

LFIR # 3340

1. Project Title	Jupiter Blending Nanofiltration Concentrate w/Floridan Aquifer Water for
2	Reverse Osmosis Treatment

2. Senate Sponsor Gayle Harrell

3. Date of Request 01/09/2024

4. Project/Program Description

The Town of Jupiter currently operates both a 14.5 million gallon per day (mgd) nanofiltration (NF) plant with a surficial aquifer raw water source, and a 13.7 mgd reverse osmosis (RO) plant with a Floridan Aquifer (FA) raw water source. Salinity and conductivity of the FA supply has been increasing over the past ten years. A strategy to reduce the rate on increase is necessary to ensure sustainability of the FA raw water supply. The Town has initiated pilot testing of this resourceful concept and initial results are promising. Funding for this project will be used to construct the infrastructure at Jupiter's water treatment plant necessary to blend up to 2.55 mgd of NF concentrate with FA raw water in advance of RO treatment to produce drinking water. Protecting and preserving the FA is necessary for long term sustainability of the resource.

5. State Agency to receive requested funds

Department of Environmental Protection

State Agency contacted? Yes

6. Amount of the Nonrecurring Request for Fiscal Year 2024-2025

Type of Funding	Amount
Operations	0
Fixed Capital Outlay	1,200,000
Total State Funds Requested	1,200,000

7. Total Project Cost for Fiscal Year 2024-2025 (including matching funds available for this project)

Type of Funding	Amount	Percentage	
Total State Funds Requested (from question #6)	1,200,000	50%	
Matching Funds			
Federal	0	0%	
State (excluding the amount of this request)	0	0%	
Local	1,200,000	50%	
Other	0	0%	
Total Project Costs for Fiscal Year 2024-2025	2,400,000	100%	

8. Has this project previously received state funding? No

Fiscal Year	Amount		Specific	Vetoed
(уууу-уу)	Recurring	Nonrecurring	Appropriation #	

9. Is future funding likely to be requested?

No

a. If yes, indicate nonrecurring amount per year.

b. Describe the source of funding that can be used in lieu of state funding.



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10. Has the entity requesting this project received any federal assistance related to the COVID-19 pandemic?

Yes

If yes, indicate the amount of funds received and what the funds were used for.

Town of Jupiter received \$7,590,958 ARPA funding used for Water and SW infrastructure improvements; \$519,573 CDBG-CV funding awarded, received \$243,665.85 to date used for SW improvements, balance to draw is \$275,907.15; received \$173,814 from US DOJ COVID-19 Coronavirus Emergency Supplemental Funding Program used for public safety.

Complete questions 11 and 12 for Fixed Capital Outlay Projects

- 11. Status of Construction
 - a. What is the current phase of the project?

💿 Planning	🔘 Design	Construction	🔘 N/A	
b. Is the project "s	No			
c. What is the estimated start date of construction?				3/1/2025
d. What is the esti	imated completio	n date of construc	tion?	3/1/2026

12. List the owners of the facility to receive, directly or indirectly, any fixed capital outlay funding. Include the relationship between the owners of the facility and the entity.

The infrastructure once constructed will be owned, operated, and maintained by the Town of Jupiter Water Utility.

13. Details on how the requested state funds will be expended

Spending Category	Description	Amount			
Administrative Costs:					
Executive Director/Project Head Salary and Benefits		0			
Other Salary and Benefits		0			
Expense/Equipment/Travel/Supplies/ Other		0			
Consultants/Contracted Services/Study	Pilot testing and engineering services (design, permitting, and construction phase services) will be fully funded with Local Funds.	0			
Operational Costs: Other					
Salary and Benefits		0			
Expense/Equipment/Travel/Supplies/ Other		0			
Consultants/Contracted Services/Study		0			
Fixed Capital Construction/Majo	r Renovation:				
Construction/Renovation/Land/ Planning Engineering	Construction of infrastructure including but not limited to piping, valves, pumps, pretreatment filters, chemical systems, instrumentation, and modifications to existing water plant components to convey up to 2.55 mgd of nanofiltration concentrate to the reverse osmosis water treatment plant (located on the same site as the nanofiltration plant) for blending with Floridan Aquifer raw water for treatment to produce drinking water.	1,200,000			



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Total State Funds Requested (must equal total from question #6)

1,200,000

14. Program Performance

a. What specific purpose or goal will be achieved by the funds requested?

