NOTICE OF REGULAR MEETING OF NORTH FLORIDA WATER UTILITIES AUTHORITY

(NFWUA) BOARD OF DIRECTORS

The NFWUA will meet at 9:30 AM., in a Special Called Meeting on January 5, 2026, in the Judicial Annex Building, 218 Parshley Street Southwest, Live Oak, FL 32064. In accordance with the Florida Statutes and Americans with Disabilities Act, any person needing a special accommodation to participate in this matter should contact the North Florida Water Utilities Authority by mail to James M. Swisher, Jr., Columbia County Clerk of Court & Comptroller, 173 NE Hernando Avenue, Lake City, Florida 32055 or by telephone at (386) 758-1041, no later than 48 hours prior to the hearing or proceeding for which this notice has been given. Persons requiring auditory assistance may access the foregoing telephone number by contacting the Florida Relay Service at 1-800-955-8770 (Voice) or 1-800-955-8771 (TDD).

If any person intends to appeal any decision related to this action, such person will need to provide a court reporter at such person's expense, for a transcript of the proceedings. All interested persons are invited to attend.

For further information, call (386) 758-1041.

NORTH FLORIDA WATER UTILITIES AUTHORITY

SPECIAL CALLED MEETING AGENDA

January 5, 2025, 9:30 AM at Judicial Annex Building, 218 Parshley Street Southwest, Live Oak, FL 32064.

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Additions & Deletions
5. Adoption of the Agenda

Public Comments

Discussion/Action Items

6. FDEP Compliance issues and potential remedies

Board Comments:

Attorney Comments:

Director Comments:

Adjournment:

Agenda Items #1-5

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Additions & Deletions
5. Adoption of the Agenda

Note: no backup documentation required for these items

Agenda Item #6 – FDEP Compliance issues and potential remedies

OBJECTIVE:

The subject of the special session is discussion and possible board action regarding the following interrelated items:

(i) various factors and options to resolve FDEP compliance issues and capacity issues associated with Ellisville WWTP and the CR-136 WWTP

(ii) impacts and aspects associated with the use and/or non-use of FDOT rest area WWTP as a potential remedy for Ellisville WWTP capacity issues

(iii) or both (i) and (ii).

Supporting Documentation:

- 251223 SCCRWWTF Engineering Assessment Report FINAL
- WL25-202 Suwannee County CR-136 WTP - PW - 08-01-2025
- FDOT Wastewater Construction Operations and Maintenance Agreement

Board Comments:

Attorney Comments:

Director Comments:

Adjournment:

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Ron DeSantis
Governor

Alexis A. Lambert
Secretary

August 1, 2025

Mr. Greg Scott
Suwannee County Board of Commissioners
13150 80th Terrace
Live Oak, Florida 32060
GregS@SuwCountyFL.gov

RE: Warning Letter No. WL25-202
Suwannee County CR-136 WTP
PWS ID No. 2614270
Suwannee County – Drinking Water

Dear Mr. Scott:

Department personnel conducted a Sanitary Survey Inspection of the above-referenced facility on June 4, 2025. Based on the information provided during the inspection, the system was determined to be in compliance with the Department's Drinking Water rules and regulations. A copy of the inspection report is attached for your records.

However, a file review was conducted on your system on April 30, 2025, under the authority of Section 403.091, Florida Statutes (F.S.). During this review, possible violations of Chapters 62-550.514 and 62-550.518, Florida Administrative Code (F.A.C.), were observed.

Specifically, Department records indicate the drinking water system did not submit analytical results for Stage 2 Disinfection Byproducts (S2 DBPs), including Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s), which were required to be performed annually under Rule 62-550.514, F.A.C. The samples were required to be taken during the August 2023 and August 2024 monitoring periods with dual sample sets at two sites identified in the system's approved monitoring plan.

Additionally, Department records indicate the drinking water system did not submit analytical results for bacteriological sampling, which were required to be performed quarterly under Rule 62-550.518, F.A.C. The samples were required to be taken during the quarters of October through December 2024, and January through March 2025. The Suwannee County CR-136 Water System is required to submit one raw water sample from each well and one distribution system sample.

Please be advised that this system failed to conduct and submit two quarters of bacteriological sampling within a 12-month period, and the required monitoring frequency will be increased to monthly for a minimum of 12 months, effective August 2025.

Violations of Florida Statutes or administrative rules may result in liability for damages and restoration, and the judicial imposition of civil penalties, pursuant to Section 403.131, F.S.

Please contact Corinna Black, at (904) 256-1563, or via email at *Corinna.Black@FloridaDEP.gov*, within **15 days** of receipt of this Warning Letter to arrange a meeting to discuss this matter. The Department is interested in receiving any facts that you may have which might assist in determining whether any violations have occurred. You may bring anyone with you to the meeting that you feel could help resolve this.

Please be advised that this Warning Letter is part of an agency investigation, preliminary to agency action in accordance with Section 120.57(5), F.S. We look forward to your cooperation in completing our investigation and resolving this as soon as possible.

Sincerely,

Gregory J. Strong
District Director

Enclosures: Sanitary Survey Inspection Report, Certification of Delivery

cc: FDEP: Chris Azcuy, Madison White, Shane Tierney, Emerson Raulerson, Corinna Black, Thomas Kallemeyn
Jerald Lee, Operator, *JLWaterTreater@gmail.com*

Florida Department of Environmental Protection

Northeast District Public Water System Sanitary Survey Inspection Report

Water system: CR 136 Water Treatment Plant	**System PWS #: 2614270**	**Survey date: 6/4/2025**
Facility type class: **Non-Transient, Non-Community** - (5D)	Source type: Ground	4-Log approved: No
Facility address: 7653 CR 137 (SW corner of CRs 136 & 137)		
Facility phone(s): (386)362-3992	Facility email/fax: N/A	
Facility contact: Greg Scott	Facility contact phone(s): (386)362-3992	
Facility contact email/fax: GregS@suwcountyfl.gov		
Owner name: Greg Scott, County Administrator	Company name: Suwannee County	
Owner/Corp address: 13150 80th Terrace	City: Live Oak / State: FL	Zip: 32060
Owner/Corp phone(s): (386)392-3992	Owner e-contact(s): randyh@suwcountyfl.gov	
Operator name: Jerald Lee	Certification: C-21301	
Operator phone(s): (386)854-5122	Operator email/fax: jlwatertreater@gmail.com / N/A	
On-site Rep: Jerald Lee	**Immediate Action Required?**: Yes	Inspection recap given? Yes

SERVICE AREA CHARACTERISTICS

Municipality

Food Service: ☐ Yes ☐ No ☒ N/A

GENERAL INFORMATION

Number of Service Connections 17

Population Served 125 Basis S.C.[1]

Plant Design Capacity 504,000 gpd

Basis Permit 0385317-001-WC

Average Day (from MORs) 19,560 gpd

Max. Day (from MORs) 188,558

Total Storage Capacity 131,000 gallons[3]

Comments Population/service connections was obtained by adding PWS data that were inactivated upon connection to this plant (PWS ID: 2614234, 2611105, 2614270, 2614221, 2614215). Storage = GST + 1/2 (2 x HTs)

LOCATION

Latitude 30° 18' 40.5" North

Longitude 82° 49' 23.9" West

GPS: No Date: By DPHO on 01/02/2020

Directions I-95N to I-10W for ~67 miles to Exit 292 (CR-137), Go Rt (N) ~2 miles. Turn left (W) into WTP <1/2 mile before CR-136.

OPERATION & MAINTENANCE

Certified Operator: ☒ Yes ☐ No ☐ Not required

Plant visits conducted by: Jerald Lee

O&M Log: ☒Yes ☐No O&M Manual: ☒Yes ☐No

Visitation Frequency

Hrs/day: *Required* N/A *Actual* N/A

Hrs/wk: *Required* 1.2 *Actual* ~3

Days/wk: *Required* 5 & 1 *Actual* 5 & 1

Non-consecutive Days? ☒ Yes ☐ No ☐ N/A

MORs submitted regularly? ☒ Yes ☐ No ☐ N/A

Data missing from MORs? ☒ No ☐ Yes ☐ N/A

N/A

RAW WATER SOURCE

☒ GROUND; Number of Wells 2

☐ SURFACE/UDI; Source

☐ PURCHASED from PWS ID #

☐ Emergency Water Source

Emergency Water Capacity

AUXILIARY POWER SOURCE

☒ Yes ☐ None ☐ Not Required

Source Cummins

Capacity of Standby (kW) 150

Switchover: ☒ Automatic ☐ Manual

Standby Plan: ☒ Yes ☐ No

Hrs Operated Under Load 30 mins/mo.

What equipment does it operate?

☒ Well pumps

☒ High Service Pumps

☒ Treatment Equipment

Satisfy 1/2 max-day demand? ☒Yes ☐No ☐Unk

Comments Exercised every Wednesday at 12pm.

TREATMENT PROCESSES IN USE

Hypo-chlorination for disinfection

Is additional treatment needed? ☐ Yes ☒ No

If so, for control of what deficiencies? N/A

DISTRIBUTION SYSTEM

Flow Measuring Device Flow Meter

Meter Size & Type 12" Promag meter

Meter tested w/i 5 yrs? ☒ Yes ☐ No ☐ Unk ☐ N/A

Backflow Prevention :☒ Yes ☐ No

Cross-connections None Noted

Cross-connection Control Program: ☐Yes ☐No ☒N/A

Coliform Sampling Plan: ☒ Yes ☐ No

Stage 2 DBPs Sampling Plan: ☒ Yes ☐ No ☐N/A

Lead & Copper Sampling Plan: ☒Yes ☐ No ☐N/A

Comments Flow meter installed 9/2021.

CR 136 Water Treatment Plant

PWS ID # 2614270
Survey Date 6/4/2025

GROUND WATER SOURCE

Well Number (PWS Identification)		1	2	
Well Name (System Identification)		Well 1	Well 2	
Year Drilled		2019	2019	
Depth Drilled		255'	256'	
Latitude		30° 18' 44.83" N	30° 18' 42.40" N	
Longitude		82° 49' 21.73" W	82° 49' 22.93" W	
GPS (Y or N) / Date (if applicable)		N – DPHO	N - DPHO	
Florida Well ID		AAL2107	AAL2106	
Static Water Level		99	93	
Normal Yield (if different than rated capacity)		UNK	UNK	
Strainer		UNK	UNK	
Length (outside casing)		166'	165'	
Diameter (outside casing)		10"	10"	
Material (outside casing)		Blacksteel	Blacksteel	
Well Contamination History		See Comments	See Comments	
Is inundation of well possible?		Unlikely	Unlikely	
6' X 6' X 4" Concrete Pad		Ok	Ok	
SET BACKS	Septic Tank	>200'	>200'	
	Reuse Water	>200'	>200'	
	WW Plumbing	>200'	>200'	
	Other Sanitary Hazard	>200'	>200'	
PUMP	Type	Vertical Turbine	Vertical Turbine	
	Manufacturer Name	Grundfos	Grundfos	
	Model Number	9LA	9LA	
	Rated Capacity (gpm)	350	350	
	Motor Horsepower	20	20	
Well casing 12" above grade?		Ok	Ok	
Well Casing Sanitary Seal		Ok	Ok	
Raw Water Sampling Tap		Ok	Ok	
Above Ground Check Valve		Ok	Ok	
Fence/Housing		Ok (Fenced)	Ok (Fenced)	
Well Vent Protection		Ok	Ok	

COMMENTS Water specialities flow meter on each well
Samples for both wells were TC+ & sometimes EC+ when the system first began sampling in mid-2022, but have had no positive samples since 10/2022.

CR 136 Water Treatment Plant

PWS ID # 2614270
Survey Date 6/4/2025

CHLORINATION (Disinfection)
Type: Hypo-Chlorination
Make Flex Pro (x4) Capacity See Comments
Chlorine Feed Rate Determined by flow
Avg. Amount of Cl_2 gas used N/A
Chlorine Residuals: Plant 1.59 Remote 2.2+
Remote tap location Sun Stop @ CR136 & I-75.
DPD Test Kit: ☐ On-site ☒ With operator
☐ None ☐ Not Used Daily
Injection Points Prior to GST and after GST
Booster Pump Info N/A
Comments 2 chlorinators @ 2.3 gph & 2 @ 4.1 gph

AERATION (Gases, Fe, & Mn Removal)
Type N/A Capacity
Aerator Condition
Bloodworm Presence
Visible Algae Growth
Protective Screen Condition
Comments N/A

STORAGE FACILITIES
(B) Bladder (CW) Clearwell (C) Contact (E) Elevated
(G) Ground (H) Hydropneumatic (S.C.) See Comments

Tank Type/Number	GST	H1	H2
Capacity (gal)	126K	5,000	5,000
Material	Steel	Steel	Steel
By-pass Piping	Yes	Yes	Yes
Gravity Drain	Yes	Yes	Yes
PRV/ARV	N/A	PRV	PRV
Protected Openings	Yes[1]	N/A	N/A
Access Padlocked	Yes	Yes	Yes
Pressure Gauge	No	Yes	Yes
On/Off Pressure	N/A	50/65	50/65
Sight Glass or Level Indicator	L.I.	S.G., L.I.	S.G., L.I.
Fittings for Sight Glass	Yes	Yes	Yes
Height to Bottom of Elevated Tank	N/A	N/A	N/A
Height to Max. Water Level	N/A	N/A	N/A
Last Insp Done*	8/2021	7/2021	7/2021
Next Insp Due*	8/2026	7/2026	7/2026

Comments Last Inspection Dates = Tank installatiions
Electronic Level Indicators used for tanks.
**FL PE 5-yr inspection of finished water storage tank with 11"x15" access manhole.*

HIGH SERVICE PUMPS

Pump Number	1	2	3
Type	Centrifugal	Centrifugal	Centrifugal
Make	Patterson	Patterson	Patterson
Model	E4F13A-C4D	E4F13A-C4D	E2.5J7A0C2D
Capacity (gpm)	750	750	350
Motor HP	40	40	20
Date Installed	6/2021	6/2021	6/2021
Maintenance	OK	OK	OK

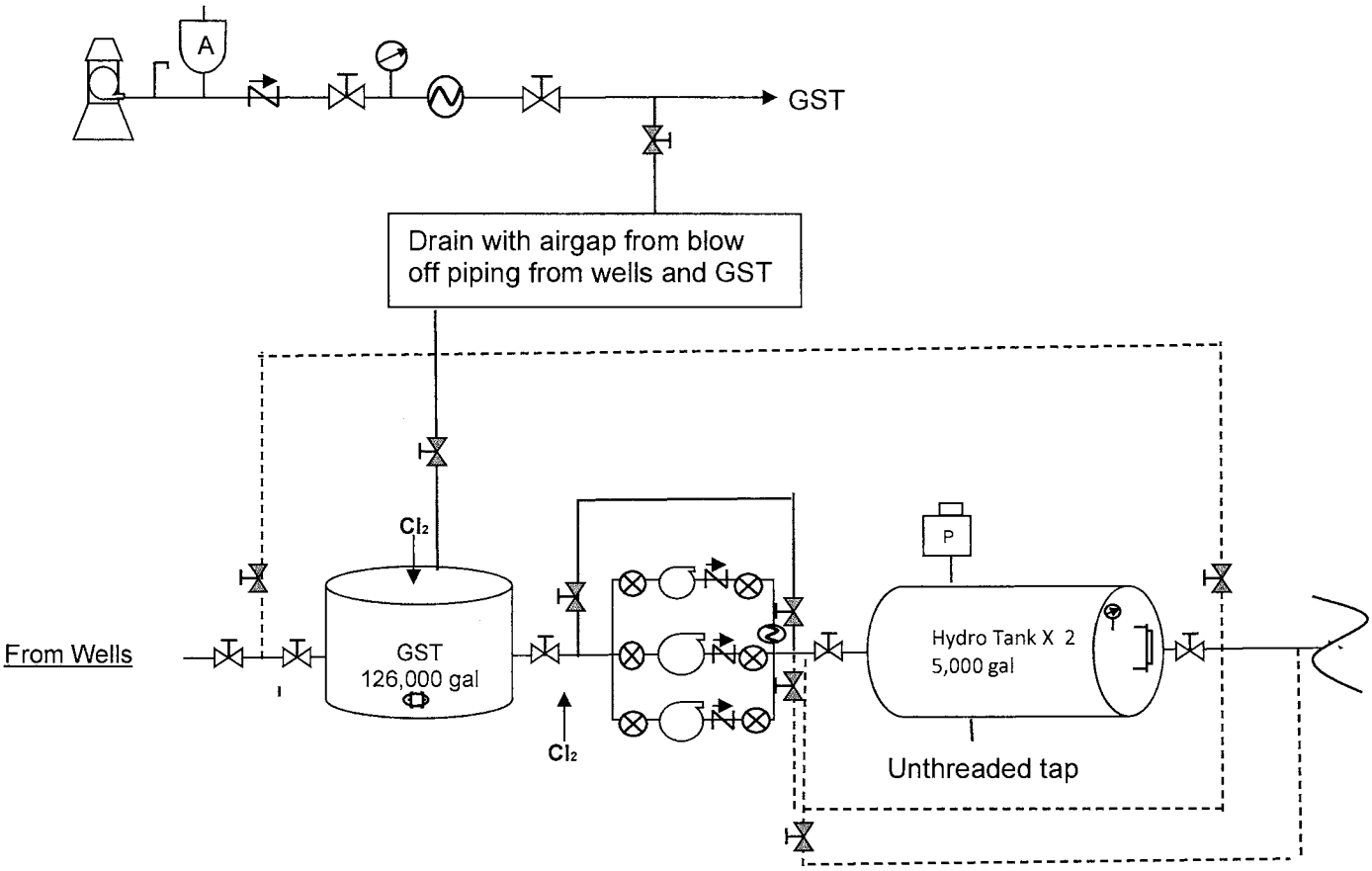
Comments HSP #3 is lead pump & runs regularly.
HSP #s 1 & 2 for backup/fire & run as needed.

