

NON-AGENDA

ADDITIONAL MATERIAL

REGULAR MEETING

MARCH 14, 2023

SUBMITTED AT THE REQUEST OF

COMMISSIONER BEAM FURR

MEMORANDUM

DATE: March 13, 2023

TO: Mary Lou Tighe, President, Broward League of Cities

CC: Broward County Solid Waste and Recycling Working Group

FROM: Beam Furr, Broward County Commissioner District Six, Vice Chair of Solid Waste and Recycling Working Group

RE: **Proposed Motion for Next Solid Waste Working Group Meeting on Wednesday, March 15, 2023**

At the Broward League of Cities Solid Waste and Recycling Working Group (SWWG) meeting on March 10, there was a lengthy and sometimes spirited discussion about the draft Interlocal Agreement (ILA), which the SWWG has been working on for many months. Prior to the conclusion of the SWWG meeting, there was discussion about my potential motion to go back to language that had been negotiated in the ILA before the inclusion of “municipal override” and “County veto override” language last fall. The meeting was concluded and a special meeting of the SWWG was scheduled for March 15, 2023, to provide time to further discuss and provide language for the proposed motion. The specific Motion I plan to make on this issue is attached to this memorandum.

In addition, there was much discussion on and apparent misunderstanding about what I intended to convey when I raised the need to work on “parallel tracks.” To clarify, when I referred to “parallel tracks,” I meant that the SWWG continue to work to finalize an ILA establishing a governance structure for the Authority (which I hope and trust will not include terms that preclude the County from participating in the Authority) and, at the same time, the County, in partnership with the SWWG and Technical Advisory Committee (TAC), would begin taking steps to potentially procure a new Waste-to-Energy (WTE) facility that I, and others expect will be needed to efficiently and safely dispose of waste within Broward County.

I suggest that this process be handled the same way that the selection of the consultant for the waste generation study was made, with the TAC and County staff developing a scope for an appropriate solicitation that is then brought back to the SWWG and Board of County Commissioners for review and approval, with a representative of the SWWG (presumably the Chair) participating in the solicitation process. As we all know, public procurements are a lengthy process, and by starting this process now while we finalize the ILA, there will be two potential outcomes, both of which are positive for the residents

of Broward County: (1) the Authority will have the benefit of the work done in that solicitation, where the Authority can choose to work with the company that comes forward with the best facility option; or (2) if the Authority is not in a position to finance the construction of a WTE or other facilities that are being proposed, the County may be in a position to facilitate the construction and operation of these facilities through a further agreement with the Authority and the participating municipalities to commit to direct waste flow. In either scenario, whether the Authority decides to construct a facility based on this solicitation if it fits within the Authority's plans or by contracting with the County to direct waste flow to a County-provided facility (whether County-owned, developed through a P3, or otherwise, and presumably operated by an experienced private operator), the disposal needs of our residents will be met. Conversely, if the Authority elects not to construct a facility and its members do not want to contract for the utilization of a County-provided WTE, the Authority has not lost any time in its planning process and can proceed with another alternative.

In light of recent events in Miami-Dade County and recognizing that the County's sole WTE facility is 30+ years old, we no longer have the luxury of time. Even if the SWWG finalizes a draft ILA and presents it to the municipalities on March 30, it will still take many months before the ILA is reviewed and approved by the requisite number of municipalities, plus additional time for the Governing Board to be established and meet, appoint the Executive Board, hire an Executive Director, and begin the process of retaining its own staff and consultants to begin its work. By the County and the municipalities working collaboratively now to see what options may exist for the construction of a WTE facility, we will be able to jump start the work of the Authority once it is formed.

My comments at our meeting should not be misconstrued to say that the County is backing out of the ILA because it disagrees with its governance structure, that it is "doing its own thing," or "taking on the entire responsibility of constructing a WTE." As I said several times during our meeting on the 10th, the County does not intend on going its own separate way. It is the County's intent to continue working collaboratively with SWWG as we develop countywide strategies and solutions to address short- and long-term opportunities and challenges associated with providing cost-effective solid waste and recyclables processing and disposal services. Of course, at some point, if we remain at impasse on key issues, as a matter of last resort, it would not be unreasonable for any of us to question whether our current course can produce the results required by our mutual constituents.

It is my hope that with this clarification, and the passage of my motion, we can move forward to finalizing the ILA and begin the process to find options to replace or supplement

the 30+ year old WTE facility and provide the necessary disposal capacity for the betterment of all residents of Broward County.

