

EXHIBIT A
PROFESSIONAL ENGINEERING SERVICES
for the
CITY OF HENDERSONVILLE
WWTF BIOSOLIDS THERMAL DRYER PROJECT
AMENDMENT NO. 1

This Amendment No. 1 to the WWTF Biosolids Thermal Dryer professional engineering services contract, dated June 25, 2023 between the City of Hendersonville, North Carolina (Owner) and McKim & Creed, Inc. (Engineer) is as outlined below:

I. PROJECT UNDERSTANDING AND PURPOSE

The following presents the scope of work to provide professional engineering services for the Wastewater Treatment Facility (WWTF) Biosolids Thermal Dryer Project, including additional services performed under Phase 1 associated with Final Design and Bidding and Award services, and Phase 2 services associated with contracting assistance, construction phase services, and post-construction phase services. Per Exhibit B – Firm’s Scope of Services to the original contract, the professional engineering services for the WWTF Biosolids Thermal Dryer project is composed of the following phases and tasks:

PHASE 1:

1. Funding Assistance
2. Preliminary Engineering
3. Final Design
4. Permitting
5. Bidder Prequalification Assistance
6. Bidding and Award Phase
7. Unallocated Project Budget (Phase 1)

PHASE 2:

8. Solids Management Program Contracting Assistance
- 9. Construction Phase Services**
- 10. Post-Construction Phase Services**
- 11. Unallocated Project Budget (Phase 2)**

This scope of services is to provide additional Phase 1 services and Phase 2 services. The additional Phase 1 services provided by this Amendment No. 1 includes the following:

- Additional Final Design services to accommodate unanticipated changes in the dryer equipment layout that were provided by the dryer equipment manufacturer on July 24, 2024, less than 30 days prior to the contractual deadline for project bid advertisement. These additional services were performed from July 24, 2024 through August 20, 2024.

- Additional Bid and Award Phase services to address extensive questions and requests from bidders, suppliers, and subcontractors.

Phase 2 services provided by this Amendment No. 1 includes tasks 9, 10, and 11 from the original contract scope of services as listed above. The City has elected to eliminate task 8 for Solids Management Program Contracting Assistance from this scope of services, therefore this task is excluded from this Amendment No. 1.

II. SCOPE OF SERVICES

The tasks listed in the scope of services below are numbered based on the task numbering included in Exhibit B to the original professional engineering services contract dated June 25, 2023. This scope of services only includes the tasks listed below, as described in Exhibit B to the original contract, and as amended below.

PHASE 1 – Additional Services

TASK 3 – FINAL DESIGN

Additional final design services provided includes revisions to the final Issued for Bids design drawings and construction documents based on the revised final biosolids thermal dryer “feed table” arrangement. On July 24, 2024, Gryphon Environmental issued a new dryer “feed table” arrangement and requested modifications to the design documents to accommodate the new arrangement to eliminate potential issues related to feeding dewatered cake to the dryer equipment. The revised dryer feed table arrangement extended the dryer system footprint by 21-inches, therefore requiring all dryer equipment to be relocated 21-inches to the west to maintain the original dryer feed location which could not be relocated due to site constraints. The unanticipated design revisions were completed by McKim & Creed prior to the issuance of the “Issued for Bid – Not for Construction” documents and the advertisement for bids on 8/20/2024. This required unanticipated design revisions to most major discipline drawings including:

1. Mechanical drawings revisions to relocate the dryer equipment 21-inches to the west.
2. Building and Structural drawings revisions to relocate the interior dividing wall and equipment support pads 21-inches to the west.
3. HVAC drawings revisions to relocate unit heaters and natural gas lines to accommodate the relocation of the interior dividing wall.
4. Plumbing drawings revisions to relocate drains to align with the revised equipment layout and accommodate the relocation of the interior dividing wall.
5. Electrical drawings revisions to update NFPA area classifications associated with the revised equipment layout and relocation of the interior dividing wall.