CR 136 Water Treatment Plant

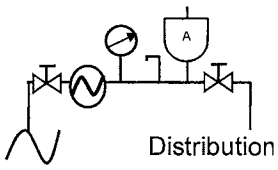
PWS ID # 2614270
Survey Date 6/4/2025

SCHEMATIC (not to scale – Schematic Key on page 5):

Well 1 & 2 set up:



From H-Tank:



Schematic Key

	Well w/ Turbine Pump	A	Air Relief Valve		Dual Check Valve w/ Reduced Pressure Zone
	Smooth Nose Tap		Tap with HBVB		Pressure Gauge
⊗	Open Ball Valve	⊗	Closed Ball Valve		Open Gate Valve
P	Pressure Relief Valve		Closed Gate Valve		Sight Glass
	Pipe going into ground		Check Valve		Flow Meter

CR 136 Water Treatment Plant

PWS ID # 2614270
Survey Date 6/4/2025

Monitoring Schedule					
Chemical	**Next Due**	**Comments**	**Chemical**	**Next Due**	**Comments**
Bacteriologicals	2025 July-Sept	Quarterly	**VOCs**	**2025**	**See Comments**
Disinfectant Levels	2025 July-Sept	with Bactis	SOCs	**2025**	Triennially
Nitrate & Nitrite	**2025**	Annually	Rads	2028	3-Year
Inorganics	**2025**	Triennially	**DBPs**	**2025**	Annually August
Asbestos	2031	9-Year	**Pb-Cu**	**2025**	Triennially, June-Sept
Secondaries	**2025**	Triennially	WQPs	N/A	

**Sample locations vary. If you have any questions, please contact your inspector.*

MONITORING VIOLATIONS	MCL VIOLATIONS
Initial LSLI was not submitted (due Oct. 16, 2024)	None
Q4 2024 and Q1 2025 bacteriological sampling was not conducted	
Stage 2 DBPs were not monitored at L1 and L2 during Aug. 2023 and Aug. 2024	

MONITORING COMMENTS:

Public notification completed on 7/11/2025 for GWR/ RTCR and DBP monitoring violations and submitted to the DEP on 7/17/2025. **Certification of Delivery form is still required to be submitted for the Public Notice.**

VOC monitoring schedule: Contaminant set is on an annual schedule (due 2025) (note: last annual set will be taken in 2026, then the system can move to triennial monitoring), but Total Xylenes (Contaminant ID 2955) is on annual monitoring to be collected during the 2nd Quarter due to detections above RDL.

DEFICIENCIES:

#	Deficiency	Rule Reference	Corrective Action	Category	Severity	Corrected
None						

Any deficiency marked with an asterisk (*) is a repeat violation.

ADDITIONAL COMMENTS:

While the WTP had no deficiencies, the system is out of compliance due to monitoring violations. A Certification of Delivery form should be submitted as soon as possible for the Public Notification, and sampling should resume. A Consent Order will follow to assess civil penalties due to the nature of the violations.

Inspector: _____ (904) 256-1581
Emerson Raulerson, Professional Engineer Emerson.Raulerson@FloridaDEP.gov

Approved by: _____
Madison White, Environmental Consultant

PWS CERTIFICATION OF DELIVERY OF PUBLIC NOTICE

INSTRUCTIONS: The supplier of water, within ten days of completion of each public notification requirement pursuant to Part IV of Chapter 62-560, Florida Administrative Code, shall submit to the appropriate Department of Environmental Protection District Office or Approved County Health Department a completed DEP Form 62-555.900(22), Certification of Delivery of Public Notice, and include with the form a representative copy of each type of notice distributed, published, posted, and made available to the persons served by the system, and the media. All information provided on this form shall be typed or printed in ink.

I. General Information			
Public Water System (PWS) Name:			
PWS ID:			
PWS Type: ☐ Community	☐ Non-Transient Non-Community	☐ Transient Non-Community	
PWS Owner:			
Contact Person:		Contact Person's Title:	
Contact Person's Mailing Address:			
City:		State:	Zip Code:
Contact Person's Telephone Number:		Contact Person's Fax Number:	
Contact Person's E-Mail Address:			

II. Certification						
For Violation/Situation:						
Date of Occurrence:						
Consultation Date						
Delivery Methods:	☐ Radio/TV	☐ Mail	☐ Newspaper	☐ Hand Delivery	☐ Posting	☐ Other(describe)
Delivery Date/s:						

I am duly authorized to sign this form on behalf of the public water system identified in Part I of this form. I certify that the information provided on this form is correct to the best of my knowledge and that public notice has been provided to consumers in accordance with the delivery, content, and format requirements and deadlines in Chapter 62-560, Florida Administrative Code.

Signature and Date | Printed or Typed Name | Title

CONSTRUCTION, OPERATION AND MAINTENANCE AGREEMENT

This Construction, Operation and Maintenance Agreement ("Agreement") is made part of that certain State-Funded Grant Agreement entered by and between the State of Florida Department of Transportation ("Department") and Columbia County, Florida, its successors and assigns (collectively the "Agency").

A. The Department owns and operates real property ("Property") and improvements located within Interstate 75 ("I-75") / State Road 93 ("SR 93") right of way, south of the SR 93 / US 41 interchange in Columbia County, Florida, consisting of a rest area, wastewater treatment plant ("Department Plant"), lift station, force main, spray field and other improvements, as shown in blue on attached Exhibit "A"; and

B. The Agency owns and operates real property ("Agency Property") in the vicinity of the Department's Property, as shown in yellow on attached Exhibit "A"; and

C. The Agency shall design, permit and construct a wastewater treatment plant ("Agency Plant") that accommodates all anticipated flows including the Department's DEP permitted capacity on the Agency Property and also construct a new lift station and force main ("New Lift Station and Force Main") connecting the Department Plant and the Agency Plant, see attached Exhibit ("B"); and

D. When operational, the New Lift Station and Force Main will temporarily convey Agency wastewater to the Department Plant until the Agency Plant is operational; and

E. The Agency shall operate and maintain the Department Plant and all associated lift stations and force mains from the date of execution of this Agreement until the Agency Plant and Master Lift Station are operational and the Department Plant no longer receives Agency wastewater; and

F. The Agency's operation and maintenance responsibilities include, without limitation, payment for licensed operators, chemicals, sludge handling and removal, spray field operations, shop supplies, operation and maintenance expenses incurred to comply with applicable permits issued by the U.S. Department of Environmental Protection and other general maintenance expenses; and

G. The Department's responsibilities from the date of execution of this Agreement until the Agency Plant and Master Lift Station are operational and the Department Plant no longer receives wastewater, are limited to paying for electric service, ancillary site costs and those capital replacement items in excess of $5,000.00; and

H. When the Agency Plant becomes operational, the Agency shall promptly modify the New Lift Station and Force Main such that the lift station serves as a "Master Lift Station" and conveys all, i.e., Department and Agency, wastewater to the Agency Plant; and

I. After the Agency Plant and Master Lift Station are operational and the Department Plant no longer receives wastewater, the Department shall operate and maintain all lift stations and force mains on Department property; and

J. After the Agency Plant and Master Lift Station are operational and the Department Plant no longer receives wastewater, the Agency shall operate and maintain the Agency Plant, all lift stations and force mains on Agency property; and

K. For a period of fifteen (15) years beginning when the Agency Plant and Master Lift Station are operational, the Agency shall not charge the Department and the Department shall not owe the Agency any compensation in any way related to the operation and maintenance of the Agency Plant, lift stations and force mains on Agency property, including, without limitation, connection fees, tap fees, impact fees and the like – at the conclusion of the fifteen-year period the Department shall begin paying standard commercial utility service fees to the Agency annually, in arrears; and

L. On March 31st of each year after the Agency Plant is operational, the rate charged by the Agency for its wastewater services shall be automatically adjusted by the percentage of the price increase or decrease for water and wastewater utilities established by the Florida Public Service Commission for the preceding twelve months as required by §367.081(4), Florida Statutes; and

M. The Agency acknowledges and agrees an essential nexus exists between the obligations set forth in this Agreement and associated legitimate Department interests and that the obligations set forth in this Agreement are also proportional to the anticipated impacts to the Department resulting from the performance of this Agreement; and

N. For purposes of this Agreement, the meaning of the term "wastewater" includes, without limitation, the definition included in 62-604.200(19), Fla. Adm. Code (2024); and

O. The Applicant properly authorized execution of this Agreement in accordance with its resolution, see attached Exhibit "C".

NOW THEREFORE, for and in consideration of the mutual covenants and conditions contained in this Agreement, the parties acknowledge and agree as follows:

1. RECITALS AND EXHIBITS
The recitals set forth above and attached exhibits are specifically incorporated in and made part of this Agreement.

2. EFFECTIVE DATE
The date this Agreement becomes executed by both Parties is the "Effective Date".

3. E-VERIFY
Agency, including its contractors and subcontractors, shall comply with applicable provisions of §448.095(5), Florida Statutes, requiring registration with, and use of, the U.S. Department of Homeland Security's E-Verify system to verify the work authorization status of all employees hired by Agency, including its contractors and any subcontractors, during the performance of this Agreement.

4. COMPLIANCE
A. Agency shall perform this Agreement in a good and workmanlike manner, with reasonable care, in accordance with the terms and provisions of this Agreement and all applicable federal, state, local, judicial, administrative, regulatory, safety and

environmental decrees, orders, judgments, laws, codes, rules, regulations, policies, procedures, guidelines and permits, as the same may be constituted and amended from time to time, including, without limitation, those of the Department, the Agency, Suwannee River Water Management District, Florida Department of Environmental Protection, U.S. Environmental Protection Agency, Army Corps of Engineers and the United States Coast Guard ("Governmental Law").

B. Agency represents and warrants it does not use coercion for labor or services as defined in §787.06, Fla. Stat. (2024), and shall execute a Department form affidavit affirming the same concurrently with its execution of the State-Funded Grant Agreement.

C. This Agreement is separate and apart from required Department permit(s), if any. Should any term or provision of this Agreement conflict with any term or provision any required Department permit(s), the terms and provisions of this Agreement shall control.

5. CONSTRUCTION

The Agency shall perform all construction contemplated by this Agreement in accordance with applicable Governmental Law.

6. OPERATION AND MAINTENANCE / RIGHT OF ENTRY

A. The parties shall perform all operation and maintenance contemplated by this Agreement in accordance with applicable Governmental Law.

B. This Agreement constitutes a revocable right of entry and license for the Agency to enter so much of the Department's Property as necessary to perform this Agreement.

7. INDEMNIFICATION

To the maximum extent possible under applicable Florida law, the Agency shall defend, indemnify and hold the Department harmless from all claims, demands, damages, losses, judgments, fines, penalties, assessments, costs and attorney fees incurred by the Department as a result of the Agency's: (i) negligent performance or breach of this Agreement; (ii) intentional or wrongful acts or omissions in the performance or breach of this Agreement; or (iii) violation of applicable Governmental Law in the performance or breach of this Agreement ("Liabilities"). The Agency shall immediately notify the Department in writing upon becoming aware of any Liabilities. The Agency shall, upon the Department's written demand, participate and associate with the Department, as directed by the Department, in the defense and trial of any Liabilities, including related settlement negotiations. The inability of the Agency to evaluate liability, or its evaluation of liability, shall not excuse performance of the provisions of this section of the Agreement.

8. SOVEREIGN IMMUNITY

This Agreement does not waive either party's sovereign immunity protections or increase the limits of liability set forth in §768.28, Florida Statutes (2024).

9. PUBLIC RECORDS

THE AGENCY SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF CHAPTER 119, FLORIDA STATUTES. IN THE EVENT THE AGENCY ASSERTS AN EXEMPTION TO THE REQUIREMENTS OF CHAPTER 119, THE BURDEN AND EXPENSE OF ESTABLISHING SUCH EXEMPTION

SHALL BE BORNE SOLELY BY THE AGENCY. IF THE AGENCY HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, AND THE AGENCY'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, THE AGENCY WILL CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Florida Department of Transportation
District 2 - Office of General Counsel
1109 South Marion Avenue, MS 2009
Lake City, FL 32025
Telephone: (386) 758-3727
Email: D2prcustodian@dot.stat.fl.us

10. GOVERNING LAW, VENUE AND JURISDICTION
This Agreement shall be governed in all respects by the laws of the State of Florida. Venue for all actions arising out of or in any way related to the enforcement, interpretation, validity, performance or breach of this Agreement shall lie exclusively in a state court of appropriate jurisdiction in Leon County, Florida.

11. JURY TRIAL
The parties waive the right to trial by jury of any dispute concerning the enforcement, interpretation, validity, performance or breach of this Agreement.

12. ASSIGNMENT
This Agreement is not assignable by the Agency absent the Department's prior written consent executed by the District 2 Secretary. Nothing in this section shall prevent the Agency from delegating its contractual duties, but such delegation shall not release the Agency from its obligation to perform this Agreement.

13. THIRD PARTY BENEFICIARIES
This Agreement is binding on the parties and their respective successors and assigns, and does not confer any rights, obligations or remedies on any other person or entity.

14. VOLUNTARY EXECUTION OF AGREEMENT
This Agreement was negotiated fairly, at arm's length, and voluntarily executed by the parties after consulting with their respective legal counsel.

15. WAIVER
The failure of either party to insist on the performance of a provision of this Agreement on one or more occasions shall not constitute a waiver or relinquishment of the provision. All provisions remain in full force and effect unless specifically waived in writing.

16. INTERPRETATION
No term or provision of this Agreement shall be interpreted for or against either party because that party or that party's legal representative drafted the term or provision.

17. CAPTIONS
Paragraph titles and captions in this Agreement are inserted as a matter of convenience and reference only, and do not limit or broaden the scope of this Agreement.

18. SEVERANCE

If any part(s) of this Agreement is adjudged by a court, agency or other authority of competent jurisdiction to be invalid, illegal or unenforceable, all remaining material parts of this Agreement shall remain in full force and effect.

19. COMPUTATION OF TIME

In computing any period of time prescribed in the Agreement, the day of the act, event or default from which the designated period of time begins to run, shall not be included. The last day of the period shall be included unless it is a Saturday, Sunday or legal holiday, in which event the period shall run until the end of the next day which is not a Saturday, Sunday or legal holiday.

20. DEPARTMENT'S EXPENDITURE OF FUNDS

Pursuant to §339.135(6)(a), Florida Statutes, the Department's obligation to pay the Agency for future wastewater services is contingent upon annual appropriation by the Florida Legislature. This Agreement may be terminated by the Department without liability to the Agency if sufficient funds are not appropriated to the Department for said future services. The provisions of §339.135(6)(a), Florida Statutes, are made part of this Agreement, to wit:

> "The Department, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such contract. The Department shall require a statement from the comptroller of the department that funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding 1 year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years; and this paragraph shall be incorporated verbatim in all contracts of the department which are for an amount in excess of $25,000 and which have a term for a period of more than 1 year."

IN WITNESS WHEREOF, the parties execute this Agreement consisting of nine (9) pages.

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Financial Project Id. No.: 438602-5-54-01
Federal Id. No.: NA
Project Description I-75/SR 93 Columbia Co. Force Main Project Rest Area

Florida Department of Transportation

DocuSigned by:
By: Greg Evans
8A93B2A03EC34AA...

Printed Name: Greg Evans

Title: District Two Secretary

Date: 12/02/2024 | 11:03 AM EST

Attest:

DocuSigned by:
By: Elizabeth Engle
F8E740BE5218496...

Printed Name: Elizabeth Engle

Title: Office of the District Two Secretary

Date: 12/02/2024 | 11:06 AM EST

Legal Review:

DocuSigned by:
By: Angela Hensel
Office of the General Counsel
Florida Department of Transportation

Columbia County, Florida

By:

Printed Name: Ronald Williams

Title: Chairman

Date: Nov 13, 2024

Attest:

By:

Printed Name: James M. Swisher Jr.

