

PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS

AGENDA ITEM SUMMARY

Meeting Date: October 22, 2024 Consent [X] Regular [ ]  
Public Hearing [ ]

Department: Water Utilities Department

I. EXECUTIVE BRIEF

**Motion and Title: Staff recommends motion to approve:** Consultant Services Authorization (CSA) No. 1 to the Consulting/Professional Services Electrical Instrument and Telemetry Engineering Services with Hillers Electrical Engineering, Inc., (Consultant) for Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams (Project) for a not to exceed amount of \$132,489.20.

**Summary:** On December 5, 2023, the Board of County Commissioners (BCC) approved the Palm Beach County Water Utilities Department (PBCWUD) Contract (R2023-1784) with Consultant. CSA No. 1 provides professional engineering services to perform an electrical and control system condition assessment of the East Mecca Pump Station; evaluate electrical, instrumentation and control system components; and create as-built control loop diagrams of station control elements for Operations use in troubleshooting.

The Contract was presented to the Goal Setting Committee (Committee) on April 5, 2023 and the Committee established an Affirmative Procurement Initiative (API) of a minimum mandatory 20% Small Business Enterprise (SBE) subcontracting goal and an SBE evaluation preference for prime bidders. Consultant committed to 100% SBE participation and received 15 Evaluation Preference Points. The SBE proposed participation for this CSA No. 1 is 100%. To date, the overall participation achieved on this Contract is 100%. Consultant is a Palm Beach County based company. The Project is included in the PBCWUD FY25 budget. (PBCWUD Project No. 24-030) District 1 (MWJ)

**Background and Justification:** The Mecca storage tank and pump station are remote facilities that provide additional storage and pumping capacity in the northern part of the PBCWUD service area. The Mecca facilities are located at 10150 Seminole Pratt Whitney Road in Loxahatchee/Palm Beach Gardens and include one 5 MG ground storage tank and three booster pumps, each rated for 3,910 gpm at 80 psi, with 250 hp variable frequency drives (VFDs). A 100 hp standby pump with a VFD was added to improve flow control at this facility.

The Integrated Utility Master Plan, March 2023 (IUMP) identified a number of electrical, instrumentation and control system projects for the Mecca Booster Pump Station. CSA No. 1 will provide engineering services for condition assessment study, observe and evaluate electrical systems and controls, and create as-built loop diagrams per the following identified IUMP projects for the Mecca Booster Pump Station: 6.6.7 Process Control System Loop Diagrams and 6.6.8 Electrical and Station Control Systems Condition Assessment. The need for the project is outlined in the IUMP Section 4.5.1 and includes: renewal and replacement needs based on age of equipment and projected useful life; and maintaining overall system redundant capacity, risk reduction and continued operation of critical facilities and processes.

**Attachments:**

- 1. Two (2) Originals of CSA No. 1
- 2. Location Map
- 3. Ebix Compliance Summary Report

Recommended By: Kristin Black for Department Director Date: 9-25-2024

Approved By: Will A. B... Assistant County Administrator Date: 10/11/24



CONSULTANT SERVICES AUTHORIZATION NO. 1  
Palm Beach County Water Utilities Department  
Contract for Consulting/Professional Services  
Electrical Instrumentation and Telemetry Engineering Services  
Resolution No. R2023-1784 Contract Dated December 5, 2023

**Project Title:** Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams

**PBCWUD Project No.:** 24-030

**Consultant:** Hillers Electrical Engineering, Inc.

**Address:** 23257 State Road 7, Suite 100, Boca Raton, FL 33428

**Budget Line Item No.:** 4001-720-2322-3120

**District No.:** 1

This Consultant Services Authorization provides for: Performing an electrical and control system condition assessment study; observe and evaluate electrical, instrumentation and control system components by conducting site visits; creation of as-built control loop diagrams of station control elements for operations use in troubleshooting.

