

LETTER OF TRANSMITTAL

TO:

Gulf Coast Underground, LLC
SAK Construction, LLC
RDJE, Inc.
Video Industrial Services, Inc.
Southeast Pipe Survey, Inc.
HK Solutions Group
Inliner Solutions
Insituform Technologies, LLC

All Clean Solutions/ Metals & Material Engineers
CaJenn Construction & Rehabilitation Services, Inc.

Vortex Companies

Talley Construction
KM Davis Contracting
F.S. Scarbrough, LLC
Morgan Contracting, Inc.
KAM Contracting

The Blue Book
Dodge Data & Analytics
Builders Exchange of Tennessee
Associated General Contractors
ConstructConnect

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FROM: Wil Jackson, P.E.

DATE: July 10, 2025

PROJ. NO.: G24005-08

SUBJECT: Addendum No. 1
City of Ringgold
Morris Estates Sewer Rehabilitation

PAGES: 10 pages to follow

**PLEASE
RESPOND**



**TO CONFIRM RECEIPT OF THIS ADDENDUM NO. 1
PLEASE SIGN AND EMAIL TO CTI
vvisco@ctiengr.com**

Company _____

Signature _____

Title _____

Date _____

ID 860210

ADDENDUM NO. 1

MORRIS ESTATES SEWER REHABILITATION

CITY OF RINGGOLD, GEORGIA CTI PROJECT NO. G24005-08

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. SPECIFICATIONS

A. **Section 00 01 10, Table of Contents**

1. DELETE Page 00 01 10-2 and REPLACE with the attached Page 00 01 10-2.1.

B. **Section 33 01 30.81, Manhole Rehabilitation with a Protective Polymer Lining**

1. ADD attached Pages 33 01 30.81-1.1 through 33 01 30.81-6.1 in their entirety.

II. DRAWINGS

A. **Drawing C-3002.00**

1. DELETE Drawing C-3002.00 and REPLACE with the attached C-3002.01.

III. CLARIFICATIONS OF QUESTIONS RECEIVED

1. Air inversion/steam curing and/or UV curing will be considered on a case-by-case basis where use may be more beneficial. Per specification section 33 01 30.73, Section 3.6A, use of alternate curing methods will require written authorization from the City of Ringgold.

Date: July 10, 2025

CTI Engineers, Inc.
/s/ Russell W Jackson, P.E.
Project Manager

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A	Reference Material	City of Ringgold Sanitary Sewer Regulations
B	Reference Material	Granite XP Sewer Inspection Sheets

SECTION 33 01 30.81

MANHOLE REHABILITATION WITH A PROTECTIVE POLYMER LINING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The work under this section includes furnishing all equipment, materials, and labor required to complete each manhole rehabilitation repair type as specified herein and shown on the Drawings. All manhole rehabilitation items shall be determined in the field by the Engineer. Items may be modified at the discretion of the Engineer.
- B. All manholes specified to receive manhole rehabilitation shall be examined by the Contractor. Notify the Engineer in writing if surfaces are not acceptable. Contractor shall not begin repairs or application until unacceptable conditions has been corrected.
- C. The Contractor shall provide necessary sewer flow control for all manhole rehabilitation items, meeting the requirements of the Specification 33 32 13 - Sanitary Sewer Flow Control.

1.2 RELATED WORK

33 32 13 - Sanitary Sewer Flow Control

1.3 REFERENCES

- A. ASTM 4541 – Adhesion
- B. ASTM D412 – Tensile Strength (PSI)
- C. ASTM D412 – Elongation (%)
- D. ASTM D2240 – Tear Strength (PLI)
- E. ASTM D1737 – Hardness
- F. ASTM D1737 – Flexibility (1/8" mandrel)
- G. ASTM 4060 – Taber Abrasion (mg loss)

1.4 SYSTEM DESCRIPTION

- A. The work described within details the methods, procedures, materials, and equipment required to provide a corrosion-resistant liner that restores walls to original surface levels and eliminates water infiltration and exfiltration.

1.5 QUALITY ASSURANCE

- A. Contractor Qualifications: The Contractor shall have suitable equipment for performing the manhole rehabilitation work and shall have demonstrated satisfactory performance in completing previous comparable work. The Contractor shall have a minimum of five (5)

years experience applying and installing the products specified herein. The Contractor must certify in writing from the Manufacturer that he is approved to install the Manufacturer's products specified herein.

- B. Manufacturer Qualifications: The Manufacturer of work of this section shall have five (5) years minimum proven experience in such work and shall have satisfactorily completed three (3) jobs of similar size and type within the last five (5) years.
- C. To ensure total unit responsibility, all materials and installation thereof shall be furnished and coordinated with/by one supplier/applicator who turnkeys the work and assumes full responsibility for the entire operation.

