PROJECT AGREEMENT

Between

THE CITY OF SUNRISE

And

BROWN AND CALDWELL (CORPORATION)

For

Project Agreement Number: PA 25-020-BC

EVALUATION OF DEWATERED WAS STABILITY AND ALTERNATIVES FOR SLUDGE STABILIZATION – TECHNICAL MEMORANDUM

Pursuant to the provisions contained in the Continuing Services Agreement between the City of Sunrise ("City") and Brown and Caldwell (Corporation), Inc. ("Consultant") for Professional Services – Water, Wastewater, Wastewater Reuse and Natural Gas Utilities Projects (hereinafter referred to as "Continuing Services Agreement") dated May 7, 2021, this Project Agreement (hereinafter referred to as "Agreement") authorizes the Consultant to provide the services as set forth below:

SECTION 1 INCORPORATION OF CONTINUING SERVICES AGREEMENT

1.1 All terms and conditions of the Continuing Services Agreement between the City and the Consultant dated May 7, 2021, not specifically modified by this Agreement shall remain in full force and effect and are incorporated into and made a part of this Agreement by this reference as though set forth in full.

SECTION 2 CONSULTANT'S BASIC DUTIES TO CITY

2.1 By executing this Agreement, the Consultant represents to the City that the Consultant is professionally qualified to act as the Consultant for the Project (hereinafter referred to as "the Project") and is licensed to practice engineering by all public entities having jurisdiction over the Consultant and the Project. The Consultant further represents to the City that the Consultant will maintain all necessary licenses, or other authorizations necessary to act as Consultant for the Project until Consultant's duties hereunder have been completed. The Consultant shall be responsible for providing all necessary subconsultants required for the successful completion of the work as outlined in EXHIBIT "1," Scope of Services. The Consultant assumes full responsibility to the City for the improper acts, negligence, and omissions of its subconsultants and of all others employed or retained by the Consultant in connection with the Project.

2.2 Execution of this Agreement by the Consultant constitutes a representation that the Consultant has become familiar with the Project site and the local conditions under which the Project is to be implemented.

City's Initials:_____ Consultant's Initials:_____

2.3 THIRTY PERCENT DESIGN DOCUMENTS – NOT USED

2.4 SIXTY PERCENT DESIGN DOCUMENTS – NOT USED

2.5 NINETY PERCENT DESIGN DOCUMENTS – NOT USED

2.6 ONE HUNDRED PERCENT DOCUMENTS – NOT USED

2.7 ADMINISTRATION OF CONSTRUCTION – NOT USED

2.8 ADDITIONAL SERVICES

The following services of the Consultant are not included in Sections 2.3 through 2.7, nor in EXHIBIT "1," Scope of Services. Nevertheless, the Consultant shall provide such services as related to the Project if authorized in writing by the City prior to the performance or furnishing of same, and, unless otherwise specified in this Agreement, said services shall be paid for by the City as provided hereinafter.

2.8.1 Providing services to perform an extraordinary examination or investigation of existing conditions or to make measured drawings, or to verify the accuracy or other information provided by the City.

2.8.2 Making revisions in drawings, specifications, or other documents when such revisions are inconsistent with written direction by the City previously given, are required by the enactment or revision of codes, laws or regulations subsequent to the preparation of such documents and not reasonably anticipated or are due to other causes not within the control or responsibility of the Consultant, either in whole or in part2.8.3 Preparing drawings, specifications and supporting data in connection with Change Orders, provided that such Change Orders are issued by the City due to causes not within the control or responsibility of the Consultant, either in whole or in part.

2.8.4 Providing services concerning repair or replacement of work damaged by fire or other cause during construction provided that such services are required by causes not the responsibility of the Consultant, either in whole or in part.

2.8.4 Providing services made necessary solely by the default of the Contractor or defects or deficiencies in the work of the Contractor.

2.9 SERVICE SCHEDULE

2.9.1 The Consultant shall perform its services in accordance with agreed upon schedule. The Consultant shall submit for the City's approval a schedule for the performance for the Consultant's services that shall include allowance for time required for the City's review of submissions and for approvals of authorities have jurisdiction over the Project. The City shall review and approve or reject any schedules submitted by the Consultant within five

(5) working days of said submittal. If, in the event that construction of the Project is suspended for more than thirty (30) days, the Consultant shall also suspend Construction Administration Services upon request of City. Any time spent on the Project at the request of the City or on the City's behalf during this suspension shall be additional services and shall be paid based on the Standard Hourly Rates attached to the Continuing Services Agreement as EXHIBIT "B" Hourly Rates. The reasonable term of construction upon which the fees for Construction Administration Services in this Agreement are based, shall be extended to include the period of construction suspension. This schedule, when approved by the City, shall not, except for cause, be exceeded by the Consultant. In the event the City rejects any schedules submitted by the Consultant, the Consultant shall submit a revised schedule within forty-eight (48) hours of said rejection. Submission of a schedule acceptable to the City and to which the City makes no objection shall be a condition precedent for any payment to the Consultant.