Title: Clerk of Court

Date: 11/13/24

Legal Review:

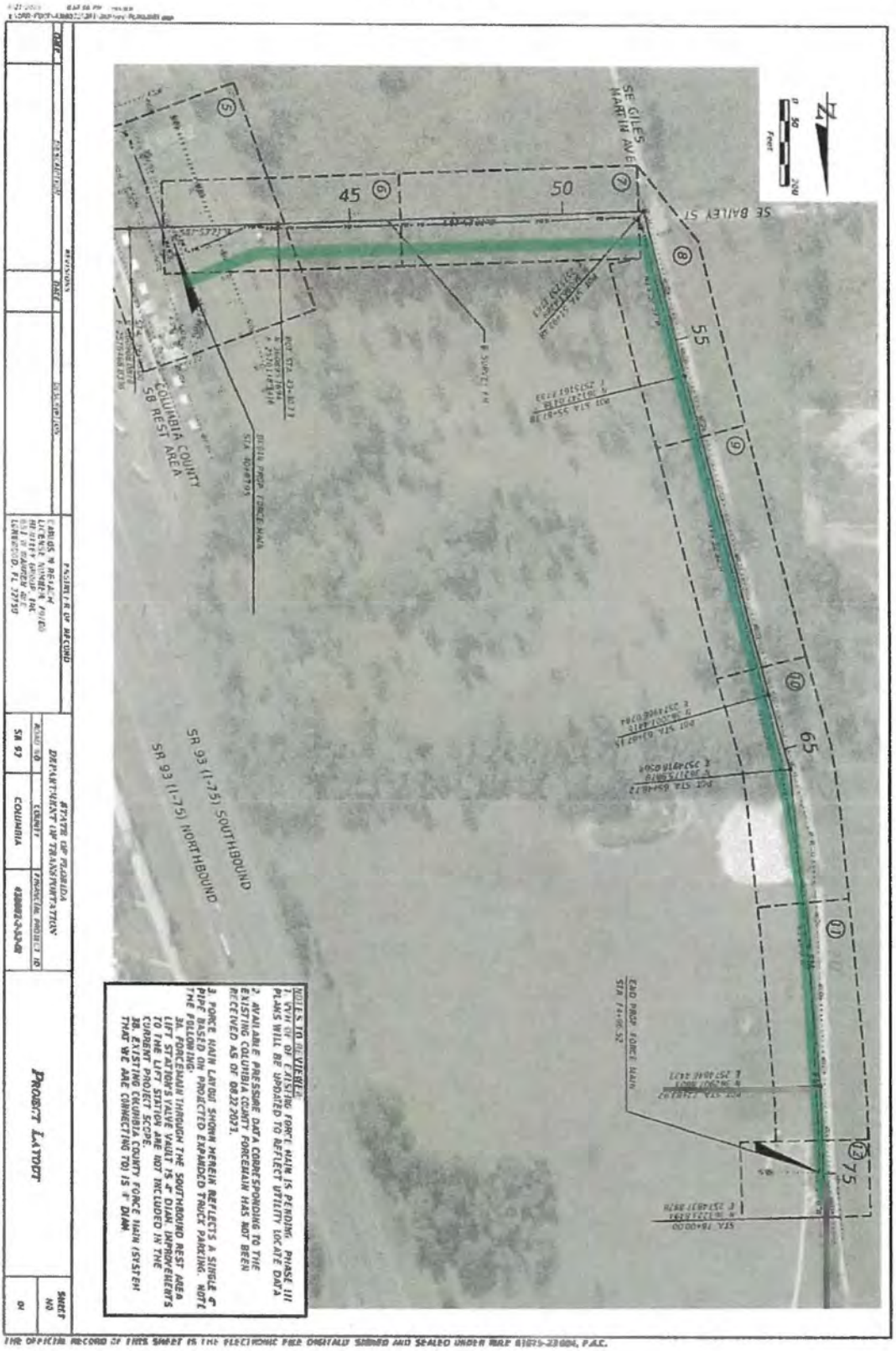
By:
Legal Counsel for Columbia County

Financial Project Id. No.: 438602-5-54-01
Federal Id. No.: NA
Project Description I-75/SR 93 Columbia Co. Force Main Project Rest Area

EXHIBIT "A"

Financial Project Id. No.: 438602-5-54-01
Federal Id. No.: NA
Project Description I-75/SR 93 Columbia Co. Force Main Project Rest Area

EXHIBIT "B"



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

ARCADIS

North Florida Water Utilities Authority

South Columbia County Regional WWTF

Consent Order Engineering Assessment Report

December 23, 2025

Certifications

Professional Engineer Certification

I certify that the information contained in this Engineering Report for the South Columbia County Wastewater Treatment Facility is true and correct to the best of my knowledge.

Sean K Chaparro

Digitally signed by: Sean K Chaparro
DN: CN = Sean K Chaparro C = US O = Unaffiliated
Date: 2025.12.23 16:53:04 -05'00'

Signature

12/23/2025

Date

Sean K. Chaparro, P.E.
Florida Professional Engineer Registration No. 75865
Arcadis, U.S. Inc.
4300 W. Cypress Street, Suite 450
Tampa, FL 33607
(813) 353-5808

Contents

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Appendices

Appendix A – South Columbia County Regional WWTF Consent Order Offer

Appendix B – Ellisville WWTP - Tank Sizing Calculations

Acronyms and Abbreviations

AADF	Annual Average Daily Flow
BOD	Biochemical Oxygen Demand
CBOD5	Five-Day Carbonaceous Biochemical Oxygen Demand
DT	Detention Time
DMR	Discharge Monitoring Reports
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
gpd	gallons per day
gpd/ft^2	gallons per day per square feet
MADF	Monthly Average Daily Flow
MBR	Membrane Bioreactor
mg/L	milligrams per liter
MGD	Million Dallons per Day
NFWUA	North Florida Water Utility Authority
ppd	pounds per day
RAS	Return Activated Sludge
RIB	Rapid Infiltration Basin
RMF	Residuals Management Facility
scfm	standard cubic feet per minute
sf	square feet
SLR	Solids Loading Rate
SOR	Surface Overflow Rate
swd	side water depth
TMDL	Total Maximum Daily Load

TN	Total Nitrogen
TP	Total Phosphorus
TRC	Total Residual Chlorine
TSS	Total Suspended Solids
WAS	Waste Activated Sludge
WOR	Weir Overflow Rate
WWTF	Wastewater Treatment Facility

1 Introduction and Background

The South Columbia County Regional Wastewater Treatment Facility (WWTF) is owned by Columbia County (County) and managed and operated by the North Florida Water Utilities Authority (NFWUA) since October 2025. The facility has been operational since 2018 and underwent an expansion in 2023 to treat additional wastewater flows from new businesses within the facility's service area. The South Columbia County Regional WWTF is a 50,000 gallon per day (gpd) annual average daily flow (AADF) permitted capacity extended aeration WWTF that discharges treated effluent to a rapid infiltration basin (RIB) system, R-001, consisting of six RIBs. Collected biosolids are transported offsite for processing or disposed of in a Class I solid waste landfill for further treatment and final disposal. The facility is operated under Wastewater Permit No. FLA632759-008-DW3P, which was issued on July 31, 2024 and will expire on July 30, 2029. The facility is located at the intersection of US-41 and I-75 in Lake City, Florida and receives waste streams from businesses along this interchange.

The existing facility was designed for an effluent ammonia limit of 3.0 mg/L as nitrogen and an effluent nitrite and nitrate limit of 12 mg/L. However, the most recent permit requires the facility maintain a new annual average total nitrogen (TN) limit of 3.0 mg/L, on an annual average basis using monthly grab samples. This lower TN limit is required to comply with the Final Basin Management Action Plan for the Implementation of Total Maximum Load (TMDL) adopted by the Florida Department of Environmental Protection (FDEP) in the Santa Fe River Basin Management Area.

Consent Order CO25-0184 was issued by FDEP on September 9, 2025 due to exceedances in the effluent permit limits for Total Nitrogen, $CBOD_5$ and Fecal Coliforms between October 2023 and July 2025. The Consent Order requires submittal of an engineering evaluation to identify the cause or cause(s) of the violations and a plan to address the exceedances identified in the Consent Order. This report is due 90 days from the effective date of the order (October 1, 2025 Consent Order effective date with evaluation report due on December 30, 2025). This report presents the engineering evaluation completed to identify issues and recommended improvements to address permit limit exceedances, as required under Item No. 5 of the Consent Order.

2 Existing Facility Overview

The following section provides an overview of the existing South Columbia County Regional WWTF, including its major liquid and solids treatment process components, to establish a baseline understanding for subsequent analysis and recommendations. A process flow diagram of the existing facility is presented in Figure 2-1.

2.1 Liquids Process Description

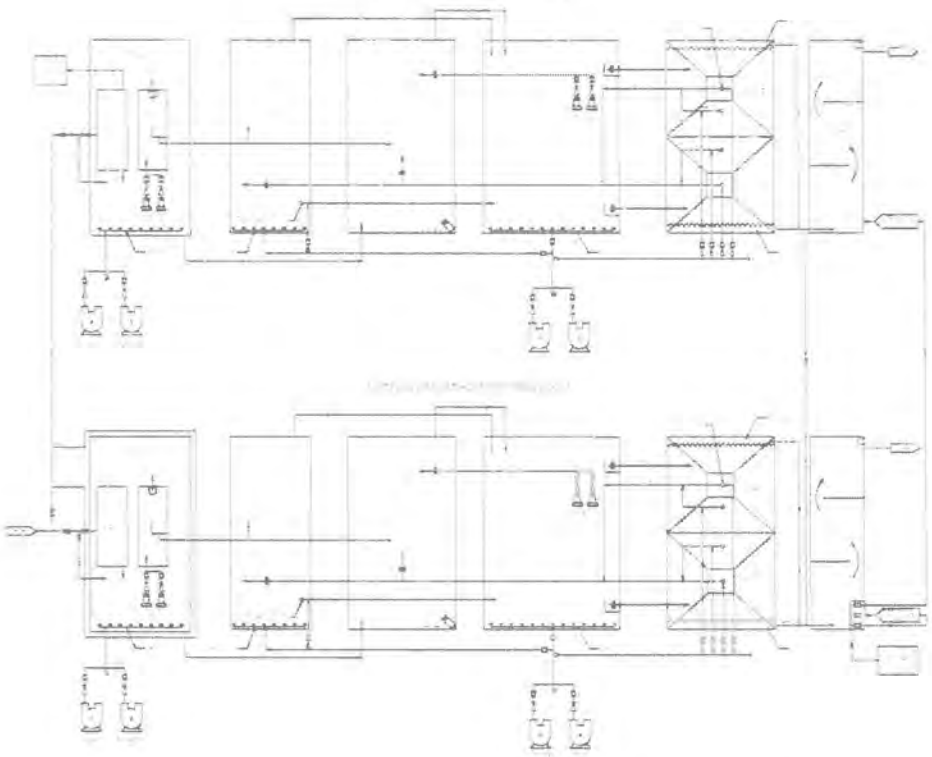
Raw influent wastewater enters the plant via a 4-inch force main fed from two lift stations that collect wastewater flows that used to go to the decommissioned Ellisville Utility WWTF and the Dream Inn WWTF. Raw influent wastewater is distributed to two parallel treatment trains. Each treatment train includes a static screen that removes screenings from the influent wastewater. Collected screenings are discharged to roll off dumpsters. A 6,400-gallon flow equalization basin per train collects wastewater flows to equalize flows and provide a consistent flow into the treatment facility. Each flow equalization basin is equipped with two blowers to maintain solids in suspension and two flow equalization pumps that pump wastewater from the flow equalization tank into a flow distribution weir box. Wastewater then moves into one 8,471-gallon anoxic chamber per treatment train to reduce nitrate to nitrogen gas. The anoxic chamber has a submersible mixer to maintain the mixed liquor in suspension.

The mixed liquor then flows by gravity into three aeration chambers in series totaling 25,413 gallons per treatment train, each equipped with coarse bubble diffusers fed by two air blowers. Two recycle pumps pump mixed liquor back to the anoxic chamber from the aeration basin.

After aeration, mixed liquor goes into two parallel clarifiers per treatment train, each with a capacity of 3,432 gallons, where solids are settled from the treated wastewater. A portion of the settled solids is returned via two air lift pumps as return activated sludge (RAS) from the clarifiers to the head of the anoxic chamber. Operators periodically manually adjust valving to route a portion of the return sludge into an 8,471-gallon aerated sludge holding chamber as waste activated sludge (WAS). Clarified effluent flows into a baffled 1,200-gallon chlorine contact chamber per treatment train with a serpentine flow path where sodium hypochlorite is fed with a metering pump. Disinfected effluent is conveyed through a 6-inch pipe by gravity to one of six on-site RIBs with a total area of 25,218 square feet (sf), located approximately at latitude 29°59'36" N, longitude 82°35'14" W.

2.2 Solids Process Description

A portion of the solids settled in the clarifier is wasted as WAS, which is conveyed into an 8,471-gallon aerated sludge holding chamber per treatment train for thickening and volatile solids reduction. Air is provided to the sludge holding chamber via air diffusers located along the bottom of the chamber. As sludge settles to the bottom of the chamber, supernatant is removed and sent to the aeration chamber. Collected sludge is periodically hauled from the WWTF to an offsite Residuals Management Facility (RMF) for treatment and disposal of in a Class I solid waste landfill for further treatment and final disposal.



DRAFT

ARCADIS

COLUMBIA COUNTY, FLORIDA
ELLISVILLE WASTEWATER TREATMENT PLANT PHASE 3 EXPANSION

EXISTING PROCESS FLOW DIAGRAM

2-1

3 Existing Facility Assessment

This section presents the assessment completed of the South Columbia County Regional WWTF to identify the cause(s) of the exceedances in the effluent permit limits as identified in the Consent Order. As part of this assessment, operating data from 2023 through 2025 was compiled and reviewed to verify recent historical plant performance and identify potential treatment and operational issues. In addition, meetings were conducted with NFWUA and County staff to discuss potential operational issues, equipment issues, and plant upset events that may have resulted in some exceedances of the permit limit.

3.1 Permit Limits

The specific effluent limitations and requirements for R-001 are described in detail in the existing permit. Parameters collected for the reuse system includes: $CBOD_5$, TSS, pH, Fecal Coliforms, total residual chlorine (TRC), and nitrogen. All effluent that is discharged to R-001 must comply with the monitoring requirements and limitations as listed in Table 3-1. Permit monitoring requirements for the influent and biosolids management are outlined in Table 3-2 and Table 3-3, respectively. A description of the various monitoring locations is presented in Table 3-4.

Table 3-1 Reclaimed Water and Effluent Permit Limits of the South Columbia County Regional WWTF

Parameter	Units	Max/Min	Reclaimed Water Limitations		Monitoring Requirements		
			Limit	*Statistical Basis*	*Frequency of Monitoring*	*Sample Type*	*Monitoring Site Number*
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	Monthly	Grab	EFA-1
		Max	30.0	Monthly Average			
		Max	45.0	Weekly Average			
		Max	60.0	Single Sample			
Solids, Total Suspended	mg/L	Max	20.0	Annual Average	Monthly	Grab	EFA-1
		Max	30.0	Monthly Average			
		Max	45.0	Weekly Average			
		Max	60.0	Single Sample			
pH	s.u.	Min	6.0	Single Sample	5 Days/week	Grab	EFA-1
		Max	8.5	Single Sample			
Coliform, Fecal	#/100mL	Max	200	Monthly Geometric Mean	Monthly	Grab	EFA-1
		Max	200	Annual Average			
		Max	800	Single Sample			
Chlorine, Total Residual	mg/L	Min	0.5	Single Sample	5 Days/week	Grab	EFA-1
Nitrogen, Nitrate, Total (as N)	mg/L	Max	12.0	Single Sample	Monthly	Grab	EFA-1
Nitrogen, Total	mg/L	Max	3.0*	Annual Average	Monthly	Grab	EFA-1

** Total Nitrogen annual average limit of 3.0 mg/L shall be met by March 1, 2024 per FDEP Administrative Order No. AO-204NE.*

Table 3-2. Other Permit Monitoring and Reporting Requirements South Columbia County Regional WWTF

Parameter	Units	Max/Min	Limitations		Monitoring Requirements		
			Limit	*Statistical Basis*	*Frequency of Analysis*	*Sample Type*	*Monitoring Site Number*
Flow	MGD	Max	0.025 Report Report	Annual Average Monthly Average Quarterly Average	5 Days/Week	Meter	FLW-1
Percent Capacity, (TMADF/Permitted Capacity) x 100	Percent	Max	Report	Monthly Average	Monthly	Calculated	CAL-1
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Monthly	Grab	INF-1
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Monthly	Grab	INF-1

Table 3-3. Biosolids Management Requirements South Columbia County Regional WWTF

Parameter	Units	Max/Min	Biosolids Limitations		Monitoring Requirements		
			Limit	*Statistical Basis*	*Frequency of Analysis*	*Sample Type*	*Monitoring Site Number*
Biosolids Quantity (Transferred)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1
Biosolids Quantity (Landfilled)	Dry Tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1

Table 3-4. Monitoring Sample Locations

Monitoring Site Number	Description of Monitoring Site
EFA-1	Effluent immediately after disinfection and prior to discharge to the reuse system
FLW-1	Flow meter
CAL-1	Calculated value
INF-1	Influent before physical, chemical and biological treatment or dilution
RMP-1	Biosolids quantity is monitored at the digester

3.2 Operating Data Review (2023-2025)

Discharge Monitoring Report (DMR) data for the South Columbia County Regional WWTF from October 2023 through September 2025 was compiled and reviewed, as well as any relevant supplemental sampling data available during this period (provided by the NFWUA). The data was used to assess changes in treated wastewater flows, influent and effluent concentrations and loads, and treatment performance of the existing facility with respect to plant design criteria and compliance with effluent permit limits.

3.2.1 Historical Flows

Flows from the South Columbia County Regional WWTF are measured by an ultrasonic flowmeter sensor located on the outlet end of the chlorine contact chamber of each treatment train. Flow readings are continuously recorded using a chart recorder. The facility currently serves several local commercial properties located at or near the Ellisville I-75 and US 41 interchange. The facility does not serve residential properties. Historical flow information was gathered from DMRs submitted to FDEP by the facility's operations staff. The monthly average daily flows (MADF) and the percent of permitted flow capacity per month are both summarized in Table 3-5 below.

