

**ADDENDUM No. 1
February 24, 2017**

**ECORSE CITY SUBDIVISION & BIBBINS STREET WATER MAIN
City of Romulus
ITB 16/17-21**

OHM Advisors Project #0155-16-0010

The following changes, additions, and/or clarifications to the Contract Documents shall be incorporated in said documents and shall be allowed for in the unit prices bid by the Contractor such that the unit prices indicated in the Bid Form shall represent the conditions as set forth in the Contract Documents and this addendum.

This addendum contains (12) twelve pages.

The bidder shall acknowledge the receipt of this addendum on page BF-1 of the Bid Form and shall staple this addendum into the Contract Book.

1. Iran Linked Business Certification Forms (IL-1 & IL-2) have been added and included with this addendum.
 - a. Forms must be included with bid submittals.
2. Specification Section Earthwork (EA-1 Thru EA-9) has been added and included with this addendum.

IRAN LINKED BUSINESS CERTIFICATION

Pursuant to Michigan Public Act 517 of 2012, any Bidder that submits a bid on a request for proposal with the City of Romulus shall certify that Bidder is not an Iran linked business. An Iran linked business is not eligible to submit a bid on a request for proposal with the City. See attached definitions regarding this certification.

The undersigned Bidder does hereby certify, pursuant to Michigan Public Act 517 of 2012, that:

Bidder is not a person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran, or

Bidder is not a financial institution that extends credit to another person if that person will use the credit to engage in investment activities in the energy sector of Iran.

Date: _____

By: _____

Its: _____

Subscribed and sworn to before me, a Notary Public on this ____ day of _____, 20_____.

Notary Public _____

_____ County, Michigan

My Commission Expires: _____

DEFINITIONS

- (A) “Energy sector of Iran” means activities to develop petroleum or natural gas resources or nuclear power in Iran.
- (B) “Investment” means 1 or more of the following:
- i. A commitment or contribution of funds or property.
 - ii. A loan or other extension of credit.
 - iii. The entry into or renewal of a contract for goods or services.
- (C) “Investment activity” means 1 or more of the following:
- i. A person who has an investment of \$20,000,000.00 or more in the energy sector of Iran.
 - ii. A financial institution that exceeds \$20,000,000.00 or more in credit to another person, for 45 days or more, if that person will use the credit for investment in the energy sector of Iran.
- (D) “Iran” means any agency or instrumentality of Iran.
- (E) “Iran linked business” means either of the following:
- i. A person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran.
 - ii. A financial institution that extends credit to another person, if that person will use the credit to engage in investment activities in the energy sector of Iran.
- (F) “Person” means any of the following:
- i. An individual, corporation, company, limited liability company, business association, partnership, society, trust, or any other nongovernmental entity, organization, or group.
 - ii. Any governmental entity or instrumentality of a government, including a multilateral development institution, as defined in section 1701(c) (3) of the international financial institutional act, 22 USC 262r(c) (3).
 - iii. Any successor, subunit, parent company, or subsidiary of, or company under common ownership or control with, any entity described in subparagraph (i) or (ii).
- (G) “Public entity” means this state or an agency or authority of this state, school district, community college district, intermediate school district, city, village, township, county, public authority, or public airport authority.

EARTHWORK

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GENERAL

1. SCOPE OF WORK

This work shall be subject to the General Conditions and the General Specifications. The work shall include furnishing of labor,

materials, tools, equipment, accessories and services necessary for completing the excavation and backfilling for the items as shown on the contract drawings and/or as herein required. This also includes trenching, trench or subgrade undercutting, roadway earthwork, complete and continual drainage of excavation, sheeting, bracing and shoring of sides of the excavation, backfilling around structures and over pipelines, and the disposal of excess excavated material.

2. MDOT

References to Michigan Department of Transportation (MDOT) Specifications shall pertain to the 2012 Standard Specifications for Construction.

