



## **INTERLOCAL AGREEMENT BETWEEN BROWARD COUNTY AND THE CITY OF MARGATE FOR REGIONAL BIOSOLIDS SOLUTIONS STUDY**

This Agreement ("Agreement") is made and entered by and between Broward County, a political subdivision of the State of Florida ("County"), and the City of Margate, a municipality of the State of Florida ("Study Participant") (each a "Party" and collectively referred to as the "Parties") for the purpose of jointly funding a regional biosolids solutions study to inform the feasibility of constructing a biosolids management facility.

### **RECITALS**

A. The processing and disposal of domestic wastewater Class B biosolids has long been a challenge for utilities in South Florida. Currently, the only solution available to dispose of biosolids is a mixture of land application and landfills.

B. Recognizing this uncertainty, Broward County Water and Wastewater Services assembled a group of utilities to explore regional solutions. A regional approach may offer economies of scale and resources and may achieve multi-jurisdictional public support, thereby allowing participating utilities to diversify and decrease the risk associated with management strategies.

C. With this regional approach in mind, the following utilities have been collaborating to explore solutions: Broward County Water and Wastewater Services, Coral Springs Improvement District, Town of Davie, and the cities of Cooper City, Fort Lauderdale, Hollywood, Margate, Miramar, Pembroke Pines, Plantation, and Sunrise (collectively, the "Biosolids Solutions Working Group").

D. The Study (defined below) is intended to provide the Biosolids Solutions Working Group with information concerning the feasibility of constructing a regional biosolids management facility, biosolids processing and disposal more generally, biosolids technologies, process improvements, and holistic alternatives that incorporate both sludge treatment, co-treatment of organics, and energy generation and reuse.

E. The Parties acknowledge that future studies may be necessary to analyze environmental impacts or to develop plans for new facilities or capital improvements.

F. The Parties further acknowledge that, following the Study's completion, an additional interlocal agreement may be necessary to share the costs of constructing a regional biosolids management facility.

G. Accordingly, the Parties desire to enter into this Agreement to further the Biosolids Solutions Working Group's goals by contributing funds to procure the Study, which will provide information critical to the process of constructing a regional biosolids management facility.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

## ARTICLE 1. DEFINITIONS

- 1.1. **Applicable Law** means all applicable laws, codes, advisory circulars, rules, regulations, or ordinances of any federal, state, county, municipal, or other governmental entity, as may be amended.
- 1.2. **Board** means the Board of County Commissioners of Broward County, Florida.
- 1.3. **Biosolids** means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater in a domestic wastewater treatment facility, formerly known as “domestic wastewater residuals” or “residuals.” The following are not included in term “biosolids:” treated effluent or reclaimed water from a domestic wastewater treatment plant; solids removed from pump stations or lift stations; screenings or grit removed from the preliminary treatment components of domestic wastewater treatment facilities; other solids as defined in Chapter 62-640.200(30), Florida Administrative Code; and ash generated during the incineration of biosolids. The term “biosolids” includes products and treated material from biosolids treatment facilities and septage management facilities regulated by the Florida Department of Environmental Protection.
- 1.4. **Code** means the Broward County Code of Ordinances.
- 1.5. **Contract Administrator** means the County Administrator or such other person designated by the County Administrator in writing.
- 1.6. **Facility** means the proposed regional facility or facilities intended to manage biosolids.
- 1.7. **Final Study Report** means the document produced by the Study Consultant that describes the Study’s findings.
- 1.8. **Study** means the Study to gauge the feasibility of building the Facility.
- 1.9. **Study Consultant** means the qualified vendor conducting the Study pursuant to a binding agreement with County.
- 1.10. **Study Contract** means the agreement between the Study Consultant and County.

## ARTICLE 2. EXHIBITS

The following exhibits are attached hereto and fully incorporated herein:

|                  |   |
|------------------|---|
| <b>Exhibit A</b> | <b>Proposed Study Scope of Services</b>                           |
| <b>Exhibit B</b> | <b>Estimated Study Budget and Study Participant Contributions</b> |



### **ARTICLE 3. TERM**

3.1. Term. The term of this Agreement shall begin on the date it is fully executed by the Parties ("Effective Date") and shall continue in perpetuity, unless earlier terminated pursuant to the terms of this Agreement.

### **ARTICLE 4. FINANCIAL OBLIGATIONS OF THE PARTIES; TIME OF PERFORMANCE**

4.1. Study Cost. The total final cost of the Study invoiced by Study Consultant to County is hereinafter referred to as the "Study Cost." The Study Cost shall not exceed Two Hundred Fifty-Eight Thousand Nine Hundred Thirty-Nine and 20/100 Dollars (\$258,939.20).

4.2. Payment. County shall pay the Study Consultant and Study Participant shall reimburse County for Study Participant's portion of the Study Cost pursuant to Section 4.4 of this Agreement.

4.3. Time of Performance. Study Participant shall issue payment in full to reimburse County for its portion of the Study Cost within ninety (90) days of Study Consultant's delivery of the Final Study Report.

4.4. Division of Study Cost. Exhibit B contains estimates of the contributions owed by County and Study Participant to the Study Cost. As shown in Exhibit B, the division of the Study Cost among County, Study Participant, other members of Biosolids Solutions Working Group, or other local governments is based on the percentage of the total Biosolids produced in Broward County, Florida by each participant during fiscal year 2021. If the estimated Study Cost shown on Exhibit B is different than the actual Study Cost, or the number of participants is different from what is shown on Exhibit B, the County's share and Study Participant's share of the Study Cost will be adjusted to reflect each Party's percentage of the total Biosolids produced by the participants during fiscal year 2021.