The purpose of this project is to implement a strategy to protect and preserve water quality in the Floridan Aquifer (FA), the Town's raw water supply for its reverse osmosis (RO) membrane treatment plant. Over the past decade, the FA has been experiencing an increasing trend in total dissolved solids (TDS) and chlorides, resulting in water quality degradation impacting RO plant operations and FA sustainability. Construction of a system to blend up to 2.55 mgd of nanofiltration (NF) concentrate with FA raw water to produce drinking water will reduce stress on the FA.

b. What activities and services will be provided to meet the intended purpose of these funds?

Construction of infrastructure including but not limited to piping, valves, pumps, pretreatment filters, chemical systems, instrumentation, and modifications to existing water plant components to convey up to 2.55 mgd of nanofiltration concentrate to the reverse osmosis water treatment plant (located on the same site as the nanofiltration plant) for blending with Floridan Aquifer raw water for treatment to produce drinking water.

c. What direct services will be provided to citizens by the appropriation project?

Protection and environmental sustainability of the Floridan Aquifer raw water supply in Jupiter. The Floridan Aquifer supplies just under 50% of raw water necessary to produce drinking water in Jupiter. Avoidance of costly capital improvements to Jupiter's reverse osmosis treatment plant to treat higher salinity water, which would greatly impact water customers.

d. Who is the target population served by this project? How many individuals are expected to be served?

Jupiter's water system serves approximately 80,000 customers, including residential and commercial areas of Jupiter, Juno Beach, areas of the southern portion of unincorporated Martin County, and areas of unincorporated Palm Beach County. All of Jupiter's water system customers will be served and benefit from this project as the water produced will be distributed throughout the water service area.

e. What is the expected benefit or outcome of this project? What is the methodology by which this outcome will be measured?

The expected benefit is to reduce stress placed on the Floridan Aquifer (FA) wells currently supplying raw water to the reverse osmosis plant, by supplementing raw water with nanofiltration concentrate thereby minimizing the rate of withdrawal from the FA wells. This strategy will provide flexibility to rotate use of FA wells allowing wells to recover and improve water quality and well performance. Measurement of environmental benefit and outcome will be accomplished by monitoring Floridan well performance and water quality trends, which should improve as FA raw water to the RO Plant is supplemented with 0.51 MGD to 2.56 MGD of NF Concentrate. The ability to reduce pumping rates of FA wells will aid in reducing water quality degradation, and preserve useful life of the FA wells.

f. What are the suggested penalties that the contracting agency may consider in addition to its standard penalties for failing to meet deliverables or performance measures provided for the contract?

Should deliverables not be met, an appropriate penalty would be loss of grant funding. The Town of Jupiter has always met all similar grant requirements in the past. The Town will endeavor to complete all anticipated deliverables before the grant contract completion date.

15. Requester Contact Information

a. First Name	Amanda	Last Name	Barnes
b. Organization	Town of Jupiter Utilities		
c. E-mail Address	amandab@jupiter.fl.us		
d. Phone Number	(561)741-2537	Ext.	

16. Recipient Contact Information



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a. Organization	Town of .	Jupiter				
b. Municipality and County Palm Beach]	
c. Organization Type						
□For Profit Entity						
□Non Profit 501(c)(3)						
□Non Profit 501(c	□Non Profit 501(c)(4)					
☑Local Entity						
□University or Co	llege					
□Other (please specify)						
d. First Name	Amanda		Last Name	Barnes		
e. E-mail Address	amandab	amandab@jupiter.fl.us				
f. Phone Number	(561)741-2537					
17. Lobbyist Contact Information						
a. Name	Timothy	F. Stanfield]	
b. Firm Name	Greenbe	rg Traurig PA]	
c. E-mail Address	stanfieldt	@gtlaw.com]	

d. Phone Number (850)222-6891

Please complete the questions below for Water Projects only.

18. Have you applied for alternative state funding?

- □ Waste Water Revolving Loan
- Drinking Water Revolving Loan
- □ Small Community Wastewater Treatment Grant
- □ Other (please specify)
- ☑ N/A

19. What is the population economic status?

- □ Financially Disadvantaged Community (ch. 62-552, F.A.C)
- □ Financially Disadvantaged Municipality (ch. 62-552, F.A.C)
- □ Rural Area of Economic Concern



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□ Rural Area of Opportunity (s. 288.0656, Florida Statutes)

☑ N/A

20. What is the status of construction?

Currently pilot testing the blending strategy

21. What percentage of the construction has been completed?

0%

22. What is the estimated completion date of construction?

3/1/2026