(See ATTACHMENT A for detailed scope of services)

The Contract provides for 100% SBE participation, which includes 100% SBE participation, 100% MBE (A). This Consultant Services Authorization includes 100% overall participation which includes, 100% SBE participation, 100% MBE (A) The cumulative SBE participation, including this Consultant Services Authorization is 100%, which includes 100% SBE participation, 100% MBE (A).

1. Services completed by the Consultant to date :

**See ATTACHMENT B.**

2. Consultant shall begin work upon receipt of Notice to Proceed correspondence.

3. The compensation to be paid to the Consultant for providing the requested services shall be:

A. Computation of time charges plus expenses, not to exceed \$ 132,489.20

B. Fixed price of \$ 0.00

C. Total \$ 132,489.20

4. This Authorization may be terminated, in whole or in part, by the County with or without cause in accordance with the Contract terms. In the event of termination not the fault of the Consultant, the Consultant shall be compensated for all services performed to termination date, together with reimbursable expenses (if applicable) then due in accordance with the Contract terms. Consultant agrees to waive any and all claims for lost profits or anticipated future profits in the event of a termination with or without cause under this Contract.

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**Project Title:** Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams

**PBCWUD Project No.:** 24-030

5. SBE participation is included in **ATTACHMENT C** under this Authorization. The attached Schedule 1 defines the SBE applied to this Authorization and Schedule 2 establishes the SBE contribution from each Sub-Consultant (Letter of Intent).
6. This Authorization does not amend, change, or modify the Contract dated December 5, 2024 which remains in full force and effect.
7. All Attachments to this Authorization are incorporated herein and made a part of this Consultant Services Authorization.

CONSULTANT SERVICES AUTHORIZATION NO. 1  
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Electrical Instrumentation and Telemetry Engineering Services  
Resolution No. R2023-1784 Contract Dated December 5, 2023

**Project Title Title:** Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams

**PBCWUD Project No.:** 24-030

IN WITNESS WHEREOF, this Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

Joseph Abruzzo, Clerk of the Circuit Court  
& Comptroller, Palm Beach County

Palm Beach County, Board  
of County Commissioners

ATTEST:

Signed: \_\_\_\_\_

*JK*  
*KB*

Signed: \_\_\_\_\_

Maria Sachs, Mayor

Typed Name: Deputy Clerk

\_\_\_\_\_  
(Date)

Approved as to Form and Legal  
Sufficiency

Hillers Electrical Engineering Inc.  
(Consultant)

Signed: *[Signature]*

Mark Luther, P.E.  
(Print Name)

Typed Name: Michael W. Jones  
County Attorney

*[Signature]*  
(Signature)

Senior Vice President  
(Title)

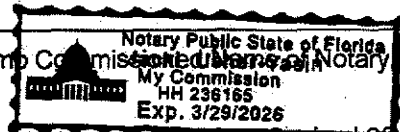
9/20/2024  
(Date)

STATE OF FLORIDA  
COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me by means of  physical presence or  online notarization,  
this 20th day of September, 2024, by Mark Luther who is  personally  
known to me or  has produced \_\_\_\_\_ as identification.

*[Signature]*  
(Signature of Notary Public - State of Florida)

(Print, Type, or Stamp Commissioned Name of Notary Public)



CONSULTANT SERVICES AUTHORIZATION NO. 1  
Palm Beach County Water Utilities Department  
Contract for Consulting/Professional Services  
Electrical Instrumentation and Telemetry Engineering Services  
Resolution No. R2023-1784 Contract Dated December 5, 2023

**LIST OF ATTACHMENTS**

<b>ATTACHMENT A</b>	Scope of Services
<b>ATTACHMENT B</b>	Summary and Status of Consultant Services Authorizations
<b>ATTACHMENT C</b>	OEBO Schedules 1 and 2
<b>ATTACHMENT D</b>	Project Schedule
<b>ATTACHMENT E</b>	Budget Summary
<b>ATTACHMENT F</b>	Summary of SBE-SBE Business Tracking
<b>ATTACHMENT G</b>	Location Map

# ATTACHMENT A

## SCOPE OF SERVICES

**PBCWUD Project No.:** 24-030

**Project Title:** Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams

CONSULTANT (Hillers Electrical Engineering, Inc.) shall perform:

### Background

Background and Justification: The Mecca storage tank and pump station are remote facilities that provide additional storage and pumping capacity in the northern part of the Palm Beach County Water Utilities Department (COUNTY) service area. The Mecca facilities includes one (1) five (5) million gallon (MG) ground storage tank and three (3) booster pumps, each rated for 3,910 gallons per minute (gpm) at 80 pounds-per-square inch (psi), with 250 horsepower (hp) variable frequency drives (VFDs). A 100 horsepower standby pump with a VFD was added to improve flow control at this facility.