### **ARTICLE 5. OTHER OBLIGATIONS OF THE PARTIES**

5.1. Study Consultant Selection Process. County has retained a qualified Study Consultant to perform the Study. County shall act as the contract administrator in connection with the Study Contract.

5.2. Cooperation with Study Consultant, County, and Biosolids Solutions Working Group. Study Participant shall provide Study Consultant, the Biosolids Solutions Working Group, and County with information reasonably requested to further the objectives of the Study.

### **ARTICLE 6. SCOPE OF THE STUDY**

6.1. The Study shall conform to industry best practices. The most-current scope of the Study ("Study Scope") proposed as of the Effective Date is attached as Exhibit A to this Agreement.



6.2. Study Participant acknowledges and understands that the final scope of the Study as contained in the Study Contract may be modified based on County's negotiations with Study Consultant.

#### **ARTICLE 7. NON-INDEMNIFICATION**

The Parties are entities subject to Section 768.28, Florida Statutes, as may be amended from time to time, and agree to be fully responsible for the negligent or wrongful acts and omissions of their respective agents or employees to the extent and limits provided under applicable law, and for all claims and damages, to the extent and limits provided in Section 768.28, Florida Statutes, arising from the actions of their respective agents or employees.

Nothing herein is intended to serve as a waiver of sovereign immunity by either Party. The Parties acknowledge that the foregoing shall not constitute an agreement by either Party to indemnify the other and that nothing herein shall be construed as consent by either Party to be sued by third parties in any matter arising out of this Agreement or any other contract.

The provisions of this Article 7 shall survive the expiration or earlier termination of this Agreement.

#### **ARTICLE 8. TERMINATION**

8.1. County's obligations under this Agreement are subject to both the appropriation and the availability of funds pursuant to Chapter 129 and, if applicable, Chapter 212, Florida Statutes.

8.2. Termination for Cause. This Agreement may be terminated for cause by the aggrieved Party if the Party in breach has not corrected the breach within ten (10) days after receipt of written notice from the aggrieved Party identifying the breach. This Agreement may be terminated for cause by either Party due to Study Consultant's failure to initiate the Study. Notwithstanding the foregoing, this Agreement may not be terminated by Study Participant after County has entered into the Study Contract.

Unless otherwise stated in this Agreement, termination for cause by County must be by action of the Board or the County Administrator. If County erroneously, improperly, or unjustifiably terminates this Agreement for cause, such termination shall be deemed a termination for convenience effective thirty (30) days after such notice was provided.

8.3. Termination for Convenience; Other Termination. This Agreement may also be terminated for convenience by the Board with at least thirty (30) days advance written notice to Study Participant. This Agreement may also be terminated by the County Administrator upon such notice as the County Administrator deems appropriate under the circumstances if the County Administrator determines that termination is necessary to protect the public health, safety, or welfare.



8.4. Notice of termination shall be provided in accordance with the “Notices” section of this Agreement except that notice of termination by the County Administrator to protect the public health, safety, or welfare may be oral notice that shall be promptly confirmed in writing.

8.5. In addition to any termination rights stated in this Agreement, County shall be entitled to seek any and all available contractual or other remedies available at law or in equity.

## **ARTICLE 9. MISCELLANEOUS**

9.1. Nondiscrimination. No Party may discriminate on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, sexual orientation, pregnancy, or gender identity and expression in the performance of this Agreement. Study Participant shall include the foregoing or similar language in its contracts with subcontractors for goods or services that constitute Eligible Expenditures.

9.2. Contract Administrator Authority. The Contract Administrator is authorized to coordinate and communicate with Study Participant to manage and supervise the performance of this Agreement. Any determination by the Contract Administrator that this Agreement authorizes the Contract Administrator to make shall be binding on the Parties. Unless expressly stated otherwise in this Agreement or otherwise set forth in the Code or the Broward County Administrative Code, the Contract Administrator may exercise ministerial authority in connection with the day-to-day management of this Agreement.

9.3. Public Records. The Parties agree and stipulate that both Parties are subject to Florida public records laws and shall fully comply with same. At the request of County, Study Participant shall, in accordance with applicable law, respond to any request for public records received by County relating to the Project. Any other public records request shall be responded to by the receiving party. Each Party shall cooperate upon request by the other Party and provide any requested records to enable the Party to respond to a public records request.

Study Participant must separately submit and conspicuously label as “RESTRICTED MATERIAL – DO NOT PRODUCE” any material (a) that Study Participant contends constitutes or contains its trade secrets under Chapter 688, Florida Statutes, or (b) for which Study Participant asserts a right to withhold from public disclosure as confidential or otherwise exempt from production under Florida public records laws (including Chapter 119, Florida Statutes) (collectively, “Restricted Material”). In addition, Study Participant must, simultaneous with the submission of any Restricted Material, provide a sworn affidavit from a person with personal knowledge attesting that the Restricted Material constitutes trade secrets or is otherwise exempt or confidential under Florida public records laws, including citing the applicable Florida statute and specifying the factual basis for each such claim. Upon request by County, Study Participant must promptly identify the specific applicable statutory section that protects any particular document. If a third party submits a request to County for records designated by Study Participant as Restricted Material, County shall refrain from disclosing such material unless otherwise ordered by a court of competent jurisdiction, authorized in writing by Study Participant, or the claimed exemption is waived. Any failure by Study Participant to strictly comply with the requirements of



this section shall constitute Study Participant's waiver of County's obligation to treat the records as Restricted Material. Study Participant must indemnify and defend County and its employees and agents from any and all claims, causes of action, losses, fines, penalties, damages, judgments, and liabilities of any kind, including attorneys' fees, litigation expenses, and court costs, relating to nondisclosure of Restricted Material in response to a third-party request.