2.9.2 Upon receipt of the Notification of Commencement and the fully executed Purchase Order, the Consultant shall commence services to the City on the Commencement Date, and shall continuously perform services to the City, without interruption, in accordance with the time frames set forth in the "Project Schedule," a copy of which is attached and incorporated into this Agreement as EXHIBIT "2." The number of calendar days from the Commencement Date, through the date set forth in the Project Schedule for completion of the Project or the date of actual completion of the Project, which ever shall last occur, shall constitute the Contract Time.

2.9.3 Liquidated Damages: The parties recognize and agree that certain events may cause the City to suffer losses that are by their nature uncertain, difficult to prove, and not ascertainable at the time this Agreement is entered into. The parties agree that certain breaches will cause Consultant to pay City liquidated damages resulting from the breach. In no event shall these liquidated damages be construed or deemed to constitute penalties. Unless otherwise excused by the City in writing, in the event that the Consultant fails to meet the Contract Time for completion of a particular milestone of service(s) as determined by the Project Schedule, the Consultant shall pay to the City the sum of dollars identified below per day for each and every calendar day of unexcused delay beyond the milestone completion date(s) identified below, until completion of the milestone:

Milestone 1: Task 4 – Alternatives Analysis and Technical Memorandum $100

2.9.4 No Damages for Delay: The Consultant shall not be entitled to any claim for damages including, but not limited to, loss of profits, loss of use, home office overhead expenses, equipment rental and similar costs on account of delays in the progress of the Project from any cause or national disaster or emergency, unusual delay in deliveries, unusual delay in procuring permits, differing site conditions, unavoidable casualties or other cause beyond the Consultant's control, or by delay authorized by the City, or by other causes which the Consultant determines may justify delay. The Consultant's sole recovery and remedy for any such delay shall be a reasonable extension of time and a revision to the Project Schedule as determined by the City. However, additional costs to the Consultant or delays in the Consultant's performance caused by improperly timed activities shall not be the basis for granting a time extension. If the Consultant wishes to make a claim for an increase in time of performance, written notice of such claim shall be made to the City within three (3) working days after the occurrence of the event, or the first appearance of the condition giving rise to such claim. The City's representative shall determine whether

the Consultant is entitled to a time extension for the delay. The failure of the Consultant to give such notice shall constitute a waiver of any claim under this section.

2.9.5 Notwithstanding the provisions of Subparagraph 2.8.4, in the event that the Contractor fails to substantially complete the Project on or before the Substantial Completion date specified in the Construction Contract or the Contractor is granted an extension of the time to complete performance under the Construction Contract and the Consultant's Contract Administration Services are materially extended by the City as a direct result thereof and through no fault of the Consultant, the Consultant shall be entitled to additional compensation at the rates shown in the Continuing Services Agreement EXHIBIT "B." The amount of compensation due by the Consultant under this Subparagraph shall be pursuant to approved written Amendment to this Agreement.

2.10 PERSONNEL

2.10.1 The Consultant shall assign only qualified personnel to perform any service concerning the Project. At the time of execution of this Agreement, the parties anticipate that the following named individuals will perform those supervisory or primary functions indicated:

NAME	FUNCTION
Celia D. A. Earle, Ph.D., BCEEM	Client Service Manager
Marie Burbano, Ph.D., P.E.	Project Manager
JC Quintos	Project Analyst
DJ Wacker	Technical Lead
John Ross	Testing Lead
Matt Mastin	Project Engineer
Joanna Julien, E.I.	Project Engineer
Carla Curatolo	Administrative Assistant

So long as the individuals named above remain actively employed or retained by the Consultant, they shall perform the functions indicated next to their names. Furthermore, the City reserves the right to reject any proposed substitution for any of the above-named individuals, and the City shall have the further right to require that any individual assigned to the Project by the Consultant be removed from the Project and reassigned for good cause.

SECTION 3 CITY'S BASIC DUTIES TO CONSULTANT

3.1 The City shall provide the Consultant with adequate information regarding the City's requirements for the Project including any desired or required design or construction schedule, or both, and any budgetary requirements including fixed limit of construction cost, prior to the start of the Construction Documents portion of design, upon which the Consultant shall be entitled to rely.

