

## **SCHEDULE A**

### **SCOPE OF SERVICES**

**City of Hendersonville, North Carolina**

#### **Engineering Services to Support the Hendersonville Water Treatment Facility Filter Expansion Project**

##### **AMENDMENT 1 - Engineering Services During Construction**

The amended scope of work provided by Hazen and Sawyer (hereinafter, the “ENGINEER”) for the City of Hendersonville, North Carolina (hereinafter, the “OWNER”) shall include professional services for Work items listed and detailed below.

##### **Background**

ENGINEER shall provide services during construction including construction administration, construction observation, and third-party materials testing services for the City of Hendersonville, NC Water Treatment Facility (WTF) Filter Expansion Project. The Hendersonville WTF is located at 4139 Haywood Rd, Mills River, NC 28759 and the Filter Expansion Project includes the Work detailed in the Drawings and Project Manuals including Specifications and any subsequently issued Addenda. For a summary of construction Work included in the Project, refer to Section 01 11 00 - Summary of Work in the Project Manual.

##### **Construction Administration Services**

*General Administration of Construction Contracts.* ENGINEER shall consult with OWNER and act as OWNER’s representative as provided in the Project Manual, General Conditions, EJCDC C-700 2018 Edition, Article 10, as modified by EJCDC C-800, Supplementary Conditions. The extent and limitations of the duties, responsibilities, and authority of ENGINEER as assigned in the Construction General Conditions and Supplementary Conditions shall not be modified, except as ENGINEER and OWNER have modified in this Amendment or may otherwise agree in writing. All of OWNER’s instructions to Contractor will be issued through ENGINEER, which shall have authority to act on behalf of OWNER in dealings with Contractor to the extent provided in this Agreement and the Construction General Conditions and Supplementary Conditions except as otherwise provided in writing. Detailed descriptions of specific construction administration service provided by the ENGINEER shall be as follows:

1. *Shop Drawings/Submittal/Vendor O&M Review:* Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques,

- sequences, or procedures of construction or to safety precautions and programs incident thereto. ENGINEER shall meet the submittal schedule required by the Agreement between the OWNER and the Contractor.
2. *Substitutes and “or-equal”*: If Contractor submit substitutes or “or-equals”, ENGINEER shall evaluate and determine the acceptability of substitute or “or-equal” materials and equipment proposed by Contractor per Article 7.05 of the Construction General Conditions.
  3. ENGINEER shall provide CM software such as Procore or equal to facilitate the submittal process and capture and document key project documents such as schedule of submittals, submittals, monthly meeting agendas and minutes, daily reports including weather conditions, project photos and aerials, shop drawing and vendor O&M review, requests for information, and progress schedule updates.
  4. *Schedule Reviews*:
    - a. ENGINEER shall receive, review, and determine the acceptability of any and all schedules that Contractor is required to submit to ENGINEER, including the Progress Schedule, Schedule of Submittals, and Schedule of Values in accordance with the Construction General Conditions and Supplemental Conditions. In addition, ENGINEER shall ensure Contractor establishes baseline schedule and benchmarks as appropriate for locating the Work which in ENGINEER’s judgment are necessary to enable Contractor to proceed.
  5. *Request for Information (RFI) Review*: In accordance with Article 10 of the Construction General Conditions and Supplemental Conditions ENGINEER will issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor’s work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Construction Documents. ENGINEER may issue Field Orders authorizing minor variations in the Work from the requirements of the Contract Documents but shall promptly send all such Field Orders to the OWNER’s representative.
  6. *Request for Change (RFC)/Claims Review and Processing*: ENGINEER will review and issue recommendations, actions and decisions per Articles 11 and 12 of the Construction General Conditions and Supplemental Conditions. ENGINEER will issue Work Change Directives to OWNER, as appropriate, and prepare Change Orders and Work Change Directives as required. ENGINEER will render formal written decisions on all duly submitted issues relating to the acceptability of Contractor’s work or the interpretation of the requirements of the Contract Documents pertaining to the execution, performance, or progress of Contractor’s Work; review each duly submitted Claim by OWNER or Contractor, and in writing either deny such Claim in whole or in part, approve such Claim, or decline to resolve such Claim if ENGINEER in its discretion

concludes that to do so would be inappropriate. In rendering such decisions, ENGINEER shall be fair and not show partiality to OWNER or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

7. *Project Meetings*: ENGINEER will schedule, prepare agendas, conduct, and prepare minutes as appropriate for all construction project meetings including the following:
  - a. An in-person Pre-Construction Conference prior to commencement of Work at the Site
  - b. Virtual monthly progress meetings, and
  - c. In-person shutdown coordination meetings (3 anticipated – in place of virtual progress meetings)
  
8. *Payment Applications*: Based on ENGINEER's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:
  - a. Determine the amounts that ENGINEER recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute ENGINEER's representation to OWNER, based on such observations and review, that, to the best of ENGINEER's knowledge, information and belief, Contractor's Work has progressed to the point indicated, the quality of such Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe Contractor's Work. In the case of unit price work, ENGINEER's recommendations of payment will include final determinations of quantities and classifications of Contractor's Work (subject to any subsequent adjustments allowed by the Contract Documents). The responsibilities of ENGINEER as to payment are expressly subject to the limitations set forth in the Construction General Conditions.
  