9.4. Independent Contractor. Nothing in this Agreement constitutes or creates a partnership, joint venture, or any other relationship between the Parties or between County and any Subcontractor. Neither Party nor its agents shall act as officers, employees, or agents of the other Party. Neither Party shall have the right to bind the other Party to any obligation not expressly undertaken by that Party under this Agreement.

9.5. Sovereign Immunity. Nothing herein is intended to serve as a waiver of sovereign immunity by the Parties nor shall anything included herein be construed as consent by the Parties to be sued by third parties in any matter arising out of this Agreement.

9.6. Third-Party Beneficiaries. Neither Study Participant nor County intends to directly or substantially benefit a third party by this Agreement. Therefore, the Parties acknowledge that there are no third-party beneficiaries to this Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this Agreement.

9.7. Notices. Unless otherwise stated herein, for notice to a Party to be effective under this Agreement, notice must be sent via U.S. first-class mail, hand delivery, or commercial overnight delivery, each with a contemporaneous copy via email, to the addresses listed below and shall be effective upon mailing or hand delivery (provided the contemporaneous email is also sent). Payments shall be made to the noticed address for Study Participant. Addresses may be changed by the applicable Party giving notice of such change in accordance with this section.

FOR COUNTY:

Broward County  
Attn: County Administrator  
115 South Andrews Avenue  
Fort Lauderdale, Florida 33301  
Email address: mcepero@broward.org

With a copy to:  
Broward County  
Attn: County Attorney  
115 South Andrews Avenue, Room 423  
Fort Lauderdale, Florida 33301  
Email address: ameyers@broward.org and mhaber@broward.org



FOR STUDY PARTICIPANT:

City of Margate  
Attn: City Manager  
5790 Margate Boulevard  
Margate, FL 33063  
Email address: ccurtis@margatefl.com

With a copy to:

City of Margate  
Attn: DEES Director  
901 NW 66<sup>th</sup> Avenue, Suite A  
Margate, FL 33063  
Email address: dees@margatefl.com

9.8. Assignment. Neither this Agreement nor any right or interest in it may be assigned, transferred, subcontracted, or encumbered by either Party without the prior written consent of the other Party. Any assignment, transfer, encumbrance, or subcontract in violation of this section (unless subsequently consented thereto in writing) shall be void and ineffective, constitute a breach of this Agreement, and permit a Party to immediately terminate this Agreement, in addition to any other remedies available to either Party at law or in equity, all such remedies being cumulative.

9.9. Materiality and Waiver of Breach. Each requirement, duty, and obligation set forth in this Agreement was bargained for at arm's-length and is agreed to by the Parties. Each requirement, duty, and obligation set forth in this Agreement is substantial and important to the formation of this Agreement, and each is, therefore, a material term of this Agreement. County's or Study Participant's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement. To be effective, any waiver must be in writing signed by an authorized signatory of the Party granting the waiver.

9.10. Compliance with Laws. Study Participant must comply with all Applicable Law, including, without limitation, the American with Disabilities Act, 42 U.S.C. § 12101, Section 504 of the Rehabilitation Act of 1973, and any related federal, state, or local laws, rules, and regulations, and the requirements of any applicable grant agreements.

9.11. Representation of Authority. The Parties represent and warrant that this Agreement constitutes the legal, valid, binding, and enforceable obligation of each Party, that execution of this Agreement is within each Party's legal powers, and that each individual executing this Agreement is duly authorized by all necessary and appropriate action to do so on behalf of that Party and does so with full legal authority.



9.12. Severability. If any part of this Agreement is found to be unenforceable by any court of competent jurisdiction, that part shall be deemed severed from this Agreement and the balance of this Agreement shall remain in full force and effect.

9.13. Joint Preparation. This Agreement has been jointly prepared by the Parties, and shall not be construed more strictly against either Party.

9.14. Interpretation. The titles and headings contained in this Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement. All personal pronouns used in this Agreement shall include any other gender, and the singular shall include the plural, and vice versa, unless the context otherwise requires. Terms such as "herein" refer to this Agreement as a whole and not to any particular sentence, paragraph, or section where they appear, unless the context otherwise requires. Whenever reference is made to a section or article of this Agreement, such reference is to the section or article as a whole, including all subsections thereof, unless the reference is made to a particular subsection or subparagraph of such section or article. Any reference to "days" means calendar days, unless otherwise expressly stated. Any reference to approval by County shall require approval in writing, unless otherwise expressly stated.

9.15. Priority of Provisions. If there is a conflict or inconsistency between any term, statement, requirement, or provision of any document or exhibit attached to, referenced by, or incorporated in this Agreement and any provision within an article or section of this Agreement, the article or section shall prevail and be given effect.