3.2 The City shall review any documents submitted by the Consultant requiring the City's decision, and shall render any required decision pertaining thereto in a timely fashion.

3.3 The City shall furnish structural, mechanical, chemical and other laboratory tests, inspections and reports as required by law or the Construction Contract.

3.4 If the City becomes aware of any fault or defect in the Project, nonconformance with the Construction Contract, or of any errors, omissions or inconsistencies in the drawings or specifications, prompt notice thereof shall be given by the City to the Consultant.

3.5 The City shall perform those duties set forth in Sections 3.1 through 3.4 as expeditiously as may reasonably be necessary for the orderly progress of the Consultant's services and of the work.

3.6 The City's review of any documents prepared by the Consultant or its subconsultants shall be solely for the purpose of determining whether such documents are generally consistent with the City's construction program and intent. No review of such documents shall relieve the Consultant of its responsibility for the accuracy, adequacy, fitness, suitability and coordination of its work product.

SECTION 4 CONSTRUCTION COSTS – NOT USED

SECTION 5 BASIS OF COMPENSATION

5.1 The City shall compensate the Consultant for an amount not to exceed $129,354.54 exclusive of reimbursable expenses ($144,354.54 inclusive of Reimbursable expenses, if authorized) based on services rendered pursuant to Sections 2.3 through 2.7 and **EXHIBIT "1,"** Scope of Services, of this Agreement by allocating the estimated percentage of work for each of the tasks set forth in Section 5.2. Billings for each task shall not exceed the amount allocated to each task.

5.2 Payment to the Consultant of the sum set forth in Section 5.1 shall be allocated based on the estimated percentage of work completed for each of the following tasks:

Task 1	Project Management and Coordination	$15,901.40	12.3%
Task 2	Data Collection and Review	$16,671.74	12.9%
Task 3	Desktop Evaluation	$37,424.20	28.9%
Task 4	POE and DS Monitoring	$59,357.20	45.9%
	Total	**$129,354.54**	**100.0%**
	Reimbursable Expenses	$15,000.00	
		$144,354.54	

5.3 Additional services of the Consultant as described in Section 2.8, if any, shall be compensated as follows:

See EXHIBIT "B" Hourly Rates of the Continuing Services Agreement.

5.4 Reimbursable Expenses as defined in Section 6 shall be reimbursed to the Consultant by the City as provided in Section 6.

5.5 If the scope of the Consultant's services are changed materially through no fault of the Consultant, compensation due to the Consultant shall be equitably adjusted, either upward or downward.

SECTION 6 BILLING AND PAYMENTS TO CONSULTANT

6.1 Billing by the Consultant shall be in accordance with EXHIBIT "E" of the Continuing Services Agreement. Payments to the Consultant shall also be in accordance with EXHIBIT "E" of the Continuing Services Agreement and EXHIBIT "2" of this Agreement.

6.2 REIMBURSABLE EXPENSES

6.2.1 Reimbursable Expenses shall mean expenses incurred by the Consultant and Sub-Consultant's in the interest of the Project, as follows:

Not to exceed $15,000.00 without prior written authorization by the City.

6.2.1.1 Reasonable expenses of: long-distance communications; mileage reimbursement in accordance with Section 2-2 of the Code of Ordinances of the City of Sunrise, Florida; fees paid for securing approval of authorities having jurisdiction over the Project; actual cost of reproduction, postage and handling of drawings, specifications and other documents; renderings, models and mock-ups requested by the City; additional insurance coverage or limits, including professional liability insurance, requested by the City in excess of that required in the Request For Qualifications. The Consultant shall only be reimbursed for the direct cost of the item without additional mark-up. Costs for meals, snacks, and beverages are not considered a reimbursable expense.

SECTION 7 TERM

7.1 This Agreement shall commence on the date this instrument is fully executed by all parties and shall continue in full force and effect for **160 days**, unless otherwise terminated pursuant to Section 8.1 or 8.2, or other applicable sections of this Agreement. The City's City Manager, in his sole discretion, may extend the term of this Project Agreement through written notification to the Consultant. Such extension shall not exceed one-hundred eighty (180) days. No further extensions of this Agreement shall be effective unless authorized by City code or City Commission action.

SECTION 8 TERMINATION

8.1 TERMINATION FOR CAUSE

8.1.1 This Agreement may be terminated by either party upon seven (7) days' written notice to the other should such other party fail substantially to perform in accordance with its material terms through no fault of the party initiating the termination. In the event of a termination for cause, the Consultant shall be entitled to receive compensation for any work completed pursuant to the Agreement to the satisfaction of the City through the date of termination, less any amounts which the City reasonably deems necessary to withhold in order to correct any defects or deficiencies in the work performed by the Consultant. In no event shall the City pay for profit or overhead on work not performed.