  - b. By recommending any payment, ENGINEER shall not thereby be deemed to have represented that observations made by ENGINEER to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents. Neither ENGINEER's review of Contractor's Work for the purposes of recommending payments nor ENGINEER's recommendation of any payment including final payment will impose on ENGINEER responsibility to supervise, direct, or control Contractor's Work in progress or for the means, methods,

techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with Laws and Regulations applicable to Contractor's furnishing and performing the Work. It will also not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes Contractor has used the monies paid on account of the Contract Price, or to determine that title to any portion of the Work in progress, materials, or equipment has passed to OWNER free and clear of any liens, claims, security interests, or encumbrances, or that there may not be other matters at issue between OWNER and Contractor that might affect the amount that should be paid.

9. *Punchlist, Closeout Documentation:* Receive, review, and transmit to OWNER maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, Shop Drawings, and the annotated record documents which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment. The extent of such review by ENGINEER will be limited as provided in Construction General Conditions.
10. *Substantial Completion:* Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with OWNER and Contractor, ENGINEER will conduct an inspection to determine if the Work is substantially complete. If after considering any objections of OWNER, ENGINEER considers the Work substantially complete, ENGINEER shall deliver a certificate of Substantial Completion including any associated punchlists to OWNER and Contractor in accordance with the Construction General Conditions.
11. *Final Notice of Acceptability of the Work:* ENGINEER will conduct a final inspection to determine if the completed Work of Contractor including any Substantial Completion punchlist items are complete and acceptable so that ENGINEER may recommend, in writing, any final completion punchlist items, and final payment to Contractor. Accompanying the recommendation for final payment, ENGINEER will indicate that the Work is acceptable, subject to the Construction General Conditions and Supplemental Conditions, to the best of ENGINEER's knowledge, information, and belief and based on the extent of the services provided by ENGINEER under this Amendment.
12. *Record Drawings:* Based on Contractor's markups, provide as-built record drawings, one full size paper set and one electronic (CAD/Revit and PDF) copy. These drawings shall be updated during project construction to ensure that all changes have been included and are reflected in the drawings.
13. *Special Inspections:* ENGINEER shall prepare a statement of special inspections (SoSI) as required for Contractors to obtain building permits, shall perform special inspections

or coordinate special inspections by third party testing subconsultant, and prepare documentation of special inspections through the Project.

14. *Standards for Certain Construction-Phase Decisions:* ENGINEER will render decisions regarding the requirements of the Construction Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, ENGINEER will not show partiality to OWNER or Contractor, and will not be liable to OWNER, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.
15. *Duration of Construction Phase:* The Construction Phase will commence with the execution of the construction Contract for the Project and will terminate upon written recommendation by ENGINEER for final payment to the Contractor. ENGINEER shall be entitled to an equitable increase in compensation if Construction Phase services are required after the original date for final completion of the Work as set forth in the construction Contract.
16. *Limitation of Responsibilities:* ENGINEER shall not be responsible for the acts or omissions of any Contractor, or of any subcontractors, suppliers, or other individuals or entities performing or furnishing any of the Work. ENGINEER shall not be responsible for the failure of any Contractor to perform or furnish the Work in accordance with the Construction Documents.

### **Construction Observation Services**

*Onsite Construction Phase Services:* ENGINEER will provide the services of one (1) subcontracted and part time (average 12 hours per week, Monday through Friday) Resident Project Representative (RPR), to assist the ENGINEER and to provide more extensive observation of Contractor Work in the field for the Construction Durations indicated in the Project Manual Section C-520 - Agreement, Article 4 – Contract Times.

1. Duties, responsibilities, and authority of the RPR are as set forth below. The furnishing of such RPR's services will not limit, extend, or modify ENGINEER's responsibilities or authority except as expressly set forth in Construction General Conditions. In addition to the RPR, ENGINEER may provide field staff on a part time intermittent basis to increase observation capacity as necessary to assist the RPR when specialty construction activities occur, or the volume of general construction activities merits additional observation capacity.
2. ENGINEER, RPR, or any other ENGINEER personnel shall not, during such visits or as a result of such observations of Contractor's Work in progress, supervise, direct, or have control over Contractor's Work, nor shall ENGINEER have authority over or

responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by Contractor, for security or safety on the Site, for safety precautions and programs incident to Contractor's Work, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work. Accordingly, ENGINEER neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform the Work in accordance with the Contract Documents.

3. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction, as ENGINEER deems necessary based on ENGINEER's exercise of professional judgement, to observe as an experienced and qualified design professional the progress and quality of Contractor's executed Work. Such visits and observations by ENGINEER, and the RPR, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to ENGINEER in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on ENGINEER's exercise of professional judgment as assisted by the RPR, if any. Based on information obtained during such visits and observations, ENGINEER will determine in general if the Work is proceeding in accordance with the Contract Documents, and ENGINEER shall keep OWNER informed of the progress of the Work.
4. *Onsite Commissioning Services:* ENGINEER will facilitate vendor startup and training, overall startup services, and performance testing. Verification of vendor startup consists of meeting with vendor startup reps, witnessing their startup, collecting and reviewing vendor startup reports, and addressing any issues that may arise during startup. ENGINEER will schedule Contractor provided vendor training sessions with OWNER staff, ensuring vendor training is provided with proper notice, qualified personnel, and sufficient quantities of vendor training materials. Where appropriate, vendor training will occur within 1 to 2 days of startup. Process training provided by the ENGINEER is not included in this scope of work.

### **Third Party Materials Testing Services**

ENGINEER will provide the services of qualified independent testing services for materials testing including concrete, grout, reinforcing steel, and coatings. ENGINEER will coordinate with a Third-Party Materials Testing firm and will require such special inspections or tests of Contractor's work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Contract Documents. ENGINEER's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Contract Documents. ENGINEER shall be entitled to rely on the results of such tests.

ENGINEER's budget for third party testing services is estimated at \$10,000 based on preliminary discussions with a local Third-Party Materials Testing firm. The final budget is contingent upon the construction schedule to be furnished by the Contractor.

**SCHEDULE B**

**COMPENSATION**

**City of Hendersonville, North Carolina**

**Engineering Services to Support the Hendersonville Water Treatment Facility Filter Expansion Project**

**AMENDMENT 1 - Engineering Services During Construction**

OWNER shall pay ENGINEER as full compensation for the services identified under Schedule A in the amount of \$309,000. Compensation shall be on a not-to-exceed basis. The Project will be invoiced on a monthly basis based on the time (hours) that ENGINEER works on the project, and the hourly rate (see rate sheet below). See the attached Task and Fee Schedule.

**Billing Rates**

<b>Title</b>	<b>Average of Billing Rate (\$/hr)</b>
Associate Vice President	\$290
Senior Associate	\$280
Associate	\$240
Senior Principal Engineer	\$205
Principal Engineer	\$170
Assistant Engineer	\$145
Designer	\$130
Senior Field Coordinator*	\$120

*\*Performed by subcontracted RPR*

The basis of the proposed fee is summarized in the table below.

**Assumptions**

Estimated CM Duration	14 months
Estimated Number of Submittals	87

Estimated Number of RFIs	20
Estimated Number of RFCs	10
Estimated Number of Pay Applications	14
Estimated Number of Meetings	15
Estimated CMT Services Fee*	\$10,000

*\*Budgetary estimate, contingent upon the construction schedule to be furnished by the Contactor*

Estimate of Construction Related Services Agreement

9/12/2024

Labor Projections (hours)	Type	Assoc VP \$290	Sr Assoc \$280	Assoc \$240	Sr PE \$205	Principal Engr \$170	Assist Engr \$145	Designer \$130	Sr Field Coord* \$120	Total Hours	Expenses	Fee Per Task
Construction Admin (CA) Services												
Project Management	CA	7	42							49	\$5,000	\$18,790
Shop Drawing Review	CA		44	40			261			345		\$59,625
Vendor O&Ms	CA		22				44			65		\$12,398
Schedule Reviews	CA		14				14			28		\$5,950
Requests for Information	CA		20	20			40			80		\$16,200
Requests for Change	CA	5	20				40			65		\$12,850
Project Meetings	CA		76	16					32	124	\$1,500	\$30,460
Payment Application Review	CA		14						42	56		\$8,960
Punchlist, Closeout Documentation	CA		16	4						20		\$5,440
Record Drawings	CA		8	8				40		56		\$9,360
Training, Startup & Testing	CA			16		40				56	\$800	\$11,440
<b>Sub-Total</b>	<b>CA</b>	<b>12</b>	<b>275</b>	<b>104</b>	<b>0</b>	<b>40</b>	<b>399</b>	<b>40</b>	<b>74</b>	<b>944</b>	<b>\$7,300</b>	<b>\$191,473</b>
Construction Observation (CO) Services												
Specialty Inspections (not materials testing)	CO				24	24	48			96	\$1,800	\$17,760
Onsite Construction Phase Services*	CO								720	720	\$3,400	\$89,800
<b>Sub-Total</b>	<b>CO</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>48</b>	<b>0</b>	<b>720</b>	<b>816</b>	<b>\$5,200</b>	<b>\$107,560</b>
<b>Total</b>	<b>CA &amp; CO</b>	<b>12</b>	<b>275</b>	<b>104</b>	<b>24</b>	<b>64</b>	<b>447</b>	<b>40</b>	<b>794</b>	<b>1,760</b>	<b>\$12,500</b>	<b>\$299,033</b>

\*Performed by Ellum Engineering