JOHNSON CITY
TENNESSEE

Purchasing Department

209 Water Street
Johnson City, TN 37601
(423) 975-2716

ADDENDUM

TO: All Prospective Vendors

FROM: Debbie Dillon,
Director of Purchasing

SUBJECT: Addendum No. 2 ITB # 6441
Lower Brush Creek 42" Interceptor Contract 1

DATE: October 14, 2020

Consider this addendum an integral part of the above referenced Invitation to Bid:

See attached 9 page addendum #2 as prepared by Hazen & Sawyer Architect.

All other specifications/requirements remain the same. **Vendor to acknowledge receipt of this addendum by acknowledging on the bid submittal form.** Failure to acknowledge this addendum could be cause for rejection of your submittal. If your bid has already been submitted please contact this office.

/dd

ADDENDUM NUMBER 2

October 14, 2020

CITY OF JOHNSON CITY

DEPARTMENT OF WATER AND SEWER SERVICES

LOWER BRUSH CREEK 42" INTERCEPTOR – CONTRACT 1

ITB NO. 6441

TO: ALL INTERESTED PARTIES CONCERNING THE BID DOCUMENTS FOR THE CITY OF JOHNSON CITY-LOWER BRUSH CREEK 42" INTERCEPTOR PROJECT – Contract 1:

A non-mandatory virtual Pre-Bid Conference was held at 2:00 PM local time on Tuesday October 6, 2020.

Project Manual – Volume I

NA

Project Manual – Volume II

NA

Project Plans

1. C107:
   Add: Connect existing 6" sewer to MH 1-33 via outside drop connection.

2. C112:
   Add: Note 3: Mechanical thrust restraint or concrete thrust blocks shall be installed by Contractor as specified in the standard details for all new 6" waterline bends. Method chosen must be approved by Owner prior to construction activities.

Additional Information

NA

Questions/Responses

Questions are due in writing to the Engineer by Friday, October 16, 2020. Submit all questions to morr@hazenandsawyer.com. Questions received after 2pm ET will not be answered.

1. Question: The details show a manhole vent on certain structures, but I do not see a pay item or quantity. Can you let us know where and how many of these are required?
Response: Manhole vents are not required in this project.

2. **Question:** The specs (below) state if eligible we can submit the bid online. We already have an account with Vendor Registry. How do we get set up to see the Johnson City bid?
   Response: This project is **not** eligible for online submission. Refer to the Bid Delivery section in the Invitation to Bid 00020.

3. **Question:** It shows in the addendum and it was discussed in the meeting that the "entire project manual" must be returned with the bid. We received the plans and specs via a flash drive. Do you want the flash drive back? Are you wanting us to send back the papers that we printed once we received the flash drive?
   Response: The flash drive does not need to be submitted along with the bid. The entire Project Manual needs to be printed and bound with required items filled out and signed.

4. **Question:** Would an air pressure test be acceptable for discharge piping as well instead of the water test? If so what psi requirement?
   Response: Bypass Pumping system piping needs to be pressure tested with water.

- **End of Addendum -**

Supplemental Information prepared by Others

1. Evaluation of Bedrock Conditions by Foundation Systems Engineering, PC, dated October 12, 2020.

Foundation Systems Engineering, P.C.
Geotechnical Engineering and Consulting

October 12, 2020

Mr. Michael L. Orr, PE
Hazen and Sawyer
545 Mainstream Drive, Suite 320
Nashville, TN 37228

RE: EVALUATION OF BEDROCK CONDITIONS
LOWER BRUSH CREEK INTERCEPTOR PROJECT
STATIONS 109+60 TO 111+75
STATIONS 116+25 TO 117+75
JOHNSON CITY, TENNESSEE
FSE PROJECT NO.: 220491

Dear Mr. Orr:

At your authorization, we have completed evaluation of the bedrock conditions at the requested areas. The following letter summarizes our findings and assessment. Our services have been provided using the firms of Foundation Systems Engineering, P.C. (FSE) and Construction Materials Laboratory (CML).

Findings:

Based on review of State of Tennessee geologic mapping, the project site is located in the Valley and Ridge physiographic province of East Tennessee. The boring locations are within the sedimentary bedrock of the Undifferentiated Knox Group. The Knox Group consists of primarily limestone, gray to blue-gray, fine- to very fine-grained, medium-, thick- and massive bedded with occasional thin beds.

The bedrock at two (2) locations (RC-1 and RC-2) was evaluated using rock core sampling methods. A description of the rock material encountered is included in the Log of Borings attached.

At location RC-1 (Approx. Station 110+50) 3 ½ feet of soil was encountered over rock. The rock was cored to a depth 13 ½ feet. The upper 5 ½ feet of the core sample included soil seams and a seam of hard limestone rock. Beyond that, the core sample included good quality, massive, very hard, limestone bedrock.

