

AGENDA
Lower Cape Fear Water & Sewer Authority
1107 New Pointe Boulevard, Suite # 17, Leland, North Carolina
9:00 a.m. – Regular Monthly Board Meeting
October 12, 2026

MEETING CALL TO ORDER: Chairman Phillips

INVOCATION

PLEDGE OF ALLEGIANCE

APPROVAL OF CONSENT AGENDA

- C1** – Minutes of September 14, 2026, Regular Board Meeting
- C2** – Kings Bluff Monthly Operations and Maintenance Report
- C3** – Bladen Bluffs Monthly Operations and Maintenance Reports

NEW BUSINESS

- NB1** – Resolution Accepting the Lower Cape Fear Water and Sewer Authority Kings Bluff Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspections Report (Jess Powell, P.E., McKim and Creed)
- NB2** – Resolution Accepting the Lower Cape Fear Water and Sewer Authority Bladen Bluffs Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspections Report (Jess Powell, P.E., McKim and Creed)
- NB3** – Resolution Approving Contract with HDR Engineering, Inc. of the Carolinas for Owner-Advisor Services (Phase 1 – Preconstruction) for 100 MG Reservoir Project

ENGINEER'S COMMENTS

ATTORNEY COMMENTS

EXECUTIVE DIRECTOR REPORT

- EDR1** – Comments on Customers' Water Usage and Raw Water Revenue for Fiscal Year to Date Ending September 30, 2026
- EDR2** – Operating Budget Status, Ending August 31, 2026
- EDR3** – Summary of Activities

DIRECTOR'S COMMENTS AND/OR FUTURE AGENDA ITEMS

PUBLIC COMMENT

ADJOURNMENT

The next board meeting of the Lower Cape Fear Water & Sewer Authority is scheduled for Monday, November 9th at 9:00 a.m. in the Authority's office located at 1107 New Pointe Boulevard, Suite 17, Leland, North Carolina.

AGENDA ITEM

To: CHAIRMAN PHILLIPS AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: October 12, 2026

Re: Consent Agenda

Reviewed and approved as to form: MATTHEW A. NICHOLS, AUTHORITY ATTORNEY

Please find enclosed the items of a routine nature for consideration and approval by the Board of Directors with one motion. However, that does not preclude a board member from selecting an item to be voted on individually, if so desired.

- C1** – Minutes of September 14, 2026, Regular Board Meeting
- C2** – Kings Bluff Monthly Operations and Maintenance Report
- C3** – Bladen Bluffs Monthly Operations and Maintenance Report

Action Requested: Motion to approve/disapprove Consent Agenda.

Lower Cape Fear Water & Sewer Authority
Regular Board Meeting Minutes
September 14th, 2026

Chairman Phillips called to order the Authority meeting scheduled on September 14th, 2026, at 9:00 a.m. and welcomed everyone present. The meeting was held at the Authority's office located at 1107 New Pointe Boulevard, Suite 17, Leland, North Carolina. Director Edge gave the invocation.

Roll Call by Chairman Phillips:

Present: Chakema Clinton-Quintana, Sam Croom, Wayne Edge, Jerry Groves, Harry Knight, Al Leonard, Scott Phillips, Phil Tripp, Frank Williams, and Rob Zapple

Present by Virtual Attendance: Damien Buchanan, Bill Saffo, Chris Smth, and Bill Sue

Absent: None

Staff: Tim H. Holloman, Executive Director; Matthew Nichols, General Counsel; Sam Boswell, COG; Jess Powell, P.E., McKim & Creed; and Tony Boahn P.E., McKim & Creed

Guests Present: Troy Hunter, Computer Warriors; David Carson, Brunswick County Kings Bluff Water Resource Supervisor; Craig Wilson, PE, Cape Fear Public Utility Authority Assistant Operations Director; Donald Dixon, Senior Project Manager, Ardurra; Alex Littleon, Garney Assistant Project Manager; Scott Rozier, HDR Construction Service Project Manager; and James Proctor, Pender County Utilities Director

Guests Virtual Attendance: Heidi Cox, NC DEQ Regional Engineering Supervisor, Division of Water Infrastructure; Michael Miller, NC DEQ Financial Services; Aaron Smith, Brunswick County Director of Fiscal Operations; Eileen Callori, Brunswick County Deputy Finance Officer; Ken Waldroup, Cape Fear Public Utility Authority Executive Director; Jeff Gramm, Cape Fear Public Utility Authority Treatment/Engineering Services Administration; Chris Giesting, Brunswick County Water Resources Manager

PLEDGE OF ALLEGIANCE: Chairman Phillips led the Pledge of Allegiance.

APPROVAL OF CONSENT AGENDA

C1 – Minutes of August 10, 2026, Regular Board Meeting

C2 – Kings Bluff Monthly Operations and Maintenance Report

C3 – Bladen Bluffs Monthly Operations and Maintenance Reports

C4 – Resolution for Recognition of National Source Water Protection Week September 27 to October 4, 2026

C5 – Appointment of Wayne Edge to the Calendar Year 2026 Finance Committee by Chairman Phillips

C6 – Appointment of Wayne Edge to Calendar Year 2026 Personnel Committee by Chairman Phillips

C7 – Appointment of Wayne Edge to Calendar Year 2026 Long Range Planning Committee by Chairman Phillips

Motion: Director Edge **MOVED**; seconded by Director Williams, approval of the Consent Agenda Items. Upon voting, the **MOTION CARRIED UNANIMOUSLY**.

PRESENTATION: William “Bill” Sue, Brunswick County, by Chairman Scott Phillips

A plaque presented for William “Bill” Sue in recognition and appreciation of your distinguished service and dedicated commitment to the Lower Cape Fear Water and Sewer Authority, serving with distinction since June of 2001.

PRESENTATION: Patrick DeVane, Bladen County, by Chairman Scott Phillips

A certificate for Patrick DeVane for his distinguished service to the Lower Cape Fear Water and Sewer Authority since September of 2020.

PRESENTATION: Kris Bass and Julie DeMeester, The Nature Conservancy – Lock and Dam Fish Passage Proposed

A copy of the presentation will be attached to the minutes. Chairman Phillips would like The Nature Conservancy to return for a quarterly review and discuss a resolution in support of The Nature Conservancy.

ENGINEER'S COMMENTS

No comments

ATTORNEY COMMENTS

No comments.

EXECUTIVE DIRECTOR REPORT

EDR1 – Comments on Customers' Water Usage and Raw Water Revenue for Fiscal Year to Date Ending August 2026

Executive Director Holloman reported that CFPUA and Pender County exceeded projections in August.

DIRECTOR'S COMMENTS AND/OR FUTURE AGENDA ITEMS

No comments.

PUBLIC COMMENT

No comments.

ADJOURNMENT

There being no further business, Chairman Phillips adjourned the meeting at 10:07 a.m.

Respectfully Submitted:

Chakema Clinton-Quintana, Secretary

NOAA Just Keep Swimming

Advancing Fish Passage
Potential on the Cape Fear River

Water Security Ideas for LD1



Project Approach



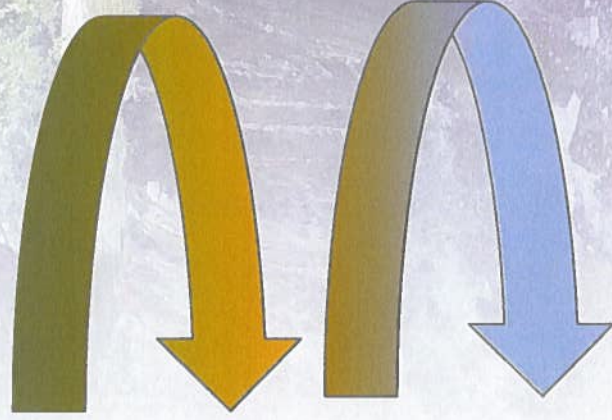
1 **»** Data and Research



2 **»** Build Partnerships, Ideas, and Consensus



3 **»** Advance Approaches, Implementation Plans

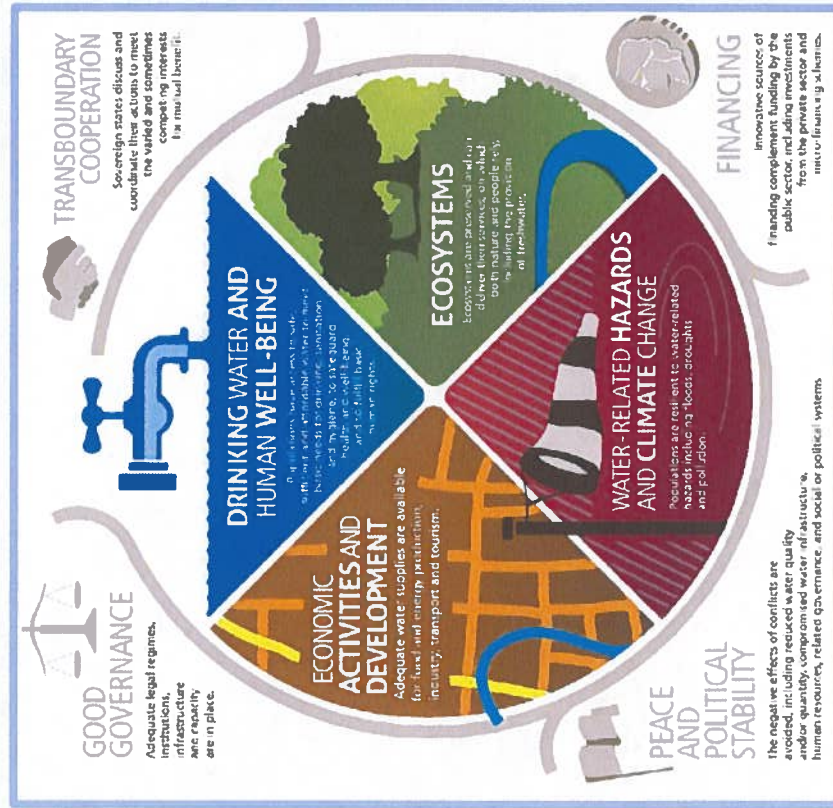


《3 Water Supply Security

The locks and dams and fish passage ideas are intrinsically linked to a secure water supply.

Issues such as water quality, water allocations, and an uncertain climate future are a critical part of addressing concerns and developing ideas.

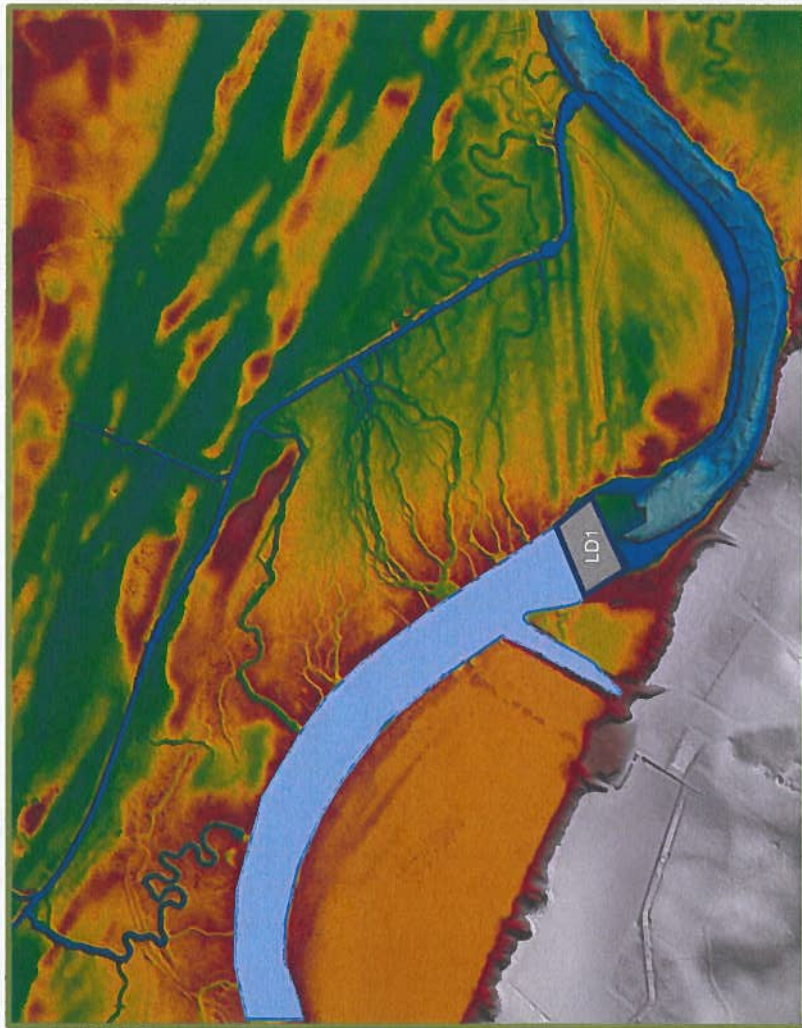
This project will not be a success unless the goals and needs of numerous stakeholders are in alignment.



Mehta, Pream & Nagabhatla, Nidhi. (2017).
Without Water, Nothing is Secure.
ISBN: 978-92-808-6085-6. 4.

«1

Modern and New Data Collection



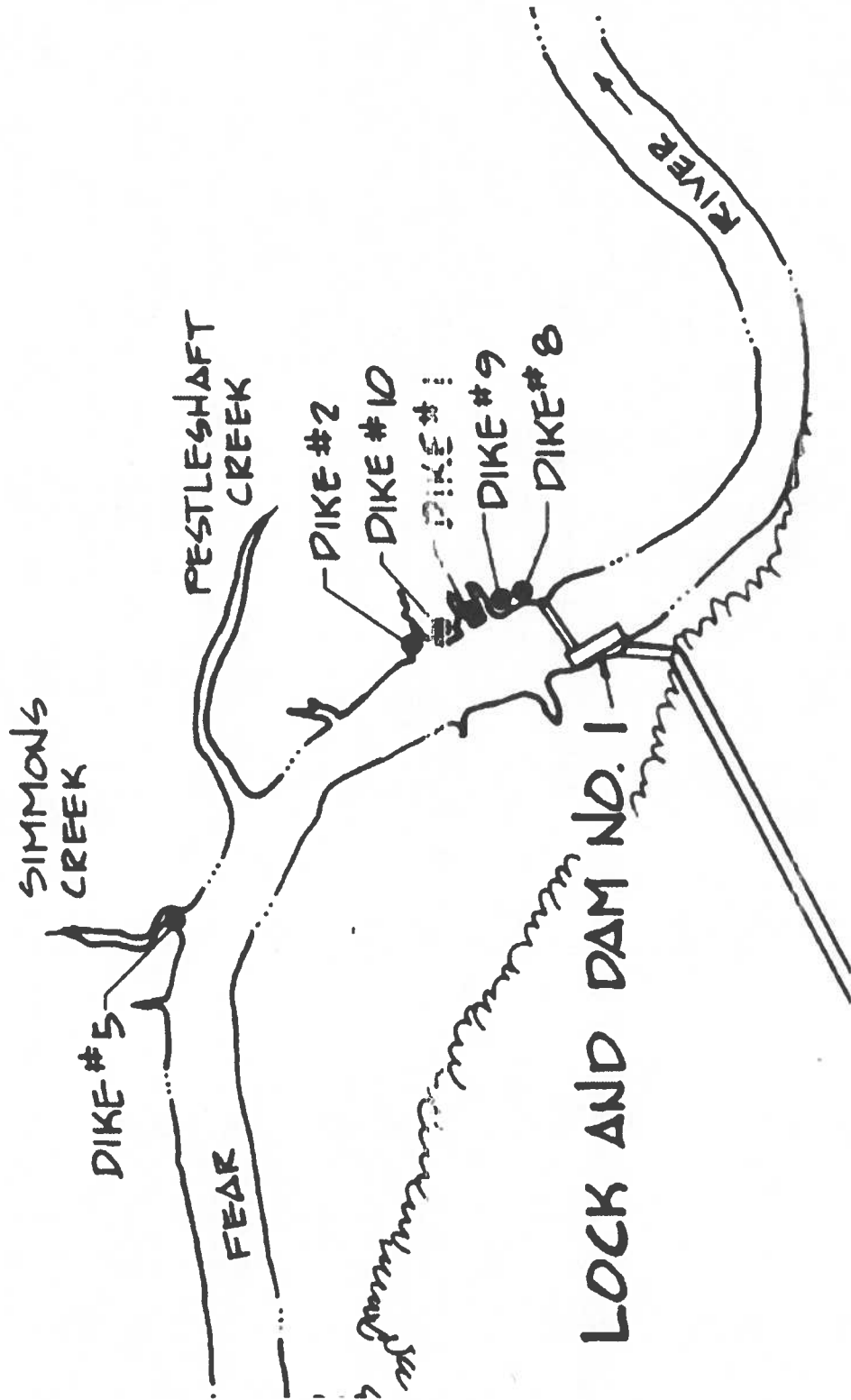
USGS LIDAR and USACE Bathymetry at LD1

Engineering Analysis

- Historic and new LiDAR data
- USACE Bathymetry
- Partnership access to private lands at all three dams
- On the ground surveying at these sites and at upriver spawning grounds



USACE 1986





Simmons Creek





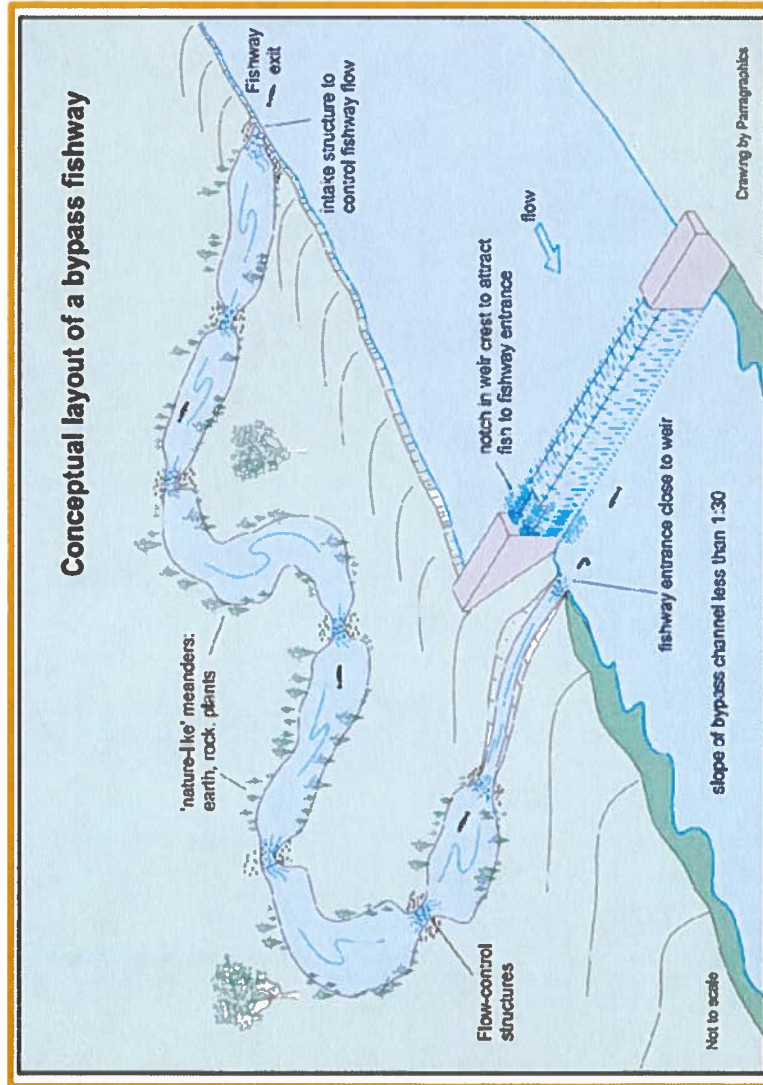




«2 Partial River Width Fish Passes



State of the Science

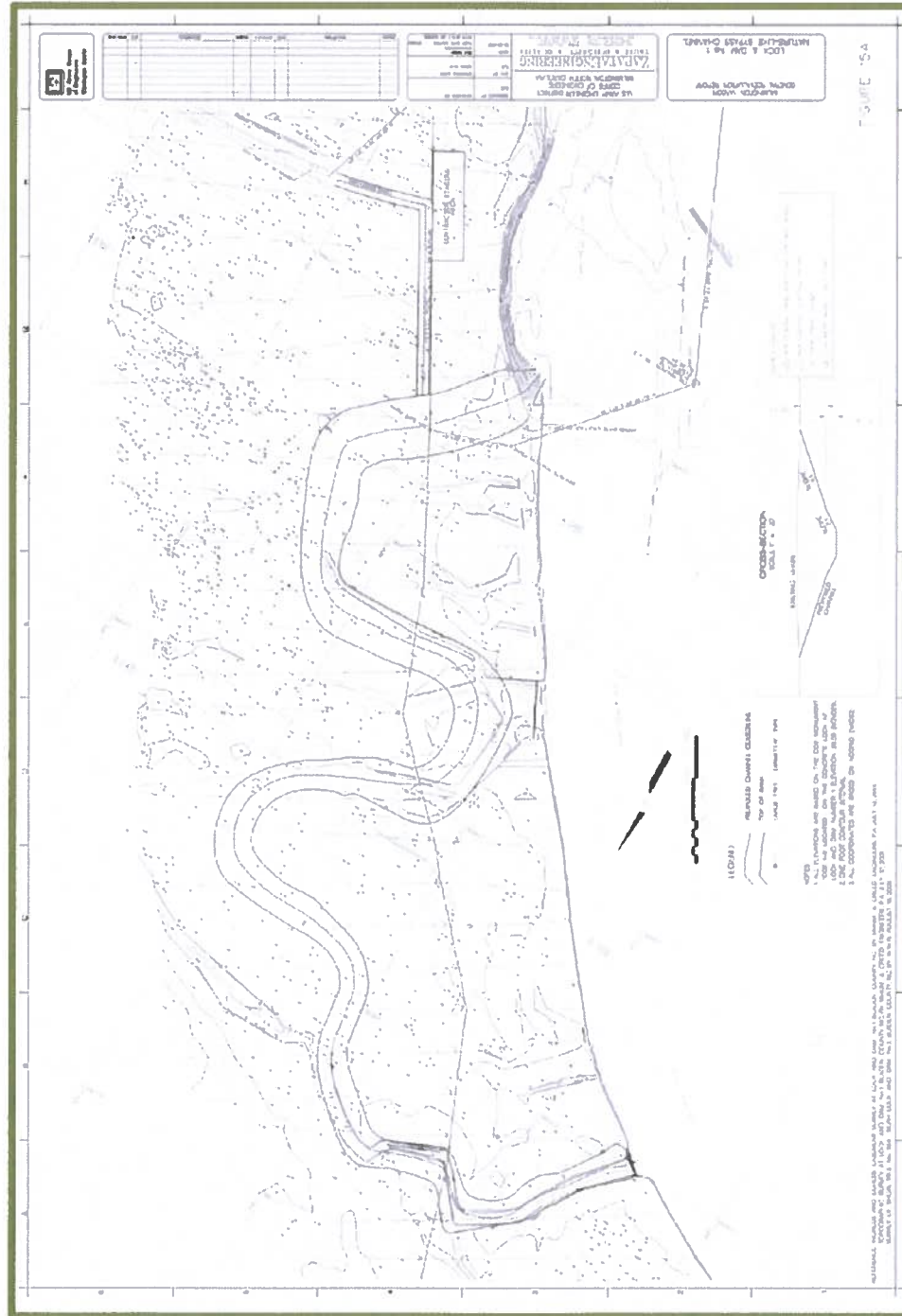


<http://www.dpi.nsw.gov.au>

10

- Channel size is managed to maintain pool levels
- Connections are highly engineered to remain stable
- Slopes are carefully constructed to ensure stability and prevent erosion.
- Longer, gentler bypasses work better and are more stable!