1.6 WARRANTY

- A. The Manufacturer and Contractor shall warrant the manhole liner against failure for a period of 10 years. "Failure" will be deemed to have occurred if the protective lining fails to (a) prevent the internal deterioration or corrosion of the structure (b) protect the substrate and environment from contamination by effluent or (c) prevent groundwater infiltration. If any such failure occurs within 10 years of initial completion of work on a structure, the damage will be repaired to restore the lining at no cost to the Owner within 60 days after written notification of the failure. "Failure" does not include damage resulting from mechanical or chemical abuse or act of God. Mechanical or chemical abuse means exposing the lined surfaces of the structure to any mechanical force or chemical substance not customarily present or used in connection with structures of the type involved.

1.7 SUBMITTALS

A. SHOP DRAWINGS AND ENGINEERING DATA

1. Submit complete shop drawings and Engineering data to the Engineer in accordance with the requirements of the General Conditions. Submit Manufacturer's literature, design data, samples, and warranty with the submittal. Manufacturer's literature shall include technical data sheets, material specifications, product safety sheets (MSDS sheets), ASTM references, and application instructions for the material to be used for the manhole rehabilitation work.
2. Results: Complete records shall be kept of the manhole rehabilitation work performed in each manhole. The Contractor shall provide pre and post-rehabilitation photographs of the manholes to be sealed. Weekly reports shall be provided to the Engineer of the work performed.
3. Submit a flow diversion plan that covers each manhole to be rehabilitated.

1.8 STORAGE AND PROTECTION

- A. Product Delivery, Storage, and Protection: Deliver materials in original sealed containers with seals unbroken and labels legible and intact, as applicable. Materials shall be delivered in sufficient quantities so as not to cause delay in the work. Materials shall be stored in accordance with the Manufacturer's instructions.

1.9 MEASUREMENT AND PAYMENT

- A. Measurement and payment for this work shall be by unit price and will include all equipment, materials and labor necessary to perform the work under this specification as shown on the Drawings and specified herein. The payment for this work shall be measured as depth of manhole.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. OBIC lining system by OBIC System, LLC; Spectrashield, by CCI Spectrum, Inc.; or approved equal.

2.2 SYSTEM COMPONENTS

- A. The materials to be utilized in the lining of manholes shall be designed and manufactured to withstand the severe effects of hydrogen sulfide in a wastewater environment. Manufacturer of corrosion protection products shall have long proven experience in the production of the lining products utilized and shall have a satisfactory installation record.
- B. Equipment for installation of lining materials shall be high quality grade and be as recommended by the Manufacturer.
- C. The lining system to be utilized for manhole structures shall be a multi-component stress skin panel liner system as described below:

1. Coating Application

- a. OBIC 1000 Aromatic Polyurea (adhesion layer) – Apply in single monolithic layer to a nominal dry film thickness of 50 mils using a high-pressure plural component Graco Reactor or similar plural spray reactor at a pressure of 2,000 to 2,500 psi. OBIC Aromatic Polyurea dries to tack-free in minutes.
- b. OBIC 1306 Closed Cell Foam Surfacers: Apply using high pressure plural component proportioning equipment with primary and hose heaters at 120 – 140 degrees Fahrenheit and pressure settings at 1,000 psi. Apply foam at a moderate speed; repeat the process until the foam rise covers the voids. Apply foam to a minimum thickness of 400 mils.
- c. OBIC 1000 Aromatic Polyurea (armor layer): Apply in single monolithic layer to nominal dry film thickness of 50 mils using high-pressure plural component Graco Reactor or a similar plural spray reactor with a pressure of 2,000 to 2,500 psi. OBIC Aromatic Polyurea dries to tack-free in minutes.
- d. Total thickness of multi-component stress panel liner shall be a minimum of 500 mils.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Contractor shall take appropriate action to comply with all local, state, and federal regulations including those set forth by OSHA, EPA, the Owner and any other applicable authorities.
- B. Prior to conducting any work, Contractor shall perform inspection of each structure to determine need for protection against hazardous gases or oxygen-depleted atmosphere and the need for flow control or flow diversion.
- C. Submit plan for flow control or bypass to Engineer for approval prior to conducting the Work.
- D. New Portland cement structures shall have endured a minimum of 28 days since manufacture prior to commencing installation of the liner system.
- E. It is recognized that there are some conditions such as deteriorated walls and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor shall immediately notify the Engineer, who will decide whether to proceed with cleaning.

