the Delhi Charter Township Public Services yard for future City use. Damaged or broken castings, as well as those deemed by the City as unusable, shall become the property of the Contractor and shall be properly disposed of. The existing structure, base slab, foundation, etc., shall be removed and properly disposed of. The resulting void shall be appropriately backfilled. Sewer line(s) formerly entering the structure that are designated to be abandoned shall be bulkheaded. All costs associated with the removal of existing structures, including any additional backfill, pavement cuts, or surface restoration, shall be included in the unit price bid for structure removal.

Sewer Bulkhead, 10 inch or Less, will be measured in place, by length by each. Payment includes excavation and backfill, dewatering if necessary, and utilizing necessary means and methods to maintain trench width and slopes within the right of way limits, and all costs associated with maintaining sanitary sewer flow throughout construction.

Sewer, Abandon, will be measured in place by length in foot from center of sewer to connection to existing sewer service, with no deductions in length for intermediate cleanouts. Payment includes excavation and backfill, filling abandoned pipe with flowable fill, and removal and disposal of all liquid waste, sludge, and debris. All costs associated with removal and disposal of these sewers, and placement of Class II sand backfill in the resulting void, shall be included in the unit price bid. Removal of existing sewers in the same trench as proposed sewers is incidental.