LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929

D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

AGENDA
REGULAR MEETING #10-2023
JULY 20, 2023 – 7:00 PM AT DISTRICT OFFICES

ALSO, THE MEETING WILL BE AVAILABLE TO THE PUBLIC ONLINE AT:
LOXAHATCHEERIVER.ORG/PUBLICMEETING

1. Call to Order & Pledge of Allegiance
2. Administrative Matters
   A. Roll Call
   B. Previous Meeting Minutes Page 3
   C. Additions and Deletions to the Agenda
3. Comments from the Public
4. Status Updates
   A. Loxahatchee River Watershed Page 9
   B. Loxahatchee River District Dashboard Page 10
5. Consent Agenda (see next page) Page 11
6. Regular Agenda
   A. Consent Agenda Items Pulled for Discussion
   B. Easement Policy - Construction Standards and Technical Specifications Page 29
   C. Partial Abandonment of Easement - 430 University Boulevard, Jupiter - to approve easement Page 80
   D. Draft FY2024 Budget Page 81
7. Reports (see next page) Pulled for Discussion
8. Future Business Page 152
9. Board Comments
10. Adjournment

"…if a person decides to appeal any decision made by the Board, with respect to any matter considered at such meeting or hearing, he/she will need a record of the proceedings, and that, for such purpose, he/she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based."

Submitted by:
Date: July 10, 2023

5. CONSENT AGENDA

All items listed in this portion of the agenda are considered routine and will be enacted by one motion. There will be no separate discussion of these items unless requested by a Board member or citizen; in which event, the item will be removed and considered under the regular agenda.

A. Busch Wildlife Sanctuary - Restated License Agreement Extension #3 - to approve extension Page 12
B. Professional Engineering Services: Anaerobic Digestion & Biogas Utilization Study – to approve study Page 18
C. Fixed Asset Disposal - to approve disposal Page 26
D. Change Orders to Current Contracts - to approve modifications Page 27

7. REPORTS

A. Neighborhood Sewering Page 89
B. Legal Counsel's Report Page 92
C. Engineer's Report Page 95
D. Busch Wildlife Sanctuary Page 103
E. Director's Report Page 104

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D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Governing Board

FROM: D. Albrey Arrington, Ph.D., Executive Director

DATE: July 14, 2023

SUBJECT: Approval of Meeting Minutes

Attached herewith are the minutes of the Regular Meeting of June 15, 2023. As such, the following motion is presented for your consideration:

"THAT THE GOVERNING BOARD approve the minutes of the Regular Meeting of June 15, 2023 as submitted."

Ref: #09-2023

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
REGULAR MEETING - MINUTES
JUNE 15, 2023

1. CALL TO ORDER

Chairman Rostock called the Regular Meeting of June 15, 2023 to order at 7:00 PM.

2. ADMINISTRATIVE MATTERS

A. ROLL CALL

The following Board Members were in attendance:

Dr. Rostock
Mr. Rockoff
Mr. Boggie
Mr. Yerkes
Mr. Baker

Staff Members in attendance were Dr. Arrington, Mr. Dean, Mr. Howard, Ms. Fraraccio, Mr. Pugsley, and Ms. Jones.

Consultants in attendance were Mr. Curtis Shenkman and Mr. Hunter Shenkman.

B. PREVIOUS MEETING MINUTES

The minutes of the Regular Meeting of May 18, 2023 were presented for approval and the following motion was made:

"THAT THE GOVERNING BOARD approve the minutes of the Regular Meeting of May 18, 2023 as submitted."

MOTION: Made by Mr. Rockoff, Seconded by Mr. Boggie
Passed Unanimously.

C. ADDITIONS & DELETIONS TO THE AGENDA
Pull Item 5B and 5D for discussion

3. COMMENTS FROM THE PUBLIC

No comments from the public were received.

4. STATUS UPDATES

A. LOXAHATCHEE WATERSHED STATUS

Lennart Lindahl, P.E., MacVicar Consulting, Inc. presented on GL Homes' proposed water project (i.e., $150 million water reservoir in The Acreage [west of Mecca and associated with the planned CERP Flow-way 2]) and the potential benefits to the Loxahatchee River.

B. LOXAHATCHEE RIVER DISTRICT DASHBOARD

Dr. Arrington reviewed the District Dashboard.

5. CONSENT AGENDA

"THAT THE GOVERNING BOARD approve the Consent Agenda of June 15, 2023 with the exception of items 5B and 5D being pulled and the acknowledgement that there was a minor modification of 5E."

MOTION: Made by Mr. Boggie, Seconded by Mr. Baker
Passed unanimously.

The following motions were approved as a result of the Board's adoption of the Consent Agenda:

A. Billing Printing & Mailing Services – to approve extension

"THE DISTRICT GOVERNING BOARD authorizes the Executive Director to approve a $20,000 extension to Purchase Order 23-0223 to Arista Information Systems, for a revised not to exceed amount of $85,000 for FY2023."

C. Pump Purchase – to approve purchase

"THAT THE DISTRICT GOVERNING BOARD authorize the Executive Director to purchase five NP3127 10 HP pumps as detailed in Xylem Water Solutions Inc. quote dated May 8, 2023 in the amount of $73,804.50."

E. Manual of Minimum Construction Standards and Technical Specifications - to approve revisions

"THAT THE DISTRICT GOVERNING BOARD ratify and approve the Loxahatchee River Environmental Control District's "Manual of Minimum Construction Standards and Technical Specifications", as of June 15, 2023, and authorize the Director of Engineering and Executive Director to update the Construction Standards and Technical Specifications from time to time, and periodically present it to the Governing Board for ratification and approval."

F. Fixed Asset Disposal – to approve disposal

"THAT THE GOVERNING BOARD authorize the Executive Director to dispose of tangible personal property asset numbers TDE0241-1, TDE0241-2, OE0301-1, and CTLS0371-1, and the items from aggregated assets listed in the schedule above in accordance with the District's Disposal of Surplus Tangible Personal Property Policy."

G. Change Order to Current Contract - 18-005-LSGENCONSTR – Removal of Grass Paver Driveway Section – to approve additional services

"THAT THE DISTRICT GOVERNING BOARD approve removal of Bid Item #26 – Grass Paver Driveway Section (>20 SY / site) from general services contract 18-005-LS-GENCONSTR."

6. REGULAR AGENDA

A. CONSENT AGENDA ITEMS PULLED FOR DISCUSSION

5B Billing Payment Processing Services – to approve extension. Mr. Howard discussed the status of the implementation of our new billing services provider (we are behind schedule) and the need to extend the services of our existing billing service provider.

"THE DISTRICT GOVERNING BOARD authorizes the Executive Director to approve a $35,000 extension to Purchase Order 23-0117 to First Billing Services, for a revised not to exceed amount of $110,000 for FY2023."

MOTION: Made by Mr. Baker, Seconded by Mr. Rockoff,
Passed unanimously.

5D Partial Abandonment of Easement - 430 University Boulevard, Jupiter - to approve easement. Mr. Dean discussed the proposed partial abandonment of easement for 430 University Boulevard. The Board engaged with various questions and requested staff draft a policy addressing abandonment of easements for Board consideration. The proposed partial abandonment of easement will be reconsidered in light of a new, documented easement abandonment policy (at a future Board meeting). No motion was made.

B. Auditor Selection

Ms. Fraraccio discussed the auditor selection process as defined in state statute and as followed by LRD in the recent effort. Ms. Fraraccio thanked the audit committee members, which included Gordon Boggie (Committee Chair), Steve Rockoff, Daniela Russell (Chief Financial Officer, Seacoast Utility Authority), and Matthew Pazanski (Finance Director of the Town of Juno Beach). The Audit Committee established factors to use for the evaluation of audit services, publicly announced the request for proposals for audit services, provided request for proposals to interested audit firms, evaluated proposals submitted by qualified firms, and ranked in the order of preference no fewer than three firms deemed to be the most highly qualified to perform the required services based on the factors provided in the request for proposals. A total of five (5) firms submitted Financial Audit Services proposals. Based on a careful and thoughtful review of the proposals, the Audit Committee found the following three firms to be the most highly qualified to perform the required services (in rank order): (1) Marcum Accountants & Advisors; (2) Moore, Stephens, Lovelace, P.A.; and (3) Mauldin & Jenkins, LLC.

"THAT THE GOVERNING BOARD authorize the Executive Director to negotiate and execute an Audit Services Agreement with the top ranked firm, Marcum Accountants & Advisors."

MOTION: Made by Mr. Rockoff, Seconded by Mr. Yerkes,
Passed unanimously.

7. REPORTS

The following reports stood as written.

A. NEIGHBORHOOD SEWERING

B. LEGAL COUNSEL'S REPORT

C. ENGINEER'S REPORTS

D. BUSCH WILDLIFE SANCTUARY

E. DIRECTOR'S REPORT

8. FUTURE BUSINESS

Dr. Arrington reviewed Future Business.

9. COMMENTS FROM THE BOARD

Mr. Boggie addressed a recent communication he had received from Busch Wildlife Sanctuary regarding a desire to maintain their flight cages in operation potentially through January 1, 2024, and suggested considering this request should be added to the July Board agenda.

10. ADJOURNMENT

MOTION: Made by Mr. Rockoff Seconded by Mr. Baker,
Passed Unanimously.

"That the regular meeting of June 15, 2023 adjourns at 8:23 PM."

_____ _____

BOARD CHAIRMAN BOARD SECRETARY

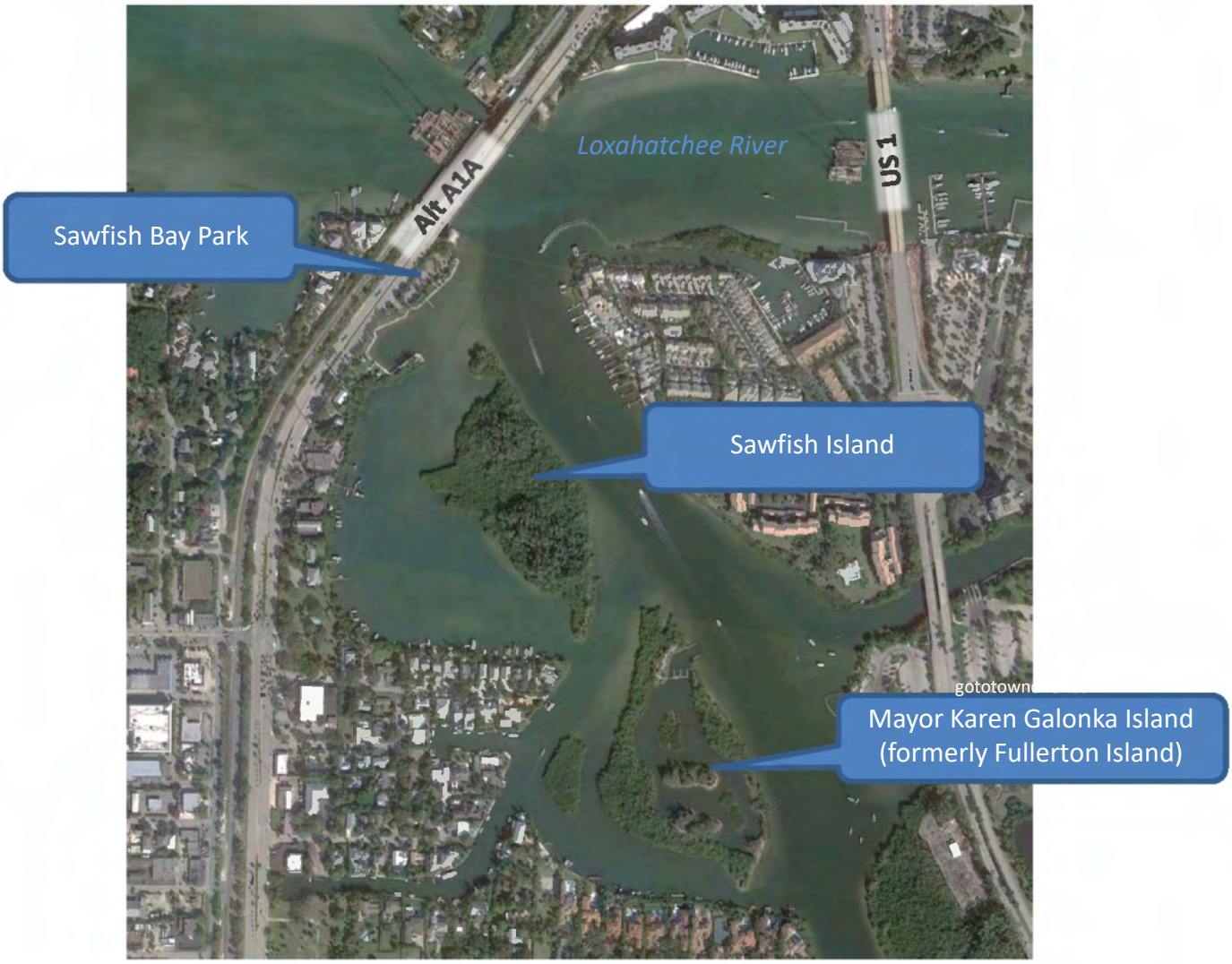
_____

RECORDING SECRETARY

Loxahatchee River Watershed Status
Restoration at Sawfish Island and Sawfish Bay Park

There is a variety of environmental restoration work underway at Sawfish Island and Sawfish Bay Park by Palm Beach County Environmental Resources Management (ERM), the Town of Jupiter, and their partners.

At our meeting we will present some of the details of these interesting projects and how LRD WildPine Laboratory staff are collaborating with seagrass monitoring.



LOXAHATCHEE RIVER DISTRICT'S EXECUTIVE DASHBOARD

		Stewardship	Pre-Treatment	Collection & Transmission		Wastewater Treatment			Reclaimed Water	EHS	General Business					River Health		
		# People educated at RC	Grease Interceptor Inspections	Customer Service	Unauthorized Discharge of Sewage	Mean Daily Incoming Flow	Permit exceedance	NANO Blend to Reuse (@ 511)	Delivery of Reclaimed Water	Employee Safety	Cash Available	Revenue (excluding assessment & capital contrib.)	Operating Expenses	Capital Projects		Minimum Flow Compliance	Salinity @ NB seagrass beds	River Water Quality
Units		% of Target	% requiring pump out	# blockages with damage in home	Gallons; # impacting surface waters	million gallons/day	# occurrences	Max Specific Conductance (umhos/cm)	# days demand not met	# of OSHA recordable injuries	$	% of Budget	% of Budget	% within budget	average # days ahead (behind) schedule	# Days MFL Violation	‰	Fecal Coliform Bacteria (cfu/100ml)
Green Level		≥ 90%	≤ 15	Zero	<704; 0	< 7.7	Zero	<1542	<2	Zero	≥ $9,894,657	≥ 95%	≥ 85% but ≤ 105%	≥80%	≥ (30)	0	min ≥ 20 ‰	≤ 1 site > 200
Yellow		< 90%	≤ 25	1	≤1,500; 0	< 8.8	1	≤1875	≥ 2	-	< $9,894,657	≥ 90%	≥ 80%	≥60%	< (30)	1	min ≥ 10 ‰	≤ 3 sites >200
Red		<75%	> 25	≥ 2	>1,500; ≥1	≥ 8.8	≥ 2	>1875	≥ 9	≥ 1	< $5,557,057	< 90%	< 80% or > 105%	< 60%	< (60)	≥ 2	min < 10 ‰	≥ 4 sites > 200
2020 Baseline		34%	8	0.1	3,292	7.2	0	1,183	1	0.3	$ 35,350,661	100%	90%	91%	-15	7	14.6	2
2021 Baseline		113%	16	0.3	1,130	7.1	0	1,294	2	0.2	$ 40,651,532	97%	89%	79%	-34	0	24.3	3
2022 Baseline		81%	12	0.1	395	6.8	0	1,268	3	0.0	$ 44,372,235	101%	91%	83%	-51	1	22.6	3
2022	June	86%	14	0	17; 0	6.6	0	1,249	1	0	$ 44,902,557	101%	91%	81%	(36)	0	20.6	4
	July	95%	8	0	310; 0	6.2	0	1,245	7	0	$ 44,247,503	102%	93%	81%	(52)	0	26.9	4
	Aug	88%	10	0	45; 0	6.3	0	1,275	4	0	$ 45,392,935	101%	92%	84%	(69)	0	32.2	3
	Sept	77%	10	0	11; 0	6.4	0	1,207	13	0	$ 43,373,290	92%	92%	84%	(87)	0	5.0	4
	Oct	79%	13	0	120; 0	6.9	0	1,101	5	0	$ 43,464,126	97%	84%	86%	(34)	0	13.8	3
	Nov	53%	9	0	31; 0	7.2	0	1,269	3	0	$ 45,258,800	103%	83%	87%	(36)	0	17.3	0
	Dec	94%	14	0	3,482; 0	7.1	0	1,342	0	0	$ 44,024,404	107%	92%	89%	(36)	0	11.8	1
2023	Jan	69%	11	0	51; 0	7.1	0	1,447	9	0	$ 44,602,531	106%	91%	90%	(23)	0	26.5	1
	Feb	79%	14	0	8; 0	7.2	0	1,334	5	0	$ 45,825,795	105%	89%	92%	(22)	0	28.9	0
	Mar	94%	13	0	2949; 0	7.1	0	1,324	24	0	$ 45,242,896	105%	90%	92%	(30)	1	32.7	2
	Apr	116%	9	0	0; 0	7.1	0	1,317	17	0	$ 44,973,518	106%	93%	92%	(26)	26	27.8	5
	May	84%	13	0	92; 0	6.7	0	1,365	2	0	$ 46,555,442	107%	92%	97%	(30)	0	27.7	1
	June	104%	17	0	8,082; 0	7.1	0	1,275	2	0	$ 44,195,894	108%	93%	94%	(35)	0	21.7	7
Consecutive Months at Green		1	0	14	0	169	24	154	0	19	165	20	7	17	0	2	6	0
Metric Owner		O'Neill	Pugsley	Dean	Dean	Pugsley	Pugsley	Pugsley	Dean	Horchar	Fraraccio	Fraraccio	Fraraccio	Dean	Dean	Howard	Howard	Howard

Metric	Explanation
Grease Interceptors	Eleven out of 65 grease interceptors inspected in June had a grease accumulation that exceeded our target (6-inches). Staff are working with these commercial food establishments to proactively maintain their grease interceptor(s).
Unauthorized Discharges	On June 28 a directional drill contractor damaged our force main near the hospital (this occurred after they physically located our force main), which resulted in an unauthorized discharge of 8,000 gallons of raw sewage. The contractor promptly notified LRD of the incident and assisted the LRD in clean-up of the spill. We also had a 72 gallon unauthorized discharge of raw sewage when, during planned maintenance of a force main, sewage breached the planned containment that had been provided. Finally, we had a 20 gallon unauthorized discharge of sewage from a gravity service clean out that was caused by a blocked gravity service due to contractor error when lining a gravity main line.
IQ Water Delivery	Jupiter Hills did not receive their full allocation (short 55% of daily allocation) on one day due to a power loss during a lightning storm and on another day due to pressure trandmitter issues (short 1% of daily allocation).
Capital Projects (time)	The following projects are significantly behind schedule: (1) Lift Station 82 Conversion; (2) rehab of Lift Stations 18 & 54; (3) site planning for 2500 Jupiter Park Drive; (4) improving deep injection well pump station generator connections; (5) permanent generator at Lift Station 50; and (6) improving operational flexibility of our IQ System. Additional details are available in Kris' report.
Fecal Coliform Bacteria	High fecal coliform bacteria (>200 cfu/100 ml) were observed at Stations 65 (Kitching Creek mouth), 67 (Trapper Nelson's), 100 (Cypress Creek mouth), 69 (NW Fork at Indiantown Rd), 95 (Jupiter Farms), 72 (Loxahatchee River Rd bridge), and 62 (Island Way Bridge). See Bud's report for additional details.

LOXAHATCHEE RIVER DISTRICT
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D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Governing Board

FROM: Administration Staff

DATE: July 14, 2023

SUBJECT: Consent Agenda

All items listed below are considered routine and will be enacted by one motion. There will be no separate discussion of these items unless requested by a Board Member or citizen, in which event, the item will be removed and considered under the regular agenda.

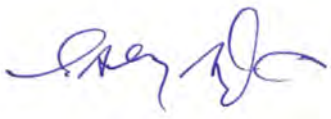
This month's consent agenda consists of the following items:

A. Busch Wildlife Sanctuary - Restated License Agreement Extension #3 - to approve extension
B. Professional Engineering Services: Anaerobic Digestion & Biogas Utilization Study - to approve study
C. Fixed Asset Disposal - to approve disposal
D. Change Orders to Current Contracts - to approve modifications

Should you have any questions regarding these items, I would be pleased to discuss them further with you.

The following Motion is provided for Board consideration:

"THAT THE GOVERNING BOARD approve the Consent Agenda of July 20, 2023 as presented."

Signed 

D. Albrey Arrington, Ph.D.
Executive Director

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D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: GOVERNING BOARD

FROM: D. ALBREY ARRINGTON, PH.D.

DATE: JULY 11, 2023

SUBJECT: BUSCH WILDLIFE SANCTUARY LICENSE AGREEMENT EXTENSION

The existing LRD-BWS Restated License Agreement, including approved extensions #1 & #2, expires September 21, 2023 and includes Section 39. Removal &/or Claiming Improvements, which provides "… *Busch shall remove its Improvements and animals at Busch's expense, except those Improvements which, at the option of the LRD, become LRD property. Should LRD decline to claim certain of the Improvements, Busch shall remove the unclaimed Improvements at Busch's sole expense. Busch shall restore the Premises to the condition existing at the time of the Certificate of Occupancy for the Wildlife Hospital and the Discovery Center, except for ordinary wear and tear, within one hundred eighty (180) days or a reasonable timeframe of the expiration or termination of this License Agreement. …."*

At the LRD Governing Board meeting in June, Mr. Boggie discussed the request in the attached letter, dated June 8, 2023, from Mr. Jim Casto (BWS Board Member and Facilities Chair) who requested (A) approval to leave two maintenance buildings onsite during demolition of Busch's improvements but not beyond January 21, 2024, and (B) that the existing flight cages remain in use beyond September 21, 2023, with the flight cages being vacated and removed no later than January 21, 2024. I stated my opinion that the first request (leaving two maintenance buildings onsite and functional during demolition of their other improvements) fits within the existing license agreement and does not require a revision. The request to maintain the functionality of the flight cages beyond September 21, 2023 with demolition, removal, and site restoration occurring no later than January 21, 2024 seems to be a reasonable request that should have no adverse impact on the District. The Board then directed staff and legal counsel to draft Extension #3 to the license agreement to accommodate this BWS request.

Mr. Shenkman drafted the attached "Restated LICENSE AGREEMENT Extension #3" (attached), which accommodates the BWS request. Therefore, I recommend the following motion for your consideration:

> **"THAT THE DISTRICT GOVERNING BOARD authorize Board Chairman Dr. Rostock to execute the attached "Restated LICENSE AGREEMENT Extension #3."**

In addition, I have worked collaboratively with Lisa Wynne, BWS Development Director, to draft the attached Facilities Removal Checklist, which specifies the final disposition of identified BWS facilities. This list has been jointly developed and reviewed multiple times by LRD and BWS staff, and we believe

we have comprehensively identified and addressed all BWS facilities located within the Premises. There are three facilities (Cypress Amphitheatre, Cypress Boardwalk, and Trail Lighting) whose ultimate disposition are pending a condition assessment. LRD staff are working to have a qualified person complete this condition assessment before August 31, 2023.

While Section 39 of the Restated License Agreement legally stipulates the conditions governing removal and claiming of improvements, staff have developed this list to serve as a common ground checklist that can be reviewed and confirmed as BWS removes facilities and restores the Premises. Based on input from Mr. Shenkman, I am not seeking to append this checklist to the Restated License Agreement, but Mr. Shenkman and I believe it is worthwhile to bring this list to the LRD Governing Board for your review to ensure the anticipated disposition of these facilities matches your expectations. Therefore, I request your review of the attached facilities checklist, and I look forward to any input you may offer.

I request your consideration of the following motion:

> **"THAT THE DISTRICT GOVERNING BOARD accepts the Facility Removal Checklist, which has been mutually drafted by LRD and BWS staff."**

BUSCH WILDLIFE SANCTUARY

At Loxahatchee River District

WHERE NATIVE IS NURTURED

June 8, 2023

Loxahatchee River Environmental Control District
Attn: Governing Board of Directors
2500 Jupiter Park Dr.
Jupiter, FL 33458

Dear Governing Board of Directors,

On behalf of The Busch Wildlife Sanctuary Board of Directors, I would like to request that Busch Wildlife Sanctuary is permitted to leave a few structures onsite during demolition. First, we request that the two maintenance buildings remain onsite during demolition to ensure proper tools are accessible until January 21, 2024. The maintenance buildings will help ensure that the tools and supplies necessary for the project will be accessible. They will be removed from the property by January 21, 2024.

Second, the Sanctuary would like to request that the flight cages may remain in use. Flight cages at the Rocky Pines campus will not be complete by September 21, 2023. These cages are an essential part of the rehabilitation process for many hospital patients. Busch Wildlife staff will continue to monitor, clean and feed at least once daily, when any flight cage is occupied. The flights will be vacated and completely deconstructed no later than January 21, 2024.

Thank you for your help and thank you for your continued support of Busch Wildlife Sanctuary and our shared mission of environmental conservation.

Sincerely,

Jim Casto, Facilities Chairman
Busch Wildlife Sanctuary Board of Directors

cc: Dr. Albrey Arrington, LRD Executive Director
BWS Board of Directors
Amy Kight, BWS Executive Director
Lisa Wynne, BWS Development Director
Christen Mason, BWS Operations Director

Restated LICENSE AGREEMENT
Extension #3

This Restated License Agreement Extension dated July 2023, is executed in relation to that certain Restated LICENSE AGREEMENT dated as of October 26, 2020, and Extensions dated September 14, 2021, and November 17, 2022, between the Loxahatchee River Environmental Control District and THE BUSCH WILDLIFE SANCTUARY, INC., a Florida Corporation, ("Busch"). The Restated License Agreement, the Extensions, along with this Extension are herein collectively referred to as the "License Agreement").

Now Therefore, in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties agree as follows:

1. The Term of the License Agreement is extended FOUR (4) months only for the continued rehabilitation use of the flight cages from September 21, 2023, to January 21, 2024, while the flight cages at the Rocky Pines campus are being completed. Busch staff will continue to monitor, clean and feed at least once daily when any flight cage is occupied. The flight cages will be vacated and completely deconstructed no later than January 21, 2024.
2. Notwithstanding this time extension, Busch should be proactively removing their improvements to the extent possible without impacting their operations.
3. All other terms and conditions of the License Agreement remain unchanged and in full force and effect.

IN WITNESS THEREOF, the parties have executed this Restated License Agreement Extension on the dates set forth below.

Witnesses: THE BUSCH WILDLIFE SANCTUARY, INC,
a Florida Corporation

_____ By: _____

Peter W. Busch, Chairman/Founder, 7/ /2023

_____

Witnesses: Loxahatchee River Environmental Control District

_____ By: _____

Dr. Matt Rostock, Chairman, 7/ /2023

_____

Checklist for BWS Facilities @ LRD

#	Facility Name	Facility Description	Disposition	Comments
1	Discovery Center	2-Building	1 Remain & Restore	*BWS to remove office furniture, exhibits, and equipment in wetlab. AA ok
2	Wildlife Hospital	2-Building	1 Remain & Restore	*BWS to remove office desk, kennels inside and porch, equipment, appliances, specialied lighting, and radiology. AA ok
3	Welcome Center and deck in front/back	2-Building	Remove & Restore	BWS to remove office furniture but leave building and decking. AA ok
13b	Pineland Nature Trail Posts	3-Structure	BWS Request to Remain	AA ok
14	Shade Structure Overlooking Bears	3-Structure	BWS Request to Remain	AA ok
15	Shade Structure Overlooking Panthers	3-Structure	BWS Request to Remain	AA ok
16	Shade Structure Overlooking Ponds	3-Structure	BWS Request to Remain	AA ok
31	Hospital Boardwalk	5-Boardwalk	BWS Request to Remain	AA ok
32	Pineland Nature Trail	6-Improved Trail	BWS Request to Remain	AA ok
33	Walking Trail & railroad ties	6-Improved Trail	BWS Request to Remain	AA ok
36	Pineland Nature Trail Fire Pit	7-Other	BWS Request to Remain	AA ok
40	Picnic Area Pavillion	3-Structure	BWS Request to Remain	AA ok
12	Cypress Amphitheater	3-Structure	BWS Request to Remain	*BWS will remove benches, kennels, sound system, and screen. AA ok pending condition assessment
30a	Cypress Boardwalk	5-Boardwalk	BWS Request to Remain	AA ok pending condition assessment
64	Trail lighting	7-Other	BWS Request to Remain	AA ok pending condition assessment
41	Tiki Hut Area	3-Structure	Remove & Restore	
44	Large maintenance shed & concrete pad (by employee gate)	3-Structure	Remove & Restore	
65	Turtle pond platform and old walkway posts	7-Other	Remove & Restore	
4	Panther House	2-Building	Remove & Restore	
5	Bear House	2-Building	Remove & Restore	
6	Snake House	2-Building	Remove & Restore	
7	Bathrooms @ Snake House	2-Building	Remove & Restore	
30b	Gator walkway	5-Boardwalk	Remove & Restore	
34	Butterfly Garden on Pineland Nature Trail	7-Other	Remove & Restore	remove hose, sprinkler, bench, etc
38	Splitrail Fencing within BWS Areas	7-Other	Remove & Restore	
42	Shade Structure overlooking Waterbirds	3-Structure	Remove & Restore	
8	BWS Administration Offices	2-Building	Remove & Restore	
9	Maintenance Shop	2-Building	Remove & Restore	
10	Freezers	2-Building	Remove & Restore	
11	Administrative Office Deck	3-Structure	Remove & Restore	
13a	Pineland Nature Trail Sign	3-Structure	Remove & Restore	
17	Shipping Containers	3-Structure	Remove & Restore	
18	Alligator Enclosure	4-Animal Enclosure	Remove & Restore	
19	Bald Eagle Enclosure	4-Animal Enclosure	Remove & Restore	
20	Bear Enclosure	4-Animal Enclosure	Remove & Restore	
21	Birds of Prey Enclosure	4-Animal Enclosure	Remove & Restore	
22	Deer Enclosure	4-Animal Enclosure	Remove & Restore	

Checklist for BWS Facilities @ LRD

#	Facility Name	Facility Description	Disposition	Comments
23	Flight Cages	4-Animal Enclosure	Remove & Restore	
24	Kite Enclosure	4-Animal Enclosure	Remove & Restore	
25	Otter Enclosure	4-Animal Enclosure	Remove & Restore	
26	Panther Enclosure	4-Animal Enclosure	Remove & Restore	
27	Racoon Enclosure	4-Animal Enclosure	Remove & Restore	
28	Turtle Enclosure	4-Animal Enclosure	Remove & Restore	
29	Waterbirds Enclosure	4-Animal Enclosure	Remove & Restore	
35	BWS Dumpsters	7-Other	Remove & Restore	
37	Random Parts, Supplies, and etc	7-Other	Remove & Restore	
39	Vehicles (including food truck)	7-Other	Remove & Restore	
43	Small maintenance shed (by maint. Shop)	3-Structure	Remove & Restore	
45	Skunks/Opossum enclosure	4-Animal Enclosure	Remove & Restore	
46	Bobcat habitat/nighthouses	4-Animal Enclosure	Remove & Restore	
47	Fox habitat/nighthouses	4-Animal Enclosure	Remove & Restore	
49	Songbird habitat	4-Animal Enclosure	Remove & Restore	
50	Small turtle enclosures (across from parrots)	4-Animal Enclosure	Remove & Restore	
51	Small raptors (including kites) & parrots enclosures	4-Animal Enclosure	Remove & Restore	
52b	Boards and pvc at old croc & gator habitat	4-Animal Enclosure	Remove & Restore	
53	Mammal Rehab	4-Animal Enclosure	Remove & Restore	
54	Education bird mews/by flight enclosures	4-Animal Enclosure	Remove & Restore	
55	Waterbird Rehab	4-Animal Enclosure	Remove & Restore	
56	Carport by Maintenance Shed	7-Other	Remove & Restore	
57	Statues in front of Welcome Center & across from parrots	7-Other	Remove & Restore	
58	Picnic tables	7-Other	Remove & Restore	
59	Benches	7-Other	Remove & Restore	
60	Donation boxes	7-Other	Remove & Restore	
61	Informational Kiosks & all signage	7-Other	Remove & Restore	
62	Public garbage cans and recyling cans	7-Other	Remove & Restore	
63	Wash tables	7-Other	Remove & Restore	
69	Old pavers near Panthers	7-Other	Remove & Restore	
70	Electric serving removed facilities	8-Utilities	Remove & Restore	
71	Potable water serving removed facilities	8-Utilities	Remove & Restore	
72	IQ water serving removed facilities	8-Utilities	Remove & Restore	
48	Songbird Rehab enclosure	4-Animal Enclosure	Remove & Restore	Gone
52	Old croc & gator habitat	4-Animal Enclosure	Remove & Restore	Gone
67	Owl Alcove	7-Other	Remove & Restore	Gone. Water and & electricity hook-ups need to be removed
68	Shelter behind songbird rehab	7-Other	Remove & Restore	Gone
73	Pile of asphalt millings near Panthers	7-Other	LRD responsibility	LRD responsibility

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: D. Albrey Arrington, Ph.D.
FROM: Kris Dean, P.E., Deputy Executive Director
DATE: July 14, 2023
SUBJECT: Anaerobic Digestion and Biogas Utilization Study

In April of 2022, the District completed the Loxahatchee River Environmental Control District Regional Wastewater Treatment Facility Operational Greenhouse Gas and Cost Assessment.
From the assessment;

> *Loxahatchee River Environmental Control District (LRECD) is committed to serving as a steward of environmental, financial, and human health for its customers and the surrounding community. As such, the purpose of this assessment is to characterize current operations at the Regional Wastewater Treatment Facility (WWTF) in terms of greenhouse gas (GHG) emissions and costs, thus enabling the identification of hot spots and associated opportunities for improvement. This study and the corresponding operational GHG and cost assessment tool provide a baseline against which to compare potential future operating alternatives.*

The assessment identified direct emissions from the aeration basins, indirect emissions from purchased electricity and natural gas used at the SWA BPF for biosolids processing as greenhouse gas hot spots, along with purchased electricity and biosolids processing as cost hot spots for the District. To address these hotspots staff moved forward with several initiatives including

1. Field chemical feed system evaluation
2. Operational modifications to the equalization basins including mixing only and operation on a single tank.
3. Update to the 2017 Solar Evaluation

The three above initiatives are currently being evaluated. Staff anticipate discussing results with the Board in the coming months.

A fourth initiative,

1. Evaluation of processes and technologies to improve solids destruction and dewatering performance to reduce natural gas usage at the SWA BFP, including waste activated sludge thickening upgrades, anaerobic digestion, and high solids centrifuge dewatering

focuses on the current biosolids processing operation. In conjunction with deadlines for the Biosolids Processing Facility (BPF) agreement (currently August 2024 for District decision to continue with SWA BPF past August 2029) staff propose a Biosolids Processing Evaluation to include 1) continuing with the current process; sludge holding, belt filter press and participation in the SWA BPF, 2) onsite digestion (conventional and high solids) with onsite dewatering and participation in the SWA BPF, 3) onsite digestion with onsite dewatering and onsite sludge dryer without participation in the SWA BPF. The evaluation will include installation and operating costs, greenhouse gas emissions considerations and potential renewable energy options utilizing biogas from the processes being evaluated.

Staff recommend the following motion:

"THAT THE DISTRICT GOVERNING BOARD authorize work authorization 2022-13 with Holtz Consulting Engineers in the amount of $143,870.00."

AGREEMENT BETWEEN
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT AND
HOLTZ CONSULTING ENGINEERS, INC.
FOR PROFESSIONAL ENGINEERING SERVICES

ANAEROBIC DIGESTION AND BIOGAS UTILIZATION STUDY

WORK AUTHORIZATION: 2022-13

BACKGROUND

This Agreement is for the performance of engineering services by Holtz Consulting Engineers, Inc. (HCE) pursuant to the Continuing Contract for Professional Engineering Services between Loxahatchee River District (District) and HCE dated October 16, 2020, hereafter referred to as the Contract. HCE shall partner with designated subconsultant Hazen and Sawyer (Hazen) to provide engineering services to evaluate the feasibility of implementing anaerobic digestion and biogas utilization into the solids handling process of the District's wastewater treatment facility (WWTF).

The District has an activated sludge process at the WWTF that produces biosolids. The existing solids handling system for processing biosolids from the waste activated sludge consists of aerated sludge storage, dewatering by belt filter press, and hauling of unstabilized dewatered biosolids to the Solid Waste Authority of Palm Beach County (SWAPBC) Biosolids Processing Facility (BPF).

The District has requested that the HCE/Hazen team evaluate the technical and economic feasibility of implementing anaerobic digestion and biogas utilization at the WWTF. The potential implementation of anaerobic digestion has the following drivers:

- Reduction of solids prior to belt filter press dewatering to reduce polymer and energy costs.
- Reduction of hauled solids to the SWAPBC BPF to reduce hauling costs and tipping fees.
- Reduction of biosolids mass by converting volatile solids to energy-rich "biogas", while stabilizing sludge and reducing odors.
- Offset of purchased energy by harnessing biogas to produce renewable electricity and heat in a Combined Heat and Power (CHP) system or Renewable Natural Gas (RNG) with direct utility pipeline injection and market sale.
- Reduction of greenhouse gas (GHG) emissions and costs by reducing dewatered, transported and thermally dried biosolids.

The District has an ongoing goal to reduce GHG emissions following an Operational GHG and Cost Assessment conducted in 2022, where several components of the solids handling process were identified as major contributors to operational GHG emissions.