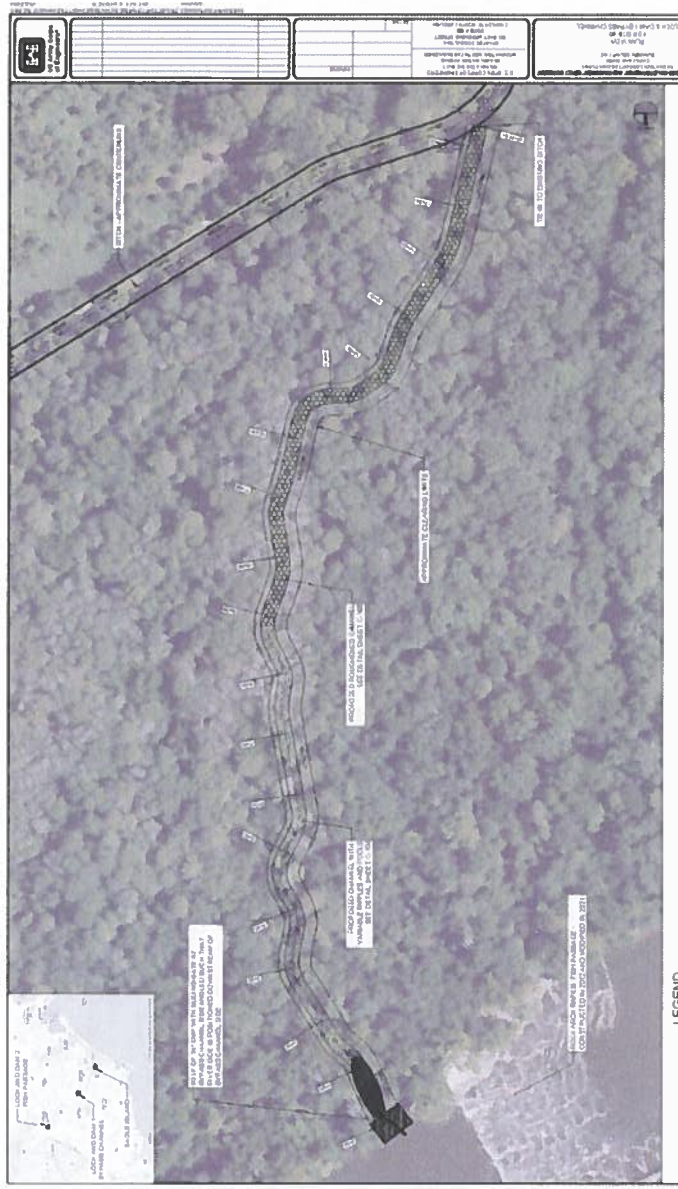
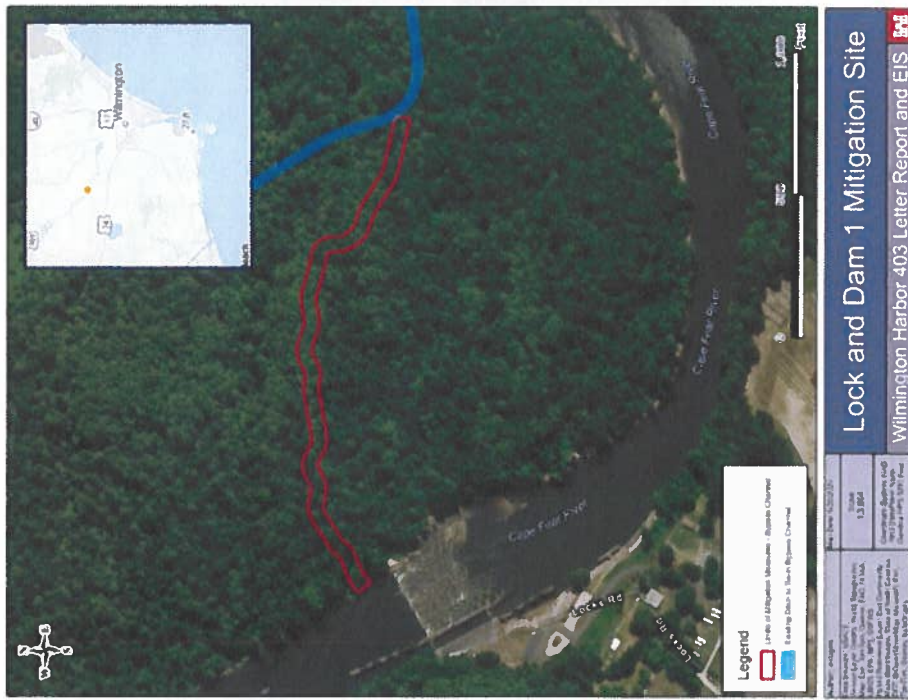
«1 Engineering Analysis



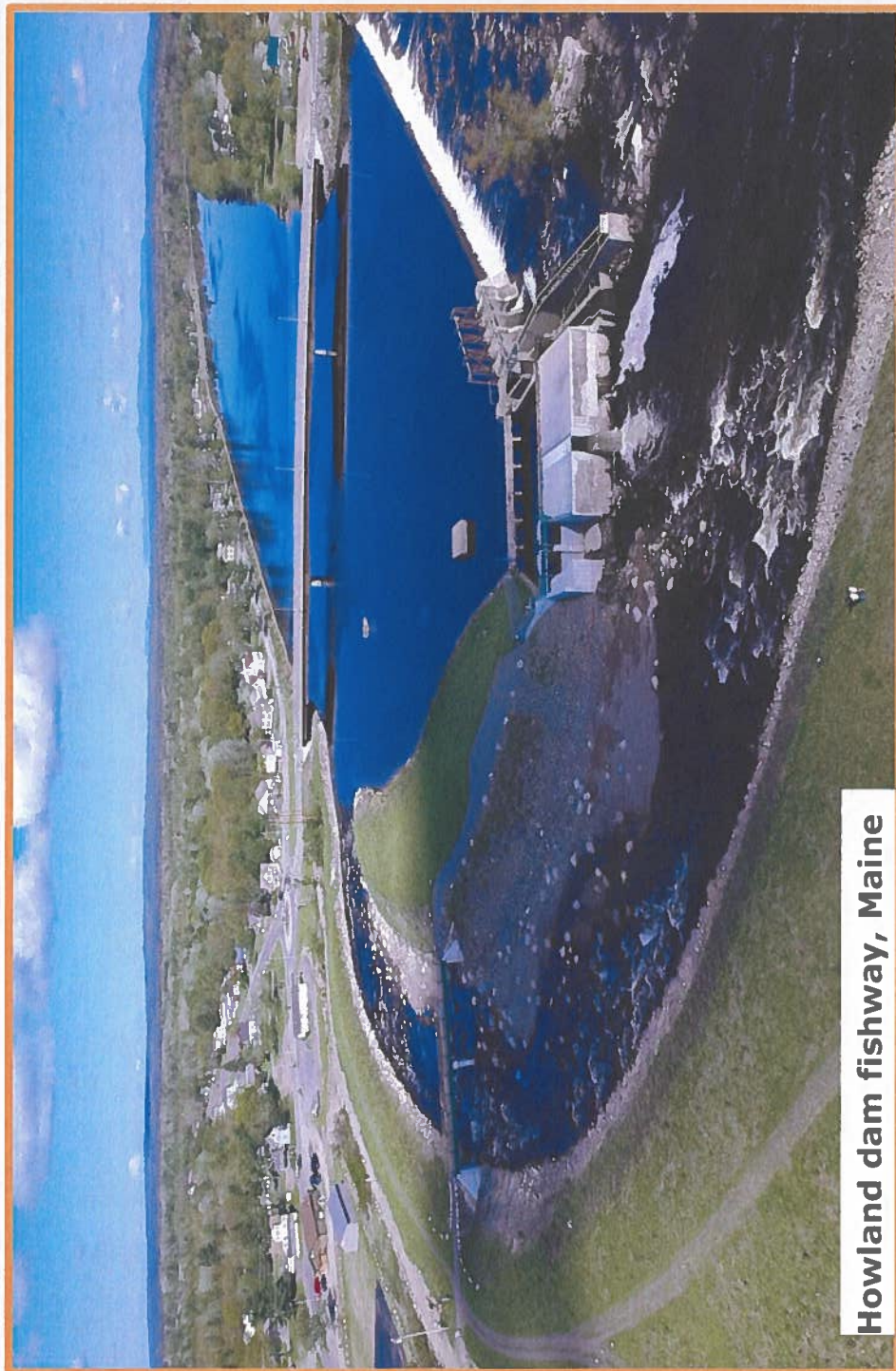
Source: 2007 Wilmington Harbor General Reevaluation Report for Relocated Turning Basin

Wilmington Harbor 403 Letter Report
Wilmington, North Carolina

Appendix M
Wetland and Fish Passage Mitigation Plan



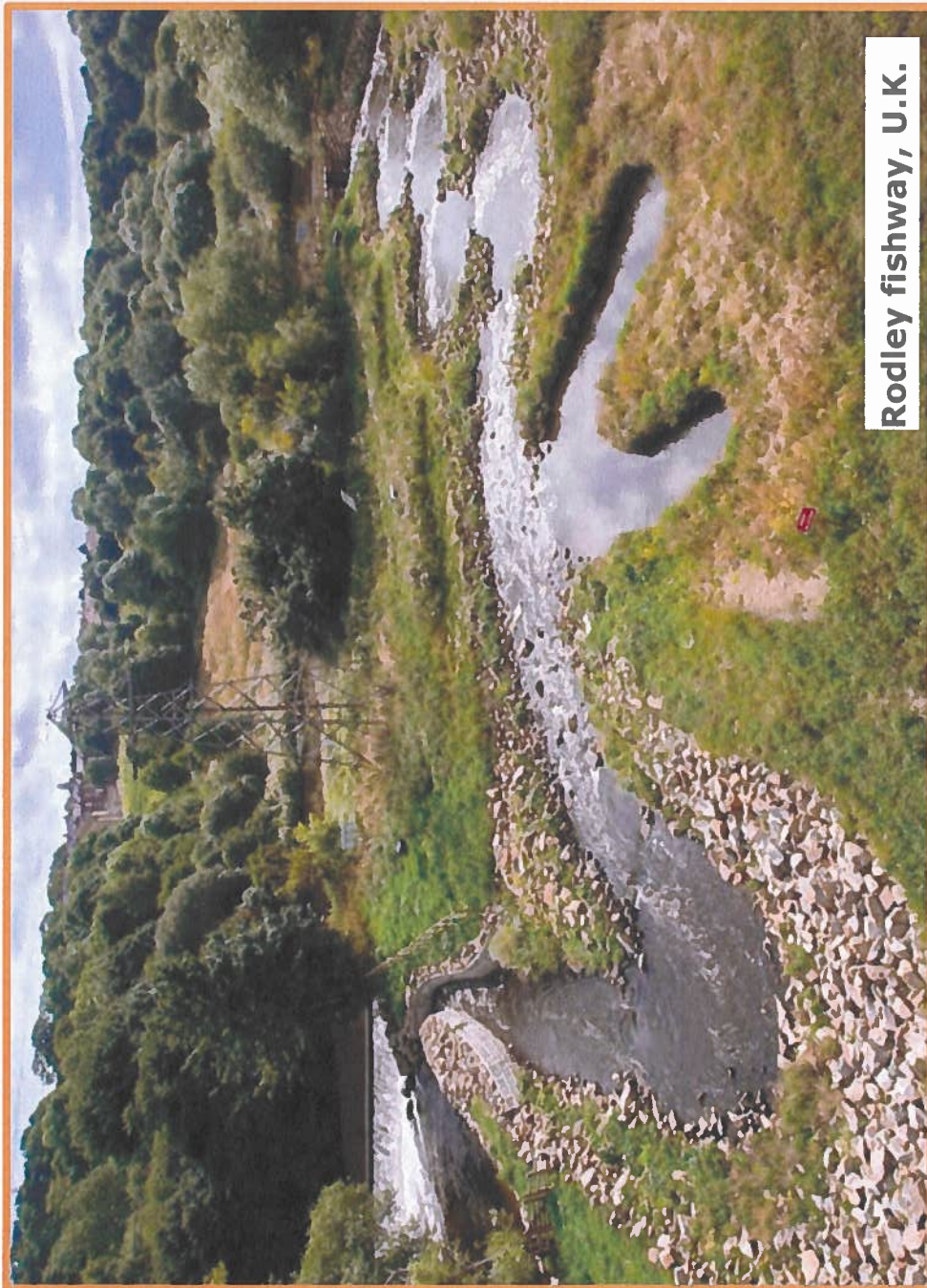
Source: 2025 Wilmington Harbor 403 Letter Report – Wetland and Fish Mitigation Plan



Howland dam fishway, Maine

《2

State of the Science

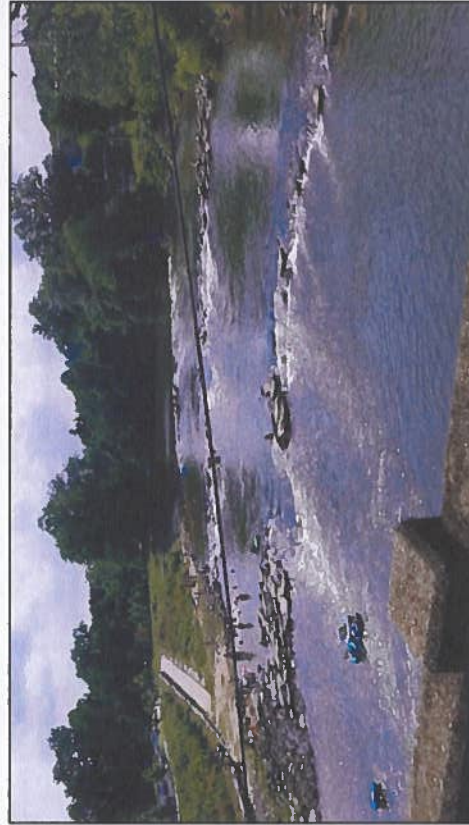
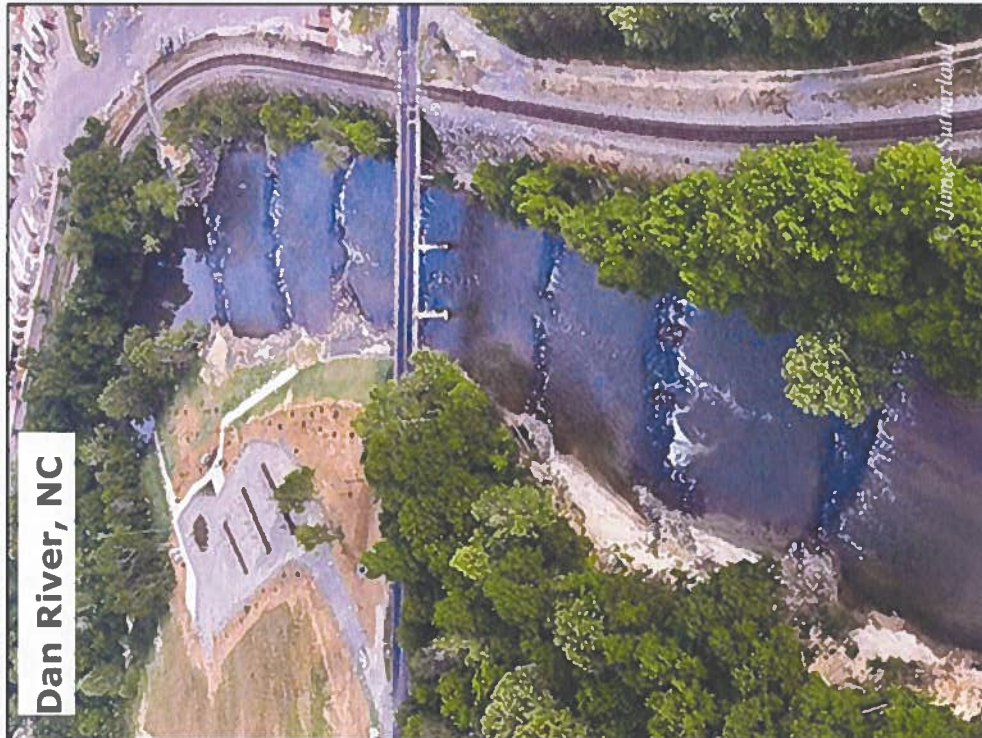


Rodley fishway, U.K.

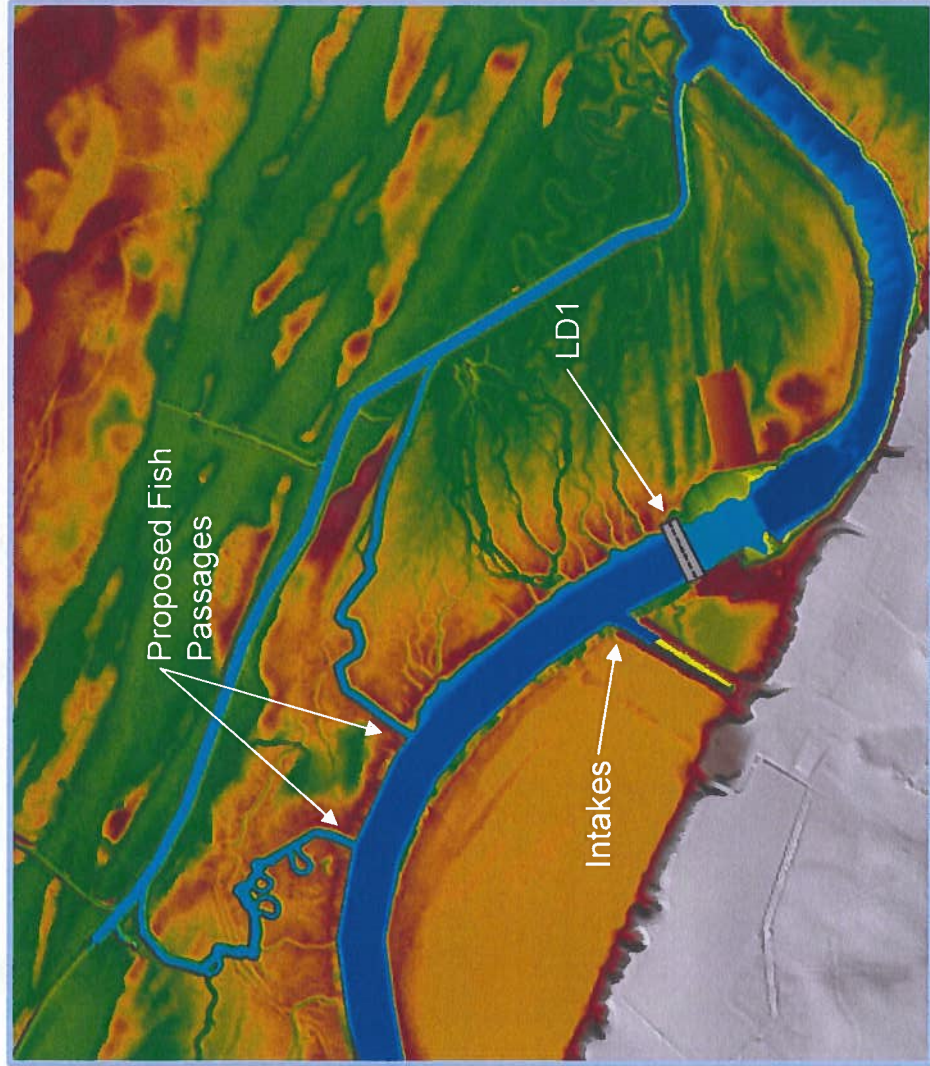
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State of the Science