Proposed Motion

Reverting the ILA language regarding “municipal override” and “County veto override” to earlier language and addressing County contribution towards costs associated with development of the Master Plan (proposed reversion of language is reflected by strikethroughs).

Proposed Language:

Section 3.3.3. Facilities Amendment; Required Contents.

...

Notwithstanding anything in this Agreement to the contrary, including, without limitation, Article 16, for the Facilities Amendment to be effective, it must be approved by the elected bodies of: (a) Municipal Parties representing at least eighty percent (80) of the total population of the Municipal Parties, and (b) County; ~~provided, however, if the Facilities Amendment is approved by all Municipal Parties but not the County, the Facilities Amendment will be deemed approved, subject to a veto by the County, which veto shall require at least six County Commissioners voting in favor of the veto.~~

Section 4.2. Extension Terms.

...

4.2.1. No later than five (5) years before the end of the then-current Term, the Governing Board must determine, based on the projected funding needs of the Authority, the percentage of Broward Tonnage and number of municipal parties necessary to extend this Agreement. Notwithstanding the foregoing, no Extension Term may be exercised unless the elected bodies of Municipal Parties representing at least fifty percent (50%) of the Broward Tonnage plus County agree to exercise the Extension Term; ~~provided, however, if the Extension Term is approved by all municipal parties but not the County, the Extension Term will be deemed approved, subject to a veto by the County, which veto shall require at least six County Commissioners voting in favor of the veto.~~

7.1.2. Procedure to Adopt and Amend Master Plan.

Adoption of Master Plan and Significant Amendments. A Master Plan will not be effective unless approved by: (a) members of the Governing Board representing Municipal Parties that comprise at least two-thirds (2/3) of the total population of the Municipal Parties, and (b) County’s representative to the Governing Board; ~~provided, however, if the Master Plan is approved by all municipal parties but not the County, the Master Plan will be deemed approved, subject to a veto by the County, which veto shall require at least six County Commissioners voting in favor of the veto.~~ All proposed amendments to the Master Plan that concern any of the following (collectively, “Significant Amendments”) will be subject to the same requirements for approval (set forth in the preceding sentence) as a Master Plan to be effective: . . .

8.1. The Authority has the following general powers, which are granted to the Governing Board unless otherwise expressly provided for in this Agreement:

...

8.1.8. To the extent permissible under applicable law and provided it does not interfere with County's ability to fulfill its statutory obligations, including under Section 403.706(1), Florida Statutes, the Authority will have the power to provide Authority Solid Waste disposal for Authority Solid Waste generated in the Parties' jurisdictions. The Authority is not granted the power to own or operate a "solid waste disposal facility," as that term is defined in Section 403.703, Florida Statutes (2022), or sell or otherwise transfer an interest in such a facility, unless an amendment to this Agreement, granting such power to the Authority and setting forth the limits and extent of such power, is entered into by the elected bodies of: (a) Municipal Parties representing at least two-thirds (2/3) of the total population of the Municipal Parties, and (b) County; ~~provided, however, if the amendment is approved by all municipal parties but not the County, the amendment will be deemed approved, subject to a veto by the County, which veto shall require at least six County Commissioners voting in favor of the veto.~~

Proposed Language for County Contribution to Master Plan Costs:

Current Language:

5.4. Ongoing Contributions of Parties Prior to Special Assessment. Until the Authority is able to fund its budget, each Party must contribute funding on a pro rata basis, based on population, to pay the Authority's expenses. Such expenses shall not exceed an aggregate yearly maximum amount of [two million dollars (\$2,000,000)]. The Authority will invoice each Party that Party's yearly funding obligation, on a quarterly or other basis, payable in advance.

Proposed Language:

5.4. Ongoing Contributions of Parties Prior to Special Assessment. Until the Authority is able to fund its budget through special assessments or other methods, each Party must financially contribute towards the costs of operations of the Authority as stated in this section. Such expenses shall not exceed an aggregate yearly maximum amount of [two million dollars (\$2,000,000)]. The Authority will invoice each Party that Party's yearly funding obligation, on a quarterly or other basis, payable in advance.

5.4.1. Consultant Expenses. County will be responsible for payment to the Authority for fifty percent (50%) of the costs of professional/technical consultants retained by the Authority for the development of the Master Plan, with the remaining fifty percent (50%) of such costs paid by the Participating Municipalities, on a pro rata basis, based on population.