MATERIALS

3. BEDDING

- A. Sand shall be a sharp, clean sand free of lumps of clay or debris with 100 percent passing a 3/8-inch sieve and less than 10 percent loss by wash.
- B. Granular material shall meet the requirements of Section 902.07 of the MDOT Standard Specifications for Construction for Granular Material Class II and Class III.
- C. Pea gravel shall be unwashed and shall be from 1/4-inch to 5/8-inch in size.
- D. Bedding material shall be provided from offsite unless the trench passes through a well-defined strata of sand or gravel. Bedding material shall be subject to the approval of the ENGINEER.
- E. Stone material shall meet the requirements of Section 902.03 of the MDOT Standard Specifications for

Construction for 6A crushed Coarse Aggregate or approved equal.

4. BACKFILL

A. Job Excavated Backfill

Job excavated backfill shall be defined as material excavated from the site that is free from frozen earth, boulders, rocks, stones larger than 3-inch in size, debris, blue and gray clay, and organic material.

B. Granular Backfill

Granular backfill shall be defined as sharp sand, gravel, or crushed stone that is free from lumps of clay and soft or flaky material and shall conform to the latest MDOT Specification for Granular Material Class II or III. Granular backfill shall be used for fill work located under or within the influence of roadway surfaces. The Owner's standard details shall dictate which type of granular material (class II or III) is required for the project.

Material excavated from the trench may be used as granular backfill when, in the opinion of the ENGINEER, it meets the granular backfill grading requirements.

5. STONE REFILL

Stone refill shall consist of natural gravel, slag, or crushed gravel that is equivalent in gradation to MDOT 6A unless otherwise called for in the plan details.

6. EMBANKMENT

Embankment material shall consist of sound earth as described in Section 205.03H of the MDOT Standard Specifications for Construction.

CONSTRUCTION

7. CLEARING

Prior to the start of construction, the CONTRACTOR shall verify the limits of trees and other items that are to be saved. The CONTRACTOR shall then clear the site or trench excavation area of all remaining trees, brush, and other miscellaneous items that are not to be saved.

8. TREE REMOVAL

Where called for on the plans, the CONTRACTOR shall remove trees, including stump and main roots, and dispose of all associated foliage and debris offsite. Trees less than six (6) inch diameter shall be removed where required by the Work as incidental to the Contract. The CONTRACTOR shall abide by any easement agreements regarding the tree removal work and wood ownership.

9. STUMP REMOVAL

Where called for on the plans, the CONTRACTOR shall remove existing stumps, including main roots (two (2) inch diameter and larger), dispose of all associated debris offsite, and backfill the void with suitable material.

10. PAVEMENT CUTS

Where a trench must be cut through pavement, driveway, or sidewalk, particular care shall be taken to avoid unnecessary damage to adjoining areas of the pavement, driveway or sidewalk. All cuts through existing surfaces shall be made full-depth with a concrete saw. Cuts in concrete pavement shall be made parallel with longitudinal and transverse construction or contraction joints.

Saw cuts in concrete pavement shall not be nearer than five feet (5'-0") to a transverse joint, to the centerline of pavement, or to the edge of pavement or curb, i.e., no existing or replacement pavement shall be less than five feet (5'-0") in width. If the damaged pavement or surfacing is nearer than five feet (5'-0") to a joint or centerline of

pavement, or to edge of pavement, surfacing or curb, removal and replacement shall be extended to said joint, centerline, edge of pavement, surfacing, or curb. These same requirements shall apply to the saw cutting and replacement of concrete driveways.

If a square or block of sidewalk is cut, broken, or cracked, the entire square or block shall be removed and replaced.

11. CLASSIFICATION OF EXCAVATION

Earth, as a name for excavated material, shall include all glacial deposits whether cemented or not, except solid boulders one-half cubic yard or more in volume. It shall also include all alluvial deposits and material of every kind that can be excavated with equal facility by the equipment and means typically used for earth excavation.

Peat, as a name for excavated material, shall include all unstable organic soils such as peat, muck, marl, and underlying very soft clay.

Rock, as a name for excavated material, shall include pre-glacial solid ledge rock that can be removed most practically by blasting, barring or wedging, or by some other standard method of quarrying solid rock. It shall also include solid boulders of one-half cubic yard or more in volume as well as existing concrete, masonry with mortar joints, or other existing structural work that can be excavated practically only by methods of quarrying solid rock. It shall not include fragile, friable, or disintegrated materials of any kind that can be excavated by equipment and means used for earth excavation.