The Integrated Utility Master Plan, March 2023 (IUMP) identified a number of electrical, instrumentation and control system projects for the Mecca Booster Pump Station. CSA No. 1 will provide engineering services for condition assessment study, observe and evaluate electrical systems and controls, and create as-built loop diagrams per the following identified IUMP projects for the Mecca Booster Pump Station: 6.6.7 Process Control System Loop Diagrams and 6.6.8 Electrical and Station Control Systems Condition Assessment. The need for the project is outlined in the IUMP Section 4.5.1 and includes "Renewal and replacement needs based on age of equipment and projected useful life". Creation of loop diagrams aids Operations and Maintenance staff in troubleshooting process control system malfunctions by reducing the investigative time required to determine the issue causing the malfunction.

This consultant service agreement is to perform engineering services for studies and evaluations to execute the identified IUMP projects for the Mecca Pump Station.

### SCOPE OF WORK

#### Task 1 Electrical, Instrumentation and Control Systems Condition Assessment:

CONSULTANT shall perform a condition assessment study of the Mecca Pump Station electrical, instrumentation and control systems and prepare a draft study document for COUNTY review and comment. CONSULTANT will conduct a draft study review meeting with the COUNTY to discuss the report and receive comments. CONSULTANT will incorporate comments received and prepare a final study report document for delivery to the COUNTY. CONSULTANT will perform site visits to observe existing conditions; observations and evaluations are visual in nature and are limited to systems and components that are readily observable. Study scope does not include any testing or unearthing of systems or components to make observations or evaluations.

#### Deliverables:

- Draft Study Document in portable document format (PDF) format
- Final Study Document in PDF format

Revised 06-12-24

## **Task 2 Prepare As-Built Control Loop Diagrams:**

Consultant shall prepare control loop diagrams depicting the station control system block diagram, programmable logic controller (PLC) panel layouts, and individual control loop wiring from field terminations to process control panel terminations. CONSULTANT will field verify all station instrumentation signals and points for existing (record) control loop diagrams and update diagrams with new signals not identified on record drawings. Remove all signals that are abandoned or no longer used from the loop diagrams and identify them as spare points.

The design will consist of the following:

- Site visits to gather existing loop diagrams, where possible
- Multiple site visits to verify the existing information and gather new signals/points not shown on existing documents
- Provide preliminary loop diagrams to the COUNTY for review and comment
- Attend a review meeting to discuss the loop diagrams and receive COUNTY'S comments.
- Incorporate comments and produce final loop diagrams
- Provide one (1) complete final set of 24"x36" and 11"x17" control loop drawings to the COUNTY in electronic (PDF and native AutoCAD) files

### Deliverables:

Draft Control Loop Diagrams in PDF format

Final Control Loop Diagrams in PDF format

### Assumptions:

- Existing Panel layouts will be re-used and show new components in existing layouts. No new panel layout will be created.
- Existing wiring tag at the existing loop diagrams are accurate.

These services shall include, but not be limited to, the above named activities and shall be provided to Palm Beach County Water Utilities Department on an "as-needed" basis.

