

GOURDIE-FRASER
123 West Front Street
Traverse City, Michigan 49684

Date: February 23, 2016

ADDENDUM NUMBER 1

| <u>PROJECT</u> | <u>BIDS DUE</u> |
|-----------------------|-------------------------------------------------------------------------------------------------------------|
| GFA Project No: 15449 | Date: 3/1/16 Time: 11:00 AM Location: Gourdie-Fraser 123 West Front St. Traverse City, MI 49684 |

The Addendum is issued prior to the receipt of bid proposals to amend the Contract Documents as follows. Bidders shall acknowledge receipt of this addendum by means of a handwritten note on the Bid Schedule.

Revised Section 1 and Section 7 including all pages.

This Addendum No. 1 becomes part of the Contract Documents as of this date and supersedes the information in the originally issued Contract Documents where applicable. The Contractor shall acknowledge receipt of the Addendum in the Bid Schedule included with his/her bid.

Note:

Please acknowledge receipt of this addendum by signing below and faxing to: Gourdie-Fraser, fax (231) 946-3703.

Company

Receipt Acknowledged By

SECTION 1

GENERAL REQUIREMENTS

1.01 PROJECT DESCRIPTION

Work includes the following major items:

Installation of a new trash basket and accessories to provide wet well debris screening upstream of existing lift station #2. Equipment to be installed in existing wet well.

1.02 DEFINITIONS

The intent of this section is to identify certain persons involved in the project.

| | |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DPW | The agency performing the system operations and maintenance typically identified as a Department of Public Works. |
| Village Engineer | Engineer whose services are procured by the Village to review sanitary sewage and/or water system plans and installation methods. When the Village is the owner, the engineer will function as the owner's engineer. |
| Design or Owner's Engineer | Engineer who provided the sanitary sewage and/or water system design, plans and specifications for the owner. |
| Owner | Project developer or Village who is having sanitary sewage and/or water facilities installed. |
| Contractor | Contractor is prime Contractor who is so identified by the Owner and is responsible for the sanitary sewage and/or water system facilities installation. |
| Village | The governing Village that the work is being performed in. |

1.03 PRECONSTRUCTION CONFERENCE

Prior to commencement of any construction activities involving the sanitary sewer system and/or water system, a principal member representing the Owner, the Contractor, the Design Engineer, the Village Engineer and the County DPW shall meet at a pre-determined location and time to discuss the project. It shall be the responsibility of the Owner or his/her Design Engineer to organize this meeting. At that time, the Contractor schedule, as well as the Village Engineer's requirements, will be discussed to obtain a mutual understanding of the project and the Village's inspection process.

1.04 LINES AND GRADES FOR CONSTRUCTION

The Owner (his Contractor and/or Engineer) shall provide adequate lines and grades for construction of the sanitary sewer and/or water main prior to installing the utilities.

1.05 PROGRESS SCHEDULE

The Owner shall, as soon as practical, prepare and submit to the Village Engineer three (3) copies of the Progress Schedule regarding sanitary sewer and/or water main construction. This schedule shall show in a clear, graphical manner the proposed date for commencement, progress and completion of the work.

1.06 INTERFERENCE WITH EXISTING SEWAGE TREATMENT WORKS

No bypassing of untreated sewage will be allowed during the construction of this project other than that which normally takes place due to stormwater overflows, etc. The Contractor shall provide a plan of work to the Village Engineer for approval before starting work on any phases of the project which might involve existing sewage facilities.

1.07 RELATIONS TO OTHER CONTRACTORS AND UTILITY FORCES

The Contractor shall so conduct his operations as not to interfere with or injure the work of other contractors or adjacent force account work, and he shall promptly make good any injury or damage which may be done to such work by him or his employees or agents.

The Contractor shall grant to other contractors and forces necessary means of access to their work.

