



Our ref: 11231317

April 25, 2022

Tim Schutzman, PE
Waterworks Coordinator
Cranberry Township
2525 Rochester Road
Cranberry Township, PA 16066

**Brush Creek WPCF Solids Processing and Dewatering Upgrade
Updated Preliminary Design, Final Design and Bidding/Award Phase Services**

Dear Tim,

In accordance with your request, GHD offers this proposal for **preliminary and** final design and bidding/award phase services for the solids processing and dewatering upgrade at the Brush Creek WPCF. In our proposal, we discuss our understanding of the Township's needs, outline the proposed scope of services, provide a schedule to meet the Township's timeline, and address compensation and our agreement.

1. Understanding of Needs

The project is described in the revised Technical Memorandum-08 (TM-08) dated October 15, 2021, which has been updated to reflect current operating parameters and facility conditions. In general, the upgrade includes an anaerobic digestion system and replacement of the existing belt filter presses with centrifuges, in addition to numerous ancillary items.

The GHD design team, including our subconsultant Keystone Engineering Group, has extensive knowledge of the facility through our work on the major WPCF upgrade and expansion project completed in 2019. We will leverage that knowledge and the previous solids processing upgrade design efforts to provide an efficient and timely design.

2. Scope of Services

Task 1a Project Initiation to Preliminary Design

This task includes the effort to initiate the project, finalize the scope, develop design concepts to review with the Township, **and deliver a Basis of Design Report (BODR) and preliminary construction cost estimate.** Upon award of the assignment, GHD will:

1. Initiate and attend an onsite kick-off workshop with Township staff, collect additional information on existing facilities as needed and walk the site to identify desired locations for new systems.

2. Identify design constraints based on current NFPA 820 guidance, ANSI B149.6, and other local codes that may govern the facility upgrades and gas handling systems.
3. Identify qualified manufacturers of the gas safety systems and process equipment.
4. **Prepare BODR. This report will build off the findings in TM-08 including the following:**
 - **Confirming solids train flows and loadings**
 - **Develop recommended scope of work and permitting requirements**
 - **Provide basis of design equipment selections, design criteria and manufacturer's information**
 - **Identify long lead equipment and materials and required submittals**
 - **Prepare preliminary design drawing set (as noted below)**

Overall No.	Dwg:	Drawing Title
1	G-001	Cover Sheet with Location and Site Map
3	C-001	Existing Site plan
4	C-002	Proposed Site Plan
5	C-003	Yard Piping
14	A-001	Digester Building Plan
15	A-002	Digester Building Elevations
19	D-001	Solids Handling Schematic
20	D-002	Anaerobic Digestion PID
21	D-003	Dewatering PID
22	D-004	Hydraulic Profile/Design Criteria
24	D-006	Dewatering - Upper Level Plan
26	D-008	Digester Building Plan
49	E-003	Electrical Site Plan
54	E-008	Digester Control Building Power Plan
56	E-010	Single Line Diagram
60	E-014	Area Classification Plan
67	MOPO-1	Phasing Drawing

- **Prepare preliminary specifications for major basis of design equipment**
- **Preliminary P&ID's and Functional Control Narrative**
- **Proposed construction sequence (including approximate durations and milestones in MS Project or P6) and maintenance of plant operations (MOPO) plan (not included in original proposal)**
- **Basis of design construction cost estimate (not included in original proposal)**

5. Conduct BODR workshop

Task 1b Preliminary Design to 60 Percent Design (to be authorized pending results of Task 1a)

This task includes the effort to deliver a design progress set at approximately 60 percent for the Township's review and discussion. Upon award of the assignment, GHD will:

1. Develop design documents, including plans and specifications, that reflect the required **final** scope of work (in accordance with TM-08, Alternative 2, noted dewatering and ancillary upgrades, and **BODR**).

2. Submit progress plans (approximately 30 percent design effort) for review and comment
3. Conduct permitting agency outreach to confirm the required permits.
4. Deliver 60 percent design documents and **updated construction cost estimate** to the Township for review and comment. GHD will facilitate an onsite workshop to review these documents.

Task 2 Final Design and Permitting (to be authorized pending the results of Tasks 1a and 1b)

GHD will identify regulatory compliance/permitting requirements. While the DEP Water Quality Management permit previously issued for the last upgrade did include the solids processing system, that permit was based on an ATAD system. At a minimum, a permit modification will be required. Additionally, we expect we will need to develop E&S control measures based on Township and County standards, and DEP stormwater permits.

GHD will then submit preliminary and final permit applications on behalf of the Township in parallel with design development. Permit comments from the jurisdictional agencies will be incorporated into the bid set.