Revised 06-12-24





**ATTACHMENT C**

**OEBO SCHEDULE 1**

Office of Equal Business Opportunity Compliance Programs

**OEBO SCHEDULE 1**

SOLICITATION/PROJECT/BID NAME: Mecca Pump Station Electrical and Control System Assessment and As-Built Loop Diagrams

SOLICITATION/PROJECT/BID NO.: 24-030

SOLICITATION OPENING/SUBMITTAL DATE: N/A

COUNTY DEPARTMENT: Palm Beach County Water Utilities Department

**Section A** PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME CONTRACTOR/CONSULTANT\* ON THE PROJECT:

NAME OF PRIME RESPONDENT/BIDDER: Hillers Electrical Engineering, Inc. ADDRESS: 23257 State Road 7, Suite 100, Boca Raton, FL. 33248

CONTACT PERSON: Mark Luther PHONE NO.: 561-451-9165 E-MAIL: mluther@hillersee.com

PRIME'S DOLLAR AMOUNT OR PERCENTAGE OF WORK: \$132,489.20 (100%)  
 \*SMWBE Prime's must include their percentage or dollar amount in the Total Participation line under section B.

Non-SBE   
  MBE   
  WBE   
  SBE

**Section B** PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUBCONTRACTORS/SUBCONSULTANTS ON THE PROJECT BELOW:

Subcontractor/Sub consultant Name	(Check all Applicable Categories)				DOLLAR AMOUNT OR PERCENTAGE OF WORK					
	Non-SBE	MBE Minority Business	WBE Women Business	SBE Small Business	Black	Hispanic	Women	Caucasian	Asian	Other
	1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	_____	_____

(Please use additional sheets if necessary)

Total \_\_\_\_\_

Total Bid/Offer Price \$ 132,489.20      Total Certified S/M/WBE Participation \$ 132,489.20

I hereby certify that the above information is accurate to the best of my knowledge: Mark E. Luther  Senior Vice President  
 Name & Authorized Signature \_\_\_\_\_ Title \_\_\_\_\_

- Note:**
- The amount listed on this form for a Subcontractor/sub consultant must be supported by price or percentage listed on the properly executed Schedule 2 or attached signed proposal.
  - Only those firms certified by Palm Beach County at the time of solicitation due date are eligible to meet the established OEBO Affirmative Procurement Initiative (API). Please check the applicable box and list the dollar amount or percentage under the appropriate demographic category.
  - Modification of this form is not permitted and will be rejected upon submittal.

**ATTACHMENT C**

**OEBO SCHEDULE 2**

Office of Equal Business Opportunity Compliance Programs

Revised 06-12-24

**OEBO LETTER OF INTENT – SCHEDULE 2**

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 24-030

SOLICITATION/PROJECT NAME: Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams

Prime Contractor: Hillers Electrical Engineering, Inc.

Subcontractor: Hillers Electrical Engineering, Inc.

**(Check box(s) that apply)**

SBE     WBE     MBE     M/WBE     Non-S/M/WBE    Date of Palm Beach County Certification (if applicable): 10/17/2021-10/16/2024

The undersigned affirms they are the following (select one from each column **if applicable**):

**Column 1**

**Column 2**

**Column 3**

Male     Female

African-American/Black     Asian American  
 Hispanic American     Native American

Caucasian American

Supplier

**S/M/WBE PARTICIPATION** – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
1	Electrical Engineering	\$132,489.20	1	—	\$132,489.20

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: \$132,489.20

**If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.**

N/A

Name of 2<sup>nd</sup>/3<sup>rd</sup> tier Subcontractor/subconsultant

Price or Percentage: \_\_\_\_\_

Hillers Electrical Engineering, Inc.

Print Name of Prime

By: 

Authorized Signature

Mark E. Luther, PE

Print Name

Senior Vice President

Title

Date: 8/7/2024

Hillers Electrical Engineering, Inc.

Print Name of Subcontractor/subconsultant

By: 

Authorized Signature

Mark E. Luther, PE

Print Name

Senior Vice President

Title

Date: 8/7/2024

Revised 09/17/2019

# ATTACHMENT D

## PROJECT SCHEDULE

The completion dates for this work will be as follows (starting from CONSULTANT'S receipt of Notice to Proceed).