9.16. Law, Jurisdiction, Venue, Waiver of Jury Trial. This Agreement shall be interpreted and construed in accordance with and governed by the laws of the State of Florida. The exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claim arising from, related to, or in connection with this Agreement must be litigated in federal court, the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida. **BY ENTERING INTO THIS AGREEMENT, EACH OF STUDY PARTICIPANT AND COUNTY HEREBY EXPRESSLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS AGREEMENT.**

9.17. Amendments. Except as expressly authorized herein, no modification, amendment, or alteration in the terms or conditions contained in this Agreement shall be effective unless contained in a written document prepared with the same or similar formality as this Agreement and executed by duly authorized representatives of County and Study Participant.

9.18. Prior Agreements. This Agreement represents the final and complete understanding of the Parties regarding the subject matter and supersedes all prior and contemporaneous negotiations and discussions regarding that subject matter. There is no commitment, agreement, or understanding concerning the subject matter of this Agreement that is not contained in this written document.



9.19. Incorporation by Reference. Any and all Recital clauses stated above are true and correct and are incorporated in this Agreement by reference. The attached Exhibits are incorporated into and made a part of this Agreement.

9.20. Counterparts and Multiple Originals. This Agreement may be executed in multiple originals, and may be executed in counterparts, whether signed physically or electronically, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

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IN WITNESS WHEREOF, the Parties hereto have made and executed this Agreement: BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS, signing by and through its County Administrator, authorized to execute same by Board action on the 24th day of January 2023, and Study Participant, signing by and through its City Manager duly authorized to execute same.

COUNTY

BROWARD COUNTY, by and through  
its County Administrator

By: [Signature]  
County Administrator  
8th day of March, 2023



Approved as to form by  
Andrew J. Meyers  
Broward County Attorney  
115 South Andrews Avenue, Suite 423  
Fort Lauderdale, Florida 33301  
Telephone: (954) 357-7600

By Matthew Haber Digitally signed by Matthew Haber  
Date: 2023.03.06 20:27:06  
+06'00'  
Matthew Haber (Date)  
Assistant County Attorney

By Michael Kerr Digitally signed by Michael Kerr  
Date: 2023.03.07 06:20:36 -05'00'  
Michael J. Kerr (Date)  
Deputy County Attorney

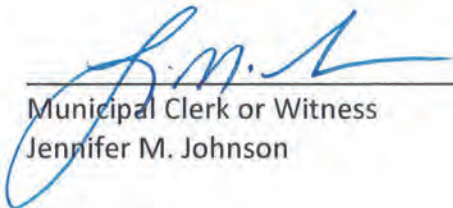


**INTERLOCAL AGREEMENT BETWEEN BROWARD COUNTY  
AND THE CITY OF MARGATE FOR REGIONAL BIOSOLIDS SOLUTIONS STUDY**

STUDY PARTICIPANT

Name: CITY OF MARGATE

ATTEST:

  
\_\_\_\_\_  
Municipal Clerk or Witness  
Jennifer M. Johnson

By:   
\_\_\_\_\_  
Authorized Signer

\_\_\_\_\_  
Cale Curtis, City Manager  
Print Name

1<sup>st</sup> day of March, 2023

I HEREBY CERTIFY that I have approved this Agreement as to form and legal sufficiency subject to execution by the parties:

  
\_\_\_\_\_  
Study Participant Attorney, David N. Tolces



**EXHIBIT A**  
**Proposed Study Scope of Services**

**BACKGROUND**

Processing and disposal of domestic wastewater biosolids (“Biosolids”) has long been a challenging activity for South Florida utilities. South Florida utilities currently use a mix of land application and landfills to dispose of Biosolids.

The future of Biosolids handling and disposal is uncertain in view of:

1. Decreasing landfill space for Biosolids;
2. A decreasing number of potential land application sites for Biosolids;
3. Community opposition to utilizing land application of Biosolids;
4. Increased costs of utilizing land application of Biosolids as a disposal strategy; and,
5. Regulatory uncertainty concerning Biosolids disposal over the longterm.

Recognizing this uncertainty, a group of utilities was assembled by Broward County Water and Wastewater Services (“WWS”) to explore potential regional solutions. A regional approach may offer economies of scale and resources and may achieve multi-jurisdictional public support, thereby allowing participating utilities to diversify and decrease the risk associated with management strategies. Utilities participating to explore this proposed regional approach include Broward County Water and Wastewater Services, the City of Cooper City, the Coral Springs Improvement District, the Town of Davie, the City of Fort Lauderdale, the City of Hollywood, the City of Margate, the City of Miramar, the City of Pembroke Pines, the City of Plantation, and the City of Sunrise

WWS has issued this Work Authorization for Brown and Caldwell (“CONSULTANT”) to perform services, pursuant to its agreement with Broward County, to address a regional approach to the processing and disposal of Biosolids. This Work Authorization authorizes the investigations needed to inform a Regional Biosolids Management Plan.

The information resulting from such investigations is intended to enable the participating utilities to determine the feasibility of a centralized, regional system to manage Biosolids. This scope was developed with participating utilities. Four (4) potential tracks for implementation of a regional Biosolids management system have been suggested by the participating utilities:

1. Track 1 — Utility Control: Direct ownership and control of facilities by WWS or by WWS and the participating utilities.
2. Track 2 — Participation in an Existing Regional System: Implementation of a regional Biosolids management alternative may consist, at least in part, of participation in an existing regional system.