8.2 TERMINATION FOR CONVENIENCE

8.2.1 This Agreement may be terminated by the City without cause upon ten (10) days' written notice to the Consultant. In the event of such a termination without cause, the Consultant shall be compensated for all services completed pursuant to this Agreement to the satisfaction of the City up to and through the date of termination, together with Reimbursable Expenses incurred. In such event, the Consultant shall promptly submit to the City its invoice for final payment and reimbursement which invoice shall comply with the provisions of Section 2.5 of EXHIBIT "E" of the Continuing Services Agreement.

8.2.2 Under no circumstances shall the City make payment of profit or overhead for work that has not been performed. Additionally, the City shall not make payment for the following items:

8.2.2.1 Anticipated profits or fees to be earned on completed portions of the work;

8.2.2.2 Consequential damages;

8.2.2.3 Costs incurred in respect to materials, equipment or services purchased or work done in excess of reasonable quantitative requirements of this Agreement;

8.2.2.4 Expenses of Consultant due to the failure of Consultant or its subconsultants to discontinue the work with reasonable promptness after notice of termination has been given to the Consultant; and

8.2.2.5 Losses upon other contracts or from sales or exchanges of capital assets or Internal Revenue Code Section 1231 assets.

8.2.2.6 Damage or loss caused by delay.

8.3 Assignment Upon Termination. Upon termination of this Agreement, the work product of the Consultant shall become the property of the City and the Consultant shall within ten (10) working days of receipt of written direction from the City, transfer to either the City or its authorized designee, all work product in its possession, including but not limited to, designs, specifications, drawings, studies, reports and all other documents and data in the possession of the Consultant pertaining to this Agreement. Upon the City's request, the Consultant shall additionally assign its rights, title and interest under any subcontractor's agreements to the City. All work product provided under this Section shall be used solely for its intended purpose.

SECTION 9 SEVERABILITY

9.1 If any term or provision of this Agreement or its application thereof to any person or circumstance shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement or the application of such terms or provisions to persons or circumstances other than those to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Agreement shall be deemed valid and enforceable to the extent permitted by law.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement on the respective dates under each signature: the City, signing by and through its Mayor, attested to by its City Clerk, duly authorized to execute same and by Brown and Caldwell (Corporation), signing by and through its Client Service Manager, duly authorized to execute same.

CITY

CITY OF SUNRISE, FLORIDA

By: _____
Mayor Michael J. Ryan

_____ day of _____, 2025.

AUTHENTICATION:

_____
City Clerk

(SEAL)

Approved as to form for the City:

By: _____
Thomas P. Moss
City Attorney

City's Initials:_____ Consultant's Initials:_____

CONSULTANT

Brown and Caldwell (Corporation)

BY: _____
Celia D. A. Earle, Ph.D., BCEEM

TITLE: Client Service Manager

_____ day of _____, 2025.

WITNESSES:

_____

_____

EXHIBIT "1"

SCOPE OF SERVICES

The City of Sunrise, Florida (City), has been participating in the Regional Biosolids Workgroup with Broward County Water and Wastewater Services and other partners for a new regional biosolids facility. As the future owner and operator of the regional biosolids facility, Broward County's preference is that the facility only accepts and processes Class B biosolids. Several partners, including Sunrise, do not currently produce Class B biosolids and may not be able to participate in the regional facility. However, Broward County may be able to accept and process non-Class B biosolids if it is determined that the material will not negatively impact the operations of the thermal drying system. A key concern is the stability of the sludge during storage prior to drying, particularly for waste activated sludge (WAS) produced at low solids retention time (SRT) facilities. Unstabilized WAS has been observed to degrade biologically during storage, resulting in a pasty, odorous material that forms stringy noodles and clogs dryer belts.

The City owns and operates two long-SRT secondary wastewater treatment plants that currently dose VX456, a chemical oxidant, ahead of dewatering to mitigate odor issues during loading and hauling of dewatered cake. This study will evaluate the effectiveness of VX456 in stabilizing WAS, assess the physical and biological stability of the sludge, and compare alternative stabilization methods. The findings will inform whether the City's sludge is suitable for drying and support broader regional planning for sludge management.

This study will also compare the life cycle costs of chemical stabilization to biological stabilization processes (i.e., aerobic digestion, anaerobic digestion) through an alternatives analysis.

TASK 1 PRELIMINARY ACTIVITIES AND KICK-OFF MEETING

Objective: This task is to establish a shared understanding of project goals, technical challenges, and stakeholder expectations. Finalize logistics and prepare for sample collection and testing.