1.08 PERMITTING AGENCIES

The Contractor shall perform all work in accordance with any and all applicable permit requirements. The Owner or his Design Engineer shall present the Village Engineer with a copy of all documentation and calculations for the permit process. The Village, with the assistance of the Village Engineer, will obtain the necessary permit for construction/installation prior to commencement of any work.

1.09 ACCESS TO WORK

The Village Engineer or Village Resident Project Representative shall have access maintained to all sanitary sewer or water main work at all times. Proper notification (48 hours) shall be given to the Village Engineer prior to the start of any construction or testing.

1.10 SHOP DRAWINGS

Shop drawings of all equipment shall be issued to the Design Engineer during the shop drawing review stage for his approval. The Design Engineer shall forward these to the Village Engineer for his review regarding compliance with the Village requirements. The Village Engineer will not perform a technical review. That shall remain the responsibility of the Design Engineer. The Contractor should supply copies¹ of all equipment shop drawings to the Design Engineer. Final record shop drawings shall be issued to the Village Engineer as part of the close-out procedure in accordance with the close-out section of these specifications

1.11 STREAM CROSSINGS

Stream crossings shall be performed in accordance with all permit requirements of the regulatory agencies and Village of Rosebush Technical Specifications.

1.12 DUST AND NOISE REDUCTION

The Contractor shall keep dust and noise from construction operations to a minimum. A dust palliative shall be used on disturbed road sections prior to surfacing if so determined by the Village Engineer.

1.13 MATERIAL CERTIFICATION

Manufacturer's certification slips shall be submitted to the Village Engineer for all pipe, manholes, fittings, etc. used in the installation of sanitary sewer or water mains. This is to verify that the product meets applicable standard specifications required.

¹ Digital or hard copies are acceptable, as coordinated with the Design/Village Engineer.
STANDARD TECHNICAL SPECIFICATIONS 2015

1.14 MAINTENANCE BOND REQUIREMENTS

The Contractor shall supply the Owner and Village with a maintenance bond for 50% of the cost of the installation of the sanitary sewer and/or water system that is to be turned over to the Village. The maintenance bond shall be effective from the date of Village acceptance for a period of one (1) year.

1.15 INSURANCE REQUIREMENTS

Where the contract involves construction in a public right-of-way, the Contractor shall provide proof of insurance in the type and amounts required by the Village prior to start of the construction. In addition to the Village, the Village of Rosebush DPW and Village Engineer shall be named as additional insured.

1.16 ESCROW FOR TELEMETRY REQUIREMENTS

When telemetry equipment is required, the owner of the project will be required to provide an account above and beyond the construction contract price in the amount of \$10,500.00 for standard telemetry equipment. This equipment will be integrated into the Village of Rosebush DPW network of monitoring systems. The types of units this may apply to include submersible lift stations, well houses, water booster stations, and pressure reducing valve vaults.

SECTION 7

SANITARY SEWER APPURTENANCES

7.01 SCOPE OF WORK

The work covered in this section of the specifications consists in the furnishing of all plant, labor, materials, equipment and performing all operations involved in the construction of sewer appurtenances as shown on the Project Plans or Standard Details. This work includes, but is not limited to, the following items:

1. Sewer Manholes/Wet Wells
2. Connection to Existing Sewers
3. Sewer Wyes and Leads

A. General

The following provisions apply to this section of the specifications:

1. All materials, unless otherwise indicated on the plans or authorized in writing by the Village Engineer, shall be new and unused materials of the size and type shown on the plans and standard details and shall conform to the requirements of the specifications.
2. All materials offered by the Contractor shall be the standard products of reputable manufacturers normally engaged in the manufacturing of such materials. Certifications shall be provided on all materials prior to final acceptances.
3. The foundations of all structures shall be rigidly supported by undisturbed earth or compacted backfill. The interiors of all appurtenances shall be thoroughly cleaned of all foreign materials.
4. Where appurtenances are shown to be constructed on private property, the location of the structure shall be as shown on the plans. All work done within private property shall have an easement provided to the Village by the Owner prior to turnover.

