



Public Works Department

**SOLID WASTE AND RECYCLING SERVICES**

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**MEMORANDUM**

DATE: December 2, 2022

TO: Commissioner Beam Furr  
County Commissioner, District 6  
and Vice-Chair of the Solid Waste Working Group

THRU: Kevin Kelleher, Assistant County Administrator

FROM: Notosha Austin, Assistant Director,  
Solid Waste and Recycling Services

RE: Solid Waste and Recycling Master Plan Scope of Work

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At its meeting on October 26, 2022, the Solid Waste Working Group (“SWWG”) requested Broward County (“County”) prepare a scope of work for the eventual development of a regional Solid Waste and Recycling Master Plan (“Master Plan”) by a vendor meeting the requirements of Florida’s Consultants’ Competitive Negotiation Act. Attached is a proposed draft scope of work for a Master Plan, as requested (Attachment 1).

**Master Plan Scope of Work**

In general, a Regional Solid Waste and Recycling Master Plan will be a support document for an entity’s policies, operations, various disposal options and alternatives, facilities, opportunities for waste diversion, and funding mechanisms for the next 40 plus years. The resulting Master Plan can be used to devise long-term disposal and recycling strategies to benefit all residents of Broward County.

The Master Plan will be conducted by a consultant with subject matter expertise and should take between six months and one year to complete, excluding additional time associated with procurement and feedback from the SWWG.

Specifically, the Master Plan should take into consideration recommendations as outlined in the Arcadis Solid Waste and Recycling Issues Study (“Study”) completed

in 2018. The Study provided recommendations on various matters, including reaching the State of Florida's 75% countywide recycling goal, retaining ownership of public land for the construction of solid waste or recycling facilities, existing solid waste facilities, potential diversion options of various waste streams, waste and recycling projections, facility cost estimates, and other supplemental approaches to solid waste management.

### **Updated Facility Cost Figures**

In addition to the attached draft scope of work for a Master Plan, County staff updated estimated costs for solid waste and recycling facilities identified in the Study (Attachment 2). The updated cost estimates are assumptions provided by SCS, the consultant conducting the waste generation and composition studies commissioned by the County in collaboration with the SWWG. These assumptions are based on costs previously identified in the Study and include supplemental discussions with Arcadis, as well as comparisons with a proposed new resource recovery facility in Miami-Dade County and operating budgets for the Palm Beach Solid Waste Authority.

It should be noted for informational purposes that when considering existing facilities, Waste Management recently announced its intent to build a new Recovered Materials Processing Facility ("RMPF") in Broward County. The proposed new RMPF is anticipated to include a \$75M+, 127,000 sq. ft. state-of-the-art facility and is projected to open in 2025.

County staff looks forward to working with the SWWG on its next steps in developing a regional solid waste and recycling system in Broward County.

#### **ATTACHMENT:**

1. Draft Scope of Work for Solid Waste and Recycling Master Plan
2. Updated Facility Cost Figures

c: Monica Cepero, County Administrator  
Kimm Campbell, Deputy County Administrator  
Michael Ruiz, Assistant County Administrator  
Trevor M.A. Fisher, P.E., MBA, Director, Public Works Department  
Drew Meyers, County Attorney

# **PROPOSED SCOPE OF WORK REGIONAL SOLID WASTE AND RECYCLING MASTER PLAN**

## **I. BACKGROUND**

In 2017, Broward County and several municipalities commissioned a Solid Waste and Recycling Issues Study (“Study”), which was prepared by Arcadis and provided recommendations on various matters, including reaching a 75% countywide recycling goal, retaining ownership of public land for the construction of solid waste or recycling facilities, and other supplemental approaches to solid waste management. In response to recommendations provided in the Study, a Solid Waste Working Group (“SWWG”) was established, consisting of eight municipal members and one County member, to develop a regional approach to managing solid waste and recycling.

Through the SWWG, the County and municipalities have commissioned waste generation and waste composition studies that are ongoing. To further this work and the SWWG’s mission, the County and municipalities now desire to procure consultant services to prepare a Regional Solid Waste and Recycling Master Plan (“Master Plan”) as detailed in the proposed scope of work below. To the extent data from the aforementioned studies are available, the consultant developing the Master Plan will consider such information in its recommendations.

The purpose of this Master Plan is to provide the SWWG with detailed recommendations concerning operations and facilities (including facility type, size, placement, etc.) needed to create a regional solid waste and recycling system (“System”) that is environmentally sustainable, transparent, innovative, and economically efficient in its approach to disposal, reduction, reuse, and recycling of the waste generated across Broward County.