At location RC-2 (Approx. Station 117+00) 9 feet of soil was encountered over bedrock. The bedrock was cored to a depth 19 feet. The core sample included excellent quality, massive, hard to very hard, limestone bedrock.

Assessment:

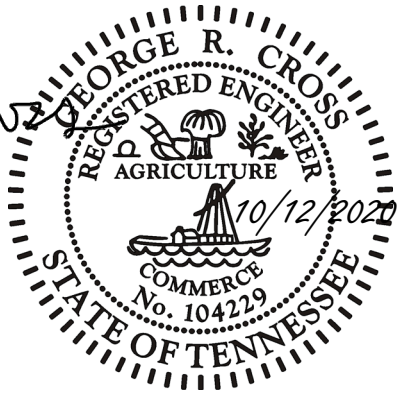
The limestone bedrock sampled had good to excellent quality, a slightly weathered to fresh condition and a large joint spacing in a massive condition. Published compressive strength of the good to very good quality rock is 100MPa to greater than 200 MPa (14,500 to greater than 29,000 psi).

The properties of the hard to very hard rock indicate very difficult excavation conditions, especially in a trench configuration. Removal of the rock with typical drilling, chipping and breaking methods are anticipated to be impractically slow due to the difficulty with fracturing this rock.

We have appreciated the opportunity to provide our geotechnical engineering and testing services. If you have any questions regarding the information within this report, please contact us at your convenience.

Sincerely,
Foundation Systems Engineering, P.C.

George R. Cross, P.E.
Geotechnical Engineer
Tennessee No.: 104229



GRC//kec

Copy to: Mr. Jonathan Lane
City of Johnson City

Attachments:

- Figure 1. Area Geologic Map (Tennessee Division of Geology, 1997) - with approx. Boring Locations
- Log of Borings (RC-1 and RC-2)
- Photographs (RC-1 and RC-2)
- Table 1. Rock Mass Rating System (after Beniawski, 1989)]