3. Track 3 — Public/Private Partnership: The potential regional Biosolids management system participating utilities may elect to create a public/private partnership to share ownership, operations, maintenance, and management of the regional Biosolids management system.
4. Track 4 — Privatization: The participating utilities may elect private ownership, operation, and maintenance of the regional Biosolids management system.

This scope of services has been separated into two (2) phases as follows:

1. **Phase 1 — Data Development:** Compilation, analysis, and summary of key data by CONSULTANT.
2. **Phase 2 — Regional Planning Alternatives Analysis:** Evaluation of data and development of a plan that addresses Tracks 1,2, 3 and 4 by CONSULTANT.

Based on Phases 1 and 2, described above, WWS may decide to initiate an additional phase ("Optional Phase 3") through the issuance of a separate work authorization. The purpose of Optional Phase 3 would be to provide WWS and participating utilities with information and analysis sufficient to determine whether a regional facility/facilities is warranted by the participating utilities, or any subset of the participating utilities, based on both financial and non-financial factors.

## **PHASE 1 - DATA DEVELOPMENT**

### **TASK 1.1 — Evaluation of Existing Conditions and Systems**

#### **1.1.1 Biosolids Quantities and Characteristics**

CONSULTANT will compile available existing data in a database relative to Biosolids quantities and characteristics from the participating utilities identified by WWS. A table will be prepared by CONSULTANT to present the quantity, basic characteristics, disposal practices and generation site for each participating utility. The data will be utilized as a baseline reference in subsequent planning tasks.

#### **1.1.2 Biosolids Management Studies/Practices by Neighboring Utilities**

Biosolids management plans have been recently implemented or are currently being prepared by the Miami-Dade Water and Sewer Department, the Palm Beach County Solid Waste Authority, St. Lucie County, the City of Hollywood, Broward County, and others. These plans will be reviewed by CONSULTANT to identify the most current Biosolids management plans and practices within the South Florida area. Also, methods for processing, disposal and/or beneficial reuse of Biosolids and actual or estimated costs will be identified by CONSULTANT, where available.



## CONSULTANT'S Deliverables and Task Assumptions

1. Deliverable - Maps (including, without limitation, of potential sites for regional Biosolids management facility/facilities) and tabulated data summary.
2. Participating utilities will cooperate in providing detailed information about historical Biosolids generation, characteristics, disposal, and management practices.
3. Where required, WWS will provide CONSULTANT with points of contact at neighboring utilities to facilitate information collection about existing practices and future plans.

### TASK 1.2 — Projection of Future Conditions

#### 1.2.1 Current Biosolids and Residuals Quantities and Characteristics

CONSULTANT will compile quantities and characteristics of Biosolids managed by WWS and participating utilities identified by WWS. This activity will rely on data available from periodic regulatory reporting (quantities and characteristics), available contract data (unit costs, renewal cycle, and pertinent obligations) and historical data compiled and furnished by each utility. Supporting background data on each existing Biosolids system (e.g. process configuration, chemical usage, storage/handling facilities, stabilization practices, biogas generation/utilization, capacity utilization, etc.) will be collected and compiled by CONSULTANT for each participating utility.

#### 1.2.2 Biosolids Forecast

A preliminary forecast of anticipated Biosolids production over a planning horizon will be prepared by CONSULTANT based on readily available information and simplifying assumptions. This will likely be based on population projections. CONSULTANT's forecast is not intended to be definitive, but rather provide an initial bases for conceptually framing future requirements.

### TASK 1.3 — Evaluation of Rules and Regulations

CONSULTANT will provide an assessment of the regulatory outlook for Biosolids management on both the federal and state level and examine current trends in Biosolids end management. Potential impacts of regulations on markets for Biosolids will be evaluated by CONSULTANT within this task. As part of CONSULTANT's evaluation(s), CONSULTANT will analyze how regulations, current or proposed, might impact: (i) the feasibility of different technologies and (ii) potential capital and operating costs of a regional Biosolids management facility/facilities. This will be discussed in the workshops prior to deciding which technologies to analyze further. CONSULTANT will:

1. Determine if regulatory agencies will encourage and support a regional approach;
2. Identify any potential legal and/or regulatory roadblocks to using technologies identified;



3. Consider the impact of new regulations on end-use Biosolids practices and associated risks; and
4. Provide updates on potential new restrictions regarding waste products, such as per- and polyfluoroalkyl substances (PFAS) and/or other emerging pollutants of concern.