Table 3-5 Historical Monthly Average Daily Flows

Date	MADF (MGD)	Percent of Permitted Capacity
Oct-23	0.031	62.65%
Nov-23	0.0313	62.60%
Dec-23	0.0305	61.03%
Jan-24	0.0295	59.03%
Feb-24	0.0279	55.72%
Mar-24	0.0292	58.45%
Apr-24	0.0338	67.53%
May-24	0.0140	28.00%
Jun-24	0.0283	56.53%
Jul-24	0.0140	28.00%
Aug-24	0.0234	46.71%
Sep-24	0.0275	55.00%
Oct-24	0.0276	55.16%
Nov-24	0.0287	57.45%
Dec-24	0.0234	46.87%
Jan-25	0.0199	39.73%
Feb-25	0.0246	49.29%
Mar-25	0.0327	65.42%
Apr-25	0.0341	68.21%
May-25	0.0298	59.53%
Jun-25	0.0322	64.41%
Jul-25	0.0342	68.40%
Aug-25	0.0318	63.55%
Sep-25	0.0311	62.27%

The historical daily and annual average daily flows from October 2023 through September 2025 are shown graphically in Figure 3-1. As seen, daily flows were generally below the 0.050 MGD AADF permitted capacity with an overall average flow of 0.029 MGD for this period. Peak daily flows were all within the facility design peak capacity of 0.125 MGD with the exception of a 0.230 MGD peak flow on April 5, 2024. Discussions with staff confirmed this high flow did not actually occur and may have been a transcribing error when entered into the DMR. Flows have generally been slightly higher throughout 2025 compared to 2024; however, overall daily flows have been within the design and permitted capacity of the facility for the evaluated period.

The percentage of the permitted flow capacity for this period is shown graphically in Figure 3-2. As seen, the MADFs have been under 70% of the facility's permitted capacity with flows ranging between 28% and 69% of permitted capacity.

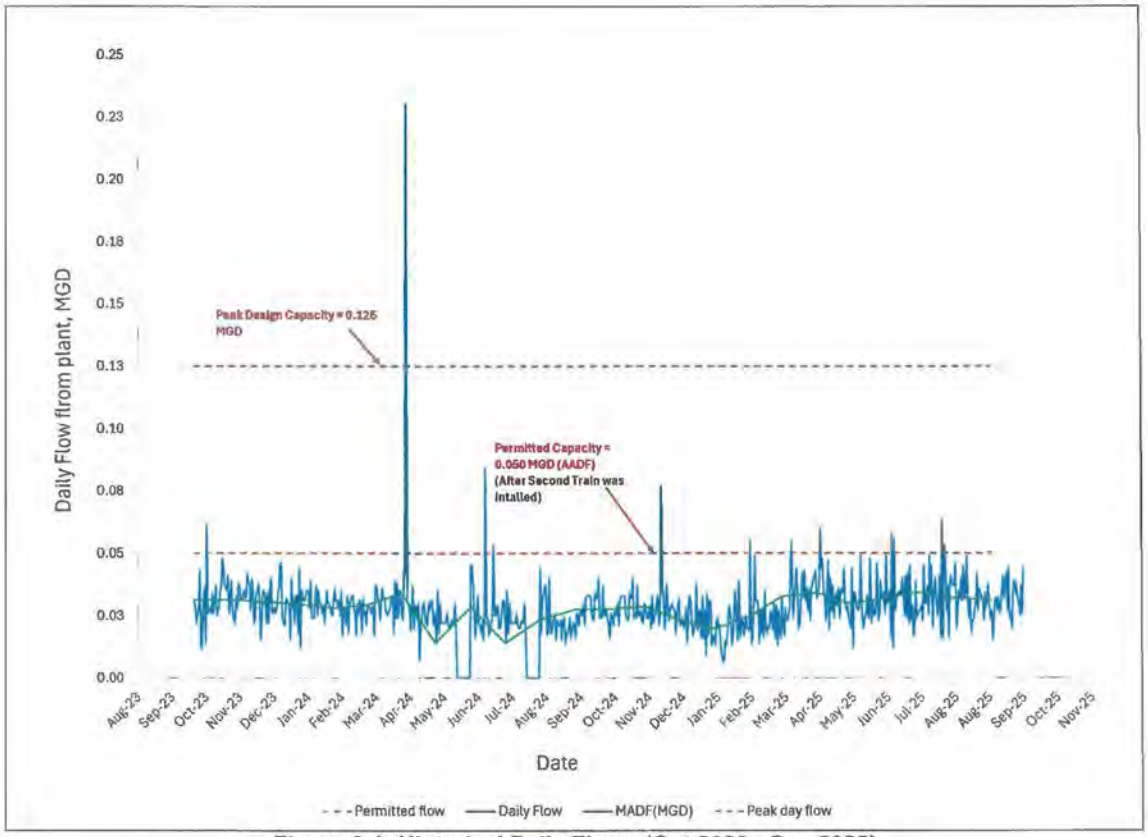


Figure 3-1: Historical Daily Flows (Oct 2023 - Sep 2025)

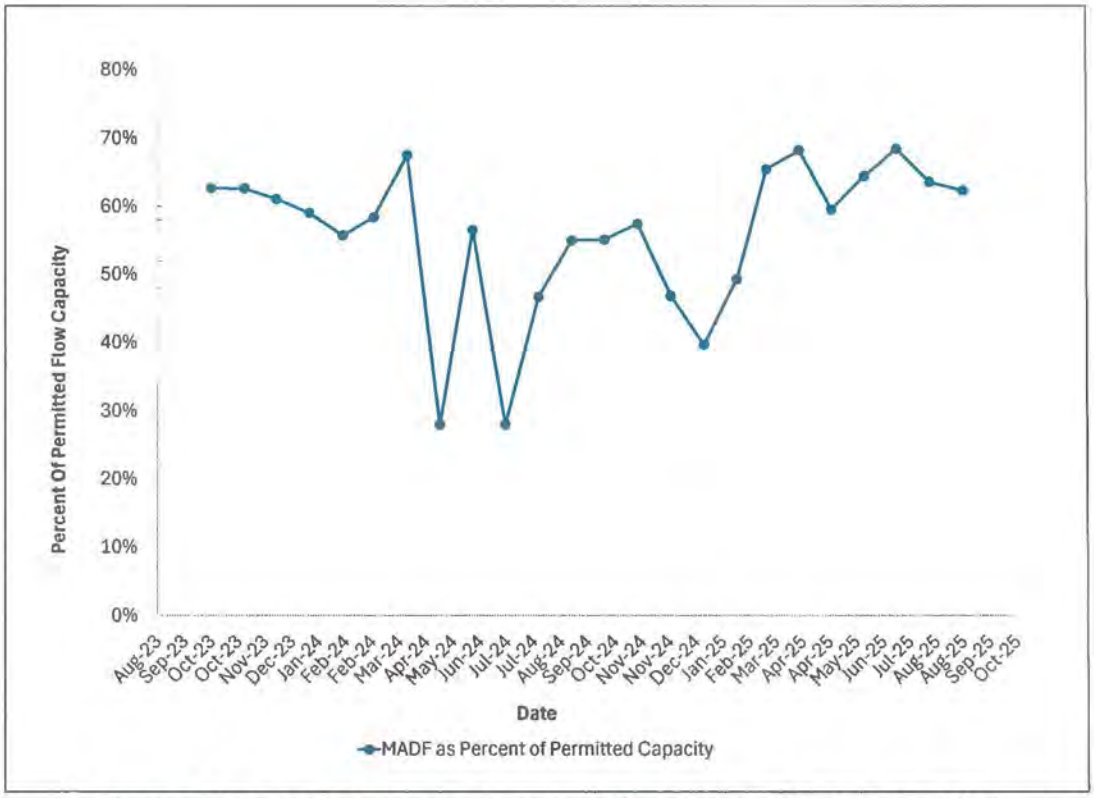


Figure 3-2: Historical Percentage of Permitted Flow Capacity (Oct 2023 - Sep 2025)

3.2.2 Historical Concentrations, Loads, and Treatment Performance

The current FDEP permit requires both influent and effluent monitoring for five-day carbonaceous biochemical oxygen demand ($CBOD_5$) and total suspended solids (TSS), as well as effluent monitoring for fecal coliform, total chlorine residual, pH, and total nitrogen (TN) on a monthly basis. Influent sampling of total nitrogen, along with influent and effluent sampling of total phosphorus (TP), is not a requirement under the facility's current permit. Table 3-6 summarizes the average influent and effluent $CBOD_5$ and TSS concentrations and the associated percent removals for the facility from October 2023 through September 2025.

Table 3-6 Average Influent and Effluent Concentrations and Percent Removals (Oct 2023 - Sep 2025)

Parameter	Avg. Influent concentration	Avg. Effluent Concentration	Avg. Percent Removal	Permit Limit
$CBOD_5$ (mg/L)	372	7	98%	30 max
TSS (mg/L)	476	19	94%	30 max
Fecal Coliform (#/100 mL)	-	219	-	800 max
Nitrogen, Total (mg/L as N)	-	12	-	3.0 max
Chlorine, Total Residual (mg/L)	-	2.3	-	0.5 min
pH (max)	-	7.6	-	6.0 – 8.5

$CBOD_5$ Removal Performance: The historical monthly influent and effluent $CBOD_5$ concentrations and percent removals from October 2023 through September 2025 are shown graphically in Figure 3-3. As seen, the monthly influent concentrations for $CBOD_5$ fluctuated significantly and were above the influent design concentration of 475 mg/L five times between 2023 and 2025; however, effluent concentrations were consistently below the $CBOD_5$ permit limit (30 mg/L) with the exception of the December 2024 sampling event. The monthly percent removal of $CBOD_5$ was maintained above 95% despite high influent $CBOD_5$ concentrations, reflecting overall excellent $CBOD_5$ removal performance. The high effluent $CBOD_5$ concentration (50 mg/L) and lower removal performance (87.9%) observed for the December 2024 sampling event can be attributed to the County changing the operating contractor from Twofold Water Engineering to US Water Corporation in December 2024. Twofold operated and submitted up to the November 2024 reports while US Water Corp began operations and submitted reports starting with the December 2024 report. It is believed that US Water made process changes when they first took over operations before understanding the type of influent they were receiving at that plant, resulting in an initial plant upset in December 2024. Following the December 2024 upset, the plant has returned to consistent $CBOD_5$ removal performance while consistently meeting the effluent $CBOD_5$ limit.

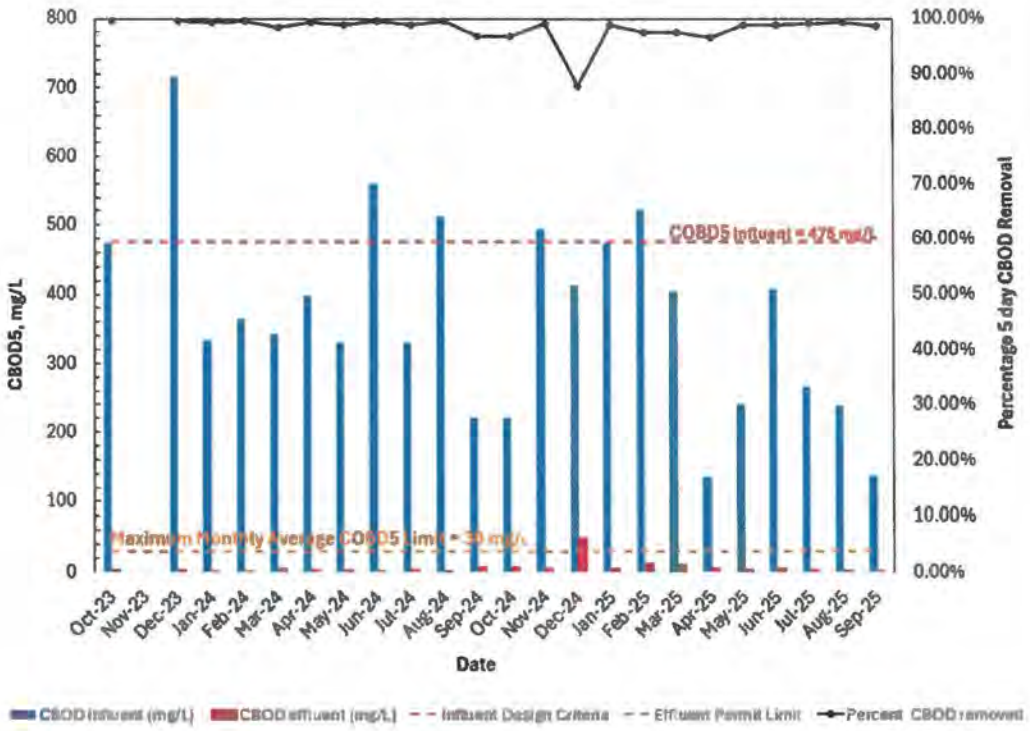


Figure 3-3: Historical Influent and Effluent $CBOD_5$ Concentrations and Percent Removal (Oct 2023 - Sep 2025)

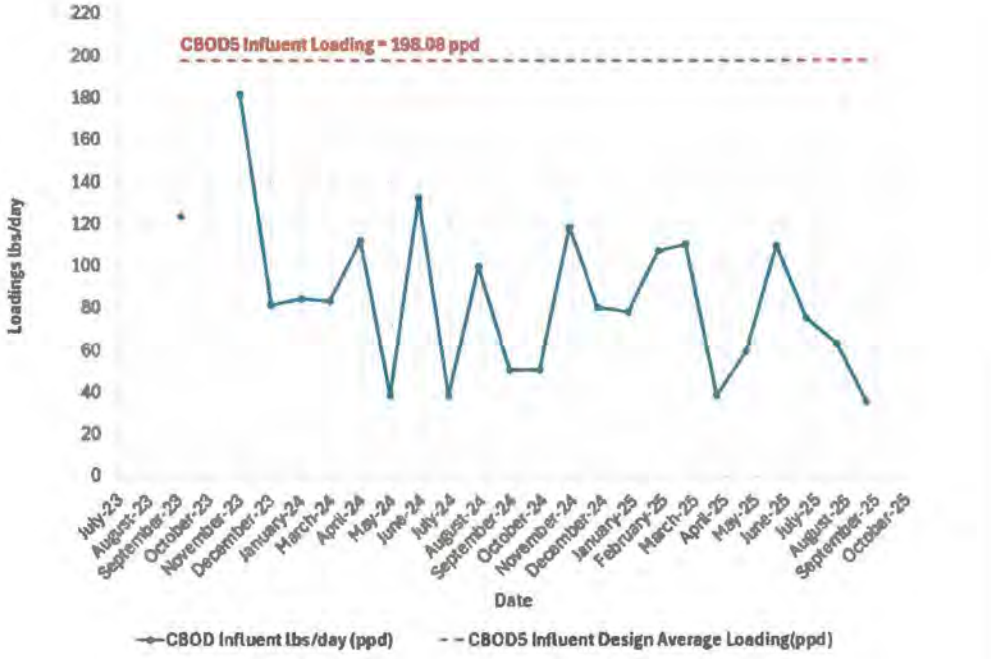


Figure 3-4: Historical Influent $CBDO_5$ Loadings (Oct 2023 - Sep 2025)

Figure 3-4 shows influent $CBOD_5$ loadings from October 2023 through September 2025. The influent loading capacity was estimated based on the design flow capacity of the plant (0.050 MGD) and the design influent $CBOD_5$ concentration (475 mg/L). As seen, despite periods with high influent concentrations, the overall influent $CBOD_5$ loading was consistently below the design loading capacity of the facility.

Figure 3-5 shows effluent $CBOD_5$ loadings compared to the allowable effluent loading rate estimated based on the design flow capacity of the plant (0.050 MGD) and the effluent $CBOD_5$ permit limit (30 mg/L). As seen, effluent loadings have consistently been well below the allowable discharge loading rate.

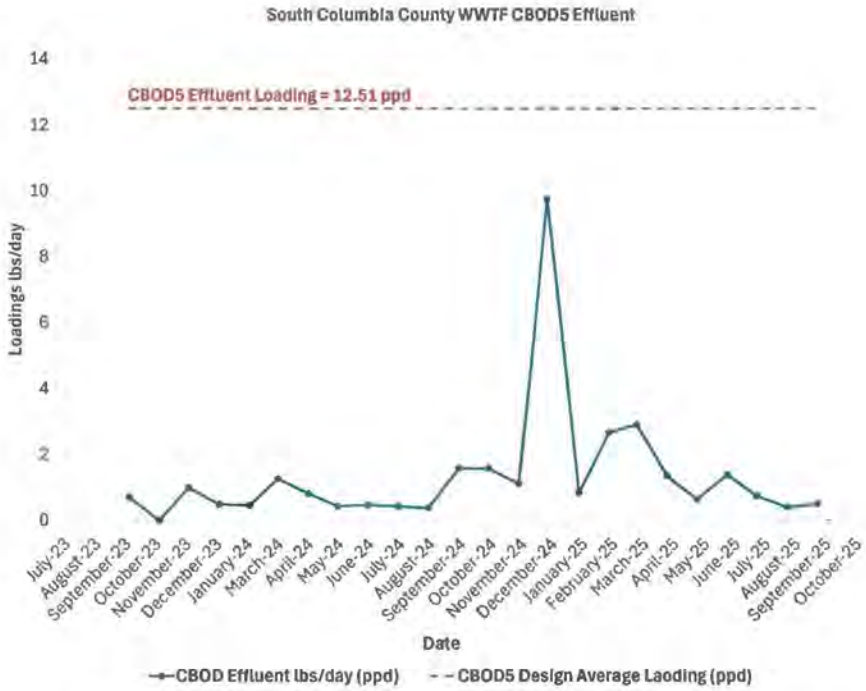


Figure 3-5: Historical Effluent $CBDO_5$ Loadings (Oct 2023 - Sep 2025)

TSS Removal Performance: The historical monthly influent and effluent TSS concentrations and percent removals from October 2023 through September 2025 are shown graphically in Figure 3-5. As seen, monthly influent concentrations for TSS fluctuated significantly and were above the influent design concentration of 375 mg/L eleven times between 2023 and 2025 with the higher TSS concentrations observed in 2025. Despite high influent TSS concentrations, effluent concentrations have been consistently below the maximum TSS permit limit (30 mg/L) with the exception of the December 2024 sampling event. The monthly percent removal of TSS was consistently maintained above 95% despite the high influent TSS concentrations indicating excellent TSS removal performance. A high effluent TSS concentration (288 mg/L) despite a relatively low influent TSS concentration for the December 2024 sampling event resulted in an overall low removal performance of about 13%. As with $CBOD_5$, this TSS exceedance was associated with the change in contract operators and initial transition period during this month. Following the December 2024 upset, the plant has returned to consistent TSS removal performance while consistently meeting the effluent TSS limit.