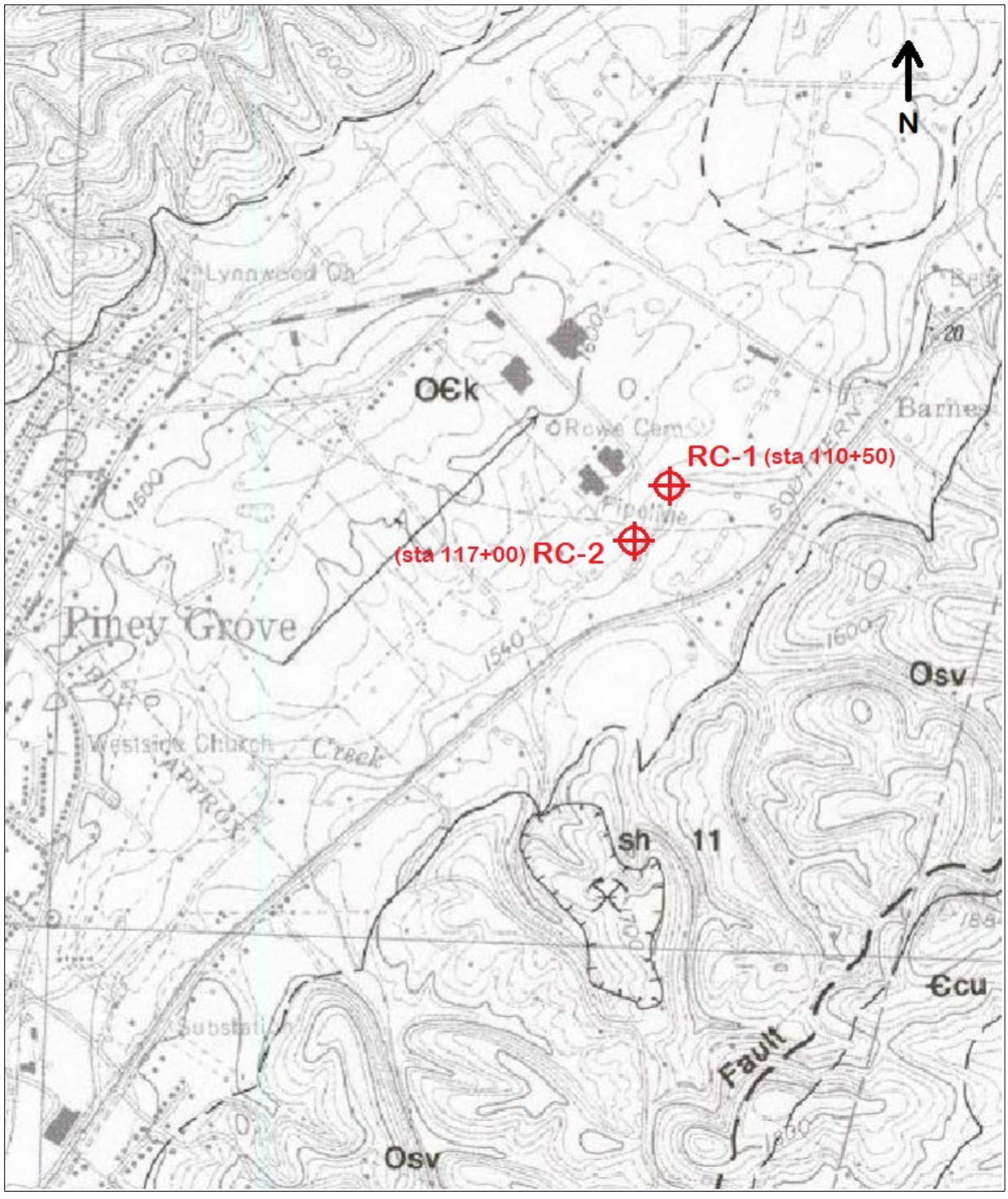


Figure 1. Area Geologic Map (Tennessee Division of Geology, 1997) - with approx. Boring Locations

Project: **Rock Core Sampling - Lower Brush Creek Sewer** Project Location: **Johnson City, Tennessee** Client **Hazen and Sawyer**	Log of Boring RC-1 **Sheet 1 of 1**

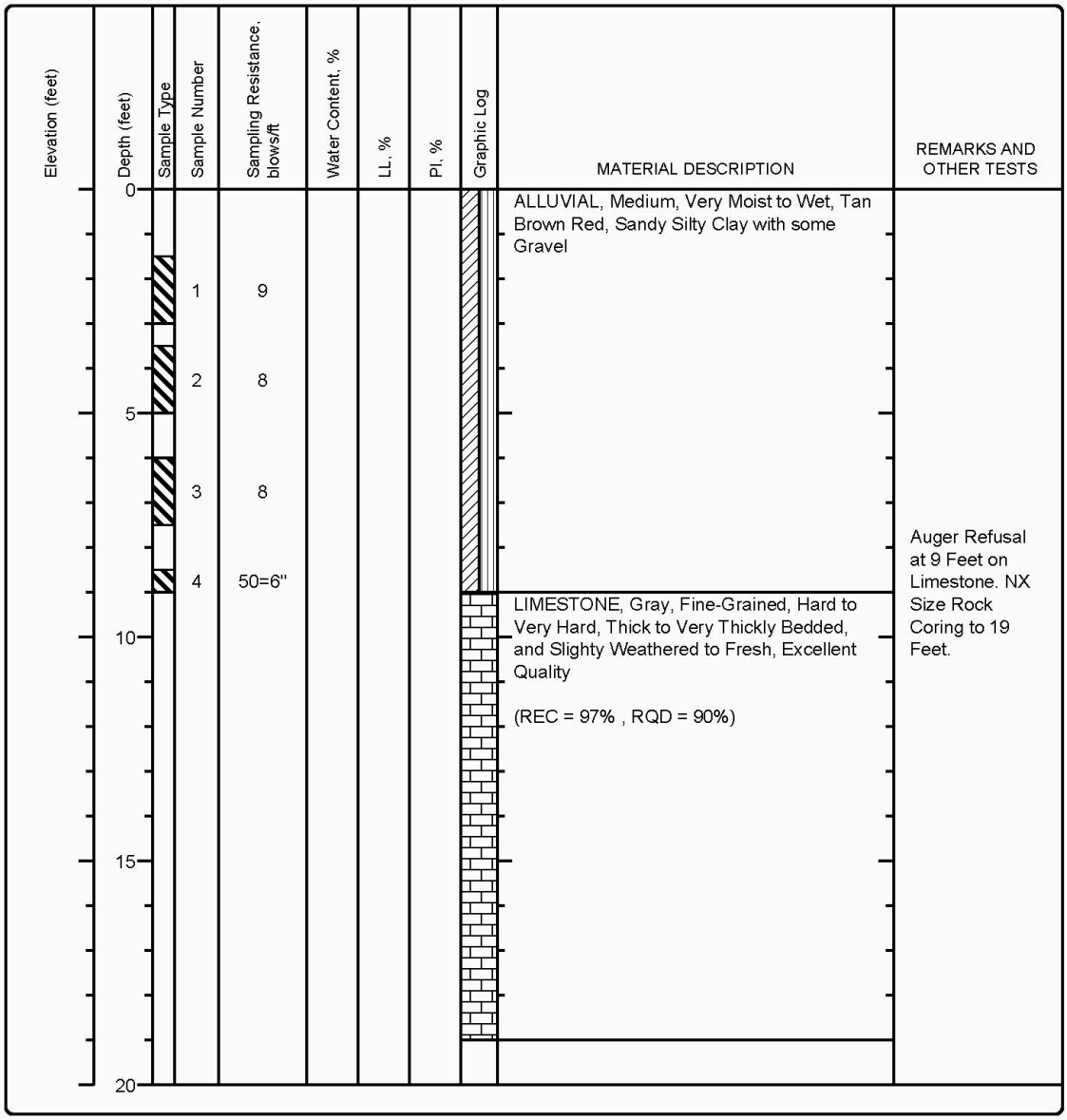
Date(s) Drilled **10-7-2020**	Drilling Contractor **Construction Materials Laboratory**	FSE File Number **220491**
Drilling Method **Hollow Stem Rotary/NX Rock Core**	Logged By **Nick Cross, EIT**	Total Depth of Borehole **13.5**
Drill Rig Type **CME 55**	Checked By **George Cross, PE**	Approximate Surface Elevation **NA**
Borehole Backfill **Soil Cuttings**	Sampling Method **Split Spoon/SPT/NX Core**	Groundwater Depth (ft) **NA**
	Comments **Approximate STA 110+50**	