SCOPE OF WORK

Task 1 – Kickoff Meeting and Data Review

HCE and Hazen shall prepare for and attend a meeting with District staff and visit the existing solids handling facilities, to review and discuss data needed for the study, and to discuss any issues associated with maintenance of the facility. The District will provide HCE and Hazen with an electronic copy of historical data needed in support of the digestion and energy study, and Hazen shall review the data. A preliminary list of anticipated data needs is provided below:

- Daily influent wastewater flow, biochemical oxygen demand (BOD) and total suspended solids (TSS) data for the last 24 months
- Daily waste activated sludge (WAS) flow for the last 24 months
- Available WAS TSS concentration and volatile solids fraction data
- Daily FOG data for last 24 months
- Daily total solids concentration of dewatered sludge for the last 24 months
- Daily hauled biosolids data (wet tons) for the last 24 months
- Available data on total solids of dewatering centrate (to calculate solids capture)
- MSDS and consumption data for neat polymer used at belt filter press dewatering
- Future influent flow, BOD, TSS and fats/oils/and grease (FOG) projections from most recent capacity analysis update report (submitted with most recent Florida Department of Environmental Protection (FDEP) permit renewal)
- Current WWTF contract agreement with SWAPBC BPF (including minimum put-or-pay and maximum allowable biosolids disposal quantities, and tipping fees)
- Recent two years of electricity consumption and demand data (kWh and kW if available in Excel)
- One month of recent energy bills
- Contact information of FP&L or other energy utility representatives

Task 2 – Develop Conceptual Sizing and Siting of Proposed Anaerobic Digestion Facilities

Following receipt of all data requested under Task 1, Hazen will evaluate and develop conceptual design criteria for the following Alternatives:

- Alternative 1 (replace in kind): Replace Sludge Storage Tank and equipment, replace Biosolids Processing Building and sludge dewatering equipment; do not add anaerobic digestion
- Alternative 2A (conventional anaerobic digestion): Replace Biosolids Process Building, add pre-digestion mechanical thickening, and add conventional anaerobic digestion (2 tanks) (no need for sludge storage since digesters would provide storage)
- Alternative 2B (high solids anaerobic digestion): Replace Biosolids Process Building and sludge dewatering equipment, add pre-digestion mechanical thickening, and add high-solids anaerobic digestion (2 tanks) (no need for sludge storage since digesters would provide storage)

- Alternative 3 (anaerobic digestion + dryer): Replace Biosolids Processing Building and sludge dewatering equipment, add pre-digestion mechanical thickening, add conventional anaerobic digestion (2 tanks), and add an onsite thermal drying facility (no need for sludge storage since digesters would provide storage)

The alternatives include the following combinations of process technologies:

Alternative	Sludge Storage	GBT	Anaerobic Digestion	BFP	Dryer
1	X			X	
2A		X	X	X	
2B		X	X[1]	X	
3A		X	X	X	X

***Notes**: 1. High solids digestion with the Omnivore™ system manufactured by Anaergia as the basis of design.*

2. Each alternative will include decommissioning of existing solids handling facilities.

For each alternative, Hazen will perform conceptual process calculations for the following items:

- Current and future sludge production projections
- Estimated biosolids destruction
- Estimated biogas production
- Conceptual design of replacement aerated sludge storage tank (for alternatives without anaerobic digestion)
- Conceptual design of mechanical thickening (for alternative 1)
- Conceptual design of belt filter press dewatering (all alternatives)
- Conceptual design of onsite thermal drying facility (alternative 3)
- Conceptual process flow diagrams
- Conceptual site layouts
- Update estimated operational greenhouse gas footprint calculator and benchmark against previously provided benchmarks from Water Research Foundation

Task 3 – Develop Conceptual Life-Cycle Costs

Following completion of Task 2, Hazen will develop conceptual estimates of life-cycle costs (capital, operations, and maintenance) for each Alternative. The capital cost estimates will be based on the Engineer's Opinion of Probable Construction Cost (OPCC) for construction of each alternative. OPCC shall be a Class 4 level as defined by the Association of the Advancement of Cost Engineering (AACE) in Recommended Practices 18R-97. Conceptual operations and maintenance costs to be analyzed include electrical power consumption, chemical usage, operations labor, maintenance, labor, and replacement parts.

Task 4 – Funding and Biogas Utilization Feasibility Assessment

Recent Federal and State legislation has increased funding incentives for biosolids and renewable energy projects, including the Bipartisan Infrastructure Investment and Jobs Act of 2021, Inflation Reduction Act of 2022, and the 2023 Florida House Bill 1405 establishing a new biosolids grant program. Up to 50% of anaerobic digestion and biogas utilization project costs may be offset by one or more of these funding sources.

Hazen will perform a funding assessment consisting of the following:

- Review of available funding sources and identification of potential funding opportunities related to the construction of a biogas utilization system. Incorporating biogas utilization into an anaerobic digester project may make the broader project eligible for funding opportunities, namely the US IRS Energy Investment Tax Credit, because beneficially using biogas may classify the anaerobic digestion system as qualified energy property.
- Evaluation of key contingencies associated with each funding source, such as impacts on direct project costs regarding funding procurement and meeting funding requirements and bonus incentives (ex. prevailing wage, apprenticeship, and domestic content) will be included.
- An estimate of potential funding for biogas utilization will be provided.

Hazen will assess the costs and financial and technical feasibility of RNG and CHP as follows:

- The advantages and disadvantages of each type of system will be discussed, including impact on wastewater treatment and biosolids management, ease of operations, siting constraints, power resiliency, and permitting.
- Hazen will coordinate with the natural gas utility whose territory includes the WWTF to identify the nearest interconnection point where RNG could be pipeline injected.
- Hazen will develop conceptual design criteria and life cycle financial value for biogas utilization alternatives, RNG and CHP using Hazen's Energy Balance and Analysis Tool (EBAT).
- Hazen will develop conceptual process flow diagrams.
- Hazen will develop conceptual site layouts for proposed biogas alternatives, RNG and CHP facilities.
- Hazen will analyze the environmental impact of biogas utilization and anticipated benefits and burdens related to Scope 1 and Scope 2 GHG emissions.

Task 5 – Technical Memorandum

Hazen will submit a DRAFT TM (Technical Memorandum) summarizing the results of Tasks 2 through 4 for District review and comment. The DRAFT TM will also include a brief review of state and federal biosolids regulations for the District's general use in conceptual biosolids management planning. Following incorporation of the District's review comments, Hazen will schedule a final review meeting. Hazen will provide a PowerPoint presentation at the final review meeting which explains key information summarized in the TM and to discuss District review

comments. Comments from the final review meeting will be incorporated into the FINAL TM. Review meeting minutes will be prepared and distributed.

DELIVERABLES

TASK	DELIVERABLE	QUANTITY
Task 1 – Kickoff meeting and data review	Kickoff meeting minutes	Electronic delivery – Word document Electronic delivery – PDF
Task 5 –Technical memorandum and final review meeting	Draft memorandum Final memorandum Review meeting minutes	Electronic delivery – Word document Electronic delivery – PDF

TIME OF COMPLETION

HCE shall complete the project as outlined below in the project schedule.

- Task 1 – Kickoff meeting and data review
  - 30 days from Notice to Proceed (NTP)
- Tasks 2, 3, 4, and 5 – Technical memo and final review meeting
  - 21 weeks from receipt of requested information from District

SCHEDULE OF FEES

Proposed labor costs for engineering services are tabulated below.

TASK	ENGINEERING FEE
Task 1 – Kickoff meeting and data review	$12,650
Task 2 – Develop Conceptual Sizing and Siting of Proposed Anaerobic Digestion Facilities	$54,130
Task 3 – Conceptual Life-Cycle Costs	$15,230
Task 4 – Funding and Biogas Utilization Assessment	$23,770
Task 5 – Technical Memorandum	$38,090
TOTAL AMOUNT (LS)	**$143,870**

ASSUMPTIONS

1. District will provide available information listed in Task 1 in an electronic format. Historical data will be provided in Excel format and reports as needed.
2. This scope of services is for the evaluation of anaerobic digestion alternatives including single-stage, conventional mesophilic anaerobic digestion and high-solids digestion. An evaluation

of biogas utilization from anaerobic digestion is also included. This scope of services does not include evaluation of biosolids processing technologies/alternatives not specifically indicated herein.

3. Existing sludge storage tank was built in 2005, and remaining service life is expected to be 30+ years. Process design for aerated sludge storage assumes rehabilitation of concrete tank, diffusers and equipment while using the existing bypass for the duration of the rehabilitation. This scope of services does not include replacement of storage tank.de replacement of storage tank.
4. Process design for mechanical thickening will consist of gravity belt thickening as a standard for the purpose of comparison between alternatives.
5. Process design for dewatering will be based on belt filter presses with an independent gravity zone as a standard for the purpose of comparison between alternatives.
6. Process design for thermal drying facility will include dryer technologies that produce dried pellet quality consistent with that produced by the SWAPBC BPF for equivalent ability to market and distribute end product.
7. Scope assumes that there is sufficient space onsite to replace the existing LRD Biosolids Processing Facility at an alternate location to allow for maintenance of plant operations.
8. District will provide written review comments three days prior to review meetings.
9. Per and poly-fluoroalkyl substances (PFAS) regulations are currently under evaluation by the United States Environmental Protection Agency (US EPA). Because the implications of PFAS regulations on biosolids treatment and disposal are not yet understood, the District requested that consideration of PFAS be excluded from this evaluation.

This Authorization is accepted, subject to the terms, conditions, and obligations of the aforementioned Contract.

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

By: _____ _____

D. Albrey Arrington Ph.D., Executive Director Date

HOLTZ CONSULTING ENGINEERS, INC.

By: _____ 7/14/23

Christine Miranda, PE, Vice President Date

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

To: Governing Board
From: Kara Fraraccio, Director of Finance and Administration
Date: July 14, 2023
Subject: Disposal of Surplus Property

Whenever the District disposes of tangible personal property of a non-consumable nature, Florida Statutes and our Disposal of Surplus Tangible Personal Property Policy require Governing Board approval before any Surplus Tangible Personal Property can be disposed of. Consistent with state statute and our policies and procedures, I request your authorization to dispose of the items listed below:

Tag #	F/A #	Description	Condition	Date Recorded	Acquired Value	Book Value	Estimated Value
2701	OE0290	PowerVault Server Storage	Operational	09/30/11	$ 13,137	$ -	$ 100
2702	OE0290	Dell R510 Server	Operational	09/30/11	6,148	-	100
2708	OE0291	Dell R710 Server	Operational	09/30/11	6,298	-	100
2709	OE0291	PowerVault Server Storage	Operational	09/30/11	12,857	-	100
2700	OE0295	Dell R710 Server	Operational	09/30/12	9,517	-	100
Total Assets to be Disposed					**$ 47,957**	**$ -**	**$ 500**

The items listed in the schedule above are no longer of use to the District and are considered Surplus. The assets will be disposed of in accordance with the District's Disposal of Surplus Tangible Personal Property Policy.

If you have any questions, please feel free to contact me.

I offer the following motion for your approval:

> **"THAT THE GOVERNING BOARD authorize the Executive Director to dispose of tangible personal property with asset tag numbers 2701, 2702, 2708, 2709, and 2700 in accordance with the District's Disposal of Surplus Tangible Personal Property Policy."**

Change Orders

No Change Orders are presented for Board consideration this month.

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LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: D. Albrey Arrington, Ph.D., Executive Director
FROM: Kris Dean, P.E., Deputy Executive Director
Courtney Jones, P.E., Director of Engineering
DATE: July 20, 2023
SUBJECT: Manual of Minimum Construction Standards and Technical Specifications – July 2023 Update

In April of 1983 the Governing Board approved the District's first "Manual of Minimum Construction Standards and Technical Specifications". Since the initial adoption, this document has been updated from time to time as codes, rules, materials and methods have changed and improved over time. These changes were most recently approved by the Board in June 2023.

This July, Engineering Services is updating the Manual of Minimum Construction Standards and Technical Specifications as summarized below. Detailed updates can be reviewed in the Manual of Minimum Construction Standards and Technical Specifications, Section 10, Section 20, Section 150, Section 200 and Forms and Agreements as attached.

1. Section 10.02.3 – Revise section to include allowance of variations on easements from Section 150 and reference to separation requirements for District Facilities.
2. Section 10.04.2 – Revised Project Completion Submittals to include easement requirements as consistent with Section 10.02.3.
3. Added Section 10.05 – Termination/Abandonment of Easements.
4. Sections 20.04.1 and 20.07 –Separation requirements for non-FDEP/FDOH governed facilities and structures moved from Section 20.04.1 to Section 20.07.
5. Section 150.02 – Deleted easement requirements in this section that are included in Section 10.
6. Section 200 – Updated for current revision.

7. Section – Forms and Agreements – Added to include forms and agreements.

    1. Application for Service – New Construction – Residential
    2. Application for Service – New Construction – Commercial
    3. Application for Service – Existing Building
    4. Application to Abandon/Terminate Easement
    5. Grease Interceptor Application Questionnaire
    6. Sewer Easement Deed
    7. Termination and Abandonment of Easement
    8. Bill of Sale

At the June Board Meeting, Board members requested staff provide additional information to support the proposed abandonment of easement at 430 University Boulevard as well as develop a policy for easement abandonment. Board members requested the policy consider precedent, be consistent with other governmental entities and consider the value of the property.

b. Precedent – Staff reviewed District records. From the records reviewed staff determined that the District has not historically required compensation for property value when releasing rights to easements.
c. Consistence with other governments – Staff researched Palm Beach County and Town of Jupiter.
    i. Palm Beach County procedures to "Abandon/Vacate Rights of Way, Easement and Plats" includes compensation described as a "privilege fee" for abandonment of Rights of Way only. This compensation is <u>not required for easements</u>. Palm Beach County does require an application fee for abandonment.
    ii. Town of Jupiter policy includes monetary consideration as part of their policy but the policy does not make monetary consideration mandatory. Town of Jupiter has verbally confirmed they <u>do not require compensation for termination/abandonment of easements.</u> Town of Jupiter does require an application fee.
d. Value – Staff researched Palm Beach County and Town of Jupiter
    i. Palm Beach County does not require a privilege fee when abandoning easements. Their privilege fee is applicable to

ii. rights of way only. Their privilege fee, while not applicable to easements, is calculated based on 80% of the average value of comparable square footage of abutting properties.

iii. Town of Jupiter requires an appraisal by a state-licensed real estate appraiser stating the valuation of the real property interest. It is not defined in the policy how this appraisal is applied and, as noted above, the Town of Jupiter verbally confirmed they do not require compensation for termination/abandonment of easements.

Based on staff's research compensation would not be in-line with historical precedent set by the District or in-line with other governments within our service area; however, an application fee for staff time and legal fees, while not historically charged by the District, would be in-line with other governments within our service area. Staff have determined a fee in the amount of $546.80 including 4 hours of executive assistant time, 2 hours of Director Engineering time, 2 hours of CAD/GIS Technician time and 1 hour of the Deputy Executive Director time.

Section 10 has been updated to include "Termination/Abandonment of Easements", a standard form for termination and abandonment of easements and application. Detailed procedures for implementation of the policy are available for review upon request.

Please note, to implement the termination/abandonment of easement policy with an application fee, staff will need to return to the Board for revisions to Rule 31-10 incorporating application fees for termination/abandonment of easements. Staff anticipate bringing 31-10 to the Board as a DRAFT in August 2023 and the final version for consideration in September 2023. Without an application fee, revisions to Chapter 31-10 will not be required.

Staff recommend the following motion:

"THAT THE DISTRICT GOVERNING BOARD ratify and approve the Loxahatchee River Environmental Control District's "Manual of Minimum Construction Standards and Technical Specifications", as of July 20, 2023, and authorize the Director of Engineering and Executive Director to update the Construction Standards and Technical Specifications from time to time, and periodically present it to the Governing Board for ratification and approval."

LOXAHATCHEE RIVER

ENVIRONMENTAL CONTROL DISTRICT

MANUAL OF MINIMUM CONSTRUCTION

STANDARDS AND TECHNICAL SPECIFICATIONS

FOR

LOXAHATCHEE RIVER DISTRICT

D. Albrey Arrington, Ph.D.
Executive Director

Kris Dean, P.E.
Deputy Executive Director

Courtney Jones, P.E.
Director of Engineering

Revision: ~~June~~ July 2023

TABLE OF CONTENTS

FORMS & AGREEMENTS (CONT'D):

- Grease Interceptor Questionnaire
- Application to Abandon/Terminate Easement
- Sewer Easement Deed
- Termination / Abandonment of Easement
- Bill of Sale

SECTION 10

ADMINISTRATIVE AND GENERAL

10.01 General

The purpose of this manual is to provide the minimum construction standards for design and construction work associated with wastewater systems within the District and is intended to supplement the requirements of other regulatory agencies. The design engineer is to use good engineering judgment in the design of wastewater systems. The design engineer and the contractor are responsible for providing sound, workable, and long lasting systems.

The intent of this section is to provide members of the development community with a brief introduction to the Loxahatchee River Environmental Control District, also referred to as "District", its function, and procedures.

The Loxahatchee River Environmental Control District is an agency of government which was created in 1971 for the purpose of providing utility and other environmental services within the 72 square mile basin of the Loxahatchee River. Currently, the District owns, operates, and regulates the regional wastewater system serving Tequesta, Jupiter, Juno Beach, Juno, and the unincorporated areas of northern Palm Beach and southern Martin Counties.

The District offices are located at 2500 Jupiter Park Drive, Jupiter, Florida. The offices are open between 8:00 A.M. and 5:00 P.M. weekdays. The telephone number during working hours is (561) 747-5700. For emergency situations outside of normal office hours, the telephone number is (561) 747-5708. The District website can be found at http://www.loxahatcheeriver.org.

With specific regard to new development, the District's legislated policy is to provide the required utility services to the area now and as it continues to grow. It is, therefore, the agency's intent to work closely with new development to assure that the utility services can be provided in a manner which is both timely and consistent with the standards and specifications set forth in this manual.

Please note that the District's "Manual of Minimum Construction Standards and Technical Specifications" may change from time to time. All projects will be subject to the current District, local, state and federal rules and regulations at the time of submittal of final engineering drawings for approval.

10.02 Procedures Prior to Construction

10.02.1 Introductory Meeting

It is highly recommended that the project representative (s) (owner, engineers) meet with the District's Deputy Executive Director early in the planning stages of the development. At such time a determination of sewer and reuse water availability will be made, and financial impacts will be reviewed.

10.02.2 Developer Agreement

The submittal of a properly executed agreement, along with payment for certain charges, is required before the District will review the engineering plans. Copies of the District's Standard Developer Agreement and District Rule Chapter 31-10, which addresses the charges, are available online at the District's website: https://loxahatcheeriver.org/ or at the District offices.

10.02.3 District Installed Facilities

During the introductory meeting the developer may wish to discuss the availability of District installed regional and sub regional facilities to serve the proposed project, although, this program is limited to larger developments.

The District currently maintains a program where sub regional lift stations may be constructed by and paid for by the District. A sub regional facility must be designated and approved by the District Governing Board. Staff will take no action for recommending designation of a facility for installation until a developer agreement is executed and all fees are paid.

Staff reviews and assesses the project based upon economic feasibility, consistency with the District Master Plan and its current and future demand. To promote stable and effective communication between the District and the Developer, we will require the Developer to coordinate all communication through the Engineer of Record.

In designating a sub-regional facility, the following items are the responsibility of the owner/developer:

Provide the District with any project information necessary for the design of lift station(s) and force mains(s).

Provide, at developer's expense, all necessary electrical service to the lift station site in conjunction with construction activities.

Provide suitable access to lift station and force main sites for District and contractor's vehicles and equipment. Paved asphaltic concrete or reinforced concrete access drives will be provided (Min.16' wide) prior to acceptance.

Provide appropriately sized sanitary sewer gravity lines that are necessary to serve adjoining properties in conjunction with lift station construction. Sewer lines to adjoining properties must be activated concurrent with lift station, or upon demand from the District.

The last collection manhole, just upstream of the lift station, should be placed in a manner to minimize road, lane or sidewalk closures should by-pass operations be needed at the lift station. The District may require this last collection manhole to be placed inside the lift station easement.

Provide all clearing, grubbing and rough grading of the lift station and force main sites prior to construction.

Provide survey requirements and staking of the lift station and force main upon request from the District. Staking shall include provision of one stake at center of the proposed wet well, with 50' offsets and bench mark. Force main shall be staked at center line with 10' offsets every 100 feet, with a set bench mark. All survey work shall be performed by a professional surveyor licensed in the State of Florida.

Developer shall convey a deed to the lift station property prior to construction, and all required easements as follows:

Permanent Easements:

a. Lift Station - 40' x 40'
b. Force Mains - 10' wide minimum
c. Gravity Mains - 15' wide minimum for sewers

Temporary Construction Easements:

a. Lift Station - 100' x 100'
b. Force Mains - 30' wide minimum
c. Gravity Mains - 50' wide minimum

Variations on easements shall be considered on a case by case basis where full functionality to service existing and all future anticipated needs, access, maintenance and bypass operations can be accommodated with alternate configurations acceptable to the District and approved by Engineering Services.

Developer is required to maintain separation requirements as detailed in Section 20.07 and Standard Detail SD-29. Developer's contractor will be responsible to make gravity line connections from the system collection manhole to the lift station after the construction of the wet well has been completed.

District staff will work in conjunction with the developer's project engineer to plan for the service area. Station design will be performed by the District. Construction will be contracted for by the District and inspected by District personnel.

10.02.4 Developer Installed Facilities - Plan Review and Approval

An initial electronic plan submittal (PDF) is recommended. Submittal should contain; one (1) complete set of plans including sewer, reuse, water and drainage systems, and paving and grading details. Upon review, the design engineer will be notified of acceptance or comments which need to be addressed. District staff will work with the Developer's Engineer of Record to address the final design of Developer installed facilities.

Final submittal for approval will require additional plan sets, to include one (1) electronic (PDF), electronic AutoCAD plan files, two (2) hardcopies full-size (24x36) sets for District files, two (2) hard copies of executed Florida Department of Environmental Protection and/or Palm Beach County Health Department permit applications for District files, plus any additional sets required by the engineer or owner.

District approval of utility plans and specifications, as well as sign off on the Florida Department of Environmental Protection/Health Department application, is required.

Plan review will be for technical sufficiency of design for incorporation into the District's system. This review, as well as plan approval by the District, does not relieve the design engineer of his liabilities or responsibility for a properly detailed design. District Engineering staff will be available to work with the design engineer to assure the plans meet the requirements set forth in this manual.

All plan submittals must be signed and sealed by a Professional Engineer, registered in the State of Florida. Plans which are marked "Preliminary" or "Draft" will not be approved.

Supplemental data to be furnished with the final plans submitted for approval includes the following:

1. Project Summary

    a. Number of residential units being served or non-residential uses.
    b. Number of Manholes
    c. L.F. of Gravity Main (for each pipe size)
    d. L.F. of Force Main (for each pipe size)
    e. Number of Lift Stations and depth of each

2. Basis of determination of design capacity and design flow.

3. Calculations and plot of system head curves.

4. Calculations of pump cycle times.

5. Wet well floatation calculations.

6. Landscaping plan that includes the proposed sewer facilities on the plan to determine if the necessary setbacks are provided.

7. Preliminary phasing plan (for entirety of project) that includes a table indicating number and type of lots (i.e., multifamily, single family, etc.) and the year those lots require DOH certifications.

10.03 Developer Installed Facilities - Procedures During Construction

10.03.1 Periodic Inspection

Throughout construction, the developer will look to his consulting engineering firm for progress by periodic inspections. District Engineering staff will periodically check the site during construction for progress. If problems are encountered during construction, it will be the developer's responsibility through his engineers, to resolve them to the District's satisfaction. Any revision of substance to the approved plans shall be submitted to the District for approval prior to incorporation into the work.

10.03.2 Pre-Final Inspection Submittals

1. Approximately 60 days prior to construction completion, the Developer's Engineer of Record shall provide the Deputy Executive Director the following for review and approval:

    a. A signed and sealed cost of construction of the sewer improvements. This information will be used to establish the value of the maintenance bond.

    b. A final Phasing Plan. The Phasing Plan should encompass the project in its entirety and is solely at the discretion of the District as to timing and extent of phases.

2. Upon receipt of the above information the Deputy Executive Director will prepare a letter to the Owner, with copy to the engineer, with the Bill of Sale and easement forms prepared for execution, along with a listing of administrative items to be provided prior to District inspection of facilities for acceptance.

10.04 Developer Installed Facilities - Procedures Following Construction

10.04.1 Project Completion

A project is not considered complete and prepared for District final inspection until such time as:

1. All sewer system construction is completed in accordance with plans and specifications and inspected and certified by the engineer.

2. Where sewers are constructed in paved areas, at least the 1st lift of asphalt has been provided.

3. Areas over lines and laterals, which are not proposed to be paved, shall be brought to finish compacted grade.

10.04.2 Project Completion Submittals

Upon Completion of Construction, but before District final inspection, submit the following items in forms acceptable to the District:

1. Bill of Sale

2. Grant of Easement: The Developer shall convey all required easements as follows:

Permanent Easements:

a. Lift Station - 40' x 40'
b. Force Mains - 10' wide minimum
c. Gravity Mains - 15' wide minimum for sewers

Temporary Construction Easements:

a. Lift Station - 100' x 100'
b. Force Mains - 30' wide minimum
c. Gravity Mains - 50' wide minimum

Variations on easements shall be considered on a case by case basis where full functionality to service existing and all future anticipated needs, access, maintenance and bypass operations can be accommodated with alternate configurations acceptable to the District and approved by Engineering Services.

~~2.~~3. Maintenance Bond: From a surety company and executed by an attorney-in-fact for the surety company with a certified copy of his Power-Of Attorney attached to the Bond; or a

~~3.~~4. Letter of Credit: From a financial institution and in a form acceptable to the District.

~~4.~~5. Record Drawings: Submit one (1) blackline copy of the record drawings, signed and sealed by a Florida licensed Professional Surveyor & Mapper. Record drawings must comply with District Standard Detail SD-29 "Record Drawing Submittal Guide".

~~5.~~6. Department of Environmental Protection Certificate of Completion Executed by Owner and Certifying Engineer.

~~6.~~7. Letter of Certification from the Engineer of Record

~~7.~~8. Performance Test Results: infiltration/exfiltration, pressure, leakage and pump start-up test records. All documents must be signed and sealed by the Engineer of Record.

~~8.~~9. Copy of Site Plan and Recorded Plat indicating all building numbers and street names.

~~9.~~10. Payment for all buildings connected to the system.

10.04.3 Final Inspection

After the Owner and Project Engineer have provided the documents as outlined in Section 10.04.2, and all punch list items have been remedied, the District engineering staff will conduct a final inspection and recommend acceptance or denial. If acceptance is denied, a letter will be sent to the Project Engineer advising of the denial and reasons for such. Subsequently, the project engineer should address the comments and request scheduling a final reinspection. It should be noted that after the final inspection, any comments to the initial Record Drawing submittal shall be provided to the Engineer of Record for any remedies.

10.04.4 Final Record Drawings

After District Engineering staff has completed the final inspection and all work is to the satisfaction of the District Engineer, the final Record Drawings shall be submitted to the District, as follows:

1. Two (2) final black line record drawings, signed and sealed by a Florida licensed Professional Surveyor & Mapper. This record drawing shall meet the technical standards for "Record Survey" set forth by the Florida Board of Professional surveyors and mappers, pursuant to Chapter 472 of the Florida Statutes and Chapter 61G17-6, Florida Administrative Code.

2. One electronic submittal with the record drawing in AutoCAD 2020 or later format and PDF format. Only one (1) AutoCAD file shall be accepted containing the entire record drawing (additional files used for x-referencing are acceptable) and one Adobe Acrobat file with the entire record drawing as seen on the paper copy. The District will no longer accept separate AutoCAD and/or Adobe Acrobat files for separate record drawing pages. The AutoCAD files must be established in state plane coordinate system, NAD 83, Florida East Zone. The vertical datum referenced shall be NGVD 29.

10.04.5 One Year Maintenance Bond and Inspection

Prior to acceptance by the District, a maintenance bond, which will remain in effect for one year from the date of District acceptance of the system, must be provided to the District. Shortly before the expiration of the one-year maintenance bond, the District will reinspect the system in a manner similar to the final inspection (i.e., broken pipes, deflection, infiltration, etc.) The District will advise the developer of any defects found, unless of an emergency nature, during this inspection and will require correction to be made prior to expiration of the maintenance bond.

Should adequate progress, in the opinion of the District, not be made in correcting the deficiencies, the District will look to the bonding company to pay for corrective action taken by the District.

A Letter of Credit drawn upon a financial institution licensed in the State of Florida, and in a form acceptable to the District may be provided in lieu of a maintenance bond.

10.04.6 District Acceptance

Upon satisfactory finding of the final inspection, the Department of Environmental Protection/Health Department Certification of Completion will be executed by the Executive Director, thereby, accepting the system for operation and maintenance.

10.04.7 Operation and Maintenance

With the exception of service laterals which lie beyond right-of-way or easement lines, or in common areas of ownership, the wastewater system serving the development will be operated and maintained by the District's personnel, who are well trained and responsive to the needs of the community.

10.04.8 Utility Billing

The District's accounting department will continue to work with the Developer in the collection of connection charges as new buildings are tied into the system, and in the billing of quarterly service charges.

10.05 Termination/Abandonment of Easements

The District will consider requests for termination and abandonment of exclusive and non-exclusive easements. Termination or abandonment of exclusive and non-exclusive easements shall not conflict with any federal, state or local codes, the District's minimum construction standards and technical specifications or future uses (identified or potential) such as odor control, pre-treatment, emergency standby power, telemetry or expansion of regional or subregional facilities.

Requests for termination and abandonment of exclusive and non-exclusive easements are at the sole discretion of the District and require an application, payment of fees, are subject to Engineering Services Department review ~~and recommendation~~and require District Governing Board approval.

~~10.05~~10.06 Definitions and Abbreviations

The term "Owner" or "District" shall mean the Loxahatchee River Environmental Control District.

The term "Director" shall mean the Executive Director of the Loxahatchee River Environmental Control District.

The term "Deputy Executive Director" shall mean the Deputy Executive Director of the Loxahatchee River Environmental Control District.

The term "Engineer" or "Design Engineer" shall be the engineer registered in the State of Florida that signs and seals the plans of a developer or other person or entity.

The term "District Engineer" shall be the engineer designated by the District, whether acting directly or as an authorized agent of the District, acting within the scope of duties entrusted to them.

The abbreviation listed below shall have the meaning set forth opposite each:

AASHTO	American Association of State Highway Transportation Officials
ACI	American Concrete Institute
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Material
AWWA	American Water Works Association
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
AWG	American or Brown and Sharpe Wire Gage
NPT	National Pipe Thread
WOG	Water, Oil, Gas

END OF SECTION 10

SECTION 20

DESIGN CRITERIA

20.01 General

The requirements of this section are a minimum and nothing herein shall be construed to eliminate consideration of a design based on a rational procedure not covered by such requirements. Standards or minimum requirements set forth in this Manual are not intended to relieve the Developer, Contractor, or Design Engineer from complying with good engineering and construction practices under specific conditions which require a higher degree of procedure, standards, or requirements. Where the Developer, Contractor, or Design Engineer is not capable of following the requirements of the Manual due to certain site conditions, any deviation from the requirements set forth in the Manual shall first be approved by the District. It is intended that the requirements of this section shall be applicable in all cases where the facilities being constructed or to be constructed shall be owned and/or operated and maintained by the District.

20.02 Design Capacity

Gravity sewer systems should be designed for the estimated ultimate tributary population. Parts of the system that can be readily increased in capacity such as lift stations may be submitted for approval based on phased implementation. The basis of design for all projects shall accompany the plan documents.

20.03 Design Flow

Sewer system Average Daily Flow (ADF) designs shall be based on the design flows as listed in Chapter 64E-6 of the Florida Administrative Code.

20.03.1 Peak Hourly Flow

Peak Hourly Flow (PHF) shall be utilized for the sizing of all gravity sewers, force mains and lift station pump sizing. Peak hourly flow peaking factor (PF) shall follow Figure 1 - Ratio of Peak Hourly Flow to Design Average Flow, of the "Recommended Standards for Wastewater Facilities", by the Waste Water Committee of the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, latest edition.

For low pressure sewer systems, all low pressure mains and the District's approved grinder pump systems (centrifugal) shall be sized based upon the estimated peak design flow. The estimated peak design shall follow either Part 4 – Design Flows, of the "Design and Specification Guidelines for Low Pressure Sewer Systems", by the FDEP, latest edition or Chapter 2, "Manual – Alternative Wastewater Collection Systems", by the EPA, latest edition.

20.04 Gravity Sewers

20.04.1 New Construction

The basic design criteria for gravity sewers shall be as follows:

Pipe material – all new gravity sewer shall be of PVC construction. Use of epoxy coated D.I.P. will only be allowed with prior approval from the District Engineer.

The minimum gravity sewer pipe line diameter – All new gravity sewer mains (manhole to manhole) shall be a minimum of 8-inches in diameter.

The minimum depth of cover shall be as follows: 3'-6" for DIP or PVC C-900 and 4'-0" for PVC SDR-26. Any cover that is proposed to be less than 4'-0" must be given prior approval by the Director of Engineering.

Straight alignment and constant slope between manholes.

All manholes shall be precast concrete with monolithic bases and concentric conical cone sections.

Manholes are required at the end of each line; at all changes in grade, size or alignment. Stubs eight (8) inches or larger will require a manhole at the terminus point.

Manholes shall be spaced not greater than 400 feet for sewers fifteen (15) inches in diameter or less, 450 feet for sewers eighteen (18) inches in diameter or greater.

Five-foot drop manholes (internal type) are to be provided for a sewer entering a manhole at an elevation twenty-four 24 inches or more above the lowest manhole channel invert. (See Standard Details)

A positive 0.1-foot grade differential shall be provided between the upstream and downstream invert on all manholes.

All sewers shall be designed and constructed to give mean velocities, when flowing full, of not less than 2.0 feet per second, based on Kutter's formula using an "n" value of 0.013. The following are minimum slopes allowed:

Sewer Size	Slope in Ft/100 Ft
8-inch	0.40
10-inch	0.28
12-inch	0.22
15-inch	0.15
18-inch	0.12
21-inch	0.10

24-inch	0.08
27-inch	0.067
30-inch	0.058
36-inch	0.046

When possible, slopes at least 10% above the minimums shown are preferred. However, in no case will slopes be designed which would provide a mean velocity less than 2.0 feet per second when flowing full, based on an "n" value of 0.013.

When a smaller sewer joins a larger one, the invert of the larger sewer should be lowered sufficiently to maintain the same energy gradient. An approximate method for securing these results is to place the 0.8 depth point of both sewers at the same elevation.

Intersecting sewers shall not meet at an alignment angle of less than 90 degrees to downstream flow.

Manholes deeper than 14 feet from the lowest invert to the manhole rim, manholes with a force main discharge, manholes with inside drops and the last collection manhole just upstream of a lift station, shall be given a minimum 0.5-inch coat of Sewper Coat, Strong Seal, Refratta HAC 100 or other approved calcium aluminate corrosion barrier.

The last collection manhole, just upstream of the lift station, should be placed in a manner to minimize road, lane or sidewalk closures should by-pass operations be needed at the lift station. The District may require this last collection manhole to be placed inside the lift station easement.

~~All gravity sewers shall be placed in the center of any roadway and within any easements. The minimum gravity sewer easement is 15' wide.~~

~~No landscaping or surface features (i.e., walls, fences, fountains, etc.) shall be placed in a manner that would adversely affect access to utility easements or District infrastructure. Trees shall be a minimum of 10' away from any gravity sewer main or service line/lateral. This may be reduced to 7' with the use of an approved root barrier system.~~

~~All gravity sewer mains shall be a minimum of 10' horizontally from any structures. This setback shall be measured from the outside edge of the pipe to the nearest part of the structure, including underground (i.e., footers) or above ground (i.e., roof overhangs) features.~~

In addition to the above requirements, gravity sewer design shall follow Recommended Standards for Wastewater Facilities, at a minimum.

20.04.2 Adjustments to Existing Sewer Infrastructure

There may be instances where an area is being redeveloped or when a new developer takes ownership of a project from a previous developer and wishes to make modifications to already constructed, but not yet activated sewer facilities. The following criteria shall apply:

It is advised that developers of redesigned projects meet with the District Engineer to conduct a pre-application meeting and/or conduct due diligence prior to submitting final engineering plans to discuss the proper procedure for obtaining approval for any modifications.

This manual is updated from time to time, thus any comments provided at a pre-application/due diligence meeting should be considered conceptual in nature and may no longer be applicable by the time final engineering drawings are submitted to the District for approval (See Section 10.01).

Services may be abandoned on a gravity run (manhole to manhole) and the service must be entirely removed, including the mainline wye fitting. The repair(s) must be completed using two sleeves and one spool piece per abandoned service.

Lift stations and all related appurtenances must be brought up to current District standards if they haven't been installed.

The District will accept all gravity and force mains as constructed and re-inspect them based upon the District standards at the time the project was approved. However, additional appurtenances may be required to be installed, such as air release/vacuum valves or inline valves should the District Engineer require them. Additionally, all setbacks shall be based upon the current Districy standards.

The District will accept all previously agreed to sewer easement widths, though the extent of the easements may require modifications should any infrastructure be removed or added.

Any new infrastructure proposed by the new developer shall meet all current District standards.

20.05 Submersible Pumping Stations

The basic design criteria for pump stations are as follows:

Sized to handle the peak hourly flows from the tributary areas with the largest pumping unit out of service (firm capacity).

Total dynamic head based on static head, lift station friction losses and pipeline friction factor (C) of 120. Pumping units shall be capable of operating based on a C=100 and not "running out" based on a C=140.

Pumping units capable of passing spheres of at least three (3) inches in diameter.

Under normal conditions, pumps operate under a positive suction head.

Controls included to automatically alternate the pumps in use.

Maximum pump speed of submersible pumps shall not be greater than 1800 rpm unless specifically allowed otherwise by the District Engineer.

All electrical and mechanical equipment shall be installed 1 foot minimum above the Base Flood Elevation.

Lift stations shall be provided with remote telemetry (Data Flow Systems radio telemetry or cellular telemetry) and wetwell level instrumentation.