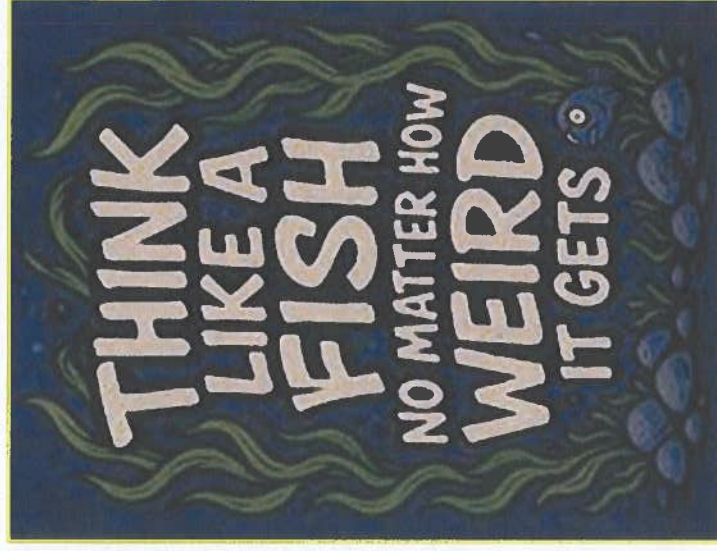


«1 Overview

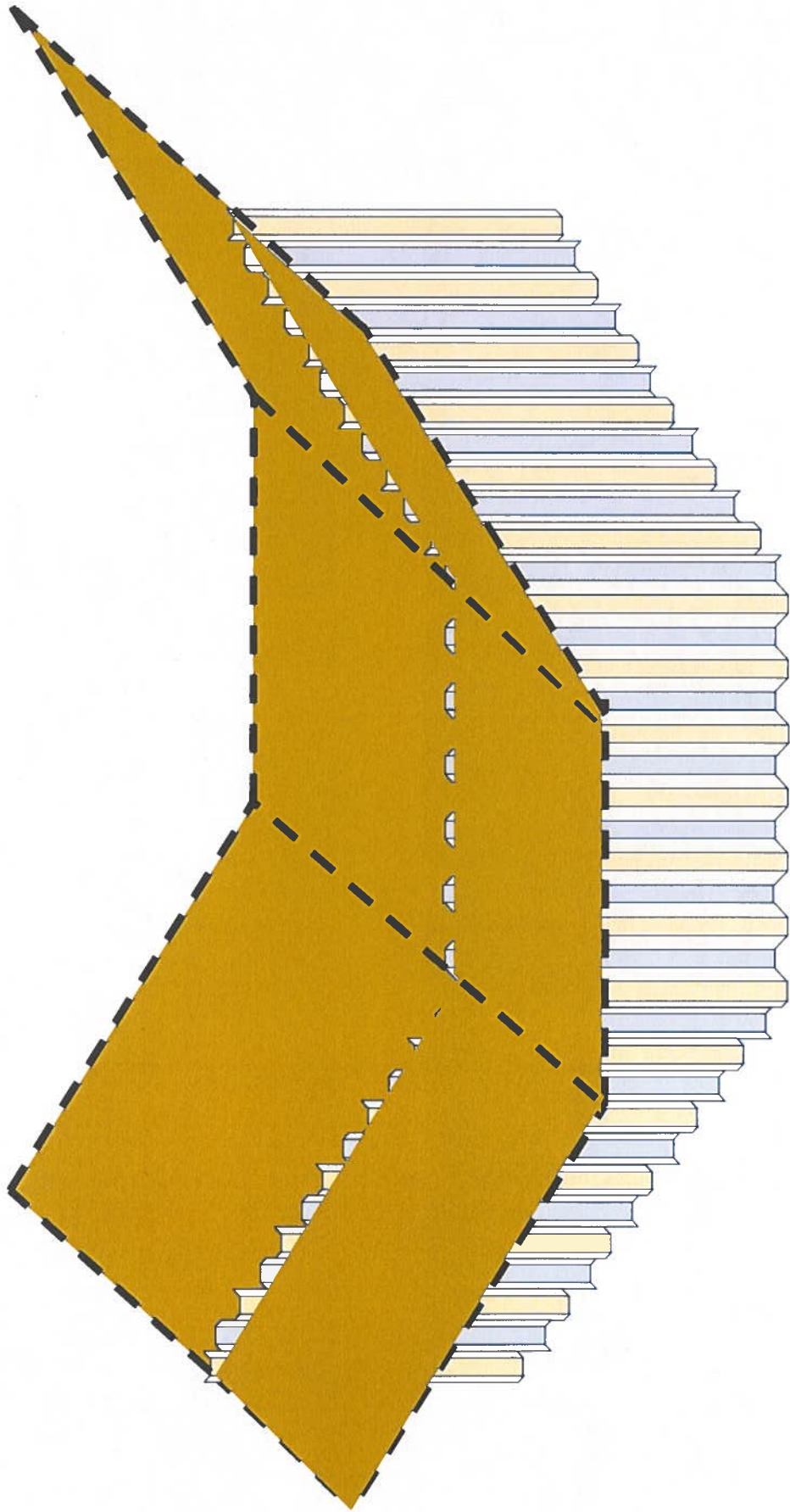


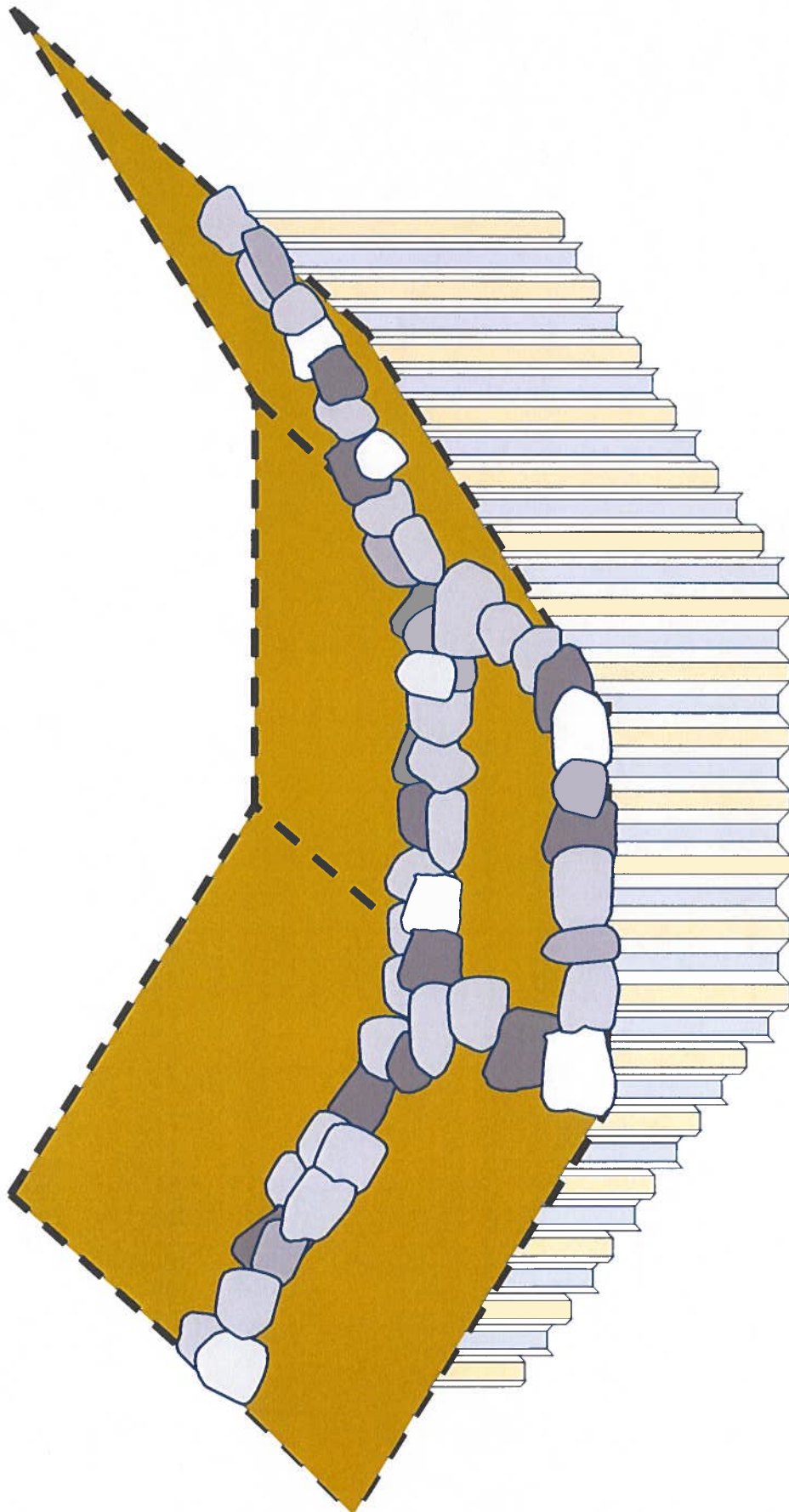
Conceptual Focal Points

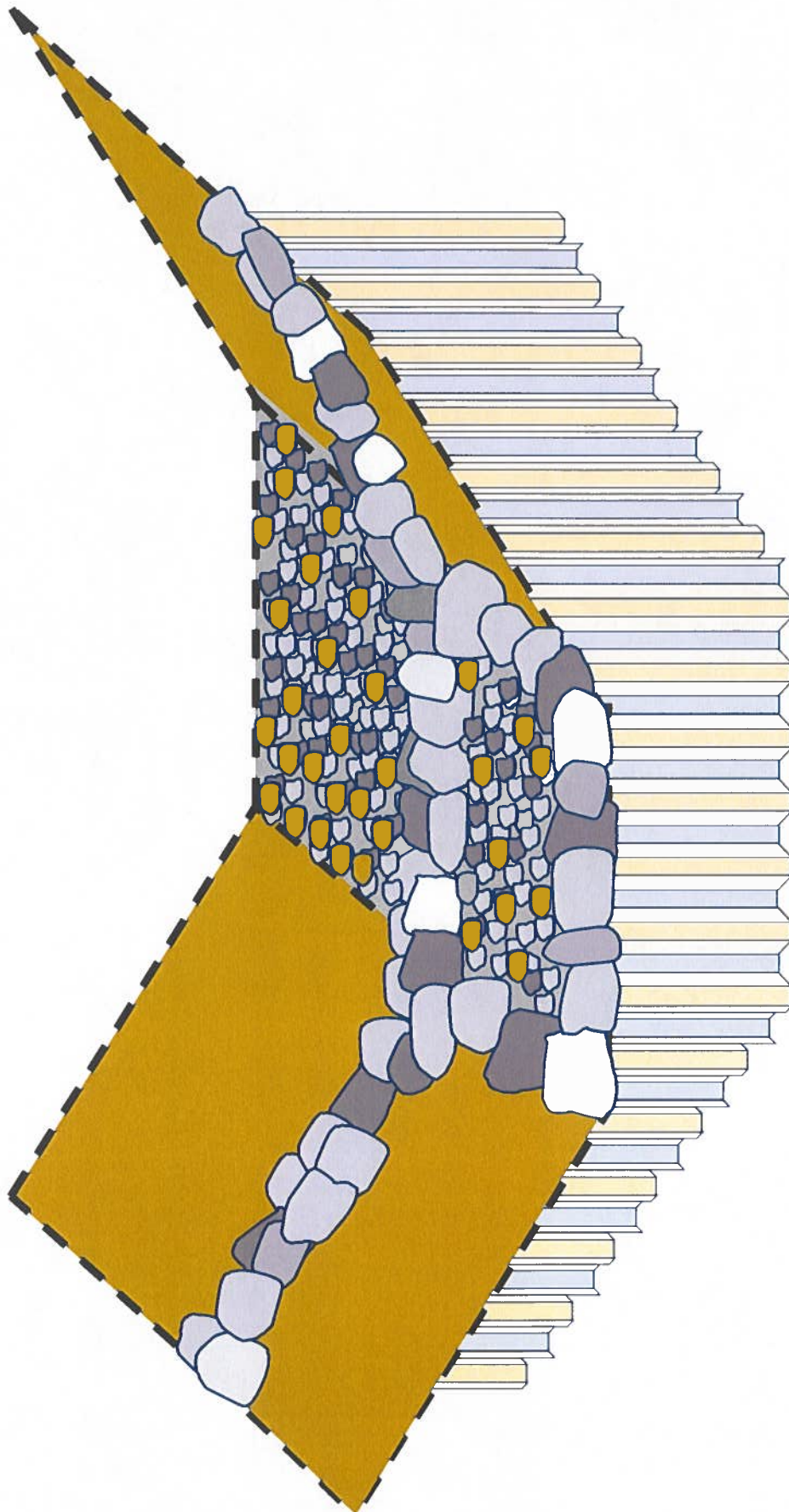
1. **Fish suitability**
 - gentle slopes, deep areas, adequate sizing
2. **Intake capacity**
 - No changes to the dam
 - Match existing water surface elevations
 - Future capacity and intake configurations
3. **Long-term stability**
 - Protect the inlets
 - Self sustaining channels and banks
 - Improve remaining timber dikes
4. **Maintainability**
 - Permanent easements
 - Access road

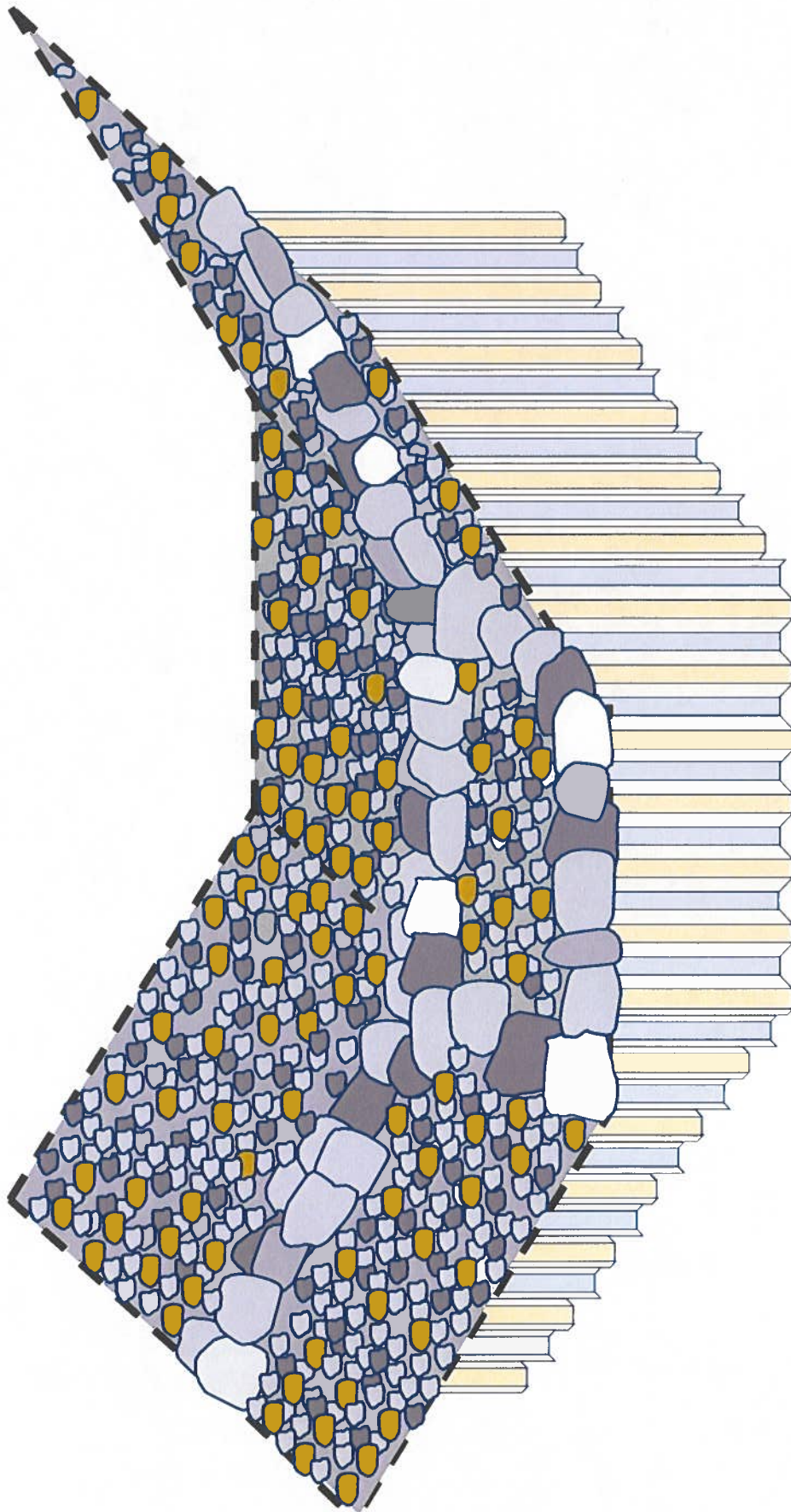


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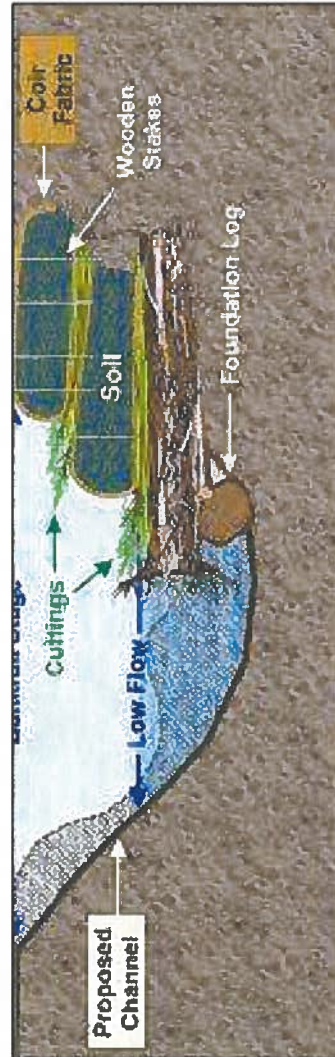
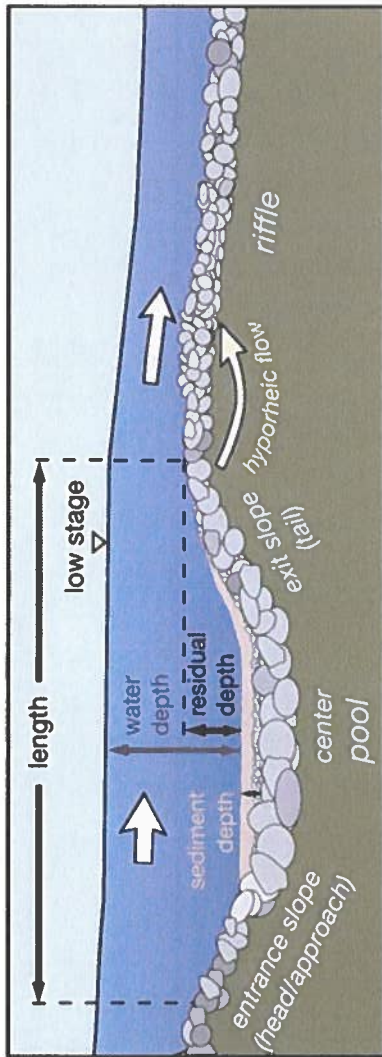






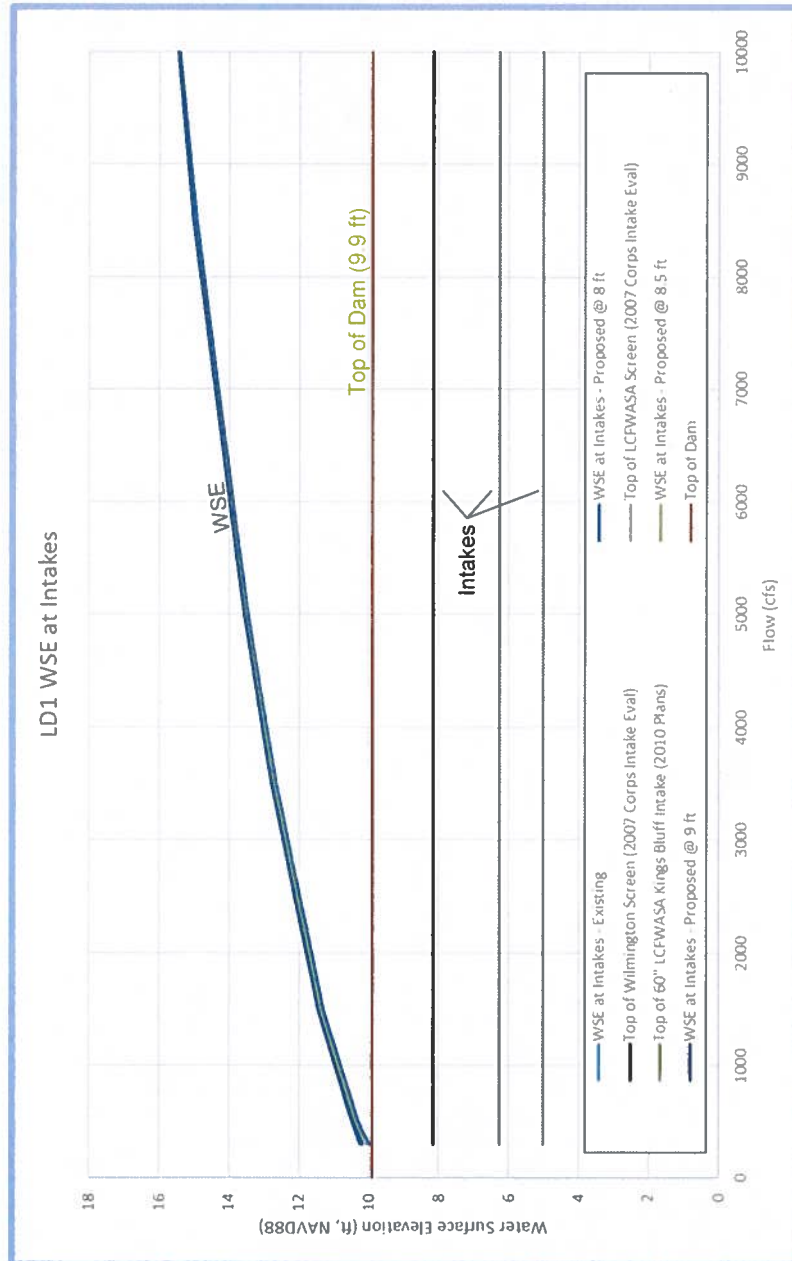


Stability Measures





1 Intake Evaluation



There is no scenario where water level would ever go below the top of dam elevation

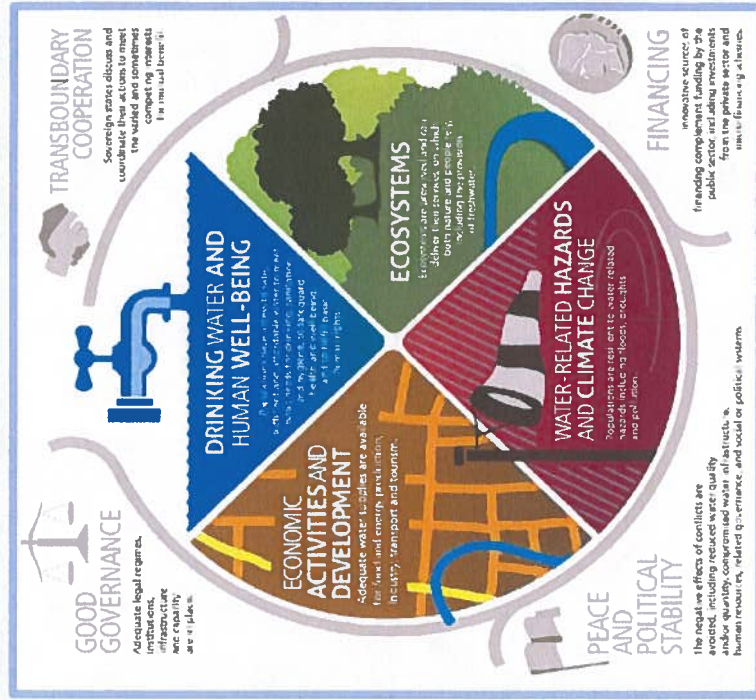
Calibrated HEC-RAS Model

Intake Screen	Top Elevation (ft)
Wilmington 4x4 Screen	8.2
LCFWASA 60" (2010)	6.3
LCFWASA 48"	5.0

Flow (cfs)	WSE at Intake (ft)			
	Ex	Pass Inv. @ 8	Pass Inv. @ 8.5	Pass Inv. @ 9
300	10.3	10.0	10.1	10.2
511 (7Q10)	10.5	10.3	10.4	10.5
1,500	11.4	11.3	11.4	11.4
5,000	13.5	13.5	13.5	13.5

Final Thoughts and Next Steps

1. A highly successful fish pass is a potential pathway towards water security.
2. Building consensus among a wide variety of stakeholders is the key to restoring the river continuum!
3. Advanced concept plans are targeted for end of year 2026.
 - Water supply support
 - USACE
 - Landowner commitments
4. Fundraising and implementation details for 2027.



BRUNSWICK COUNTY PUBLIC UTILITIES

Kings Bluff Pump Station/LCFWASA
246 Private Rd. 703
Riegelwood, NORTH CAROLINA 28456

MAILING ADDRESS
P. O. Box 249
BOLIVIA, NORTH CAROLINA 28422

TELEPHONE (910) 655-4799
FAX (910) 655-4798

TO: Tim Holloman

FROM: David Carson

DATE: 10/1/2026

SUBJECT: Monthly maintenance report for September 2026

Mr. Holloman,

The Maintenance and Operations of the King's Bluff facility (KB) for September were performed as prescribed in the station SOPs, and other items are as follows.

The diesel drive booster pumps, along with the standby System Computer and Data Acquisition (SCADA) generator located at the raw tank and the SCADA generator located at INVISTA / CFPWA vaults off HWY 421, were run and tested weekly and verified as standby-ready.

Items Highlighted in yellow were on the Annual Inspection

- 1) KB personnel completed all locates issued by the Boss 811 system.
- 2) KB personnel cleared walls and pumps of dirt, debris, and cobwebs in pump rooms 1, 4, & 5.
- 3) KB personnel degreased and then power-washed pump rooms and pipe gallery 1, 4, & 5.
- 4) KB personnel assisted Power Generation with installing new alternators (3) on Global Booster Pumps (3) at the Raw Tank.
- 5) KB personnel dug down in an attempt to find the airline buried in the ground to try to locate the source of leaking air from the air backwash line #2 for the 48" intake screen.
- 6) KB personnel inspected the portions of R.O.W. (Right of Way) that Rogers Excavation and Grading began mowing and hand-cutting.
- 7) KB personnel began cleaning in and around the Authority property garage.
- 8) KB personnel changed the oil in air compressors as per the 6-month preventative maintenance schedule.

- 9) KB personnel flushed Rosemont meters (4) at the vault for the 54" line and in pump gallery #1 for the 48" line at Kings Bluff, as well as the meter vaults at Pender County and CFPUA.
- 10) KB personnel load-tested EMD (2) generators at Kings Bluff in preparation for Duke Energy Watch status, which has occurred twice this month.
- 11) KB personnel mowed Kings Bluff, Authority property and the Raw tank. KB personnel have taken over mowing/landscaping of Kings Bluff, Authority property, and the Raw tank.
- 12) KB personnel assisted Power Generation with removing the older electric motor and reinstalling a spare refurbished electric motor (75 hp) on the radiator system for the EMD #1 generator and arranged for the motor to be rebuilt to keep as a spare.
- 13) KB personnel assisted Power Generation with troubleshooting fuel issues with the towable Baldor generator.
- 14) KB personnel, along with Power Generation, installed a cover plate on the radiator fan for EMD generator #1.
- 15) KB personnel repaired the winch on Mudd Trax.
- 16) KB personnel began the yearly valve exercise program at Narrow Gap Interconnection (5 48" valves, 800 turns; 5 6" bypass valves); everything was in good working order.
- 17) KB personnel installed new signage on the main gate at Kings Bluff and new LCFWASA/Emergency Contact signs at the Interconnections of Narrow Gap, John Riegel, Blue Banks, and Brunswick County.
- 18) KB personnel helped Underwood Pump install a valve in preparation for the new 1600 HP vertical turbine pump.
- 19) KB personnel assisted Carbon Fuel Service in polishing and treating diesel fuel for the Global Booster Pumps at the Raw Tank.
- 20) KB personnel flushed air, sediment, and dirt from the surge tank sight glass in the plant and at the surge tanks.

Contractors:

Power Generation
 Rogers Excavating & Grading
 Computer warriors
 Garney Construction
 Carbon Fuel Service
 Underwood Pump

David Carson



To: Tim Holloman - LCFWASA

From: James Kern – Bladen Bluffs SWTP ORC

Date: 10/5/26

Subject: September 2026 Operations

During the month of September, Bladen Bluffs SWTP operated a total of 17 days, treating 52.00 million gallons of water.

We used:

28,883 lbs. of aluminum sulfate (Alum)

8,812 lbs. of sodium hydroxide (Caustic)

1,536 lbs. of sodium hypochlorite (3,084 gallons of 6% Chlorine Bleach)

James Kern
Water Treatment Plant
Supervisor

(910) 862-3114
(910) 862-3146
(910) 733-0016 mobile
jkern@smithfield.com

Smithfield
Good food. Responsibly.®

Bladen Bluffs Surface Water Treatment
Plant
17014 Highway 87 West
Tar Heel, NC 28392
www.smithfieldfoods.com

Bladen Bluffs SWTP Maintenance Report

Date: 10/5/2026

ISSUE:

PLAN OF ACTION:

1. All PLC need updated	1. Scheduling install to begin in October
2. Wooden walkway to river needs replacement	2. Inspected with Stacey during inspection – planning repair
3. Transfer pump #2 NA	3. Bad wire – temp fix. Planning with internal electrician – Pump available
4. Chemical pump PM needed	4. COMPLETED – new spare pump order and received
5. Flocculator 2B failed	5. Decided to repair it instead of replacing with new. Waiting on repair
6. DUCT smoke detector issue	6. FIXED
7. Bleach transfer pump not working	7. Pump is at OEC shop to see if repairs can be made
8. More outdoor signage needs replaced	8. IN PROGRESS
9. Frame around air compressor needs painting	9. Scheduling – waiting on quote
10. NCDEQ wanted all chemical storage tanks to be visually labeled	10. Ordered stencil and paint - scheduling
11. Many indicator bulbs need replaced	11. REPLACED
12. Float in caustic sump pit bad	12. Ordered new
13. Influent valve #3 gears worn	13. Parts ordered – repair scheduled 10/6

Monthly Operating Reports (MORs) Summary

(No user data entry – all values are auto-populated.)