7.02 MATERIALS

A. Sanitary Sewer Manholes

Sanitary Sewer Manholes shall be constructed of pre-cast manhole units in accordance with ASTM C478. Unless otherwise indicated, all manholes shall be 4' in diameter. Manholes shall be delivered to the project in an un-damaged condition. Any manhole, which shows visible signs of

damage, will not be accepted. Manholes shall be constructed to meet the dimensions shown on the Standard Details.

1. Manhole Waterstops: All manhole connections will be fitted with a waterstop assembly. The waterstop shall be of a design acceptable to the Engineer and the pipe manufacturer. Waterstops shall be KOR-N-SEAL as manufactured by National Pollution Control Systems; PRESS WEDGE II as manufactured by the Press-Seal Gasket Corporation; RES-SEAL as manufactured by Scales Manufacturing Corporation or equal.

The joint between the pipe and the manhole wall shall be flexible. Mortar and grout shall not be used to fill the space between the manhole wall and the pipe, except to form an adequate flow channel.

2. Manhole Waterproofing Material: All manholes shall be waterproofed on the interior or the exterior.

- a. Interior Manhole Waterproofing Material: The materials to be used for interior manhole waterproofing shall be "Drycon" as manufactured by IPA Systems, Inc., "Thoroseal" as manufactured by Standard Dry Wall Products Company or equal.

- b. Exterior Manhole Waterproofing Material: The material to be used for exterior manhole waterproofing shall be a heavy fibered type waterproofing mastic conforming to Federal Specification SS-C-153 Type 1 or CS-206. The mastic shall be A.C. Horn (Grace), Flink Kote 710-23 or equal.

3. Manhole Steps: Manhole steps shall be cast iron or steel-reinforced plastic. Steps shall not be aligned over the pipe.

- a. Cast Iron: Cast iron manhole steps shall fulfill the requirements of the ASTM Standard Specifications for "Gray Iron Castings", A-48, Class No. 30, minimum width 12". They shall be East Jordan Iron Works No. 8509, Neenah Foundry Co. R-1980 or equal.

- b. Plastic: Polypropylene plastic, steel reinforced, manhole steps may also be furnished, minimum width 12". They shall be #PS1-PF manhole steps as manufactured by M.A. Industries, Inc., of Peachtree City, Georgia or equal.

4. Cast Iron Frames and Covers: Manhole frames and covers shall be cast iron. Cast iron frames and covers for sanitary sewer manholes shall be a self-sealing lid with no holes extending all the

way through the lid. The self-sealing lid shall fit into a precisely machined groove. A rubber gasket shall make contact with the frame to create a leak proof seal. The self-sealing lid shall include a concealed pickhole to facilitate the removal of the lid, but not allow any water to enter the manhole.

Manholes shall have a 24" opening similar to an EJIW#1040 with Type A solid cover or equal. Manholes located within existing or proposed pavement areas shall also be installed with a 3" metal adjusting ring between the frame and cover. Metal adjustment rings shall be tack welded in at least 6 locations inside and out to secure the ring to the frame.

Hinged Manhole units may be used for certain applications. Openings must meet the same specifications as above. The use of this type of Manhole frame and covers must be approved by Village Engineer and the Owner.

B. Sewer Wyes and Sewer Leads

Sewer leads shall be Schedule 40 Polyvinyl Chloride (PVC) with solvent welded joints as defined in ASTM D-3034 or Extra Strength Solid Wall, SDR 23.5 ABS as defined in ASTM D-1788. Sewer wye fittings shall be of the same material as the pipe, unless otherwise approved by the Village Engineer.

The fitting between the SDR 35 wye and the SCH 40 PVC lead shall be a 35/40 adapter. SDR joint shall utilize a slip joint (no rigid glue joint will be allowed).