5.4.2. Other Authority Expenses. Other than the division of expenses set forth in Section 5.4.1, each Party will jointly fund all other Authority expenses ~~must contribute funding~~ on a pro rata basis, based on population, ~~to pay the Authority's expenses.~~



Public Works Department

SOLID WASTE AND RECYCLING SERVICES

1 N. University Drive, Suite 400 • Plantation, Florida 33324 • 954-765-4999 • FAX 954-577-2391

MEMORANDUM

DATE: January 27, 2023

TO: Mary Lou Tighe, Executive Director, Broward League of Cities

FROM: Beam Furr, Broward County Commissioner District Six,
Vice Chair of Solid Waste and Recycling Working Group

RE: Solid Waste and Recycling Scenarios Proposed in Arcadis Study

BACKGROUND

The Solid Waste and Recycling Working Group (“SWWG”) is exploring scenarios for a comprehensive regional system for the recycling and disposal of solid waste. In 2017, the County and several municipalities agreed to engage a consultant, Arcadis, to study regional management for solid waste disposal to reach Florida’s 75% recycling goal. On December 13, 2018, Arcadis issued the Final Report on Broward County Solid Waste and Recycling Issues Study (“Arcadis Study”), which included proposed scenarios for various facilities (both existing and new) to process and recycle Broward County’s municipal solid waste (“MSW”). The scenarios presented by Arcadis provide helpful information as the SWWG contemplates what a comprehensive regional system might include and identifies next steps.

This memorandum summarizes the three scenarios detailed in the Arcadis Study (referred to as Scenarios A, B, C) and the estimated construction costs for each. In addition to the Arcadis scenarios, a fourth option (Scenario D) was prepared by County staff, along with its estimated construction costs, for consideration.

Each scenario proposes a slightly different combination of facilities to effectively process, recycle, and dispose of unprocessed MSW¹ (from commercial and residential sources) by year 2025.

¹ Depending on the source document, “unprocessed MSW” may also be referred to as “mixed waste.”

I. ARCADIS SCENARIOS COMPARISON

The table below compares the three scenarios analyzed in the Arcadis Study. Note that all costs listed utilize 2020 dollars.

Proposed Facilities	Scenario A	Scenario B	Scenario C
5 MSW Processing Facilities	✓	✓	X
5 Bulky Waste / Yard Trash / C&D Debris Facilities	✓	✓	✓
3 Materials Recycling Facilities	✓	✓	✓
2 Organics Processing Facilities	✓	X	X
1 Yard Trash Facility	✓	✓	✓
Waste to Energy ("WTE") Incineration	✓	✓	✓
Landfill Disposal ²	✓	✓	✓
Option 1: Estimated Cumulative Construction Costs (without New WTE Facility)			
	No WTE Expansion at WSB Required	Includes WTE Expansion of 4 th Boiler at WSB	
	\$329M ³	\$457M	\$285M
Option 2: Estimated Cumulative Construction Costs (with New WTE Facility)			
	\$1B	\$1.2B	\$1.05B

² Existing landfills to be utilized; construction costs not included.

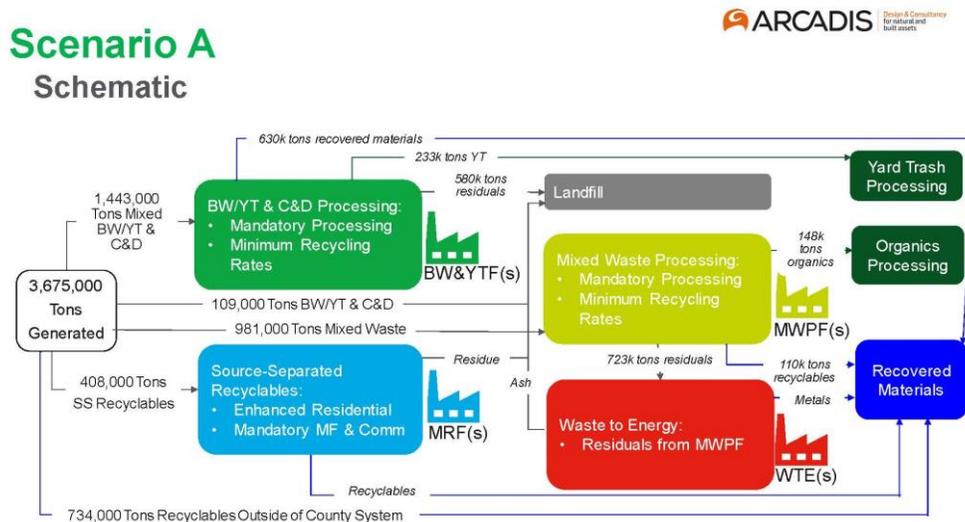
³ In Scenario A, costs for an additional boiler at the WIN-Waste/Wheelabrator South Broward WTE is not included because adequate disposal capacity is available with the three existing boilers under this scenario.