#### TASK 1.4 — Preliminary Market and Value Chain Review

CONSULTANT will perform a preliminary end-use Biosolids market study to determine the economics associated with reuse of Class A and Class B Biosolids products, or other products such as biogas, biochar, and struvite fertilizer. CONSULTANT will determine the best value such potential products with the goal of preliminarily characterizing end user market potential, preferred product characteristics by end user type, unmet needs within the existing markets, competing Biosolids products in the Florida marketplace, trends in various end user preferences, and product value. The following sources of information will be reviewed by CONSULTANT:

1. FDEP Database on Biosolids Use Practices. FDEP maintains and regularly updates data on the source, end use, quantities of Class AA Biosolids utilized within the state of Florida.
2. Existing Distributors of Biosolids Products. A survey will be conducted of up to three distributors of Class AA Biosolids products in Florida to receive input regarding trends in product preferences, unsatisfied market needs, and other considerations to weigh in development of a market oriented Biosolids program.
3. High-Level Assessment of Potential Value-Added Revenue Generating Options – opportunities to reduce carbon footprint by optimizing and beneficially utilizing biogas could potentially lower cost and produce revenue generating opportunities. These options will be conceptually explored.
4. Data compiled from Tasks 1.1, 1.2, and 1.3. as well as under this Task, 1.4, will be compared and used for a preliminary review of the marketability of the product from the alternative Biosolids technologies and alternative configurations analyzed in Phase 2. Results of the preliminary market review will be summarized in a memorandum. Based on the preliminary market and value chain review, technologies discussed here to capture that value will be analyzed under Phase 2 with the CONSULTANT's Solids Water Energy Evaluation Tool (SWEET) Model.

### **PHASE 2 - REGIONAL PLANNING ALTERNATIVES ANALYSIS**

#### TASK 2.1— Technology Alternatives Analysis

A broad range of technologies must be considered by CONSULTANT for the facilities and co-treatment of wastewater solids and available organics, each generating different end products, odors, and emissions. CONSULTANT will present available technologies to support solids handling capacity for the Participant Utilities.

Typical potential technologies that will be reviewed by CONSULTANT include the technologies listed below. If CONSULTANT determines other applicable alternatives that are not listed are



suitable, those will also be examined by CONSULTANT. Selection of the technologies to be reviewed will depend upon previous data collected in this study, especially related to market assessment, and anticipated regulatory limitations, such as PFAS.

- 2.1.1 Thermal Drying. This subtask includes the following major thermal drying technologies including Rotary Drum Dryers, Vertical Thin Film Dryers, Jacketed Hollow-Flight Dryers, and Fluid Bed Dryers.
- 2.1.2 Chemical Stabilization. This subtask includes the following chemical stabilization processes including Post Lime Stabilization, N-Viro Soil Process and Bioset.
- 2.1.3 Composting. This subtask includes the following composting systems as potential Biosolids management alternatives for this plan including aerated static pile; windrow; aerated windrow, membrane covered pile, hybrid compost systems and in-vessel.
- 2.1.4 Thermal Conversion and High Temperature Combustion. This subtask includes the following systems as potential Biosolids management alternatives for this plan including incineration with heat recovery, electric hydrolysis, biological hydrolysis and thermal hydrolysis.

This initial assessment by CONSULTANT will provide technical, performance, and environmental information on Biosolids stabilization technologies. Under this task, technologies may be eliminated due to a fatal flaw or implementation considerations. Technologies selected in this task will be included in the alternatives analysis.

## TASK 2.2 – Alternatives Analysis: Solids Water Energy Evaluation Tool (SWEET) Model

Biosolids technologies, and process improvements selected in prior tasks will be developed by CONSULTANT into alternatives under this task. Alternatives will be screened in two iterations during workshops with Participating Utilities.

CONSULTANT will develop and present an initial set of holistic alternatives that incorporate both sludge treatment, co-treatment of organics, and energy generation/reuse, based on our understanding of the goals and objectives for the project and CONSULTANT experience. These initial concepts will be presented for acceptance, modification, or removal. An initial run of the SWEET Model will be conducted and presented for review, comment and refinement or reconfiguration. The first holistic alternatives will be presented in an initial workshop; the balance of the workshop will be used to further refine the presented alternatives and/or to create new or eliminate options. At this first screening level of analysis, inputs may be based on a relative comparison between alternatives, as opposed to significant effort developing specific and detailed inputs for each alternative.

Upon WWS' approval, the remaining and newly revised alternatives presented and developed in



the workshop will be refined by CONSULTANT using SWEET. Output from SWEET (net present value, Biosolids volumes and O&M considerations other essential decision metrics) will be presented by CONSULTANT for review and comment and further revision by WWS.

Following this workshop, a refined set of alternatives will be developed by CONSULTANT, which may include alternatives discussed at that workshop, as well as alternatives developed as a result of:

1. New questions that will likely arise from the results of the initial analysis performed. Options can be developed that allow further optimization concepts that arise in the workshop setting.
2. New hybrid options that will be created from positive elements of different options. For example, generally positive solutions can often have “bad elements”; these can be replaced with better concepts to lead to further optimized solutions.

CONSULTANT will model the alternatives developed as a result of (1) and (2) above and the previous workshops in SWEET. Inputs may be based on a relative comparison between alternatives, as opposed to significant effort developing specific and detailed inputs for each alternative. Output from SWEET will provide participating utilities with information on net present value, O&M considerations and Biosolids and residual volumes. At the conclusion of the workshop, the list of alternatives will be reduced to two alternatives. Along with the SWEET model, CONSULTANT will develop Planning Level cost estimates and Identify Non-Financial Criteria for comparison.

#### Alternative Cost Estimates

These estimates are considered accurate to support alternatives prioritization. These will be presented utilizing the SWEET tool, so that costs can be adjusted to examine sensitivities. Cost evaluation by CONSULTANT will include:

1. Development of a concept-level capital cost estimate for the regional facility options
2. Development of a concept-level operating and maintenance cost estimate for the regional facility options
3. Evaluation of revenue potential from a regional facility
4. Evaluation of sensitivity of the regional facility economics as appropriate to identified variables
5. Identification of possible cost benefits to biogas utilization if incorporated into a regional facility/facilities

The costs developed by CONSULTANT through this Alternatives Analysis will be completed for comparative purposes and consist of order of magnitude cost estimates.