Detailed specifications and drawings for submersible pump stations and appurtenances are included elsewhere in this manual. Site specific designs and requirements not covered under this manual will be reviewed on a case by case basis. Additional design criteria for these stations are contained in the "Recommended Standards for Wastewater Facilities", by the Water Supply Committee of the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, latest edition as referenced by the Florida Department of Environmental Protection.

All wet wells shall be designed to resist flotation based on a base flood event plus 1 foot at the site, without consideration of the weight of the pumps, with a safety factory of at least 1.0. Flotation calculations based on a unit weight of concrete of 130 pounds per cubic foot shall be submitted to the District for review with all pump station plans

Wet well cycle times shall be 10 minutes minimum 30 minutes maximum; based on the formula:

$$T = \frac{V}{Q-S} + \frac{V}{S}$$

Where:

T = Cycle time (minutes)
V = Effective volume of wet well (gallons)
Q = Pumping rate (gpm)
S = Average daily flow (gpm)

All lift stations shall be given a 1.0-inch coat of Sewper Coat, Strong Seal, Refratta HAC 100 or other approved calcium aluminate corrosion barrier.

20.06 Force Main

The basic design criteria for force mains are as follows:

Pipe material – C-900 PVC, epoxy lined ductile iron pipe or HDPE (DR-11 min).

Minimum size - 4-inch diameter.

Minimum velocity - 2 feet per second.

Maximum velocity - 8 feet per second.

Minimum depth of cover - 3 feet.

Branches of intersecting force mains shall be provided with appropriate valves such that one branch may be shut down for maintenance and repair without interrupting the flow of other branches. Stubouts on a force main, placed in anticipation of future connections, shall be equipped with a valve to allow such connections without interruption of service.

At all times, the force main shall be laid per the design elevations approved by the District. An automatic air release valve shall be placed at all high points of all force mains with a diameter of (4) inches or larger, as indicated on the construction plans and approved by the District.

All automatic air release/air vacuum valves shall be placed in a manhole as provided in the District's standard details.

Force main design drawings are to indicate elevations at all high points and all low points with constant slopes in between such points. Low point drains shall be placed at all low points in the force main profile.

Approved restrained joints shall be provided at all force main bends.

Terminal ends of force main (permanent or temporary) shall be as shown on the District Standard Details.

20.07 Separation Requirements

Sanitary sewers crossing under water mains shall be laid to provide a minimum vertical separation of twelve (12) inches between the invert of the upper pipe and the crown of the lower pipe. Where this minimum separation cannot be maintained, the crossing shall be arranged so that the joints are equidistant from the point of crossing with no less than ten (10) feet between any two joints and both pipes shall be D.I.P. Where there is no alternative to sewer pipes crossing over a water main,

the criteria for the minimum separation between lines and joints in the above, shall be required and both pipes shall be D.I.P. irrespective of separation.

Where storm sewers cross above or below sanitary sewer mains, the minimum vertical separation between the outside of the storm sewer main and the outside of the sanitary sewer main is twelve (12) inches. Where the minimum separation cannot be maintained, the sewer main shall be constructed of DIP at the conflict with one full joint (min. 20 feet) centered on the conflict for pressure mains and C-900, DR18 inside DI or steel sleeve for gravity mains.

The minimum vertical separation between sanitary sewer mains and any other utility other than those listed above is twelve (12) inches. Vertical separations of less than six (6) inches, will not be accepted.

Maintain ten (10) feet horizontal distance between water mains, storm pipes and sanitary sewer mains unless reduced separation is allowed by the FDEP, Palm Beach County Health Department and the District Engineer. Separations greater than ten feet may be required for drainage pipes larger than 48-inches in diameter.

All gravity sewers shall be placed in the center of any roadway and within any easements. The minimum gravity sewer easement is 15' wide.

No landscaping or surface features (i.e., walls, fences, fountains, etc.) shall be placed in a manner that would adversely affect access to utility easements or District infrastructure. Trees shall be a minimum of 10' away from any gravity sewer main or service line/lateral. This may be reduced to 7' with the use of an approved root barrier system.

All gravity sewer mains shall be a minimum of 10' horizontally from any structures. This setback shall be measured from the outside edge of the pipe to the nearest part of the structure, including underground (i.e., footers) or above ground (i.e., roof overhangs) features.

20.08 Sewer Use Regulations

The Loxahatchee River Environmental Control District has adopted certain rules and regulations regarding the acceptability and pretreatment requirements for certain types of wastewaters. These rules and regulations are published in Chapter 31-13 of the District Rules and may be amended from time to time. Prospective users of the system should contact the District Deputy Executive Director for information regarding the above referenced rules and the Director of Operations for compatibility of the anticipated wastewater with the District's facilities.

END OF SECTION 20

SECTION 30

MISCELLANEOUS REQUIREMENTS

30.01 Lines, Grades and Measurements

Alignment and grade of all pipe, tunnels and borings shall be continuously controlled by use of lasers or other acceptable method. Laser alignment and grade through the pipeline is the preferred method. The District Engineer shall be permitted at any time to check the lines, elevations, reference marks, laser, etc., set by the Contractor or the Design Engineer.

30.02 Work to Conform

The maximum allowed vertical deviation of any single gravity pipe, tunnel or boring from plan grade shall be three percent (3%) of inside diameter. No single gravity pipe shall vary in horizontal alignment right or left, from the pipe centerline by more than five percent (5%) of inside diameter. Force main joint deflections shall be limited by AWWA Standards and manufacturer's recommendation.

30.03 Pipeline location

Pipelines shall not be located closer to an existing or proposed structure than the horizontal distance obtained when drawing a 45-degree angle from the proposed invert of the pipeline to bottom outside face of the footing. In no case shall this distance be less than ten (10) feet. Pipelines shall be located as indicated on the drawings, but the Design Engineer is responsible to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons, which are not material to the interest of the District and which do not otherwise conflict with any other statement or criteria set forth in this manual. The District should be notified of such changes in a timely fashion and such changes shall be recorded on Record Drawings.

30.04 Pipe Adapters

When joining pipes of different types, District approved transition sleeves, adapters, and couplings shall be used.

30.05 Fittings and Stoppers

Branches, stub-outs and fittings shall be laid as indicated in the Standard Details and shown on the approved drawings. Open ends of pipe and branches shall be closed with nonmetallic "wing nut" expansion stoppers secured in place in an acceptable manner. Stoppers shall be designed to remain in place and watertight during infiltration tests.

30.06 Service Lines

a. General

Service lines shall be as shown on the Standard Details. Service lines for a single lot shall be a minimum of 4 inches in diameter; for two lots , a minimum of 6-inches in diameter. Where three or more lots are connected to a single service line, the service line shall be considered a gravity sewer, shall be a minimum of 8-inches in diameter, and shall be in accordance with the criteria covering District maintained gravity sewers. Exceptions to these requirements may be made in specific instances where constructability, environmental impacts or excessive costs require an alternate to these criteria. These exceptions shall be considered non-conforming connections and subject to correction to District Standards if and when criteria used in determining constructability, environmental impacts or excessive costs are no longer valid.

b. Easements, Implied Grant of Way of Necessity and Statutory Way of Necessity

If a residential property requires an easement across another residential property to gain access to District sewers the easement shall be conveyed to the District using the District's Standard Easement Agreement. Easements shall only be allowed when no District maintained sanitary sewer is available for connection in public right of way or existing easements adjacent to the property **and** constructability, environmental impacts or excessive costs render construction of new sewer facilities in public right of way or existing easements adjacent to the property non-viable.

The District recognizes Florida Statutes 704.01, (1) Implied grant of way of necessity, and (2) Statutory way of necessity, may be applicable in providing sanitary sewer service to a property.

In the case of Implied Grant of Way of Necessity there may be instances where a sanitary sewer service existed to a property and that property was then divided into multiple properties each using the existing sanitary sewer service. In these instances the District recognizes the Implied Grant of Way of Necessity for each property's use of the sanitary sewer service under a "grandfather" clause but considers the connection/s non-conforming in that properties may be served by facilities not owned and maintained by the District and/or properties may be served by facilities that may be inadequately sized and/or one property may be served by facilities that cross another property and are not in a District Standard Easement. In these instances, the District shall require the sanitary sewer connections using an Implied Grant of Way of Necessity for sewer service be corrected to current District Standards when renovation or redevelopment of any of the affected properties occurs.

In the case of Statutory Way of Necessity there may be instances where a property is shut off or hemmed in from access to sanitary sewer service by lands, fencing or other improvements. In these instances the District, with agreement from the shut off or hemmed in property, may act on behalf of the shut off or hemmed in property and use and maintain an easement over, under, through and upon the lands which lie between the said shut-off or hemmed -in lands and public right of way or existing easements to supply sanitary sewer service to the shut-off or hemmed-in land granted the shut-off or hemmed-in land is using the lands that lie between for personal ingress and egress. The District considers sanitary sewer connections using Statutory Way of Necessity to be non-conforming in that properties are served by facilities that cross another property and are not in a District Standard Easement. In these instances the District shall require the sanitary sewer connections using a Statutory Way of Necessity for sewer service be corrected to current District Standards when renovation or redevelopment of the property over which a Statutory Way of Necessity is used occurs, or when a public right of way or utility easement becomes accessible to the shut-off or hemmed in property.

c. Maintenance Responsibility

The service line (lateral) cleanout will usually delineate the point of responsibility between the District and the property owner; however, the following variations do exist:

1. Multi-family Units - Public right-of-way - Owner's responsibility to the right-of-way line.

2. Multi-family Units - Non-Public right-of-way - Owner's responsibility to the main line connection.

3. Commercial Buildings - Owner's responsibility to the main line.

4. Condominium with Common Areas - Non-Public right-of-way Owner's responsibility to the main line connection.

5. Condominium with Common Areas Adjacent to Public right-of-way - District assumes responsibility within the public right-of-way.

30.07 Service Line Markers

A service line marker shall be installed 12-inches {minimum} above the service wye adjacent to the cleanout of each service line. The service line markers shall be Electronic System, Sanitary Marker 1258, as manufactured by 3M.

30.08 Bolts, Anchor Bolts, and Nuts

Anchor bolts shall have suitable washers and, where so required, their nuts shall be hexagonal. All anchor bolts, nuts, washers, plates, and bolt sleeves shall be galvanized unless otherwise indicated or specified.

Expansion bolts shall have malleable iron and lead composition elements or the required number of units and sizes.

Bolts, anchor bolts, nuts and washers specified to be stainless steel shall be type 316 stainless steel.

Anchor bolts and expansion bolts shall be set accurately. If anchor bolts are set before the concrete has been placed, they shall be carefully held in suitable templates of approved design. If anchor or expansion bolts are set after the concrete has been placed, all necessary drilling and grouting or caulking shall be done, and care shall be taken not to damage the structure or finish by cracking, chipping, spalling, or otherwise during the drilling and caulking.

30.09 Concrete Inserts

Concrete inserts shall be designed to safely support the maximum load that can be imposed by the bolts used in the inserts. Inserts shall be of a type which will permit locking of the bolt head or nut. All inserts shall be galvanized.

30.10 _____Protection against Electrolysis

Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact with any resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other approved materials.

END OF SECTION 30

SECTION 150

SUBMERSIBLE LIFT STATIONS

150.01 Scope

It is the intent of this standard is to provide component requirements and general design guidelines for submersible wastewater lift stations. This standard shall be used in conjunction with Standard Details SD-31 through 35 and referenced standards for complete submersible wastewater lift station requirements.

This specification typically defines requirements for 20HP and smaller lift stations. Lift stations greater than 20 HP, serving critical infrastructure or performing as a repump station may require alternate design criteria including variable speed, tri-plex configuration, permanent standby emergency power and PLC control. These additional design criteria will be defined by Engineering Services during the design.

150.02 Site

~~Lift station sites shall be provided with a minimum 40' x 40 lift station easement. Variations on the easement shall be considered on a case by case basis where access, maintenance and bypass operations can be accommodated with alternate configurations acceptable to the District and approved by Engineering Services.~~

The lift station site and access shall be set at proper elevations and configurations such that access and maintenance to the station will not be impaired by flooding, excessive road grades, swales, walls or landscaping. A lift station site plan indicating all topographical features, rights-of-way, easements and adjoining contiguous areas shall be submitted to the District for approval.

All above or at grade facilities shall be above the 1% Annual Chance Flood (100-year flood) zone, as shown on Flood Insurance Rate Maps (FIRMs). Site and lift station plans shall include the 100-year flood elevation.

150.03 Power

The Contractor shall coordinate with and pay all fees, deposits, and service costs to Florida Power and Light Corp. to provide a three phase, 480V or 240V underground power service to the new lift station site. The transformer for the station shall be located not further than 25 feet from the nearest station easement line.

The power meter for the lift station shall be located on the lift station site, installed on the District's standard control panel rack.

150.04 Lift Station Standard Equipment

A list of standard lift station equipment is given below. This list is not all inclusive and the Contractor shall supply all other equipment necessary for complete working installations. The lift station shall include:

Two (2) explosion proof submersible type sewage pumps with 316 stainless steel guide rails, base plates and all accessories.

Two (2) discharge lines with swing check valves and plug valves and emergency tap connection

Instrumentation/control system, (requirements vary on station size)..

One (1) electrical control panel, NEMA 4X, to house electrical equipment, pump controls, alarms and protection.

One (1) wet well.

One (1) valve vault.

Concrete covers with aluminum access hatches and safety grates

Influent drop assemblies

Permanent standby generator and ATS, (requirements vary on station size).

Radio or Cellular Telemetry System

Coatings

Concrete pads

Landscaping/site screening

The wet well structure shall receive a minimum 1.0-inch thick calcium aluminate corrosion barrier such as Sewper Coat, Strong Seal, Refratta HAC 100 or approved equal, and installed per the manufacturers recommendations.

One (1) influent (collection) manhole structure with piping connecting to the wet well structure. The distance between the collection manhole and the wet well shall be no more than 50 feet.

150.05 Pumps and Motors

The pumps shall be capable of handling grit and raw unscreened sewage. The design shall be such that the pump unit will be automatically and firmly connected to the discharge piping when

lowered into place on its mating discharge connection, permanently installed in the wet well. The pump shall be easily removable for inspection or service requiring no bolts, nuts, or other fastenings to be disconnected.

All major parts, such as the stator casing, oil casing, sliding bracket, volute, and impeller shall be of gray iron. All surfaces coming into contact with sewage shall be protected by a coating resistant to sewage. All exposed bolts and nuts shall be of stainless steel.

Pump faces shall be machined to accept a sacrificial plate between the pump face and seat. The sacrificial plate shall be manufactured from ¼" brass plate, bolted to the pump face and removable/replaceable.

A wear ring system shall be installed to provide efficient sealing between the volute and impeller.

The impeller shall be hard alloy gray cast iron of non-clogging design capable of handling solids, fibrous material, heavy sludge, and other matter found in normal sewage applications. The impeller shall be constructed with a long throughout without acute turns. The impeller shall be dynamically balanced. The impeller shall be a slip fit to the shaft and key driven. Non-corroding fasteners shall be used.

Each pump shall be provided with a mechanical rotating shaft seal system running in an oil reservoir having separate, constantly hydro-dynamically lubricated and lapped seal faces.

The lower seal unit between the pump and oil chamber shall contain one stationary and one positively driven rotating tungsten-carbide ring.

The upper seal unit between the oil pump and motor housing shall contain one stationary tungsten-carbide ring and one positively driven rotating carbon ring. Each interface shall be held in contact by its own spring system supplemented by external liquid pressures. The seals shall be easily inspected and replaceable.

The shaft sealing system shall be capable of operating submerged to depths of, or pressure equivalent to, 65 feet. No seal damage shall result from operating the pumping unit out of its liquid environment. The seal system shall not rely upon the pumped media for lubrication.

A sliding guide bracket shall be an integral part of the pump unit. The volute casing shall have a machined discharge flange to automatically and firmly connect with the cast iron discharge connection, which when bolted to the floor of the sump and discharge line, will receive the pump discharge connection flange without the need of adjustment, fasteners, clamps or similar devices.

Installation of the pump unit to the discharge connection shall be the result of a simple linear downward motion of the pump unit guided by no less than two guide bars. No other motion of the pump unit, such as tilting or rotating, shall be acceptable. Sealing of the discharge interface by means of a diaphragm, O-ring, or other device will not be considered acceptable or equal to a metal to metal contact of the pump discharge flange and mating discharge connection specified and

required. No portion of the pump unit shall bear directly on the floor of the wet well. There shall be no more than a 90-degree bend allowed between the volute discharge flanges and station piping.

The pump motor shall be housed in an air or oil filled watertight casing and shall have moisture resistant Class "F" 155-degree C insulation. Oil filled casing shall be filled with transformer oil, quality BP Energol JSO, or Shell Diala D or DX. The motor shall be a minimum of 5 BHP, rated for operation at 1700 or l750 rpm, on a 230V, 3-phase, 60 hertz power supply. The cable entry water seal design shall be such that precludes specific torque requirements to insure a watertight and submersible seal. Epoxies, silicones or other secondary sealing systems shall not be required or used. The cable entry junction box and motor shall be separated by a stator lead sealing gland or terminal board which shall isolate the motor interior from foreign materials gaining access through the pump top.

Pump motor cable installed shall be suitable for submersible pump applications and this shall be indicated by a code or legend permanently marked on the cable. Cable sizing shall conform to NEC specifications for pump motors and shall be of adequate size for the motor rating. Pump motor cable shall be ample length to reach the rack mounted panel. Cable length to be determined by the site plans.

The pump cable shall have 90 degree C rated insulated material based on 40 degree ambient and shall have anti-roping and anti-wicking design. All mating surfaces of major parts shall be machined and fitted with nitrile O-rings where watertight sealing is required. Machining and fittings shall be such that sealing is accomplished by automatic compression in two planes and 0-ring contact made on four surfaces, without the requirement of specific torque to affect this. Rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered adequate.
Tolerances of all parts shall be such that allows replacement of any parts without additional machining required to insure sealing a described above. No secondary sealing compounds, greases, or other devices shall be used.

Each unit shall be provided with an adequately designed cooling system. Thermal radiators integral to the stator housing, cast in on unit, are acceptable. Where water jackets along or in conjunction with radiators are used, separate circulation shall be provided. Cooling media channels and ports shall be no-clogging by virtue of their dimensions. Provisions for external cooling and flushing shall be provided.

Pump and motor assemblies shall meet NEC and NFPA requirements for explosion proof installations in Class 1, Division1, Group D environments.

The pumps and motors shall be manufactured by FLYGT Corporation.

150.06 Control Panel

This section is specific to single speed, duplex lift stations with float control, for variable speed, PLC controlled stations see Section 161.

The Contractor shall furnish and install a heavy duty type District Standard control panel as shown on the plans and specified here, as manufactured by Sta-Con Incorporated, QCI, or approved equal, and in accordance with the detail sheets SD-31 through 34.

The control panel shall contain all the remote electrical equipment necessary to provide for the operation of the pumps. The panel shall start and stop the pumps in the wet well.

The control panel shall start the "lead" pump when the liquid level rises to a preselected elevation "D". If the influent rate exceeds the capacity of the "lead" pump, the lag pump shall be started when the liquid level rises to a preselected elevation "C" (higher than "D"). If the liquid level rises to a preselected elevation "B" (higher than "C"), the high level alarm shall be activated. When the liquid level falls to a persecuted elevation "E" (lower than "D"), both pumps shall be stopped.

The control panel shall be contained in a single enclosure, fabricated of not less than 14-gauge 316 stainless steel, NEMA 4X construction. The door shall be formed with minimum lip of 3/4" and full height hinged. Closure mechanisms shall be No. 3 S.S. fasteners with No. 3 keepers as manufactured by Simmons Fasteners, or approved equal.

The interior door shall be constructed of .080-inch thick 6061-T6 aluminum. The interior and exterior doors shall be provided with a stop mechanism to hold the doors open which working in the panel. A rain shield shall be provided.

The control panel shall include the following items plus any other items shown on the plans or required for a complete, operational installation.

Circuit breakers with combination full voltage motor Starters for each pump.

"Hand-Off-Auto" selector switch for each pump, heavy duty oil tight type (toggle switches will not be acceptable).

Automatic pump alternator with test switch.

Duplex receptacle with 15-amp circuit breaker 115V GFI.

Control power circuit breaker.

Main circuit breaker.

Emergency power minimum 100-amp circuit breaker and 100-amp, 4 wire, 3 pole, reverse service generator receptacle. Emergency power to match main breaker size.

Lightning arrestor, 3-phase.

Surge capacitor.

Phase monitor, to prevent energization of pump motors in the event of phase failure or reversal or low voltage.

Indicating light for each level regulator (float switch).

"Running" indicating light for each pump.

Elapsed time meter for each pump, 2-1/2", 6-digit non-reset.

Emergency/High level alarm light and horn, 12 VDC with battery back-up.
The panel shall include back-up circuitry to permit one pump to operate with a normal drawdown in the event of failure (open circuit) of the "stop" level regulator.

Spare parts to be furnished with the panel include:

2 - 120V Relays
1 - Alternator
1 - Phase Monitor
12 - Lamps
12 - Fuse Links
1 – Intrinsically Safe Barrier
1 – Alarm Controller

A copy of the panel wiring diagram shall be attached to the inside of the outer panel door. An extra copy shall be given to the District.

The basic components and layout of the control panel are shown on Standard Details 31, 32, 33 and 34.

Substitutions of these components will be permitted for approved equal, interchangeable products upon obtaining specific written approval from the District.

150.07 Telemetry

Lift stations shall be provided with a District standard cellular telemetry system or radio telemetry system by Data Flow Systems. Radio telemetry systems by Data Flow Systems shall provide monitoring and control for the following signals (see Standard Detail SD-32):

1. Digital
    a. Power Fail
    b. High Level
    c. Pump # 1 Fail
    d. Pump # 2 Fail

e. Pump Run # 1
f. Pump Run # 2
g. Spare
h. Spare
i. Generator General Alarm (Permanent Standby Generator Stations Only)
j. Generator Low Coolant (Permanent Standby Generator Stations Only)
k. Generator Low Fuel (Permanent Standby Generator Stations Only)
l. Generator Fail to Start (Permanent Standby Generator Stations Only)

2. Analog
   a. Wet Well Level
   b. Spare
   c. Spare

See Standard Details SD-34 through SD-39 for cellular telemetry system requirements.

150.08 Access Hatches & Fall Through Safety Prevention Systems

The wetwell and valve vault access hatch shall be single leaf design with a minimum clear opening at 36" x 48", but must also meet the minimum clear opening as required by the pump manufacturer. The frame shall be a minimum: 3" x 3" x 1//4" aluminum angles and the cover shall be 1/4" aluminum angles and the cover shall be 1/4" aluminum diamond pattern. The hatch shall be completed with anchor straps, automatic hold open arm and cover release, forged brass or stainless steel hinges with stainless steel pins, hasp and staple lock, flush type handles, upper guide holders and sensor cable holder. The cover shall be reinforced to withstand a live load of 300 lbs./sq. ft. unless in areas that may experience traffic. Hatches in traffic areas shall meet H-20 design loading criteria, at a minimum. Hinges shall be of the interior type.

All stations 6' in diameter or larger, shall be provided with fall through safety prevention systems. All systems will be of the grate type as manufactured by U.S.F. Fabrication, Inc., or approved equal able to withstand a pedestrian load of 300 lbs/sq. ft.. The safety grate shall be constructed of aluminum. All hardware must be of 316 stainless steel.

The configuration of the hatch and safety grate shall be such that opposing sides of the wetwell opening are protected when the safety grate is in the upright position. Safety chains shall be provided from the safety grate to the hatch to protect adjacent sides.

10' diameter and larger wetwells and tri-plex stations will require custom hatch and safety grate designs to be determined in coordination with the District's Engineering Services.

150.09 Floats

Float switches with internal single pole mercury switch shall be installed in the wet well to control the operation of the pumps with variations of liquid level in the wet well. The float switches shall

be sealed in a polypropylene casing with a firmly bonded electrical cable protruding. Floats shall be Roto-Float type S as manufactured by Anchor Scientific Inc..

150.10 Wetwell Level Transducer / Transmitter

See Section 180

150.11 Valves

See Section 130

150.12 Pipe and Fittings

See Section 110 for pipe and fittings.

150.13 Wetwell and Valve Vault

See Section 121 and standard details SD-31

150.14 Wet Well via Caisson Construction

Wet wells installed via the caisson method are allowed only with prior approval by the Loxahatchee River District. Final acceptance of the wet well by caisson method will only occur when it is determined that:

- Wet well has no structural damage, deep gouges and and/or cracks.
- Wet well has been installed at the design depths indicated.
- Wet well is plumb. The maximum deviation shall be 1/8" per foot of each precast section.
- Wet well tremie seal is leak free and there are no continually damp areas prior to the installation of the secondary pour.
- Wet well sections show no evidence of separation and that the structure has not settled.
- Wet well walls, specifically at the joints, are flush and without overhang.
- Wet well was installed in proper sequence.

If any of the above items are not met to the satisfaction of the District, the wet well will be rejected and it will be the contractor's responsibility to remedy the problem at his own expense. The contractor shall also provide a warrantee that the wet well will meet the above requirements for a 1-year period from the date of District acceptance.

150.15 Submittals

The following submittals are required for approval prior to construction of the project.

1. Lift Station Calculations to include

   a. Average Daily Flow
   b. Peak Hour Flow
   c. System Head Curves
   d. Wetwell Cycle Time
   e. Anti-Flotation
2. Lift Station Site Plan
3. Pump and Motor
4. Pipe and Fittings
5. Valves
6. Concrete Structures
7. Control Panel – complete detailed design including electrical schematic, panel layout, bill of materials
8. Panel Rack
9. Base Plates
10. Rails, Brackets and Adapters
11. Conduit and Cable
12. Aluminum Hatches and Safety Grates

Detailed wiring diagrams of the entire installation including main power supply, pump motors, control circuits, alarm circuits, and metering circuits shall be submitted. The diagrams shall include schematic and connection wiring diagrams.

Four (4) copies of detailed installation drawings including wiring diagrams, pump curves and maintenance and operating manuals shall be submitted to the District at the time of initial start-up.

150.16 Services to be Furnished by Manufacturer of Equipment

The services of a factory-trained representative shall be furnished for the lift station start-up. The representative shall check all electrical components, wiring, and pump operations.

150.17 Operation and Maintenance

Upon completion and successful startup of the lift station the District will be provided with two copies of the lift station operation and maintenance manual. The manual shall include operation and maintenance detail including service intervals for all equipment provided with the lift station. Operation and maintenance manuals shall also include AS-BUILT drawings for the lift station, control panel, wiring schematics and appurtenances.

150.18 Warranty

The pump manufacturer shall warrant the pumps for a period of five (5) years from the date of pump manufacturer's start-up. The warranty shall include a minimum 100% coverage of the manufacturer's shop labor and parts for the first eighteen months, then 50% coverage through the third year, and then 25% coverage through the fifth year.

END OF SECTION 150

SECTION 200

ADOPTION OF STANDARDS

The Loxahatchee River Environmental Control District Manual of Minimum Construction Standards and Technical Specifications were initially adopted and promulgated by the Governing Board in April, 1983.

The current edition was ratified by the Loxahatchee River Environmental Control District's Governing Board, on June 15, 2023, with a vote as follows:

"THAT THE DISTRICT GOVERNING BOARD ratify the Loxahatchee River Environmental Control District's "Manual of Minimum Construction Standards and Technical Specifications", as of ~~June 15, 2023~~July 20, 2023, and authorize the Director of Engineering and Executive Director to update the Construction Standards and Technical Specifications from time to time, and periodically present it to the Governing Board for ratification."

Board Member	Vote
Dr. Rostock, Chairman	"~~Aye~~___"
Mr. Rockoff, Vice-Chairman	"~~Aye~~___"
Mr. Boggie, Treasurer	"~~Aye~~___"
Mr. Yerkes, Secretary	"~~Aye~~___"
Mr. Baker, Assistant Secretary / Treasurer	"~~Aye~~___"

D. Albrey Arrington, Ph.D.
Executive Director
Loxahatchee River Environmental Control District

END OF SECTION 200

FORMS AND AGREEMENTS

FORMS AND AGREEMENTS

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FL 33458-8964
Phone: 561-747-5700 ext. 110; Fax: 561-747-9929; www.loxahatcheeriver.org
Email: info@lrecd.org

APPLICATION FOR SERVICE – NEW CONSTRUCTION - RESIDENTIAL

The undersigned applicant hereby applies for sewer service to be provided by the Loxahatchee River District (District), to the real property identified below. The undersigned applicant warrants, represents and agrees to the following:

1. The applicant is the fee simple owner of the property for which application is made.
2. The applicant will promptly pay all bills submitted to applicant for sewer service by the DISTRICT.
3. The applicant will abide by all rules and regulations of the DISTRICT as they have been and may be lawfully adopted.
4. The applicant will notify the DISTRICT when the sewer lateral is uncovered and ready for a connection inspection.
5. The applicant will promptly notify the DISTRICT of any change in mailing address and, when the subject property is transferred or conveyed.

_____
Name of Applicant/Owner Present Mailing Address Telephone No.

_____
Address of Property Lot/Blk. County Subdivision

_____ _____
Contractor Telephone No. Plumber Telephone No.

Single Family_____ Multifamily_____ Addition_____

Number of Toilets Installing _____ Number of Toilets Existing _____

Signature._____ Date _____
Applicant/Owner

. . . . . .

_____ Number of E.C.'s _____
Engineering Approval

Plant Connection Charge (Ref. Rule 31.10) $_____
Administrative Fee $_____
Transmission Line Charge (Ref. Rule 31.10) $_____

CONNECTION FEE TOTAL $_____

Date Payment Received_____ By:_____

Comments:_____

_____

(Revised 6/16) ACCOUNT NO. _____

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FL 33458-8964
Phone: 561-747-5700 ext. 110; Fax: 561-747-9929; www.loxahatcheeriver.org
Email: info@lrecd.org

APPLICATION FOR SERVICE – NEW CONSTRUCTION - COMMERCIAL

The undersigned applicant hereby applies for sewer service to be provided by the Loxahatchee River District (District), to the real property identified below. The undersigned applicant warrants, represents and agrees to the following:

1. The applicant is the fee simple owner of the property for which application is made.

2. The applicant will promptly pay all bills submitted to applicant for sewer service by the DISTRICT.

3. The applicant will abide by all rules and regulations of the DISTRICT as they have been and may be lawfully adopted.

4. The applicant will notify the DISTRICT when the sewer lateral is uncovered and ready for a connection inspection.

5. The applicant will promptly notify the DISTRICT of any change in mailing address and, when the subject property is transferred or conveyed.

Applicant/Owner_____ Phone #_____

D/B/A/_____ Billing Address_____

_____

Address of Property Lot/Blk/Unit No. Development

Contractor_____ Phone#_____ Plumber_____ Phone#_____

☐ Office Bldg.(Sq. Ft.)_____ ☐ Restaurant (Seating)_____ ☐Other:_____ No. Toilets: _____

Type of Waste Stream (Select all that apply):

☐Domestic Waste ☐Grease (Submit Grease Interceptor Application Questionnaire)

☐Industrial (Submit Individual Industrial User Survey & Permit Application)

Signature_____ Date_____
Applicant/Owner

. . . . . .

_____ Number of E.C.'s _____
Engineering Approval

Plant Connection Charge (Ref. Rule 31.10) $_____
Administrative Fee $_____
Transmission Line Charge (Ref. Rule 31.10) $_____

CONNECTION FEE TOTAL $_____

Date Payment Received_____ By:_____

Comments:_____

_____

(Revised 4/21) ACCOUNT NO. _____

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FL 33458-8964
Phone: 561-747-5700 ext. 110; Fax: 561-747-9929; www.loxahatcheeriver.org
Email: info@lrecd.org

APPLICATION FOR SERVICE – EXISTING BUILDING

The undersigned applicant hereby applies for sewer service to be provided by the Loxahatchee River District (District), to the real property identified below. The undersigned applicant warrants, represents and agrees to the following:

1. The applicant is the fee simple owner of the property for which application is made.
2. The applicant will promptly pay all bills submitted to applicant for sewer service by the DISTRICT.
3. The applicant will abide by all rules and regulations of the DISTRICT as they have been and may be lawfully adopted.
4. The applicant will notify the DISTRICT when the sewer lateral is uncovered and ready for a connection inspection.
5. The applicant will promptly notify the DISTRICT of any change in mailing address and, when the subject property is transferred or conveyed.

Name of Applicant/Owner _____ Present Mailing Address _____ Telephone No. _____

Address of Property _____ Lot/Blk. _____ County _____ Subdivision _____

Number of Toilets_____ ☐ Residential ☐ Commercial Year Building Constructed _____

Plumber_____ Telephone No._____

Type of Waste Stream (Select all that apply):

☐Domestic Waste ☐Grease (Submit Grease Interceptor Application Questionnaire)

☐Industrial (Submit Individual Industrial User Survey & Permit Application)

Signature_____ Date_____
Applicant/Owner

. . . . . .

.

Number of E.C.'s _____

Plant Connection Charge (Ref. Rule 31.10) $_____
Administrative Fee $_____
Transmission Line Charge (Ref. Rule 31.10) $_____

CONNECTION FEE TOTAL $_____

Date Payment Received_____ By:_____

Comments:_____

_____

LREC0-130 (Revised 4/21) ACCOUNT NO._____

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FL 33458-8964
Telephone: 561-747-5700 Option 2; Fax: 561-747-9929; www.loxahatcheeriver.org
Email: cindy.denton@loxahatcheeriver.org

Application To Abandon/Terminate Easement

The undersigned hereby makes application to vacate, abandon, discontinue and close the Easement described below and to renounce and disclaim any easement to the District in and to any land in connection therewith.

The undersigned hereby certify:

1. That attached hereto, signed and sealed by a Florida registered land surveyor, is a legal description and sketch accurately drawn and legally describing the **easement** to be abandoned and showing boundaries of the underlying and abutting properties and existing improvements (Exhibit #l).
2. That title of interest of the District in and to the **easement** was acquired and is evidenced by **plat number** and **identification**, as recorded in Plat Book_____Page(s)_____ through _____ **or other instrument recorded in the Official Record Book and Page** of the Public Records, of Palm Beach County or Martin County, Florida Original Record Book_____Page(s)_____ .
3. That attached hereto is a location map which clearly and legibly identifies the location of the easement in relation to the nearest public right-of-way (Exhibit #2).
4. That the applicant's ownership and/or interest in and to the underlying property is evidenced by an instrument recorded in Official Record book_____ , Page _____, of the Public records of Palm Beach County or Martin County, Florida. A certified copy of that source instrument is attached hereto (Exhibit #3).
5. That attached hereto and made a part hereof is an estoppel certificate for the District confirming all charges related to the underlying property have been paid (Exhibit #4).
6. That an application fee in the amount of $_____ has been paid in full. Attach receipt as Exhibit #5.
7. That the grounds and reasons in support of this application are as follows (Exhibit #6).
8. That the applicant will submit additional information upon request including but not limited to engineering plans and studies to assist the Engineering Services Department in their review and in support of the recommendation.

Date_____

_____
Signature of Applicant

_____
Print Applicant's Name

_____
Indicate position if Corporation

_____
Name of Corporation

_____
Address

_____
City, State, Zip

_____
Phone Number

_____
Email Address

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FL 33458-8964
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Email: info@lrecd.org

GREASE INTERCEPTOR APPLICATION QUESTIONNAIRE

1. Food Establishment Name: _____
2. Food Establishment Address: _____
3. Operator's Corporate Name: _____
4. Operator's Corporate Address: _____
5. Authorized Representative Name and Title: _____
6. Property Owner Name (if other than #3): _____
7. Property Owner Address (if other than #4): _____
8. Plaza Mgmt. Name & Contact Name/Number: _____

   _____
9. Business hours of operation: _____

   # Restaurant seats: _____ # bar seats: _____ # of toilets: _____ ***attach menu***

Characterization of Planned or Active Business	**Yes**	**No**
Will there be any food preparation on site?*		
Will food be served on site?		
Will any of the following equipment be present on site?		
Dishwasher		
Fryer and/or Wok		
Griddle and/or stove top cooking surface		
Oven and/or range		
Soft serve dispenser		
Will all food & drink be served using disposable plates, cups and utensils?		
Will there be a salad bar?		
Will all salad dressings be pre-packaged in individual servings?		
Will soft serve dispenser chill and dispense ice cream?		
Have you submitted an Application for Service to LRD?		

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____ _____

Authorized Representative Signature | Print: Authorized Rep. Name / Title | Date

(Revised 6/16)

LRECD - 109
Prepared By and Return To:
Kris Dean, P.E.
Loxahatchee River Environmental
Control District
2500 Jupiter Park Drive
Jupiter, Florida 33458-8964

Doc. Stamp Tax Exempt per Fla. Admin. Code
12B-4.054, par. 24.

SEWER EASEMENT DEED

THIS EASEMENT, made this _____ day of _____, 20____, between _____, hereinafter called the "Grantor", and the LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT, an Agency of the State of Florida, created by a Special Act of the Legislature, Chapter 71-822 as amended, of 2500 Jupiter Park Drive, Jupiter, Florida 33458-8964, its successors and assigns, herein called the "Grantee".

W I T N E S S E T H

That the Grantor, and all other persons claiming by, through or under Grantor, or either of them, their predecessors in title, or their heirs, assigns or legal representatives by virtue of any deeds of conveyances to the land described herein, for and in consideration of the promises, stipulations, agreements and covenants made by Grantee contained herein, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained and sold to the Grantee, its successors and assigns, a permanent Easement, on the parcel of property described in Exhibit "A" attached hereto and made a part hereof for all purposes connected with the use, ingress, egress, construction, repair, replacement, installation, improvement, and maintenance of sewer facilities and facilities for the transport of reuse (I.Q.) water, or sewerage, including but not limited to transmission mains, force mains, manholes, lift stations, collection lines, pipes, pumps, connections, ditches, meters and all other related appurtenances having the capacity for use in connection with the collection or transmission of wastewater of any nature or originating from any source whether on or off the property of Grantor. Grantee shall maintain and repair Grantee's facilities as there shall be occasion from time to time hereafter, and Grantee shall restore the grass, sod, or pavement of Grantor (but not Improvements as set forth below) to the similar condition that was existent thereon prior to any entry or entries by Grantee pursuant to this Easement Deed.