TASK 6 – BIDDING AND AWARD PHASE

Additional bidding and award phase services provided includes the review of and provision of responses via addenda to extensive questions and requests from bidders, suppliers, and subcontractors during the bid advertisement period. During the bid advertisement period, McKim & Creed received approximately 67 total questions and requests from bidders, suppliers, and subcontractors. The effort required to provide adequate responses to the questions and requests received from bidders exceeded the original estimated labor budget by approximately 60 labor hours. This amendment provides for the additional labor effort required to provide

adequate responses to all questions and requests received during the bid advertisement period that exceeded the original estimated labor budget.

PHASE 2

TASK 9 – CONSTRUCTION PHASE SERVICES

Construction Administration

Our scope of work for Construction Administration services is premised on administering one (1) single-prime construction contract over a construction contract period of 720 consecutive calendar days. The construction contract period is based on 660 consecutive calendar days to reach substantial completion and an additional 60 consecutive calendar days to reach final completion. If the construction contract duration extends beyond this period, or is delayed, McKim & Creed shall be entitled to adjustment of the scope and fee associated with this task. If required, additional services associated with construction administration will be provided utilizing the Unallocated Project Budget phase upon written authorization from the City.

Our construction administration services will include:

1. Conduct the pre-construction meeting on-site at the WWTF, and issue meeting minutes.
2. Schedule and hold regular monthly construction progress meetings with the City and contractor. These meetings are assumed to be held on-site at the WWTF, or virtually via Microsoft Teams during periods of inactivity onsite. Prepare and distribute monthly construction progress meeting minutes to document discussions and responsibilities.
3. Receive, log, track and perform shop drawing and submittal reviews. Compare shop drawings and submittals to the plans and technical specifications, note deficiencies or compliance issues, and issue comments to the contractor within 10 business days of receipt. This task includes review of factory equipment testing report submittals.
4. Receive, log, track, & respond to contractor's written requests for information or clarification of the contract documents.
5. Provide clarification of requirements as indicated on the construction plans and specifications if/when questions arise during construction.
6. Receive, log, track, & respond to notifications from contractor of changes to work conditions and requests for change orders. Prepare change orders as required to document changes to the contract price or contract times. Draft change orders will be prepared and distributed to the City and NCDEQ Division of Water Infrastructure for approval prior to issuance. It is assumed up to four (4) change orders will be prepared and distributed for execution.
7. Review materials testing for conformance to the specifications.

8. Receive, log, track, & review contractor's monthly invoices and make recommendations for payment.
9. Conduct site visits with City staff as often as necessary to review project status, and confirm/certify that work is progressing in accordance with the approved construction documents.
10. Attend system startup and commissioning and provide technical guidance and assistance to the City in support of the startup and commissioning process. This task includes coordination with the City, the Contractor, and equipment manufacturers to ensure proper operator training is provided by equipment manufacturers on all new major equipment.
11. Schedule and conduct the substantial completion evaluation. Prepare the substantial completion punch list and submit to the City for concurrence, and work with the Contractor to ensure outstanding work is completed.
12. Upon satisfactory completion of the substantial completion punch list and after reviewing test results from the Contractor, prepare the Engineer's Substantial Completion Certification.
13. Schedule and conduct the final completion evaluation. Prepare the final completion punch list and submit to the City for concurrence, and work with the Contractor to ensure work is fully complete.
14. After the Contractor has satisfactorily completed the final punch list, submitted all test results, as-built redlined drawings, O&M manuals, and release of waivers and claims, McKim & Creed will prepare the Engineer's Final Completion Certification.

Construction Administration Services will also include the following:

1. Limited Operation and Maintenance Plan Update
McKim & Creed will prepare a limited update to the current facility O&M plan to include compiling the vendor provided individual equipment O&M manuals and written description of new processes that differ from the current facility. Our scope of work for this task is premised on condition I.2 of the City's latest Distribution of Class A Residuals permit No. WQ0011381, issued on November 8, 2024. The amended Operation and Maintenance Plan will include the following:
 - a. Update O&M Plan to include a brief description of new unit treatment processes.
 - b. Update the O&M Plan for startup, shut down, or normal operational procedures specific to the new facility configuration.
 - c. Add a list of new vendor-supplied O&M Manuals.
 - d. Submittal of the amended O&M Plan to the City for review and comments.