Elevation (feet)	Depth (feet)	Sample Type	Sample Number	Sampling Resistance, blows/ft	Water Content, %	LL, %	PI, %	Graphic Log	MATERIAL DESCRIPTION	REMARKS AND OTHER TESTS
	0								RESIDUAL, Very Moist, Tan Brown Red, Silty Clay with Iron Staining	
			1	9-50=5"						Auger Refusal at 3.5 Feet on Pinnacled Rock. NX Size Rock Coring to 13.5 Feet.
	5								LIMESTONE, Pinnacled, Gray, Fine-Grained, Hard, and Weathered with Soil Seams (REC = 40% , RQD = 40%)	No Recovery From 3.5 - 5.5 Feet. Soil Seam From 7.5 - 9 Feet
	10								LIMESTONE, Gray, Fine-Grained, Hard to Very Hard, Thick Bedded, and Slighty Weathered to Fresh, Good Quality (REC = 100% , RQD = 88%)	
	15									
	20									

Foundation Systems Engineering, P.C.
Geotechnical Engineering and Consulting

Project: **Rock Core Sampling - Lower Brush Creek Sewer** Project Location: **Johnson City, Tennessee** Client **Hazen and Sawyer**	Log of Boring RC-2 **Sheet 1 of 1**

Date(s) Drilled **10-8-2020**	Drilling Contractor **Construction Materials Laboratory**	FSE File Number **220491**
Drilling Method **Hollow Stem Rotary/NX Rock Core**	Logged By **Nick Cross, EIT**	Total Depth of Borehole **19**
Drill Rig Type **CME 55**	Checked By **George Cross, PE**	Approximate Surface Elevation **NA**
Borehole Backfill **Soil Cuttings**	Sampling Method **Split Spoon/SPT/NX Core**	Groundwater Depth (ft) **NA**
	Comments **Approximate STA 117+00**	



Foundation Systems Engineering, P.C.
Geotechnical Engineering and Consulting

Photo - (Rock core at RC-1)

Photo - (Rock core at RC-2)

Class Number	I	2	3	4	5
Description	Very good	Good	Fair	Poor	Very poor
Rock Quality Designation, RQD (%)	90-100	75-90	50-75	25-50	<25
Weathering	Unweathered	Slightly weathered	Moderately weathered	Highly weathered	Completely weathered
Intact Rock Strength (MPa)	>200	100-200	50-100	25-50	<25
Joint Spacing	>3 m	1-3 m	0.3-1 m	50-300 mm	<50 mm
Separation of Joints	<0.1 mm	<0.1 mm	0.1-1 mm	1-5 mm	>5 mm
Continuity of Joints	Not continuous	Not continuous	Continuous, no gouge	Continuous, with gouge	Continuous, with gouge
Groundwater inflow (per 10 m adit	None	None	Slight (<25 litres/min.)	Moderate (25-125 litres/min.)	Heavy (>125 litres/min.)
Strike and dip orientations	Very favorable	Favorable	Fair	Unfavorable	Very unfavorable
Individual ratings for classification parameters					
Rock Quality Designation, RQD (%)	16	14	12	7	3
Weathering	9	7	5	3	1
Intact Rock Strength (MPa)	10	5	2	1	0
Joint Spacing	30	25	20	10	5
Separation of Joints	5	5	4	3	1
Continuity of Joints	5	5	3	0	0
Groundwater inflow (per 10 m adit)	10	10	8	5	2
Strike and dip orientations (Tunnels on top row and foundations on down row)	15	13	10	5	3
	15	13	10	0	-10
Rockmass rating (RMR)	81-100	61-80	41-60	21-40	<20
(Source: Beniawski, 1973, 1974 and 1989)					

Table 1. Rock Mass Rating System (after Beniawski, 1989)