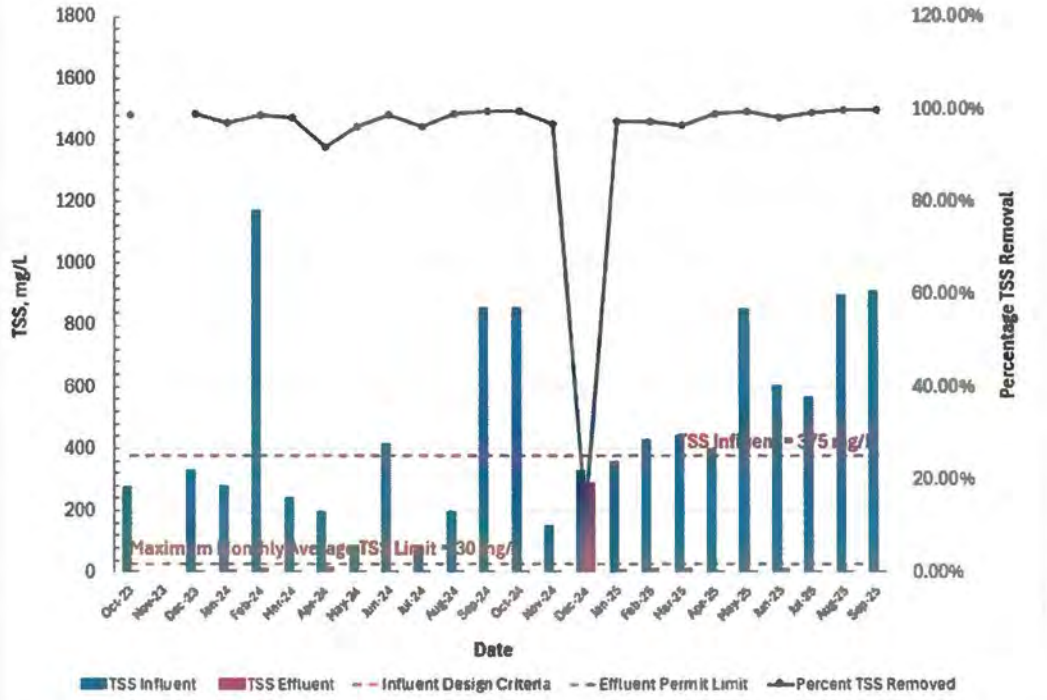


Figure 3-6: Historical Influent and Effluent TSS Concentrations and Percent Removal (Oct 2023 - Sep 2025)

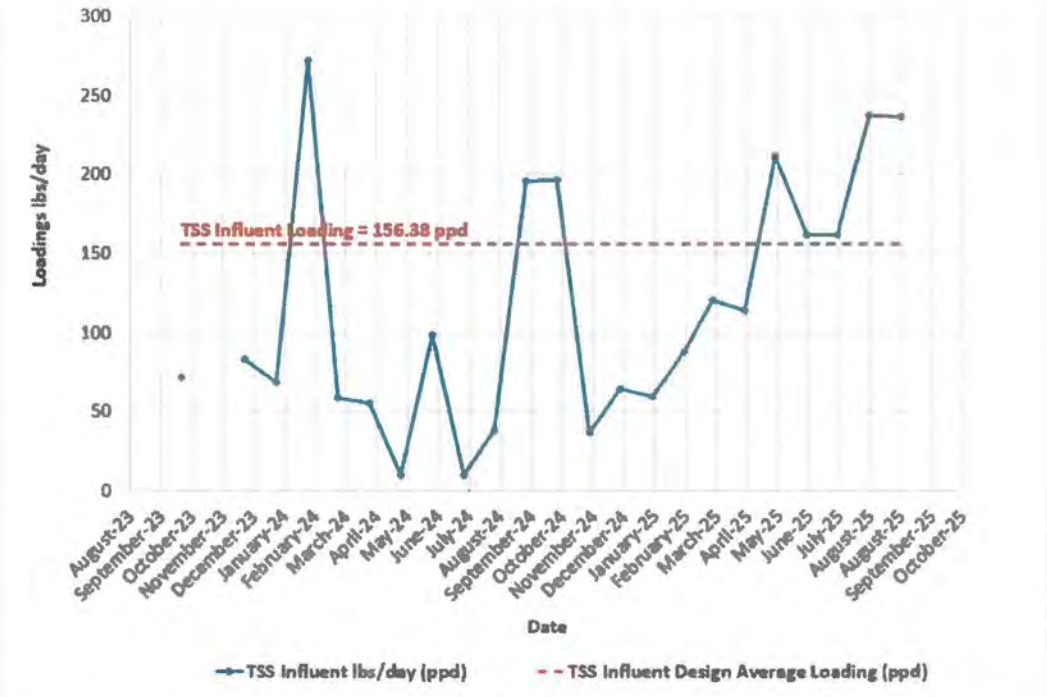


Figure 3-7: Historical Influent TSS Loadings (Oct 2023 - Sep 2025)

Figure 3-6 shows influent TSS loadings from October 2023 through September 2025. The influent loading capacity was estimated based on the design flow capacity of the plant (0.050 MGD) and the design influent TSS concentration (375 mg/L). As seen, the influent TSS loading has exceeded the design loading capacity on several instances with more consistent higher TSS influent loadings occurring in 2025. The cause for the recent increasing TSS trend is currently unknown. Although TSS loadings have been higher than the design loading capacity, effluent TSS concentrations have consistently been below the permit limit with excellent TSS removal performance (above 95% removal performance).

Figure 3-7 shows effluent TSS loadings compared to the allowable effluent loading rate estimated based on the design flow capacity of the plant (0.050 MGD) and the effluent TSS permit limit (30 mg/L). As seen, effluent loadings have consistently been well below the allowable discharge loading rate despite high influent loadings with the exception of the effluent TSS loading for December 2024 (corresponds with the plant upset from the change in contract operator).

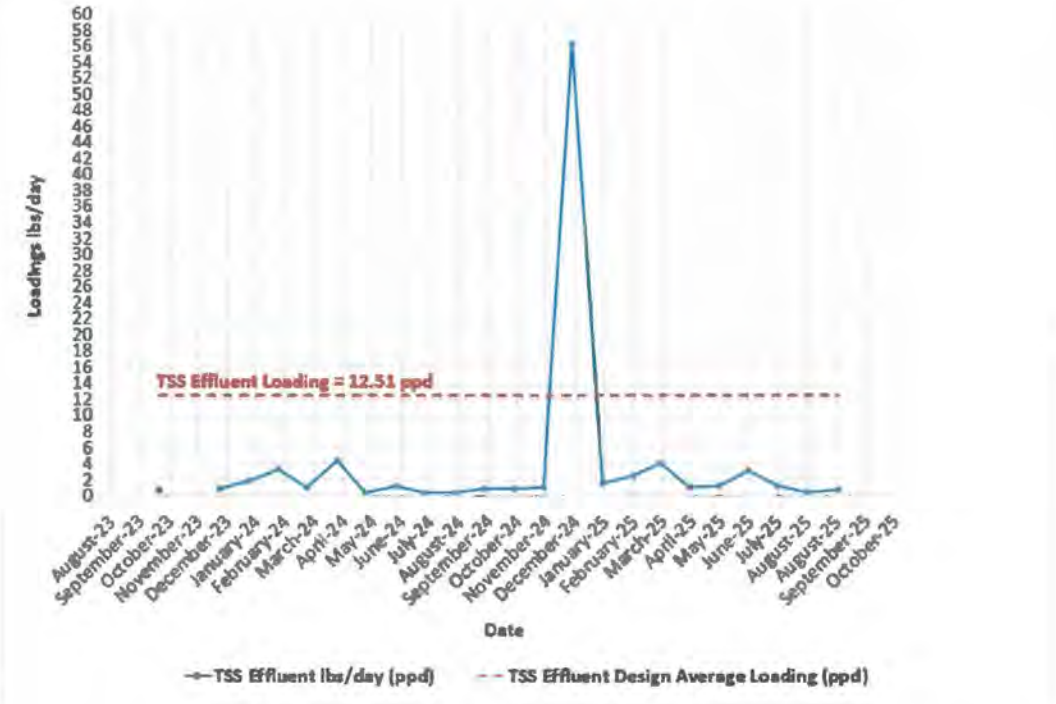


Figure 3-8: Historical Effluent TSS Loadings (Oct 2023 - Sep 2025)

Total Nitrogen Removal Performance: The historical monthly effluent concentrations for Total Nitrogen from October 2023 through September 2025 are shown graphically in Figure 3-8. As seen, effluent TN concentrations were consistently above the 3.0 mg/L permit limit. This is expected because the facility was not designed to remove TN down to this low concentration. Similarly, effluent TN loadings were consistently above the allowable discharge loading rate, as shown in Figure 3-9. Process modifications will be required to increase the overall TN removal performance to be able to consistently meet the effluent permit limit of 3.0 mg/L.

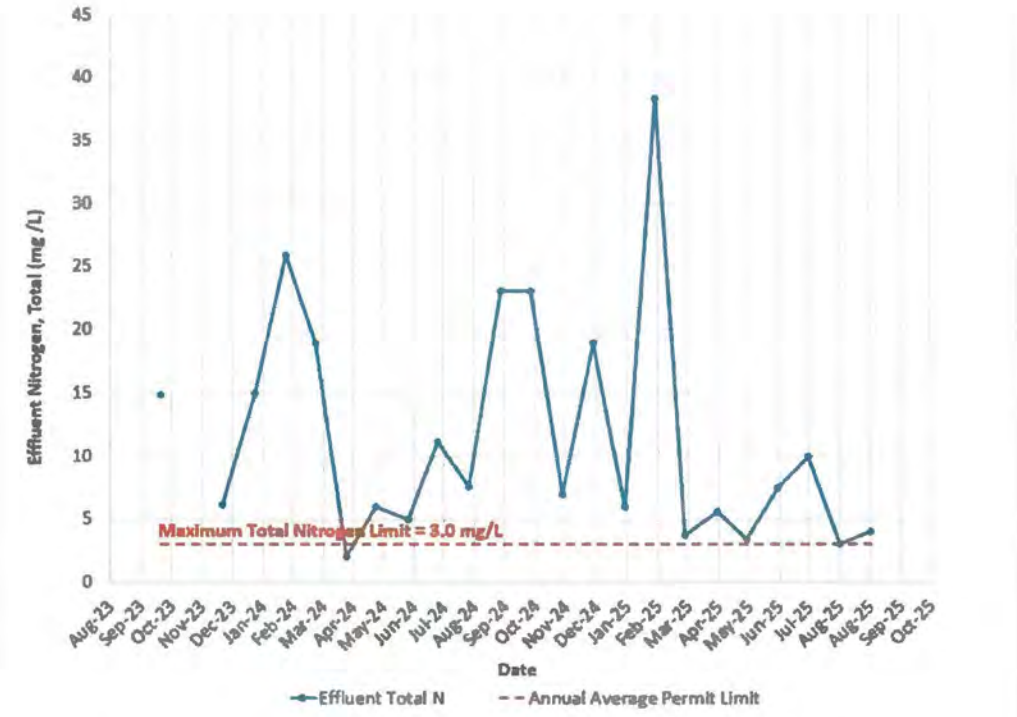


Figure 3-9: Historical Effluent Total Nitrogen Concentrations (Oct 2023 - Sep 2025)

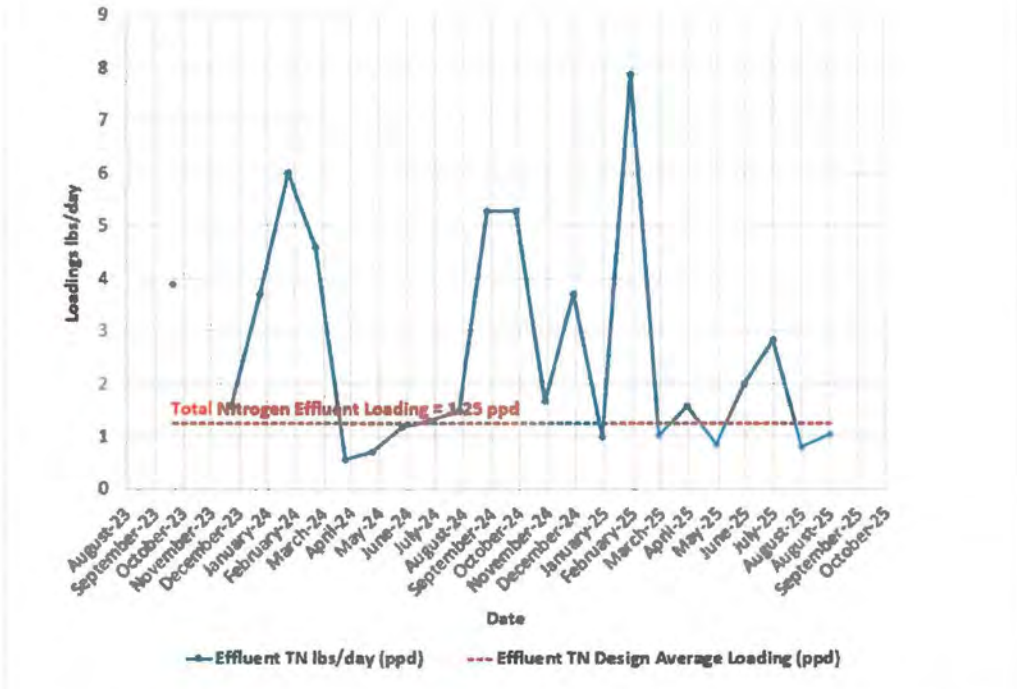


Figure 3-10: Historical Effluent Total Nitrogen Loadings (Oct 2023 - Sep 2025)

Fecal Coliforms and Effluent Chlorine Residuals: The historical monthly effluent fecal coliform and daily effluent chlorine residuals results for October 2023 through September 2025 are shown in Figure 3-10 and Figure 3-11, respectively. As seen in Figure 3-10, throughout the two-year period, fecal coliform levels were maintained well below the single sample permit limit (800 #/100mL) with most results at or below 1#/100mL, except for December 2024, when the measured level was 9,208 #/100mL. As with $CBOD_5$ and TSS, this large fecal coliform exceedance was attributed to the plant upset from the change in contract operator. With the exception of this single exceedance, the facility's sodium hypochlorite system has been effective in consistently maintaining very low fecal coliform levels.

As shown in Figure 3-11, the facility has also consistently maintained chlorine residual levels above the minimum required concentration of 0.5 mg/L. It should be noted that measured chlorine residual levels were consistent up through November 2024 followed my more variability from December 2024 through 2025. This variation in measured chlorine residuals concentrations coincides with the change in contract operator and may be due to differences in sample collection and measurement methods. It should be noted that despite the larger fluctuations in chlorine residual levels, all levels have been well above the minimum 0.5 mg/L concentration.