12. ROADWAY EARTHWORK

Roadway earthwork shall be performed in accordance with the construction methods that are described in Section 205 of the MDOT Standard Specifications for Construction unless otherwise called for in

the plan notes, details, or supplemental specifications.

13. METHODS OF EXCAVATION IN EARTH

All excavation shall be by open cut from the surface, except in special cases where boring/jacking under pavement or structures may be required, or where boring/jacking under the root system will be required for tree root protection. All excavation shall be made in such a manner and to such depth, length, and width as will give ample room for building the structures, bracing, sheeting and supporting the sides of the excavation, pumping and drainage of ground water and sewage which may be encountered, and removal of all materials excavated. Special care shall be taken so that the soil below the bottom of structures to be built shall be left undisturbed so that a firm bed will be provided for construction. Any voids shall be backfilled with suitable granular material and shall be properly compacted.

14. TRENCH EXCAVATION

A. General

Excavation shall be of sufficient width and depth to provide adequate room for construction and installation of the work to the lines, grades and dimensions called for on the plans. Unless otherwise called for on the OWNER's standard details, the width of a trench from the invert to a height twelve (12) inches above the top of the pipe barrel shall be indicated as follows:

Pipe Size	Maximum Trench Width
4" through 12"	30"
Larger than 12"	O.D. + 24"

If the maximum trench width as specified above is exceeded, unless otherwise shown on the drawings, the CONTRACTOR shall install, at his own expense, such concrete

cradling or other bedding as is approved by the ENGINEER, to support the added load of the backfill.

Where trench excavation is in granular material, the last six (6) inches of trench depth shall be carefully excavated and trimmed by hand to the exact elevation and contour of pipe. Where trench excavation is in rock or clay soil, the trench bottom shall be undercut a minimum of four (4) inches below the final elevation of pipe. The bedding material as hereinafter specified shall be placed and compacted to the underside of the pipe.

Excavation for structures shall be made to the outside lines and surfaces of such structures wherever it is practicable to build directly against the sides and bottoms of excavations. In such cases, care shall be taken not to disturb the original foundation or backing. Final trimming shall be done by hand just before construction of the structure. If excess excavation is made, or the material becomes disturbed so as to require removal beyond the prescribed limits, the resulting space shall be refilled with bedding, as specified hereinafter, and solidly machine tamped into place to 95 percent of maximum unit weight before the construction work proceeds.

Excavation for structures shall be extended sufficiently beyond the limits of the structure to provide ample room for form construction and other construction methods to be followed, wherever necessary.

B. Bedding

Where the subgrade below the bottom of the pipe is disturbed during the construction, the space shall be refilled with sand or pea gravel bedding material solidly tamped to form a firm foundation for the pipe. Sand or pea gravel bedding material shall be extended to one (1) foot above the pipe, except that the bedding shall be exclusively pea gravel to the springline for pipe 36-inch and greater in diameter.

C. Amount of Trench Opening

Not more than 50 feet of trench shall be open at one time in advance of the pipe unless permitted by the ENGINEER. The length of street that may be occupied by the construction work at any one time shall be subject to the direction of the ENGINEER and will be based on requirements of the use of the street by the public. No more than 600 consecutive feet of street length shall be occupied at one time, and vehicle traffic through the street shall not be entirely stopped without permission of the ENGINEER.

After placement of the utility line, the Contractor shall backfill the trench promptly in order to minimize the length of open trench and avoid any unsafe conditions.

15. TRANSPORT OF NATIVE MATERIALS OFFSITE

If the Contractor encounters good materials (sand, gravel, topsoil, etc.) during the course of construction, he shall not be allowed to transport these materials offsite without the written approval of the Engineer. Wherever possible, suitable native sands and gravels shall be used as backfill rather than transporting them offsite and replacing them with non-native materials of a lesser quality.

16. STONE REFILL FOR TRENCH UNDERCUT

In locations where soil at the bottom of trench is unstable, the CONTRACTOR shall excavate (undercut) below the trench bottom and place stone refill as called for in the Materials Section of this specification.