"Improvements" shall mean anything other than grass, sod or asphalt pavement, including but not limited to any type of structure, wall, landscape berm, building, surfacing, landscaping (except grass or sod) and the like.

Grantor shall not make any Improvements to the property described herein without the prior written consent of Grantee which Grantee may withhold in its sole discretion. In the event an Improvement needs to be removed in the opinion of Grantee, or is removed or damaged by or on behalf of Grantee, in connection with Grantee's use of the Easement, Grantee shall not be liable for any such removal or damage of the Improvement. Any and all Improvements are at the sole risk and expense of Grantor. Any expense of Grantee caused by the existence of an Improvement shall be the responsibility of Grantor.

This Easement and the agreements contained herein are binding upon Grantor, its heirs, administrators, personal representatives, successors and/or assigns.

Grantor is seized in fee simple and in possession of lands described herein and does fully warrant title to said property and will defend the same against any lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the undersigned have executed this instrument the date and year first above written:

Signed, sealed and delivered
in the presence of:

GRANTOR:

_____
Witness Signature

By:_____
Print Name:
As:

_____
Printed Name

_____
Witness Signature

_____
Printed Name

STATE OF _____
COUNTY OF _____

I hereby certify that on this day, before me by means of __ physical presence or __ online notarization, an officer duly authorized to administer oaths and take acknowledgments, personally appeared _____ known to me to be the person(s) described in and who executed the foregoing instrument, who acknowledged before me that he/she executed the same, that the above named person is personally known to me or who produced _____ as identification.

Witness my hand and official seal in the County and State last aforesaid this _____ day of _____, A.D. _____.

[SEAL]

_____
NOTARY SIGNATURE

EXHIBIT "A"

All roadways, rights-of-way, sewerage, drainage and utility easements as indicated on the plat of: _____ _____ as recorded in the Official Records of Palm Beach/Martin County, Florida, Book _____, Page (s) _____.

Prepared By and Return To:
Kris Dean, P.E. Deputy Executive Director
Loxahatchee River Environmental
Control District
2500 Jupiter Park Drive
Jupiter, Florida 33458-8964

[TERMINATION AND ABANDONMENT] or [PARTIAL TERMINATION AND ABANDONMENT] OF EASEMENT

THIS [TERMINATION AND ABANDONMENT] OR [PARTIAL TERMINATION AND ABANDONMENT] OF EASEMENT ("AGREEMENT") is given this ____ day of _____,20__ by the LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT ("DISTRICT"), whose address is 2500 Jupiter Park Drive, Jupiter, Florida 33458 to _____("REQUESTOR"),

WITNESSETH:

1. WHEREAS REQUESTOR has requested a release to an easement or portion thereof as detailed below:
   [ADD LEGAL AND SKETCH, SIGNED AND SEALED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR]
2. WHEREAS REQUESTOR has submitted a complete application and paid application fees.
3. WHEREAS any improvements within the terminated or abandoned easement or portion thereof shall comply with the District's Manual of Minimum Construction Standards and Technical Specifications.
4. WHEREAS the DISTRICT has evaluated the request, evaluated the easement or portion thereof, evaluated future uses to the District's benefit, and evaluated any conflicts with the abandonment of the easement or portion thereof.
5. WHEREAS the DISTRICT has determined no future uses or conflicts, OR;
6. WHEREAS the DISTRICT has determined future uses or conflicts, REQUESTOR, will provide for future uses and resolve conflicts as detailed below.

   [ADD DETAIL OF PROVISIONS FOR FUTURE USE AND OR RESOLUTION OF CONFLICTS]

NOW, THEREFORE, in consideration of the promises, stipulations, agreements, and covenants made by Grantee contained herein, the receipt and adequacy of which is hereby acknowledged, DISTRICT does by this instrument terminate, abandon and release to REQUESTOR, their successors and assigns, the easement or portion thereof described in PARAGRAPH 1 above.

IN WITNESS WHEREOF, DISTRICT has signed and sealed these presents the day and year first above written.

Signed, sealed, and delivered
in the presence of:

LOXAHATCHEE RIVER
ENVIRONMENTAL
CONTROL DISTRICT

_____
Witness
Print Name:

_____
By: D. Albrey Arrington, Ph.D.
Executive Director

_____
Witness
Print Name:

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this ___ day of _____, 20__, by D. Albrey Arrington, Executive Director of the Loxahatchee River Environmental Control District, on behalf of the District, who is personally known to me or who has produced _____ as identification.

[SEAL]

_____
Notary Public

_____
Print Name
Commission Number:
My Commission Expires:

LRECD - 108
Prepared By & Return To:
Kris Dean, P.E., Deputy Executive Director
Loxahatchee River District
2500 Jupiter Park Drive
Jupiter, Florida 33458
(561) 747-5700

BILL OF SALE

Know All Men by These Presents, That_____, as _____of _____, of the city of _____, in the county of _____ and the State of _____, Party of the first part, for and in consideration of the promises, stipulations, agreements and covenants made by Grantee contained herein, the receipt and sufficiency of which is hereby acknowledged by Loxahatchee River Environmental Control District of Palm Beach and Martin Counties, Florida, Party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained, sold, transferred and delivered, and by these presents does grant, bargain, sell, transfer and deliver unto the said party of the second part, its successors and assigns, the following goods and chattels:

The wastewater collection/transmission system serving the _____ development.

More particularly described as _____ as shown on plans by _____ of _____.

To Have and to Hold the same unto the said party of the second part, executors, administrators and assigns forever.

AND it does, for itself and its successors, heirs, executors and administrators, covenant to and with the said party of the second part, its successors, administrators and assigns, that it is the lawful owner of the said goods and chattels; that they are free from all encumbrances; that it has good right to sell the same aforesaid, and that it will warrant and defend the sale of the said property, goods and chattels hereby made, unto the said party of the second part its successors, administrators and assigns against the lawful claims and demands of all persons whomsoever.

In Witness Whereof, _____, as _____ of _____, has hereunto set his hand and seal this _____ day of _____, 20____.

Signed, sealed and delivered in presence of us:

_____
Printed Name:

_____(SEAL)
Printed Name:
Title:

_____
Printed Name:

STATE OF_____
COUNTY OF_____

I hereby Certify that on this day, before me by means of __ physical presence or __ online notarization, an officer duly authorized to administer oaths and take acknowledgments, personally appeared _____, as _____ of _____, known to me to be the person(s) described in and who executed the foregoing instrument, who acknowledged before me that he/she executed same, that I relied upon the following form(s) of identification of the above-named person(s):_____ _____ and that an oath (was) (was not) taken.

Witness my hand and official seal in the County and State last aforesaid this ____ day of _____, A.D. 20_____.

(NOTARY SEAL)

_____
Notary Signature

_____
Printed Notary Name
Commission No:
Expiration:

Item 6C

Partial Abandonment of Easement -
NOT AVAILABLE AT THIS TIME

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: GOVERNING BOARD
FROM: D. ALBREY ARRINGTON, Ph.D.
DATE: JULY 14, 2023
SUBJECT: FISCAL YEAR 2024 – BUDGET ASSUMPTIONS

Our budget season is upon us. Over the next three months, we will work through our budgeting process to develop, review, and approve our Fiscal Year 2024 budget, which goes into effect on October 1, 2023. We are proceeding with the following schedule:

- July: Provide and review budget matrix
- August: Provide and review draft budget by each account number
- September: Provide, review, and approve Final Budget.

It should be noted that we have come through a period of heightened inflation, but it appears we are seeing disinflation with June 2024 CPI-U = 3.0% and PPI = 0.1%. CPI-U (Consumer Price Index for urban consumers) measures the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. PPI (Producer Price Index) measures average change over time in the selling prices received by domestic producers for their output, and often foretells future inflation trends. While these rate increases have slowed significantly, we have not experienced negative inflation, so we assume costs we will experience in the upcoming year will continue to increase just not at the excessive pace we observed last year. It is worth noting that South Florida CPI continues at a rate exceeding nationwide CPI (see chart on next page).

The draft FY2024 Budget includes a proposed 4.5% increase over FY2023:

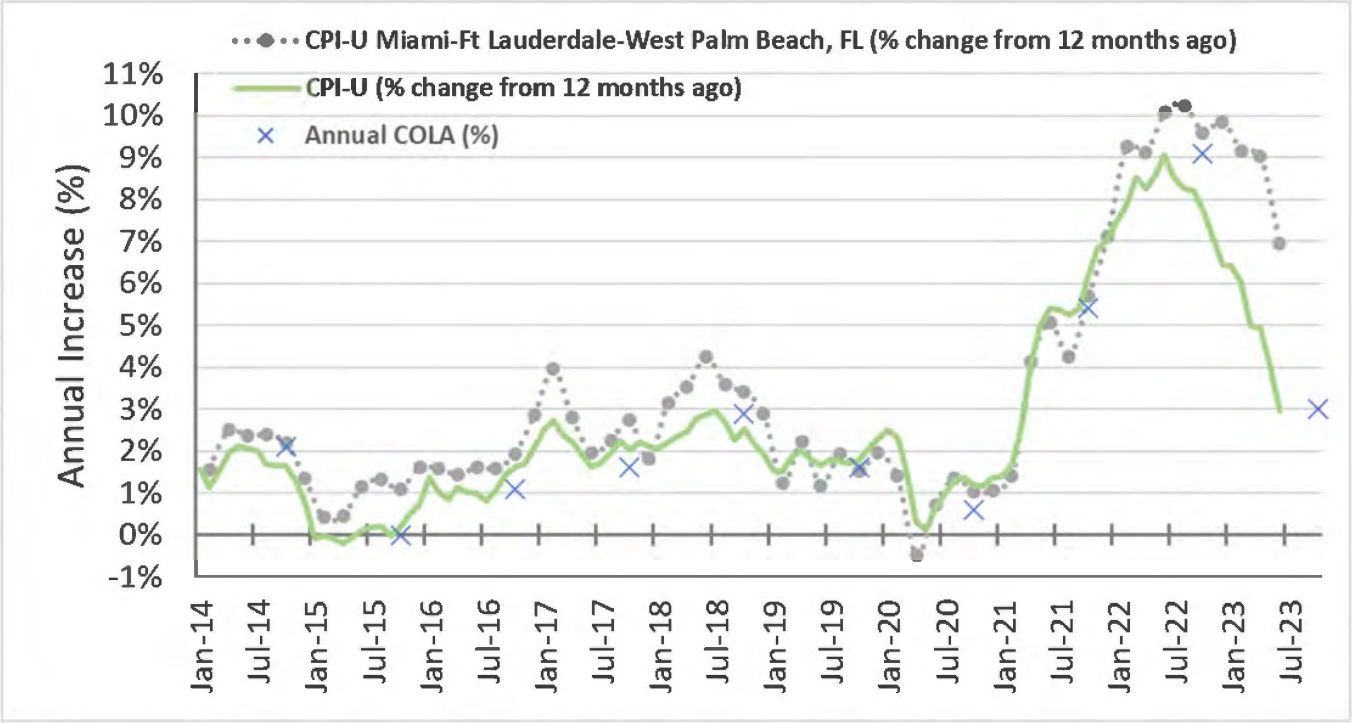
FY2023 ($)	FY2024 ($)	Change (%)	Budget Category
$ 18,835,976	$ 20,731,253	10.1%	Operating Expense
$ 12,741,414	$ 12,270,974	-3.7%	Capital Improvements
$ 31,577,390	**$ 33,035,227**	**4.5%**	**Grand Total**

The draft budget includes a 10.1% increase of operating expenses, a 3.7% decrease of capital improvements, and a total budgeted increase of 4.5%. Staff are still working on the budget, and we expect to have better control over projected budget costs in the next two months. This draft budget presents a starting point for our expectations for next fiscal year. It includes sufficient funding to maintain our operations and our systematic investment in improving our assets. On the subsequent pages I provide a general discussion of each budget category as outlined in the budget matrix. The budget matrix is provided on the last page of this memo.

Revenue – Total revenue is expected to increase (8.9%) from $23,802,965 in FY2023 to $25,923,685 in FY2024. This increase is driven by a projected 3% rate increase and significantly increased revenues anticipated from increased interest rates. Revenue projections assume continued slowing of new connections within our service area due to limited land for new construction.

Salary & Wages – An increase of $482,000 (6.5%) is budgeted. This increase is driven by:

1. A very tight labor market: It continues to be challenging to fill open positions and we have had to adjust starting salaries upward (but within existing pay grades) to attract competent talent.
2. Number of Employees: We are proposing two new full-time positions within Collections to achieve preventative maintenance goals on gravity sewer pipes, manholes, and air release valves. If added, these positions will increase the number of budgeted full-time positions from 84 to 86. Please see the attached memorandum that explains the need for these two new positions.
3. Proposed Cost of Living Adjustment: Traditionally, we have used the June Consumer Price Index (CPI-U, All Items, Not Seasonally Adjusted) as published by the US Bureau of Labor Statistics to adjust employee pay rates effective October 1 to maintain employees' purchasing power relative to the present rate of inflation. This year's June consumer price index (CPI-U) was 3.0%; therefore, I have included a 3.0% cost of living adjustment (COLA) in the budget. The chart below shows ten years of annual increases in CPI-U and our annual COLA increases, which indicates adjusting our employee salaries by the June annual CPI-U has maintained the purchasing parity of our employees. Also, I have revised the chart to show the CPI-U values for South Florida, which has experienced more extreme and more persistent inflation than the rest of the USA.



4. Proposed Merit Increase: I have budgeted for a 3.0% merit increase to be disbursed to employees exhibiting meritorious performance during their annual performance review.

Payroll Tax – An increase of $29,200 (5.5%) is budgeted. This increase is driven by the anticipated increase in salaries.

Retirement – An increase of $97,100 (8.8%) is budgeted. This increase is driven by increased payroll as well as staff members fully vesting in our defined contribution retirement plan.

Employee Health Insurance – An increase of $407,600 (26.4%) is budgeted for health insurance. Based on input from our consultant, we have budgeted for a base increase of 18%, and we are expecting additional costs as new and existing employees' insurance requirement change (open positions being filled, individual coverage increasing to family coverage) and as we add new staff.

Workers' Compensation Insurance – A decrease of $2,000 (-2.6%) is budgeted based on general market conditions and our success in lowering our Experience Modification Rate (EMR). EMR is a metric used to calculate worker's compensation premiums and is affected by the number of claims/injuries a company has had in the past and their corresponding costs. Our EMR is now 0.71, down from 0.72 last year, and well below 1.0, the benchmark average, so our worker's compensation premium is lower than average for the type of work we do and the amount of our payroll.

General Insurance – An increase of $163,290 (38.6%) is budgeted for our Property, General Liability, Automobile Liability and Physical Damage, and Fiduciary Liability insurance policies. This increase is based on projected insurance rate increase as well as increased value of insured assets (e.g., rehabilitating existing assets and adding new assets). General and Liability insurance premiums are anticipated to increase 20% over our renewal rate from May, which exceeded our FY2023 budget amount by 12.5%. All other insurances estimated to increase 15%. Also, Cyber insurance, not previously budgeted, was added to the FY24 budget, which accounts for 12% of the increase.

Supplies & Expenses – An increase of $140,980 (12.8%) is currently budgeted based on projected needs. In general, the cost increases in this category are driven by the inflation we have experienced over the past year. Unless we enter into a recession, it is unlikely that these costs will go down or return to prior levels.

Utilities – An increase of $304,955 (19.6%) is budgeted. Staff have budgeted for an anticipated 15-20% FPL rate increase, which will significantly impact our utility costs.

Chemicals – An increase of $105,000 (16.6%) is budgeted. Inflation has directly impacted commodity costs like chemicals (chlorine, polymer) that we use on a daily basis, and we are using more chemicals seeking to optimize performance of our biosolids odor control system. This cost increase also includes $10,000 in additional costs that will be incurred if we convert from gaseous to liquid chlorine. We are continuing to work on these numbers as we seek to improve the operational efficiencies of our systems and to evaluate alternative chemicals that we could use in an effort to constrain these cost impacts.

Repair & Maintenance – An increase of $148,129 (7.6%) is budgeted.

Outside Services – An increase of $18,722 (0.8%) is budgeted.

Contingency – Our Operating Expense contingency remains unchanged.

Capital – Our draft capital budget summary and line items for individual projects ≥ $200,000 are presented on the following pages.

Budgeting is an important process, and staff are still working diligently on the draft budget. We look forward to receiving your input. I look forward to discussing our budgeting efforts with you and answering any questions you may have.

Capital – a summary of the draft FY2024 capital budget represents a 3.7% decrease from FY2023, and the FY2024 capital budget is 3.9% below our FY24 Rate Study projections, which were reviewed in February and March of this year.

Capital Accounts	FY2023	FY24 Rate Study	FY2024
Contingency	$ 0	$ 0	$ 0
Land	$ 129,500	$ 10,000	$ 0
Buildings (Maintenance & Warehouse)	$ 1,100,000	$ 250,000	$ 320,000
Infrastructure Improvements (not buildings)	$ 260,000	$ 960,000	$ 239,000
Machinery and Equipment	$ 1,160,000	$ 985,000	$ 1,076,350
Vehicles	$ 861,519	$ 295,000	$ 449,338
Construction in Progress (sub-total)	**$ 9,230,395**	**$ 10,275,000**	**$ 10,186,286**
CIP - Exec/Finance/Lab/CustSvc/IT/Const	$ 0	$ 0	$ 0
CIP – Env. Education	$ 0	$ 1,000,000	$ 74,000
CIP - Master Planning	$ 0	$ 105,000	$ 5,000
CIP - General Collection & Transmission	$ 275,000	$ 0	$ 0
CIP - Neighborhood Sewering	$ 1,450,000	$ 25,000	$ 296,901
CIP - Lift Station	$ 3,275,000	$ 1,025,000	$ 1,507,035
CIP - Gravity System	$ 164,895	$ 2,550,000	$ 3,170,000
CIP - Force Mains	$ 0	$ 1,975,000	$ 1,501,000
CIP - LPSS	$ 365,000	$ 20,000	$ 0
CIP - Permanent Generators	$ 2,395,500	$ 150,000	$ 255,000
CIP - Telemetry	$ 0	$ 2,330,000	$ 2,000,000
CIP - Operations Planning Studies	$ 125,000	$ 0	$ 0
CIP - Operations General Site Improvements	$ 730,000	$ 100,000	$ 200,000
CIP - Treatment & Disposal	$ 400,000	$ 275,000	$ 497,350
CIP - Reuse General	$ 0	$ 550,000	$ 600,000
CIP - Reuse Pumping Stations	$ 0	$ 20,000	$ 20,000
CIP - Reuse Mains	$ 0	$ 20,000	$ 0
CIP - Reuse Telemetry/Metering/Controls	$ 50,000	$ 20,000	$ 10,000
CIP - Biosolids	$ 129,500	$ 110,000	$ 50,000
Total	**$ 12,741,414**	**$ 12,775,000**	**$ 12,270,974**

Budgeted capital projects ≥ $200,000 are provided on the next page.

Budgeted capital projects ≥ $200,000:

Project description	Cost
Adding telemetry to 100% of lift stations without telemetry FY23 $2.4M budgeted and $400k spent; carryover $2.0M to FY24	$ 2,000,000
Gravity system service lateral renewal or replacement (including lining) FY23 $1.75M budgeted; carryover $1.5M	$ 1,750,000
Loxahatchee River Subaqueous Force Main Replacement Engineering done in FY23, construction planned in FY24	$ 1,500,000
Gravity system main line renewal or replacement (primarily lining) FY23 $1.4M budgeted; carryover $1.32M	$ 1,320,000
Lift Station 82 Conversion Construction planned in FY24	$ 1,044,000
County Line Road Bridge IQ Water Force Main Relocation	$ 600,000
Rehabilitation of Lift Stations 131, 211, 230, 233 (general construction services)	$ 463,510
JILONA (BLM) Septic to Sewer Completion of Electrical Upgrades	$ 256,000
Addition of Permanent Generator at Lift Station 50	$ 230,000
Replace Two Portable Generators for Collection System	$ 210,000
Electrical System Upgrades at Wastewater Treatment Plant	$ 200,000

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Kris Dean, P.E., Deputy Executive Director

FROM: Jim Novak, Collections & Distribution Superintendent

DATE: July 14, 2023

SUBJECT: Requesting Additional Collections Personnel And Vehicle For FY2024

With the increased focus on preventive maintenance and overall collections system reliability, I am requesting the addition of two Collection personnel along with a service vehicle for the budget year 2024.

The SL-RAT program provides the ability to inspect the complete gravity collection system within a 5-year period. Currently, Collections uses two staff to perform the SL-RAT and air release valve (ARV) program. Both the SL-RAT and the ARV reliability metrics are below acceptable levels and cannot be improved without more resources. Both of these programs are critical to reducing system blockages and unauthorized discharges and require two additional full-time focused staff to achieve our objective of assessing the entire gravity system once every 5-years and all ARVs annually.

SL-RAT PM Program Overview:

Purpose: Inspect all LRD maintained collection system manholes and gravity lines and identify and perform required cleanings within a five-year cycle.

Program Specifics: Two personnel use a pair of devices to send sound waves through a known length of pipe. One device is inserted in an upstream manhole while another is positioned in a downstream manhole located at either end of a single segment of gravity line. Various sound frequencies are sent from the sender device to the receiver device. An SL-RAT score is obtained from 0 to 10 with 10 representing a new or perfectly clean pipe and 0 representing a completely blocked pipe. Scores below 7 require follow-up cleaning of the gravity line using a vacuum truck. Preventive Maintenance work orders capture specific metrics from the inspection including SL-RAT scores and manhole condition, which are analyzed in Microsoft Power-Bi for program refinement and follow-up corrective action.

Current Metrics indicate a two-person crew can complete approximately 160 preventative maintenance work orders (PMs) on the gravity mainline system using the SL-RAT system. Using a dedicated two-person crew, PMs can be performed on the District's mainline gravity sewer system (8,202 line segments totaling 1,584,000' and 8,203 manholes) in a 52-month cycle.

Benefits: Since inception, the SL-RAT program has identified 45 gravity lines in need of cleaning out of 741 inspected (6.1% failure rate). By using the SL-RAT devices the entire gravity system can be inspected within a 52-month period. Assuming 6.1% of mains inspected require cleaning staff will identify 500 mains, requiring 7-8 months, to clean. This results in a comprehensive assessment of all our manholes and gravity mains on a 5-year cycle, which is superior and more efficient than a traditional cleaning program that would take 10-years to complete.

Air Release Valve (ARV) PM Program Overview:

Purpose: Inspect all LRD ARVs annually and clean, repair or replace deficient ARVs as required.

Program Specifics: The program requires two personnel to inspect, clean and/or replace each ARV. Inspection and maintenance includes removal, disassembly and cleaning of the ARV. After cleaning an inspection is performed on the ARV internal and external components as well as the accessible ARV piping and any related structures (manholes, utility boxes or other). Preventive Maintenance work orders capture specific metrics from the PM, which are analyzed in Microsoft Power-Bi for further program refinement and follow-up corrective action.

Current metrics indicate a two-person crew can complete around 26 ARV PMs each month. Using a two-person crew, PMs can be performed on the District's 424 collection and distribution system ARVs in a 16-month cycle. At onset, supplemental staff will be used to meet the 12-month criteria. As the program matures staff will work on program refinements to meet the 12-month criteria with a two-person crew.

Benefits: Currently there are 323 ARVs in service and 101 ARVs out of service between the collection and distribution systems. By providing a dedicated two-person crew the District can implement an annual PM program on the 424 ARVs to meet manufacturers recommendations.

Requested Action:

Board support addition of two new, full-time crew members and a service vehicle within the Collections department.

Anticipated Outcome:

Collections department staff will achieve the following important goals:

a. Inspect and clean (as needed) all LRD manholes and gravity sewer pipes within a five-year cycle
b. Inspect, clean, and rehabilitate all air release valves on an annual basis.

Anticipated Benefits:

This targeted effort to improve our systematic assessment and maintenance of gravity sewer pipes, manholes, and air release valves will result in improved system reliability, fewer unauthorized discharges of sewage, less unscheduled maintenance, and decreased overtime.

Matrix Category	FY	Executive	Finance and Admin	Public Education	Information Services (IT, Lab, Cust Service)	Engineering	Construction	General Operations	Collection & Transmission	Treatment & Disposal	IQ Water System	Biosolids	Total	$ Increase (Decrease)	% Increase Decrease
Salaries & Wages	2023	675,800	544,100	328,600	1,193,500	860,200	510,500	349,100	1,090,000	1,518,000	169,400	142,600	**7,381,800**		
Salaries & Wages	2024	718,100	574,200	337,400	1,266,500	1,002,500	388,600	367,500	1,279,900	1,596,400	184,000	148,700	**7,863,800**	**482,000**	**6.5%**
Payroll Taxes	2023	38,900	39,800	24,700	86,600	63,500	37,400	22,600	81,300	112,600	12,600	10,500	**530,500**		
Payroll Taxes	2024	40,200	41,400	25,200	91,200	73,200	28,300	23,300	94,500	118,200	13,600	10,900	**560,000**	**29,500**	**5.6%**
Retirement Contributions	2023	108,600	87,700	33,900	177,800	128,900	64,700	48,700	165,900	245,700	27,800	17,300	**1,107,000**		
Retirement Contributions	2024	115,400	93,700	35,400	181,600	150,500	61,800	59,700	190,900	260,600	30,100	24,400	**1,204,100**	**97,100**	**8.8%**
Employee Health Insurance	2023	109,100	122,200	49,300	230,300	220,800	145,500	53,500	204,300	329,300	39,700	38,500	**1,542,500**		
Employee Health Insurance	2024	182,700	146,400	58,600	288,900	295,500	131,800	63,500	319,700	370,100	47,200	45,700	**1,950,100**	**407,600**	**26.4%**
Workers' Comp Insurance	2023	3,700	2,600	300	8,900	8,400	7,900	3,200	16,300	21,700	2,600	2,200	**77,800**		
Workers' Comp Insurance	2024	800	2,600	300	9,100	9,800	5,700	3,200	18,000	21,400	2,700	2,200	**75,800**	**(2,000)**	**-2.6%**
General Insurance	2023	26,950	-	16,450	4,120	-	-	376,000	-	-	-	-	**423,520**		
General Insurance	2024	42,630	-	8,550	5,100	-	-	530,530	-	-	-	-	**586,810**	**163,290**	**38.6%**
Supplies & Expenses	2023	117,400	26,040	98,610	140,037	65,300	46,000	130,425	163,550	283,970	23,000	11,050	**1,105,382**		
Supplies & Expenses	2024	92,840	30,905	98,315	208,587	74,865	62,195	87,645	257,250	301,270	19,470	13,020	**1,246,362**	**140,980**	**12.8%**
Utilities	2023	38,440	2,500	29,400	69,700	9,800	5,800	27,160	443,150	601,088	327,378	700	**1,555,116**		
Utilities	2024	20,600	4,300	36,800	104,220	12,500	6,900	10,700	496,050	706,101	461,300	600	**1,860,071**	**304,955**	**19.6%**
Chemicals	2023	-	-	-	-	-	-	-	160,000	4,000	240,000	230,000	**634,000**		
Chemicals	2024	-	-	-	-	-	-	-	160,000	4,000	250,000	325,000	**739,000**	**105,000**	**16.6%**
Repair & Maintenance	2023	64,525	5,000	65,375	41,200	27,100	40,000	103,070	810,000	527,510	170,000	87,000	**1,940,780**		
Repair & Maintenance	2024	21,475	10,100	70,074	84,080	24,500	25,100	45,270	897,900	635,010	171,700	103,700	**2,088,909**	**148,129**	**7.6%**
Outside Services	2023	320,150	116,393	11,735	300,200	-	-	28,100	45,000	71,000	245,000	1,175,000	**2,312,578**		
Outside Services	2024	320,250	99,850	11,900	300,200	-	-	28,100	45,000	96,000	245,000	1,185,000	**2,331,300**	**18,722**	**0.8%**
Contingency	2023	225,000	-	-	-	-	-	-	-	-	-	-	**225,000**		
Contingency	2024	225,000	-	-	-	-	-	-	-	-	-	-	**225,000**	**-**	**0.0%**
Prior Year Total	**2023**	**1,728,565**	**946,333**	**658,370**	**2,252,357**	**1,384,000**	**857,800**	**1,141,855**	**3,179,500**	**3,714,868**	**1,257,478**	**1,714,850**	**18,835,976**		
Current Year Total	**2024**	**1,779,995**	**1,003,455**	**682,539**	**2,539,487**	**1,643,365**	**710,395**	**1,219,445**	**3,759,200**	**4,109,081**	**1,425,070**	**1,859,220**	**20,731,253**		**10.1%**
		-	-	-	-	-	-	-	-	-	-	-	-		
$ Increase or (Decrease)		**51,430**	**57,122**	**24,169**	**287,130**	**259,365**	**(147,405)**	**77,590**	**579,700**	**394,213**	**167,592**	**144,370**	**1,895,277**		
% Increase or Decrease		**2.98%**	**6.04%**	**3.67%**	**12.75%**	**18.74%**	**-17.18%**	**6.80%**	**18.23%**	**10.61%**	**13.33%**	**8.42%**	**10.06%**		

Neighborhood Sewering Schedule-Revised February 2020

Rank *	Area Description	# Lots	Activity	Original Target Date	Revised Target Start Date
11	Jupiter Farms (East)	708		TBD	TBD
11	PB Country Estates	1547		TBD	TBD

* Rank based upon "2010 Septic System Inventory & Assessment"
TBD = To be determined

Remnant Areas

Rank*	Area Description	Lots	Activity	Original Target Date	Revised Target Start Date
	605+607 Military Trl (LP)	2	Notified Owners – June 2020 Notice of Intent – Jan 2021	2022	
	18041 69th Terrace	1	LRD procedures shared for connection to sewer services Statutory Way Provision – Jan 2022 Notice of Intent - April 2023 Under Construction	N/A	2023
	5331 Center Street	1	LRD procedures shared for connection to sewer services Notice of Intent – March 2022 Construction Complete	N/A	2023
	SE Island Way Property	1	Notice of Intent – August 2022 Project in Permitting	N/A	2023

Rank *	Area Description	# Lots	Activity	Original Target Date	Revised Target Start Date
AA	Peninsular Road	4	Private Road Notice of Intent – February 2010 Partial construction complete - June 2013 Soliciting easements for remainder of project 1300 Peninsular Rd – Application/Plans Approved – September 2022	2010	AEO
BB	Rivers Edge Road (Martin Co.)	35	Notified Owners – August 2010 Private Road-Easements Solicited –May 2014 Notice of Intent – February 2014 Project Delayed	2013	AEO
CC	171st Street (Martin Co.)	7	Private Road - In House Design Owners notified October 2012 Easement rec'd from Church – April 2017 Grant received	2014	AEO
CC	Jamaica Dr	11	Private Road Owners notified Oct 2012 Statutory Way Provision (2) – June 2021 – Construction Complete 2966 Jamaica – request for connection cost	2014	AEO
D	Loggerhead Park *(institutional)*	6 ECs	Need Easements from County-No database	2014	AEO
DD	Taylor Road	38	Notified Owners – September 2011 Private Roads	2015	AEO
FF	Rolling Hills	50	Notified Owners – Jan. 2013 - Private HOA Notice of Intent to Assess – October 2019 Award of Contract – December 2021 Notice To Connect – March 2023	2017	2021
FF	North A1A	3	Postponed-Town activities in area No database	2012	AEO
GG	815 S US 1	9 ecs	Notified Owner – November 2014	2016	AEO
GG	Rockinghorse *(north of Roebuck Road)*	11	Notified Owners – January 2013	2018	AEO
GG	Castle Rd SE	5	Notified Owners – Jan 2013-private road	2018	AEO
GG	Jupiter Rd SE	4	Notified Owners – Jan 2013-private road	2018	AEO
HH	Harbor Rd. S. LPSS	6	Notified Owners – January 2014-private road Statutory Way Provision – May 2023 (1 lot) In Design	2017	AEO
HH	Indian Hills SE	12	Notified Owners – January 2016 Easement for Road & Utilities, No Dedication	2019	AEO
16	Limestone Creek Road West	49	Notified Owners – January 2013-private road	2018	TBD
19	US Coast Guard Station Offices *(institutional)* PX Commercial *(commercial)*	2 ECs 2 ECs	US Government - private roads-No database Contract for installation of sanitary sewers – September 2020 Project Under Construction	2019	2021

	109+111 Old Jupiter Beach Road	2	Notified Owners – September 2021 Follow Up Reminder – July 2022 Constr. Plans Complete – Pending Owners		
	182nd Road North	12	Sewering Pricing Request by 50% of Owners Conceptual Design/Cost Est. - provided June 2023		
	N 65th Terrace & N 195th Place	9	Statutory Way Provision Available		
	Jonathan's Landing Guard House	1	Proposed Upgrades will include sewering		

CURTIS L. SHENKMAN
Board Certified
Real Estate Attorney
HUNTER SHENKMAN
Attorney

CURTIS SHENKMAN, P.A.

4400 PGA BLVD, SUITE 300
PALM BEACH GARDENS, FLORIDA 33410
TELEPHONE (561) 822-3939
Curtis@PalmBeachLawyer.Law

LEGAL ASSISTANTS
REAL ESTATE
JANA COOKE
CAROLINA INMAN
DENISE B. PAOLUCCI

July 5, 2023

Loxahatchee River Environmental Control District
D. Albrey Arrington, Exec. Dir. and Board Members (sent by email to S. Patel)
2500 Jupiter Park Drive
Jupiter, FL 33458

RE: PENDING LITIGATION STATUS REPORT

Dear Dr. Arrington and Board Members:

We are enclosing herewith a brief status report relating to the litigation in which the Loxahatchee River Environmental Control District is involved with our law firm as the attorney of record, and/or monitoring the attorney of record. This status report updates the last monthly status report previously submitted and consists of a summary of the record proceedings which have occurred in each of the pending cases since last month.

There are no analysis of the pending cases included, as the inclusion of such items might constitute a waiver of any attorney/client privilege that exists between our firm and the District. Therefore, if you would like to discuss the particulars of any specific case in more detail or would like to obtain more information concerning the strategy, status, or settlement posture of any of the individual cases, please feel free to contact me.

As always, we are available at any time to discuss any of these lawsuits with each individual Board Member by telephone or by conference, if there are any questions.

Respectfully submitted,

CURTIS L. SHENKMAN

CURTIS L. SHENKMAN

Attachments

OTHER LITIGATION

IN THE CIRCUIT COURT OF THE FIFTEENTH JUDICIAL CIRCUIT, IN AND FOR PALM BEACH COUNTY, FLORIDA
CASE NO. 50-2019 CA 014447 XXXX MB AB

FRED BEMAN, Plaintiff,vs.
LOXAHATCHEE RIVER DISTRICT,
Defendant.

December 6, 2017. Auto Accident involving District vehicle and vehicle driven by Fred Beman.
April 15, 2020. Summons & Complaint served upon the District.
April 20, 2020. Attorney Lyman Reynolds, appointed be District's Insurance Carrier to Defend the District under the District's Insurance Policy.
May 4, 2020. District's Motion to Dismiss filed.
July 8, 2020. District's attorney reports Motion to Dismiss not yet set for a hearing.
August 19, 2020. Agreed Order permitting transfer of the case to Martin County Sept 16, 2020. Amended Complaint filed in Martin County
November 16, 2021, Notice of Lack of Prosecution filed in Palm Beach County.
Dec 2, 2021, Summons served on the District; Attorney Reynolds responded with Motion to Dismiss on December 17, 2021.
January 14, 2022. District's Responses to Plaintiff's Request for Production and Interrogatories was filed.
January 31, 2022. District's Motion to Dismiss denied. District's Answer due by February 20, 2022, being prepared by Attorney Reynolds.
February 20, 2022, District's Answer Filed.
April 22, 2022, Deposition of Plaintiff
June 21, 2022, Attorney Reynolds indicated projected trial date is December 18, 2023, and provided confidential information to claims adjuster.
November 1, 2022 Attorney Reynolds office setting Pre Trial MEDIATION in January 2023.
January 13, 2023 Dr. Michael Zeide performs CME on Plaintiff
March 9, 2023 Mediation scheduled for May 23, 2023
May 23, 2023 Mediation occurred.
June 13, 2023 Case on Trial Docket for June 2024
June 30, 2023 Case Settled & in process of being dismissed.

LIEN FORECLOSURES

NONE

MORTGAGE OR LIEN FORECLOSURES / LRD COUNTERCLAIMS/CROSSCLAIMS

NONE

BAXTER & WOODMAN
Consulting Engineers
1601 Forum Place, Suite 400, West Palm Beach, FL 33401 • baxterwoodman.com

Loxahatchee River Environmental Control District
Monthly Status Report
June 30, 2023

Submitted To: Kris Dean, P.E, Deputy Executive Director

The following is a summary of work performed by Baxter and Woodman, Inc. (B&W), on District projects for the monthly period ending June 30, 2023.

Lift Station Control Panels & RTU Upgrades

- Preliminary Design Report and site plans submitted to LRECD April 20, 2023.
- Review meeting held May 4, 2023. Site plans provided to District. PDR and site plans discussed.
- Comments received from District June 2, 2023.
- Listing of six (6) required sketch & descriptions received from LRECD 6/20/23
- Final PDR to be submitted by July 7th, 2023.

Irrigation Quality 518 (IQ-518) Electrical and I&C assessment

- B&W submitted the final scope of work to District on June 6, 2023.
- District approved the scope of work on June 7, 2023.
- District issued a purchase order issued to B&W on June 12, 2023.
- B&W conducted the project kick-off meeting and issued meeting minutes to District on June 29, 2023.

Irrigation Quality 511 (IQ-511) Pump Station Piping Improvements

- Final pay application received from Contractor on May 18th, 2023 along with final as-built submittal.
    - The fiber line repair, final release of liens and hard copies of the O&M and as-builts are the only remaining items for final payment.
- Final O&M Manual and Final As Builts accepted June 27th, 2023.
    - Contractor to provide (2) full sized record drawings, signed and sealed, and (1) AutoCAD copy. Contractor sent via FedEx Friday June 30, 2023.
    - Hard Copy O&M is under review at B&W. Once complete B&W will drop off to LRECD.
- Email provided to Contractor on May 19th, 2023 with proposed solution to end the fiber line dispute.
    - On May 30th, 2023 the Contractor confirmed receipt of proposed solution and is discussing internally. Contractor states that no clear evidence has been provided that the Contractor caused the damage.
    - B&W responded to contractor's request for more information regarding the fiber line repair work on Tuesday June 27th, 2023, via email.