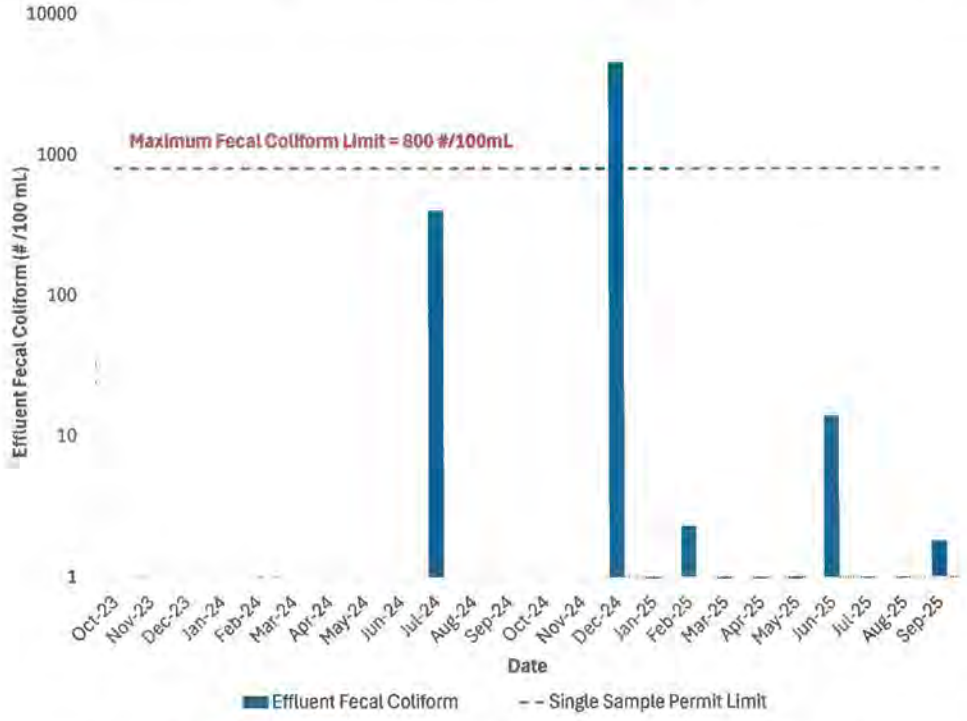


Figure 3-11: Historical Effluent Fecal Coliform Levels (Oct 2023 - Sep 2025)

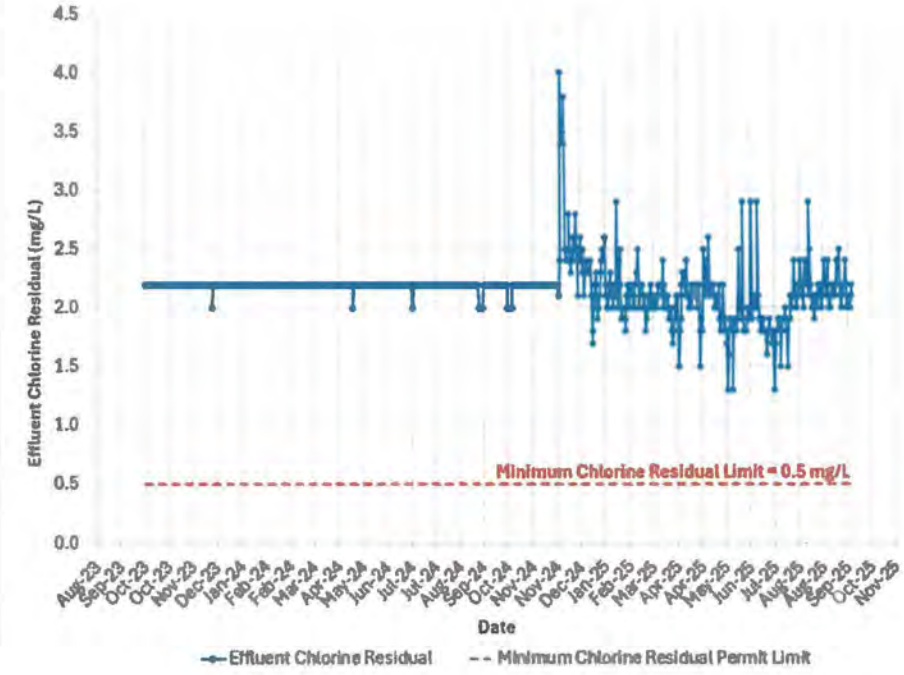


Figure 3-12: Historical Effluent Chlorine Residual Levels (Oct 2023 - Sep 2025)

Effluent pH: Figure 3-13 shows daily effluent pH levels from October 2023 through September 2025. As seen, pH values have averaged about 7.6 with a range of 7.1 to 7.9. All measured values during the evaluated period have been within the permit required range of 6.5 to 8.5. No issues are noted with respect to effluent pH levels.

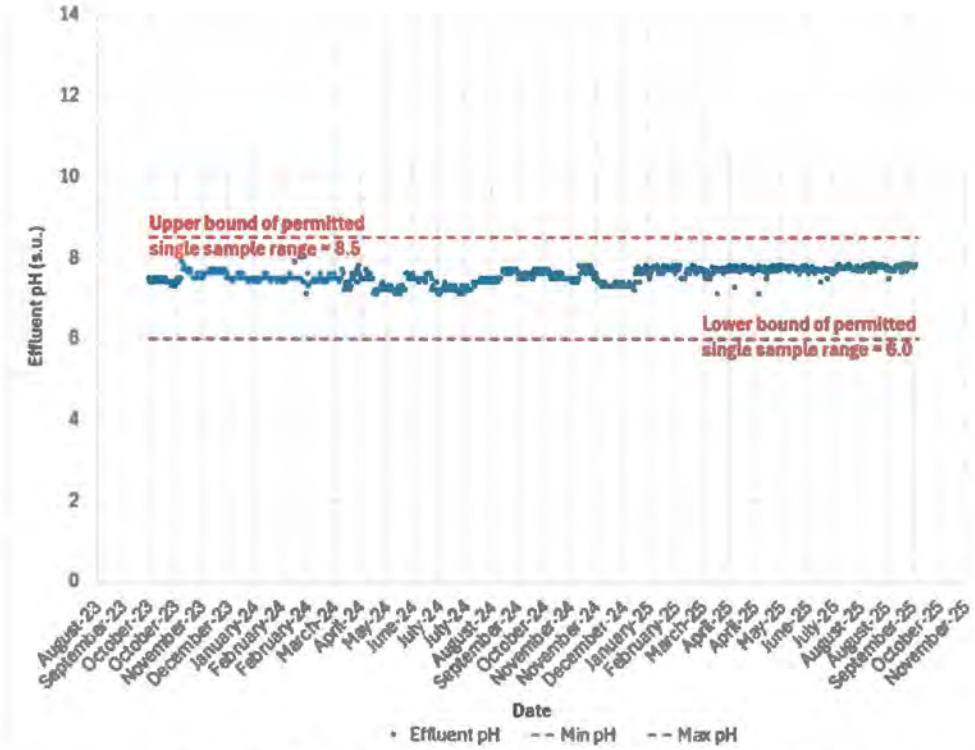


Figure 3-13: Historical Effluent pH Levels (Oct 2023 - Sep 2025)

Monitoring Compliance Well: The South Columbia County Regional WWTF has a single monitoring well (MW-1) for compliance. It is located on the west property line, west of RIB #3. Four exceedances of the max concentration permit limit (10 mg/L) for nitrate, nitrite, total (as N) for the monitoring well occurred from 2023 through 2025. The exceedances are graphically shown in Figure 3-14. As seen, all samples have been consistently above the permit limit; however, there appears to be a lowering nitrogen concentration trend for the 2025 samples. The high nitrate/nitrite concentrations may be attributed to the high effluent TN concentrations that are discharged to the RIB system and possible impacts from excess fertilizer use on the cattle ranch property that is adjacent to the facility's west property line along SE Giles Martin Avenue.

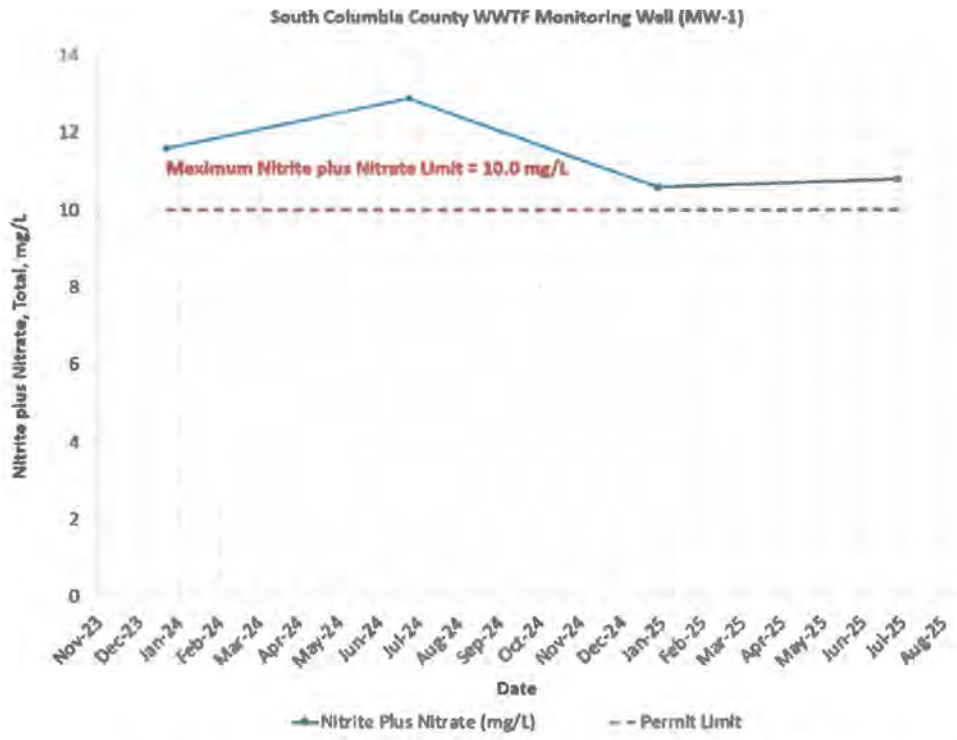


Figure 3-14: Monitoring Well Nitrite, Nitrate Exceedances (2023 - 2025)

3.3 Review of Plant Exceedances and Potential Causes

The South Columbia County Regional WWTF exceeded the TN running annual average limit of 3 mg/L for several months throughout 2024 and 2025. In addition, a number of exceedances for Nitrogen, Nitrate, Total (as N), $CBOD_5$, Fecal Coliform at EFA-1, along with total nitrate plus nitrogen at monitoring well MWC-1 occurred during the same period, as shown in Tables 1 through 3 of Consent Order OGC No. 25-0184. A copy of the Consent Order is included as Appendix A.

As discussed in sections 3.1 and 3.2, the plant has been operating within its design flow capacity and has consistently provided effective treatment for $CBOD_5$, TSS, and Fecal Coliforms throughout the evaluated period. The only exceedance of these parameters occurred in December 2024 during a plant upset associated with the change in contract operator for the facility. The TSS exceedances noted in the Consent Order from December 2024 through July 2025 are likely due to the high concentration from December 2024 affecting the running annual average concentration for subsequent months. The individual monthly effluent TSS concentrations from October 2023 through September 205 have consistently been well below the permit limit with the exception of the December 2024 sample. Likewise, effluent concentrations for both $CBOD_5$ and Fecal Coliforms have been consistently well below their permit limits for all evaluated months except for December 2024.

The recurring TN and total nitrogen/nitrite exceedances for the effluent are due to the existing treatment trains not being setup and designed for TN removal down to the low permit limit level. Treatment modifications to both existing treatment trains will be required to maximize nitrogen removal through both biological treatment and

filtration. Although these treatment modifications would be focused on improving TN removal, they would also be expected to improve overall $CBOD_5$ and TSS removal performance.

The high nitrogen/nitrite concentrations observed at the monitoring well are expected to go down once process modifications are implemented at the South Columbia County Regional WWTF to meet the lower TN effluent limit. However, it should be noted that the adjacent cattle property may potentially be impacting measured nitrogen concentrations at the monitoring well given its proximity to the site. If nitrogen levels at the monitoring well are found to be impacted by the adjacent property, an alternate monitoring well location may need to be considered.

4 Recommended Plant Improvements

As discussed in Section 3, treatment modifications to both existing treatment trains will be required to increase nitrogen removal through both biological treatment and filtration to be able to consistently meet the TN limit of 3.0 mg/L on a running annual average basis. This section presents the proposed plant improvement options to maximize TN removal and improve overall treatment performance at the South Columbia County Regional WWTF.

4.1 Design Criteria for Plant Improvements

Table 4-1 below outlines the design criteria used for identifying and assessing the proposed treatment process modifications to the South Columbia County Regional WWTF to improve TN removal performance.

Table 4-1 Design Criteria for South Columbia County Regional WWTF Modifications

Parameter	Value
No. of Treatment Trains	2
Total Annual Average Daily Design Flow (gpd)	50,000
Total Annual Average Daily Design Flow (mgd)	0.050
Flow Peaking Factor	2.5
Total Peak Day Design Flow (gpd)	125,000
Total Peak Day Design Flow (mgd)	0.125
INFLUENT	
Influent CBOD5 (mg/L)	475
Influent TSS (mg/L)	375
Influent TKN (mg/L)	105
Influent Ammonia (mg/L)	80
Influent Total Phosphorus (mg/L)	8
EFFLUENT	
Monthly Average Effluent $CBOD_5$ (mg/L)	30
Monthly Average Effluent TSS (mg/L)	30
Single Sample Maximum Daily Effluent TN (mg/L)	12
Annual Average Effluent TN (mg/L)	3.0
Effluent Monthly Geometric Mean Fecal Coliform (#/100 mL)	200

4.2 Plant Improvements Components

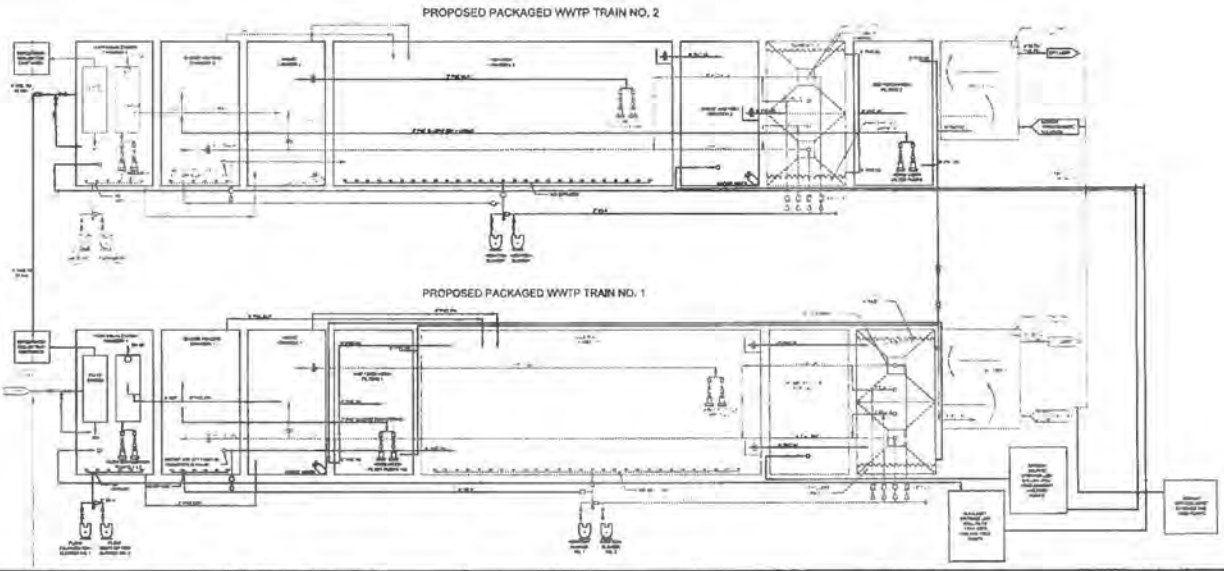
As previously indicated, modifications to the existing South Columbia County Regional WWTF are required to meet the TN limit of 3.0 mg/L on a RAA basis. The existing Treatment Train No 1 and 2 are proposed to be modified with the following key elements:

- New alkalinity control chemical storage and feed system
- New carbon source chemical storage and feed system
- Upsized blower equipment
- Additional aeration volume
- Addition of a post-anoxic volume
- Addition of post-aeration volume
- Addition of tertiary treatment in the form of fixed media filters

A new alkalinity control chemical storage and feed system is proposed to improve process stability by maintaining optimal pH levels for biological treatment, preventing process upsets, and enhancing nutrient removal by providing efficient nitrification and denitrification which require adequate alkalinity, and reduce corrosion risks in pipe and equipment in the long term by controlling the pH. A new carbon source chemical storage and feed system is recommended to boost denitrification by providing an external carbon source for denitrifying bacteria, thus increasing nitrogen removal efficiency. This process allows the facility to respond to variable influent carbon concentrations and meet stringent effluent nitrogen limits, increasing the systems flexibility to achieve total nitrogen discharge requirements. Additional aeration volume will increase treatment capacity by supporting higher organic loadings, enhancing biological activity by providing sufficient oxygen for aerobic microbes to break down pollutants, and will create redundancy which promotes operational flexibility and resilience during peak flows and maintenance. Additional anoxic volume provides more space for denitrification, reducing total nitrogen in the effluent, improving nitrogen removal and facilitating simultaneous nitrification/denitrification for energy and chemical savings, for process optimization.

The tertiary treatment fixed media filters will enhance solids removal, improve nutrient and microbe removal, and help meet compliance by reducing the TSS and turbidity, phosphorus, nitrogen, and pathogens.

A more detailed description of the proposed treatment processes and associated modifications to enhance TN removal performance are presented below. Figure 4-1 presents the process flow diagram for the proposed modifications to existing treatment Train Nos. 1 and 2.



DRAFT

ARCADIS

ARCADIS U.S., INC.

COLUMBIA COUNTY, FLORIDA

ELLEVILLE WASTEWATER TREATMENT PLANT PHASE 3 EXPANSION

PROPOSED PROCESS FLOW DIAGRAM

4-1

4.2.1 Screening and Flow Equalization

Treatment processes in a wastewater plant are optimized from steady flow and load conditions; however, wastewater flows are variable which can reduce the efficiency and reliability of the downstream biological processes due to shock loads. Flow equalization at the beginning of the treatment train is used to minimize variations in wastewater flow and composition. Each existing treatment train includes a static screen to remove screenings from the raw wastewater and a flow equalization tank. Each tank is a 17.5-ft W x 9.5-ft L x 10-ft D with an 8.5 side water depth (SWD) and hydraulic capacity of about 6,400 gallons. Each tank is currently equipped with two 60 gpm flow equalization pumps, to pump equalized flow back into a flow distribution box, and coarse bubble diffusers to aerate and mix the wastewater in the equalization tank. The total effective flow equalization volume of treatment Train Nos. 1 and 2 is 12,800 gallons.

The flow equalization tank sizing is based on minimum required volume and aeration requirements for proper mixing. Recommended sizing criteria for proper flow equalization is to provide an equalization volume at least 25% of the design average daily flow to the facility. Based on a 50,000 gpd AADF, the recommended flow equalization volume is 12,500 gallons. The flow equalization volume provided is 12,800 gallons which meets the sizing criteria for equalization. The design average detention time provided in the equalization tanks is approximately 6.1 hours.

The minimum recommended air requirement for proper mixing within an equalization tank is 1.25 scfm/1,000 gallons of storage capacity per Ten States Standards, and 4.0 scfm/1,000 gallons based on typical design criteria. Based on a flow equalization volume of 12,800 gallons, the minimum required aeration volume is 16.0 scfm based on Ten States Standards and 51.2 scfm based on typical design criteria. The existing equalization blowers each have a capacity of 40 scfm and are adequate to provide the necessary mixing within each of the two equalization tanks.