Activities:

1. Organize and conduct a kick-off meeting.
2. Review the background of the regional dryer initiative, including belt dryer performance guarantee requirements.
3. Confirm the scope of testing, sample sources (City and potentially other WAS-only facilities), and lab capabilities.
4. Identify key stakeholders for technical input (e.g., belt dryer manufacturers such as Veolia, Xylem, and Scott Equipment).
5. Finalize project schedule, communication protocols, and data sharing platforms.

Deliverables:

a. Kick-off meeting presentation and meeting minutes.

TASK 2 DATA REVIEW AND TEST PLAN

Objective: This task is to develop a comprehensive test plan to evaluate sludge stability, odor potential, and physical characteristics under various conditions. Identify the testing parameters that can be quantified and repeated for further analysis.

Activities:

1. Review historical data on WAS characteristics, dewatering performance, and chemical dosing practices at the City's two Waste Water Treatment Plants (WWTP).
2. Develop test protocols and methods for compost maturity testing at the Sawgrass WWTP. Assume samples will be collected from the Sawgrass facility, Springtree facility, and Broward County facility.
3. Identify roles and responsibilities during testing for City and BC.
4. Coordinate with labs to ensure equipment availability and sample handling protocols.
5. Meeting to review the Test Plan

Deliverables:

a. Detailed test plan with protocols, timelines, and lab assignments.

b. Meeting minutes.

TASK 3 STABILITY TESTING – PHASE I (COMPOST MATURITY TESTING)

Objective: This task is to quantify the biological and physical stability of dewatered WAS dosed with VX456 under simulated storage conditions using the compost maturity tests.

Activities:

1. Collect dewatered WAS samples from the City and store them under controlled warm conditions for 1–7 days.
2. Dose samples with different quantities of VX456.
3. Compost Maturity Tests
    i. Conduct Compost Maturity Tests to monitor biological activity and gas emissions.
    ii. Compare results across different aging intervals (fresh, 1-day, 2-day, 3-day sludge).

Deliverables:

a. Compost Maturity Test results with graphs and interpretation

b. Summary of sludge physical properties and degradation trends

TASK 4 ALTERNATIVES ANALYSIS AND TECHNICAL MEMORANDUM

Objective: This task will evaluate and compare three stabilization strategies for WAS: chemical dosing, anaerobic digestion, and aerobic digestion.

Activities:

1. Assess VX456 and other chemical options (e.g., Clean B, quaternary ammonium, lime).
2. Evaluate dosing effectiveness, cost, and operational complexity.
3. Estimate volatile solids reduction (VSR) potential for anaerobic digestion.

4. Review literature and consult experts.
5. Perform desktop modeling of VSR from short-term aerated storage.
6. Compare capital and operational and maintenance costs with chemical dosing.
7. Evaluate the feasibility for each of the three unstabilized WAS facilities.
8. Facilitate a meeting to review analysis and results
9. Develop a Technical Memorandum to summarize results.

Deliverables:

a. Comparative matrix of stabilization alternatives
b. High-level lifecycle cost analysis
c. Recommendations for each facility based on feasibility and dryer compatibility
d. Meeting presentation and meeting minutes
e. Draft and final Technical Memorandum

TIME OF PERFORMANCE

It is estimated that the scope of work shall be completed within 77 calendar days after receipt of the Engineering Services Notice to Proceed.

ASSUMPTIONS

a. WAS samples for the Sawgrass and Springtree facilities will be provided by the City and stored under controlled conditions.
b. Laboratory space will be provided at the Sawgrass facility for compost maturity testing.
c. Chemical suppliers will provide dosing guidance and safety data.
d. Additional stability testing may be considered as a separate authorization. This could include the following: respirometry tests to monitor biological activity and gas emissions, changes in volatile solids content and odor intensity over time, physical changes in sludge consistency, stickiness, and granularity, and back mixing evaluations.
e. All costs presented for full-scale facilities will be order-of-magnitude estimates intended solely for comparative purposes. They should not be used for capital improvement planning or budgeting.
f. All meetings will be held via Teams for those attending remotely.

EXHIBIT "2"

PROJECT SCHEDULE

Task/Description	Task Completion in Weeks Following Notice To Proceed
Task 1 – Preliminary Activities and Kick-off Meeting	1 Week
Task 2 – Data Review and Test Plan	3 Weeks
Task 3 – Stability Testing – Phase 1 (Compost Maturity Testing)	7 Weeks
Task 4 – Alternatives Analysis And Technical Memorandum	11 Weeks

City's Initials:_____ Consultant's Initials:_____