II. SCENARIO A

MSW and source separated recyclables would be directed to the facilities below for processing, including unprocessed MSW, Bulk/Yard waste, and Construction and Demolition Debris (“C&D”).

Facilities	Purpose
5 MSW Processing Facilities	To turn unprocessed MSW into recovered materials and wet organics (food waste, compostable paper, etc.) and to sell those to end markets. Organics, excluding yard trash, would be sent to an Organics Processing Facility
2 Organics Processing Facilities	To process the organics into compost
5 Mixed Bulk/Yard Trash and C&D Facilities	To segregate larger bulky waste, yard trash, and C&D into recovered materials for end markets
1 Yard Trash Processing Facility	To reduce yard trash into usable material or compost
3 Materials Recycling Facilities	To process curbside recyclables from residential, multifamily, and commercial establishments
WTE	To process various residuals and recover remaining metals
Landfill	To dispose of remaining residuals

The schematic below illustrates the relationship between these facilities:

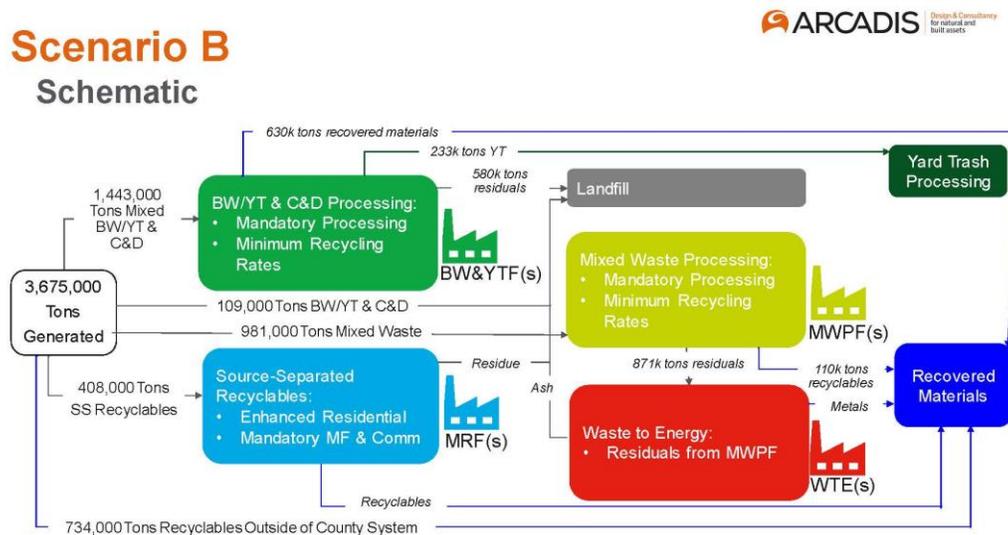


III. SCENARIO B

This scenario is the same as Scenario A, but without an Organics Processing Facility.

In Scenario B, **organics would be sent to the WTE and a fourth boiler will need to be constructed** at the WIN Waste/Wheelabrator South Broward WTE.

The schematic below illustrates the relationship between these facilities:

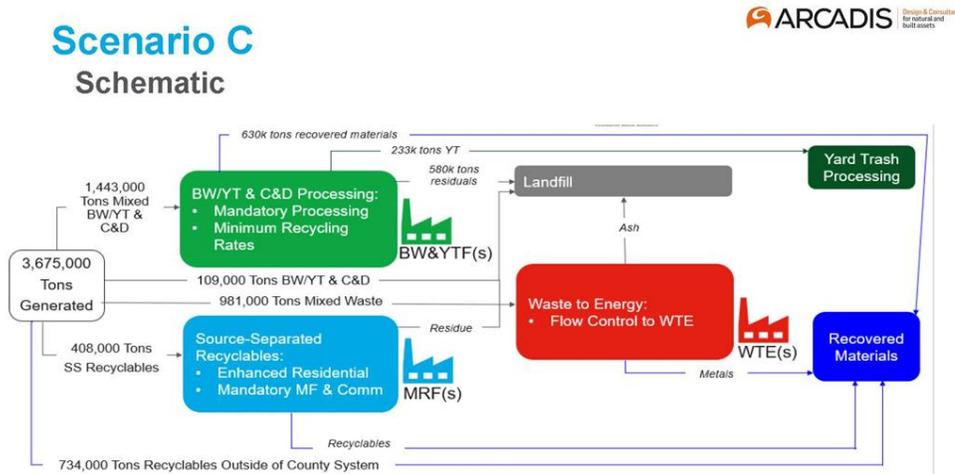


IV. SCENARIO C

This scenario is the same as Scenario A, but without an Organics Processing Facility or MSW Processing Facilities.

Consequently, **organics and unprocessed MSW would be sent directly to the WTE and a fourth boiler will need to be constructed** at the WIN Waste/Wheelabrator South Broward WTE.

The schematic below illustrates the relationship between these facilities:



V. SCENARIO D

County staff has also prepared this alternative scenario using updated cost estimates. It provides for an initial set of facilities to process, recycle, and dispose of mixed residential and commercial waste. The scenario serves as a starting point that can be refined based on future needs and overall goals set forth by the SWWG.

Facilities	Purpose
1 Materials Recycling Facility	To process curbside recyclables from residential, multifamily, and commercial establishments
2 Recyclables Transfer Stations ⁴	To receive source separated recyclables for transfer to the Materials Recycling Facility
1 WTE ⁵	To process various residuals and recover remaining metals
2 MSW Transfer Stations	To receive MSW for transfer to the WTE
1 Organics Processing Facility	To process the organics into compost
1 Mixed Bulk/Yard Trash and C&D Facility	To segregate larger bulky waste, yard trash, and C&D into recovered materials for end markets
Landfill ⁶	To dispose of remaining residuals

Estimated Cumulative Construction Costs for Proposed Facilities: \$1.35B

Note that, unlike the three scenarios from the Arcadis Study, the facility costs for Scenario D are estimates based on 2022 dollars, except for the Organics Processing Facility, which is based on 2020 dollars. Scenario D also contemplates contracting for services at privately-owned facilities, including private Materials Recovery Facilities that are expected to be constructed within Broward County.

⁴ Various transfer stations may be collocated for efficiency.

⁵ Scenario D contemplates the construction of a new WTE rather than the expansion of existing facilities.

⁶ Existing landfills to be utilized; construction costs not included.

VI. SUMMARY

Scenarios A, B, and C were developed by Arcadis to assist Broward County in achieving the State of Florida's 75% recycling goal. Note that, in the near term, the State may modify the methodology by which recycling rates are calculated.

The first three scenarios present slight differences in how unprocessed residential and commercial waste would be managed. In **Scenario A**, unprocessed waste would be sent to MSW Processing Facilities where recyclables would be recovered and marketed and wet organics would be recovered and processed. Remaining residuals would go to WTE. Under **Scenario B**, unprocessed waste would be sent to MSW Processing Facilities, where recyclables would be recovered and sent to end markets but organics would not be processed. Remaining residuals including wet organics would be sent to a WTE instead. Under **Scenario C**, unprocessed waste and organics would be sent to a WTE. Under Florida's current methodology for calculating recycling rates, whether or not unprocessed waste or organics are sent to a WTE matters. Currently, partial recycling credits are realized when these wastes are sent to a WTE rather than MSW Processing Facilities.

Based on preliminary feedback from County staff, **Scenario D** is presented as an alternative option. This scenario contemplates using a mix of facilities, including privately and publicly owned Materials Recovery Facilities and Mixed Bulk/Yard Trash and C&D Facilities, to effectively process, recycle, and dispose of solid waste generated across Broward County as well as additional transfer stations to reduce transportation costs. The SWWG is encouraged to continue constructive discussions on the viability of Scenarios A, B, C, and D in an effort to establish a countywide solid waste and recycling system.

ATTACHMENT

Exhibit 1: Arcadis Summary of Estimated Solid Waste Facility Construction Cost Projections.