3.2 SURFACE PREPARATION

- A. Conduct surface preparation program to include monitoring of atmosphere for hydrogen sulfide, methane, low oxygen, or other gases, approved flow control equipment, and surface preparation equipment.
- B. Surface preparation methods may include high pressure water cleaning, hydro blasting, abrasive blasting, grinding, and detergent water cleaning and shall be suited to provide a surface compatible for installation of the liner system.
- C. During manhole cleaning operations, satisfactory precautions shall be taken in the use of cleaning equipment. When hydraulic cleaning tools (which depend upon water pressure to provide their cleaning force) are used, precautions shall be taken to ensure that the water pressure created does not damage the manhole or damage or cause flooding of public or private property being served by the sewer.
- D. Any foreign material, including sludge, mud, sand, gravel, rocks, bricks, grease, and other debris shall be removed from the manhole. The removal of debris shall be completed before any flushing of the manhole occurs. All debris shall be completely removed and not allowed to enter the sewer pipe. After the debris is completely removed, the manhole walls, invert and bench surfaces shall be flushed using a high velocity water gun suitable to complete the cleaning. Verification of the cleaning work will be by visual inspection by the Engineer.
- E. Surface preparation method shall produce a cleaned, abraded and sound surface with no evidence of laitance, loose concrete, brick or mortar, contaminants or debris, and shall display a surface profile suitable for application of liner system.

- F. If all deposits have not been removed from the manhole, a 10% solution of muriatic acid will be applied by spraying from above the manhole. Manholes treated with acid solutions shall be thoroughly flushed and the manhole allowed to dry. The mixing, application, and removal of the acid solution shall be in strict accordance with the Manufacturers' specifications and recommendations. All safety procedures and protective devices applicable to the handling of the acid will be strictly adhered to.
- G. After completion of surface preparation, perform the seven point check list, which is the inspection for:
 - a. Leaks
 - b. Cracks
 - c. Holes
 - d. Exposed Rebar
 - e. Ring and Cover Condition
 - f. Invert Condition
 - g. Inlet and Outlet Pipe Condition
- H. All metal manhole steps are to be removed as part of the manhole cleaning procedure. Any removed manhole steps are not to be replaced following the application of the material.
- I. After the defects in the structure are identified, repair all leaks with a chemical or hydraulic sealant designed for use in field sealing of ground water. Severe cracks shall be repaired with a urethane-based chemical sealant. Product to be utilized shall be as approved by the Engineer prior to installation. Repairs to exposed rebar, defective pipe penetrations or inverts, etc. shall be repaired utilizing non-shrink grout or approved alternative method.

3.3 MATERIAL INSTALLATION

- A. A sufficient dry time after cleaning procedures have been performed shall be allotted to allow for proper adhesion between the manhole and the material as per the Manufacturer.
- B. Application procedures shall conform to recommendations of the Manufacturer, including materials handling, mixing, environmental controls during application, safety, and spray equipment.

Spray equipment shall be specifically designed to accurately ratio and apply the liner system.
- C. Application of multi-component liner system shall be in strict accordance with Manufacturer's recommendation. Final installation shall be a minimum of 500 mils. A permanent identification and date of work performed shall be affixed to the structure in a readily visible location.
- D. Provide a final written report to Engineer detailing the location, date of report, and description of repair.

3.4 FINAL INSPECTION

- A. Final liner system shall be completely free of pinholes or voids. Liner thickness shall be the minimum value of 500 mils as described herein.
- B. Visual inspection shall be made by the Engineer. Any deficiencies in the finished liner system shall be marked and repaired according to the procedures set forth by the Manufacturer.
- C. The sewer system may be returned to full operational service as soon as the final inspection has taken place and a proper material dry time has passed as per the Manufacturer's recommendations.

END OF SECTION

 CTIENGINEERS 1122 RIVERFRONT PARKWAY CHATTANOOGA, TN 37402 423-267-7613  REGISTERED PROFESSIONAL 7/19/25 ENGINEER RUSSELL WILSON JACKSON GSWCC 96542 JOB NO. G24005-08 ISSUE DATE 11-15-2024 DRAWING NO. C3002.01		CITY OF RINGGOLD, GEORGIA MORRIS ESTATES SEWER REHABILITATION GRAVITY SEWER STANDARD DETAILS (SHEET 2 OF 3)		DESIGN	REVISIONS					THIS DRAWING IS AN INSTRUMENT OF SERVICE OWNED BY CTI ENGINEERS, INC. (CTI), WHICH SHALL BE DEEMED THE AUTHOR AND COMMON LAW RIGHTS, INCLUDING COPYRIGHTS, THIS DRAWING SHALL NOT BE SCANNED, COPIED, REPRODUCED, OR OTHERWISE USED FOR ANY OTHER PURPOSE OR PROJECT WITHOUT THE WRITTEN CONSENT OF CTI. CTI IS NOT RESPONSIBLE FOR CONSEQUENCES RELATED TO UNAUTHORIZED USE OR REUSE OF THIS DRAWING OR PORTIONS THEREOF.				
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