C. Clean-Outs

Clean-outs shall consist of pipe and fittings of the same type as the sewer main materials they connect to as required to provide a clean-out installation as shown in the standard details. Clean-outs will be allowed at the end of a sanitary sewer main stub where a future extension is anticipated, if there are no service connections. Otherwise, a manhole will be required, if there are sewer leads installed on the sewer main.

7.03 CONSTRUCTION METHODS

A. Excavation, Bedding and Backfilling

Excavation, bedding and backfilling for sewer manholes and clean-outs shall be in accordance with the Section 4 - "Excavation, Trenching and Backfilling" of these specifications and applicable standard details.

B. Manholes and Pre-cast Structures

Manholes and precast structures shall be constructed only when the temperature is above 32 F. All work shall be protected against freezing.

Water shall be removed from the excavation during construction of the structure and during the time required for the concrete or mortar to develop sufficient strength to resist rupture by groundwater pressure.

Pre-cast O-ring sections shall be joined by first applying a lubricant as approved by the concrete manufacturer. The lubricant shall be placed on the O-ring and both faces of the sections to be joined. The pre-cast sections shall then be set evenly to provide a full seating of the O-ring within the grooves in the concrete sections. After the pre-cast sections have been placed, the interior joint surface shall be grouted smooth. Additional methods for joining two-barrel sections must be approved by the Village Engineer.

C. Manhole Flow Channels

Manhole flow channels shall be formed as shown on the Standard Detail Plans by laying pipe through and cutting out the top portion before completion of the base of the manholes. Cut edges of pipe laid through the manhole shall be fully covered by concrete when the manhole invert is complete. The finished invert shall be smooth and true to grade. No mortar or broken pieces of pipe shall be allowed to enter the sewers.

D. Drop Structures

All sanitary manholes with an invert drop in excess of 24" shall have a drop structure. The drop structure shall be built as shown on the Standard Detail Plans.

E. Manhole Waterstops

The joint between the pipe and the manhole wall shall be flexible. Mortar and grout shall not be used to fill the space between the manhole wall and the pipe, except to form an adequate flow channel.

F. Placing Castings

Castings with adjustment rings, if applicable, shall be set to the required elevation in full mortar beds. No more than 9" of adjusting concrete rings, or mortar shall be used on any manhole between the pre-cast top section and the casting.

In high ground water applications it may be required to utilize WrapidSeal (or equal). This shrinkable material shall create a barrier to water infiltration to protect the manhole support and structure from ground moisture.

G. Connection to Existing Sanitary Sewer Systems

Connection to existing sanitary sewer systems shall be made in such a manner as to minimize the interruption of flow in those systems. The connection to an existing manhole shall be made by coring and installing a waterstop.

When a new manhole is to be installed over an existing line, it shall be initially placed without cutting into the existing pipe. The existing pipe shall not be cut into until the new lines are ready to be placed in operation and the new flow channel is ready to be formed to connect with the existing flow lines.

H. Sewer Wyes and Leads

The wyes and sewer leads shall be constructed as shown on the Sanitary Standard details in the plans.

The sewer lead is defined as the sewer pipe between the wye installation and 5' outside the building limits or to the property/easement line in the case of installation to an undeveloped parcel as indicated on the Standard Details for sewers. The sewer lead shall be brought to the property/easement line at a grade and location established before construction commences, based on a location document (provided by the Design Engineer) or as staked in the field by the Design Engineer or Engineering Representative. If the proposed location of a sewer lead is not identified, it is the Contractor's responsibility to obtain the information from the Design Engineer/Resident Project Representative prior to the installation. If the lead location is not as per directed by the Engineering Representative, Design Engineer, or Village Engineer the relocation of the sewer lead shall be performed at the Contractor's expense.