17. EXCAVATION & TRENCH DEWATERING

The CONTRACTOR shall maintain any excavation or trench free of water during construction of any structures and/or pipelines. Water accumulated due to rainfall or runoff and minor groundwater inflow that

can be controlled through the use of portable trash, submersible or positive displacement pumps shall be considered normally expected and anticipated conditions associated with underground construction. This effort will be considered incidental to the cost of construction and will not be reimbursable at the unit price bid for dewatering in the proposal.

The required use of deep wells and/or well points to lower and maintain a reduction in the groundwater elevation below the trench bottom shall be subject to approval of the ENGINEER and shall constitute a reimbursable expense for trench or excavation dewatering. If a pay item for dewatering is included in the Bid Form, then the CONTRACTOR would receive payment for this work based upon the unit bid price. If there are no provisions in the contract for payment for dewatering (i.e. bid item or incidental to other pay items), then the CONTRACTOR shall submit a detailed estimate of the additional cost. Upon acceptance of the CONTRACTOR's estimate, the ENGINEER shall issue a change order. The CONTRACTOR must demonstrate that a continuous effort is required to control hydrostatic pressure in the construction area in order to claim compensation for dewatering.

The CONTRACTOR shall take adequate precautions to control the discharge of dewatering pumps so as to prevent soil erosion or sedimentation of drainage ditches, structures, storm sewers, culverts, natural drainage courses, ponds, lakes or wetlands.

The CONTRACTOR shall insure that discharge from any dewatering operations has a suitable outlet and that it will not cause any damage to adjacent dwellings or property. Water and discharge hoses shall be placed and/or controlled so as to prevent a hazard to pedestrians or motor vehicles passing in the vicinity of the construction site.

Electric pumps shall have suitable power supply appurtenances meeting NEC requirements and properly fused and grounded to prevent electrical shock hazards to on-site personnel.

Internal combustion engine driven pumps, if operated 24 hours per day, shall have adequate exhaust silencers in good repair to muffle engine noise to an acceptable level for the area where located.

18. DIVERTING EXISTING SEWERS

Where existing sewers or drains are encountered in the Work, adequate provision shall be made for diverting flow in the existing sewers so that the excavation will be kept dry during the progress of the construction work. Upon completion of the construction work, the existing sewers shall be restored or otherwise provided with an adequate outlet as directed by the ENGINEER.

19. SHEETING, BRACING & SHORING

Where required to properly support the surfaces of excavations to protect the construction work, adjacent work or workers, sheeting, bracing and shoring shall be provided. If the ENGINEER is of the opinion that at any point sufficient or proper supports have not been provided, he may order such additional supports at the expense of the CONTRACTOR, but neither the placing of such additional supports by the order of the ENGINEER nor failure of the ENGINEER to order such additional supports placed shall release the CONTRACTOR from his responsibility for the sufficiency of such supports and the integrity of the Work. In removing the sheeting and bracing after the construction has been completed, special care shall be taken to prevent any caving of the sides of the excavation and injury to the completed work or to the adjacent property.

20. SHEETING LEFT IN PLACE

Sheeting, bracing and shoring shall not be left in place after completion of the work except as required by the ENGINEER. Where sheeting, bracing, and shoring must be left in place in order to protect the work, adjacent structures, or property, it shall be cut off or left not less than two (2) feet below the established surface grade. If sheeting, shoring or bracing must be left in place, then it shall be paid for at the contract unit bid price that is shown on the Bid Form. If a pay item was not included on the Bid Form, then a work order shall be negotiated.

21. CROSSING EXISTING STRUCTURES/PIPES

During construction, it may be necessary to cross under certain sewers, drains, culverts, water lines, gas lines, electric conduits and other underground structures. Every effort shall be made to prevent damage to such structures. Wherever such structures are disturbed or broken, they shall be restored to good condition. Specified granular backfill shall be placed as described in Section 23, Backfilling. MDOT Grade S3 concrete shall be utilized where directed by the ENGINEER at no additional cost to the project. Either granular backfill or concrete shall be brought to the spring line of the higher utility.