Respectfully Submitted by:

BAXTER & WOODMAN, INC.

Rebecca Travis, P.E.
Executive Vice President / Florida Division Manager

500 S. Australian Ave., Suite 850
West Palm Beach, FL 33401
Office: +1 (561) 746-6900

Loxahatchee River Environmental Control District
CMA Project Status Update
July 6, 2023

1. Science Center at Jupiter Inlet Lighthouse Outstanding Natural Area (CMA Project # 494.001)
   Activities Performed:
   - Conceptual Design Memorandum and building layout options were approved by the Board on 10/21/21.
   - A coordination meeting was held 11/12/21.
   - 90% design, specifications and cost estimate were submitted.
   - LRD plan comments were addressed.
   - Proposed roof alternative design was submitted to LRD for review (to address comments from SHPO).
   - Bid documents were submitted to LRD.
   - Comments were received from LRD and meetings/calls conducted to review.
   - Final bid documents were submitted to LRD.
   - Project advertised for bid (bids due January 10, 2023, anticipated award at January Board meeting).
   - Recommendation of bid rejection was presented to the Board on January 19, 2023. Board voted to reject all bids.
   - Conducted discussions with LRD staff on possible project adjustments to save costs.
   - Project on hold.

2. 2500 Jupiter Park Drive Conceptual Site Planning
   Activities Performed:
   - Conducted kickoff meeting.
   - Environmental field work was performed, report submitted, comments received from LRD, revised report submitted.
   - Staff and Board survey were performed.
   - Existing site base plan was prepared.
   - A review of adjacent stormwater permits was performed.
   - Site concept plans were prepared.
   - Site visits and meeting with LRD were conducted to review survey results and concept plans.
   - Presented survey results and concept plans to the Board.
   - Submitted data request to LRD for massing study and received results. Provided LRD with initial space calculations.
   - Reviewed WWTF capacity expansion goals with LRD. Submitted memorandum on the WWTF future space to LRD.
   - Submitted draft Site Security memorandum, received comments from LRD, and submitted final memorandum.
   - Draft massing concepts were presented to LRD at the meeting.
   - LRD comments were incorporated, and a revised massing study was submitted.
   - LRD provided comments on the revised massing study.
   - Revised massing study submitted.
   - Draft site plans submitted and comment received. Comment responses issued.

500 S. Australian Ave., Suite 850
West Palm Beach, FL 33401
Office: +1 (561) 746-6900

- Site planning memorandum drafted. Holding document submittal for confirmation on some of the key site plan concepts.
- Met with LRD staff to discuss comments and confirm concepts. CMA submitted additional information to follow up discussion at this meeting.
- Additional utility information provided by LRD.
- Site plans, massing study and report revisions are underway.

Holtz Consulting Engineers, Inc.

HOLTZ CONSULTING ENGINEERS, INC.
270 South Central Boulevard, Suite 207, Jupiter, FL 33458 (561) 575 2005

MEMORANDUM

To: Kris Dean, PE, Deputy Director/Director of Engineering, Loxahatchee River Environmental Control District

From: Christine Miranda, PE, Holtz Consulting Engineers, Inc.

Date: July 13, 2023

Subject: **Loxahatchee River Environmental Control District Monthly Status Report**

The following is a summary of work performed by Holtz Consulting Engineers, Inc. (HCE) on Loxahatchee River District projects through July 13, 2023. **Note: Any information that is historical or repeated from previous months are shown in italics. Otherwise, all information as shown below is newly reported information.**

Electrical System Condition Assessment, Short Circuit, Device Coordination and Arc Flash Study

- The draft condition assessment analysis study comments were received from the District. These comments are currently being addressed to finalize the memorandum. HCE's subconsultant, Hillers Electrical Engineering (Hillers), is currently working on the short circuit, device coordination, and arc flash study. Hillers has been trying to obtain FP&L input data for the past six weeks. This data is critical to the analysis as it dictates the basis of the fault current of the plant. Once Hiller receives the data, the analysis can be completed, and the draft report finalized.

  Schedule Update: Once the FP&L data is received the draft report will be submitted within two weeks of receipt of data.

Greenhouse Gas Strategies Evaluation

- The final chemical feed analysis and flow equalization technical memorandums were submitted to the District on June 26, 2023. *The draft solar assessment technical memorandum was transmitted to the District on June 1, 2023.*

  Schedule Update: *The final solar assessment technical memorandum will be submitted to the District two weeks after receipt of comments from the District.*

Lift Station No. 082 Improvements

- Town of Jupiter permit request for additional information has been submitted and approved by the Town. Upon receipt of the permit processing fee, the permit will be issued, and the Contractor can move forward with change order for additional work and project mobilization.

Schedule Update:
The Contractor has prepared the change order request for the water main relocation, new tie-in location for the force main, and revisions to the generator drawings that include a retaining wall, concrete footer, and aluminum guardrail on the west and north side of the pad. HCE is currently reviewing. This change order will also include the time extension required to complete this work and will be determined once the Town of Jupiter permit has been issued. The current contractual final completion date was April 13, 2023. This will be extended with the change order.

Country Club Drive Force Main Transmission System Preliminary Evaluation

- *The District is currently reviewing the different methodologies that can be utilized for flow projections and will be providing feedback to HCE for finalization of the technical memorandum.*

Schedule Update: *Per the work authorization agreement, upon receipt of final information from the District on the draft memorandum, the final memorandum will be prepared and submitted within two weeks.*

Lift Station Telemetry Improvements

- The Contractor has commenced working on the first five pilot sites for the telemetry upgrades. Once the five pilot stations are completed the Contractor will have a good understanding of how many lift stations can feasibly be completed in a day and will then provide a weekly schedule update to be submitted and approved by the District and HCE. The stations to be completed first are those from the highest priority in Zone 10.

Schedule Update: *Construction is proceeding as scheduled. The project remains on schedule to meet substantial and final completion deadlines. The contract completion date is July 12, 2024.*

Jupiter Inlet Lighthouse Septic to Sewer Conversion

- The Contractor has completed all punch list items to the satisfaction of both HCE and FP&L with the exception of one remaining FP&L item. The Contractor has indicated that this will be corrected on July 19, 2023. A letter has been issued to the Contractor notifying them of their failure to meet the final completion date of June 28, 2023 and the District's rights and intent to assess liquidated damages. *Once all punch list items are completed all final paperwork and payment requests will be processed.*

Deep Injection Well Replacement Cost Study

- *HCE is currently working on finalizng the analysis of the additional alternative and completing the technical memorandum.*

Schedule Update: The final technical memorandum is anticipated to be submitted to the District by July 21, 2023.

Holtz Consulting Engineers, Inc.

Injection Well Pump Manual Transfer Switch Addition

- The Contractor is currently on site progressing on completion of the project. On July 13, 2023 the final shut down occurred for the project. Remaining work includes concrete and site work, installation of support plates, welding of plates and top caps, roof repairs, and final punch list items.

- **Schedule Update:** The Contractor's revised schedule reflects a final completion date of July 30, 2023. Based upon their current progress it is anticipated that this schedule can be met.

Lift Station No. 050 Emergency Generator

- Comments on the 90% plans and specifications were received from the District on June 30, 2023. HCE is currently working on addressing all comments.

  Schedule Update: The 100% plans and specifications will be submitted to the District during the week of July 31, 2023. This project is scheduled to be advertised for bidding on September 24, 2023, pending easement acquisition and generator delivery dates.

Bulk Sodium Hypochlorite Conversion Study

- The draft technical memorandum was submitted to the District by June 29, 2023 for review and comment.

Emergency Response ESRI Collection Tool & Synovia Vehicle Tracking Assistance

- *No new activities have occurred for this work.*

KCI TECHNOLOGIES
ISO 9001:2015 CERTIFIED
ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS
1425 West Cypress Creek Road, Suite 101 • Fort Lauderdale, FL 33309 • Phone 954-776-1616 • Fax 813-740-0158

Loxahatchee River Environmental Control District
9278 Indiantown Road/20 Acre Site
Phase I - Remediation
LRECD PO#23-804 / KCI 482021095.02

Progress Report

To: Mr. Kris Dean, P.E., Deputy Executive Director/Director of Engineering

From: Robert Zuccaro, PE, Env SP, KCI Sr. Project Manager,

Date: July 7, 2023

ACTIVITIES

KCI Technologies progress report updates for the current billing period are:

Activities and Support:

Task 1 - **Kick Off Meeting**: 100% Complete

Task 2 - **Data Collection**: 67.5% Complete

Task 3 - **Schematic Design Plan**: 64.5% Complete

Task 4 - **Design Development Plan**: N/A

Task 5 – **Meetings:** N/A

Task 6 – **Construction Document Plans**: N/A

Task 7 – **Final Bid Documents**: N/A

Task 8 – **Bid Assistance**: N/A

Task 9 – **Project Schedule and Monthly Reports**: N/A

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CONSULTING ENGINEERS

July 13, 2023

Mr. Kris Dean, P.E., Deputy Executive Director/Director of Engineering
Loxahatchee River Environmental Control District
2500 Jupiter Park Drive
Jupiter, FL 33458

Ref. No.: C0089.40
Subject: Loxahatchee River Subaqueous Forcemain Replacement (PO No. 22-0911)

Dear Kris:

Below is our Monthly Update for July 2023.

- DEP Permit
  - Review and Respond to RAI responses/permit application documents
  - Survey Subconsultant is completing the Sketch & Legals for the Jupiter Parcel Easement and the Submerged Land Easement by end of this week
    - Note that DEP has still not issued notification of their Division of State Lands determination of sovereignty submerged lands
  - District to pay $420 permitting fee. Note that an additional $739.88 easement processing fee will be required once Division of State Lands make their determination
- USACE Permit
  - No additional information on 408 Permit review status
  - Need to coordinate an Emergency Action Plan with the District

Upcoming Activities:

- Finalize Permits and Submit 100% Bid Document pending final permitting agency comments
- Advertise project for Bids

Sincerely,
Mock, Roos & Associates, Inc.
Garry G. Gruber, P.E.
Senior Vice President

GGG:rcf
Copies: John Cairnes, P.E.
Spencer Schroeder, P.E.

Busch Wildlife Sanctuary

At Loxahatchee River District

Quarterly Dashboard - 2nd Quarter 2023

	Education				Animal Care			Financial Operations			Gift Shop	Volunteers	Safety
	General Public Visitors	Visitors Attending Public Programs	In-reach / Out-reach Program Attendance	Education Net Income	Injured Animals Received / Treated	Animals Released	Average Donation per Animal Admitted	General Donation Income	Grants/Major Donor Income	BWS Net Income	Net Income	Hours Logged	OSHA Recorded Incidents
Benchmark	# of People	# of People	# of People		#	%						#	#
Green	> 25,000	> 3500	> 5500	> $20,000	< 500	≥30%	> $15.00/Animal	> $25,000	> $100,000	≥ $100,000	> $10,000	> 2000	0
Yellow	≥ 20,000	≥ 2500	≥ 4000	≥ $10,000	≥ 500	≥25%	< $15.00/Animal	≥ $15,000	≥ $50,000	> $0.00	≥ $5,000	≥ 1500	1
Red	< 20,000	< 2500	< 4000	< $10,000	>1000	<25%	< $10.00/Animal	< $15,000	< $50,000	≤ $0.00	< $5,000	< 1500	>2
2022 Qtr Results													
1st Qtr													
2nd Qtr													
3rd Qtr													
4th Qtr													
2023 Qtr Results													
1st Qtr													
2nd Qtr													
3rd Qtr													
4th Qtr													

2nd Quarter Onsite Items:

Projects Completed: Landscape clean up & re-mulching throughout Sanctuary

Projects In Progress: Remulching Pineland Nature Trail & maintaining fencing along exhibits

Future Projects: Removing all improvements & restoring property

2nd Quarter Appearances, Notables, Trainings:

Trainings: All Staff Safety Trainings on Working in Extreme Temperatures, Emergency Preparation, Compressed Gas

Onsite Educational Activities: In addition to 172 onsite programs we provided 56 Tours, 3 VIP Tours, 12 B-day parties and 28 Junior Naturalist & Mini Jrs Sessions

Offsite Educational Activities: 42 presentations, 9 Exhibits

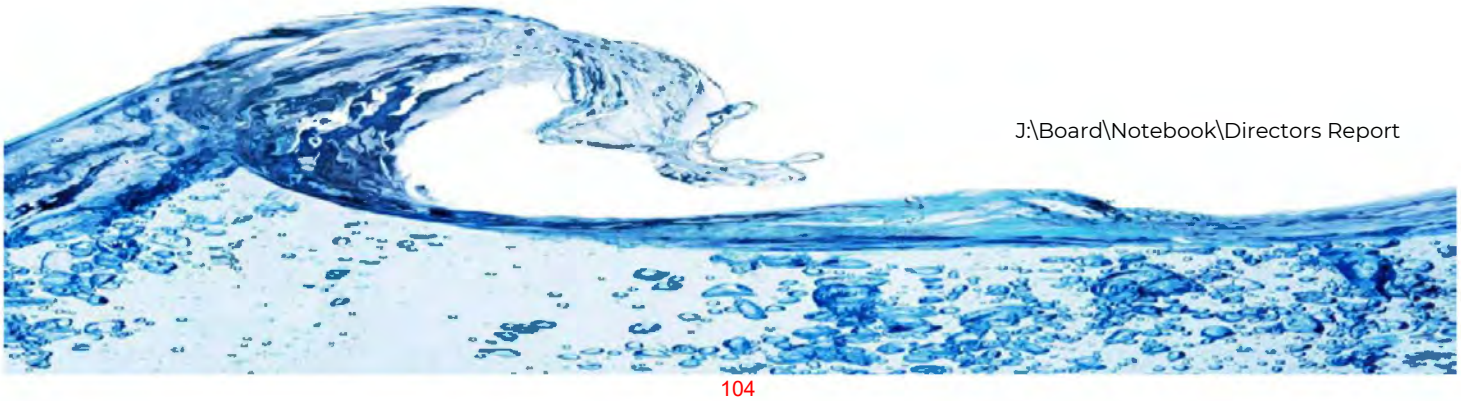
Other Community Events/Notables: Partnering with Roger Dean Stadium & Palm Beach Cardinals, Grandview market held a "Cocktails & Claws" fundraising event for BWS

Licensing & Permits: The sanctuary is fully in compliance with all USDA regulations.

Rocky Pines Facilities Build Update: Site and buildings CO projected to be received in August, 2023
Closing Sanctuary to the public on Saturday, September 9th & will begin moving Monday, September 11, 2023.
All animals & operations will be moved off property by September 21, 2023 with the exception of birds in the rehab flight enclosures, if the request to allow this structure to remain during the demo period is granted.

Director's Report

- Admin. & Fiscal Report attach. #1
- Engineering Report attach. #2
- Operations Report attach. #3
- Information Services Report attach. #4
- Environmental Education attach. #5
- Safety Report attach. #6
- Other Matters (as needed) attach. #7



LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

To: Governing Board
From: Kara Fraraccio, Director of Finance and Administration
Date: July 14, 2023
Subject: Monthly Financial Report

Cash and Investments Balance

Balance as of June 30, 2023
Certificates of Deposit:

Institution	Original Term	Maturity	Rate	Book Value	Monthly Change in Investment	Market Value
TD Bank	12 Months	08/10/23	3.36%	$ 2,000,000	$ 5,675	$ 2,060,655
Bank United	12 Months	08/16/23	2.42%	1,004,118	2,036	1,025,492
Bank United	12 Months	08/16/23	2.42%	1,004,118	2,036	1,025,492
US Century Bank	13 Months	09/22/23	2.71%	2,500,000	5,693	2,558,589
Bank United	12 Months	11/18/23	4.55%	1,060,577	4,059	1,090,520
Bank United	12 Months	11/22/23	4.59%	1,582,357	6,118	1,626,691
TD Bank	10 Months	12/01/23	5.00%	2,538,250	10,598	2,589,422
Subtotal				**$ 11,689,420**	**$ 36,215**	**$ 11,976,861**
Investment Accounts:						
Florida Prime - SBA			5.33%		$ 38,890	$ 8,916,705
Florida FIT - Preferred Cash Pool			5.00%		16,253	6,516,253
Bank United - Public Funds Reserve			4.64%		7,846	2,060,869
Subtotal					**$ 62,989**	**$ 17,493,827**
Checking Account:						
SunTrust-Hybrid Business Account			1.95%		$ 26,034	$ 7,205,272
Subtotal					**$ 26,034**	**$ 7,205,272**
Brokerage Accounts:						
Vanguard GNMA ADM			-0.48%	$ 329,312	$ (1,522)	$ 317,396
Vanguard Short-Term Treasury			4.54%	3,049,643	134,608	2,964,748
U.S. Treasuries - Due 06/22/23			4.61%	146,718	451	
U.S. Treasuries - Due 06/27/23			4.73%	498,410	1,866	
U.S. Treasuries - Due 07/05/23			4.71%	3,011,802	13,260	3,051,150
U.S. Treasuries - Due 07/06/23			4.77%	670,155	2,960	679,714
U.S. Treasuries - Due 10/12/23			5.32%	504,347	191	504,538
Charles Schwab Bank Sweep						2,388
Subtotal				**$ 8,210,387**	**$ 151,814**	**$ 7,519,934**
Total					**$ 277,052**	**$ 44,195,894**

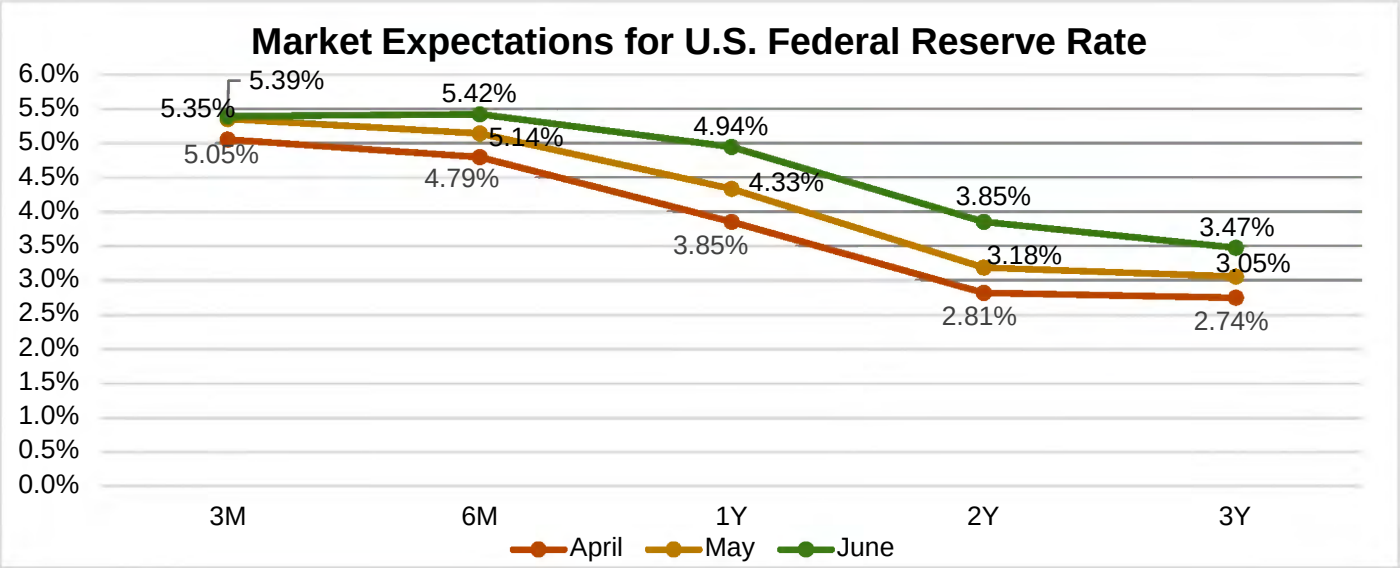
Investment Policy Compliance

Performance Measurements

Average weighted rate of return on investments is: 4.12%. As of 6/30/23, 3-month U.S. Treasuries were 5.43% and the 1-month Federal Fund Rate was 5.08%. The District's average weighted rate of return on investment of 4.12% is lower than our benchmark because interest rates are increasing so rapidly. So far in 2023, the Fed has raised rates 0.25 percentage points three times, meaning interest rates have increased by 0.75% in 2023. Interest rates are currently over 5%. With interest rates rising, investing in moderate and long-term CDs produces lower returns than investing in short-term

assets. Therefore, District staff are intentionally evaluating and revising our investments. The Board can rest assured that all existing and any future investments will fully comply with our Investment Policy.

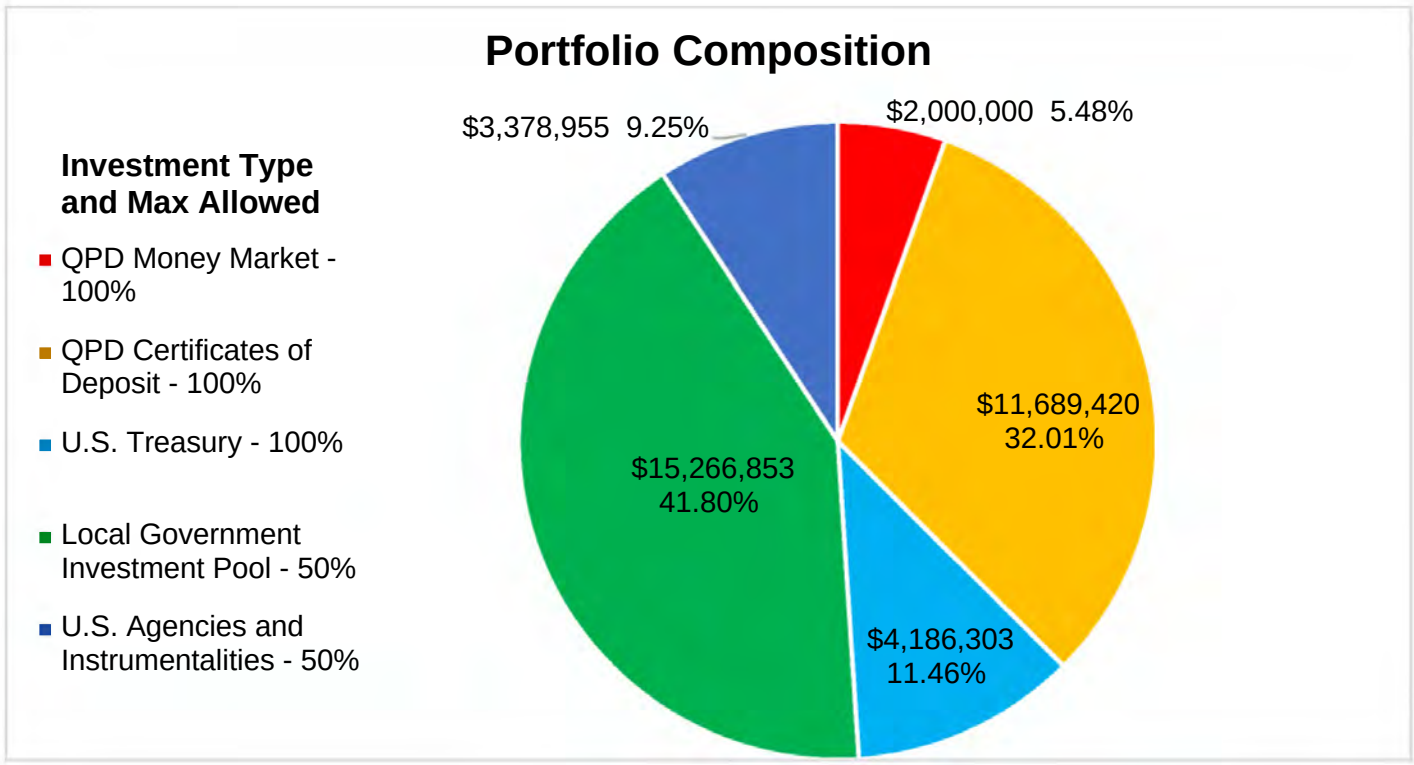
In July, over $3.0 million of District held U.S. Treasuries matured. These treasuries were reinvested equally between 3-month, 6-month, and 1-year treasuries, as the rate for 6-month and 1-year treasuries has increased to over 5.50%. At this time staff believes it is still best to invest in short term maturities as short-term rates are substantially higher than long term rates (e.g. the July 11th, 3-Month treasury rate of 5.49% vs. the 2-Year rate of 4.86%). This inverted yield curve is shown in the chart below. We will continue to monitor the yield curve and evaluate our options during this abnormal market.



*Data as of June 30, 2023.

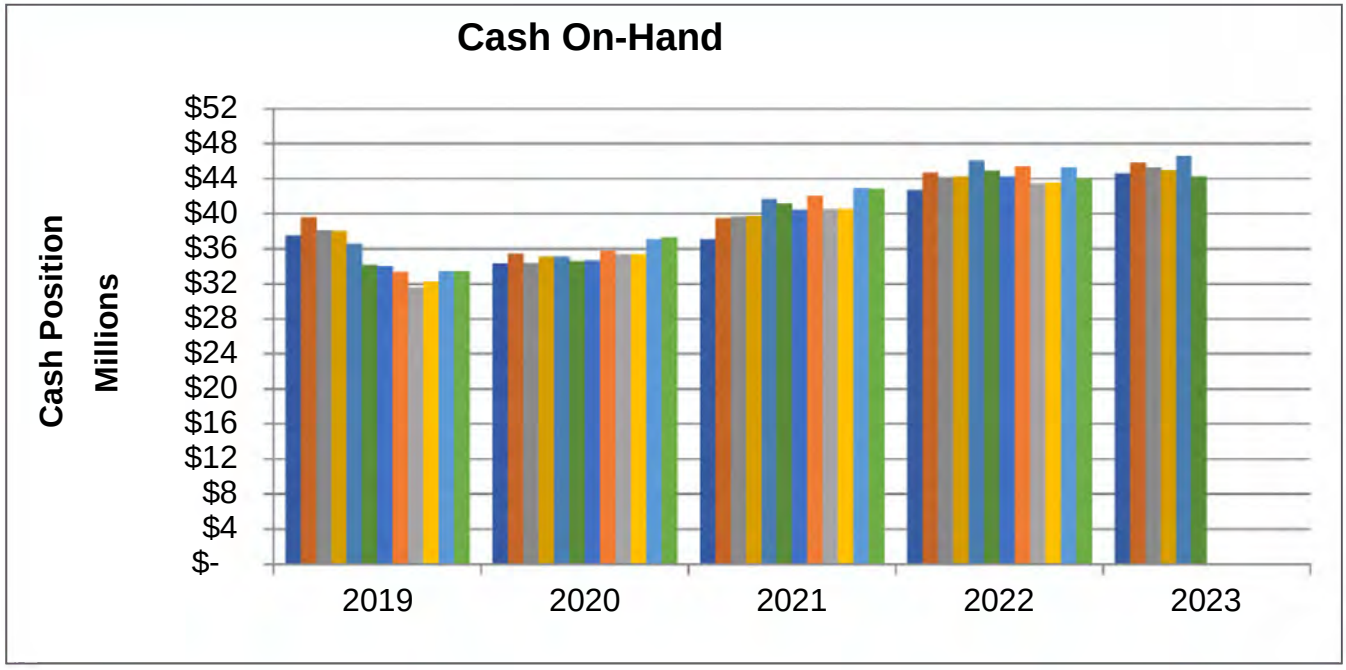
Portfolio Composition

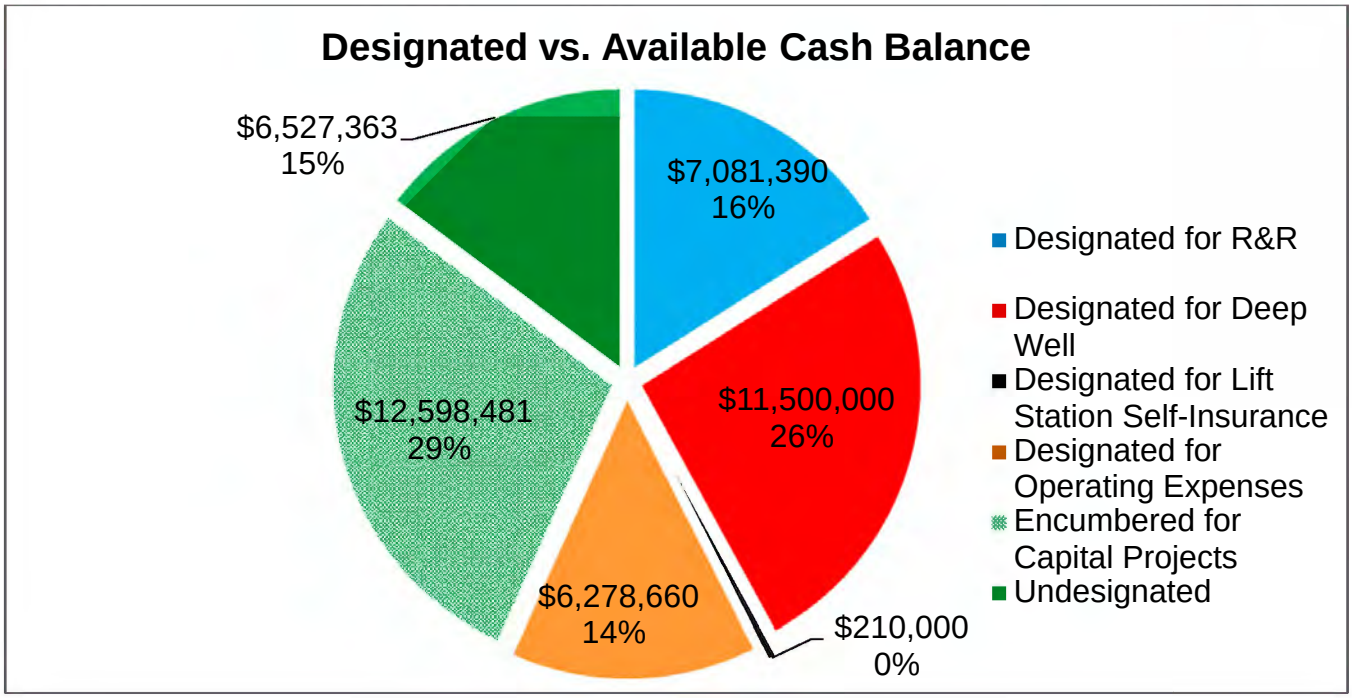
The percentage allocation for investment types is presented below. The percentage allocation requirement for investment types is calculated based on the market value at time the time of purchase. All investments percentages are in compliance with the District's Investment Policy.



Cash Position

Cash position for June 2022 was $44,902,557. Current Cash position is down by $706,663.





Financial Information

- There were no Legal Fees billed in June. The fiscal year-to-date total is $53,215.
- Estoppel fees collected in June totaled $5,730. The fiscal year-to-date total is $55,500.
- There was no Septage billing for the month of June.
- Developer's Agreement – There were no new Developer Agreements.
- I.Q. Water Agreements – Abacoa Plaza is past due for March, April, May, and June; Osceola Woods and Sonoma Isles are past due for June.

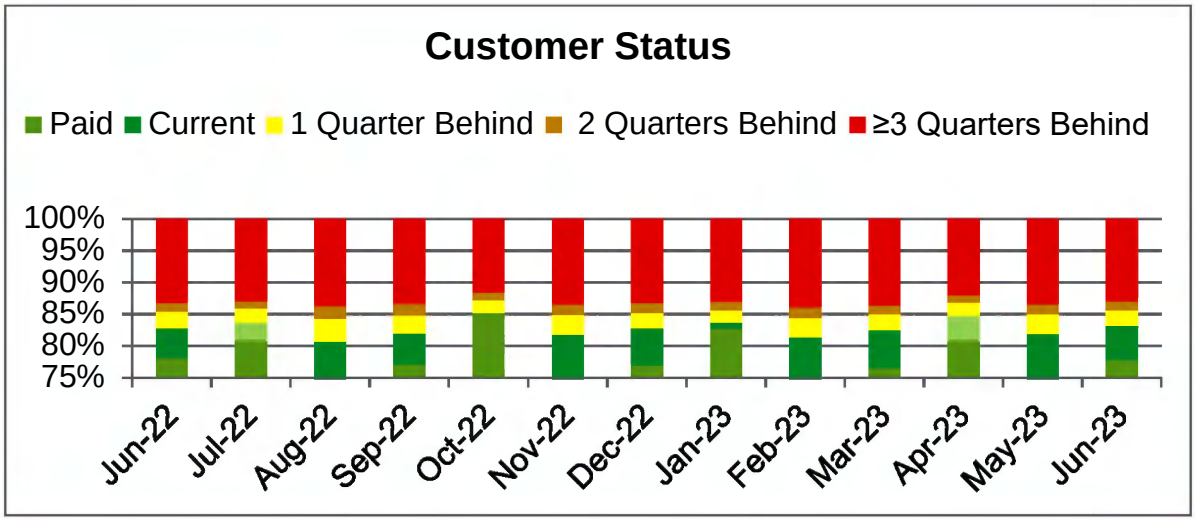
Summary of Budget vs. Actual

Budget Benchmark *75.00%*	Jun-23 Actual	YTD Actual	FY 23 Budget	Favorable (Unfavorable)	Budget Expended	Jun-22 YTD
Revenues						
Operating Revenues						
Regional Sewer Service	$ 1,537,221	$ 13,403,773	$17,501,000	$ (4,097,227)	76.59%	$12,835,737
Standby Sewer Service	9,002	80,076	108,000	(27,924)	74.14%	86,718
IQ Water Charges	201,218	1,769,741	2,352,000	(582,259)	75.24%	1,727,208
Admin. and Engineering Fees	2,460	25,686	63,000	(37,314)	40.77%	26,803
Other Revenue	38,639	382,878	516,265	(133,387)	74.16%	361,719
Subtotal Operating Revenues	1,788,540	15,662,154	20,540,265	(4,878,111)	76.25%	15,038,185
Capital Revenues						
Assessments	$ 17,824	$ 1,205,361	1,411,000	(205,639)	85.43%	1,251,325
Line Charges	13,594	157,569	465,000	(307,431)	33.89%	135,317
Plant Charges	146,102	572,459	686,000	(113,541)	83.45%	461,462
Capital Contributions		959,625	140,000	819,625	685.45%	637
Subtotal Capital Revenues	177,520	2,895,014	2,702,000	193,014	107.14%	1,848,741
Other Revenues						
Grants		5,126		5,126		351,500
Interest Income	135,580	1,603,859	560,700	1,043,159	286.05%	547,919
Subtotal Other Revenues	135,580	1,608,985	560,700	1,048,285	286.96%	899,419
Total Revenues	$ 2,101,640	$ 20,166,153	$ 23,802,965	$ (3,636,812)	84.72%	$ 17,786,345
Expenses						
Salaries and Wages	$ 791,206	$ 5,107,284	$7,381,800	$ 2,274,516	69.19%	$4,292,719
Payroll Taxes	58,752	368,404	530,500	162,096	69.44%	309,316
Retirement Contributions	118,427	736,784	1,107,000	370,216	66.56%	599,637
Employee Health Insurance	138,875	1,212,421	1,542,500	330,079	78.60%	1,061,203
Workers Compensation Insurance		54,492	77,800	23,308	70.04%	49,856
General Insurance	(173)	442,635	423,520	(19,115)	104.51%	389,575
Supplies and Expenses	71,073	827,682	1,105,382	277,700	74.88%	770,934
Utilities	101,603	1,197,353	1,555,116	357,763	76.99%	1,115,163
Chemicals	64,919	448,665	634,000	185,335	70.77%	305,181
Repairs and Maintenance	96,110	1,266,405	1,940,780	674,375	65.25%	1,338,898
Outside Services	123,019	1,486,591	2,312,578	825,987	64.28%	1,439,807
Contingency			225,000	225,000	0.00%	
Subtotal Operating Expenses	1,563,811	13,148,716	18,835,976	5,687,260	69.81%	11,672,289
Capital						
Capital Improvements	$ 1,059,011	$ 5,476,132	12,741,414	7,265,282	42.98%	2,424,652
Subtotal Capital	1,059,011	5,476,132	12,741,414	7,265,282	42.98%	2,424,652
Total Expenses	$ 2,622,822	$ 18,624,848	$ 31,577,390	$ 12,952,542	58.98%	$ 14,096,941
Excess Revenues Over (Under) Expenses	$ (521,182)	$ 1,541,305	$ (7,774,425)	$ 9,315,730		$ 3,689,404

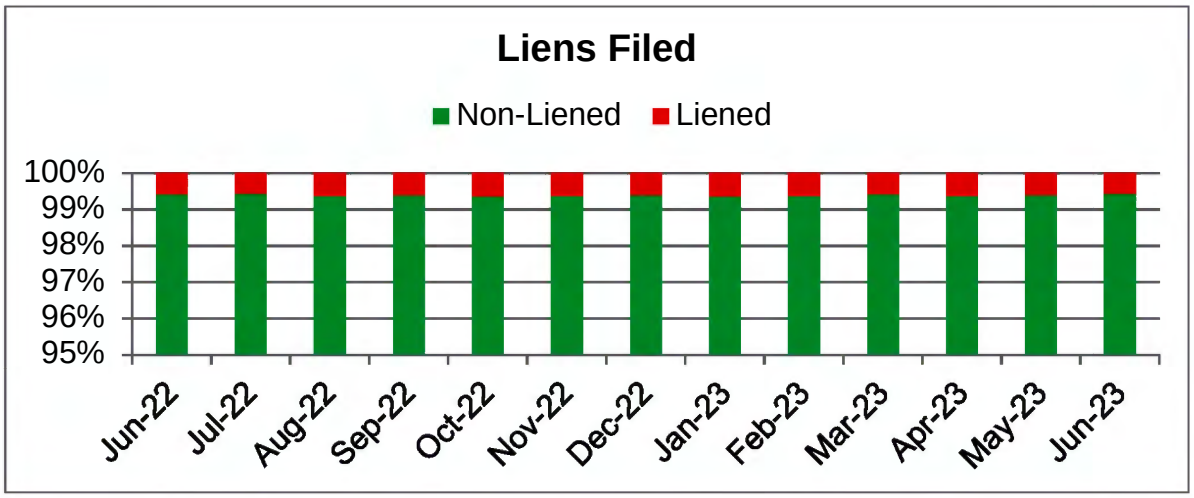
Total Capital expenses incurred and encumbered totalled $17,630,098 or 138% of the capital budget. This includes funds encumbered in a prior fiscal year for projects that stretch across multiple fiscal years.