- e. Finalize the amended O&M Plan per the City's comments and submit to the NCDEQ Non-Discharge Branch online portal.
2. Construction Materials Testing
- McKim & Creed will provide for construction materials testing as required by the Issued for Construction contract documents. Construction materials testing will be performed in general accordance with the applicable ASTM, AASHTO, and/or other industry testing standards, unless noted otherwise. These services will include the following major project components:
- a. Subgrade evaluations
 - b. Engineered fill testing
 - c. Foundation bearing material evaluation
 - d. Reinforcing steel observations
 - e. Cast-in-place concrete sampling, testing, and observations
 - f. Structural steel observations
 - g. Structural masonry evaluations
 - h. ABC stone testing
 - i. Asphalt pavement testing

Reporting & Meetings:

- **Daily Reports:** Daily reports of the observations and tests performed will be distributed electronically according to the project distribution list after review.
- **Interim Reports/Test Results:** Compressive strength test reports and other laboratory results will be issued in electronic format via email, as applicable.
- **Pre-Installation Meetings:** Attend pre-installation meetings which will be held for various scopes of work (concrete, steel, etc.) where requested and/or required.

Construction Observation

McKim & Creed will provide a Resident Project Representative (RPR) who is well-qualified and experienced in constructing municipal water and wastewater treatment facilities. The RPR will perform periodic observations of the work for general conformance with the plans and specifications. McKim & Creed's construction observation services are not intended to manage, monitor, or supervise the Contractor's work, nor alleviate the Contractor's responsibility to perform the work in accordance with the plans and specifications. The scope of work assumes an average of 12 hours per week for the agreed upon construction period. If the contract duration extends beyond the agreed upon construction period or is delayed, McKim & Creed shall be entitled to adjustment of the scope and fee associated with this task. If required, additional services associated with construction observation will be provided utilizing the Unallocated Project Budget phase upon written authorization from the City. McKim & Creed will provide the following services:

1. Preparation of daily reports for each day construction observation services are provided.

2. Maintain a photographic record during construction to document aspects of the construction process.
3. Document field conditions and maintain a record of the weather, Contractor's personnel on-site, Contractor's equipment on-site, and the specific work task(s) completed since the last site visit.
4. The RPR shall confirm that Contractor as-built documents are continuously being kept up-to-date and being completed to the minimum standards of care.
5. The RPR shall review the Contractor's monthly pay requests to confirm that quantities are accurate and that lump sum percentages are representative of the current progress of lump sum work.
6. The RPR shall participate in monthly construction meetings and will represent the Engineer in responding to technical questions.
7. The RPR will participate in the substantial completion and final completion evaluations.

TASK 10 – POST-CONSTRUCTION SERVICES

Upon authorization from the OWNER, the ENGINEER shall perform the following post-construction services:

1. Record Drawings

Our effort for Record Drawing preparation services is premised on the understanding that the contractor will be responsible for continuously maintaining the red-lined "as-built" markups on the approved construction drawings. McKim & Creed will utilize the red-lined markups provided by the contractor to prepare the final Record Drawings. Record Drawings will be submitted to the City upon completion. After City review and approval, digital copies (AutoCAD and PDF format) of the Record Drawings will be delivered to the City.

2. One Year Assistance

McKim & Creed will assist the City with operational and warranty assistance on a time and materials basis as may be needed. Generally, the services will be as follows:

- a. Provide for a mid-year warranty inspection with the City and the contractor to develop a warranty punch list and then review the completed work of the contractor to verify items have been corrected.
- b. Provide for final warranty inspection with the City and the contractor at 11 months after substantial certification to develop a warranty punch list and then review the completed work of the contractor to verify items have been corrected.
- c. Provide process support assistance and associated administrative support to assist with operational questions and optimization of the plant process.

TASK 11 – UNALLOCATED PROJECT BUDGET (PHASE 2)

Task 11 is included as a contingency for unforeseen conditions or changes in the scope of work. McKim & Creed will not utilize or expend effort on Task 11 without prior written authorization from the City of Hendersonville.

III. COMPENSATION

McKim & Creed will perform the services outlined in this Exhibit A as indicated below. Services will be billed monthly on an hourly time and expense basis in accordance with the hourly rate schedule included as an attachment to this Exhibit A.