Engineering Services

Completion Date from Notice to Proceed

(Calendar Days)

<b>Engineering Services</b>	<b>Completion Date from Notice to Proceed (Calendar Days)</b>
Task 1: Electrical, Instrumentation and Control Systems Condition Assessment	185 days
Task 2: Prepare As-Built Control Loop Diagrams	275 days

Revised 06-12-24

**ATTACHMENT E  
BUDGET SUMMARY**

**Palm Beach County Water Utilities Department  
Contract for Consulting/Professional Services for Electrical Instrumentation and Telemetry Engineering Services  
Resolution No. R2023-1784 Contract Dated: December 5, 2023  
Consultant Services Authorization No. 1  
Consultant: Hillers Electrical Engineering, Inc.  
Project Title: Mecca Pump Station Electrical and Control System Condition Assessment and As-Built Loop Diagrams  
PBCWUD Project No.: 24-030**

Task Number	Task Description	Labor Classification and Hourly Rate								
		Project	Prof.	Lead	CADD/	Construction	Administrative	Total	Sub Consultant	
		Manager	Engineer	Engineer	Technician	Programmer	Coordinator	Assistant	Labor	Services
Task 1	<b>Electrical, Instrumentation and Control Systems Condition Assessment</b>									
	Site Visits/Field Investigations	8	24				24			\$10,250.20
	Draft Condition Assessment Submittal	8	30	24				3		\$11,896.37
	Draft Submittal Review Meeting	2	2							\$878.94
	Final Condition Assessment Submittal	4	18	14				3		\$6,981.95
	<b>Subtotal Task 1</b>	<b>22</b>	<b>74</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>6</b>		<b>\$30,007.46</b>
Task 2	<b>Prepare As-Built Control Loop Diagrams</b>									
	Site Visits/Field Investigations	4	40	80			80			\$33,894.40
	Draft Control Loop Diagrams Submittal	8	60	80	120			3		\$42,169.29
	Draft Submittal Review Meeting	3	3							\$1,318.41
	Final Control Loop Diagrams Submittal	6	30	45	80			3		\$25,099.64
	<b>Subtotal Task 2</b>	<b>21</b>	<b>133</b>	<b>205</b>	<b>200</b>	<b>0</b>	<b>80</b>	<b>6</b>		<b>\$102,481.74</b>
	Labor Subtotal Hours	43	207	243	200	0	104	12		
	Labor Raw Costs	\$82.98	\$64.00	\$54.37	\$43.00	\$50.00	\$51.18	\$30.00		
	Labor Multiplier	2.99	2.99	2.99	2.99	2.99	2.99	2.99		
	<b>Labor Total</b>	<b>\$10,668.74</b>	<b>\$39,611.52</b>	<b>\$39,503.61</b>	<b>\$25,714.00</b>	<b>\$0.00</b>	<b>\$15,914.93</b>	<b>\$1,076.40</b>		
	Sub Consultant Labor Total									
	Sub Consultant Multiplier									
	Subcontract Total									
	<b>Project Total</b>									<b>\$132,489.20</b>

**ATTACHMENT F**

Palm Beach County Water Utilities Department  
 Contract for Consulting/Professional Services  
 Electrical Instrumentation and Telemetry Engineering Services  
 Resolution No. R2023-1784 Contract Dated December 5, 2024

**SUMMARY OF  
 SBE-SBE BUSINESS TRACKING**

<b>Master Contract Goals</b>	<b>SBE: 100%</b>	<b>MBE: 100%</b>	<b>MBE (A): 100%</b>
Current Proposal			
Value of Authorization No. <u>1</u>	<b>\$132,489.20</b>		
Value of SBE-SBE Letters of Intent	<b>\$132,489.20</b>	<b>\$132,489.20</b>	<b>\$132,489.20</b>
Actual Percentage	<b>100%</b>	<b>100%</b>	<b>100%</b>
Signed/Approved Authorizations			
Total Value of Authorizations	<b>\$0</b>		
Total Value of SBE-SBE Signed Subcontractors	<b>\$0</b>		
Actual Percentage	<b>0%</b>	<b>0%</b>	<b>0%</b>
Signed/Approved Authorizations Plus Current Proposal			
Total Value of Authorization	<b>\$132,489.20</b>		
Total Value of Subcontractors & Letters of Intent	<b>\$132,489.20</b>	<b>\$132,489.20</b>	<b>\$132,489.20</b>
Actual Percentage	<b>100%</b>	<b>100%</b>	<b>100%</b>