Year: 2026 PWS Name: Bladen Bluffs Water System PWSID#: NC5009012
 Month: September Facility Name: Bladen Bluff

Combined Filter Effluent (CFE) Turbidity

Samples exceeding 1 NTU (count):	<u>0</u>	Number of samples required:	<u>94</u>
Samples exceeding .3 NTU (count):	<u>0</u>	Number of samples taken:	<u>94</u>
Samples exceeding .3 NTU (pct):	<u>0.0%</u>	Highest single turbidity reading NTU:	<u>0.154</u>
		Monthly average turbidity NTU:	<u>0.062</u>

Individual Filter Effluent (IFE) Turbidity

1) Was each filter <u>continuously</u> monitored for turbidity?	Yes	<u>X</u>	No	<u></u>
2) Was each filter's monitoring results <u>recorded every 15 minutes</u> ?	Yes	<u>X</u>	No	<u></u>
3) Was there a failure of the continuous turbidity monitoring equipment?	Yes	<u></u>	No	<u>X</u>
4) Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements ?	Yes	<u></u>	No	<u>X</u>
5) Was any individual filter turbidity level > 0.5 NTU in two consecutive measurements at the end of 4 hours of operation after the filter has been backwashed or otherwise taken offline ?	Yes	<u></u>	No	<u>X</u>
6) Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements in each 3 consecutive months ?	Yes	<u></u>	No	<u>X</u>
7) Was any individual filter turbidity level > 2.0 NTU in two consecutive measurements in 2 consecutive months ?	Yes	<u></u>	No	<u>X</u>

Entry Point Residual Disinfectant Concentration (EPRD)

Disinfectant Used	<u>Chlorine</u>	Number of samples required	<u>94</u>
Minimum EPRD concentration	<u>0.6300</u>	Number of samples taken	<u>94</u>

Distribution Residual Disinfectant Concentration

Number of samples under 0.010 mg/L (without any detectable) excluding where HPC is $\leq$ 500/mL	<u>0</u>
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Contact Time (CT) Ratio

Lowest CT ratio reading	<u>29.20</u>	Number of CT ratios required	<u>17</u>
Number of CT ratios below 1.0	<u>0</u>	Number of CT ratios calculated	<u>17</u>

Remarks From General Info Worksheet

☒ By checking this box, the ORC certifies that the requirements of 15A NCAC 18C .1301 "General Requirements", .1302 "Tests, Forms, and Reporting", and .1303 "Facility Oversight" have been met for the month of September, 2026 and that records documenting compliance with this rule are maintained on the premises and available for inspection upon request.

NCDENR/DEH
 PWSS
 Version: V02.10-00

COMPLETED BY: James Kern

CERTIFICATE GRADE: A - Surface

CERTIFICATE NUMBER: 120147

New Business (NB1)

**Lower Cape Fear Water &
Sewer Authority**

AGENDA ITEM

To: CHAIRMAN PHILLIPS AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: October 12, 2026

Re: Resolution Accepting the *Lower Cape Fear Water & Sewer Authority Kings Bluff Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspection Report* (Jess Powell, P.E., McKim & Creed)

Background: The existing Standard Provisions for Water Supply Agreements with all customers and the current Bond Order require an annual inspection of all the facilities associated with the pump station by a qualified engineer to report on readiness, identify any deficiencies, and make recommended repairs and capital improvements. A copy of the report will be provided to Brunswick County Utilities as operator of the facility.

Enclosed is an excerpt of the report summarizing the inspection items.

Mr. Powell will present an overview of the report.

Resolution Accepting the *Lower Cape Fear Water & Sewer Authority Kings Bluff Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspection Report*

Action Requested: Motion to approve/disapprove.

**Resolution Accepting the Lower Cape Fear Water & Sewer Authority Kings Bluff
Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspection Report**

Whereas, the Lower Cape Fear Water & Sewer Authority, (the Authority) provides within its Standard Provisions for Water Supply Agreements with all customers in Article II, Section 2.5 entitled Inspection of the System, and which reads, in part, "As required by any applicable Bond Order, the Authority shall cause a consulting engineer to inspect the System at least once every 12 months and to submit to the Authority a report identifying any operational, maintenance, or repair problems of the Water System and setting forth for the next ensuing 12-month period his recommendations as to any revisions that should be made in the methods of operation or maintenance of the water system and any repairs that must be made to maintain the water system in such period;" and

Whereas, the existing Bond Order Series 2010 Section 7.06, Consulting Engineer reads, in part, "the Authority covenants that it will, for the purpose of carrying out the duties imposed on the Consulting Engineers by this Bond Order, employ an independent engineer or engineering firm or corporation as Consulting Engineers. The Authority further covenants that it will cause the Consulting Engineers to make an inspection of the System at least once each Fiscal Year and promptly submit to the Authority Executive Director a report setting forth (a) their findings whether the properties of the System have been maintained in good repair, working order and condition and whether they have been operated efficiently and economically and (b) their recommendations respecting the proper maintenance, repair and operation of the System during the ensuing Fiscal Year"; and

Whereas, the Authority budgets on an annual basis, appropriations for the operation and maintenance of the Kings Bluff Raw Water System with Brunswick County Utilities under a long-term Operation and Maintenance Agreement; and

Whereas, in accordance with the above references and the annual operating budget for FY 2026-2027, the Authority's consulting engineer has provided the Annual Inspection Report with recommendations for repairs or normal maintenance items; and

Now Therefore Be It Resolved, that the Chairman and Board of Directors for the Authority, accepts the *Lower Cape Fear Water & Sewer Authority Kings Bluff Regional Raw Water Supply Facilities FY 2026-2027 Annual Inspection Report*.

Adopted this 12th day of October 2026

Scott Phillips, Chairman

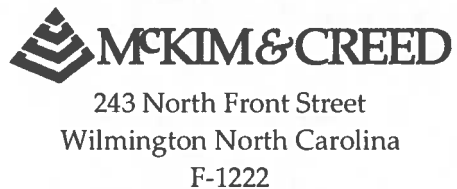
ATTEST:

Chakema Clinton-Quintana, Secretary

**Lower Cape Fear Water & Sewer Authority
Kings Bluff Regional Raw Water Supply Facilities
FY 2026-2027 Annual Inspection Report**



Prepared by



Prepared for



September 2026

**LOWER CAPE FEAR WATER AND SEWER AUTHORITY
KINGS BLUFF REGIONAL RAW WATER SUPPLY SYSTEM
ANNUAL INSPECTION REPORT
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SECTION 1 - INTRODUCTION

1.1 FACILITIES OVERVIEW AND HISTORY

The Lower Cape Fear Water and Sewer Authority is a regional organization with sponsoring members that are comprised of Bladen, Brunswick, Columbus, New Hanover, and Pender Counties, and the City of Wilmington. The Authority was created to aid development of a water supply system for the sponsoring member governments, which are primarily located in southeastern North Carolina (Refer to Figure 1 for a map of the Authority's current service area). The Authority's current facilities at King's Bluff consist of the following:

- Two (2) Raw Water Intake Pipes and Associated Intake Screens
- Kings Bluff Raw Water Pumping Station
- Interim Booster Pumping Station
- Raw Water Transmission Main Piping (48-inch and 54-inch)
- Raw Water Storage Reservoir
- Miscellaneous items such as SCADA, Metering Vaults, Air Release Valves, etc.
- Pump Station Standby Power (Kings Bluff Raw Water Pumping Station) consisting of Two Separately Housed Primary Diesel-Powered Generators with Automatic Transfer Switchgear.
- Two (2) oxidation catalysts installed on each primary standby generator.
- Transmission Main Pigging Facilities
- Air Surge Tank System

The Authority obtains raw water from the Cape Fear River via two (2) raw water intake pipes (48-inch and 60-inch diameter) located just above Lock & Dam No. 1 in Bladen County. Raw water is conveyed by various raw water transmission mains to several governmental and industrial users in the region. The Authority's current customers are as follows:

- Brunswick County (governmental entity)
- Cape Fear Public Utility Authority (CFPUA - governmental entity)
- Pender County (governmental entity)
- Invista (private industry)
- Praxair Incorporated (private industry)

Phase I of the Authority's facilities, completed in 1984, consists of a 45 million gallon per day (MGD) raw water pumping station and intake structure, approximately 14 miles of 48-inch transmission main, and a 3 million-gallon (MG) storage reservoir. Phase 2 extended the system

approximately 10 miles to serve the industries of Invista and Praxair along US 421 and the City of Wilmington. This phase consisted of 60-inch and 48-inch transmission lines that were placed into service in April 1992. The Phase 1 and Phase 2 facilities are shown in Figure 1.

In December 2003, the two 3.0 Megawatt (MW) standby generators were placed into full-time operational status at the Kings Bluff Pumping Station. The generators are housed in a separate building co-located with the pumping facilities at the Kings Bluff site. Major components of the standby power facilities include (2) reconditioned generators, automatic electrical switchgear, and (2) 12,000-gallon capacity fuel tanks. In 2007 the Authority completed a major rebuild of both 3.0 MW standby generators.

In 2005 it was recommended that the Authority conduct pigging of the 48-inch raw water transmission main to clean the pipe of the sedimentation and sand accumulation that was reducing the output due to increased friction in the pipeline. This project included the installation of pig launch and retrieval facilities and the completion of four (4) 'pig' runs to scour the pipe interior. The pig launch facility is located near the Kings Bluff Pumping Station, while the pig retrieval facility is located at the storage reservoir site.

In 2009 a comprehensive expansion and upgrade to the Kings Bluff Pumping Station was completed and included the following major components:

- Three (3) new 1,600 HP vertical turbine raw water pumps
- Additional wet well expansion to accommodate a total of five (5) raw water pumps
- New electrical building housing three (3) variable frequency drives
- New operations office with restrooms, shower facilities, and overnight accommodations
- SCADA and telemetry upgrades
- Valving and raw water main piping modifications for future parallel raw water main connection
- Retention of two (2) existing 1,000 HP vertical turbine raw water pumps (note that both 1,000 HP pumps have recently been permanently removed from the facility)
- Additional air surge tank

In 2010, a new 60-inch diameter parallel raw water intake pipe and three (3) intake screens were constructed at the Kings Bluff Pumping Station. The 60-inch intake was placed into service in December 2010 and was constructed parallel to the existing 48-inch intake pipe. The 60-inch intake piping and existing 48-inch intake pipe were designed and constructed such that the station can be supplied raw water from either intake pipe or both simultaneously, thus providing ultimate operational flexibility at the Kings Bluff facility. In conjunction with the intake project, a new integrated air backwash system and building was constructed adjacent to the original air backwash building. The purpose of the backwash system is to allow for periodic

cleaning of silt and debris buildup at the intake screens via a pressurized air burst through the screen assemblies.

Primary components of the parallel 60-inch intake system are as follows:

- 1,100 feet of 60-inch ductile iron intake pipe
- Three (3) *Johnson* stainless steel intake screens rated at 27.5 MGD each
- New air backwash building
- *Johnson Hydro-burst* integrated air backwash system and 1,550 Gallon air tank

Interim Booster Pump Station

In 2013 the Authority completed construction of the Interim Booster Pump Station (IBPS), which is located at the 3 MG ground tank site. The IBPS provides a capacity of 29.1 MGD, as well as increased pressures, to customers on the US Highway 421 portion of the system, which are Pender County, Invista, Praxair, and CFPWA. The IBPS consists primarily of three (3) diesel driven pumps that deliver increased flow and pressure to meet peak summer demands for Authority customers. Originally, the IBPS pumps, fuel cells, and standby generator were provided under rental agreement to the Authority with *Mersino Pumps*. However, the Authority has since purchased this equipment and the IBPS is a now permanent facility completely owned and operated by the Authority.

Primary Components of the IBPS are as follows:

- Three (3) diesel-driven pumps
- Three (3) 500-gallon capacity diesel fuel storage tanks
- One (1) 45 KW diesel generator
- 265 feet of 24-inch ductile iron pipe
- 700 feet of 48-inch ductile iron pipe
- Piping, valves, miscellaneous appurtenances
- SCADA/Telemetry controls for operation of the IBS

Hurricane Matthew Raw Water Main Failure

On October 13, 2016, a significant failure of the LCFWSA's existing 48-inch PCCP raw water transmission main was identified by staff in the community of Riegelwood, Columbus County, NC. The failure occurred in a low topographical area that has limited drainage and is prone to flooding. Upon identification of the leak, a multi-organizational effort to repair and restore the pipeline was undertaken. The repair effort included extensive dewatering, a temporary access

road, a temporary repair band, a temporary by-pass pipe, and full replacement of the failed pipe sections with DIP.

Based on evaluation of the failed transmission pipeline, it was determined that the pipe bedding and foundation had been undermined and that the pipe had settled causing the joints to separate and leak. In review of events leading up to the pipe failure, it was determined that Hurricane Matthew had passed the area on October 8, 2016, delivering 8-inches of rain over a 24-hour period. After this event, the nearby Cape Fear River crested at approximately 28 feet on October 13th-14th, 2016 which directly coincided with the pipeline failure of October 13, 2016. It was surmised that the flooded conditions and the significant impacts attributed to Hurricane Matthew undermined the pipe bedding and foundation, causing settlement of the pipe, separation of the pipe joints, and failure of the pipeline.

Repair efforts included the following:

- Installation of approximately 1,000 linear feet of 36-inch HDPE bypass piping with two (2) wet taps on the existing 48-inch main.
- Removal of approximately 80 linear feet of 48-inch PCCP raw water main.
- Installation of approximately 80 linear feet of new 48" DIP raw water main.
- New in-line 48-inch gate valve
- New 48-inch Tee

The total project cost to repair the pipeline was \$2,766,690, which was 100% reimbursed through FEMA disaster relief funds.

Pure Technologies SmartBall Inspection

As a result of the pipe failure and age of the existing 48-inch PCCP raw water main, the Authority contracted with *Pure Technologies* to perform a leak inspection of the 14-mile pipeline section from the Kings Bluff Raw Water Pump Station to the 3 MG Ground Tank. The inspection involved insertion of a "SmartBall" acoustic device in the pipeline for the length of pipe to be inspected. The "SmartBall" travels along the pipeline and utilizes acoustic methods to determine potential leaks along the pipeline. The field inspection of the pipeline was completed on May 18, 2017. Results from the inspection indicated no major leaks but did note a potential small leak near the 3 MGD Ground Tank. Based on the *Pure Technologies* report, the leak was likely the result of "bleed through" of the existing valve at the 3 MG ground tank and did not represent an actual leak from the pipe. No further action was taken upon completion of the report; however, McKim & Creed recommends that the existing valve at the 3 MG ground tank be monitored for potential leaks or other issues.

54-Inch Parallel Raw Water Main

In December of 2019, construction of a new parallel 54-inch raw water transmission main began and was placed into service in November of 2021. The project was subsequently completed in April of 2022 after installing strategic interconnections with the existing 48-inch pipeline. The new 14-mile pipeline now parallels the existing 48-inch raw water main from the Kings Bluff Raw Water Pump Station to the 3-million-gallon ground tank near the Brunswick County Northwest Water Treatment Plant. The pipe was constructed of welded steel with a cement mortar liner and exterior polyurethane coating. Cathodic protection for the new pipe was installed along the entire pipeline route. Four primary interconnections with the existing 48-inch raw water main were constructed to provide resiliency and operational flexibility for the conveyance system. With the completion of the new parallel pipeline, the Kings Bluff Raw Water Pump Station has a firm permitted capacity of 62 MGD.

Kings Bluff Raw Water Pump Station 4th Pump Design & Permitting

The Board of Directors authorized the design and permitting of a new 4th raw water pump for the Kings Bluff facility in July of 2020. The design was completed in the fall of 2020 and a permit modification was submitted to NCDEQ Public Water Supply to increase the station capacity to an anticipated 90 MGD. The modified permit was approved in February of 2021; however, the 54-inch parallel pipeline noted was not complete and operational at the time for the Authority to fully realize the increased capacity that would be available from the 4th pump; therefore, the project was put on hold until after completion of the pipeline. Since then, the Authority has moved forward with purchase and installation of the new 4th pump in the fall of 2025, with anticipated completion in the spring of 2027.

48-Inch Raw Water Main Failure near DAK Industries Site

On November 3, 2021, a pressure spike in the raw water transmission main system resulted in a significant failure of the LCFWSA's existing 48-inch PCCP raw water transmission main. The failure was identified by Brunswick County staff in the area behind the DAK Industries site near the Cape Fear River. Upon identification of the leak, a multi-organizational effort to repair and restore the pipeline was undertaken as downstream customers (CFPUA, Pender, 421 Industries) were receiving reduced flows as a result of the failure in the pipeline.

Brunswick County utilized their emergency services contract with State Utilities to mobilize personnel and equipment to the project area and begin installation of bypass piping and repair of the damaged pipe sections (approximately 220 feet total). The repair of the section of 48" pipe was completed on January 15th, 2022, and the line was restored to service. The total cost to complete the emergency repair was \$2,521,503.84.

Black Rock Rd. Raw Water Main Repair

In April of 2022 during a punch list inspection for the 54-inch raw water transmission main project, McKim & Creed staff observed water bubbling up from the ground along the 48-inch pipeline alignment near Black Rock Rd. With the new 54-inch pipeline in service, LCFWASA staff were able to isolate the section of pipeline to excavation and identify the leak. Brunswick County staff received bids to remove the two pipe segments on either side of the damaged joint and replace them with 48" ductile iron pipe the Authority had in storage. TA Loving was placed under contract to make the repairs, and this work was completed in August of 2022. The total cost of the repair was \$85,474.80.

Access Walkway over Livingston Creek

In January of 2023 Intracoastal Marine completed the installation of a walkway connecting the 54" steel pipe access walkway to a new walkway spanning the aerial portion of the existing 48" PCCP pipe. This new structure will be used for future maintenance and inspections of the existing 48" PCCP pipe.

Also completed by Intracoastal Marine during the same scope of work was a joint repair on the existing 48" PCCP elevated pipe where degradation of one of the existing joints had occurred. The contractor repaired the joint in accordance with specifications provided by the pipe manufacturer and at the direction of McKim & Creed's structural engineer. (See Photograph II)

54-Inch Parallel Raw Water Main – Phase 2

Phase 2 of the 54-inch raw water main project, which is a 7-mile extension of the previous project, is now substantially complete and in operation. The raw water system now has parallel raw water transmission mains between the 3 MG ground tank and the Pender County Plant feed at a new pipeline interconnection. Construction of Phase 2 began in January 2025 and was placed into service in April of 2026. Phase 2 was fully funded with Federal ARPA and NC General Assembly infrastructure grant funds.

54-Inch Parallel Raw Water Main – Phase 3

The Phase 3 project is a 3-mile extension from Phase 2 and will complete the last remaining section of parallel pipeline for the Kings Bluff system. The project will extend from the existing Pender County meter vault to the CFPUA meter vault where an interconnection is proposed. Design is currently underway and easements along US 421 are being negotiated. Construction is expected to begin following the completion of the Phase 2 pipeline. Phase 3 is partially funded with NC General Assembly infrastructure grant funds. An interlocal agreement has been executed to fund the remainder of the project.

1.2 BASIS OF ANNUAL INSPECTION

A condition of the authorizing Bond Order requires an annual inspection of all facilities by a qualified Engineer who shall report on their readiness, identify any deficiencies, and make recommendations on capital improvements.

1.3 OPERATING ARRANGEMENTS

The Authority maintains limited full-time staff, consisting of an Executive Director and an Administrative Assistant, for the administration of the Authority's programs and the coordination of water supply activities in the Region. The Authority contracts for operations and maintenance of the Regional Water Supply System with Brunswick County. The Brunswick County Utilities Department provides the personnel and resources to operate and maintain the Authority's raw water facilities and administers outside maintenance contracts as needed for effective operation of the system. Thus, Brunswick County is designated the "Contract Operator" of the system.

1.4 SCOPE OF WORK

The annual inspection program is comprised of several major focus points:

- Detailed in-the-field inspection of the Kings Bluff Pumping Station, pipeline route, air relief valve assemblies, line valves, metering stations, reservoir facilities and grounds, and general appurtenances throughout, to assess general level of maintenance and to identify the need for equipment replacement, repairs, or remedial activities.
- Review of Authority's operation and maintenance records, protocols, and processes to identify the level of maintenance and potential adjustment toward improved efficiency.
- The identification of capital improvements or major repairs that merit immediate attention or further investigation and definition.

The results and findings of this annual inspection are summarized in the following sections of this report. The FY 2026 - 2027 inspection of the Authority's facilities was conducted during August 2026.

SECTION 2 - KINGS BLUFF PUMPING STATION

2.1 GENERAL STATUS

The components of the Kings Bluff Pumping Station consist of:

- A 48-inch raw water intake pipe with three 15 MGD intake screens and air backwash system with a total rated capacity of 45 MGD
- A 60-inch raw water intake pipe with three 27.5 MGD intake screens and air backwash system with a total rated capacity of 82.5 MGD
- Three 1,600 HP vertical turbine pumps with variable frequency drives
- Two 3.0 MW (medium Voltage) primary backup generators with oxidation catalysts
- Two 12,000-gallon concrete diesel fuel tanks
- Electrical building and operators control room
- SCADA and telemetry system for monitoring and control
- 24 miles of 48-inch and 60-inch raw water transmission main
- Three (3) air surge tanks
- Pig Launcher & Pig Retriever on 54" RWM
- 14 miles of 54-inch raw water transmission main
- 4- Interconnections between "48" RWM and 54" RWM
- 24" & 30" Pressure Reducing Valve Assemblies
- Flow Meter Vault
- Elevated Platform with ARV and piping over Livingston Creek for both 48" PCCP pipe and 54" STL pipe.

2.2 EQUIPMENT AND SYSTEM INSPECTION SUMMARY

An inspection of all major equipment was completed, and the findings are tabulated in *Appendix A*.

2.3 PUMP OPERATIONS

Power Sources

Primary power is purchased from Duke Energy Progress at Medium Voltage levels (4,160 Volts). The level of service provided enables the pumping station to be operated at its full rated capacity with two of the three 1,600 HP electrically driven pumps operating in parallel.

In the event of primary power interruption, the two 3.0 Mega Watt generators at the Kings Bluff pumping station energize automatically to provide dedicated, reliable power to the pumping station. The generators allow the raw water pumps to be started and operated in order to meet the raw water demands of the Authority's customers. Overall, the generators were reviewed and found to be in good operating condition (see comments regarding generator 2 in Appendix A).

In addition to providing emergency power to the station, LCFWSA entered into a power curtailment agreement (Demand Response Automation – DRA) with Duke Power. Under this agreement, the Authority's emergency power system was activated when requested by Duke causing the plant load to be shed from the main utility power system. For each activation, the Authority received compensation which was then used to offset the cost of operating the pump station. The generators are equipped with catalytic converters that meet required NCDEQ Air Quality Emissions standards to maintain participation in the DRA program. LCFWSA has a separate contract with PowerSecure to monitor the performance of the catalytic converters to ensure they are operating within the Air Quality constraints.

The Authority's SCADA system and main computers, upgraded in 2009 as part of the pump station expansion/upgrade, are sufficient for current operations. Staff indicated during the inspection that the Authority will be installing security cameras system in the very near future.

Pumps, Electrical, and HVAC Facilities

Noted in the 2014 inspection, Pumps 2 and 3 (1,000 HP each) have been permanently removed from the old pump station section. Openings have been capped and conductor conduits have been capped flush with the slab.

During the 2016 inspection staff suspected that Pump 4 had a cooling water leak in the upper bearing chamber that could be contributing to the high temperature. It was recommended that this be inspected and addressed immediately. The Authority staff did investigate this issue and no leak was found. As a protective measure, the Authority has purchased a spare cooling coil in the event of failure of a cooling coil on the 1600 HP pumps. The coil is interchangeable with each pump.