The following further outlines GHD's anticipated efforts under this task:

1. Coordinate with Township staff on the design, and specifications/contract documents.
2. Prepare biddable drawings. The anticipated drawing set that we have based our level of effort for design includes approximately **65** drawings, which are listed in Attachment 2. This drawing set is preliminary and will be adjusted as necessary through the project design.
3. Prepare biddable technical specifications/contract documents. The technical specifications will be prepared using the 17-division format published by the Construction Specifications Institute. The "front-end" contract documents will be developed based on the 2013 edition of documents published by the Engineers Joint Contract Documents Committee, modified to meet the Township's needs.
4. Prepare the bid form.
5. Provide an updated engineer's estimate of the construction costs.
6. Provide documents for the Township's review and conduct an in-person 90 percent design review workshop.

Following the incorporation of the 90 percent design review comments, we will prepare the bidding set. Deliverables will be submitted to the Township electronically and in hard copy format as needed. Final "bid ready" documents will be signed and sealed by a professional engineer registered in the Commonwealth of Pennsylvania.

Task 3 Bidding/Award (to be authorized pending results of tasks noted above)

As with the previous project, it is anticipated that this project will be bid using PennBid (Pennsylvania's electronic document and bid management program). GHD will provide the following services:

1. Assist the Township with preparation of the bid advertisement (the Township will handle advertising in the local paper as necessary)
2. Post the construction project and all required documents on PennBid
3. Monitor the solicitation site on PennBid
4. Respond to questions asked by contractors through PennBid
5. Host a pre-bid meeting and prepare the agenda and minutes
6. Prepare and distribute addenda as needed
7. Open bids on PennBid
8. Review bids received and all supporting documentation
9. Prepare a bid review letter and tabulation of bids

10. Assemble documentation for award of the contract (the Township will issue the Notice of Award letter)

3. Additional Services

If directed by the Township, GHD will attend additional meetings or provide additional services related to this assignment for additional negotiated compensation based on our fee schedule at the time of service.

4. Schedule

Based on the scope of work and permitting timeframes, we believe the project can be bid for general construction in July 2023. Table 1 shows the estimated project timeframe with a construction Notice to Proceed in June 2022. Dates will be adjusted (more or less) as the project proceeds, with the intent of achieving design and permitting completion in February 2023. Specific items or permits may be advanced in the schedule if early procurement of equipment is considered.

Table 1 Estimated Project Timeframe

Activity/Milestone/Deliverable	Months from Award	Estimated Date
Project Award/NTP/Kickoff	0	June 10, 2022
Initiation and Site Visit	0.5	June 23, 2022
Basis of Design Report	2.0	August 10, 2022
THE FOLLOWING TASKS ARE ESTIMATED AND WILL BE AUTHORIZED BY CRANBERRY TOWNSHIP AT A LATER TIME BASED ON OUTCOMES OF ABOVE		
30% Design	3.0	September 13, 2022
60% Design	6.0	November 21, 2022
90% Design and Permitting	9	February 24, 2023
Draft Bid Documents	9.5	March 15, 2023
Bidding Period	9.5-11.5	March 15 through May 25, 2023
Receive Bids	11	May 25, 2023
Award Period	12-13	May 26 – July 6, 2023
Construction Period	18 months	July 10, 2023 – December 31, 2024

6. Compensation

We propose to perform our services on a time and materials, not to exceed basis for the fees shown in Table 2. These fees include estimated expenses for such items as travel and document reproduction, which are necessary to complete the tasks. Additional services, if requested by the Township, will be performed upon the Township's approval of additional tasks and fees.

Table 2 Fee Schedule

Activity	Fee
Task 1a Initiation to Preliminary Design	\$177,700
Task 1b Preliminary Design to 60% Design	To be authorized
Task 2 Final Design and Permitting	To be authorized
Task 3 Bid and Award	To be authorized

7. Agreement for Professional Engineering Services

Services outlined in this proposal will be completed under the existing agreement between GHD and Cranberry Township for the Brush Creek WPCF design and construction project dated July 15, 2014. If this proposal is satisfactory with you, please execute two (2) copies and return one (1) copy of the accepted proposal to us. The accepted proposal will constitute an amendment to the current agreement and authorization to proceed. Alternatively, another mutually agreeable agreement may be used.

We appreciate the opportunity to be of continued service to the Township and look forward to working with you on this important assignment. Please contact us if you have any questions or require additional information.

Sincerely,

GHD



Howard Butler, PE
Project Manager



Joel Kostelac, PE BCEE
Project Director

Encl.

Copy to: Mike Sedon, Cranberry Township

(Authorized Representative)

ACCEPTANCE AND AUTHORIZATION TO PROCEED

Cranberry Township

By: _____

Title: _____

Date: _____