After each sewer lead is installed, it shall be permanently marked in two locations at its termination (the property line or easement line) and at the plug (see the Standard Detail) with a treated wood post 0.40 penetration for underground purposes. The post at the 45° bend shall be 12' long \pm 1/2", installed vertically and cut and painted as directed by the Design Engineer after record elevations off the top of the post have been obtained. For the post at the end of the stub it must be installed from the bottom of the stub to 18" above grade and approximately 4 1/2' deep. For leads deeper than 12', use wood post that provides an 18" (\pm) projection above ground. Should the post location fall in a driveway or other area where its above ground projection might cause problems, the Contractor

shall pre-cut the 12' post to some convenient full foot dimension below grade level and attach 3-1/2" x 3-1/2" x 1/4" metal plate to the top of the post. The Contractor shall immediately report same to the Engineering Representative. The Contractor shall allow the Engineering Representative to obtain necessary record measurements on the lead installation prior to backfilling. If the sewer leads are backfilled without notification to the Engineering Representative, the sewer lead shall be excavated, clearly showing the newly placed pipe, at the Contractor's expense. Sanitary sewer saddles shall be SDR-25 wye assembly with stainless steel straps and shall meet ASTM 3034 specifications. Use of saddles shall require approval by the Village prior to installation.

I. Sewer Lead Cleanouts

Sewer lead cleanouts, if required, shall be constructed as shown on the Sanitary Sewer Standard Detail Sheet. Placement shall be as required by site conditions and local plumbing codes.

J. Cleaning

All manholes, sewer leads and cleanouts shall be kept thoroughly clean of silt, debris and foreign matter and shall be free from such accumulations at the time of final acceptance.

K. Sanitary Sewer Manhole Waterproofing

The Contractor shall apply a waterproofing system to the inside or outside of all manhole walls. The material to be used for this operation shall be as specified in these specifications.

The waterproofing system shall be applied and allowed to dry in accordance with the manufacturer's directions. All steps, lids, frames and castings and sewer pipe entering or leaving the manhole shall be protected during application to prevent their being coated.

Interior Waterproofing

If any leaks in the manhole walls are detected twenty-four (24) hours after application of the first coat of the waterproofing system, they shall be sealed by application of a quick-set sealer. This sealer shall be a mixture of Portland Cement - Type One and "Ipanex R", "Waterplug", "Preco" or equal. The quick-set sealer shall be applied in accordance with the manufacturer's directions. After the patched areas dry, they shall be covered with another coat of the waterproofing and allowed to dry. If any leaks are apparent after that time, the Contractor shall repatch them. The above steps shall be repeated until all leaks are sealed.

After all leaks are stopped and there are no leaks apparent after twenty-four (24) hours upon application of the first coat of the waterproofing system or twelve (12) hours after application of a patch, the Contractor shall apply over the dry surface a finish coat.

Exterior Waterproofing

The Contractor may elect to provide an exterior rather than interior manhole waterproofing to the manhole sections before installation.

The exterior surfaces of all manholes shall be thoroughly covered with mastic at a rate of one (1) gallon per twenty-five (25) square feet. The exterior surfaces shall be thoroughly cleaned before application of the mastic. The mastic shall be as specified in these specifications.

Should the exterior waterproofing fail to provide an adequate seal then the Contractor shall seal the interior of the manhole as specified above.

L. Defective Manholes

Any manhole that is defective, due to manufacturer or realignment of the pipe openings, should be returned to the manufacturer.

M. Acceptance Tests

1. Sanitary sewer manholes shall be visually inspected for leaks prior to acceptance of the manhole. There shall be no visible leakage of groundwater into the manhole. Patching, if required, shall be accomplished via the methods indicated in 7.03K.
2. Sanitary sewer wyes and sewer leads shall be tested for leakage after completion of construction. The testing shall occur in conjunction with the overall main sewer testing. Should it be necessary to test sewer wyes and leads independently after the main sewer has been tested it shall be performed using air and following the procedure outlined in Section 6.03J of these specifications.