In June 2017, Pump 4 was removed from service due to an oil leak and was then repaired by Charles Underwood Pump Company. After the pump was placed back in service, the bearing was observed to be operating at a lower temperature, similar to or slightly lower than Pumps 1

and 5. A definitive answer was not provided by the pump manufacturer as to the reduction in bearing temperature; however, it has continually operated in a normal range since this repair and appears to be in satisfactory condition.

During this year's inspection, the 1,600 HP vertical turbine pumps (installed as part of the 2009 expansion/upgrade of the Kings Bluff facility) were inspected and found to be in good condition and meet the needs of the Authority's customers (See *Appendix F - Photograph A*). During this year's inspection, it was observed that the pump #4 check valve dash pot was leaking and the hydraulic fluid line to the lower pump bearing had a small leak. Staff indicated they would address both shortly. (See *Appendix F- Photograph B*).

During the last inspection, the building exterior masonry wall exhibited spalling at a few of the lower horizontal joints facing the river. This spalling is exposing the horizontal reinforcing which is turn is corroding. As of this inspection, the area remains unchanged. Area is being monitored by staff. (See *Appendix F- Photograph C*).

The 1,600 HP pumps are controlled by a separate electrical control room housing variable frequency drives and motor starters. During the 2016 inspection, it appeared that the masonry wall to wall joints located inside the new pump station electrical building had shifted producing cracked paint at the intersection of the walls. The most noticeable crack is located on the masonry wall joint located west of the westernmost roll up door. Since the 2016 inspection, Engineer reviewed the joints and found that the issue was not structurally detrimental; however, it was recommended that staff should continue to monitor the issue. During this inspection, visual observation indicated that the size of the separation did not appear to have increased (See *Appendix F - Photograph D*). It is recommended that the wall separation continue to be monitored.

Adjacent to the new electrical control room is an HVAC room housing the HVAC equipment. As for this inspection, no issues were observed in the room.

Pump Station Metering

The raw water pump station is provided with two flow meters that measure flow leaving the station. In the past, the flow meter readings at the station have been significantly different than the sum of the customer flow meters. Historically, the summation of the customer meters has been generally within 1-2% of the station meter totals. Per our understanding, County staff has conducted field testing and determined that the customer flow meters appear to be within acceptable ranges; therefore, customer billing appears to be normal and generally accurate. It is recommended that the County and Authority continue to monitor the metering conditions for accuracy at the Kings Bluff Pump Station. No issues were reported during this year's inspection. The flow meter vault was inspected and found to be in good condition *Appendix F - Photographs E*.

2.4 EXTERNAL DIESEL FUEL TANKS

The two 3.0 Mega Watt standby generators are supplied by (2) 12,000-gallon concrete fuel tanks, which are located adjacent to the generator building. The tanks were installed with a 110% secondary containment wall to capture overflow, ruptures, or spills of diesel fuel. During previous inspections, significant efflorescence was noted to exist on the tanks, suggesting coatings failure. Currently one of the two tanks is leaking. The leaking tank has been isolated and temporarily replaced with a rented tank. The rented tank will be permanently replaced with a larger tank during a future project. (See *Appendix F – Photograph F*). Also while on site, it appeared there was significant corrosion on a section of overhead exterior fuel piping. It is recommended this piping be further investigated and if found to be compromised, it should be replaced during the diesel tank replacement project. (See *Appendix F – Photograph G*)

2.5 PUMP STATION BUILDINGS

The combined new and old pump station buildings were inspected and found to be in good overall condition.

During a previous inspection, cracks were found in the concrete flooring of the new pump room. These cracks were analyzed and monitored and do not appear to be detrimental to operations. During this inspection, it did not appear the cracks had grown or widened and thus it is recommended staff continue to monitor them for change.

2.6 GROUNDS

The grounds consist of a paved access drive and parking area, and the grass area surrounding the pumping station. During 2003 a new chain link security fence was installed around the complete pump station site. The new fence has an electronically controlled gate with a keypad entry system which was installed during the spring of 2003. The fence provides an enhanced level of security for the pumping station and the maintenance staff.

In recent years, sink holes have appeared behind the pump station, at the generator building transformers, and at the small generator. The Authority recently implemented repairs to a leaking storm drainpipe as well as capping an abandoned pipe that was suspected of contributing to the sink hole issues.

During this inspection, significant erosion on the upper ditch side slopes was noted. (See *Appendix F – Photograph H*) It is recommended these slopes be restored and stabilized. In addition to the erosion, the protective bridge mounted over the fiber optic conduit crossing the ditch has worsened from previous inspections. It is recommended that the bridge be replaced or other actions taken to protect the exposed conduit exposed below it. (*Appendix F – Photograph I*)

2.7 AIR SURGE TANK SYSTEM

The air surge tank system consists of three tanks and provides for surge relief and protection from water 'hammer.' During the 2019 inspection, it was noted that the anchor bolts which secure the steel air tank piers to the concrete base footings had been replaced.

During the 2024 inspection, it was noted that the paint was failing in several areas especially on the tank drain valves and tank #3 and that all exterior small diameter piping needed insulation replaced or installed. Since that inspection, tanks have been painted and all drain lines insulated.

During last year's inspection and this year's, the two older tank surge control systems were found to be in operation but the third was not. Staff again indicated that they had no issues with the operation of the system, however they had noted that the controls would lose tank pressure over time and that the automatic filling system did not appear to keep up with the loss. As a result, staff has been manually adding air periodic to maintain the desired level (*See Appendix F – Photograph J*). As was previously noted, it is recommended that all three control systems be serviced to address the air loss and adjust control settings to the dual pipeline and three-tank scenario. It the understanding at this time that the panels will be replaced with a common panel when the 4th surge tank is installed during a future project.

Previously with regards to tank 3 exterior level controls, it was recommended that the control and level piping mounted to the tank be heat traced insulated. All piping is small in diameter and thus susceptible to freezing. During this inspection, staff noted that they were draining the exposed piping prior to freezing weather thus mitigating the issue.

In addition to the items above, it was noted during this inspection that tank 3 was exhibiting small areas of spalling paint. It recommended these areas addressed to limit the advancement of corrosion.

2.8 AIR BACKWASH WALKWAY STRUCTURE

The pipe corridor of the 60-inch intake pipeline is located parallel and adjacent to the existing pier. During this inspection, vegetative cover is established over the area, and that the area is dry (*See Appendix F - Photograph K*). While on site, staff indicated vegetation would be removed in the near future to maintain the area.

As a follow up, the area was trimmed September 1st. (*See Appendix F - Photograph K'*).

During the 2018 inspection, it was observed that the pier and walkways to the air-backwash control buildings needed repair. Several deck boards and handrails were in poor shape. During the 2019 inspection, it was noted that some repairs had been made (stair and plank replacement); however, more are still required. Also noted in previous reports, several areas on the older building's wall panels are still showing signs of rot.

As for this inspection, the dock remains in poor condition (See *Appendix F - Photograph L*). Design of a replacement pier structure and air backwash building are currently underway and anticipated to be completed in 2027.

2.9 GENERATOR BUILDING

The generator building was inspected, and findings are presented in *Appendix B*. The facility was found to be in good condition. Staff noted that during the Duke Energy curtailments (and other events) excessive heat is generated inside the building even when all exhaust fans are on and the exterior roll up doors are open. Staff noted the excessive heat causes damage to the batteries adjacent to the generators.

To eliminate the battery damage issue, the staff has completed the installation of an air-start system on the generators. As noted during prior inspections, the building interior insulation surface has been damaged by the heat, making it brittle. As noted during the previous inspection, the insulation had been removed and spray foam insulation applied to all interior wall surfaces. Building interior and exterior were observed to be in good condition.

Generator radiators were inspected during this visit and were found to be in operable condition. As noted previously, rust has advanced significantly on the underside fan shroud. It is recommended that staff continue to monitor the area for corrosion.

As was noted during previous inspections, the pneumaticator (or tank leak detection) panel located within the generator electrical room was found to be in alarm status again; however given the sensors at the tanks appear inoperable, it is doubtful the alarm status currently shown is correct. It is understood, that when the leaking tank is replaced the leak sensor will be addressed.

During this year's inspection (2026), the station's generators were not started, however one issue of importance was noted. Staff indicated that during a recent preventative maintenance visit, the technician noted there were signs that there was possibly a coolant and oil leak on generator no. 2. In fact, radiator fluid was present outside the generator in various areas surrounding the water pump as evidence of a leak. It is recommended this issue be investigated further and remedied. (See *Appendix F – Photograph M*).

2.10 LIGHT DUTY GENERATOR

As noted during the last inspection, staff indicated that the light duty generator was no longer in operation and will not be serviced further.

2.11 STAFFING

The Authority currently contracts with Brunswick County Utilities for O&M staffing for its raw water facilities and does not directly employ any O&M staff. Generally, the station is not

manned 24 hours per day and on-site operator duties are shared by multiple County employees on staggered work shifts.

2.12 RADIO ANTENNA

The antenna, fencing, and support equipment appeared to be in good working order. The antenna was struck by lightning within the past year and was serviced as a result. Due to the lightning strike, a new PLC was installed in the communication cabinet. During this work, Staff installed a new empty 2-inch conduit from the antenna to the generator building for a future fiber optic connection to the tower which will be installed shortly.

2.13 ON SITE POTABLE WELL

In 2019, staff installed a water line (1-inch service) from a Bladen County water line tap to the pump station. The existing well system was switched over to County water, mitigating the quality issue. There were no water quality issues noted in this year's inspection.

2.14 INTAKE SCREEN/AIR PIPING AND WARNING SIGNS

As for this inspection, there is a new larger sign that warns boaters of the danger of backwashing intake screens. This new sign replaces the old, damaged sign as reported in previous inspections.

With regards to the backwash system air piping/system, the following were observed:

- Old Backwash System: An air leak has developed recently of the number 2 screen air back wash pipe. (See *Appendix F – Photograph O*). At this point, Owner will be excavating the break area to determine issue. In addition to the noted leak, 2 of the air discharge valves are not seating properly. Currently staff manually closes the valves manually. As the valves and tank will be replaced in the near future, addressing the concern at this time might not be necessary since system is still operational.
- New Backwash System: An air leak developed on Screen 1 air backwash piping some time ago. Owner/Engineer is currently working to address the issue with the help of Intercoastal Marine Inc. In addition to leak, HOA switch on screen 2 is inoperable. It is recommended switch operation be addressed as it is a simple matter and directly affects operation.

2.15 SEPTIC SYSTEM

The facility provides wastewater disposal via a small pump system with an on-site subsurface drain field. In 2019, Staff indicated the system grinder pump had been replaced recently and that the system was operating without issues. During this inspection, there was no indication of septic issues observed.

SECTION 3 - RESERVOIR & INTERIM BOOSTER STATION

3.1 GENERAL

The three-million-gallon (MG) raw water ground tank is located near Brunswick County's Northwest Water Treatment Plant and is surrounded by an earthen berm to hold any overflow which may spill out of the storage tank. There is a small control building adjacent to the tank and the entire site is enclosed within a chain link fence. The ground tank is in good condition as are most of the other components at the 3 MG ground tank site.

The tank is made of pre-stressed concrete, coated with an external paint system for protection and appearance. There are several places where visible seams on the outside wall of the tank appear to have calcification due to leaks, but no visibly wet seams were noted (See *Appendix F - Photograph JJ*). During the previous inspections, O&M staff indicated that the *Crom Corporation* (original tank manufacturer) had been contacted to evaluate the seams and provide recommendations for repair.

Interim Booster Pump Station

The interim booster station (IBS) was inspected and found to be in excellent condition and no issues were present that required corrective action. It is recommended that O&M staff periodically test the system for functionality and develop/modify protocols as required for maintenance and operation. It is also recommended that the IBS be exercised and tested under actual flow conditions to ensure proper operation when the IBS is required. It should be noted that staff document and operate this station weekly to ensure it is standby ready.

Interim Booster Pump Station Freeze Damage

In January 2017, the interim booster station sustained damage as a result of freezing temperatures. The pumps are equipped with drain valves and air release valves, which froze and burst because of abnormally low temperatures during this period. Additionally, damage was sustained to electronic controllers used for pump operation, likely a result of a lightning strike. As of the date of this report, all pumps have been repaired and are operational. Brunswick County staff are in the process of conducting pump tests in conjunction with Pender County and CFPUA to verify operational viability of all components. It is our understanding that Brunswick County will also develop a Standard Operating Procedure to test the pumps periodically.

In November 2018, the Authority obtained bids to implement improvements to the facility to include a shelter-style cover, freeze protection, and additional lighting. Based on the bids received, the Authority chose to delay the improvements to a future date.

Once construction of the Phase 2 and Phase 3 parallel pipeline projects are completed, the booster pump station will no longer be required to meet peak demands.

SECTION 4 - PIPELINE

4.1 GENERAL

The Authority's original pipeline was constructed in two phases. The first phase, which was constructed in the early 1980s, was comprised of approximately 73,000 linear feet (LF) of 48-inch diameter pre-stressed concrete cylinder pipe. The raw water main was extended in the early 1990s in a subsequent phase, which included approximately 52,300 feet of 60-inch and 48-inch diameter pre-stressed concrete cylinder and ductile iron pipe. Air relief/vacuum valves are located at high points on the pipelines to allow trapped air to be vented from the pipeline and to allow the introduction of air into the pipeline in the event that 'vacuum' conditions occur. No inspections were made of the underground sections of the raw water main, however, the pipes are safely within the expected useful life of their respective materials and no significant issues are anticipated with the raw water transmission system. The pipeline between the Kings Bluff station and the 3 MG ground tank was pigged in 2005. While not critical to current operations at this time, a future pigging project should be considered to maintain maximum transmission capacity.

The 2022 completion of the parallel 54" pipeline has added 73,000 feet of pipe to the system, paralleling the original 1980s pipeline. Phase 2 of the parallel 54" pipeline project, which extends from the 3 MG ground tank to the Pender County meter vault, began construction in January 2025 and was placed into service in April 2026. Phase 2 adds an additional 35,000 feet of parallel raw water main to the system. Funding has been secured for the third and final phase, which is currently under construction and is anticipated to be completed in the spring of 2027. The project will span from the Pender County interconnection to the CFPWA vault and future interconnection, extending the parallel raw water main an additional 15,000 feet.

4.2 RIGHT-OF-WAY

The pipeline right-of-way was inspected and found to be in good condition. A substantial portion of the pipeline right-of-way includes a gravel/soil access road, and farmland or adjacent railroad right-of-way and is well maintained and in good condition. The majority of the right-of-way is well maintained with adequate accessibility. The entire right-of-way width of 75' was cleared during the construction of Phase I - Parallel 54" RWM. Several wet areas are frequently inaccessible due to water levels in swampy areas and highly overgrown areas (See *Appendix F - Photograph AA*). It is recommended that these areas be mowed/cleared when possible and inaccessible areas inspected. Garney Construction is currently working on installing water main piping for Phase 2 from the 3 MGD Ground Tank to Pender Plant and were observed to be working behind DAK Industries at the time of the inspection. During the inspection, part of the R/W corridor was blocked off and not accessible near the DAK facility due to construction activities.

In 2005, all vaults and blow offs were marked within the right-of-way with high visibility 8-foot PVC pipe markers to assist with mowing activities. However, it is noted that the orange paint has faded, and the PVC pipes show signs of deterioration (See *Appendix F - Photograph BB*). Any deteriorated marker post should be replaced with blue marker post with LCFWSA name and number.

The raw water main is also identified in the field by markers, which are blue in color with the Kings Bluff phone number stenciled in front. It also has "Lower Cape Fear Water & Sewer Authority" identified on the front of the marker with the phone number to the main office listed. This provides a visual notification of the approximate location of the pipeline and can help avoid potential impacts from construction, etc. within the Authority's right-of-way. It is recommended that the Authority maintain pipeline markers at all roadway crossings throughout the pipeline corridor.

The recently completed Phase I - 54-inch parallel pipeline provided "blue" utility markers to denote the location of new pipeline along the right-of-way corridor. It is recommended that the remainder of the right-of-way be inspected, and marker posts replaced or added as needed (See *Appendix F - Photograph CC*)

4.3 AIR RELIEF VALVES

The air relief valves on the raw water mains consist of a 6-inch valve to expel air and a 2-inch air valve to allow air into the pipe when drained, thus preventing a vacuum. Periodic exercising and verification of "open condition" is necessary for these valves to protect the pipeline from excess air surges, and possible rupture. Similar to blow-off valves, it is recommended that these valves be exercised at least once per year to maintain operational viability. Additionally, there are 25 new air relief valves along the 54" RWM route as shown in *Appendix F - Photograph DD*. The photos show the existing ARV and new ARV on the 54" RWM. See *Appendix C* for a list of inspected air relief valves.

4.4 BLOW-OFF VALVES

The blow-off valves located on the original Phase I and II pipelines were inspected and appear to be in good condition. It is recommended the blow off valves be exercised at least once per year to ensure continued operability. Additionally, the blow-off valves should be repainted regularly, and new marker posts set on each side. See *Appendix D* for a comprehensive list of inspected blow-off valves on the 48" RWM. There are a total of 8 new blow-offs along the Phase I - 54" RWM route. See *Photographs GG* of existing blow-off and new blow-offs on 54" RWM.

4.5 METER VAULTS

Metering facilities are installed at the customer connections at Brunswick County, Praxair Inc., Invista, and CFPUA. Standby power exists at all meters and allows the Authority to collect data during major power outages and minimizes the amount of non-billed water due to loss of

commercial power. All meters were inspected and appear to be in good working condition. It is recommended that all piping be evaluated and routinely painted at each vault as required. A summary of the inspection of all meter vaults is provided in *Appendix A*.

4.6 CHECK VALVES

The 48-inch check valve manholes were opened during this inspection. All check valves appear to be in good condition and no major problems were identified (See *Appendix E*). It is recommended that all valves be evaluated and routinely painted at each vault as required.

4.7 EMERGENCY CONNECTION – PREVIOUS DAK INDUSTRIES SITE

During repair of the pipeline that failed following Hurricane Matthew, Brunswick County installed an emergency connection to the existing raw water main near the former Dak Industries site. The connection consists of a tap on the main line, a valve, and an above ground connection pipe. The intent of this connection is to provide a potential emergency water source, whereby water could be withdrawn from the previous Dak Industries fire pond or possibly from the nearby Cape Fear River. Based on field inspection, this emergency connection is in good condition and requires no corrective action. It is recommended that the valve be periodically operated, and the external piping painted on a yearly basis. The connection is shown in *Appendix F – Photograph EE*. This area is mowed twice per year under the ROW maintenance contract.

4.8 PIPELINE INTERCONNECTIONS AND VALVING

Construction of the new 54-inch parallel raw water main was completed in April of 2022. Garney Construction has installed approximately 74,000 linear feet of 54-inch raw water transmission main pipe. The pipeline was placed into service in November of 2022 and the 48-inch PCCP raw water main was taken out of service to install strategic interconnections along the 14-mile alignment. There are a total of four interconnections between the 54-inch pipeline and the 48-inch pipeline between the pump station and the 3 MG tank. The interconnections are located at the following locations:

- 1.) Narrow Gap Road
- 2.) John Reigel Road
- 3.) Blue Banks Road
- 4.) Behind BC Northwest Water Treatment Plant adjacent to the new flow meter vault.

(See *Appendix F – Photograph HH*)

It is recommended that Staff continue to exercise all interconnection valving on an annual basis.

4.9 GENERAL

The Authority utilizes both electronic and manual record keeping monitoring the operation of its raw water facilities. The SCADA system provides indication of and continuously records vital operational statistics for the major mechanical components located at the pumping station, raw water storage reservoir and the metering vaults. The O&M staff have the capability to generate manual as well as electronic records reflecting the pumping station's normal operations. The current level of record keeping provides the O&M staff with a means to review information for critical analysis of system performance and diagnostics for critical malfunctions.

4.10 ELECTRONIC RECORD KEEPING

The SCADA system provides the capability to expand the O&M staff's electronic record keeping. Operators can utilize the SCADA system to create custom reports to reflect pumping station operations, log difficulties, maintain long-term records, and to provide 'trending' of the station operations. Internet access allows the operator to electronically receive and send files and provides efficient communication abilities. Operational trends for flow (total and specifically for each customer) can be easily obtained via the CITEK software that is utilized at the Kings Bluff Pumping Station. Thus, the Authority has instantaneous access to all relevant data collected by the SCADA system and the CITEK programming.

SECTION 5 - SUMMARY

5.1 RECOMMENDED ACTION ITEMS

The Authority's Regional Water Supply System, consisting of the Kings Bluff Pumping Station, Interim Booster Pumping Station, standby generators, pipelines, metering vaults and the 3 MG raw water storage reservoir is in good condition and sufficient state of readiness. The facilities have been well maintained and are fully capable of providing a high level of service to its customers.