## **II. DEADLINES FOR COMPLETION OF TASKS**

Time is of the essence for this project. Consultant shall complete tasks within the following deadlines:

- Tasks 1 through 10 within 180 calendar days from the Notice-to-Proceed.
- Task 11 within 30 business days.
- Task 12 shall be completed within 30 business days after the final workshop.
- Tasks 13 through 16 are optional services that may be performed by Consultant if requested by the Contractor Administrator via issuance of Work Authorizations.

## **III. BASIC SERVICES**

Consultant shall complete the following tasks within the timelines specified above. Prior to beginning work on each task, Consultant shall communicate its understanding of the relevant deliverables for Contract Administrator’s approval.

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## **TASK 1 - PROJECT INTRODUCTION**

To ensure common expectations between the parties, Consultant shall provide a summary outlining the various topics it understands to be necessary for inclusion in the Master Plan or completion of the following tasks, including without limitation:

- a) Overview,
- b) Outcome of the Study,
- c) Consultant's approach to developing the Master Plan,
- d) Sources of data Consultant intends to utilize,
- e) SWWG's and County's intended use for the Master Plan,
- f) Resources necessary to operate the System, and
- g) Regulatory requirements for managing and reducing waste across Broward County.

Contract Administrator will either approve or return this summary, with clarifications, for further revision by Consultant.

## **TASK 2 – PROJECT KICK-OFF MEETING**

A project kickoff meeting with the SWWG and relevant County and municipal staff within two weeks after the Notice-To-Proceed. The roles and expectations of the SWWG will be discussed. Lines of communication between the SWWG and the Consultant staff will be established. Within five working days after the project kickoff meeting, Consultant shall prepare a schedule for completion of this scope of work within the allowed time.

## **TASK 3 – EVALUATE EXISTING SOLID WASTE DISPOSAL AND RECYCLING PROCESSES AND RESOURCES IN BROWARD COUNTY**

- 3.1 Examine current processes for collecting, transporting, recycling, and disposal of solid waste generated in Broward County. Provide synopsis on various processes utilized by the County and its municipalities. Consultant shall draw from key sources including, without limitation, the solid waste generation and composition study commissioned by the County in coordination with the SWWG, municipal and County surveys, information submitted by County to the Florida Department of Environmental Protection for its annual reporting, and other sources of data identified or approved by Contract Administrator
- 3.2 Provide a summary on how solid waste and recyclable materials are managed and flow through various infrastructures from generation point to final disposition. Information should be categorized by composition including municipal solid waste, recovered materials, construction and demolition debris, and bulky waste and by sectors where possible. Consultant will obtain Contract Administrator's prior written approval regarding the specific categories of waste to be considered. The

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effectiveness of any current systems and any inefficiencies or inadequacies must be noted.

- 3.3 Evaluate existing solid waste infrastructure, including, without limitation, public and private waste landfills, processing facilities, incinerators, transfer stations, and recycling facilities utilized to process Broward waste. Evaluation must include without limitation:
- a) Facility location, size and materials accepted,
  - b) Facility capacity and throughput,
  - c) Remaining permitted life, and
  - d) Land ownership and uses.
- 3.4 Identify potential impediments to addressing solid waste and recycling efforts including, among other things, facility capacity, limitation in processing throughput, funding, availability of suitable land, and transportation logistics.

**TASK 4 – FINANCIAL OVERVIEW**

- 4.1 Provide an overview of the local economic environment affecting solid waste disposal and recycling. Include current financial obligations to provide waste processing and disposal by the County and municipalities, including franchise agreements, funds needed to setup the System, and any other relevant cost figures. Consultant will work with Contract Administrator to define the specific research question(s) to be answered in this subtask.
- 4.2 Compare local tipping fees, processing fees, market prices for recovered materials, and additional pertinent information in relation to the overall economic landscape.
- 4.3 Provide matrix of regional pricing against other counties of similar size. Review budgets attributed to solid waste and recycling. Examine opportunities for economies of scale and collaboration to minimize processing, transportation, disposal, and other pricing equivalences.

**TASK 5 - FUTURE NEEDS ASSESSMENT**

- 5.1 Examine the projected growth of Broward County population and waste generation. Provide population and solid waste material generation estimates at 5, 10, 20, 30, 40, and 50-year intervals.
- 5.2 Offer scenarios that effectively provide for future solid waste and recovered materials processing capacity and needs. List the number and types of facilities needed to effectively process future waste volumes, including incineration, recycling processing facilities, landfills, transfer stations, and public drop-off

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locations. This subtask shall include recommendations concerning, without limitation, the following:

- a) Number of transfer stations (or other facilities) needed to ensure transportation and other costs are comparable across Broward County,
- b) Where such facilities will likely need to be located relative to various population and commercial centers to ensure transportation and other costs are comparable across Broward County, and
- c) Strategies to ensure all waste is either recycled, recovered, or incinerated.