Based on the assessment above, no modifications are required for the existing screens and flow equalization tanks; however, the flow equalization tanks will need to be relocated to provide the necessary space for the additional proposed aeration and post anoxic tanks as detailed below.

4.2.2 Anoxic Tanks

Following flow equalization, each treatment train includes one anoxic tank that is 17.5-ft W x 9.5-ft L x 10-ft D with an 8'-4" SWD and a hydraulic capacity of 8,471 gallons. The tank is equipped with a single submersible mixer to maintain the mixed liquor in suspension. The total effective anoxic tank volume provided by the two treatment trains will be about 16,942-gallons.

Process calculations to determine the anoxic volume requirements are presented in Appendix B. The minimum required anoxic volume to meet nitrogen permit limits is 7,500-gallons for each train. The anoxic volume provided is 13% higher than the required amount, and sufficient to provide the necessary treatment under design conditions.

Based on the assessment above, no modifications are required for the existing anoxic tanks; however, the anoxic tanks will need to be relocated to provide the necessary space for the additional proposed aeration, post anoxic and filter tanks as detailed below.

4.2.3 Aeration Tanks

The existing aeration system includes three aeration tanks in series for a total hydraulic capacity of 25,413 gallons per train. To enhance overall treatment performance additional aeration volume is recommended. Following the anoxic zone, flow will be routed to five aeration tanks in series (up from the existing three tanks in series) for BOD removal and NH3-N reduction. Each aeration tank is a 17.5-ft W x 9.5-ft L x 10-ft D with an 8'-4" SWD, providing an increased hydraulic capacity per train of 42,355 gallons. Each aeration tank will be equipped with coarse bubble diffusers fed by two larger capacity blowers (one duty, one standby) to supply oxygen to the upsized system. The final (i.e. 5th) aeration tank will include two mixed liquor recycle pumps (one duty, one standby) to return flows from the aeration tanks to the anoxic tank. The total effective aeration volume provided by the two treatment trains will be about 84,710 gallons.

Process calculations to determine the required aeration volume for the activated sludge process are presented in Appendix B and show that the minimum required aerobic volume to meet permit limits is 41,000 gallons for each train. The aeration tanks provided for the proposed treatment trains are 3% higher than the required volume.

Process calculations to determine the air requirements for the aeration process are presented in Appendix B. The estimated air required to provide complete reduction of BOD and NH3-N is about 240 scfm for the two treatment trains. The minimum air requirement to provide proper mixing within the aeration tanks in each train is estimated at 170 scfm based on a mixing criteria of 30 scfm/1,000 ft^3. The proposed main air blowers each have a capacity of 435 scfm and are adequate to provide the necessary oxygen and mixing for the aeration chamber of each treatment train.

4.2.4 Post Anoxic and Post Aeration

Following the aeration zone, the treatment trains will include two new parallel chambers including a post anoxic chamber and flash aeration chamber, separated by a divider wall. The Post Anoxic chamber is 10'-8" L x 8'-4" W x 10' D and includes a mixer, the Post Aeration chamber is 5'-2" L x 8'-4" W x 10' D.

Process calculations to determine the required anoxic volume are presented in Appendix B and show the minimum required post-anoxic volume to meet permit limits is about 544 gallons. The supplied post-anoxic tanks have a total volume that is 19.5 times the required volume at 6,648 gallons.

Process calculations to determine the required aerobic volume are presented in Appendix B and show the minimum required aerobic volume to meet permit limits is 2,604 gallons. The proposed post-aeration tank will have a total volume of about 3,220 gallons which is about 1.2 times the required volume. . The Post Aeration chamber includes coarse bubble diffusers to supply oxygen to the system, fed by the same blowers used in the Aeration tanks.

4.2.5 Clarifiers

Following the proposed post anoxic and post aeration zone, the existing treatment trains will use the existing two parallel hopper style clarifiers per train to receive flow for sludge settling and effluent overflow to disinfection. The clarifiers are each 7'-11" L x 8'-4" W x 11' D to the bottom of the hopper with a 16-ft weir length.

The existing clarifier capacity is evaluated based on Surface Overflow Rate (SOR), Solids Loading Rate (SLR) and Weir Overflow Rate (WOR) as compared to maximum loadings rates recommended by Ten States Standards. Table 4-2 presents the daily flow and peak flow design values of these parameters.

Table 4-2 Loading Rates for Clarifiers

Parameter	Peak Day Design Flow[1]	Recommended Maximum Rate (10 State Standards)
SLR (lb/d/sf)	11	35
SOR (gpd/sf)	284	1,000
WOR (gpd/ft)	1,172	20,000

1. Peak day flow assumed 1.5 x average daily flow due to flow equalization tank. Peak day flow = 75,000 gpd.

The SLR, SOR and WOR values for the existing clarifiers are under both design peak flow conditions are within the recommended maximum loading rates per Ten States Standards.

Based on this assessment, no modifications are required for the existing clarifiers.

4.2.6 Fixed Media Filter Basin

Tertiary treatment is recommended to provide additional TN removal in addition to improving $CBOD_5$ and TSS removal performance. Following the Clarifiers, the clarified flow will go into a proposed new tertiary treatment train consisting of a fixed media filter basin. This basin consists of two fixed media filters that provide additional TN removal. For Treatment Train 1, the basin will be located after the anoxic tank. For Treatment Train 2, the basin will be located after the clarifiers. The flow will proceed the same direction for all treatment trains, regardless of the basin location with piping adjustments at Treatment Train 1.

The proposed fixed media basins have exterior dimension of 9'-6" x 17'-6" and provide a maximum hydraulic loading rate of 0.42 gpm/ft^2. Each of the filters are 48 ft^2 for a total of 96 ft^2 per train. The actual hydraulic loading rate of the fixed media at average daily flow is 260 gpd/ft^2 and 391 gpd/ft^2 at peak flow.

4.2.7 Chlorine Contact Chamber

After the proposed new fixed media filter basin per train, water will flow to the chlorine contact chamber for disinfection. Disinfection is currently accomplished with sodium hypochlorite added at the entrance of the contact chamber. The chlorine contact chamber includes two baffle walls to provide a serpentine flow distribution and has a volume of 1,200 gallons per train. The total effective chlorine contact volume provided by the two treatment trains is 2,400 gallons.

Rule 62-600.440, FAC states that a minimum of 15 minutes of detention time (DT) must be provided at peak flows for high level disinfection. This is in agreement with Ten States Standards, which also specifies a minimum contact time of 15 minutes at peak flow.

The DT for the chlorine contact basin at the South Columbia County Regional WWTF is calculated as follows:

Peak design flow = 75,000 gpd (1.5 times the average daily flow after flow equalization tank)

Detention time at design peak flow:

DT = volume of tank / flow

DT = (2,400 gallons)/(75,000 gpd) x 1,440 min/day

DT = 46.08 minutes

As seen, the total detention time provided with the two chlorine contact chambers is greater than the minimum value of 15 minutes under Rule 62-600.440, FAC and Ten States Standards. Therefore, the existing chlorine contact chambers are acceptable with regards to detention time at the peak flow.

The existing trains include a pipe interconnection with associated isolation valves at the head of the two chlorine contact chambers to allow for direction of all flows from both treatment trains to one of the other chlorine contact tanks in the event the other chlorine contact tank is offline. Under these conditions, the detention time provided under peak flow conditions (75,000 gpd) through one chlorine contact tank will be approximately 23.04 minutes, which is still greater than the minimum value of 15 minutes under Rule 62-600.400, FAC and Ten States Standards.

Based on the above, no modifications to the existing chlorine contact chambers are recommended.

4.2.8 Alkalinity and Carbon Source Storage and Feed Systems

New alkalinity and carbon source storage and feed systems are recommended to improve TN removal performance. Alkalinity addition is recommended to improve process stability by maintaining optimal pH levels for biological treatment, preventing process upsets, and enhancing nutrient removal by providing efficient nitrification and denitrification which require adequate alkalinity, and reduce corrosion risks in pipe and equipment in the long term by controlling the pH. The proposed alkalinity system includes a single 275 gallon bulk storage tote and a dedicated metering pump to feed alkalinity to each treatment train.

The proposed carbon source is recommended to boost denitrification by providing an external carbon source for denitrifying bacteria, thus increasing nitrogen removal efficiency. This process allows the facility to respond to variable influent carbon concentrations and meet stringent effluent nitrogen limits, increasing the systems flexibility to achieve total nitrogen discharge requirements. The proposed carbon system includes a single 385 gallon storage tank and a dedicated metering pump to feed each treatment train.

4.2.9 Aerobic Sludge Digestion

In smaller WWTPs, less than 5 MGD, aerobic digestion is primarily used to manage waste sludge. Aerobic digestion is similar to the activated sludge process in that bacteria oxidize the organic fraction of the sludge in the presence of air which results in sludge stabilization. By contrast, anaerobic digestion is a similar process in which bacteria oxidize the organic fraction of the sludge without oxygen.
The existing treatment trains include an aerobic digester where WAS is conveyed to. The WAS needs to stay in the aerobic digester an average of about 21 days for stabilization prior to removal for disposal at an off-site

location. The existing aerobic sludge digester per train has a volume of approximately 8,471 gallons. The total effective aerobic sludge digestion volume between both treatment trains is approximately 16,942 gallons. Based on a design flow rate of 50,000 gpd, it is estimated that approximately 975 gallons of WAS will be produced at one percent solids. Given the total digester volume of 16,492 gallons, the storage capacity without thickening is about 17 days. Periodic decanting of the digester will thicken the sludge and increase storage capacity further.

Based on the above, no modifications are recommended for the existing aerobic sludge digestion tanks.

4.2.10 Rapid Infiltration Basins

Disinfected effluent is discharged to six rapid infiltration basins that provide a total surface area of 25,218 sf. Rule 62-610 Part IV states that the RIBs shall be sized based on an annual average hydraulic loading rate of 3 inches per day or 1.9 gpd/sf as applied to the total bottom area of the RIBs. The 50,000 gpd flow rate spread over the 25,218 sf of total basin area equates to a recharge rate of approximately 1.98 gpd/sf. However, some of the water introduced into the basins will be lost to the atmosphere due to evaporation. Based on an estimated evaporation rate of 46 inches/year water loss to the atmosphere due to evaporation is estimated at approximately 2,970 gpd. This results in an available flow rate for infiltration of 47,030 gpd, which equates to a recharge rate of 1.90 gpd/sf.

Based on this, no modifications are recommended for the existing RIBs.

4.3 Alternative Treatment Systems

The NFWUA and County are interested in exploring proposed alternative treatment systems upgrades at the South Columbia County Regional WWTF in addition to those presented in Section 4.2. These upgrades will include retrofitting or modifying the facility's existing two treatment trains. The purpose of upgrading the existing treatment trains is to meet the new effluent TN limit, restore compliance with the facility permit, and expand the facility's capacity to accommodate excess flows from future commercial development. A few wastewater treatment vendors have been contacted to provide possible alternate options to retrofitting or modifying the existing treatment trains. Potential alternate retrofits or modifications under consideration for each treatment train include the installation of a stand-alone modular membrane bioreactor (MBR) treatment system downstream of the existing treatment trains, modification of the existing aeration tank to be partially used as the required volume for aeration for the MBR treatment system, modification of the existing clarifiers to be used as post-anoxic tanks, and the addition of a carbon storage feed system for enhancing nutrient removal. All further definitions, selections, and layouts of the selected equipment for the proposed alternative treatment system will be determined during the preliminary and detailed design phases of the project.

Appendix A

South Columbia County Regional WWTF Consent Order Offer

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

Ron DeSantis
Governor

Jay Collins
Lt. Governor

Alexis A. Lambert
Secretary

September 9, 2025

Sent electronically to: rdominque@columbiacountyfla.com

Robert Dominque, Utilities Director
607 SW Quinten Street
Lake City, Florida 32055

SUBJECT: **Department of Environmental Protection v. Columbia County**
OGC File No. 25-0184
Facility ID No. FLA632759
Columbia County

Dear Mr. Dominque:

Enclosed is the Consent Order to resolve the issues in the subject OGC File. Please review the Consent Order and, if you find it acceptable, sign and return the original document to this office within 14 days of receipt.

If you wish to modify the Consent Order, please respond to this office in writing within 14 days, explaining your concerns including any proposed changes.

If you have any questions concerning the Consent Order, please contact Conor Lucey at (904) 256-1674, or at *Conor.Lucey@floridadep.gov*. Your continued cooperation in the matter is greatly appreciated.

Sincerely,

Thomas G. Kallemeyn
Assistant Director

ec: FDEP-NED: Conor Lucey, Joni Petry, Herndon Sims, Sarah Harris
utilities@columbiacountyfla.com

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	)	IN THE OFFICE OF THE NORTHEAST DISTRICT
v.	)	OGC FILE NO. 25-0184
COLUMBIA COUNTY	)	

CONSENT ORDER

This Consent Order (Order) is entered into between the State of Florida Department of Environmental Protection (Department) and Columbia County (Respondent) pursuant to Section 120.57(4), Florida Statutes, to settle certain matters at issue between the Department and Respondent.

The Department finds and Respondent admits the following:

1. The Department is the administrative agency of the State of Florida having the power and duty to protect Florida's air and water resources and to administer and enforce the provisions of Chapter 403, Florida Statutes (F.S.), and the rules promulgated and authorized in Title 62, Florida Administrative Code (F.A.C.). The Department has jurisdiction over the matters addressed in this Order.

2. Respondent is a person within the meaning of Section 403.031(9), F.S.

3. Respondent is the owner and is responsible for the operation of the South Columbia County Regional WWTF, a 0.050 million gallons per day (MGD) annual average daily flow (AADF) permitted capacity extended aeration wastewater treatment facility (WWTF) that discharges treated effluent to a rapid infiltration basin (RIB) system, R-001, consisting of six RIBs (Facility). The Facility is operated under Wastewater Permit No. FLA632759-008-DW3P (Permit), which was issued on July 31, 2024 and will expire on July 30, 2029. The Facility is located on Wire Road, at the intersection of SR-25 and I-75, Lake City (Columbia County Parcel ID No. 11-6S-17-09640-000), in Columbia County, Florida (Property)

in a priority focus area, Santa Fe River Basin Management Action Plan. Respondent owns the Property on which the Facility is located.

4. The Department finds that the following violation(s) occurred:

a) Respondent exceeded the effluent permit limits for Nitrogen, Nitrate, Total (as N) (Maximum), CBOD, Fecal Coliform at EFA-1, between the period of October 2023 and July 2025, as shown in Tables 1, in violation of Permit Condition I.A.1, in accordance with Rule 62-620.610(1), Fla. Admin. Code.

Table 1: Permit Effluent Exceedances

Date	Monitoring Location	Description	Result	Limit	Units	Statistical Base
03/31/2024	EFA-1	Nitrogen, Nitrate, Total (as N)	18	12	mg/L	Maximum
10/31/2023	EFA-1	Nitrogen, Nitrate, Total (as N)	13	12	mg/L	Maximum
12/31/2024	EFA-1	BOD, Carbonaceous 5 day, 20C	49.9	45	mg/L	Weekly Average
12/31/2024	EFA-1	BOD, Carbonaceous 5 day, 20C	49.9	30	mg/L	Monthly Average
12/31/2024	EFA-1	Coliform, Fecal	9208	800	#/mL	Maximum
12/31/2024	EFA-1	Solids, Total suspended	288	60	mg/L	Maximum
12/31/2024	EFA-1	Solids, Total suspended	288	30	mg/L	Monthly Average
12/31/2024	EFA-1	Solids, Total suspended	288	45	mg/L	Weekly Average
07/31/2025	EFA-1	Solids, Total Suspended	30.4	20	mg/L	Annual Average
06/30/2025	EFA-1	Solids, Total Suspended	30.5	20	mg/L	Annual Average
05/31/2025	EFA-1	Solids, Total Suspended	29.8	20	mg/L	Annual Average

Date	Monitoring Location	Description	Result	Limit	Units	Statistical Base
04/30/2025	EFA-1	Solids, Total Suspended	29.6	20	mg/L	Annual Average
03/31/2025	EFA-1	Solids, Total Suspended	30.6	20	mg/L	Annual Average
02/28/2025	EFA-1	Solids, Total Suspended	29.7	20	mg/L	Annual Average
01/31/2025	EFA-1	Solids, Total Suspended	29.9	20	mg/L	Annual Average
12/31/2024	EFA-1	Solids, Total Suspended	29.8	20	mg/L	Annual Average
12/31/2024	EFA-1	Solids, Total Suspended	29.8	20	mg/L	Annual Average

b) Respondent exceeded the compliance well limits for Nitrite plus Nitrate, Total 1 det. (as N) (Maximum) at MWC-1 as shown in Tables 2, in violation of Permit Condition III.B.6 of the Permit, in accordance with Rule 62-620.610(1), Fla. Admin. Code.

Table 2: Monitoring Well Exceedances

Date	Monitoring Location	Description	Result	Limit	Units	Statistical Base
06/30/2025	MWC-1	Nitrite plus Nitrate, Total 1 det. (as N)	10.8	10	mg/L	Maximum
12/31/2024	MWC-1	Nitrite plus Nitrate, Total 1 det. (as N)	10.6	10	mg/L	Maximum
06/30/2024	MWC-1	Nitrite plus Nitrate, Total 1 det. (as N)	12.9	10	mg/L	Maximum
12/31/2023	MWC-1	Nitrite plus Nitrate, Total 1 det. (as N)	11.6	10	mg/L	Maximum

c) The Respondent failed to complete the scheduled items under Administrative Order (AO) 204 for Total Nitrogen (TN). The AO was issued July 2019 and the compliance due date to meet the TN limit was March 1, 2024. Since the expiration of the AO, TN in effluent to R-001 has exceeded the permit limit of 3 mg/L (annual average) from April 2024-April 2025 as

shown in table 3 below, in violation of Permit Condition I.A.1 of the Permit in accordance with Rule 62-620.610(1), Fla. Admin. Code.