22. TUNNELING TREES

Trees eight (8) inches in diameter or less will require a minimum tunnel length of eight (8) feet. Trees over eight (8) inches in diameter, measured four (4) feet above the ground surface, will require a minimum tunnel length equal to one foot for each inch of tree diameter.

Trees shall be tunneled whenever any portion of an excavation approaches within a distance equal to one-half the required tunnel length except as otherwise noted on the plans.

Tunneling under trees may be accomplished by one of the following methods:

- a. Boring and jacking casing pipe along with placement of a carrier pipe.
- b. Boring and jacking sewer pipe or water main without a casing pipe.
- c. Jacking sewer pipe or water main without boring and without a casing pipe.

Plan notes or existing field conditions shall indicate which method may be used for the tree tunneling work.

23. BACKFILLING

A. General

Backfilling shall include all work required as hereinafter specified. The placement of various pipe, including bedding and building of structures, shall be completed prior to backfilling.

Where called for on the plans, the CONTRACTOR shall backfill trenches and/or other excavations with suitable excavated material (not including gray or blue clay) replaced into the trench or excavation and compacted to not less than 95 percent of maximum unit weight as determined at existing moisture content during backfilling. Compaction shall be provided by means of suitable mechanical compaction equipment.

If the moisture content of cohesive backfill material exceeds the optimum moisture content for maximum density by more than three percent (3%), the CONTRACTOR shall dry the material to meet the foregoing moisture content limitation or provide, at his own expense, MDOT Granular Material Class III. No sloppy or wet backfill will be allowed.

Maximum unit weight will be determined by current methods of Test for Compaction and Density of Soil, AASHTO Designation T-180 or by the Cone Density Method

developed by MDOT, as the material may require.

The ENGINEER shall make compaction tests at all locations requiring granular backfill.

Any depression resulting from settlement of any backfill prior to the date of final payment for all work under this contract shall be brought to the proper grade and surface and made to match the adjacent surface.

B. Materials

Bedding, excavated backfill, and granular backfill shall conform to the requirements that were previously described in Parts 3 and 4 of this specification.

C. Compaction

Backfill material shall be placed in layers not to exceed 12 inches in thickness unless the contractor can demonstrate to the satisfaction of the Engineer that he can consistently attain the specified density on thicker lifts.

Specified compaction shall be obtained with the use of a bulldozer, sheepsfoot roller, mechanical tamper or other similar and effective equipment. Specified compaction means not less than 95 percent (not average 95 percent) of maximum unit weight when tested in accordance with current MDOT Specifications.

If excavated material is not suitable to obtain 95 percent minimum compaction, the CONTRACTOR shall, at his expense, remove unsuitable materials or add granular materials, or both, to obtain ninety-five percent (95%) minimum compaction as specified.

Compaction tests will be made by a representative of the OWNER and paid for by the OWNER, unless otherwise specified in the Contract Documents.

D. Backfilling Trenches

Bedding

The type of bedding required is shown on the detail drawings.

Bedding shall be worked under the haunches of the pipe to provide firm continuous support.

Bedding placed on the sides of and above the pipe shall be compacted by machine tamping to not less than ninety-five percent (95%) of maximum unit weight in layers not exceeding 12 inches in depth.

Trench or Excavated Area

All trenches in paved streets, shoulders, traveled roadways, parking areas and driveways shall be backfilled with suitable excavated backfill or granular backfill, as shown on the drawings from one (1) foot above top of pipe up to the required subgrade elevation which will allow for placement of the required gravel base and/or pavement surface. The approved excavated backfill or granular backfill shall be placed and thoroughly and uniformly compacted by machine tamping to the specified compaction. With the approval of the ENGINEER, water jetting may be accepted in lieu of tamping for granular backfill only.

Specified compaction shall be required of the entire trench when the edge of trench is within three (3) feet of edge of pavement. On road crossings, specified compaction shall extend ten (10) feet beyond the edge of pavement for paved roadways with gravel shoulders or shall extend three (3) feet beyond the back of curb for roadways with curb.