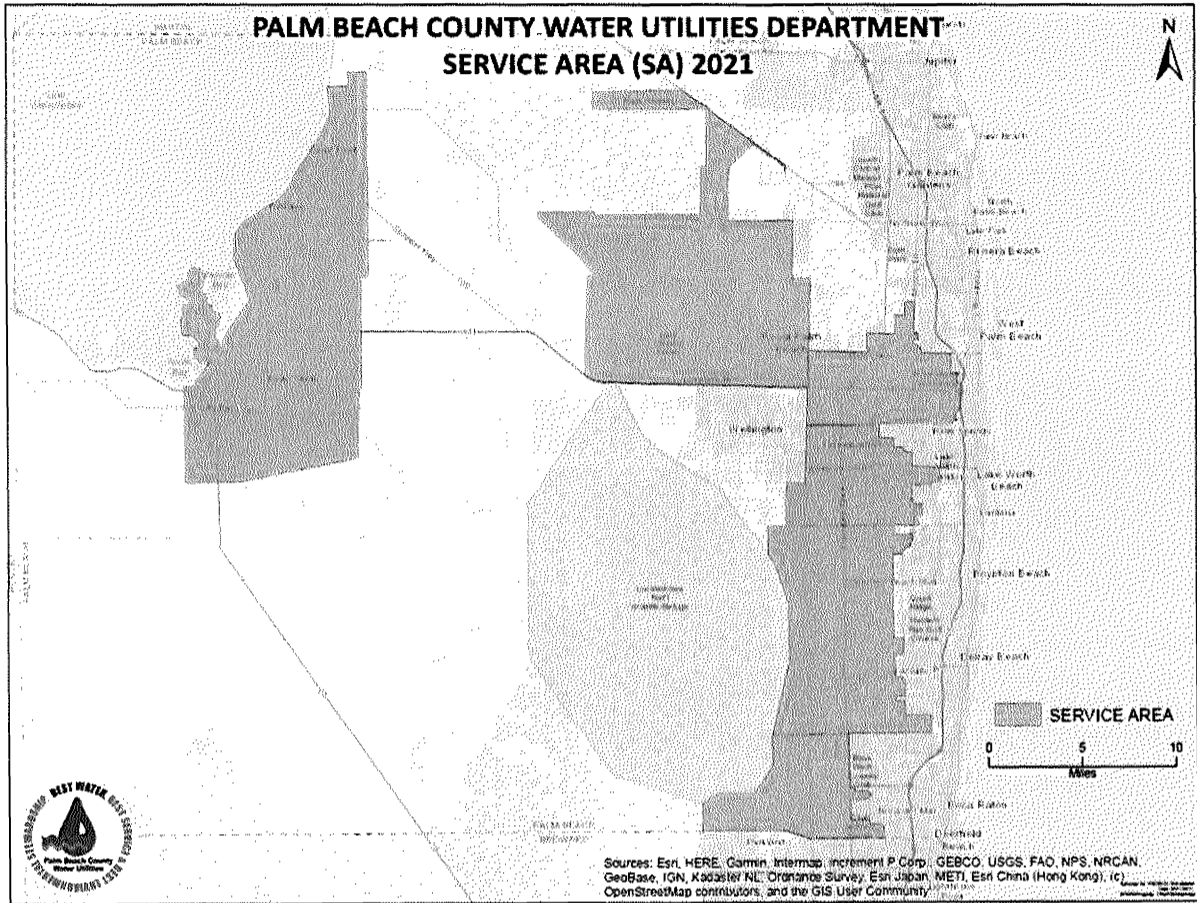
Revised 06-12-24



# ATTACHMENT G

## Location Map

PBCWUD Project No. 24-030



Revised 06-12-24