Accounts Receivable

The District's second quarter billing was $4,613,964, of this amount $3,892,534 represents customer balances that are either paid or current. The chart below illustrates customers' receivable status as a percentage of quarterly sewer billing. Paid or current balances represent approximately 84.0% billing.



The District serves approximately 33,358 customers. Currently, the District has 207 liens filed which represent approximately 1.0% of our customers.



Pending/Threatened Litigation

- Vehicle Accident – The District received a legal summons related to a vehicle accident involving a District vehicle. This claim is currently being handled through the District's General Liability Insurance provider, PRIA. PRIA has assigned the firm of Roberts, Reynolds, Bedard & Tuzzio, PLLC to represent the District. A settlement offer of $45,000 has been accepted by the plaintiff. **This claim is now closed.**

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: D. Albrey Arrington, Ph.D., Executive Director

FROM: Kris Dean, P.E., Deputy Executive Director
Courtney Jones, P.E., Director of Engineering

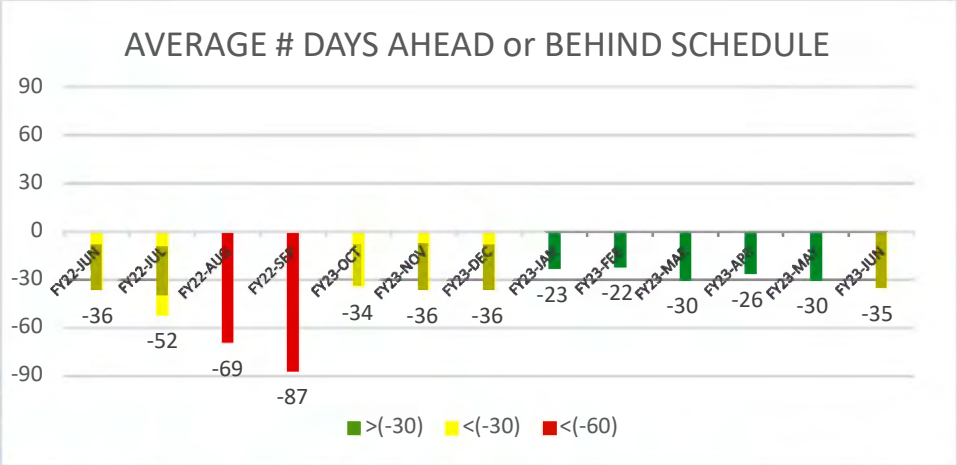
DATE: June 14, 2023

SUBJECT: Capital Program and Engineering Services Report

Capital Projects

Capital Schedule (FLOAT = -35 Days)

Notable delays to the Capital Program are listed below.



N21008 – Jupiter Park Drive Site Planning – Staff are working through site plan coordination with the consultant for current and future facilities.

R19011 – Lift Station 082 Conversion – Staff are working with the consultant and contractor to understand current project schedule with resolution of easement and utility conflicts.

R20023 – Rolling Hills Gravity Sewer System – Final close out documents have been submitted and are under review. Staff anticipate closing the construction and engineering contracts and a providing a preliminary assessment in June 2023.

R21002 – Lift Station 018 Main Lining – The contractor is working through the punchlist. The contractor provided a revised schedule showing punchlist completion in June 2023. Staff are coordinating for a revised schedule.

R20047 – Lift Station 054 Main Lining – The contractor is working through the punchlist. The contractor provided a revised schedule showing punchlist completion in June 2023. Staff are coordinating for a revised schedule.

N21009 – Injection Well Pump Station Emergency Generator Connection – See Holtz's report.

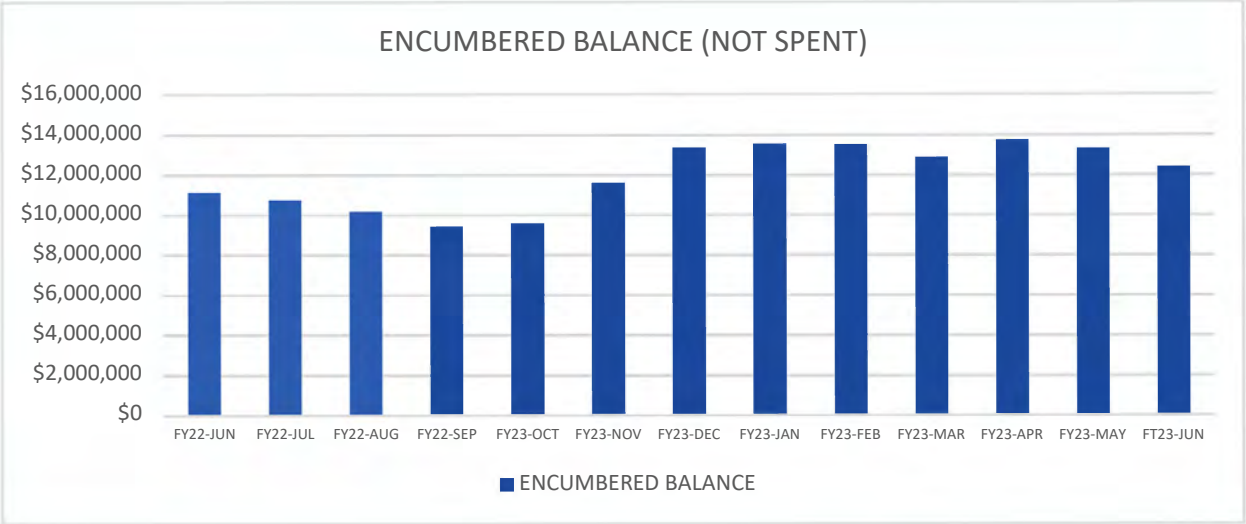
N20036 – IQ 511 Pump Station Piping Improvements – Lingering issues around responsibilities for fiber optic repair are delaying final completion. Staff have implemented a plan for resolution.

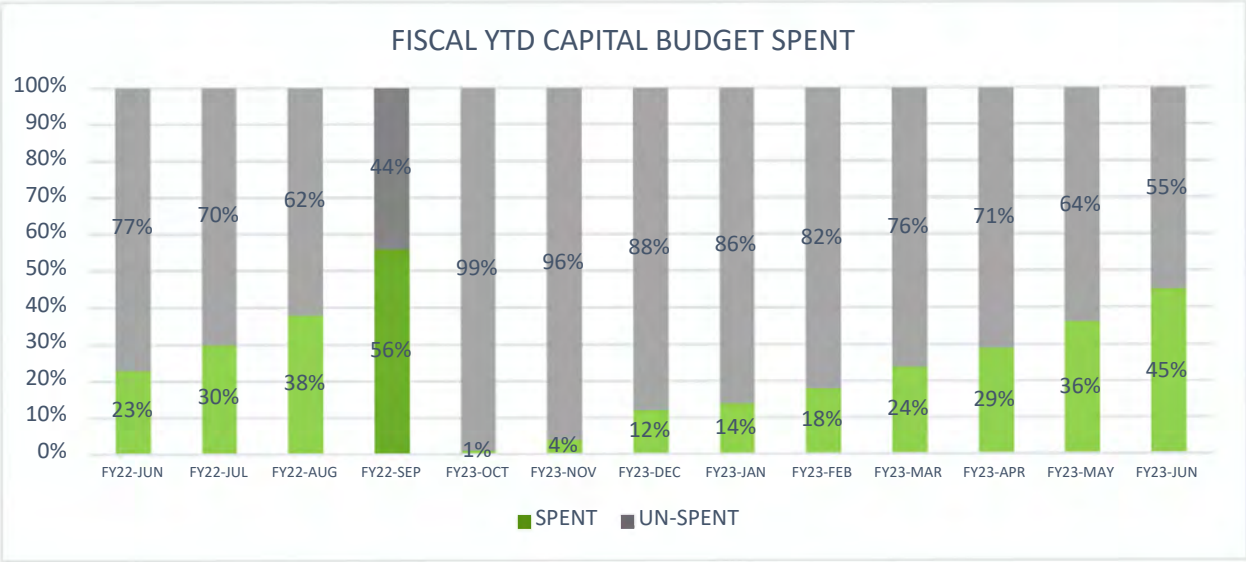
The overall negative (-) float is attributed to the following causes:

- Construction Delays: 60%
- Supply Chain Issues: 14%
- Design/Permit/Bid: 8%
- Late Start: 0%
- Planning Contracts: 18%

Construction delays have the largest impact to the negative float (60% from 9 projects total). Staff are working with consultants and contractors to implement recovery schedules and understand impacts to the FY24 budget for uncompleted work.

Capital Budget





Project Updates

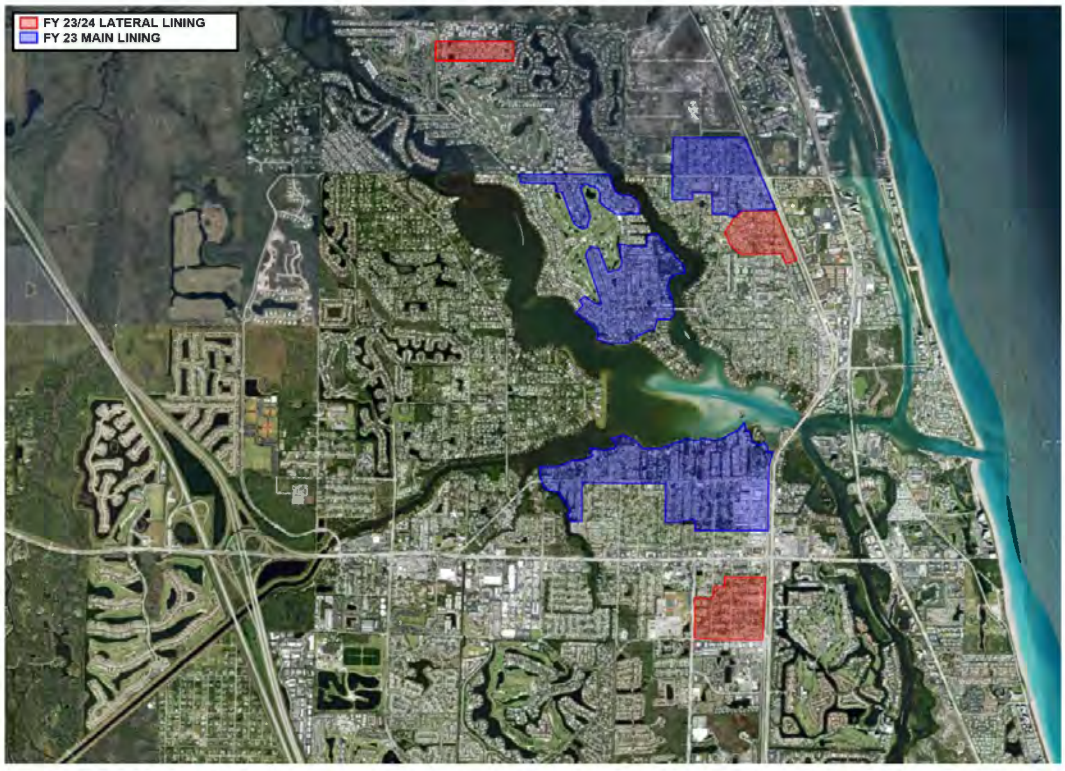
Science Center and Jupiter Inlet Lighthouse Outstanding Natural Area (aka: BLM House Renovations): Staff are evaluating alternate renovation approaches.

2500 Jupiter Park Drive Site Planning: Since the presentation to the Board in May 2022, staff and the consultant have continued to make progress on the massing study, architectural programming, potential treatment facility footprint and security review. Once these components are complete staff will provide revised site plans for Board discussion and consideration. See Chen-Moore's engineering report for more details.

20 Acres/9278 Indiantown Road: Design bid is scheduled to complete with award in late 2024. The consultant submitted the 30% design plans on July 12, 2023.

In-house Projects

Gravity System Rehabilitation – Cleaning, TV Inspection and Lining:



Main lining work is complete in LS018, LS041, and LS054 systems. Work is substantially complete with punch list items remaining to reach final completion, now anticipated in July 2023.

The Board awarded lateral lining contracts for LS018, LS041 and LS054 in November 2022. A preconstruction meeting was held on January 11, 2023. The Contractor has completed cleaning and CCTV work in LS041 and LS054 systems. The Contractor has started the lateral lining in LS041 and LS054 systems.

The Board also awarded main lining contracts for LS050 in November 2022 and LS070 and LS071 in December 2022. Work commenced in January 2023. Main lining work in LS050 is completed, and the Contractor is currently working on punch list / closeout items with anticipated final completion in July 2023. Cleaning and CCTV work ahead of the main lining work in LS070 and LS071 began in May 2023. The Village of Tequesta's Council approved extended working hours as requested by the Contractor for the LS070 and LS071 project due to the longer curing timeframe, equipment and MOT set-up required for the larger diameter mains included in this project. Main lining in LS070 and LS071 began in June 2023 and is ongoing.

In April 2023, the Board awarded a main lining contract for LS011, LS012, LS014, LS027 and LS190 collection systems. Main lining work included in this project anticipated to begin following completion of the LS070 and LS071 main lining work.

Lift Station Rehabilitations General Construction Services:

Lift Station	Inspection	Design	Procurement	Construction
064	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
095	COMPLETE	IN-PROCESS	----------	----------
131	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
174	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
210	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
211	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
233	COMPLETE	COMPLETE	COMPLETE	IN-PROCESS
242	COMPLETE	COMPLETE	IN-PROCESS	----------

Pre-construction meeting was held on March 15, 2023 for LS064, LS131, LS210, LS211, and LS233 Rehabilitations. Material submittals and permitting is complete. Contractor was issued NTP for May 15, 2023 and started work on LS064 and LS210. Anticipated substantial completion date of October 13, 2023.

LS174 rehabilitation is anticipated to be completed separately by in-house construction staff. Permitting for this project is currently in-progress.

Manhole Rehabilitation:

Staff utilized a piggyback contract mechanism to contract for select manhole rehabilitation work that has been identified per field inspections.

Pre-construction meeting was held on March 15, 2023 for five (5) manhole rehabilitations (LS087-MH20, LS087-MH21, LS065-MH50, LS062-MH45, LS154-MH01). Material submittals, permitting, and manhole rehabilitation is complete. Project is complete.

Pre-construction meeting for two (2) manhole rehabilitations (LS043-MH15 and LS090-MH05) was held on June 14, 2023. Shop drawing submittals are under review.

Collections System Rehabilitation:

Staff utilized general services contracts (18-005-LSGENCONSTR, 20-007-WWRECGENCONSTR, 22-005-00115 GENERAL SERVICES – ELECTRICIAN SERVICES) to contract for the following collection system rehabilitation projects:

- Abacoa Town Center Phase 2 – Maxicom Site 21 (ABS21) – replace breaker panel
- Abacoa POA – Maxicom Site 6G (ABS06) – replace breaker panel
- Abacoa Vintage – Maxicom Site 27 (ABS27) – replace breaker panel
- Lift Station 069 – replace meter can
- Lift Station 091 – replace meter can
- LS108 – install concrete slab and conduit from valve vault to RTU panel for permanent pressure recorder
- 5th Street and S Orange Point Repair
- Town Hall Point Repair

Pre-construction meeting for this work was held on June 14, 2023. NTP was issued for the Town Hall Point Repair on July 12, 2023 and the 5th Street and S Orange Point Repair for July 17, 2023. Shop drawing submittals for the remaining work items are under review.

***Neighborhood Sewering/Remnant Properties*:**

5331 Center St.: Design and permitting are complete for 5331 Center Street. Pricing and material submittals have been coordinated with the Contractor and approved. This project includes a single service to be installed in easements coordinated by the property owner. Construction is complete.

18041 69th Terrace: The property owner at 18041 69th Terrace provided easements and requested staff install sewers to a proposed two-unit residential project. Design and permitting are complete. This project includes a single service to be installed in easements. Construction is scheduled to begin the week of July 17, 2023.

109-111 Old Jupiter Beach Road: Design is complete for 109-111 Old Jupiter Beach Road. The project includes two services and low-pressure force main to be installed in existing roadway ingress/egress easement. Homeowners were provided information on 9/22/21 and 7/13/22. Homeowner at 109 Old Jupiter Beach Road has entered into an agreement and paid connection charges. Project is moving forward into permitting.

Island Way LPSS: Design is complete and project is in permitting. The project includes two services and low-pressure force main to be installed in the right of way.

Other: Staff are working with IT and customer service to confirm remnant sewering and update priority listing based on property access rights.

Statutory Way of Necessity:

Jamaica Drive Low Pressure Sewer: Over the last two years staff have been coordinating with two property owners for utility easements to install sewers to their properties on Jamaica Drive without success. At this time both property owners have determined Statutory Way of Necessity is the preferred option and entered into letter agreements for staff to proceed on their behalf.

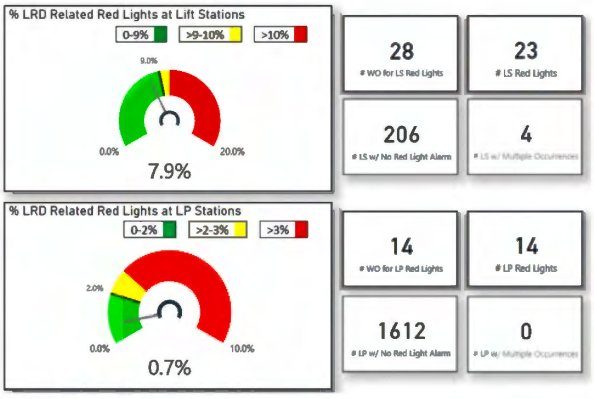
Agreements are in place. Pricing and material submittals have been coordinated with the Contractor and approved. Construction is complete and notice to connect has been issued.

Harbor Road South Low Pressure Sewer: Design is in progress. The project includes one service and low-pressure force main to be installed within ingress/egress easement.

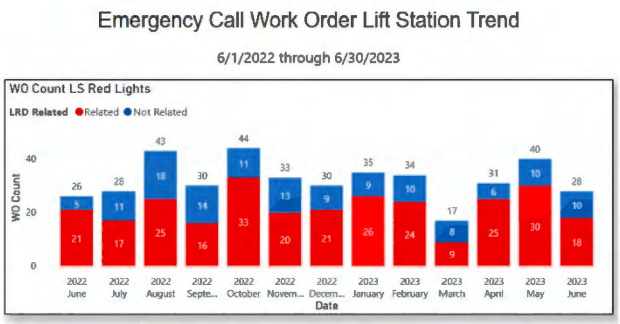
COLLECTIONS AND REUSE

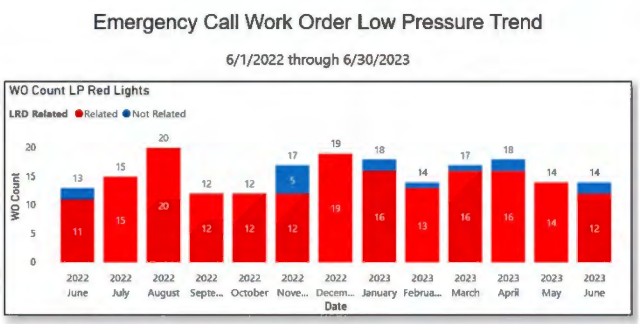
Lift Station Red Lights: This month the system experienced 34 total red lights. 16 lift station red lights (with 3 stations experiencing multiple red light events) and 18 low pressure red lights (with 2 stations experiencing multiple red light events).

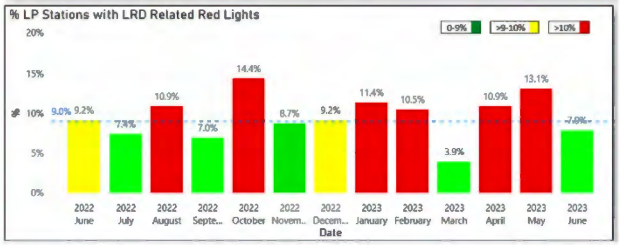
Red Light Emergency Call Work Orders Dashboard
June 2023

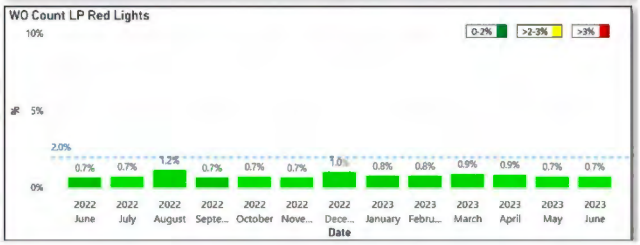


Red Light Emergency Call Work Orders Dashboard
April 2023 through June 2023



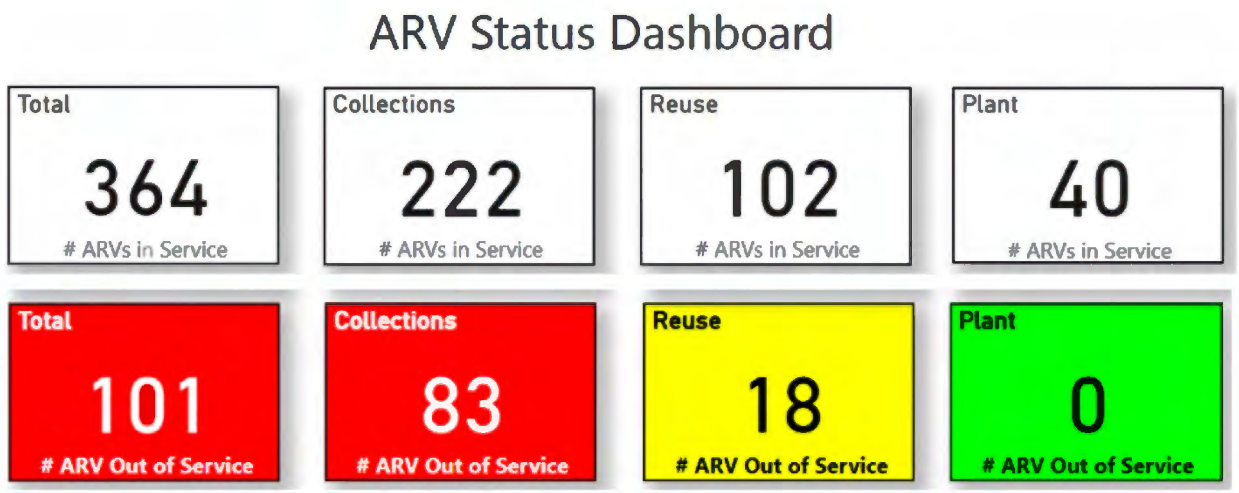




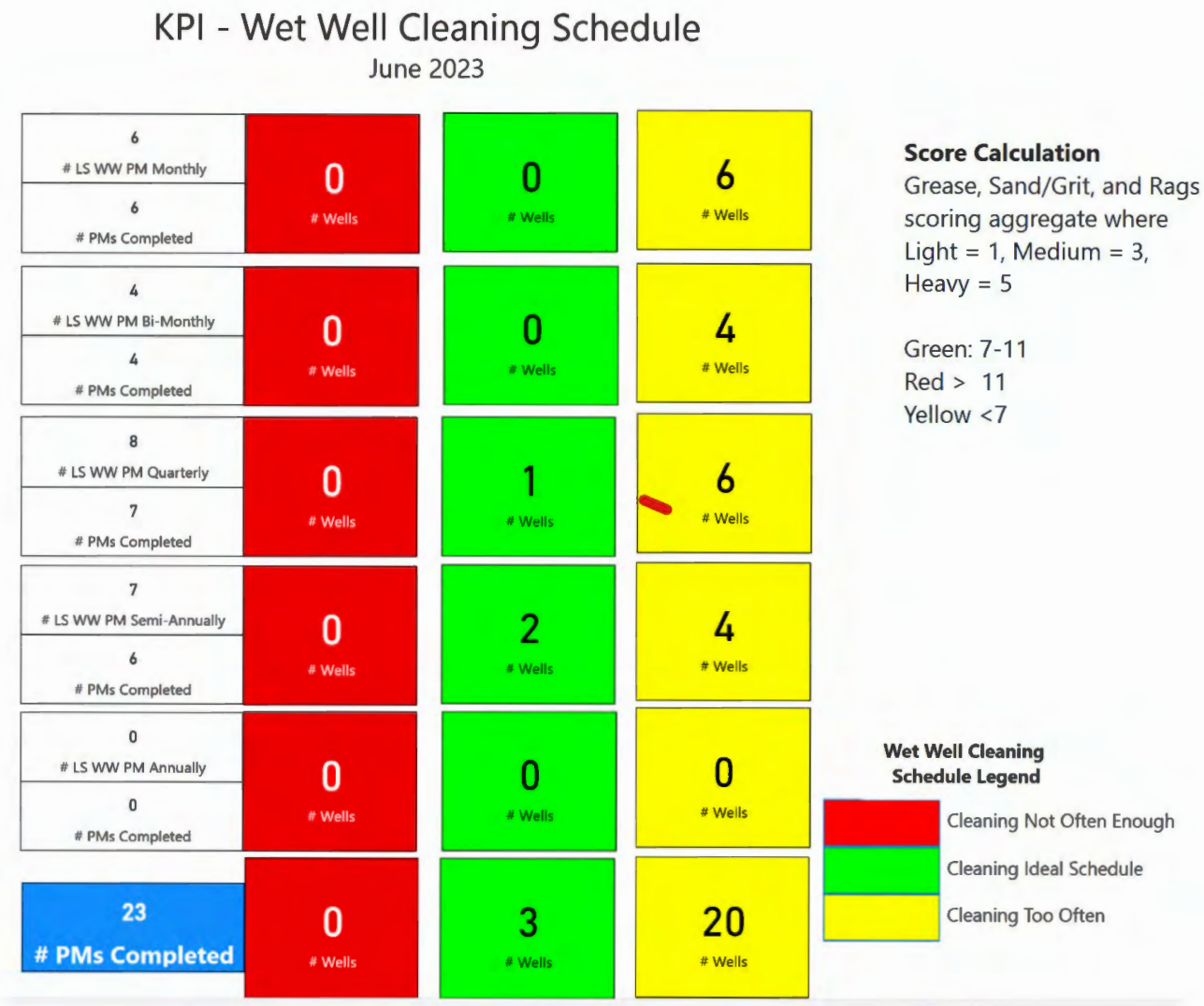


Work Order counts due to red lights exclude red lights due to FP&L power failure since staff have no mechanism to impact FP&L performance during inclement weather or other power outages. Staff continue to include FP&L power outages in the 3-month rolling average for repeat stations and work order counts to facilitate FPL coordination on problem areas and potential use of portable standby power to ensure continuity of service.

Air Release Valves (ARV):



Wet Well Cleaning:



UNAUTHORIZED DISCHARGES (fka SANITARY SEWER OVERFLOWS)

There were 3 unauthorized discharges in the collection-transmission-distribution system this month.

On June 21, 2023, the District had an unauthorized discharge of 72 gallons of sewage from a 6 inch force main (LS210-FM01) located on Mullin Street in Jupiter, FL. The unauthorized discharge was caused when liquid breached a plastic lined containment area installed during scheduled maintenance on the force main. The unauthorized discharge was stopped when a temporary repair band was applied to the force main until further isolation of system was executed. The unauthorized discharge was absorbed into the soil. A pre-staged District vacuum truck was used to excavate approximately 0.2 cubic yards of contaminated soil. There was no additional cleanup. No known storm drains or bodies of water were affected.

On June 28, 2023, the District had an unauthorized discharge of 8,000 gallons of sewage from a force main (LS025-FM01) located on Jupiter Hospital Road in Jupiter, FL. The unauthorized discharge was caused when a contractor performing a directional bore damaged a 6-inch force main. The unauthorized discharge was stopped when District personnel isolated and shut down pumping systems until the repair was made. One hundred (100) gallons of the unauthorized discharge flowed eastward for 175 feet and westward for 50 feet along south edge of Jupiter Hospital Road, a portion of the unauthorized discharge was absorbed into the soil. The remainder of the unauthorized discharge was contained in the immediate area around the damaged force main and recovered. Thirteen thousand (13,000) gallons total liquid was recovered including standing rainwater, unauthorized discharge, and potable water used for cleanup. Liquid was recovered using the contractor's pump truck and a District vacuum truck. Approximately 13 cubic feet of soil was excavated and properly disposed of. All affected areas were disinfected with lime and cleaned with potable water. No known storm drains or bodies of water were affected.

On June 30, 2023, the District had an unauthorized discharge of twenty (20) gallons of sewage from a gravity service clean out (LS018-CO054) located on 5th Street, Jupiter, FL. The unauthorized discharge was caused when a contractor blocked a gravity service during a cured-in-place-pipe lining project. The unauthorized discharge was stopped by discontinuing use of water until repairs were made. Some of unauthorized discharge was absorbed into the soil in the immediate area around the clean out. The affected area was disinfected with lime and cleaned with 90 gallons of potable water of which 90 gallons were recovered with a District vacuum truck. No known storm drains or bodies of water were affected.

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Albrey Arrington, Ph.D., Executive Director

FROM: Jason A. Pugsley, P.E., Operations – Plant Manager

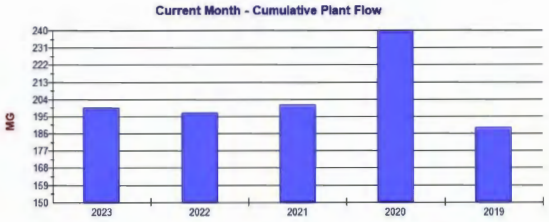
DATE: July 14, 2023

SUBJECT: June 2023 Operations Department Monthly Report

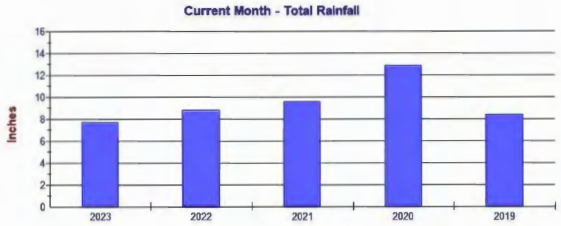
Treatment Plant Division / Maintenance Department

Overall, the month of June was productive with all monthly reports prepared and submitted on time. There were no permit exceedances this month. The treatment plant generally operated efficiently and met all treatment objectives. During the month, influent flows to the plant were slightly less than the flows during the previous month. The decreasing trend in influent flows to the plant continue to be consistent with historical values during the summer months. The plant did not experience any unauthorized discharges during the month of June.

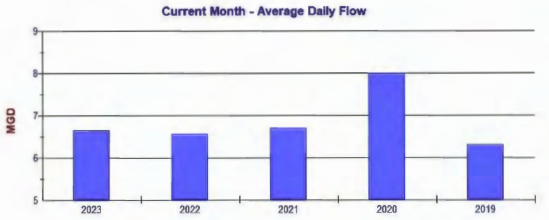
Graphical summaries of the plant flows and rainfall during the month of June, including comparisons with plant flows during the previous month (i.e., May 2023), are presented below.



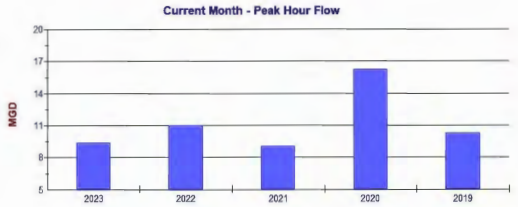
The Cumulative Influent Flow to the plant for the month of June was 199.63 million gallons. This is less than the May flow of 208.98 million gallons.



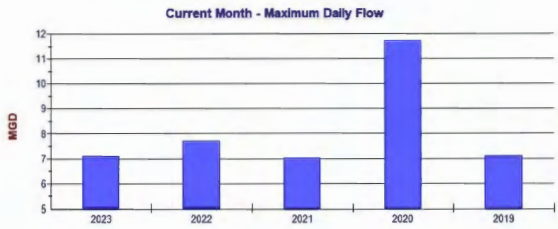
7.75 inches of total rainfall was recorded at the plant site during the month of June. This is greater than the May rainfall recorded 5.45 inches.



The Average Daily Flow (ADF) for the month of June was recorded at 6.65 MGD compared to 6.74 MGD during the month of May and 6.57 MGD during June 2023.

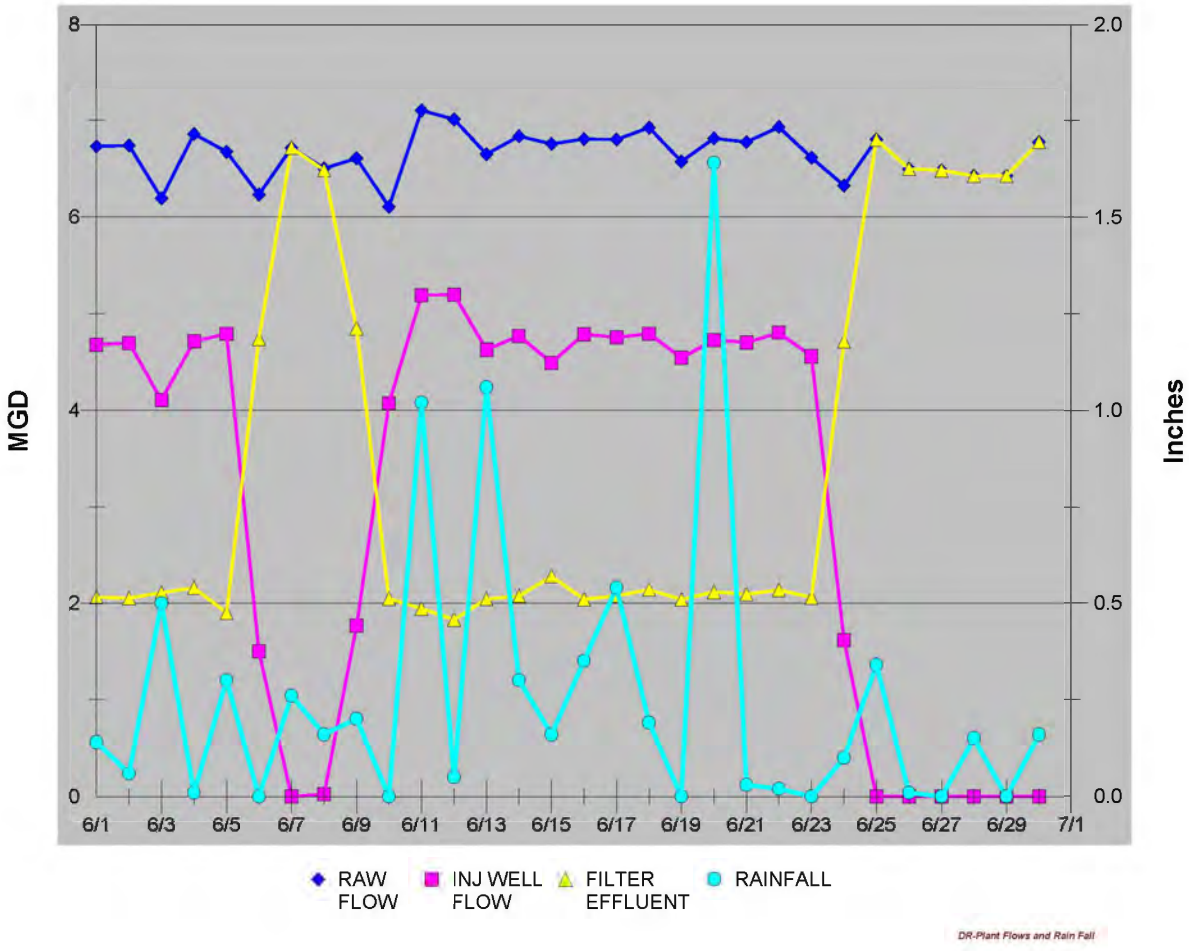


The Peak Hour Flow (PHF) for June was 6,520 GPM which equates to an equivalent daily rate of 9.39 MGD. This is roughly equivalent to the PHF for May of 6,514 GPM (9.38 MGD).



The Maximum Daily Flow (MDF) in June was 7.10 MGD. This is slightly less than the MDF for May of 7.45 MGD.

For the month of June, 53.13% or 106.07 MG of the cumulative influent flow to the plant was sent to the IQ storage system where it was distributed, as needed, to the various golf courses and the Abacoa development sites. A total of 93.88 MG of blended effluent was diverted to the Deep Injection Well. The plant delivered a total of approximately 142.22 million gallons of IQ water to the reuse customers during the month of June.