Trenches under concrete sidewalks and bike paths shall be backfilled from one foot above top of pipe to a level four (4) inches below finished grade of the sidewalk with approved suitable excavated backfill or

granular backfill and compacted to ninety-five percent (95%) maximum density.

Trenches not in paved streets, shoulders, traveled roadways, parking areas, driveways or under sidewalks, shall be backfilled from one (1) foot above the top of the pipe up to the ground surface (except as noted under the Restoration Specification) with suitable excavated backfill and shall require compaction equal to adjacent undisturbed earth.

Wherever gas mains, water mains, sewers, or other utilities are located in the trench area, granular backfill shall be used for backfill from bottom of the trench up to the springline of the pipes. Granular backfill shall be placed across the full trench width and extend far enough either side of the existing pipe to allow specified compaction so as to thoroughly support the pipe within the trench area.

E. Backfilling Around Structures

As soon as practicable after concrete structures have set, forms and debris shall be removed and the surface of the concrete pointed. After the structure has been checked and approved, the excavated area around the structure shall be backfilled up to specified subgrade with granular material or suitable excavated material as called for on the drawings for the adjacent trench. The fill shall be thoroughly compacted by machine tamping. No large boulders or masonry shall be placed in backfill. No backfill will be placed against manhole walls within 48 hours after the plaster coat has been applied to the outside of the walls nor shall backfill be placed about concrete structures until concrete has attained at least 75 percent of its design strength and approval of the ENGINEER has been obtained.

24. PLACING AND COMPACTING EMBANKMENT

Embankment material for fill work shall be placed and compacted in accordance with

Section 2.05.03H of the MDOT Standard Specification for Construction.

25. DISPOSAL OF EXCAVATED MATERIAL

After all suitable excavated material has been used on site, the CONTRACTOR shall be responsible for properly removing and disposing of the excess.

The CONTRACTOR shall also be responsible for disposing of all other excavated materials that are unsuitable for use as fill or backfill. Unsuitable materials may include, but are not limited to, broken concrete, asphalt, rock, stone, and other related debris. The CONTRACTOR shall be required to obtain his own disposal areas and permits and shall receive no additional compensation for this disposal work.

Surplus or unsuitable material shall not be disposed of either temporarily or permanently beyond the plan grading limit line or across any wetland or flood plain unless the plans provide for such placement.

Any agreements that the CONTRACTOR makes with local residents concerning the placement of fill on private property shall be the sole responsibility of the CONTRACTOR. The OWNER will not become involved with any such agreements and will not be liable for damages that the CONTRACTOR may cause to private property.

Placement of fill on private property may require that the resident or CONTRACTOR obtain a grading permit or fill permit from the OWNER.

26. FINAL CLEANUP & GRADING

Upon completion of the construction, and before final payment is made, the CONTRACTOR shall restore his working area to as clean a condition as existed before his operations were started. He shall go over the entire line and refill any place that may

have settled. He shall then re-grade and put in shape all backfilled trenches, all fills he may have made from excess excavated materials, and all other areas that may have been disturbed through all operations.

27. CONTRACTOR SAFETY REQUIREMENTS

The excavation and trenching operations shall be conducted by the CONTRACTOR in a manner that will provide safe working conditions for all persons on the site who may be affected by the Work. The CONTRACTOR shall also conduct his operations in a manner that will protect adjacent property from damage.

Trench sides shall be either cut back to the slope as necessitated by soil and ground water conditions which will provide stable sides, or supporting systems shall be installed that are capable of restraining the earth sides from movement. A qualified employee of the CONTRACTOR shall design the trench supporting systems.

The CONTRACTOR shall employ, at all times at the site of the work, a qualified person who will be responsible for the safety of both the work and workmen, and who will make all the decisions relevant to the stability of trenches, the adequacy of any and all protective devices, proper operation of equipment, and all other matters related to safety.

The CONTRACTOR shall not store, along and adjacent to the trench, excavated material, heavy equipment, backfill materials, sewer pipe, or other construction materials which may impose too great a load on the earth and cause displacement or caving of the earth. The CONTRACTOR shall, at all times, provide a safe means of emergency exit from all trench excavations.

End of Section