5.3 Provide conceptual-level construction costs and implementation timeline estimates based on the various scenarios to effectuate future solid waste and recovered materials processing. Include estimated timelines to fund, construct and make operational. Include options that integrate technologies that align with recycling and sustainability goals. Facility evaluation should include, without limitation:

- a) Single Stream Recycling Facility,
- b) Mixed Bulky Waste/Yard Trash/Construction and Demolition Debris,
- c) Yard Trash Mixed Waste Processing Facility,
- d) Organics Processing Facility, excluding Yard Trash,
- e) New Waste-to-Energy Facility,
- f) Waste-to-Energy Expansion with additional Boiler Units, and
- g) Transfer Stations.

This subtask must include projections of revenues necessary to operate the System, including the amount of, and methodology to calculate, reserve funds needed to cover any and all applicable costs for closure, long-term care, perpetual maintenance, and potential remediation related to all facilities.

5.4 Provide policies and strategies on waste reduction, diversion, and recycling to enhance sustainability efforts. Strategies may include educational uniformity, marketing campaigns, diversion programs, composting, and utilization of alternative technologies. Identify opportunities to increase recycling for commercial and multifamily sectors and yard waste.

5.5 Review alternative waste diversion programs, alternatives, options, or improvements to meet the State of Florida's 75% recycling goal.

5.6 Develop financial evaluations for future capacity needs. Include information on current available resources as well as provide:

- a) Financial forecasts of future rates needed to fund system,
- b) Debt service,
- c) Available grants or federal funding, and
- d) Return on Investment projections.

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- 5.7 Compare costs and revenue projections with Miami-Dade and Palm Beach counties, highlighting differences from owning assets, public/private partnerships, or through contracted arrangements. Land acquisition, facility construction and operational costs must be included in this projection.

**TASK 6 – REGULATORY REQUIREMENTS AND POLICY REVIEW**

- 6.1 Review of current ordinances, statutes, rules, regulations, and goals at the federal, state, and local levels related to the implementation of solid waste processing and recycling efforts. Identify any regulatory actions or expected regulatory changes affecting the manner in which the System will need to dispose, process, or divert particular waste types.
- 6.2 Review and provide impacts of implementing economic or regulatory flow control. Compare and contrast the two options including, without limitation, the benefits with implementing either one or both in view of constructing, operating, and funding specific facility types.
- 6.3 Provide an overview on effectively siting new facilities to meet future processing and disposal needs. Examine and identify possible logistical or regulatory constraints based on size and type of proposed facility.

**TASK 7 – RECOMMENDATIONS AND FINDINGS**

- 7.1 Review potential sites for future solid waste and recycling facilities that provide sufficient capacity and are economically located for all Broward County stakeholders. Include utilization options for the Alpha 250 parcel of land. Contract Administrator will provide Consultant with materials containing the history of the Alpha 250 parcel of land.
- 7.2 Provide recommendations for maintaining existing infrastructure, expanding operations to support a countywide solid waste management system, and examine potential collaboration with neighboring counties.
- 7.3 Rank scenarios based on the most efficient processing of solid waste and increasing recycling.
- 7.4 Examine opportunities for regional partnerships to realize economies of scale advantages.
- 7.5 Review feasibility, advantages, and disadvantages of expanding the WIN Waste Innovations/Wheelabrator South Broward facility to include a 4<sup>th</sup> boiler. Compare and contrast findings against the lifetime costs and benefits of constructing a new waste-to-energy facility at the same location or other reasonable alternatives.

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**TASK 8 – IMPLEMENTATION PLAN AND TIMELINES**

- 8.1 Consultant must obtain written approval from Contract Administrator regarding Consultant’s proposed contents of an implementation plan before proceeding to subtasks 8.2 through 8.4.
- 8.2 Establish a timeline of available solid waste facilities and the phasing in of various municipal waste streams based on the termination dates of franchise agreements.
- 8.3 Review potential opportunities to include spot market waste as part of the phasing schedule relative to capacity until all system waste is available.
- 8.4 Provide recommendation for the flow of municipal waste to various solid waste facilities and transfer station locations.

**TASK 9 – EDUCATION AND OUTREACH**

- 9.1 Provide best practices for encouraging recycling, waste reduction, and waste diversion. Outline objectives that support the U.S. Environmental Protection Agency’s waste management hierarchy (reduce, reuse, recycle/compost, recover/energy from waste, dispose/landfill). This subtask shall include recommendations for strategies, services, and programs to address waste reduction as well as recyclable materials and recovered materials processing, and appropriate public education regarding same.
- 9.2 Establish method of effectively delivering unified message to the public on sustainability, recycling best practices, and the System.
- 9.3 Explore opportunities to partner with Broward County schools located within participating municipalities to provide a unified recycling message.
- 9.4 Explore opportunities to effectively communicate and encourage recycling for commercial businesses and multifamily residences.