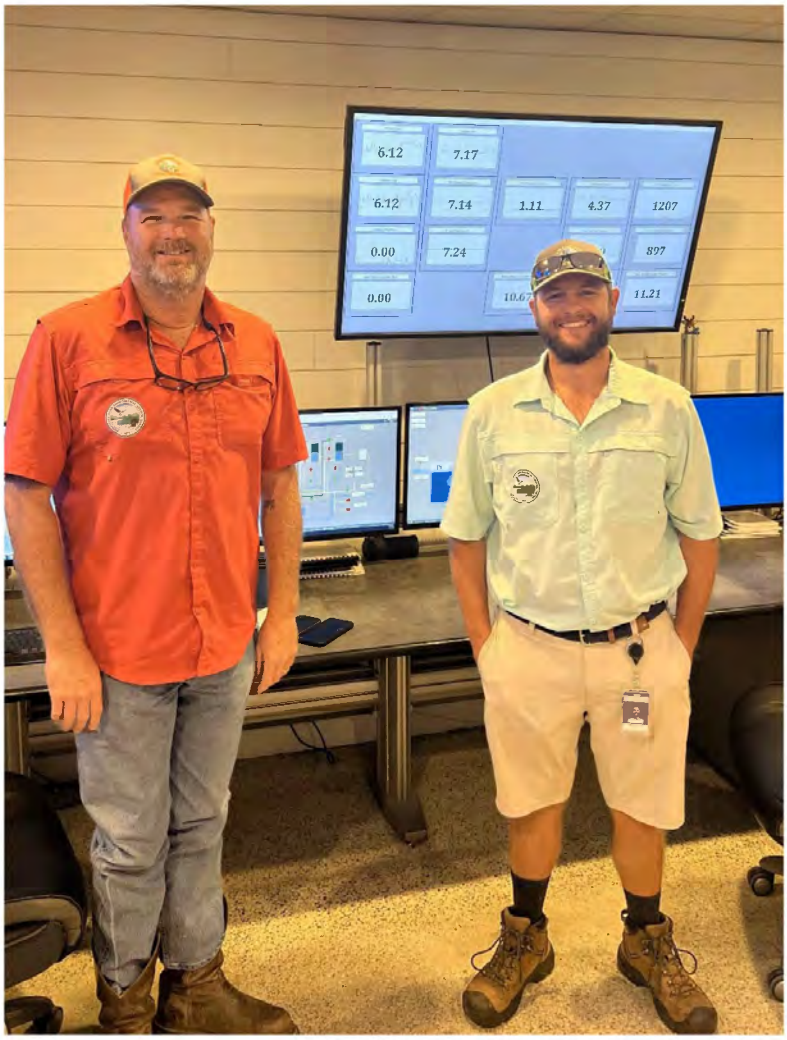
Year to date (i.e., Calendar Year 2023), approximately 82.51% of all influent flow to the plant was treated and available for reuse as IQ water. The total volume of IQ water distributed to reuse customers for the year stands at 1,234.53 million gallons.

All monthly reporting was submitted on time.

Treatment Plant:

Operations Staff continued to perform routine monitoring, sampling and general maintenance of equipment and structures. Staff also worked and/or provided operational assistance during the execution of various special and/or capital improvement projects. A few of the projects are discussed below.

Operations Staff worked closely with the District's Information Technology (IT) Team to replace a network switch which failed during a weekend shift. Network switches are critical to the operation and function of the communication system associated with the plant supervisory control and data acquisition (SCADA) system. The SCADA system is the control system which allows for the automated operation of critical treatment process equipment at the District's wastewater treatment facility (WWTF). Upon failure of a network switch, plant Operators can no longer view or control the equipment remotely. During the recent failure, all plant equipment shut-off and plant operators had to respond quickly in a strategic and coordinated manner to re-energize and restart critical plant process equipment in the manual (i.e., "HAND") mode locally. Plant Operators, John Gould and Remi Gadoua, were able to quickly assess the failure and promptly responded to regain control of the plant process to establish steady-state conditions. As a result of John and Remi's training and high-level of skill, plant treatment processes were restored without the occurrence of an unauthorized discharge or a permit exceedance. A special shout-out to the District's IT Manager, Joe Chung, who responded quickly and was onsite within an hour to replace the failed network switch and assisted the plant Operators in bringing the plant SCADA system back online. While stressful, these types of incidents provide real life opportunities for Staff to put their skills to the test. John and Remi certainly passed with flying colors.



Plant Operators John Gould and Remi Gadoua

During the month, Operations Staff worked with our electrical service provider, Florida Power & Light (FPL) to perform our annual load control test. FPL's load control program allows FPL to reduce the peak demand on its power generation and transmission/distribution infrastructure by controlling and shedding customer loads of 200 kilowatt (kW) or greater during periods of extreme customer demand or capacity shortages. FPL's industrial load control program closed to new participants in 2000. To complete the load control test, FPL terminates the flow of electricity to the two primary electrical service feeds at the District's WWTF. Upon sensing the loss of primary power, the two main diesel driven generators at the WWTF start-up to provide power to all treatment plant processes equipment and control systems. The load control test duration is approximately 1-hour. At the conclusion of the test period, FPL reenergizes the primary electrical services to the WWTF and the two main generators are taken offline and subsequently shut-down following a cool down period. The District's participation in FPL's load program results in a significant cost savings in the peak demand unit rate.

Florida Power & Light Load Control Monitoring Panel

Lastly, the Operations Team worked with the equipment manufacturer, Hach Company (Hach), to perform the annual servicing and calibration of all Hach process control instrumentation and bench meters. As part of this work, the manufacturer performs a detailed review and assessment of the current condition, functionality and accuracy of each instrument and meter. The equipment is tested against known standards and, where required, firmware updates are completed to ensure that the operating system of each meter is the most recent version available. Upon completion of the servicing, Hach issued a "Certificate of Instrument Performance" for each instrument/meter. The Certificate documents that the unit has been assessed and determined to be in proper working order and providing results within acceptable tolerances, for the respective process parameter. There were no equipment issues or accuracy deviations discovered for any of the meters serviced as part of this annual event.

HACH SERVICEPLUS

Certificate of Instrument Performance

Company Name: LOXAHATCHEE RIVER
Account Number: 039289
Contract Number: WO-01410344
Certification Number: WO-01410344

Part Number:	LPV440.99.00012, db aa DR3900 SPECTROPHOTOMETER WITH RFID
Serial Number:	1626710
Asset Tag :	

RECEIVED CONDITION: *(One must be Checked)*	☒	Pre-Servicing Check Out Tests, NOT performed
	☐	Within Tolerance
	☐	Within Tolerance but Limited *(*see servicing notes)*
	☐	Out of Tolerance *(*see servicing notes)*
RETURNED CONDITION: *(One must be Checked)*	☒	Within Tolerance
	☐	Within Tolerance but Limited *(*see servicing notes)*
	☐	Out of Tolerance *(*see servicing notes)*

Chemical Standards Used, (ID#):	Test Equipment Used, (ID#):
N/A	Extech, Temperature/Humidity Pen, 44550, SN ID: TH403, Exp: 02/2024 Hach, DR Series Test Filter Set, Part #: LZV537, Test Filter Set Lot #: 5509, Exp: 11/30/2024

Environmental Conditions
Temperature: 26 °C Humidity: 58 %

Hach Company does hereby certify that the above listed equipment meets or exceeds all Manufacturer's Service Specifications (unless limited conditions apply). Test equipment and chemicals used for performance verification are calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Where such standards do not exist, the basis for calibration is documented. The proper operation of the above instrument was established at the time of certificate issuance. To insure continued performance, user must adhere to all requirements listed in the instrument manual.

Certified by: Jorge Ronquillo Certification Date: 6/12/2023

Signature: Title: Authorized Service Representative

Hach Instrument Calibration Certificate Example

Maintenance Department:

The Maintenance Department continued to efficiently perform planned maintenance (PM) tasks over the last monthly period. In addition to the completion of standard PM tasks, the Maintenance Department addressed non-routine maintenance items as well as "special projects." A few examples of these types of projects are presented below.

Maintenance Team members completed the demolition and repair of the cast-in-place concrete equipment pad beneath one of the two non-potable, process water pumps located at the downstream side of the chlorine contact chamber (CCC). The non-potable water (NPW) pumps provide reclaimed quality water for use throughout the plant for uses including, but not limited to, equipment washdown, pump seal lubrication and clarifier surface scum spray systems. At first glance, the work required to replace this pad seemed to be trivial, but it actually required a bit of planning and effort to execute. This is because to perform the work, the affected NPW pump, motor, discharge head and connecting piping needed to be disassembled and removed. The existing pad had to be carefully demolished to prevent debris from falling into the effluent box of the CCC. Once demolished, Maintenance Team members installed steel reinforcing dowels to tie the new equipment pad into the top slab of the CCC effluent box, a critical step which was not completed during the placement of the existing pad. Staff then formed up the replacement pad and installed a mat of reinforcing steel. Upon placing the concrete for the pad and allowing it to cure for a couple of days, Staff worked with a crane vendor to reinstall the pumping unit and piping and placed the pump back into service.

Broken/Cracked Concrete Pad at NPW Pump

New Concrete Pad at NPW Pump

Maintenance Team members completed a major overhaul of the main hydraulic cylinder on the Case loader. The loader is a critical piece of heavy machinery which allows Staff to work more efficiently and perform larger tasks which would otherwise be extremely time consuming or would require the rental of equipment. After years of service and proper maintenance, the main cylinder seals failed and developed significant fluid leakage around the cylinder shaft seal. Maintenance Team members were able to remove the main cylinder and transport it to a vendor for overhaul and replacement of all cylinder seals and worn parts. Upon overhaul by the vendor, Staff reinstalled the cylinder, and the loader was placed back into service without issue.

Case Front End Loader

Overhauled Main Cylinder on Case Loader

Lastly, Maintenance Team members completed repairs to replace the external cooling fan on one of the sludge storage tank process air blower motors. The motor is a 60-horsepower, total enclosed, fan-cooled (TEFC) type motor. TEFC motors are equipped with an external fan on the end of the blower which directs air across the motor housing/casing to maintain the motor temperature within the appropriate operating range. TEFC motors vary from open drip proof (ODP) type motors in that the motor housings of TEFC motors are completely sealed making them ideal for use in outdoor applications where dust/airborne contaminants and rain-driven rain can impact motor operation and decrease their useful life expectancy.

During a routine planned maintenance (PM) activity, Staff discovered that the externally mounted fan blade was damaged and did not appear to be properly functioning. Upon further inspection, Staff determined that the operating temperature of the motor exceeded the motor manufacturers recommended operating range. The blower was removed from service and locked out for maintenance. After reviewing the potential options for repair and confirming that the motor was in otherwise sound working condition, Staff determined that replacement of the external fan would be significantly more cost effective than the complete replacement of the motor. The ability to make these types of repairs in-house results in significant cost savings and time. In the end, the replacement parts were ordered, and the blower was repaired and available for service within a couple of working days.

Sludge Storage Tank – Blower Motor

Blower Motor -External Fan Replacement

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Albrey Arrington, Ph.D., Executive Director
FROM: Bud Howard, Director of Information Services
DATE: July 13, 2023
SUBJECT: Information Services Monthly Governing Board Update for June 2023

WildPine Ecological Laboratory

Riverkeeper Project

In June, the lab staff and our partners collected 144 water quality samples from 25 monitoring stations throughout the watershed. A total of 69 fecal indicator bacteria samples were analysed in support of additional testing for the weekly bacteria monitoring program and the additional monthly testing in Jones and Sims Creeks.

The overall water quality score for June 2023 was “Fair” with 74% of all samples meeting the EPA/DEP water quality criteria. This was down from last month’s score of 80% and slightly lower than last year’s score of 76% for June (see score card below). The score this month was driven by lower chlorophyll and phosphorus scores than last month that corresponded with higher than average precipitation.

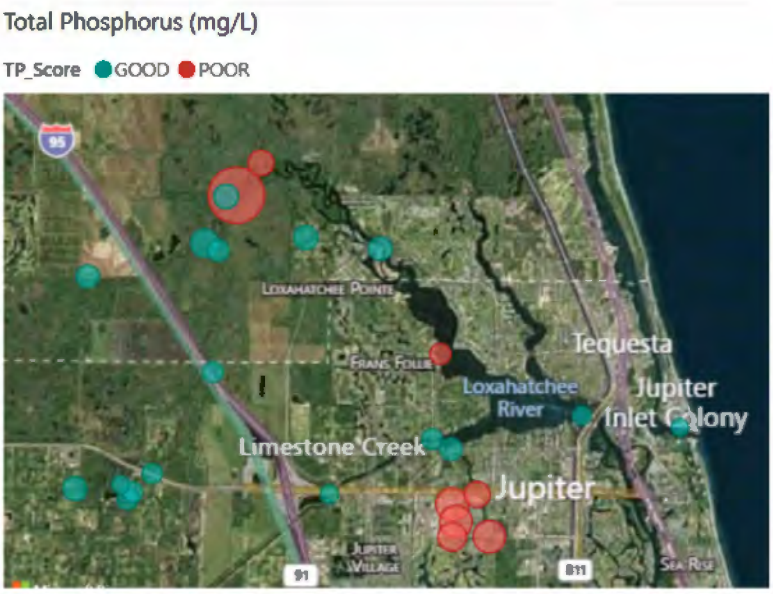
For the core parameters, *Total Nitrogen* scored “Good” during June with 92% of sites meeting the water quality criteria. This was slightly better than last month’s score of 87% and last year’s score of 88%. *Total Phosphorus* scores went from “Good” to “Fair” with 68% of sites meeting the water quality criteria, which was worse than last month’s 80% and last year’s 75%. *Chlorophyll* scores went from “Fair” to “Poor”, with only 48% of sites meeting the water quality criteria, also lower than last month’s 60%, and last year’s score of 69%. For the combined *Fecal Indicator Bacteria* (fecal coliforms in all waters, enterococci in marine and brackish waters and *E. coli* in fresh waters), June squeaked in at “Good” with 80%, slightly lower than last month’s score of 84%, and better than last year’s score of 75%.

TN: Total Nitrogen, TP: Total Phosphorus, CLA: Chlorophyll a, BAC: Enterococci and E. coli bacteria

Year	Month	# Samples	Overall Score	# TN Samples	Total Nitrogen Percent Good	# TP Samples	Total Phosphorus Percent Good	# CLA Samples	Chlorophyll Percent Good	# BAC Samples	Bacteria Percent Good
2023	June	144	74%	25	92%	25	68%	25	48%	69	80%
2023	May	173	80%	30	87%	30	80%	30	60%	83	84%
2023	April	157	76%	30	100%	30	80%	30	43%	67	79%
2023	March	125	89%	19	100%	19	100%	19	74%	68	87%
2023	February	159	88%	28	93%	28	96%	28	75%	75	88%
2023	January	160	85%	30	100%	30	90%	30	53%	70	90%
2022	December	164	75%	29	93%	29	86%	29	76%	77	64%
2022	November	120	77%	18	100%	18	83%	18	56%	66	74%
2022	October	160	71%	30	100%	30	73%	30	40%	70	71%
2022	September	104	81%	19	100%	19	95%	19	79%	47	68%
2022	August	162	80%	26	88%	26	88%	26	77%	84	76%
2022	July	159	72%	30	93%	30	70%	30	47%	69	75%
2022	June	123	76%	16	88%	16	75%	16	69%	75	75%
Total		**1910**	**79%**	**330**	**95%**	**330**	**83%**	**330**	**60%**	**920**	**78%**

Spatial Distribution of Water Quality Results

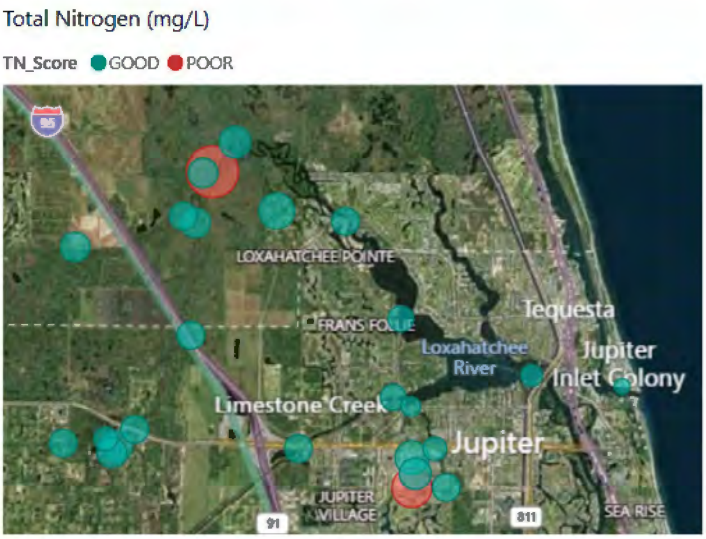
In June, *Chlorophyll* results met the water quality criteria at only 12 of 25 sites. The poorest stations were in Jones Creek and spread throughout the Northwest Fork (NWF) and Estuary. Five out of six Jones Creek stations scored “poor” with Delaware (DEL) having the highest concentration of all sites tested this month with 54 µg/L, 10 times higher than the stringent FDEP water quality criteria of 5.5 µg/L. This high result is not a great surprise because this sampling site is located at a dead-end canal with low flushing. The next highest chlorophyll result was measured at the Hobe Grove Ditch (HGD) station, a tributary into the upper northwest fork that drains an agricultural area through a series of canals, had a result of 40 µg/L, twice as high as the freshwater quality standard of 20 µg/L.



Total Phosphorus results scored "good" at 17 out of 25 sites in June. The "poorest" station this month was, again, Hobe Grove Ditch (HGD), which had a result of 0.30 mg/L, well over the water quality standard for that site of 0.12 mg/L, and was the highest result ever recorded at that site since monitoring started in 2020.

Five out of six stations in Jones Creek scored "Poor". Delaware (DEL) had the highest result at 0.13 mg/L, almost double its Numeric Nutrient Criteria (NNC) water quality standard of 0.075 mg/L for brackish water stations.

Total Nitrogen scored "good" at 23 out of 25 sites in June. The two "poor" scoring stations were in the Northwest Fork (NWF) and Jones Creek. Hobe Grove Ditch (HGD) had the highest concentration at 2.0 mg/L, above the water quality standard of 1.54 mg/L for freshwater stations. In Jones Creek, Jones Creek Upper (JCU) station scored "poor" with a result of 1.4 mg/L, just over the state standard of 1.3 mg/L for brackish waters.

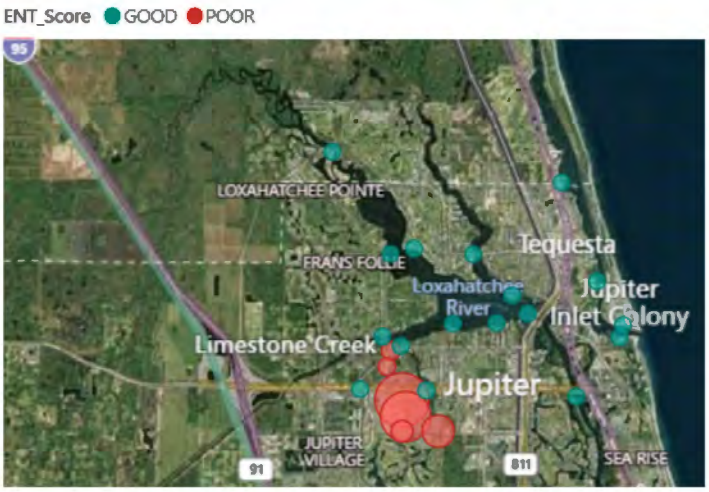


Hobe Grove Ditch (HGD) also had elevated Turbidity, Total Suspended Solids and Fecal Coliforms that corresponded with the high nitrogen, phosphorus and chlorophyll results. Staff also noted a turbidity plume (56 ntu) at the time of sampling and the tide was extremely low suggesting poor water quality coming from upland sources.

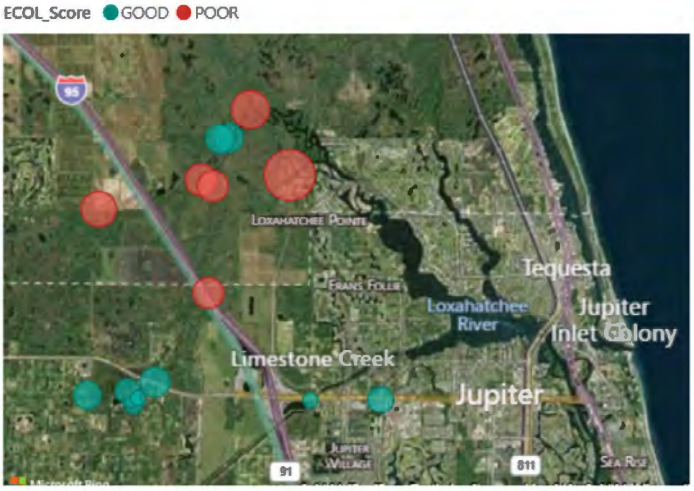
The overall *Fecal Indicator Bacteria* result scored "good" at 55 of 69 sites in June. For Enterococci bacteria (see map below left), the preferred indicator bacteria for salt and brackish waters, six stations scored "poor" when compared to the water quality standard of 130 MPN/100 mL. All six stations were sampled in Jones and Sims Creeks, with the highest concentration of 7,270 MPN/100 mL at Delaware (DEL). The Caloosahatchee Culvert (CALC) was also very high at 6,488 MPN/100 mL.

For E. coli bacteria (map below right), the preferred indicator bacteria for freshwater, six stations scored "poor" in June. Rivers Edge (Station 107), a tributary into the Northwest Fork, had the highest concentration this month at 985 MPN/100 mL.

Enterococci Bacteria - Criteria: 130 MPN/100mL



E. coli Bacteria - Criteria: 410 MPN/100mL



Fecal Coliform bacteria results, at the freshwater stations, showed notable increases in concentrations for the month of June 2023 when compared to prior and historical results (figure and table below). These sites were sampled on June 14, 2023, one day after a significant rain event with over 1 inch of rain falling throughout the watershed. The significant rain event, and the resulting significant freshwater flows washing off the landscape, likely influenced fecal coliform concentrations.

Fecal Coliform Bacteria - Criteria: 800 MPN/100mL

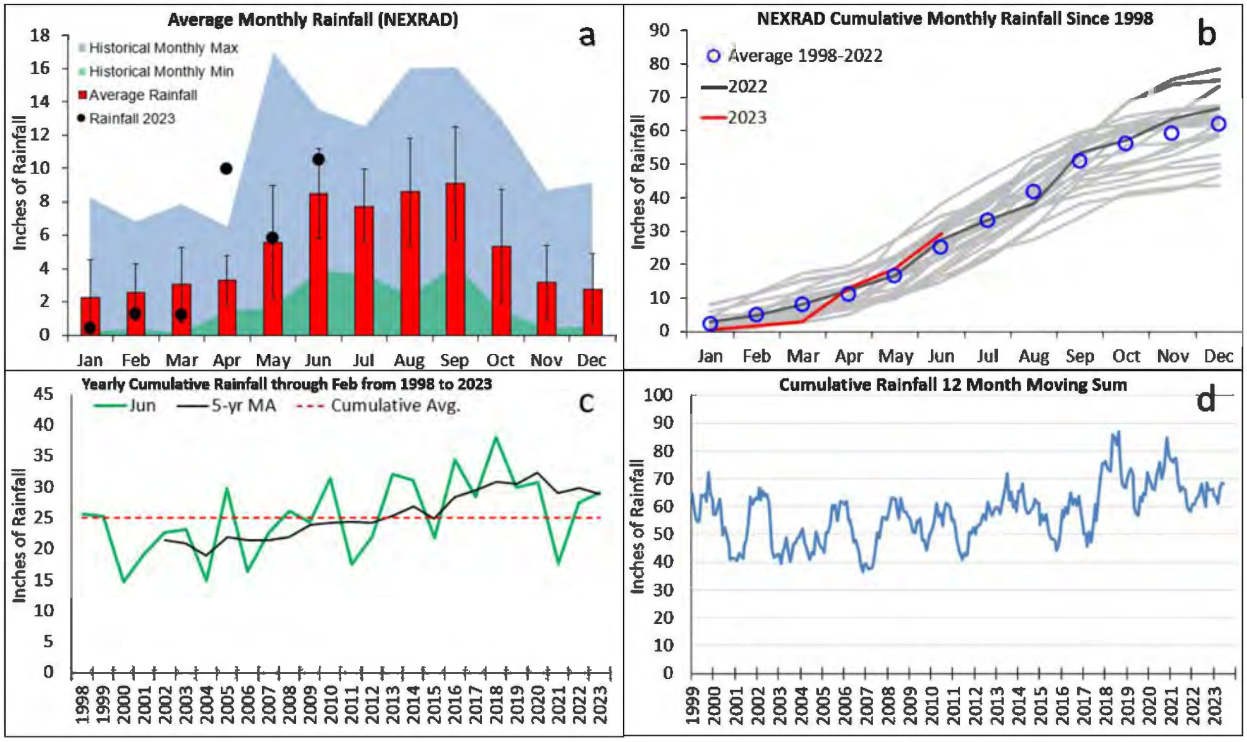
Fecal Coliform results January - June 2023 for select sites

Site	1/11/2023	2/14/2023	3/14/2023	4/17/2023	5/16/2023	6/14/2023
65	135	189	203	269	75	1,483
66	121	279	313	1,145	253	1,137
67	75	120	158	1,076	161	1,187
95	110	85	74	1,246	122	749
100	121	168	249	2,359	638	833
107	2,359	2,909	1,483	2,613	379	1,236
HGD	187	199	201	717	262	2,098

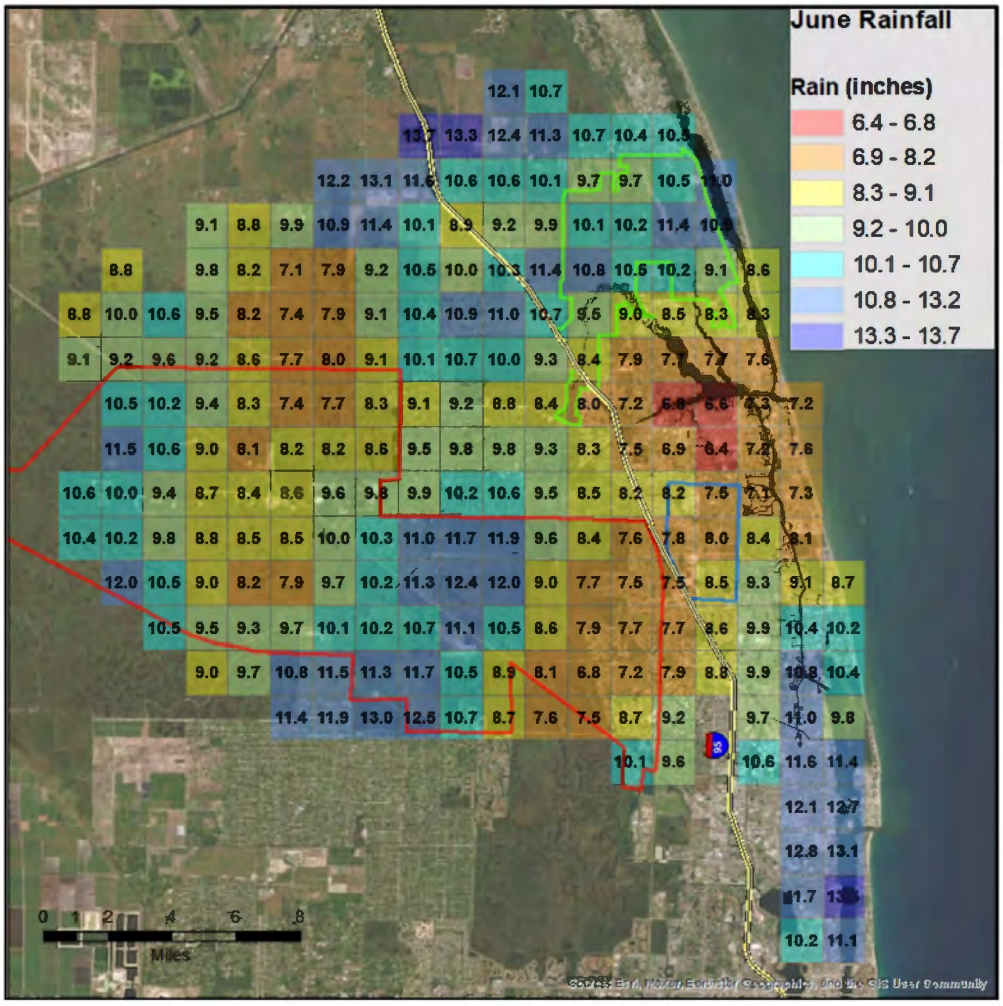
Hydrologic Monitoring

Rainfall

Rainfal across the watershed during June totalled 10.5”, about 23% higher than June’s historical monthly average of 8.5”. Year to date makes June the wettest month of 2023 and is the third consecutive month of above average rainfall (panel ‘a’ in figure below). Rain was detected within the watershed on 29 of the 30 days of June with the highest single day total of 1.2” occuring on June 21. Cumulative rainfall through June was 29.2” which is about 16% above the 25.2” average for the period (panel ‘b’ in figure below). Prior to April, cumulative rainfall had been near record low. However, yearly cumulative trends indicate that annual rainfall through June over the past couple years has returned to above-average levels (panel “c” below). The 12-month moving rainfall sum through June was 68.2”, right in line with the 68.1” moving sum from one year ago (panel “d” below). This long-term trend indicator shows that average rainfall within the watershed has shifted substantially upward since around 2017.



Figures above display various measures of rainfall. Panel (a) shows average monthly rainfall from 1998 to 2022 (red bars; error bars indicate ± 1 sd). Black dots indicate monthly rainfall for the current year. The blue and green shaded areas show the maximum and minimum rainfall ever recorded for each month. Panel (b) shows monthly cumulative rainfall for each year since 1998. Red line indicates cumulative rainfall during 2023; dark grey line indicates rainfall during 2022. Blue circles are monthly cumulative average rainfall measured between 1998-2022. Panel (c) shows cumulative annual rainfall using NEXRAD radar-based data. Green line indicates cumulative rainfall through indicated month for each year since 1998, when the radar-based rainfall measurements began. Black line is the 5-year moving average across all years and red dashed line shows cumulative average through indicated month. Panel (d) shows cumulative 12-month moving sum of monthly rainfall.

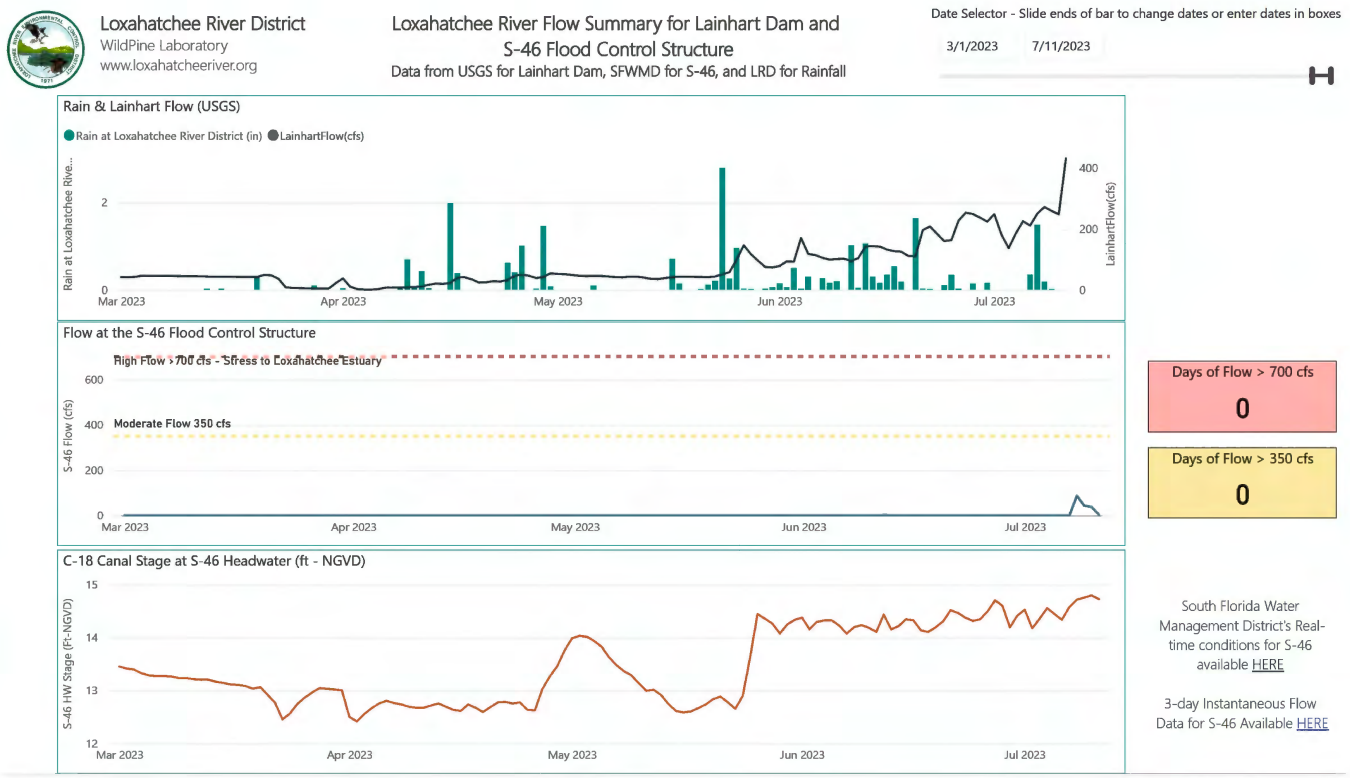


Rainfall distribution across the watershed using NEXRAD data. Each pixel represents an area of 2 km x 2 km. Blue colored pixels show highest rainfall and red pixels show lowest rainfall. For reference, the red line is the C-18 basin which includes portions of J.W. Corbett WMA, Loxahatchee Slough, and Pine Glades Natural Area; green line shows Jonathan Dickinson State Park boundary, light blue line shows the Abacoa development.

The spatial distribution of rainfall across the watershed during June ranged from 6.4” in the driest regions to 13.7” in the wettest regions (figure above). In general, the driest regions occurred in the urbanized portions of the watershed including Jones and Sims Creeks basin and the Abacoa community. The areas receiving highest rainfall were scattered around the watershed with significant accumulations of 13 inches or more in Jonathan Dickinson State Park, Loxahatchee Slough, and Palm Beach.

River Flows

The significant rainfall resulted in river flows measured at the Lainhart Dam ranging between 70 to 253 cfs with a daily average of 147 cfs, with an increasing trend throughout the month. Despite substantial rainfall and increasing river flows, the water managers from the South Florida Water Management District did not make any significant flood control releases into the estuary from the S-46 control structure. This suggests that operators were able to utilize the numerous natural areas throughout the watershed for water storage.

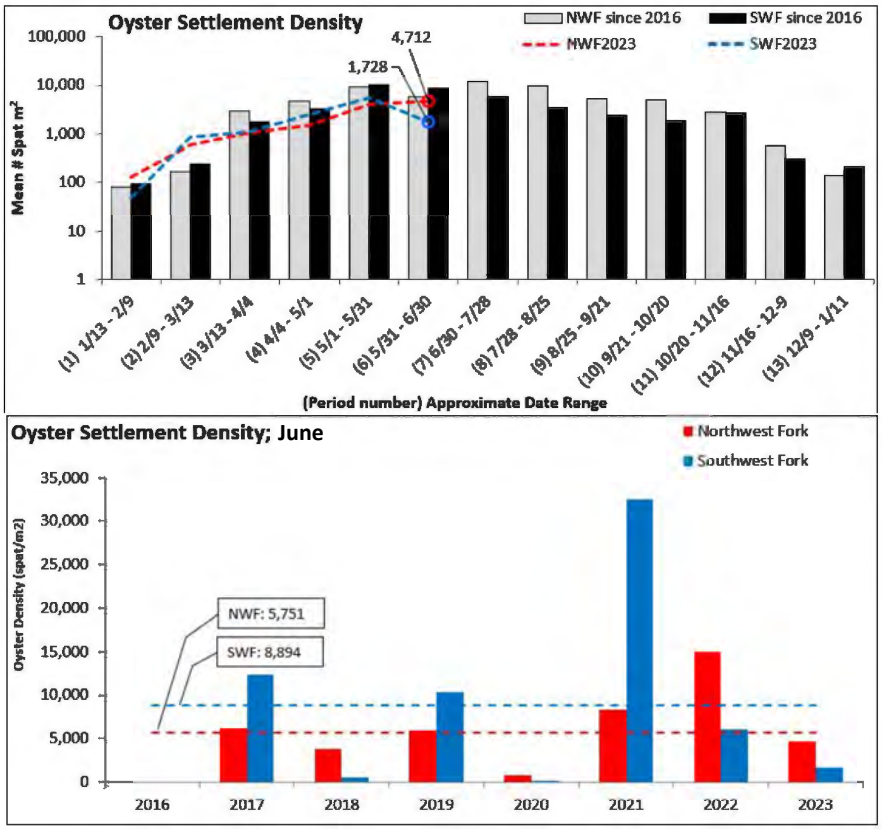


Loxahatchee River Flow Summary for Lainhart Dam and S-46 Flood Control Structure, March 1, 2023 through July 11, 2023. Top chart shows daily rainfall (inches, green bars) measured at the Loxahatchee River District (2500 Jupiter Park Dr) and the black line is the daily average river flows (cfs) measured at Lainhart Dam. The middle chart shows the flows (cfs) at the S-46 Flood control structure relative to estuary stress thresholds of 350 and 700 cfs established by LRD. The limited flow in late July was likely equipment testing/exercising. The bottom chart shows the water stage (ft-NGVD) in the C-18 Canal. Data from USGS and SFWMD. Updated chart available at loxahatcheeriver.org/river under MFL and page 4 of the visualization.

Oyster Spat Monitoring

Oyster spat settlement evaluation for the 28-day period ending June 28 showed below average oyster spat settlement in both forks of the river. In the Northwest Fork, average spat density was 4,712 spat/m^2 with 68%, of the activity occurring at the downstream site. This is marginally higher than the 4,059 spat/m^2 seen during the previous period, but is about 18% below the period average of 5,751 spat/m^2 and substantially below the 14,978 spat/m^2 seen during the same period last year (2022).

Oyster spat settlement in the Southwest Fork was 1,278 spat/m^2 with about 66% of the settlement occurring at the downstream site. This was a decline of 69% from the previous period density of 5,493 spat/m^2 and is about 81% below the period average of 8,894 spat/m^2 and about 72% below the 6,130 spat/m^2 seen during the same period last year (2022).