C: Monica Cepero, County Administrator
Kimm Campbell, Deputy County Administrator
Kevin B. Kelleher, Assistant County Administrator
Michael Ruiz, Assistant County Administrator
Trevor M.A. Fisher, P.E., MBA, Director, Public Works Department
Andrew J. Meyers, County Attorney



Public Works Department

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Exhibit 1:
Arcadis Summary of Estimated Solid Waste Facility Construction Cost Projections

Table 25: Summary of Estimated Solid Waste Facility Construction Cost Projections

Facility	2025			2040			2060		
	Processing Lines Required	Facilities Required ¹	Est. Facility Cost (2020 dollars)	Processing Lines Required	Facilities Required ¹	Est. Facility Cost (2020 dollars)	Processing Lines Required	Facilities Required ¹	Est. Facility Cost (2020 dollars)
Common Elements									
Materials Recycling Facility	5	3	\$ 63,000,000	5	3	\$ 63,000,000	6	3	\$ 76,000,000
Combined Bulky Waste/Yard Trash/C&D Facility	10	5	\$ 39,000,000	11	6	\$ 42,000,000	12	6	\$ 46,000,000
Yard Trash Facility	1	1	\$ 3,000,000	1	1	\$ 3,000,000	2	1	\$ 6,000,000
Constants Subtotal			\$ 105,000,000			\$ 108,000,000			\$ 128,000,000
Scenario A									
Mixed Waste Processing Facility	10	5	\$ 172,000,000	10	5	\$ 172,000,000	11	6	\$ 189,000,000
Organics Processing Facility (excludes Yard Trash)	4	2	\$ 52,000,000	4	2	\$ 52,000,000	4	2	\$ 52,000,000
Waste-to-Energy (WTE)									
WSB Expansion (Add 4th 750 tpd Boiler Unit)	0	0	\$ -	0	0	\$ -	1	0	\$ 180,000,000
OR									
New WTE Facility (750 tpd Boiler Units)	3	1	\$ 675,000,000	3	1	\$ 675,000,000	4	1	\$ 900,000,000
Scenario A (4th WTE Unit at WSB) TOTAL		16	\$ 329,000,000		17	\$ 332,000,000		18	\$ 549,000,000
Scenario A (New WTE Facility) TOTAL		17	\$ 1,004,000,000		18	\$ 1,007,000,000		19	\$ 1,269,000,000
Scenario B									
Mixed Waste Processing Facility	10	5	\$ 172,000,000	10	5	\$ 172,000,000	11	6	\$ 189,000,000
Waste-to-Energy (WTE)									
WSB Expansion (Add 4th 750 tpd Boiler Unit)	1	0	\$ 180,000,000	1	0	\$ 180,000,000	1	0	\$ 180,000,000
OR									
New WTE Facility (1,050 tpd Boiler Units)	3	1	\$ 945,000,000	3	1	\$ 945,000,000	3	1	\$ 945,000,000
Scenario B (4th WTE Unit at WSB) TOTAL		14	\$ 457,000,000		15	\$ 460,000,000		16	\$ 497,000,000
Scenario B (New WTE Facility) TOTAL		15	\$ 1,222,000,000		16	\$ 1,225,000,000		17	\$ 1,262,000,000
Scenario C²									
Waste-to-Energy (WTE)									
WSB Expansion (Add 4th 750 tpd Boiler Unit)	1	0	\$ 180,000,000	1	0	\$ 180,000,000	1	0	\$ 180,000,000
OR									
New WTE Facility (1,050 tpd Boiler Units)	3	1	\$ 945,000,000	3	1	\$ 945,000,000	4	1	\$ 1,260,000,000
Scenario C (4th WTE Unit at WSB) TOTAL		9	\$ 285,000,000		10	\$ 288,000,000		10	\$ 308,000,000
Scenario C (New WTE Facility) TOTAL		10	\$ 1,050,000,000		11	\$ 1,053,000,000		11	\$ 1,388,000,000

Note 1: Number of required facilities assumes that each facility operates for one shift-per-day and has a maximum of two processing lines. The number of facilities, and estimated construction cost may be reduced if operating at two shifts-per-day.

Note 2: For the mid and long-term planning period of 2040 and 2060 for Scenario C, a 2nd 750 tpd processing line is required but is not possible due to the existing design of WSB. Therefore one processing line is noted due to this limitation. Additional disposal capacity will be required for any waste exceeding the capacity of WSB.



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

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.

PROPOSED SCOPE OF WORK REGIONAL SOLID WASTE AND RECYCLING MASTER PLAN

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

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

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 4th 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

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

Facility	Estimated Cost (2022 Dollars)	Estimated Time to Build
New Waste to Energy Facility (4 Boilers)	\$1.1B	5 Years
Additional 4 th 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

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.