#### Non-Financial Criteria

The outcome of workshops in Task 2.2 will result in the selection of alternatives for consideration by WWS and participating utilities. Included in this Task will be the development of high-level



assessments of the comparative impacts and benefits of the alternatives to facilitate decision making and creation of the preferred alternative. Impacts will include social and environmental impacts such as odor potential, air emissions, traffic, consumption of non-renewable resources, offsets of non-renewables through Biosolids, residuals or biogas beneficial use, etc. Analysis will also include operational considerations such as reliability, flexibility, ease of operation, maintenance requirements, etc. The non-monetary criteria will serve to supplement the decision-making process, particularly in the event that top alternatives have very similar or equal quantitative benefits resulting from the SWEET analysis.

CONSULTANT shall identify and assess non-cost benefits and challenges associated with a regional facility, including:

1. Renewable Energy Production
2. Greenhouse Gas Offsets
3. Diversification of assets, treatment technologies, and reuse outlets
4. Integration of existing assets into the recommended plan to provide greater redundancy and diversification of technologies
5. Operational complexity
6. Regulatory challenges
7. Community Impacts
8. Public Outreach Requirements

A preliminary list of non-monetary criteria will be presented as part of a workshop. The participating utilities will provide feedback as to the relative importance of the criteria, the criteria considered, and their prioritization in the overall decision-making process.

## TASK 2.3 – Site Assessment Alternatives

### 2.3.1 Determine Site Requirements

Based on the technology application(s) that most closely align with end user market requirements, there will be development by CONSULTANT of alternative conceptual site layouts that conservatively establish footprint requirements that are adequate to meet the forecasted needs throughout the planning horizon while providing space for future expansion. Site requirements will be developed by CONSULTANT for up to three layout configurations (could be variations in technology and site layouts as well as long-term expansion needs). The preliminary site requirements established in this subtask will serve as the basis for evaluating alternative sites.

### 2.3.2 Local Sites

CONSULTANT will evaluate the existing sites in Broward County as potential locations for Biosolids processing facilities. CONSULTANT will examine up to four (4) sites including landfill sites, vacant land and land adjacent to treatment sites to discuss potential scope of the



initiative, and generally explore interest in a mutually beneficial collaboration, site availability, limiting considerations and potential concerns to address. Based on the initial interest, CONSULTANT will conceptually evaluate alternative sites with the goal of characterizing the following:

1. Adequacy of available sites to size a Biosolids processing facility (sizes, shapes and accessibility).
2. Availability of utilities (power, natural gas, water, wastewater collection, reclaimed water) in vicinity of each potential site.
3. Opportunities to collaboratively develop synergies that benefit all parties – inclusive of energy savings due to co-located activities, reciprocal measures, and other opportunities identified.
4. Identify County-owned and large vacant parcels that could potentially be acquired/utilized for siting a future Biosolids processing facility. Identify preferred alternative sites to consider for further investigation and potential acquisition/retention.

#### TASK 2.4 — Delivery Model Alternatives

Four (4) potential tracks for implementation of a regional Biosolids management approach are proposed. CONSULTANT will analyze each potential track, described below, to summarize advantages and disadvantages associated with each of the following:

##### TRACK 1 – UTILITY CONTROL

Develop and summarize goals of the participating utilities for the regional Biosolids management system as they apply to participation under a utility-controlled system. Compile, evaluate and summarize information to support consideration of participation in a utility-controlled system. Provide a summary of key considerations, issues, concerns to address and recommendations to ensure that the goals of the participating utilities are met by participation in utility-controlled alternatives. Summarize key advantages and disadvantages of this implementation approach. Provide recommendations to assist with implementation via this approach.

##### TRACK 2 – PARTICIPATION IN AN EXISTING REGIONAL SYSTEM

Develop and summarize goals of the participating utilities for the regional Biosolids management system as they apply to participation in an existing system. Evaluate and summarize information regarding existing nearby regional Biosolids management systems. Compile, evaluate and summarize information to support consideration of participation in a regional system. Provide a summary of key considerations, issues, concerns to address and recommendations to ensure that the goals of the participating utilities are met by participation in existing regional system alternatives. Summarize key advantages and disadvantages of this implementation approach. Provide recommendations to assist with implementation via this approach.



### TRACK 3 — PUBLIC / PRIVATE PARTNERSHIP

Develop and summarize goals of the participating utilities for the regional Biosolids management system as they apply to participation in a public/private partnership. Evaluate and summarize information from potential partners. Compile, evaluate and summarize information to support consideration of participation in a public/private partnership. Provide a summary of key considerations, issues, concerns to address and recommendations to ensure that the goals of the participating utilities are met. Summarize key advantages and disadvantages of this implementation approach. Provide recommendations to assist with implementation via this approach.

### TRACK 4 — PRIVATIZATION

Develop, solicit, and summarize goals of the participating utilities for the regional Biosolids management system as they apply to the privatization implementation track. Evaluate and summarize information to support consideration of privatization as the means to implement a regional system. Summarize key advantages and disadvantages of this implementation approach. Provide recommendations to assist with implementation via this approach.