**TASK 10 – PREPARATION OF DRAFT MASTER PLAN**

An initial draft of the Master Plan shall be submitted to the SWWG and Contract Administrator for review. A meeting shall be scheduled with the SWWG and County stakeholders to review the findings and provide direction to Consultant regarding the incorporation of comments from the SWWG and County into a Draft Master Plan.

**TASK 11 – CONDUCT WORKSHOPS**

A minimum of two workshop meetings are to be held to discuss the findings of the Draft Master Plan. The first workshop will be held with the SWWG, the Contract Administrator,

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and relevant County and municipal staff. The second workshop will be held with the Broward League of Cities, consisting of the other elected officials in Broward County.

**TASK 12 – PREPARATION OF FINAL MASTER PLAN**

Consultant shall incorporate comments from the two workshops into the final Master Plan. The final Master Plan shall include an outline of implementation steps for the recommended alternative(s). The Master Plan will be finalized by Consultant within 30 working days after the final workshop with the Broward League of Cities.

**IV. OPTIONAL SERVICES**

Consultant shall undertake the following tasks only after the issuance of a Work Authorization by the Contract Administrator. Each such Work Authorization shall contain a specific scope, budget, and deadline(s) for the relevant services.

**TASK 13 – DEVELOP PLAN OF OPERATIONS**

- 13.1 Identify participants for the System, including the operation and roles. Include municipal partners, private industry, and specific facilities.
- 13.2 Provide the latest safety procedures for the operation and maintenance of equipment for each proposed facility.
- 13.3 Identify the most effective and efficient hours of operations for the facilities, downtime, maintenance periods, and flow of traffic.
- 13.4 Establish a billing structure for all participants (including haulers). Provide a uniform method for all participants to be identified and recorded at all disposal facilities.
- 13.5 Provide a basis for regularly scheduled inspection of solid waste and recycling facilities to ensure compliance and efficiency.

**TASK 14 – FACILITY MAINTENANCE**

Identify the cost and time associated with maintaining proposed facilities, including, among other things, purchase costs for land, equipment, and rolling stock for ongoing maintenance and closure of potential facilities to be included in the System as publicly owned assets.

**TASK 15 – COMPARISON OF SINGLE AND DUAL STREAM RECYCLING**

Compare Single Stream and Dual Stream Recycling, taking into consideration the constraints of nearby recycling and materials processing facilities. Examine the feasibility

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and costs including and without limitation of replacement carts, specialized collection trucks, and educational programs if being considered.

**TASK 16 – IDENTIFY INNOVATIVE AND FUTURE TECHNOLOGIES (Software & Hardware)**

Identify the latest technologies for disposal and recycling facility operations, including reporting, automation, and staffing. Provide alternative options for collection, processing, and disposal.

**TASK 17 – HIGHLIGHT NATURAL AREAS NEAR FACILITIES**

Identify natural areas in proximity to proposed facilities to expand on educational opportunities. Include an overview on how wetlands, trails, and parks can be integrated with solid waste and recycling facilities as passive learning centers.

# Updated Cost Estimates for Construction of Solid Waste and Recycling Facilities

December 2022

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# Estimated Facility Construction Costs

Facility	Estimated Cost (2022 Dollars)	Estimated Time to Build
Waste to Energy (WTE) Facility	\$1.1B	5 Years
Single-Stream Recycling Facility	\$70M	4 Years
Trash Transfer Station	\$30M	3 Years
Bulky Waste / Yard Trash / C&D Debris Facility	\$50M	3 Years
Yard Trash Facility	\$10M	3 Years

\*Note: Figures reflect construction costs only. Planning, design, land acquisition, permitting, financing, and any other applicable costs are not included.

# Estimated WTE Construction Options

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Facility	Estimated Cost (2022 Dollars)	Estimated Time to Build
New Waste to Energy Facility (4 Boilers)	\$1.1B	5 Years
Additional 4 <sup>th</sup> Boiler at WIN Waste / Wheelabrator South Broward	\$250M	4 Years

\*Note: Figures reflect only construction costs. Planning, design, land acquisition, permitting, financing, and any other applicable costs are not included.

# Estimated Recycling Facility Costs

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Facility	Estimated Cost (2022 Dollars)	Estimated Time to Build
Single-Stream Recycling Facility	\$70M	4 Years
Single-Stream Recycling Transfer Station	\$10M	2 Years

\*Note: Waste Management set to construct a new single-stream Materials Recovery Facility (MRF) costing an estimated \$75M in Broward County.