Items identified in this report that require attention or corrective actions are summarized as follows and detailed in the enclosed appendices. Items with a **(New)** designation are items that were observed during the current year inspection and all others are items that are routine annual items or remain from the previous year inspection findings:

Kings Bluff Pump Station Facility, Raw Water Intakes & Air Backwash Systems

1. Continue to monitor bearing temperatures for all raw water pumps.
2. Continue to monitor meter accuracy at the Kings Bluff Pump Station.
3. Continue to Monitor storage containment area in pump building for leaks during rain events.
4. Clean surge tank vessels periodically
5. Verify proper operation of surge tank control systems.
6. **Address/repair coolant /oil leaks associated with generator 2.**
7. Continue to monitor and replace broken deck boards and handrails on piers leading to air backwash buildings until new construction is complete.
8. **Address both air backwash main line leaks.**

Generator Building

1. **Replace tank and address failed leak detection system.**

3-Million-Gallon Ground Reservoir & Interim Booster Pump Station

1. Calcification present on exterior tank wall. O&M staff should continue to monitor the tank walls for any new cracks or leaks.
2. Sidewalk at the Ground tank is beginning to wash out and become unsafe
3. Generator back up for control room – replace battery

Raw Water Main Transmission System and Right of Way

1. Continue Right of Way mowing for overgrown areas along pipeline route.
2. Continue to monitor and evaluate need to paint manhole ring and covers and concrete flat-tops for manholes, valves, blow-offs where required.
3. Continue to maintain/replace as required pipe markers along right of way and NCDOT intersections.
4. Continue to exercise all valves and blow-offs annually.
5. **Cathodic Protection System – Schedule 5-year inspection for 2027**

END OF REPORT

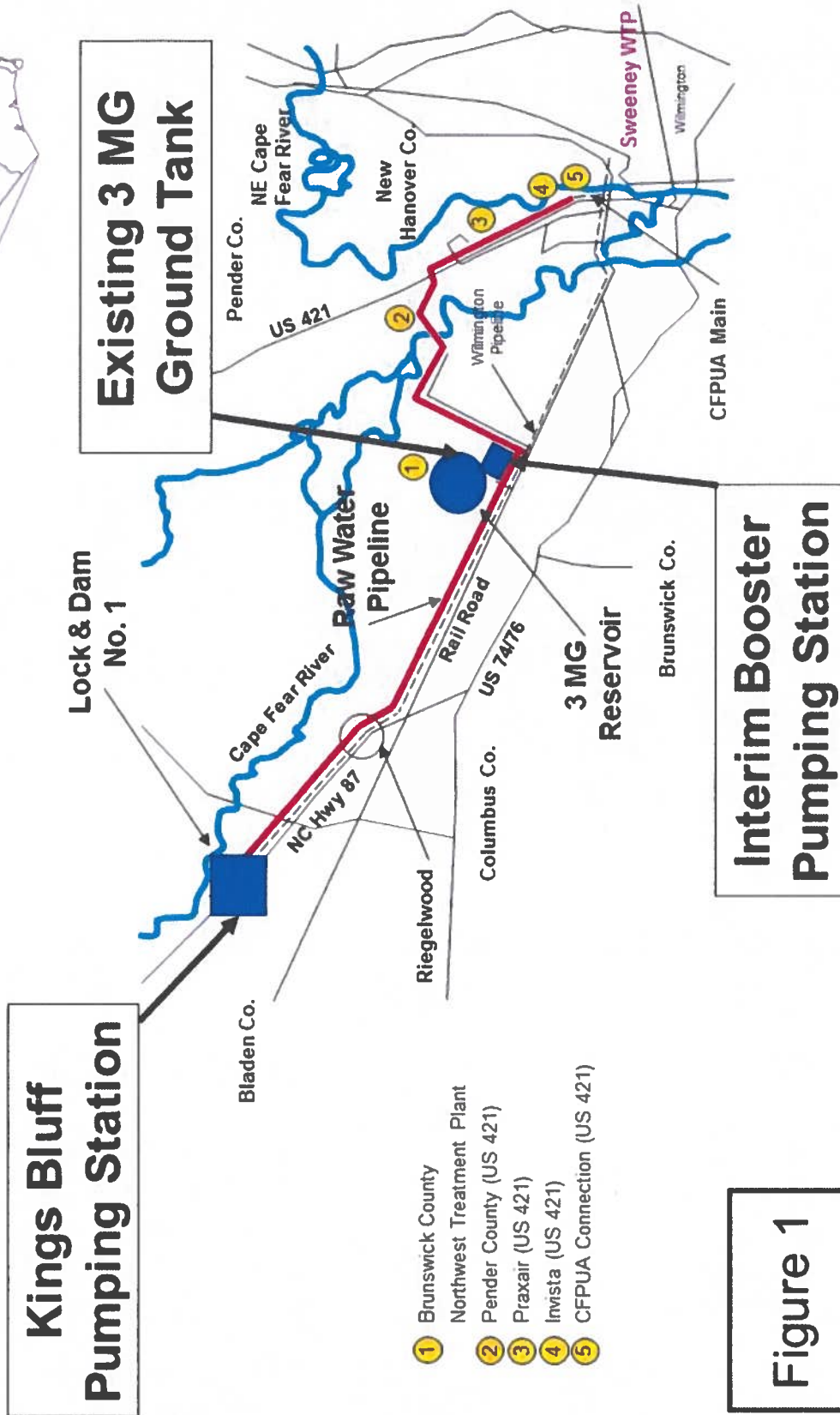


**Kings Bluff
Pumping Station**

**Existing 3 MG
Ground Tank**

**Interim Booster
Pumping Station**

Figure 1



Kings Bluff Pumping Station Annual Inspection

Lower Cape Fear Water and Sewer Authority

Appendix A – Pumping Station Facility, Ground Reservoir, Meter Vaults Annual Inspection

Equipment	Satisfactory	Needs Attention	Remarks
<i>Grounds</i>			
Septic Tank	X		
Pump Station	X		
Phone Line	X		
Drainage	X		Significant vegetative growth observed in ditch near antenna along with significant side wall erosion.
Fence	X		
Radio Tower	X		
Site	X		Protective wood bridge/structure over fiber optic conduit requires replacement and signage. Wood only serves to protect conduit.
Valve Hand wheel Operators			NA- operators have been removed
<i>Original Pumping Station</i>			
Structure	X		
Flooring	X		
Roofing	X		
<i>Old Control Room</i>			

Equipment	Satisfactory	Needs Attention	Remarks
Air Conditioning - Office	X		
Lights	X		
Plumbing	X		
Water Heater	X		
Ceiling	X		
Service Sink	X		
Roof	X		
Bathroom	X		
Old Pump Room			
Lights	X		
Air Compressors #1	X		
Air Compressors #2	X		
Air Storage Tank #1	X		
Air Storage Tank #2	X		
Air Dryer	X		
Pump #1	X		Significant pump vibration observed. Staff indicated vibration has been investigated and is apparently tied to building harmonics of existing station.
Pump #2 Slot	X		
Pump #3 Slot	X		

Equipment	Satisfactory	Needs Attention	Remarks
Surge Tank Air and Water Piping & Control System Piping		X	Evaluate operational requirements of the surge system and service air leak within system.
Surge Tanks	X		Paint on tank 3 peeling in areas.
Original Pipe Gallery			
Structure	X		
Lights	X		
Piping	X		Pump 1 check valve requires painting.
Equipment	X		
Water Strainer	X		Control power light out on control panel.
Heater	X		
Fan	X		
New Control Room			
Ceiling	X		
Flooring	X		
Structure	X		
Bathrooms	X		
Storage Room	X		
Break Room	X		
Oil Storage Room	X		
New Pump Room			
Pump #4	X		See "Piping"

Equipment	Satisfactory	Needs Attention	Remarks
Pump #5	X		
Structure		X	Continue monitoring of masonry joints along exterior of East wall.
Lights	X		
Piping	X		
Flooring	X		
HVAC	X		
<i>New Pipe Gallery</i>			
Structure	X		
Lights	X		
Piping	X		Pump 4: Dashpot check valve leaking- requires service. Hydraulic line to lower pump bearing leaking.
Water Strainer	X		
Station Flow Meters	X		
<i>New Electrical Room</i>			
Electrical Equipment	X		
Ceiling	X		
Floors	X		
Walls	X		Continue to monitor wall separation. CMU wall at Northeast exterior door has crack. Staff to monitor.
Doors	X		
Overhead Doors	X		
<i>New HVAC Room and HVAC Equipment</i>			
Ceiling	X		

Equipment	Satisfactory	Needs Attention	Remarks
Floors	X		
Walls	X		
Doors	X		
Equipment	X		
Pier			
Structure		X	Maintain walkway to a minimum safe standard so staff can safely access the control buildings until the new structure is built.
Old Control Building	X		Rotten wall panels – Maintain building to minimum occupancy standard for safe entry and continued operation of the system until new structure is built
New Control Building	X		
Intake Pipe Site Maintenance	X		
48-Inch Intake Screens			
Piping	X		
Air Backwash Piping		X	Screen 2 air backwash line broken.
Controls	X		Indicator control light out.
660 Gallon Air Tank		X	Address 2 control valves that are failing to close completely.
60-Inch Intake Screens			
Piping	X		
Air Backwash Piping		X	Screen 1 air backwash line broken. Repair under contract.

Equipment	Satisfactory	Needs Attention	Remarks
Controls	X		Screen 2 HOA selector inoperable. Requires replacement.
1,550 Gallon Air Tank	X		
Instrumentation			
SCADA	X		
3 Million Gallon Reservoir & Interim Booster Pump Station			
Ground Storage Tank	X		Calcification remains on outside of tank
Interim Booster Pump Station System Testing	X		Pumps operated every week
Grounds	X		Sidewalk Washing out @ Tank
Control Building	X		Generator Needs Battery
Tower	X		
Instrumentation	X		
Pig Launcher	X		
Meter Vaults			
Brunswick Northwest			Not Active
Meter	X		
Piping	X		
Sump Pump	X		
Grounds	X		
Praxair -(Linde)			
Meter	X		All readings are satisfactory
Piping	X		
Sump Pump	X		Working But ground water present

Equipment	Satisfactory	Needs Attention	Remarks
Grounds	X		
Structure	X		ARV Leaking in MH behind structure
Invista- (Stepan)			At Maritime North Business Park
Meter	X		
Piping	X		
Sump Pump	X		
Grounds	X		
Structure	X		
CFPUA			
Meter	X		
Piping	X		
Sump Pump	X		
Grounds	X		
Structure	X		
Pender Vault			
Meter	X		
Piping	X		
Sump Pump	X		
Grounds	X		
Structure	X		

Equipment	Satisfactory	Needs Attention	Remarks
54" RWM Meter Vault			
Meter	X		
Piping	X		
Sump Pump	X		
Grounds	X		
Structure	X		

Kings Bluff Pumping Station
Lower Cape Fear Water and Sewer Authority
Appendix B – Generator Building Annual Inspection

Equipment	Satisfactory	Needs Attention	Remarks
Grounds			
Fencing	X		
Driveway Entrance	X		
Building	X		
Fuel Tank Area			
Exterior Piping	X		
Containment	X		
Tank #1	X		Tank leak sensor test button inoperable.
Tank #2		X	Tank leak sensor test button inoperable. Tank has failed and is leaking. Preparations underway to replace tank.
Tank Signage	X		
Diesel Tank Piping	X		Corrosion observed on overhead exterior diesel piping.
Generator Radiator	X		

Equipment	Satisfactory	Needs Attention	Remarks
<i>Garage Area</i>			
Storage Area	X		Exit light is inoperable and thus requires replacement.
Flooring	X		
<i>Generator Room</i>			
Generators #1 and Piping	X		
Generators #2 and Piping		X	Staff indicated a recent check by a technician indicated there was possibly a generator oil and water leak and recommended they be addressed.
Air Start System	X		
Lights	X		Several overhead lights out.
MCC	X		Several indicator lights need replacement.
Floors	X		
Ceiling/Roof	X		
<i>Electrical Room</i>			
Roll-Up Doors	X		
Walls	X		
Flooring	X		

Kings Bluff Pumping Station

Lower Cape Fear Water and Sewer Authority

Appendix C – Summary Air Relief Valve Annual Inspection

48" RWM Air Relief Valve No.	Station	Conditions/Remarks
1.	4+00	At Entrance Road to Kings Bluff Pump Station – Okay Condition
2.	37+65	Black Rock Road- Good Condition – Access is through a locked gate.
3.	97+50	Waterline Way – Off N.C. Hwy 11- Good Condition
4.	175+80	Narrow Gap Road- Good Condition.
5.	228+60	Carroll Johnson Farm- Good Condition
6.	268+50	Good Condition- "Big Field"
7.	293+15	Riegel Course Road (SR 1816) – Good condition
8.	322+60	Entrance to Federal Paper /IP (off Warren Ln.)
9.	383+00	At Livingston Creek on Elevated Pipe- Good Condition
10.	394+50	Behind Momentive Chemicals (Neil's Eddy Rd at Bethel Baptist Church) - OK.
11.	416+00	Ellis Farm Road - Good condition-
12.	426+80	In the field off 410 Ellis Farm Road. – Good Condition
13.	463+73	Mills Trail – Good condition. Off Port Royal Road
14.	529+55	Off access road adjacent to 5028 Gooseneck Road- Good condition.
15.	566+00	Off Vernon Rd.- In Pasture- Good Condition
16.	617+00	Off Northwest Road (SR1423) - (Peterson Land) -Good condition
17.	651+50	Between Rattlesnake Branch and Hood Creed. – Good Condition
18.	730+00	LCFWSA- Near 3 MG Raw Tank- Ground water present, underwater.

48" RWM Air Relief Valve No.	Station	Conditions/Remarks
19.	57+88	The Bluffs Entrance Road- Good Condition- Holding Lots of water
20.	145+00	In landscaping along entrance road to "The Bluffs - Good condition
21.	235+86	CF River at 90-degree bend behind DAK Industries/ DuPont- Good Condition
22.	248+90	DAK Industries/ DuPont at Hill- Good Condition
23.	295+57	DAK Industries- At Test Well # 11- Lots of water ARV Leaking
24.	369+10	Behind PCU-WTP - Entrance gained via Pender County Water Treatment Facility – ARV Apart- Good Condition
25.	446+97	5400 US Hwy 421 North-Billy Phelps Trucking. Steel visible at coupling at pipe joint as noted previous years. Diaper securing band shows deterioration
54" RWM Air Relief Valve No.	Station	Conditions / Remarks
1	101+75	Good Condition – Behind Generator Building
2	141+50	Good Condition – East of Macon Property-
3	200+25	Good Condition – Along Waterline Way
4	225+00	Good Condition – West side of Weyman Creek
5	279+56	Good Condition – Traynham Gate
6	321+25	Good Condition – Eastside of Double Branch
7	332+55	Good Condition – Woodburn Property
8	397+12	Good Condition – East of Reigel Course Road
9	425+81	Good Condition – Off John Reigel Road
10	468+25	Good Condition – Behind IP
11	477+50	Good Condition – Behind IP
12	488+66	Good Condition – Livingston Creek
13	500+10	Good Condition – East side of Livingston Creek

48" RWM Air Relief Valve No.	Station	Conditions/Remarks
14	526+54	Good Condition – East side of Neils Eddy Road
15	534+25	Good Condition – Ellis Farm
16	568+79	Good Condition – Off Mills Trail / Port Royal Road
17	600+30	Good Condition -East side of Grice Property
18	634+86	Good Condition – Goose Neck Road
19	658+75	Good Condition – Carroll Farm
20	722+21	Good Condition – Peterson Farm
21	750+90	Good Condition – Duke Energy Easement
22	755+87	Good Condition – East side of Duke Easement
23	774+50	Good Condition – West side of Hood Creek
24	792+75	Good Condition – East side of Hood Creek
25	800+83	Good Condition – Behind NW Water Plant

Summary of Recommended Action Items:

1. All concrete vaults appear to be in good condition. Recommend repainting all existing manhole ring and covers. Repaint all existing air relief valves, blowoffs, check valves, butterfly valves and piping should be repainted "blue".
2. Blow-Off Valves and Air Release Valves need to be exercised on an annual basis. It was discussed with staff that some of the valve boxes are not plumb so getting to the top nut on the valve may be difficult. Recommend KB staff review and ensure that valves can be accessed and operated as required to maintain the system. Several ARVs are currently under contract to be replaced.
3. Mowing is needed in areas. Currently under contract.

Pipeline Annual Inspection

Lower Cape Fear Water and Sewer Authority

Appendix D – Summary 12" Existing Blow-Off Valves Annual Inspection

12" Blow Off Valves on 48" RWM	Station	Conditions/Remarks
1.	70+00	Blanks Farm- OK -
2.	122+00	N.C. Hwy 11 / Weyman Creek- Good condition
3.	221+00	"Big Field" - Good condition
4.	358+00	At International Paper – Good condition.
5.	439+00	Off Ellis Farm Road - Good condition
6.	487+00	Gooseneck Road- Good condition
7.	685+80	Hood Creek, Behind NWWTP - Good condition

12" Blow Off Valves on 54" RWM	Station	Conditions/Remarks
1.	175+40	Beaver Dam Creek – Good Condition
2.	228+30	Weyman Creek- Good condition
3.	323+25	Woodburn Farm - "Big Field" - Good condition
4.	506+90	Mills Creek – Good condition.
5.	543+50	Ellis Farm - Good condition
6.	588+02	Bear Branch Road- Good condition

12" Blow Off Valves on 54" RWM	Station	Conditions/Remarks
7.	749+50	Rattlesnake Branch - Good condition
8.	789+65	Hood Creek – Good condition

Summary of Recommended Action Items:

1. Recommend operation of blow-offs on an annual basis.
2. Recommend all blow-off structures on 48" RWM to be re-painted "blue" as paint has faded and deteriorated.
3. Mowing contract shall include cutting all grass away from all structures within Right-of-Way.

Kings Bluff Pumping Station
Lower Cape Fear Water and Sewer Authority
Appendix E – Photographs



Photograph A – Pump #4 and #5



Photograph B – Check Valve on Pump #4 Dash Pot Leaking



Photograph C –Corroding Masonry Wall Joints



Photograph D – Masonry Control Joint in Electrical Room



Photograph E – Raw Water Flow Meter Vault



Photograph F –Generator Diesel Storage Tanks



Photograph G – Generator Fuel Transfer/Feed Piping



Photograph H – Upper Ditch Erosion



Photograph I –Failing Protective Bridge



Photograph J - Surge Tank Controls



Photograph K- Vegetative Cover Surrounding Pier Prior to Trimming



Photograph K'- Vegetative Cover Surrounding Pier Post Trimming



Photograph L - Dock Condition



Photograph M – Generator #2 Coolant Leak



Photograph O –Old Backwash System Leak



Photograph R – Generator Coolant Piping



Photograph S – Leaking Air Lines to 60 inch Intakes



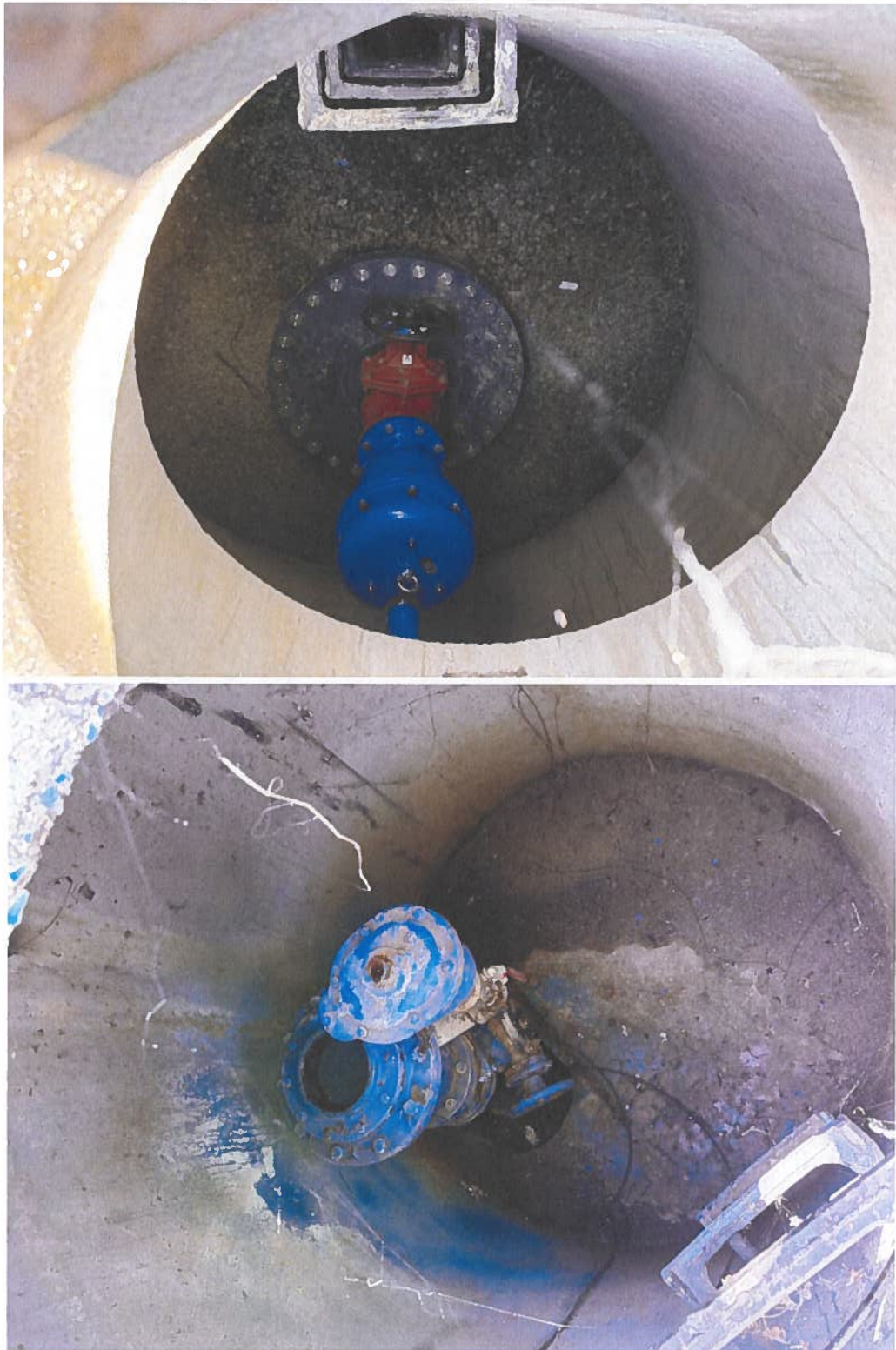
Photograph AA – Structure Damage during construction of 54" RWM



Photograph BB – Area Along Right of Way



Photograph CC – Leaking ARV at Praxair



Photograph DD – Old ARV on 48" RWM and New ARV on 54" RWM



Photograph EE- Right of Way to Pond behind DAK



Photograph FF- Old Blow-off on 48" RWM and new Blow-off on 54" RWM



Photograph GG- Interconnect off Blue Banks Loop Road



Photograph HH- 3 Million Gallon Ground Storage Tank



Photograph II- 3 Million Gallon Ground Storage Sidewalk



Photograph JJ- 3 Million Gallon Ground Storage Tank Calcification

AGENDA ITEM

To: CHAIRMAN PHILLIPS AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: October 12, 2026

Re: Resolution Accepting the *Lower Cape Fear Water & Sewer Authority Bladen Bluffs Regional Surface Water Treatment Facilities FY 2026-2027 Annual Inspection Report* (Jess Powell, P.E., McKim & Creed)

Background: The existing Standard Provision for Water Supply Agreements with all customers and the current Bond Order requires an annual inspection of all the facilities associated with the pump station by a qualified engineer to report on readiness, identify deficiencies, and make recommended repairs and capital improvements. A copy of the report will be provided to Smithfield Foods, the operator of the facility.

Enclosed is an excerpt of the report summarizing the inspection items.

Mr. Powell will present an overview of the report.

Resolution Accepting the *Lower Cape Fear Water & Sewer Authority Bladen Bluffs Regional Surface Water Treatment Facilities FY 2026-2027 Annual Inspection Report*

Action Requested: Motion to approve/disapprove

**Resolution Accepting the Lower Cape Fear Water & Sewer Authority
Bladen Bluffs Regional Surface Water Treatment Facilities
Annual Inspection Report for FY 2026-2027**

Whereas, the existing Bond Order Series 2010, section 7.06 entitled *Consulting Engineer* reads, in part, "the Authority covenants that it will, for the purpose of carrying out the duties imposed on the Consulting Engineers by this Bond Order, employ an independent engineer or engineering firm or corporation as Consulting Engineers. The Authority further covenants that it will cause the Consulting Engineer to make an inspection of the System at least once each Fiscal Year and promptly submit to the Authority Executive Director a report setting forth (a) their findings whether the properties of the System have been maintained in good repair, working order and condition and whether they have been operated efficiently and economically and (b) their recommendations respecting the proper maintenance, repair and operation of the System during the ensuing Fiscal Year";

Whereas, the Authority budgets on an annual basis appropriation for the operation and maintenance of the Bladen Bluffs Regional Surface Water System with Smithfield Farmland Company under an Operation and Maintenance Agreement dated March 1, 2012;

Whereas, in accordance with the above references and the annual operating budget for FY 2026-2027, the Authority's consulting engineer has provided the Annual Inspection Report acknowledging the condition of the system with a focus on normal maintenance items; and

Now Therefore Be It Resolved, that the Chairman and Board of Directors for the Authority, accepts the *Lower Cape Fear Water & Sewer Authority Bladen Bluffs Regional Surface Water Treatment Facilities Annual Inspection Report for FY 2026-2027*.

This Resolution adopted this 12th day of October 2026.

Scott Phillips, Chairman

ATTEST:

Chakema Clinton-Quintana, Secretary

**Lower Cape Fear Water & Sewer Authority
Bladen Bluffs Regional Surface Water Treatment
Facilities**

FY 2026-2027 Annual Inspection Report



Prepared by



243 North Front Street
Wilmington North Carolina
F-1222

Prepared For

Lower Cape Fear Water and Sewer Authority



September 2026



**LOWER CAPE FEAR WATER AND SEWER AUTHORITY
BLADEN BLUFFS REGIONAL SURFACE
WATER TREATMENT FACILITY
ANNUAL INSPECTION REPORT
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SECTION 1 - INTRODUCTION

1.1 FACILITIES

The Lower Cape Fear Water and Sewer Authority is a regional organization with sponsoring members that are comprised of Bladen, Brunswick, Columbus, New Hanover, and Pender Counties, as well as the City of Wilmington. The Authority was created to aid development of a water supply system for the sponsoring member governments, which are primarily located in southeastern North Carolina. The Authority currently owns and operates, in partnership with Smithfield Farmland Corporation, the Bladen Bluffs Regional Surface Water Treatment Facility (BBRSWTF), which sources its raw water supply from the Cape Fear River. The facility is a 6.0 million gallon per day (MGD) drinking water facility located near the Town of Tar Heel in Bladen County, opposite the Smithfield Farmland Corporation Facility on NC Highway 87. Construction was completed March 1, 2012, and the facility was placed into service on April 1, 2012. Primary components of the facility include:

- 30 MGD Raw Water Intake
- 12 MGD (Current Maximum Pumping Capacity) Raw Water Pumping Station & Raw Water Pipeline. The Raw Water Pumping Station includes two (2) - 6 MGD pumps, with a slot for a third future pump.
- Four (4) Sand Filters
- Flocculation and Settling Tanks
- Two (2) - 1.7 MG Residuals Basins
- Two (2) Standby Generators
- Four (4) Granular Activated Carbon Tanks
- Chemical Building
- Administration Building
- Two (2) - 2 MGD Clear Wells (Owned by Smithfield Farmland Corporation)

The Bladen Bluffs facility exclusively provides treated water to Smithfield Farmland Corporation, as there are no other customers served by BBRSWTF at this time.