TOP: *Mean oyster spat settlement for the Northwest Fork (gray bars) and the Southwest Fork (black bars) since 2016. Dashed lines show oyster spat settlement the current year in the NWF (red) and SWF (blue). Note logarithmic scale of vertical axis.* BOTTOM: *Bar graph showing mean oyster spat density for the indicated period in both the Northwest and Southwest Forks of the river since 2016. This graph offers an historical perspective of oyster spat settlement activity in each of the river forks in June. Red and blue dashed lines show period mean oyster settlement density for the Northwest Fork and Southwest Fork respectively.*

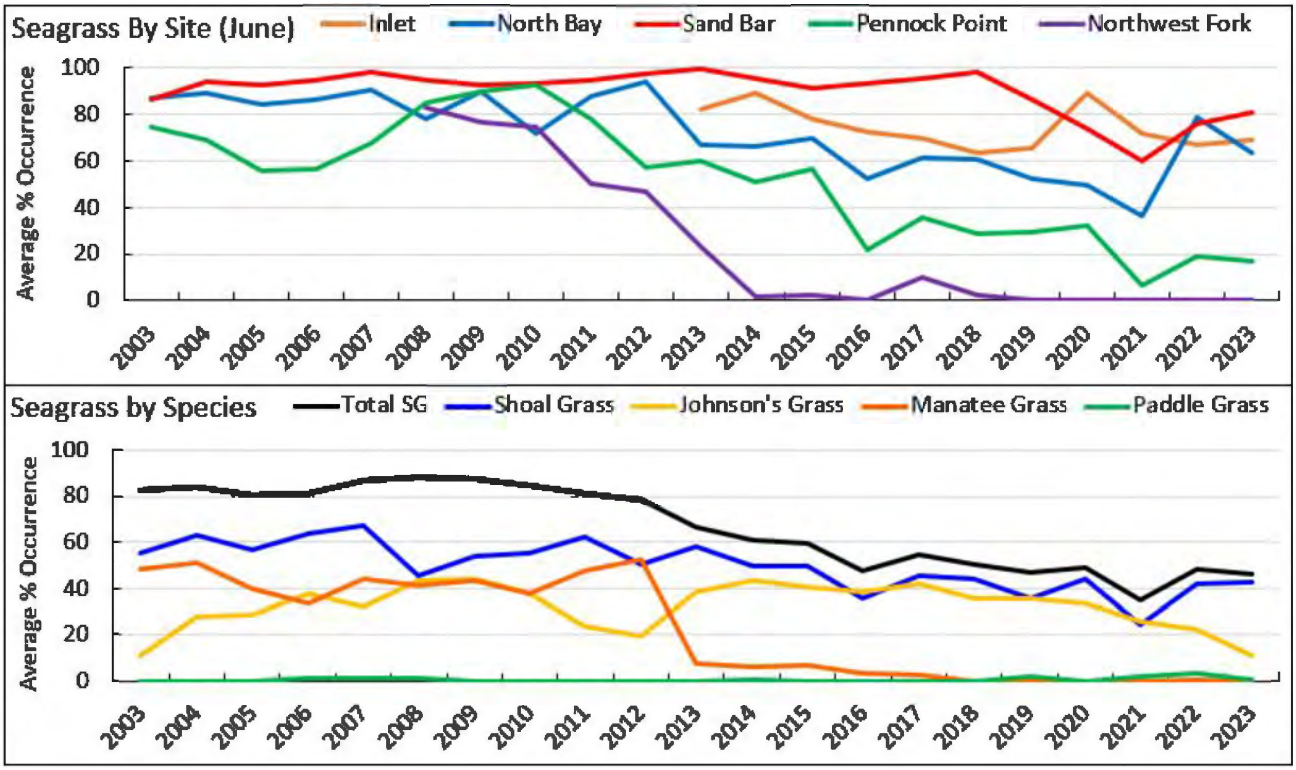
This suggest an early spawning season for oysters, a possible reduction in oyster settlement from higher river flows, or a combination of these and other factors (ex. temperature).

Seagrass Monitoring

As we entered the 20th year of monitoring of seagrasses in the Loxahatchee River estuary, the results for June indicate similar results to the sampling in late April. With these findings we remain cautiously optimistic as seagrass appears to have stopped the steady decline that we measured since 2012. The Inlet seagrass site continues to exhibit consistent seagrass presence during the month of June with a total seagrass occurrence of 69%. This is well within the historic range and slightly higher than the 67% observed during June of last year (2022). The North Bay and Sand Bar sites, both located within the central embayment of the Loxahatchee River Estuary, have shown increased presence in recent years. In June, the Sand Bar site continues this trend with 81% occurrence; a slight higher than the 76% during June of last year. North Bay showed a decrease with 63% occurrence this June compared to 79% from one year ago. The Pennock Point

seagrass site continues to show low seagrass presence at only 17% compared to one year ago at 19%, and the lowest June observation two years ago at only 7%. The Northwest Fork seagrass site continues to be absent of seagrass. For comparison, prior to the rapid decline beginning in 2010, all five sites had a total seagrass presence of between 80 to 100%.

Shoal Grass continues to be by far the most abundant and most widely distributed seagrass within the LRE and account for much of the seagrass presence. Johnson's Seagrass (*Halophila ovalis*, formerly *H. johnsonii*) remains a distant second in terms of abundance as it is still found at three of the five sites monitored in June; Johnson's is absent at Pennock Point and Northwest Fork sites. Interestingly, Johnson's seagrass has returned to the presence observed when we first started conducting seagrass monitoring in June 2003. Manatee Grass, once abundant at the North Bay and Sand Bar sites, is now occasionally present at the North Bay site, but remains absent at Sand Bar site. Turtle Grass and Paddle Grass were also present during June, but both were less than 1% occurrence.



Figures above show average percent occurrence of seagrass by site (TOP) and by species (BOTTOM) during June of each year beginning in 2003. The North Bay, Sand Bar, and Pennock Point sites include data back to 2003 when monitoring commenced. Northwest Fork (purple) and Inlet (orange) were added to the monitoring program later as indicated.

Fullerton Island and Sawfish Bay Seagrass Assessment

With the Town of Jupiter planning and building stormwater improvements near Fullerton Island and Sawfish Bay Park, we were interested in improving our understanding of seagrasses in that area of the estuary. So in June staff kicked off a project to assess seagrasses those waters. Staff designed the monitoring to be consistent with our landscape-scale seagrass mapping where seagrass presence is assessed using a collapsible 9m^2 ("quadzilla"). For this year's study, 250 points were randomly selected throughout the area to measure and collect seagrass presence data. The assessment is scheduled to be complete by the end of the seagrass monitoring season (October). We will prepare a summary report highlighting their findings.

Volunteer Water Quality

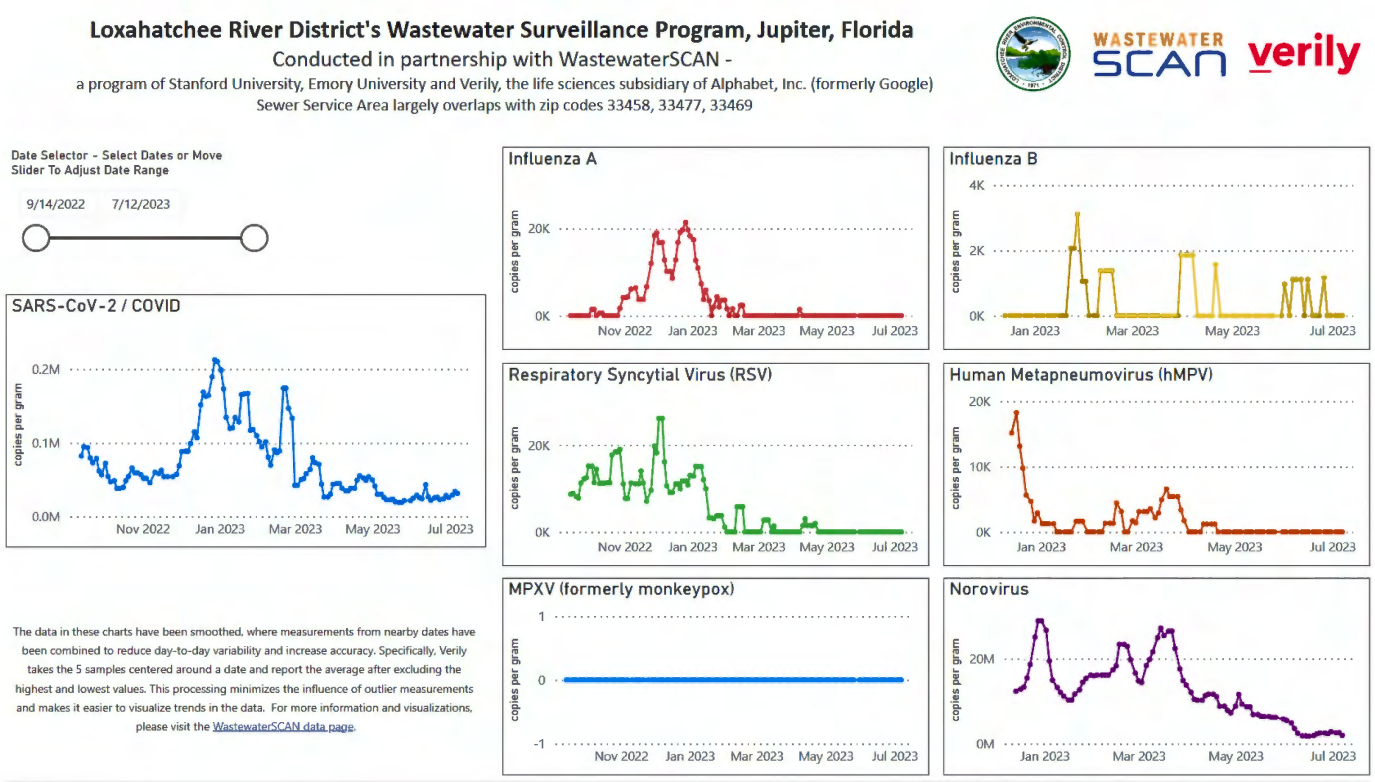
The weekly Volunteer Water Quality monitoring grade dipped to a low "B" in June. The results at the Jupiter Inlet site told a story of poor water clarity carried over from May. Water clarity improved in the middle of the month, but then degraded again at the end of the month. Poor clarity, lower dissolved oxygen levels, and tannin-stained river water pulled down the grade for the Jupiter Inlet to a solid "C". Station 22 (The Nature Conservancy at Blowing Rocks) also experienced less lower dissolved oxygen levels than last month. The results for all the rest of the parameters at Station 22 scored in the "Good" range which kept the overall grade for that site at an "A".

	Averaged results for the Month							Monthly Cumulative Grades						Cumul. Monthly	
Site	Temp (°C)	Secchi	Salinity	pH	DO	DO%	Color	Vis	Salt	pH	DO	DO%	Color	Score	Grade
LR10V	28.0	2.65	32.8	8.1	6.2	94.3	1.5	**D**	**B**	**B**	**D**	**A**	**F**	75.0	**C**
LR22V	28.6	1.30	35.0	8.2	5.3	82.7	1.0	**A**	**A**	**A**	**F**	**A**	**A**	91.7	**A**
Average	28.3													80.6	**B**

VAB (Visible at Bottom)
DO (Dissolved Oxygen)
ND (No Data)

Wastewater Surveillance of COVID-19

In June, the wastewater surveillance monitoring for the Biobot/CDC and WastewaterSCAN programs showed relatively low concentrations of SARS-CoV-2/COVID, and very low concentrations of the respiratory viruses RSV and hMPV, and Norovirus. Interestingly, there has been some occurrences of Influenza B measured in the wastewater.



Customer Service

Payment Processing

In June, staff sent out past due notices and closed out the 2nd Quarter Billing processing over 2,300 payments totalling over $357k.

For the quarter, there were no significant changes in the payment methods, with 22 percent of the payments as paper check and cash, compared to 78 percent of some form of digital payment (online bill pay, credit/debit card, or eCheck. We saw a slight reduction in the number of payments through the customer's online bill pay service through their bank. As we transition to our new customer information and payments system, we will encourage our customers on AutoPay to consider making payments through their bank's online bill pay system. Using this method the customer does not need to share their bank/card information with a 3rd party and the transactions are very low cost to the District.

Customer Information & Billing System

Staff took full advantage of the lull in payment processing to practice, test, and refine procedures in the new customer information and billing system. After a frustrating series of issues that we identified and conveyed to the vendor, we now seem to be making better progress. With the present state of the implementation, we will run the 3rd Quarter Billing through our existing system and delay implementation to at least late August or early September.

Information Technology (IT)

New Computer Based Training– OpenSesame

The District appreciates the value of professional development provided by training for our staff. As part of this effort, we are implementing programs to improve our understanding of skills that staff need to not only perform their assigned duties, but also provide career development that can provide additional value to the District. We our improving our systems to manage job skill requirements as well as identifying opportunities for skill development, and then identifying training for those skills.

While many trainings can be performed in person, computer-based training (CBT) has become indispensable to teams within the District as the staff can complete the training without any complex coordination.

In June, we began rolling out OpenSesame, a provider of CBT courses. Their course catalogue includes a wide variety of topics including compliance, safety, and business skills. Staff will be able to receive required training and will be able to take courses that contribute to their career development.

Update to asset information for lift stations

In coordination with Engineering department, the IT team has updated the naming and classification of lift station assets in our computerized maintenance management system (CMMS). During this update, we fixed many inconsistencies within CMMS, and subsequently in our geographic information system (GIS). These revisions will serve a variety of services for the District, including maintenance, locating, and reporting. In total, between both systems we updated approximately 90,000 items. We will continue with refinement and update projects like these to further improve the functionality, consistency, and efficiency of our systems.

Loxahatchee River Environmental Center

July 2023

River Center Summary Statistics

LRD'S ENVIRONMENTAL STEWARDSHIP DASHBOARD

		Total Visitors (incl. Visitors, Field Trips, Onsite Programs)	Average Program Participation [Actual participants/Capacity of Program]	Volunteer Engagement	1st Time Visitors	Visitor Satisfaction	Staff Overall Program Assessment	Expenses	Program Revenue
Benchmark / Customer Expectation		% of Target	% of Capacity	% of Target	% of Target	Rating Average [Max Rating is 5]	Rating Average [Max Rating is 9]	% within budget	% of Target
Green Level		≥ 90%	≥ 85%	≥ 90%	≥ 90%	≥4	≥7	≥ 85% but ≤ 105%	≥ 90%
Yellow		≥ 75%	≥ 70%	≥ 75%	≥ 75%	≥3	≥5	≥ 80%	≥ 75%
Red		<75%	<70%	<75%	<75%	<3	<5	< 80% or > 105%	<75%
2020 Baseline		35%	50%	70%	65%	4.6	7.8	81%	103%
2021 Baseline		113%	83%	102%	275%	4.7	7.8	92%	85%
2022 Baseline		81%	120%	75%	163%	4.6	7.9	91%	94%
2022	June	86%	92%	105%	107%	4.8	8.0	100%	122%
	July	95%	84%	134%	164%	4.5	7.9	101%	123%
	Aug	88%	100%	147%	184%	3.8	8.0	91%	129%
	Sept	77%	86%	76%	178%	4.6	7.8	89%	120%
	Oct	79%	100%	118%	100%	4.9	7.4	55%	82%
	Nov	53%	104%	82%	111%	4.4	8.0	63%	88%
	Dec	94%	124%	50%	286%	4.6	7.9	96%	85%
2023	Jan	69%	76%	63%	338%	4.6	7.9	85%	92%
	Feb	79%	88%	82%	102%	4.7	7.8	85%	104%
	Mar	94%	91%	98%	304%	4.4	8.1	73%	87%
	Apr	116%	105%	91%	220%	4.7	7.5	79%	78%
	May	84%	83%	129%	170%	4.6	7.8	88%	104%
	June	104%	112%	93%	115%	4.7	7.8	87%	123%
Consecutive Months at Green		1	1	4	13	10	13	2	2
Metric Owner		O'Neill	Duggan/Warwick	Patterson	O'Neill	O'Neill	O'Neill	O'Neill	O'Neill

Metric	Explanation

River Center General

Special Programs

Sandbar & Seashells Boat Tour [Friday, June 2nd]
12 participants joined the River Center for an exciting family-friendly boat tour! On-board the Osprey families enjoyed a trip up the Central embayment of the Loxahatchee River. While snorkeling families hunted for shells and creatures at the sandbar while learning about our unique waterways and the flora and fauna that inhabit them.

Archery 101 [Saturday, June 3rd]
The River Center hosted our second Archery 101 workshop at our 20 Acre property. Our Archery Program provides participants with a safe and educational way to learn the skills of outdoor archery. This program motivates students to get outside and practice a skill. This program encourages them to be active outdoors, further connecting them to nature. The class teaches parts of the bows used, proper steps for shooting a bow, range and bow safety, how to be mindful about shooting outdoors, the history of archery, basic shooting skills, and range practice. All equipment was purchased through a grant from the Florida Fish and Wildlife Conservation Commission (FWC).

Science with Sam Family Fun [Saturday, June 3rd]
Students and families had a blast learning about weather. Families learned about different weather phenomena and what causes them, watched a demo of creating your own cloud, and made two different types of weather monitoring tools. The class ended with families using cloud sheets to help identify types of clouds in the sky.

Old School Science Day [Wednesday, June 7th]

We had a great turnout for our Old School Science Day! This program lets kids try out several fun experiments on their own, as well as viewing demos of more complex experiments. Kids were able to write messages with invisible ink, build with hydrophobic sand, test the flight of hoop gliders, observe the properties of copper, create floating dry erase marker pictures, and identify species in our garden. Our demos were big crowd-pleasers! We used butterfly pea tea as a natural pH indicator, changing its color from blue to pink to green to yellow as we added common household products. Then we went outside for a demo of Rising Water! This exciting, educational program runs again with all new experiments on July 5th!

Sunset Hike at Juno Dunes [Wednesday, June 7th]
We had a great time hiking at Juno Dunes Natural Area! Visitors to the 569-acre Juno Dunes Natural Area can travel from the Atlantic Ocean to the Atlantic Intracoastal Waterway. The ocean-front tract has a great view of the surrounding area atop an ancient sand dune. This site is also a part of the Great Florida Bird and Wildlife Trail. Participants got to see Deer Lichen, Red-Shouldered Hawks, Marsh Rabbits, Southern Toads, Sand Oaks, Black Racer snakes, and more!

Wilderness Skills [Friday, June 9th]

Participants had fun learning how to prepare before you go on an outdoor adventure! This class focused on what you should bring and how to avoid dangerous situations outside. Students learned what to keep in their backpack and easy ways to pack and store essentials. They reviewed how to pack lightly and compactly to make the most use of their packs. We discussed how different hiking scenarios would require different equipment, supplies, and clothing. Students also learned basic orienteering skills, the parts of a compass, and how to navigate with a compass.

Blooming in the Garden [Saturday, June 10th] - The Blooming in the Garden program is designed for children ages 3-6. The theme for this month was Snail Tails. We started by reading a story about a snail named Escargot who has a lot of reasons why everyone should love snails. We observed and held several snails taken from our garden. Children were then given bug boxes, magnifying glasses and snail ID sheets. We spent time searching high and low for snails and snail shells and found several varieties, both native and exotic. We then moved into the River Center to meet our sea snails at the touch tank and discuss how marine snails differ from terrestrial snails. Back at the Chickee Hut, everyone was able to create their own snail suncatcher from a CD, and then each child planted seeds in their own take-home pot.

Kayaking 101 [Tuesday, June 13th]

The River Center hosted a Kayaking 101 workshop for beginner and intermediate paddlers**.** This workshop is an introductory course on the basics of kayaking. Participants learned about paddling safety, various equipment, and what to do before you go. Once on the water, guests got firsthand experience testing their strokes and paddling around the park.

Tots on Trails at the Delaware Scrub [Wednesday, June 14th] - This was our first Tots on Trails, and we had an excellent turnout, with 14 kiddos, plus parents and younger siblings! This program is aimed at ages 2-6 and takes place at a different off-site natural area each time. For our inaugural meeting, we hiked at the Delaware Scrub Natural Area, where we saw gopher tortoise burrows, raccoons, six-lined racerunners, mangrove crabs, and a whole ton of insects, plus plants like pond apple, cypress, and rose mallow. We talked about the colors of nature as we walked, with children using a color wheel to try to find as many hues as they could. Children were able to create window frame suncatchers as a small craft. Next month, we will be hiking around JILONA and talking about animal tracks.

AustinBlu Fishing Tournament [Saturday, June 17th]

The rain held out just long enough for everyone to get in a great day of fishing. We had 80 anglers compete in the tournament. In our release competition, there were 1,146 verified catches with mangrove snapper being the most caught fish at 409 catches - followed by sailor's choice (149) and lane snappers (103). The

awards event was well attended despite the rain. It was amazing to see all the kids and parents having a great time. Food Shack, Best Fries, and Scoop Coop food trucks were at the event providing scrumptious food. Grand Prize was taken by Hylon Leshay for his giant Crevalle Jack (16 lbs).

Swamp Tromp at Cypress Creek [Wednesday, June 20th]

We had a great wet time hiking in the Swamp at Cypress Creek Natural Area. This was the first ever Swamp Tromp Lead by the River Center. Participants enjoyed wading between cypress domes and exploring a normally unavailable path through the water. This hike leads a real adventure tour since participants can only hike these trails with a trained guide. Participants saw native orchid species, native fern species, many waterfowl, and even wild boars.

Seine and Dip Exploration at Blowing Rocks Preserve [Wednesday, June 21st]

This activity includes 2 hours of seine and dip netting in our beautiful Indian River Lagoon. Guests discovered plenty of sea urchins, Florida Fighting Conchs, and oh so many hermit crabs! We had fun exploring the preserve and splashing around outdoors. We had 20 participants total for the programs. The River Center would like to thank The Nature Conservancy for their continued support through this partnership.

Fishing Adventure: Jupiter Inlet Lighthouse Outstanding Natural Area [Thursday, June 22nd]
It was an epic day fishing at the Jupiter Inlet Lighthouse for our first Fishing Adventure program!! The sun was bright, the water was blue on an incoming tide, and everyone caught several fish! We had lane snappers, sailor's choice, and checkered puffers. The snook and the barracuda were too smart to take our hooks, but it was great to see them. We even had a visit from a passing manatee. One parent commented that she brought her kids fishing here, because she didn't know where to take them fishing. She is now going to sign them up for our Jr. Angler Tournament. She is motivated to get them out fishing all over Palm Beach County!

Sunset Kayak tour at Pine Glades Natural Area [Friday, June 23rd] - We had our fingers crossed all morning that this kayak tour wouldn't get rained out, and it didn't - just a few short sun showers and a beautiful rainbow! We spotted and photographed an abundance of beautiful wading birds and several alligators. This is a leisurely freshwater paddle, which enabled our beginner participants to build confidence in their paddling and allowed our more experienced participants to fully explore the shoreline.

Sunset Hike at Pine Glades Natural Area [Tuesday, June 27th]
To combat the heat but still be outdoors, this summer we have implemented our sunset nature hikes. Our first of the summer was held at Pine Glades Natural Area, which includes over 6,600 acres of marsh and pine flatwood habitats. During sunset, this is a great place to observe various species of local birds fly into the natural area to roost for the night. During our hike we encountered alligators, limpkins, and red-winged blackbirds. We can't wait until our next hike!

Family Fishing Clinic [Wednesday, June 28th] - It was a full house for this fishing clinic with 24 participants. Kids were able to learn the basics of fishing, including knot tying, fish identification, and casting practice. After that, we put their skills to the test out on the dock! The kids caught over a dozen fish, including catfish, checkered puffers, and snapper. Everyone had a blast, and there were lots of plans made for future fishing expeditions!

Volunteer of the Month
Nikkolette Lee is our June 2023 Volunteer of the Month! Nikki is new to our team but immediately jumped right in to help in any way possible. She is always ready to complete any task and even stepped up to work the face painting activity at AustinBlu. Nikki loves the animals as well and hopes to be able to participate in animal care in the future. She is currently a student at the University of Alabama but plans to be here in the summer to volunteer and help with special events. Nikki goes above and beyond to make every guest feel welcome and ensure that everything is running smoothly. Nikki is a wonderful addition to our volunteer team! We love having her volunteer and are grateful for her consistent support every week!

UPCOMING EVENTS

RSVP at www.lrdrivercenter.org/events-calendar
rivercenter@lrecd.org or 561-743-7123

Every Thursday, 9:30 a.m. – 10 a.m. – Story time: Join the River Center for Story Time. Families are welcome as we read stories and have an animal encounter.

July 1 -30: Jr. Angler Fishing Tournament: The Loxahatchee River District's River Center, in partnership with Fishing Headquarters, is delighted to announce the 6th Annual Jr. Angler Fishing Tournament. Due to its high popularity last year with over 50 anglers, participation for this year's tournament is expected to grow. Interested anglers should mark their calendars and set their reels for Sunday, June 30th when the contest officially opens. Registration is now open! Anglers will have until August 3rd, 2019 to accumulate points in this unique catch-and-release tournament. By having the anglers photographed with the fish they catch and then submitted online. The contest is run over the course of several weeks instead of just a single day of competition. In addition, the contest awards points not only for the number of fish caught, but also for the number of different species represented in the submissions. The more fish you catch and the more species you catch, the better your chances are to win! These innovative guidelines encourage contestants to spend time throughout the summer exploring the diversity of habitats and fish species in our Palm Beach and Martin Counties.

July 15, 10 – 11:30 a.m.: Blooming in the Garden [Snakes Alive]: Join the River Center for our Blooming in the Garden program, designed for children ages 3-6. The program will start at 10:00am at the River Center Chiki Hut with a story time and a garden themed craft. We will then move to our garden for a garden themed hands-on activity. When it is time to go home, children will receive seeds to take home to start their own garden! This is an exciting opportunity for little ones and their families to enjoy nature together!

July 15, 9:30 a.m. – 11 a.m.: Latino Conservation Week Fishing Adventure [Jupiter Inlet Lighthouse Outstanding Natural Area]: Join the River Center on a fishing adventure to the Jupiter Inlet Lighthouse ONA. Bring your own pole or let us provide one for you. We will fish at the new pier on the Loxahatchee River and see what is biting that day!

July 18, 10 a.m. – 11 a.m.: Latino Conservation Week Hike [Delaware Scrub]: Let's get outside! Join the River Center for a hike through Delaware Scrub Natural Area. Together, we'll walk the trail, observe plants and animals, and learn about the nature surrounding us. Additional activities may include scavenger hunts, trail games, and nature art. Adults and children should come prepared to be outside for an hour. This includes comfortable clothing, closed toe shoes, hats, sunscreen, bug spray, and water bottles. Limited to 20 children (+ their accompanying adults). All equipment is provided, and this program is free of charge. Donations are always welcome.

July 19, 10 a.m. – 11 a.m.: Tots on Trails [Jupiter Inlet Lighthouse Outstanding Natural Area]: Let's get outside! Join the River Center for our Tots on Trails program, designed for children ages 2-6! Each month, we'll explore a new natural area in the Jupiter/Tequesta area. This month, we'll be at the Jupiter Inlet Lighthouse Outstanding Natural Area. Together, we'll walk the trail, observe plants and animals with our magnifying glasses & binoculars, and learn about the nature surrounding us. Additional activities may include scavenger hunts, trail games, and nature art. Adults and children should come prepared to be outside for an hour. This includes comfortable clothing, closed toe shoes, hats, sunscreen, bug spray, and water bottles. Limited to 20 children (+ their accompanying adults). All equipment is provided, and this program is free of charge. Donations are always welcome.

July 20, 9:00 a.m. – 10:30 a.m.: Fishing Adventure [Cypress Creek South Natural Area]: Join the River Center on a fishing adventure to the Cypress Creek Natural Area. Bring your own pole or let us provide one for you. We will fish at the new pier on the Loxahatchee River and see what is biting that day!

July 21, 10 am – 12 pm: Lagoon Exploration: Join the River Center in a day of estuary exploration at our Family Seine and Dip Netting Experience at Blowing Rocks Preserve! Activities will include exploring our local waterways through dip netting and seining. Guests are welcome to bring their own buckets and dip nets. Please make sure to bring sunscreen, water shoes, and plenty of water!

July 22, 1:00 p.m. – 2:30 p.m.: Introduction to Volunteering: Do you have a passion for the environment? Do you enjoy interacting and educating the public? The River Center is looking for enthusiastic and personable volunteers to join our River Center team! Individuals 14+ are invited to attend the next Intro to Volunteering workshop from 1:00 PM – 2:30 PM. For questions or application information please contact our Volunteer Coordinator Rebecca Patterson at 561-339-3107 or Volunteer@Lrecd.org

July 27, 9 a.m. – 10:30 a.m.: Swamp Tromp [Cypress Creek Natural Area North]: Come explore with us! Tie up your hiking boots and join the River Center for another Swamp Tromp through Cypress Creek North Natural Area at a different location. Prepare to get wet as you travel through the swamp and immerse yourself in this local natural area. This is an intermediate to advanced hike. Participants can expect water up to their knees and traveling through mud. Interested participants should wear closed-toe shoes that will get wet, long pants, a walking stick, comfortable clothing and bring plenty of water. Make sure to RSVP to this event! Space is limited.

July 29, 9 am – 12 pm: Family Fishing Clinic: Don't miss out on this exciting fishing opportunity with the River Center. Fishing clinics are a great way for kids to learn the basics of fishing methods and tactics! Make sure to join us for an engaging overview that includes knot tying, fish identification, and of course fishing! Parents are encouraged to accompany their kids and participate in the clinic. The cost is $10 per child. Interested participants should bring water, sunscreen, a hat, and sunglasses.

July 25, 5 p.m. – 7 p.m.: Sunset Kayak Tour [Jupiter Inlet Lighthouse Outstanding Natural Area]: Join the River Center for our Public Kayak Tour to Jupiter Inlet Lighthouse Outstanding Natural Area. Paddle along through the lagoon on our naturalist led tour for great views of local wildlife. All equipment will be provided but interested participants should bring water shoes, sunscreen, and plenty of water! The cost for this program is $20 per person. Make sure to reserve your spot today! Space is limited!

August 4, 6 p.m. – 8 p.m.: Jr. Angler Fish Fry: After a month of fishing, anglers can celebrate their accomplishments, enjoy eating fried fish from Fishing Headquarters and find out who pulled in the most catches this summer. Everyone must RSVP to attend.

August 5, 10 am – 12 pm: Lagoon Exploration: Join the River Center in a day of estuary exploration at our Family Seine and Dip Netting Experience at Blowing Rocks Preserve! Activities will include exploring our local waterways through dip netting and seining. Guests are welcome to bring their own buckets and dip nets. Please make sure to bring sunscreen, water shoes, and plenty of water!

August 11, 9 a.m. – 3 p.m.: Adult Summer Camp: For adults that wish they could do all the fun things that the kids get to do during our summer camp! This is a high adventure, intensive day of fun in the sun. Participants will be able to kayak, snorkel, hike, fish and more. Space is limited. Call to RSVP.

August 12: 8:00 a.m. – 4:00 p.m.: Boating America Class: The River Center continues to collaborate with the US Coast Guard Auxiliary "Flotilla 52" to provide a series of Boating Safely Classes targeted specifically to young boaters in our community. These classes are provided through a generous sponsorship by the AustinBlu Foundation, a not-for-profit dedicated to raising awareness and promoting educational programs to improve boater safety. There is no cost for this class, however there is a deposit required to reserve a seat. The deposit of $10 will be refunded in full to all students who complete the class. Recommended for children 12 years and up, but all ages are welcome.

August 19: 10 – 11:30 a.m.: Blooming in the Garden [Flutter by, Butterflies!]: Join the River Center for our Blooming in the Garden program, designed for children ages 3-6. The program will start at 10:00am at the River Center Chiki Hut with a story time and a garden themed craft. We will then move to our garden for a garden themed hands-on activity. When it is time to go home, children will receive

seeds to take home to start their own garden! This is an exciting opportunity for little ones and their families to enjoy nature together!

August 26, 1:00 p.m. – 2:30 p.m.: Introduction to Volunteering: Do you have a passion for the environment? Do you enjoy interacting and educating the public? The River Center is looking for enthusiastic and personable volunteers to join our River Center team! Individuals 14+ are invited to attend the next Intro to Volunteering workshop from 1:00 PM – 2:30 PM. For questions or application information please contact our Volunteer Coordinator Rebecca Patterson at 561-339-3107 or Volunteer@Lrecd.org

LOXAHATCHEE RIVER DISTRICT
2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458 TEL: (561) 747-5700 FAX: (561) 747-9929
D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

To: D. Albrey Arrington, Ph.D., Executive Director
From: Ed Horchar Safety Officer
Date: July 12, 2023
Subject: District Safety Report for June 2023

Safety Metrics: June 2023
OSHA recordable injuries: Zero
Lost time injuries: Zero
Actual TRIR: 0.0 [Goal < 1.5]
TRIR = Total Recordable Incident Rate

Safety is a Core Value at LRD – *Our conduct is shaped by a personal commitment to protect the health and safety of ourselves and our colleagues. Safety is driven through education, training, planning, protective equipment, and individual accountability.*

OSHA Recordable Incidents/MVA's:

The LRD has now experienced zero OSHA Recordable Injuries for **nineteen** consecutive months. The District has sustained a Total Recordable Incident Rate (TRIR) of **0.0**, below our newly adjusted goal of 1.5. The District continues to experience a performance best period (recent history) for consecutive months with no recordable injuries.

For the fifth month in a row, the District experienced zero Motor Vehicle Accident's (MVA). With a total of two MVAs in the last 12-month period, the MVA incident rate is at 2. 2. Right on the LRD MVA goal of 2.2.

Sustainment:

Job Hazard Assessment (JHA) activity levels in June increased to a total of 1445. The following is a comparison of June JHA's performed per employee in each participating department:

Reuse:	32 JHA / employee	Construction:	7 JHA / employee
Operations:	36 JHA / employee	Inspection:	19 JHA / employee
Collections:	57 JHA / employee	Wild Pine Lab	2 JHA / employee
Maintenance:	27 JHA / employee		

JHA and EAM:

The District has demonstrated that it is now standard work to incorporate JHA's into an EAM work order. In June over 98% of all Work Orders included a JHA. This represents six (6) months in a row in which the District expectation of 95% was exceeded. The following is a District comparison for the percentage of June EAM Work Orders created for which an electronic JHA was completed:

Reuse:	99 %	Construction:	97 %
Operations:	96 %	Inspection:	94 %
Collections:	100 %	Wild Pine Lab	0 Electronic JHA's
Maintenance:	97 %		

Near Miss Reporting:

There were 4 Near Miss reports initiated in June. Employees from Collections, Reuse, Plant Operations, and Construction all participated in this program in June. The hazards include trips, slips, and falls and recommendation to obtain improved (anti-fog) safety glasses. All Near Misses are input into the Work Order system if corrective action is warranted. As a reminder, all District employees should report potential safety issues, including unsafe or unhealthy conditions, potential pollution sources or events, and suggestions to improve safety processes, via the Near Miss Reporting System. This continuous improvement process will enhance the District's overall safety performance and help keep District employees injury-free. Your input is important, and each employee is encouraged to participate in this program.

Training:

Computer Based Training for the District will pick back up in July. The District's new computer based safety training platform ("OpenSesame') will be deployed to all District employees in early July. OpenSesame has over 19,000 training modules which goes beyond Safety, HR, and IT. District employees should look forward to emails containing OpenSesame log on instructions. Confined Space Entrant and Attendant classroom training was conducted by the Safety Officer for 10 District employees. Electrical ARC Flash PPE kits were distributed to the 24 applicable employees in June. ARC Flash PPE "Use and Care" training was conducted during the distribution of the kits. A second and final CPR/AED class for 2023 was conducted for District employees on June 7th. 75% of all District employees are CPR Certified. The District will provide CPR refresher training next year to keep up with the certifications as they expire after two years.

At left: Construction employee Robbie Spires utilizes the hydro excavator while assessing the RAS Pit influent valve. At Right: Wyatt Fischbach and Alex Smith support Tommy Cox while hydro excavating. The effort was an attempt to replace the influent valve at the RAS Pit.

A total of 12 workplace inspections occurred in June. District jobs that were observed included Plant RAS Pit influent valve excavation and assessment, energizing "A" structure generator, chlorine building cylinder replacement, and various near miss report evaluations including facility tripping hazards.

This summer, special emphasis is being placed on heat stress prevention. This risk should be identified on each JHA that involves working outdoors and/or in a temperature extreme environment. Continued injury free work including heat related injuries will demonstrate a dedication that District employees work smart and safely. Stay hydrated and replace electrolytes regularly. The District will provide supplies necessary to stay cool and hydrated. All District employees should follow similar practices when working or playing at home. Again, **congratulation to all District employees for nineteen consecutive injury free months**. Let's stay safe at home and at work and get to twenty months in a row! Feel free to visit with any questions or ideas you may have. And do not forget to utilize the near miss reporting system. Let's help each other stay safe and reach beyond our goals.

At left: Instructor Kevin Graves provides direction on the proper use and care of the electrical ARC Flash PPE as Joe Jesteadt volunteers to dawn the equipment. At Right: Joe Jesteadt shows off the full ARC Flash gear to an audience of 24 District employees. The ARC Flash kits were distributed to 24 District employees on June 28th.

LOXAHATCHEE RIVER DISTRICT
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D. Albrey Arrington, Ph.D. EXECUTIVE DIRECTOR loxahatcheeriver.org

MEMORANDUM

TO: Governing Board

FROM: Administration Staff

DATE: July 14, 2023

SUBJECT: Consultant Payments

The following amounts have been reviewed and approved for payment to our consultants for work performed during the prior month.

Consultant	Prior Month	Fiscal YTD
Attorneys	$ 6,920.00	$ 104,770.55
Baxter & Woodman	$ 11,520.25	$ 253,312.45
Chen Moore	$ 4,073.40	$ 66,501.20
Holtz	$ 49,245.05	$ 390,193.16
KCI	$ 15,419.02	$ 94,816.52
Kimley-Horn & Associates, Inc.	$ 12,249.00	$ 59,126.00
Mock, Roos & Associates	_	$ 96,471.75

Should you have any questions regarding these items, please contact Kara Fraraccio concerning the attorney invoices, and Kris Dean concerning the engineer invoices.

Future Business

General:

- Fiscal Year – 2024 Budget
- Chapter 31-10 revision to add application fee for termination/abandonment of easements
- Board Presentation of select Six Sigma green belt projects

Future Contracts:

- 2500 Jupiter Park Drive Site planning Presentation
- 5331 Center Street – Preliminary Assessment
- County Line Road Bridge IQ Main Relocation - Award Construction Contract
- Lift Station 050 Emergency Generator and Automatic Transfer Switch – Award Construction Contract
- Lift Station Control Panel and RTU Upgrades – Award Construction Contract
- Loxahatchee River Subaqueous Force Main Replacement – Award Construction Contract
- Rolling Hills Gravity Sewer System – Preliminary Assessment