Item	Fee
PHASE 1 – Additional Services[†]	
Task 3: Final Design – Additional Services	\$10,705.00
Task 6: Bidding and Award Phase – Additional Services	\$10,750.00
PHASE 2[‡]	
Task 9: Construction Phase Services	\$741,277.00
Task 10: Post-Construction Services	\$64,806.00
Task 11: Unallocated Project Budget (Phase 2)	\$50,000.00
Total Estimated Fee, Not To Exceed	\$877,538.00

Not To Exceed = To be billed on an hourly time and expense basis

[†]Phase 1 additional services are to be billed in accordance with the rate schedule included in the original professional engineering services contract dated June 25, 2023.

[‡]Phase 2 services are to be billed in accordance with the rate schedule attached to this Amendment No. 1.

IV. ANTICIPATED PROJECT SCHEDULE

The following is the estimated schedule for the scope outlined above:

Task	Anticipated Duration from NTP (Calendar Days)	Anticipated Task Duration (Calendar Days)
PHASE 2		
Construction Contract NTP	0	0
Construction Substantially Complete/ Equipment Start-up	660	660
Construction Final Completion	720	60
Record Drawings Submittal	780	60
Warranty Period Complete	1,085	365

Note: The schedule provided is approximate and may vary depending on City review, regulatory approval, equipment and material lead times, and unforeseen conditions.

V. ADDITIONAL SERVICES

If authorized in writing by the City, McKim & Creed shall furnish or obtain from others Additional Services of the types listed below. These services will be paid for by the City on an hourly rate basis in accordance with the current Hourly Rate Schedule. If required, additional services will be provided utilizing the Unallocated Project Budget phase upon written authorization from the City.

1. Expert witness or technical support concerning property surveying or engineering matters for which the Engineer has no direct liability.
2. Providing for determining, evaluating, and assistance with contaminated soils for the project area.
3. Preparing for, coordinating with, participating in and responding to structured independent review processes for construction management, cost estimating, value engineering and constructability reviews requested by the City and performing or furnishing services required to revise studies, reports, drawings, specifications, or other bidding documents as a result of such review processes.
4. Providing for any re-designs requested by the City after final design drawings have been approved.
5. Providing for design of any residuals dewatering facilities or dewatered residuals storage facilities.
6. Construction survey and staking.
7. Engineer-led operator training on equipment, processes, or other miscellaneous training related to the existing or proposed facilities.
8. Providing for Special Inspections (North Carolina State Building Code) if required by the Local Inspections Departments.
9. Providing for a detailed Operation and Maintenance Plan above and beyond what is detailed and outlined in this Amendment No. 1.
10. As-built surveys or as-built 3D scanning and Building Information Modeling (BIM) using Autodesk Revit.
11. Preparing to serve or serving as a consultant or witness for the City in any litigation, arbitration or other dispute resolution process related to the project.
12. Other services performed or furnished by McKim & Creed not otherwise provided for in this Agreement. These services are to be identified as additional services for City approval prior to McKim & Creed performing the service.

VI. OWNER'S RESPONSIBILITIES

The following items shall be the responsibility of the City:

1. Provide McKim & Creed with all criteria and full information as to the City's requirements for the project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which the City will require to be included in the Drawings and Specifications; and furnish copies of the City's standard forms, conditions and related documents for McKim & Creed to include in the Bidding Documents, when applicable.

2. The timely provision of all available information, data, reports, records, and maps to which the City has access and which are needed by McKim & Creed for the performance of the services provided herein.
3. Providing assistance and cooperation for McKim & Creed in obtaining any other needed material which the City does not have in its possession.
4. Making available the services of the City as may be necessary to obtain information as needed to perform the work program set forth in the Scope of Services.
5. The designation of a single representative who will be authorized to make necessary decisions required on behalf of the City and will serve to provide the necessary direction and coordination for the project.
6. Advise McKim & Creed of the identity and scope of services of any independent consultants employed by the City to perform or furnish services in regard to the project, including, but not limited to, cost estimating, project peer review, value engineering and constructability review.
7. Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job-related meetings and Substantial Completion, final payment, and warranty reviews.

VII. MISCELLANEOUS PROVISIONS

1. McKim & Creed's current hourly rate schedule is attached. Hourly rates are subject to adjustment on January 1st of each calendar year.

END OF EXHIBIT A