1.2 BASIS OF ANNUAL INSPECTION & SCOPE OF WORK

A condition of the authorizing Bond Order requires the following shall be provided by an independent engineering firm:

- Inspect the project at least once each fiscal year
- Prepare a report that sets forth:

- ✓ Whether the properties or facilities have been maintained in good repair, working order, and condition
- ✓ Whether they have been operated efficiently and economically
- Recommendations with respect to maintenance, repair, and operation of the facility during the ensuing Fiscal Year, and an estimate of the appropriations that should be made for such purposes
- The insurance to be carried for the facility per the bond requirements
- Extensions, improvements, renewals, and replacements that should be made during the ensuing fiscal year
- Any necessary or advisable revisions to the service charges

The results and findings of this annual inspection are summarized in the following sections of this report. The FY 2026-2027 inspection of the Authority's facilities was conducted in August 2026.

1.3 OPERATING ARRANGEMENTS

The Authority maintains limited full-time staff, consisting of an Executive Director and an Administrative Assistant, for the administration of the Authority's programs and the coordination of water supply activities in the Region. The Authority contracts for operations and maintenance of BBRSWTF with Smithfield Farmland Corporation. Smithfield Farmland Corporation provides the personnel and resources to operate and maintain the Authority's water treatment facility and administers outside maintenance contracts as needed for effective operation of the system. Thus, Smithfield Farmland Corporation is designated the "Contract Operator" of the system. Currently, BBRSWTF operates on a 5-day work week (Sunday through Thursday) and the treatment process is in shut-down mode over most weekends. This schedule varies depending upon the production requirements of the Smithfield Farmland Corporation facility.

SECTION 2 - BLADEN BLUFFS SURFACE WATER TREATMENT FACILITIES – INSPECTION AND FINDINGS

A summary of the findings and recommendations, based on inspection of the Bladen Bluffs Regional Surface Water Treatment Facility, is provided in *Appendix A*. Detailed findings for each primary process or facility are summarized as follows.

2.1 RAW WATER PUMP STATION

A) Intake Screen

The intake screen system is submerged in the Cape Fear River (See *Appendix B – Photograph A*). The raw water intake system is comprised of three (3) submerged screens, each with individual stainless-steel air backwash piping. Screen markers installed during previous repairs to the airlines in 2016 were removed by subsequent hurricanes. To date, markers have not been replaced. Additionally, the shoreline sign denoting the existence of the screens was damaged during Hurricanes Matthew and Florence but has since been replaced and was noted in good shape during the 2025 inspection. Also, in the Fall of 2018 Hurricane Florence impacted river air backwash piping and a significant portion of the shoreline eroded. This erosion exposed a portion of the stainless-steel backwash air piping. As a result of the erosion, LCFWSA applied for and was granted FEMA funding to restore the eroded bank. The restoration project, Bladen Bluffs Regional Surface Water Treatment Facility Cape Fear Riverbank Restoration Project was completed in 2020 and successfully restored the bank to its original condition. The project integrated a mixture of bioengineering techniques and rip rap to provide protection from future erosion along the riverbank. As noted in a previous inspection, erosion had re-occurred along the restored bank due to several high-water events. The bulk of the erosion had occurred on the upstream portion of the bank according to plant staff. The eroded area was repaired and replanted by a contractor. Due to the growth of vegetation along the slope, pictures of the area were difficult to attain; however, during this inspection what could be observed did not indicate any further erosion (See *Appendix B – Photograph B*). During the 2024 inspection, it was observed that staff installed a camera near the intake warning sign, allowing them to continuously monitor the river level, even during backwashing events. During the 2026 inspection, the bank, signage, and camera were found to be in good condition.

B) Grounds

The grounds at the Raw Water Pump Station and the screen-access boardwalk were reviewed during this year's inspection. The grounds had recently been mowed, were in good condition, and showed obvious evidence of the current drought. As noted during last year's inspection, the boardwalk requires repair. Several walkway and handrail boards were distressed and require replacement, and the boardwalk exhibited substantial lateral instability. No changes or modifications appeared to have been made since the previous inspection. It is recommended that the distressed portions of the boardwalk be repaired or reconditioned, that compromised

handrail and deck boards be replaced, and that the lateral movement be investigated and addressed. (See *Appendix B – Photographs C and D.*) The dock lights were also observed to be on during the inspection. Staff will determine whether the photocell has failed.

C) Wet Well and Pumps

The wet well and associated piping were reviewed during the inspection and found to be in good working order. Most items previously identified for correction have been addressed, including installation of a wet-well level transmitter display cover and replacement of the failed main-hatch alarm sensors. The only outstanding item was the absence of a confined-space entry placard on the wet-well lid. (See *Appendix B – Photograph E.*) A placard is also required for the vault associated with the wet well. Because this was a common issue throughout the plant during the last inspection, staff installed several placards and are awaiting another shipment to complete the remaining installations.

D) Electrical Building

Building and electrical devices are in good condition (See *Appendix B – Photograph F.*) Bug infestation prevention measures installed five years ago by staff appear to be working. During this inspection, condensation from overhead air handling unit was leaking into the room which suggests a plugged drain. It is recommended the leak be addressed to not become a larger issue.

E) Generator/Tank and Automatic Transfer Switch

During the field inspection, staff indicated that the generator and transfer switch are being exercised on a regular basis. During this inspection, no issues were noted that would require immediate corrective action. (See *Appendix B – Photograph G.*)

F) Access Road to Pump Station

Overall, the road is in excellent condition. Areas along the access road that previously eroded during heavy rainfall were repaired by raising the road elevation and preventing water from flowing over the road. Conditions observed during this inspection indicate that the repair has stabilized the road. Vegetation adjacent to the road was also being trimmed to maintain access. (See *Appendix B – Photograph H and I.*)

G) Air Backwash Compressor Skid

Staff indicated that they have had no issues with operating the system. Skid framing corrosion was noted during this visit and thus it is recommended that it be addressed. (See *Appendix B – Photograph J.*)

2.2 INFLUENT FLOW METER VAULT

During this inspection, the vault was found to be in good condition, however a small amount of water was noted in the vault. For this reason, staff have implemented a regular vault-pumping schedule using a mobile sump pump system. Staff services the entire site with the mobile pump as most if not all have small leaks that require evacuation. As was noted during the last inspection, the fiberglass flow meter display box was deteriorating, and the flow meter digital display was found to be without a cover. As for this inspection, a rain/sunshield has been installed removing the sun from both the display and the fiberglass box. (see *Appendix B – Photographs K and L*).

2.3 FLOCCULATORS & RAPID MIX BASIN

The flocculators consist of two four-part flocculation chambers with four 1-horsepower mixers in each flocculator. This facility appeared to be operating properly with the exception of one mixer. A service technician was on site troubleshooting the mixer.

The rapid mix basin equipment consists of the rapid mix structure and two 10-horsepower mixers. No issues were observed for this facility during the inspection.

2.4 SEDIMENTATION BASINS

There are two (2) basins that are emptied and washed as necessary (See *Appendix B – Photograph M*). The sludge from the basins is pumped directly into tanker trucks and is then hauled off for land application disposal utilizing a subcontractor. No issues were observed requiring corrective action for this facility during the inspection. Staff indicated that based on the level of solids observed in the basins at time of inspection, they would be emptied in the Fall, provided the conditions of the disposal fields are acceptable for application.

2.5 FILTERS

The facility is equipped with four (4) sand filters, which are currently backwashed every 96 hours. All filters appeared in good condition. Staff indicated they were currently experiencing issues with the motor operators associated with gates used to control water in and out of the filters. Apparently, one had failed and was serviced then another failed. Staff are concerned that this might be the start of a larger repair activity given all were installed at the same time and thus all may fail at the same time. Staff are currently working to address the issue. (See *Appendix B – Photograph N*).

2.6 FILTER PIPE AND VALVE GALLERY

A) Concrete Structure Walls

As observed during previous inspections, several calcified non-leaking cracks were observed. This type of crack is common in heavy cast-in-place concrete construction. Most cracks observed were mildly damp, which may be attributed to the area dehumidifier being out of service. Staff indicated a repair crew was on site replacing the desiccant module in the dehumidifier. During a previous inspection, a small leak was observed coming from behind the transformer located in the "additional" filter area. This crack was active during this inspection. (See *Appendix B – Photographs O and P*).

Staff noted during the last inspection that work was underway to replace the power feeders to motor operated valves in the gallery and above the gallery. As of this inspection, work has been completed.

2.7 TRANSFER PUMP STATION AND VAULT

A) Pump Station

The pump station interior, exterior, and controls were inspected and found to be in good condition and operating properly.

B) Pump Station Valve Vault

The vault was inspected and found to be in good working order; however, a small amount of water covered the floor. Staff will address using mobile pump. (See *Appendix B – Photograph Q*).

C) Transfer Pump Station Check Valve Vault

During this inspection, the valve vault was found to be flooded, and the vault sump pump was not energized. It is recommended that the sump pump be repaired, and/or the vault be dewatered utilizing a mobile pump on regular basis. (See *Appendix B - Photograph R*).

2.8 GRANULAR ACTIVATED CARBON VESSELS

The GAC vessels are operational, as was requested by the State. The vessels are filled with a new type of granular activated carbon recommended by Calgon. Staff indicated that the carbon in Vessels 1 and 2 is scheduled for replacement this fall. Corrosion of the vessel hatches noted in last year's report has been addressed. Corroded pipe supports extending from the tankage, as noted in previous inspections, have also been repaired and painted. (See *Appendix B – Photograph S*).

Mag-flow meters used to meter the flow through the filters appear to be in good condition and fully functional. It was noted in the 2020 inspection that the flow meter displays for the mag meters were missing covers to prevent deterioration from the sun. Covers were in place as of this inspection.

2.9 CHEMICAL ROOM

A) Chemical Tanks and Pumps

The facility was inspected in its entirety, and it appeared to be functioning as intended. Staff stated that they were currently working to service chemical pump heads on several pumps – mainly chlorine and caustic. Staff also noted a chlorine transfer pump had failed and that they were awaiting a new pump head. Pump issues were not impacting production as all have redundant systems. (See *Appendix B – Photograph T*).

B) Building, Tankage, and Electrical Room

The structure and tankage were inspected, and no issues were found. Leaking water and chlorine lines noted during a previous inspection have been addressed. Corrosion of the structure columns/base plates noted previously appears to have been addressed. It is recommended that the column/base plate corrosion be addressed annually as the chemicals and their associated environment will cause this to be an ongoing issue requiring continual maintenance. (see *Appendix B – Photograph U*).

Aside from these issues, the building is in good condition. The electrical room was also inspected, and found to be in good condition, with the A/C functioning properly (see *Appendix B – Photograph V*).

C) Chemical Carrier Water

As noted in previous inspection reports, staff changed the chemical carrier water from the Bladen County system to increase reliability and reduce costs. In the process of doing so, the staff added a backflow preventer (RPZ) which is currently mounted in the caustic chemical containment area. In the unlikely event that the caustic tanks rupture, caustic could submerge the RPZ, thus preventing the RPZ from functioning as intended. It was recommended then that Smithfield address the RPZ installation location with PWS (Public Water Supply) to verify there is no issue with its location from a regulatory standpoint. As of this review, the RPZ remains in its original location.

2.10 ADMINISTRATION BUILDING

No issues were noted in the administration building at the time of the inspection. The transfer-pump electrical room was in good condition; however, a few control lights on the transfer-pump VFDs had failed. Staff indicated that replacement lights had been ordered. (*Appendix B – Photograph W*).

2.11 RESIDUALS BASINS

During the inspection, the basins were observed to be in good condition (See *Appendix B – Photograph X*).

During a previous inspection, staff noted a tear in the liner at an outfall connection slab. The staff had a specialist review the issue and make recommendations for correction. To date, the repair has not been made but may be corrected in the future when the basin is out of service.

2.12 BBRSWTF EMERGENCY POWER

A) Generator

The generator was inspected and found to be in good condition. No corrective actions are required.

B) Diesel Storage Tank Leak Detection Panel

During this inspection, the diesel tank level panel display appeared to be reading correctly thus no issues were reported. (See *Appendix B – Photograph Y*).

2.13 NPDES METER VAULT

The NPDES meter vault and associated chemical injection vault serve to control the discharge water for both pH adjustment and de-chlorination before entering the river. During this inspection, the meter vault was completely dry unlike other inspections (See *Appendix B- Photograph Z*).

The chemical-injection vault associated with the NPDES vault was observed to be partially flooded; however, the water level remained below the piping. It is recommended that the vault be inspected and dewatered more frequently using the mobile sump pump or another suitable method. (See *Appendix B- Photograph AA*).

2.14 RECYCLE PUMP STATION/METER VAULT

As with previous inspections, the recycle system was reviewed; however, according to staff information, the system was not in use due to economic reasons. Staff indicated, at that time, they were supporting other instruments by utilizing parts associated with the recycle system that were no longer functional. No further inspection of this facility was made.

2.15 SCADA – TELEMETRY SYSTEM

Based on conversations with Staff and cursory review of the SCADA system, there are no known issues that were identified for corrective measures at the time of the inspection. Staff

previously incorporated new VT Scada software which provides redundancy within their server system. In case there is an issue with one of their SCADA systems, there is now a standby system that can be utilized if required.

2.16 OPERATION OF FACILITY

Based upon observation of the facility and procedures currently employed by Staff, it is the opinion of McKim & Creed that the facility has been operated efficiently and effectively.

2.17 FISCAL YEAR APPROPRIATIONS

No major appropriations for the upcoming fiscal year are anticipated beyond the contracted operations and maintenance agreement responsibilities.

SECTION 3 - INSURANCE PROVISIONS AND SERVICE CHARGES

3.1 INSURANCE PROVISIONS

A cursory review of the Authority's fiscal year 2026/2027 insurance coverage was conducted and was noted to be similar to that of the previous year. At the time of this report, the coverage was deemed to be sufficient, and no major changes are recommended.

3.2 SERVICE CHARGES

At the time of this report, Smithfield Farmland Corporation is the only customer currently provided treated water from BBRSWTF; therefore, no changes to the current service charges are applicable.

Appendix A – Summary of Inspection Items

Bladen Bluffs Regional Surface Water Treatment Facility - Annual Inspection

Lower Cape Fear Water and Sewer Authority

Facility	Satisfactory	Needs Attention	Remarks
<i>Raw Water Pump Station</i>			
Intake Screens	X		
Grounds	X		
Wet Well	X		Replace confined space entry placard.
Deck		X	Replace compromised deck and handrail boards. Investigate and address lateral stability of dock structure. Service dock lights photocell.
Electrical Building	X		Address HVAC condensate leaking into room.
Generator and ATS	X		
Valve Vault	X		Replace confined space entry placard.
Blowdown Compressor Equip.	X		Recommend addressing support framing corrosion.
<i>Rapid Mix Basin</i>			
Influent Flow Meter	X		
Structure	X		
Mixers	X		
<i>Flocculators</i>			
Flocculation Chambers	X		
Mixers	X		One mixer currently under repair
<i>Sedimentation Basins</i>			
Basins	X		
Air Operated Sludge Pumps	X		Not Used
<i>Filters</i>			
Filters 1, 2 and 3	X		Motor operator for flow control valve failed- scheduled for repair.

Filter 4	X		Monitor wall leaks
Filter Pipe and Valve Gallery			
Structure Walls	X		Crack leakage needs to be monitored.
Structure Floors	X		
Piping	X		
Environment	X		Dehumidifier not working but currently being serviced.
Transfer Pump Station & Vault			
Pump Station	X		
Pump Station Valve Vault	X		
Pump Station Check Valve Vault	X		Manhole partially flooded.
Granular Activated Carbon Vessels			
Vessel Exteriors	X		
Chemical Room			
Chemical Tanks	X		
Chemical Pumps	X		Maintenance on going.
Piping	X		
RPZ Location	X		
Building	X		
Administration Building			
Building	X		Clean blower room
Electrical Room	X		Replace failed control lights on Transfer Pump VFDs
Residuals Basins			
Basins	X		Make liner repair as time allows. Clean out vegetation within pond and in outfall.
BBRSWTF Emergency Power			
Generator and ATS	X		
Diesel Storage Tank Panel	X		
Effluent Flow Meter Vault			
Meter Digital Display	X		
NPDES Meter Vault			

Meter Digital Displays	X		
<i>Recycle Pump Station</i>			
Meters and Displays	X		
<i>Instrumentation</i>			
SCADA & Telemetry	X		
NPDES Chemical Addition Vault			
Vault	X		Address flooded vault

Appendix B – Photographs



Photograph A – Intake Location



Photograph B – Cape Fear Riverbank Restoration Project Area



Photograph C – River Access Walkway



Photograph D – River Access Walkway Underside



Photograph E – Intake Wet Well



Photograph F – Raw Water Pump Station Electrical Room



Photograph G – Raw Water Pump Station Generator Fuel Tank



Photograph H – Raw Water Pump Station Access Road



Photograph I – Raw Water Pump Station Access Road



Photograph J -Raw Water Pump Station Backwash Compressor



Photograph K – Influent Flow Meter Vault



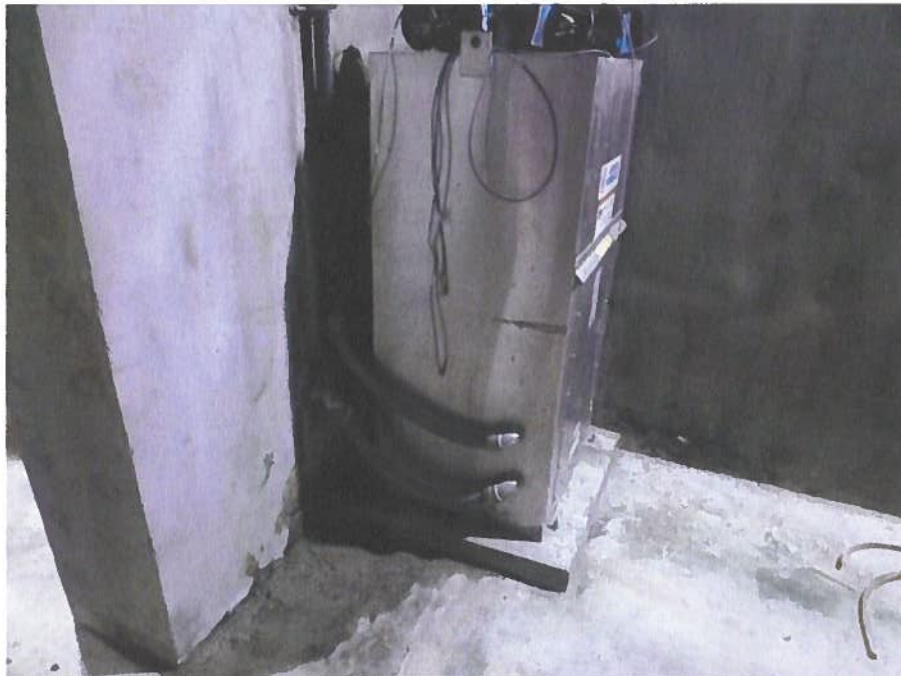
Photograph L – Influent Flow Meter Vault



Photograph M – Sedimentation Basins



Photograph N – Flocculation Basin and Filter Area



Photograph O – Filter Gallery Leak at Transformer



Photograph P – Filter Gallery Walls



Photograph Q –Transfer Pump Station Valve Vault



Photograph R –Transfer Pump Station Check Valve Vault



Photograph S - GAC Filters



Photograph T - Chlorine Transfer Pump



Photograph U - Chemical Building Column Base Plates



Photograph V- Chemical Building Electrical Room



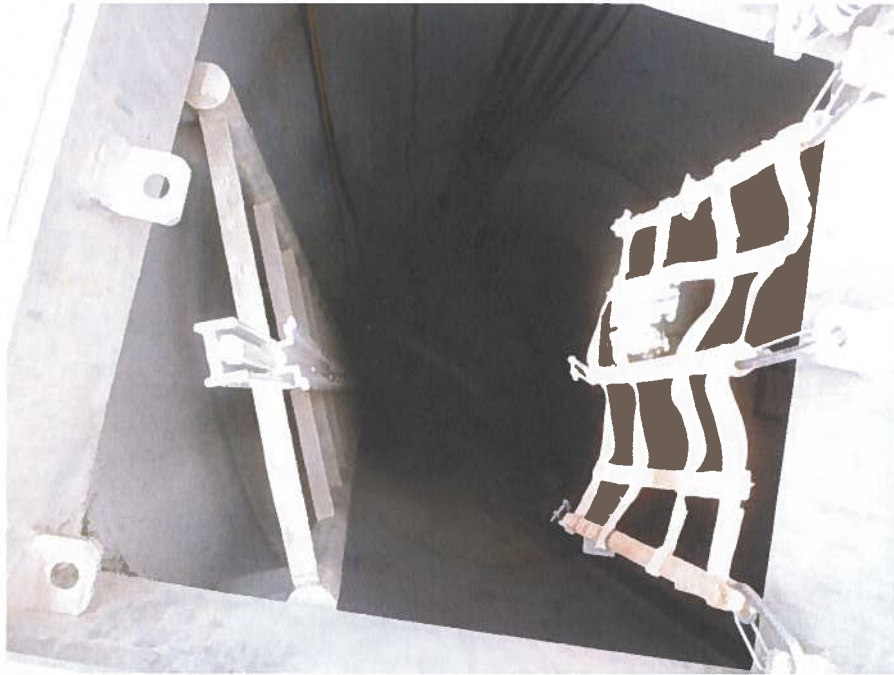
Photograph W- Administration Building Electrical Room



Photograph X- Residuals Basins



Photograph Y- Facility Generator Diesel Tank Leak/Level Panel



Photograph Z- NPDES Compliance Meter Vault



Photograph AA- NPDES Compliance Chemical Injection Vault

AGENDA ITEM

To: CHAIRMAN PHILLIPS AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: October 12, 2026

Re: Resolution Approving Contract with HDR Engineering, Inc. of the Carolinas for Owner-Advisor Services (Phase 1 – Preconstruction) for 100 MG Reservoir Project

Background: The Authority received State funding for land acquisition and preliminary engineering and design of a 100-million-gallon reservoir to provide additional water storage capacity and improve the reliability of the regional raw water supply system. At the July 13, 2026, meeting, the Board selected HDR Engineering, Inc. of the Carolinas to serve as Owner-Advisor for the project. The proposed Phase 1 agreement covers preconstruction services through the 60% design phase at a cost not to exceed \$525,603.63. Phase 2 services will be presented for Board approval at a later date.

Action Requested: Motion to approve/disapprove.

**LOWER CAPE FEAR WATER AND SEWER AUTHORITY BOARD OF DIRECTORS
RESOLUTION APPROVING CONTRACT WITH HDR ENGINEERING, INC.
OF THE CAROLINAS FOR OWNER-ADVISOR SERVICES (PHASE 1 –
PRECONSTRUCTION) FOR 100 MG RESERVOIR PROJECT**

WHEREAS, the Lower Cape Fear Water and Sewer Authority (“Authority” or “LCFWASA”) serves Brunswick, Bladen, Pender, New Hanover, Columbus Counties, and the City of Wilmington with a Board of Directors representing those local governments. As the largest regional water system in Eastern North Carolina, LCFWASA’s primary role is to provide raw water from the Cape Fear to supply treatment facilities that serve 550,000 customers;

WHEREAS, LCFWASA received State funding to acquire land and perform preliminary engineering and design for a 100 million gallon reservoir and associated infrastructure (the “Project”);

WHEREAS, the purpose of the proposed 100 million gallon reservoir is to provide reserve capacity and backup water supply during periods when intake from the Cape Fear River may be disrupted due to drought, floods, hurricanes, storms, equipment failure, maintenance needs, or contamination events;

WHEREAS, the reservoir Project will also help regulate the flow of water to treatment plants by leveling out fluctuations in river flow and water demand, which will allow customer treatment processes to operate more efficiently and consistently;

WHEREAS, LCFWASA has acquired land in Brunswick County, North Carolina, suitable in size and location for the reservoir Project;

WHEREAS, LCFWASA has conducted a preliminary reservoir feasibility evaluation for the proposed new ground reservoir, including preliminary costs, permitting requirements, and water quality parameters;

WHEREAS, major components and associated infrastructure of the Project would include the excavated reservoir, earthen berm surrounding the reservoir, service road(s) to provide access, raw water pump station and building(s) for electrical and pumping equipment, generators and fuel tanks for emergency backup power and associated building(s) and structures;

WHEREAS, following LCFWASA’s issuance and advertisement of a Request for Qualifications (RFQ) from professional engineering firms to provide Owner-Advisor services to LCFWASA for the reservoir Project, the LCFWASA Board of Directors (“Board”) selected HDR Engineering Inc. of the Carolinas (“HDR”) to serve as LCFWASA’s Owner-Advisor for the Project at the Board’s July 13, 2026 Meeting;

WHEREAS, LCFWASA has now agreed upon a scope of services with HDR for Phase 1 (Preconstruction) Owner-Advisor Services, which includes services from Notice to Proceed through the 60% design phase, with a Guaranteed Maximum Price (GMP) of \$525,603.63, as more particularly set forth in the proposed *Agreement Between Lower Cape Fear Water and Sewer Authority and HDR Engineering, Inc. of the Carolinas*, including the Attachment A Scope of Owner-Advisor Services dated October 6, 2026 (the “Agreement”);

WHEREAS, the LCFWASA Board now wishes to approve the Agreement with HDR for the Phase 1 (Preconstruction) Owner Advisor services for the reservoir Project in the not-to-exceed amount of \$525,603.63; and,

WHEREAS, it is anticipated that the Phase 2 (Construction) Owner-Advisor Services for the reservoir Project, which includes services from 60% to 100% design through construction, will be the subject of an amendment to the above-referenced Agreement with HDR, which amendment will be subject to the review and approval of the Board at a later date.