Table 3: Annual Average Exceedances

Date	Monitoring Location	Description	Result	Limit	Units	Statistical Base
07/31/2025	EFA-1	Nitrogen, Total	11.69	3	mg/L	Annual Average
06/30/2025	EFA-1	Nitrogen, Total	12.02	3	mg/L	Annual Average
05/31/2025	EFA-1	Nitrogen, Total	11.49	3	mg/L	Annual Average
04/30/2025	EFA-1	Nitrogen, Total	12.94	3	mg/L	Annual Average
03/31/2025	EFA-1	Nitrogen, Total	12.64	3	mg/L	Annual Average
02/28/2025	EFA-1	Nitrogen, Total	13.72	3	mg/L	Annual Average
01/31/2025	EFA-1	Nitrogen, Total	12.68	3	mg/L	Annual Average
12/31/2024	EFA-1	Nitrogen, Total	13.44	3	mg/L	Annual Average
11/31/2024	EFA-1	Nitrogen, Total	--*	3	mg/L	Annual Average
10/31/2024	EFA-1	Nitrogen, Total	--*	3	mg/L	Annual Average
09/31/2024	EFA-1	Nitrogen, Total	--*	3	mg/L	Annual Average
08/31/2024	EFA-1	Nitrogen, Total	11.3	3	mg/L	Annual Average
07/31/2024	EFA-1	Nitrogen, Total	12.9	3	mg/L	Annual Average
06/30/2024	EFA-1	Nitrogen, Total	18	3	mg/L	Annual Average
05/31/2024	EFA-1	Nitrogen, Total	23.6	3	mg/L	Annual Average
04/30/2024	EFA-1	Nitrogen, Total	25.8	3	mg/L	Annual Average

**DMR issues prevented results from being submitted.*

Having reached a resolution of the matter Respondent and the Department mutually agree and it is

ORDERED:

Respondent shall comply with the following corrective actions within the stated time periods:

5. Within 90 days of the effective date of this Order, Respondent shall submit to the Department an evaluation conducted by a professional engineer registered in the state of Florida, of the Facility, including the effluent disposal system and associated collection system, to discover the cause or causes of the violations and to address the requirements of AO 204 identified in paragraph 4 above.

6. Within 90 days of the due date for submission of the evaluation in paragraph 5, Respondent shall submit to the Department Facility design modifications, prepared and submitted under seal by a professional engineer registered in the state of Florida, to remedy the cause or causes of the violations and to meet the requirements of AO 240/Permit Compliance Schedule identified in paragraph 4 above and ensure the Facility and effluent disposal system will function in full and consistent compliance with all applicable rules.

7. Within 60 days of the due date for submission of the design modification(s) in paragraph 6, Respondent shall submit a complete application for a Department wastewater permit to construct the modifications submitted pursuant to paragraph 6, if such a permit is required. In the event the Department requires additional information to process the permit application Respondent shall provide a written response containing the information requested by the Department within 60 days of the date of the request.

8. Within 2 years after issuance of the wastewater permit referenced in paragraph 7 above, or if no permit is required, within 1 year of the approval of the design modification(s) in paragraph 6, Respondent shall complete construction of the modification(s) submitted pursuant to paragraph 6.

9. Within 30 days after completion of the construction, Respondent shall submit to the Department a Certification of Completion, prepared and sealed by a professional engineer registered in the State of Florida, stating that modifications to the Facility, effluent disposal system, and collection system have been constructed in accordance with the provisions of the Permit or, if no Permit is required the design modification(s) submitted pursuant to paragraph 6.

10. Every six months after the effective date of this Order and continuing until all corrective actions have been completed, Respondent shall submit to the Department a written report containing information about the status and progress of projects being completed under this Order, information about compliance or noncompliance with the applicable requirements of this Order, including construction requirements and effluent limitations, and any reasons for noncompliance. These reports shall also include a projection of the work Respondent will

perform pursuant to this Order during the 12-month period which will follow the report. Respondent shall submit the reports to the Department within 30 days of the end of each quarter.

11. Respondent shall complete all corrective actions and be in full compliance with Rule 62-620, F.A.C. within two years of the effective date of this Order.

12. Respondent shall comply with the following discharge limitations and other requirements set forth in the Permit:

a. Beginning on the first day of the month following the effective date of this Order and lasting until two years, the interim limits are as shown in Table 2, below:

Table 2- Interim Limits

Parameter	Limit (mg/L)	Frequency	Sample Type
Nitrogen, Total	Report	Annual Average	Grab

b. No interim limits are approved for Total Suspended solids, CBOD, and Fecal Coliform. Stipulated penalties shall be assessed for permit limit violations of these parameters.

c. Tests conducted pursuant to this monitoring program shall conform to Rule 62-4.246, F.S., and Chapters 62-160 and 62-660, F.A.C., and 40 Code of Federal Regulations 136, as appropriate.

d. These monitoring requirements do not act as State of Florida Department of Environmental Protection Wastewater Permit effluent limitations, nor do they authorize or otherwise justify violation of the Florida Air and Water Pollution Control Act, Part I, Chapter 403, Fla. Stat., during the pendency of this Order.

13. Within 90 days of the effective date of this Order, Respondent shall pay the Department $11,375.00 in settlement of the regulatory matters addressed in this Order. This amount includes $10,000 for civil penalties and $750 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Order. The civil penalties are apportioned as follows: $10,000 for violation of Rule 62-

620.610(1), Fla. Admin. Code, pursuant to Section 403.121(3)(b). A penalty of $625.00 was assessed for a history of non-compliance under CO 21-0611.

14. Respondent agrees to pay the Department stipulated penalties in the amount of $200 per day for each and every day Respondent fails to timely comply with any of the requirements of paragraphs 5 through 11 of this Order. Stipulated penalties shall be assessed for any permit limit violations of Nitrate, Nitrogen, CBOD, TSS and Fecal Coliform.

15. Respondent shall make all payments required by this Order by cashier's check, money order or on-line payment. Cashier's check or money order shall be made payable to the "Department of Environmental Protection" and shall include both the OGC number assigned to this Order and the notation "Water Quality Assurance Trust Fund." Online payments by e-check can be made by going to the DEP Business Portal at: http://www.fldepportal.com/go/pay/. It will take a number of days after this order is final, effective and filed with the Clerk of the Department before ability to make online payment is available.

16. Except as otherwise provided, all submittals and payments required by this Order shall be sent to Wastewater, Compliance Assurance Program, Department of Environmental Protection, 8800 Baymeadows Way West.

17. Respondent shall allow all authorized representatives of the Department access to the Facility and the Property at reasonable times for the purpose of determining compliance with the terms of this Order and the rules and statutes administered by the Department.

18. The Department, for and in consideration of the complete and timely performance by Respondent of all the obligations agreed to in this Order, hereby conditionally waives its right to seek judicial imposition of damages or civil penalties for the violations described above up to the date of the filing of this Order. This waiver is conditioned upon Respondent's complete compliance with all of the terms of this Order.

19. This Order is a settlement of the Department's civil and administrative authority arising under Florida law to resolve the matters addressed herein. This Order is not a settlement of any criminal liabilities which may arise under Florida law, nor is it a settlement

of any violation which may be prosecuted criminally or civilly under federal law. Entry of this Order does not relieve Respondent of the need to comply with applicable federal, state, or local laws, rules, or ordinances.

20. The Department hereby expressly reserves the right to initiate appropriate legal action to address any violations of statutes or rules administered by the Department that are not specifically resolved by this Order.

21. Respondent is fully aware that a violation of the terms of this Order may subject Respondent to judicial imposition of damages, civil penalties up to $15,000.00 per day per violation, and criminal penalties.

22. Respondent acknowledges and waives its right to an administrative hearing pursuant to sections 120.569 and 120.57, F.S., on the terms of this Order. Respondent also acknowledges and waives its right to appeal the terms of this Order pursuant to section 120.68, F.S.

23. Electronic signatures or other versions of the parties' signatures, such as .pdf or facsimile, shall be valid and have the same force and effect as originals. No modifications of the terms of this Order will be effective until reduced to writing, executed by both Respondent and the Department, and filed with the clerk of the Department.

24. The terms and conditions set forth in this Order may be enforced in a court of competent jurisdiction pursuant to sections 120.69 and 403.121, F.S. Failure to comply with the terms of this Order constitutes a violation of section 403.161(1)(b), F.S.

25. This Consent Order is a final order of the Department pursuant to section 120.52(7), F.S., and it is final and effective on the date filed with the Clerk of the Department unless a Petition for Administrative Hearing is filed in accordance with Chapter 120, F.S. Upon the timely filing of a petition, this Consent Order will not be effective until further order of the Department.

Persons who are not parties to this Consent Order, but whose substantial interests are affected by it, have a right to petition for an administrative hearing under sections 120.569 and 120.57, Florida Statutes. Because the administrative hearing process is designed to formulate

final agency action, the filing of a petition concerning this Consent Order means that the Department's final action may be different from the position it has taken in the Consent Order.

The petition for administrative hearing must contain all of the following information:

a) The name and address of each agency affected and each agency's file or identification number, if known;

b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

c) A statement of when and how the petitioner received notice of the agency decision;

d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received) at the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS# 35, Tallahassee, Florida 32399-3000, or received via electronic correspondence at Agency_Clerk@floridadep.gov, within 21 days of receipt of this notice. A copy of the petition must also be mailed at the time of filing to the District Office at 8800 Baymeadows Way West Suite 100, Jacksonville, FL 32256. **Failure to file a petition within the 21-day period constitutes a person's waiver of the right to request an administrative hearing and to participate as a party to this proceeding under sections**

120.569 and 120.57, Florida Statutes. Within 10- days after filing a petition, a person whose substantial interests are affected by this Consent Order may choose to pursue mediation as an alternative remedy under section 120.573, Florida Statutes. Choosing mediation will not adversely affect such person's right to an administrative hearing if mediation does not result in a settlement. Additional information about the mediation process and procedure is provided in section 120.573, Florida Statutes, and Rule 62-110.106(12), Florida Administrative Code.

26. Rules referenced in this Order are available at: https://floridadep.gov/ogc/ogc/content/rules.

FOR THE RESPONDENT:

_____ _____
Robert Dominque Date
Utilities Director

DONE AND ORDERED this ___ day of _____ 2025, in Duval County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

_____
Gregory J. Strong
District Director
Northeast District

Filed, on this date, pursuant to section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

_____ _____
Clerk Date

Copies furnished to:

Lea Crandall, Agency Clerk, Mail Station 35
FDEP: Conor Lucy, Joni Petry, Herndon Sims, Sarah Harris

Appendix B

Ellisville WWTP - Tank Sizing Calculations

Ellisville WWTP Tank Sizing Calculations

The design flows and influent concentrations are shown in Table 1 and the unit process volumes ae shown in Table 2.

Table 1 – Design Flows and Concentrations

Flow:	
Average daily design flow (gpd)	75,000
Peak day design flow (gpd)	187,500
Influent Characteristics:	
Influent CBOD5 (mg/L)	475
Influent TSS (mg/L)	375
Influent TKN (mg N/L)	105
Influent Ammonia (as N, mg N/L)	80
Influent Total Phosphorus (mg P/L)	8

Table 2. Total Unit Process Volumes for Proposed Ellisville WWTP Phase 2 Expansion

Process	Volume (gallons)	Free Board (feet)
Flow Equalization Chamber	19,200	1.5
Anoxic Chamber	25,413	1.5
Aeration Chamber	110,123	1.5
Post Anoxic / Post Aeration Chambers	16,942	1.5
Clarifier	19,978	1.5
Fixed Media Clarifier	96 S.F. Fixed Media	1.5
Chlorine Contact Chamber	3,600	1.5
Sludge Holding Chamber	25,413	1.5

Flow Equalization Chamber

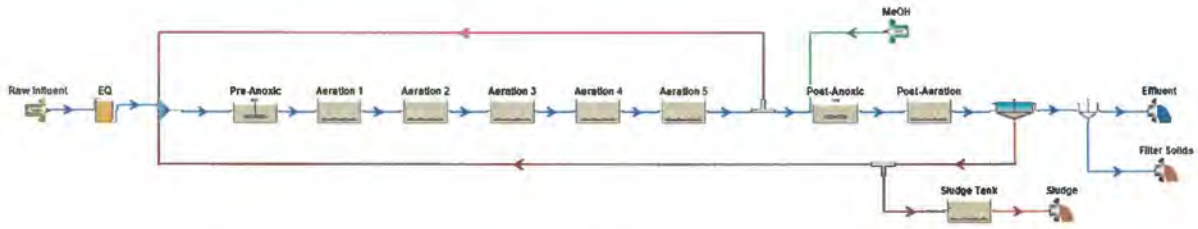
The Flow Equalization Chamber provides 6.1 hours of storage under AADF conditions and 2.45 hours of storage under peak day flow conditions.

Biological Treatment

Biological treatment consists of an Aerobic Chamber for BOD oxidation and nitrification with internal mixed liquor recycle to bring nitrate to the Anoxic Chamber for denitrification. The biological treatment was analyzed using BioWin (EnviroSim Associates Ltd.).

A model representation of the biological system for the expansion of the South Columbia County Regional WWTF was developed in BioWin and calibrated using typical values. The calibrated model was then used to evaluate the anoxic and aerobic chambers. Figure 1 shows a screen-shot of the BioWin model elements for the proposed expansion of the South Columbia County Regional WWTF. The elements represent the proposed volume of the flow equalization chamber, the anoxic chambers, the aerobic chambers, and the clarifier.

Figure 1: BioWin Model Representation of the Ellisville WWTP



Default model kinetics and stoichiometry were used. Influent wastewater characteristics were derived from typical values and some of the key fractions are summarized in Table 3.

Table 3 – Influent Wastewater Fractions

COD:BOD5	sBOD5:BOD5	VSS:TSS	NH3:TKN	PO4-P:TP
2.03	0.61	0.77	0.76	0.50

Table 4. Ellisville WWTP Model Summary

Parameters	Units	Permit Limits	Target	Average Model Results/Train
Flow	**gpd**	-	-	25,000
Temperature	**°C**	-	-	21
Influent				
Influent BOD	**mg/L**	-	-	475
Influent TSS	**mg/L**	-	-	375
Influent TKN	**mg N/L**	-	-	105
Influent Total P	**mg P/L**	-	-	8
Influent Alkalinity	**mg $CaCO_3$/L**			450
Operational Parameters				
MLSS	**mg/L**	-	-	4,550
pH (Aeration 5)				>6.5
RAS TSS	**mg/L**	-	-	9,000
Solids Loading Rate	**lb/[ft2 d]**	35	20	15
Surface Overflow Rate	**gal/[ft2 d]**	1,000	-	183
Effluent				
Effluent BOD	**mg/L**	30	5	2
Effluent TSS	**mg/L**	30	5	5
Effluent NH_3-N	**mg N/L**	-	0.5	<0.5
Effluent NO_X-N	**mg N/L**	12	10	<2.0
Effluent TN	**mg N/L**	3		<3.0
Effluent Alkalinity	**mg $CaCO_3$/L**			170

Clarifier

Secondary clarifiers are designed based on Surface Overflow Rate (SOR) and Solids Loading Rate (SLR). Ten State Standards recommends the ranges summarized in Table 5 when designing or evaluating secondary clarifiers.

Table 5. Ten State Standards Guidelines for Secondary Clarifiers

Parameter	Recommended Maximum under Maximum Flows
SOR (based on Peak Hour Flow)	1000 gpd/ft^2 (For extended aeration facilities)
SLR (based on Maximum Day Flow)	35 lb/ft^2

Source: Recommended Standards for Wastewater Facilities (2014 Edition), Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers

Surface Overflow Rate

SOR under design conditions is 284 gal/d-ft^2 (Table 4). The SOR at the design flow is below the recommended maximum SOR of 1000 gpd/ft^2 under Ten State Standards while peak day flow meets the recommended maximum SOR.

Solids Loading Rate

SLR under design conditions is 15 lb/d-ft^2 (Table 4). The SLR at design flow is below the recommended maximum SLR of 35 lb/ft^2 under Ten State Standards.

Chlorine Contact Chamber

Disinfection is accomplished with sodium hypochlorite. The sodium hypochlorite tablets are mixed with the wastewater at the entrance of the Chlorine Contact Chamber. Rule 62-600.440, FAC states that a minimum of 15 minutes of detention time (DT) must be provided at peak flow for high level disinfection. This is in agreement with Ten State Standards, which also specifies a minimum contact time of 15 minutes at peak flow.

Detention Time

The DT is calculated at the design AADF and peak day flow below.

Chlorine Contact Chamber (Peak Day Flow after Equalization):

DT = Total Tank Volume ÷ Flow
DT = (2,400 gallons ÷ 112,500 gpd) × 1,440 minutes per day = 30.7 minutes

The DT under peak day flow conditions is greater than the recommended minimum value of 15 minutes under Rule 62-600.440, FAC and Ten State Standards.

Sludge Holding Tank

Based on the design AADF it is estimated that 800 gpd of waste activated sludge will be produced at 1% solids, which provides a storage capacity of 17 days without thickening.

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