If WWS chooses to further analyze the specific steps, resources, and data needed to implement a specific track, such analysis will require an additional work authorization or amendment to this Work Authorization or, in WWS' sole discretion, a separate solicitation.

### TASK 2.5 - Recommendation on Optional Phase 3 Study

Based on Phases 1 and 2, CONSULTANT will recommend whether further analysis of a regional facility/facilities is warranted by the participating utilities based on financial and non-financial factors. CONSULTANT will facilitate selection of priority projects within the preferred alternative to develop a proposed path forward from this Phases 1 and 2 study.

Under this task, the CONSULTANT will integrate the information gathered in the above tasks to summarize the results of Phases 1 and 2:

1. Overall solids handling future strategy goals, objectives and vision for solids handling operation.
2. Necessary coordination with outside stakeholders.
3. Identification of trigger points (regulations, tip fees, energy costs/revenues) that may cause participating utilities to initiate regionalization.

CONSULTANT will conduct a workshop in conjunction with this task. This workshop will establish a roadmap for implementing Optional Phase 3, which may include legal requirements, institutional framework additional technology or site location review or further cost estimate and market refinement.



## TASK 2.6 - Regional Biosolids Solutions Plan Report and Administration

The Regional Biosolids Solutions Plan Report will be prepared by CONSULTANT in a concise executive summary format with supporting exhibits included as attachments. CONSULTANT will structure this report to convey key findings, promising alternatives, associated uncertainties and recommended next step considerations to diverse stakeholders including technical, policy, regulatory and community groups. A PowerPoint summary will also be prepared by CONSULTANT for use among various stakeholder groups.

### 2.6.1 — Administration

CONSULTANT will coordinate Subconsultant activities, develop and monitor a project work plan and schedule for major activities, and provide monthly updates of progress to the participating utilities.

### 2.6.2 — Quality Assurance and Quality Control

CONSULTANT will perform quality assurance and quality control review with in-house peers in advance of any submittals to the Participating Utilities.

### 2.6.3 — Presentations

CONSULTANT will develop and provide presentation charts in PowerPoint format to summarize results of findings at key points in the study—one (1) set for each of the planned meetings summarized below.

### TASK 2.6.4 – Meeting Participation

CONSULTANT will participate in a total of seven (7) meetings including:

**Data compilation — Two (2)**

**Review of Rules and Regulations and Market Assessment – One (1)**

**Alternatives Analysis using SWEET Tool – Two (2)**

**Review of Site Assessments and Delivery Models –One (1)**

**Review of Recommendations for Optional Phase 3 – One (1)**

### 2.6.5 – Executive Summary and Report

A final report will be prepared by CONSULTANT to present the findings of all previous tasks performed as part of this plan. A digital copy of the draft report will be provided to the participating utilities for review and comment. All comments received by the CONSULTANT from a consensus of the participating utilities will be addressed / incorporated into the Final Report. A copy of the final report will be provided by CONSULTANT to each participating utility identified by WWS within three (3) weeks following receipt of the comments.



An executive summary PowerPoint will be prepared by CONSULTANT of the final report. The executive summary will be used for a brief informational document. All comments received by CONSULTANT from a consensus of the participating utilities will be addressed / incorporated into the final document.

**[END OF EXHIBIT A]**

**EXHIBIT B**  
**Estimated Study Budget and Study Participant Contributions**

The estimated total Study Cost will not exceed \$258,939.20. The table below is intended to demonstrate each potential Study Participant's share of the Study Cost, assuming 100% participation. The table contains the Biosolids in dry metric tons produced by each potential Study Participant as reported in Fiscal Year 2021, which was used to determine each potential Study Participant's share of the Study Cost. If the actual Study Cost is less than \$258,939.20 or if less than 100% participation is achieved, the County's share and Study Participant's share of the Study Cost will be adjusted to reflect each Party's percentage of the total Biosolids produced in dry metric tons by the participants during fiscal year 2021.

| <b>Study Participant</b>              | <b>2021<br/>Dry<br/>Metric<br/>Tons</b> | <b>Percentage<br/>based on<br/>100%<br/>Participation</b> | <b>\$258,939.20<br/>Study with<br/>100%<br/>Participation</b> |
|---------------------------------------|---|---|---|
| Broward County                        | 13,629                                  | 36.0%   | \$93,285.79   |
| City of Fort Lauderdale               | 5,500                                   | 14.5 %  | \$37,645.60   |
| City of Hollywood                     | 11,501                                  | 30.4 %  | \$78,720.36   |
| City of Margate                       | 743                                     | 2.0 %   | \$5,085.44  |
| City of Miramar                       | 1,662                                   | 4.4 %   | \$11,375.50   |
| City of Pembroke Pines                | 424                                     | 1.1 %   | \$2,901.25  |
| City of Plantation                    | 925                                     | 2.4 %   | \$6,333.52  |
| City of Sunrise                       | 2,327                                   | 6.2 %   | \$15,926.94   |
| Cooper City                           | 453                                     | 1.2 %   | \$3,098.46  |
| Coral Springs Improvement<br>District | 292                                     | 0.8 %   | \$1,995.68  |
| Town of Davie                         | 376                                     | 1.0 %   | \$2,570.66  |
| <b>TOTAL</b>                          | <b>37,831</b>                           | <b>100%</b>   | <b>\$258,939.20.</b>  |