NOW, THEREFORE, BE IT RESOLVED, by the Chairman and the Directors of the LCFWASA Board, that the LCFWASA Board hereby approves the *Agreement Between Lower Cape Fear Water and Sewer Authority and HDR Engineering, Inc. of the Carolinas*, including the Attachment A Scope of Owner-Advisor Services dated October 6, 2026, for Phase 1 (Preconstruction) Owner-Advisor services for the 100 MG Reservoir Project, in a not-to-exceed amount of \$525,603.63.

The Chairman and Executive Director are authorized to execute all required contract documents with HDR Engineering, Inc. of the Carolinas consistent with this Resolution, subject to review and approval as to form by LCFWASA’s attorney.

THEREFORE, BE IT FURTHER RESOLVED, that a copy of this Resolution be recorded in the permanent minutes of this Board.

Adopted this ____ day of October, 2026.

Scott Phillips, Chairman

ATTEST:

Chakema Clinton-Quintana, Secretary

NORTH CAROLINA
COUNTY OF BRUNSWICK

CONTRACT NO: _____

AGREEMENT BETWEEN
LOWER CAPE FEAR WATER AND SEWER AUTHORITY AND
HDR ENGINEERING, INC. OF THE CAROLINAS

THIS CONTRACT ("Agreement" or "Contract") made and entered into this ____ day of October 2026, by and between **LOWER CAPE FEAR WATER AND SEWER AUTHORITY**, a water and sewer authority organized under Chapter 162A of the North Carolina General Statutes (hereinafter "LCFWASA"), located in Brunswick County, North Carolina, and **HDR Engineering, Inc. of the Carolinas**, a Corporation organized under the laws of the State of North Carolina ("CONSULTANT"), collectively hereinafter referred to as the "Parties."

WITNESSETH:

WHEREAS, LCFWASA desires to contract with CONSULTANT to provide Owner Advisor services for a phased raw water storage reservoir and associated infrastructure Design-Build project, as more particularly described in the Scope of Services document dated October 2026, a copy of which is attached hereto as **Attachment A**; and

WHEREAS, LCFWASA has completed necessary steps for retention of professional and other services under applicable policies; and

WHEREAS, LCFWASA has agreed to engage CONSULTANT, and CONSULTANT has agreed to contract with LCFWASA, for performance of services as described, and according to the further terms and conditions, set forth herein.

NOW, THEREFORE, in consideration of the promises and other considerations, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

A. Scope of Services

CONSULTANT shall perform for LCFWASA the services as per the Scope of Services document dated October 2026 attached hereto and incorporated herein by reference as **Attachment A**.

B. Time of Performance

In performing the services described in this Contract, it is mutually agreed that time is of the essence; however, it is understood that the CONSULTANT must perform its services using the professional standard of care. The Term of this Contract is effective October 12, 2026 or

the date of final execution of the Parties, whichever is later, through and including May 2028 or upon completion of the work, whichever occurs first.

C. Compensation & Time of Payment

1. For services performed hereunder, and subject to the early termination and non-appropriation provisions in this Contract, the LCFWASA shall pay the CONSULTANT a total contract amount not to exceed \$525,603.63, unless changed by a duly authorized amendment.
2. The standard LCFWASA payment term is NET 30 days from the date of invoice. CONSULTANT shall submit invoices monthly.
3. CONSULTANT shall be paid by Electronic Fund Transfer (EFT).

D. Standard of Care

All work performed under this Contract shall be performed in a professional manner, to the reasonable satisfaction of LCFWASA, and shall conform to all prevailing industry and professional standards in accordance with the normal degree of care and skill of other reputable engineers providing similar services on similar projects of like size and nature at the same time and in the same locale as this project.

E. Relationship of the Parties

1. No Third-Party Beneficiaries. This Agreement is not intended for the benefit of any third party. The rights and obligations contained herein belong exclusively to the Parties and shall not confer any rights or remedies upon any person or entity other than the Parties.
2. No Joint Venture. CONSULTANT is an independent contractor and not an agent or employee of LCFWASA. Nothing in this Agreement shall be construed to create, constitute, give effect to, or otherwise imply a joint venture, partnership, agency, or employment relationship of any kind between the Parties.
3. Assignment. Neither party may assign this Agreement, in whole or in part, by operation of law or otherwise, without the other party's prior written consent, and any attempted assignment without such consent will be void.
4. Personnel. CONSULTANT represents that it has, or will, secure at its own expense, all personnel required in performing the services under this Contract. Such employees shall not be employees of or have any individual contractual relationship with LCFWASA. The CONSULTANT is wholly responsible for all work to be performed and the supervision of its employees. As such, the CONSULTANT, or any employees, sub-contractors, or employees thereof, shall not be entitled to any LCFWASA employment benefits, including, but not limited to, wages or salary, vacation, sick leave, insurance, Workers' Compensation, or pension and retirement benefits.

5. Subcontracts. The CONSULTANT shall utilize no subcontracts for carrying out the services to be performed under this Contract without the written approval of LCFWASA.

F. Suspension or Termination of Agreement

1. Termination. LCFWASA may terminate this Contract, in whole or in part, at any time by providing thirty (30) days written notice to CONSULTANT. In addition, if CONSULTANT (i) makes or has made under this Contract any representation, warranty, or certification that is or was incorrect, inaccurate, or misleading; or (ii) fails to fulfill in timely and proper manner the obligations under this Contract for any reason, including the voluntary or involuntary declaration of bankruptcy, LCFWASA shall have the right to terminate this Contract by giving written notice to CONSULTANT and termination will be effective after a failure to cure upon a reasonable time period set forth in the written notice. CONSULTANT shall cease performance immediately upon receipt of such notice.
2. Suspension. LCFWASA shall also have the right to suspend this Contract upon written notice to CONSULTANT. Such written notice shall state the reasons for suspension and allow for a review period of ten (10) days during which CONSULTANT shall be provided with an opportunity to respond with an explanation or justification, and undertake any reasonable remedial action required by LCFWASA. If, in the opinion of LCFWASA, CONSULTANT remains in violation of this Contract at the completion of the ten (10) day suspension period, LCFWASA shall have the right to terminate this Contract whereupon all obligations of LCFWASA to CONSULTANT shall cease.
3. In the event of (a) early termination of the Contract as provided above, or (b) expiration of the Contract due to non-appropriation as provided below, CONSULTANT will be entitled to receive just and equitable compensation for actual costs incurred prior to receipt of notice of termination or notice of non-appropriation and for the satisfactory work completed as of the date of termination or expiration and delivered to LCFWASA. Notwithstanding the foregoing, in no event will the total amount due to CONSULTANT exceed the total amount due CONSULTANT under this Contract. The CONSULTANT shall not be relieved of liability to LCFWASA for damages sustained by LCFWASA by virtue of any breach of this Contract, and LCFWASA may withhold any payment due to CONSULTANT for the purpose of setoff until such time as LCFWASA can determine the exact amount of damages due LCFWASA because of the breach.
4. Non-Appropriation. LCFWASA is a governmental entity, and the Contract validity is based upon the availability of public funding under LCFWASA'S statutory mandate. If funds are not available and not appropriated to the program specified in this Contract, then this Contract shall automatically expire without penalty to either party. In the event of a legal change in LCFWASA'S statutory authority, mandate, or mandated functions which adversely affects LCFWASA'S ability to continue performing obligations under this

Contract, then this Contract shall automatically expire without penalty to either party.

5. Nothing contained herein shall prevent the LCFWASA from pursuing any remedy which it may have available in law or equity against CONSULTANT.

G. Notices

All notices, requests for payment, or other communications arising hereunder shall be sent to the following:

LCFWASA

LCFWASA

Tim Holloman, Executive Director

1107 New Pointe Blvd., Suite 17

Leland, NC 28451

Phone: 910-383-1919

CONSULTANT

HDR Engineering, Inc. of the Carolinas

Kip C. Kalisiak, PE

101 N. 3rd Street Suite 201

Wilmington, NC 28401-4034

Phone: 919-407-9474

H. Insurance Requirements

CONSULTANT shall maintain insurance from companies licensed and/or authorized to write business in North Carolina, with an A.M. Best rating of "A-" or higher, and acceptable to the LCFWASA, of the kinds and minimum amounts specified below.

1. Additional Insured and Coverages. Before commencing work under this Contract, CONSULTANT shall furnish LCFWASA with certificates of all insurance required below. Certificates shall indicate the type, amount, class of operations covered, effective date and expiration date of all policies.

The Certificate of Insurance shall name LCFWASA as an additional insured where specified.

The amount of insurance to be provided for all coverages listed under this section shall be \$1,000,000.00, unless otherwise specified, per occurrence for claims arising from bodily injury and/or property damage, including accidental death which may arise directly or indirectly from CONSULTANT'S performance of professional services under this contract. CONSULTANT shall be responsible for any liability arising out of professional services performed under this contract by a subcontractor which liability is not covered by the subcontractors insurance.

a. Commercial General Liability

CONSULTANT shall maintain during the life of this Contract COMMERCIAL GENERAL LIABILITY INSURANCE coverage. Unless otherwise specified, this coverage shall be written providing liability limits in the amount of \$1,000,000 per occurrence/\$2,000,000 aggregate, Combined Single Limits, applicable to claims due to bodily injury and/or property damage arising from an occurrence. Exclusions applicable to

explosion, collapse and underground hazards are to be deleted when the work involves these exposures. LCFWASA shall be named an additional insured on this policy.

b. Workers' Compensation and Employer's Liability

CONSULTANT shall maintain during the life of this contract WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE covering all of the CONSULTANT'S employees to be engaged in the work under this Contract, providing the required statutory benefits under North Carolina Workers Compensation Law, and Employers Liability Insurance providing limits in the amount of \$500,000/500,000/500,000 applicable to claims due to bodily injury by accident or disease. Whenever work under this Contract includes exposure to claims under the U.S. Longshoremen's and Harborworker's Act, such coverage shall be provided by appropriate endorsement to this policy.

c. Business Auto

CONSULTANT shall have and maintain during the life of this Agreement AUTOMOBILE LIABILITY INSURANCE. Such coverage shall be written on a comprehensive form covering owned, non-owned, hired, and leased vehicles, providing liability limits of at least \$1,000,000 per accident combined single limits applicable to claims due to bodily injury and/or property damage. LCFWASA shall be named an additional insured on this policy.

d. Professional Liability Insurance

CONSULTANT shall maintain during the life of this Contract professional liability or errors and omissions liability insurance appropriate to the CONSULTANT'S profession, naming as insured any professional, individual or firm performing the services required in this Contract. Coverage as required in this paragraph shall apply to liability for professional negligent acts, errors, or, omissions or any other negligent acts arising out of the scope of the CONSULTANT'S services as defined in this contract. Coverage shall be written subject to limits of \$2,000,000 per claim and in the annual aggregate.

Waiver of Subrogation. The insurer shall agree to waive all rights of subrogation against LCFWASA, its officers, officials, and employees for losses arising from work performed by CONSULTANT for LCFWASA.

2. Claims-Made Coverage. If any of the above policies provide claims-made coverage:

- a. The Retroactive Date must be shown on the Certificate of Insurance and must be before the effective date of this Contract.
- b. Insurance must be maintained, and evidence of insurance must be provided, for at least five (5) years after completion of the Contract work.
- c. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the Contract effective date,

CONSULTANT must purchase "extended reporting" coverage for a minimum of five (5) years after completion of work.

3. Certificates of Insurance and Notice of Non-Renewal. CONSULTANT shall furnish the schedule of insurance carried under this Contract in the form of a Certificate of Insurance attested by the insurance carrier or appointed agent, indicating the type, amount, class of operations covered, effective date and expiration date of all policies. This Certificate shall be in six (6) counterparts and when the Contract is signed by CONSULTANT, a copy thereof shall be inserted in each copy of the contract documents and upon insertion become a part of such documents. The insurance carrier or its agent shall also certify on these documents that it will notify LCFWASA by registered mail at least thirty (30) days prior to the cancellation or material change of any coverages.

I. Indemnity

1. To the fullest extent permitted by Laws and Regulations, CONSULTANT shall hold harmless and indemnify the LCFWASA, its officers, directors, members, partners, employees, of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) as a result of any claims, demands, lawsuits, actions, or proceedings: (i) arising from the CONSULTANT's failure to perform its obligations under this Contract; (ii) arising from any act of negligence or willful misconduct by the negligent act or omission of CONSULTANT, any subcontractor of CONSULTANT, or any individual or entity employed by any of them to perform any of the services hereunder or anyone for whose acts any of them may be liable, including but not limited to any liability caused by an accident or other occurrence resulting in bodily injury, death, sickness or disease to any person(s) or damage or destruction to any property, real or personal, tangible or intangible; (iii) arising from the CONSULTANT's violation of any law; (iv) seeking payment for labor or materials purchased or supplied by the CONSULTANT or its subcontractors in connection with this Contract; (v) any claim that the CONSULTANT or an employee or subcontractor of the CONSULTANT is an employee of the LCFWASA, including but not limited to claims relating to worker's compensation, failure to withhold taxes and the like; or (vi) alleging violation, misappropriation or infringement of any copyright, trademark, patent, trade secret or other proprietary rights with respect to the work or any products or deliverables provided to the LCFWASA pursuant to this Contract ("Infringement Claims"). The LCFWASA is entitled to indemnification only to the extent not caused, in whole or in part, by the LCFWASA or its employees or agents.
2. The indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Engineer or any Subcontractor under Workmen's Compensation Acts, Disability Benefit Acts or other employee benefits acts.

J. Representation

CONSULTANT by acceptance of this Contract represents full compliance with all applicable local, state, and federal laws and regulations and agrees to indemnify and defend LCFWASA against any loss, cost, liability or damage by reason of CONSULTANT's violation of this paragraph.

K. No Waiver of Immunity

This Agreement is governmental in nature for the benefit of the public and is not intended to be for private profit or gain. Any fees charged hereunder are intended to reflect as closely as possible LCFWASA'S actual cost and neither party intends to waive its sovereign immunity by reason of this Agreement. Nothing herein shall be construed to mandate purchase of insurance by LCFWASA, or to in any other way waive the defense of sovereign or governmental immunity from any cause of action alleged or brought against the LCFWASA for any reason if otherwise available as a matter of law.

L. General Terms & Conditions

1. Applicable Law

All matters relating to this Agreement shall be governed by the laws of the State of North Carolina, without regard to its choice of law provisions, and venue for any action relating to this Agreement shall be Brunswick County Civil Superior Court or the United States District Court for the Eastern District of North Carolina, Southern Division.

2. Conflict of Interest.

No LCFWASA employee shall have a personal or financial interest, direct or indirect, as a contracting party or otherwise, in the performance of this Contract.

3. Non-Waiver of Rights

No failure by any party to insist upon the strict performance of any covenant, duty, agreement, or condition of this Contract or to exercise any right or remedy consequent upon a breach thereof shall constitute waiver of any such breach of any other covenant, duty, agreement, or condition.

4. Applicability of North Carolina Public Records Law and Confidentiality

a. Notwithstanding any other provisions of this Contract, this Contract and all materials submitted to the LCFWASA by the CONSULTANT are subject to the public records laws of the State of North Carolina and it is the responsibility of the CONSULTANT to properly designate materials that may be protected from disclosure as trade secrets under North Carolina law as such and in the form required by law prior to the submission of such materials to LCFWASA. CONSULTANT understands and agrees that LCFWASA may take any and all actions necessary to comply with federal, state, and local laws and/or judicial orders and such actions will not constitute a breach of the terms of this Contract. To the extent that any other provisions of this Contract conflict with this paragraph, the provisions of this section shall control.

- b. Except to the extent designated as a public record without exception, the information, reports, cost estimates, plans, specifications, and documents produced, prepared, or assembled by or on behalf of CONSULTANT under this Contract are confidential. The CONSULTANT agrees that any such documents shall not be made available to any individual or organization other than designated LCFWASA officials without the prior express written approval of LCFWASA. Nothing contained in this paragraph shall be construed to prevent CONSULTANT from making information, reports, or documents available to those individuals or firms with a direct relationship to the completion of the Project, with the prior express written consent of LCFWASA.
5. Entire Agreement
This Contract and any documents incorporated herein, represent the entire Contract between the parties and suspend all prior oral or written statements, agreements, or contracts.
6. Binding Effect
This Contract shall be binding upon the heirs, successors, assigns, agents, officials, employees, independent contractors, subconsultants, and subcontractors of the parties.
7. Continuing Obligation
The parties will make and execute any further instruments and documents required to carry out the purposes and intent of the Contract.
8. Reference
Use of the masculine includes feminine and neuter, singular includes plural, and captions and headings are inserted for convenience of reference and do not define, describe, extend, or limit the scope of intent of the Contract.
9. Interpretation
All of the terms and conditions contained herein shall be interpreted in accordance with the laws of the State of North Carolina. In the event of a conflict between the various terms and conditions contained herein or between these terms and other applicable provisions, then the more particular shall prevail over the general and the more stringent or higher standard shall prevail over the less stringent or lower standard.
10. Severability
If any section, subsection, paragraph, sentence, clause, phrase, or portion of this Contract is held invalid, unlawful, or unconstitutional by any court of competent jurisdiction for any reason, such portion shall be deemed severable and such holding shall not affect the validity of the remaining portions hereof.
11. Other Laws and Regulations

CONSULTANT will comply with all applicable federal, state, and local standards, regulations, laws, statutes, and ordinances regarding toxic, hazardous, and solid wastes, and any other pollutants; public and private nuisances; health or safety; and zoning, subdivision, or other land use controls. CONSULTANT will take all reasonably necessary, proper or required safety, preventative and remedial measures in accordance with any and all relations and directives from the North Carolina Department of Human Resources, the United States Environmental Protection Agency, the North Carolina Department of Environmental Quality, Health Departments, and any other federal, state, or local agency having jurisdiction, to insure the prompt prevention or cessation (now or in the future) of violations of either the applicable provisions of such standards, regulations, laws, statutes, and ordinances or any permits or conditions issued thereunder.

12. Amendments

This Contract shall not be modified or otherwise amended except in writing signed by the parties.

13. Survival

The respective rights and obligations under Articles E, I, J and K shall survive the expiration or termination of this Contract regardless of how or when such termination becomes effective.

14. Non-Discrimination

CONSULTANT will take affirmative action not to discriminate against any employee or applicant for employment or otherwise illegally deny any person participation in or the benefits of the program which is the subject of this Contract because of race, creed, color, sex, age, disability, or national origin. To the extent applicable, CONSULTANT will comply with all provisions of Executive Order No. 11246 the Civil Rights Act of 1964, (P.L. 88-352) and 1968 (P.L. 90-284), and all applicable federal, state, and local laws, ordinances, rules, regulations, orders, instructions, designations, and other directives promulgated to prohibit discrimination. Violation of this provision, after notice, shall be a material breach of this Contract and may result, at LCFWASA'S option, in a termination or suspension of this Contract in whole or in part.

15. Advertising

CONSULTANT shall not use the existence of this Contract, or the name of LCFWASA, as part of any advertising without the prior written approval of LCFWASA. Exception may be taken to the above with regard to listing the LCFWASA as a job history reference in responses to requests for proposals.

16. E-Verify

CONSULTANT shall comply with E-Verify, the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired

employees pursuant to federal law and as in accordance with N.C.G.S. §64-25 et seq. In addition, to the best of CONSULTANT's knowledge, any subcontractor employed by CONSULTANT as a part of this Contract shall comply with the requirements of E-Verify and N.C.G.S. §64-25 et seq.

17. Iran Divestment Act Certification

CONSULTANT certifies that, as of the date listed below, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. §147-86.55, et seq. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. §147-86.59, CONSULTANT shall not utilize in the performance of the Contract any subcontractor that is identified on the Final Divestment List.

18. Divestment From Companies Boycotting Israel.

CONSULTANT certifies that, as of the date listed below, it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. §147-86.80, et seq. In compliance with the requirements of the Divestment from Companies Boycotting Israel Act and N.C.G.S. §147-86.82, CONSULTANT shall not utilize in the performance of the Contract any subcontractor that is identified on the Final Divestment List.

LCFWASA Contract # _____

IN WITNESS WHEREOF, LCFWASA has caused this Agreement to be duly executed in its name and behalf and the CONSULTANT has caused this Agreement to be duly executed in its name and behalf and its corporate seal to be hereunto affixed, and attested to.

This Agreement will be effective on ____ day of _____, 2023.

CONSULTANT

SEAL:

HDR Engineering, Inc. of the Carolinas

ADDRESS:

ATTEST:

BY: _____

BY: _____

PRINTED: _____

PRINTED: _____

TITLE: _____

TITLE: _____

(President, VP, Assistant VP)

(Secretary, Assistant Sec)

I, _____, a Notary Public, certify that the corporation's Secretary, Assistant

Secretary, Mr./Mrs./Ms. _____ personally came

Name of Secretary, Assistant Sec

before me this day and acknowledged that s/he is the _____ of
(Secretary, Assistant Secretary)

_____, a corporation, and that by authority duly given and as act of the

corporation, the foregoing instrument was signed in its name by its President, Vice President, or Assistant

Vice President, Mr./Mrs./Ms. _____, sealed with its Corporate Seal, and

Name of President, VP, Assistant VP

attested by him/herself as its Secretary, Assistant Secretary, or Trust Officer.

WITNESS my hand and official seal this the ____ day of _____, 20 ____.

Notary Public

My commission expires: _____ (SEAL)



ATTACHMENT A
SCOPE OF OWNER ADVISOR SERVICES FOR DESIGN-BUILD PROJECT
LOWER CAPE FEAR WATER AND SEWER AUTHORITY
100 MG RESERVOIR AND ASSOCIATED INFRASTRUCTURE
OCTOBER 6, 2026

Background

Lower Cape Fear Water and Sewer Authority (LCFWASA) will construct a new 100 MG raw water storage reservoir and associated infrastructure (the Project). This will include the construction of a reservoir, raw water pump station, raw water transmission mains connecting to the existing LCFWASA system, and an overflow drain. The Project will be located on parcels acquired for this Project near the existing Brunswick County Northwest Water Treatment Plant at 3954 Clearwell Dr. NE, Leland, NC. This Project includes a Design-Build (DB) contracting mechanism where HDR Engineering, Inc. of the Carolinas (HDR) will serve as the Owner's Advisor (OA) from Project initiation through construction. A resolution establishing criteria for a Design-Build delivery method was adopted by the LCFWASA Board of Directors on August 10, 2026.

Approach

HDR will serve as the OA as an extension of LCFWASA's staff and will provide services to align the Project team with the Owner's priorities through the Project. OA services for this project will be completed in two Phases:

1. Phase 1 - Preconstruction OA Services. Includes services from OA Notice to Proceed through the 60% design phase and Guaranteed Maximum Price (GMP).
2. Phase 2 - Construction OA Services. Includes services from 60% to 100% design through construction. It is anticipated that Phase 2 will be an amendment to this agreement at a later date. No OA services for Phase 2 are defined under this initial agreement.

General Tasks and Activities

Unless noted otherwise, the following assumptions are used for all tasks:

1. Meetings will be held at LCFWASA offices. Attendance will be in-person or by teleconference.
2. LCFWASA will be responsible for attendance of required LCFWASA staff.
3. OA will prepare meeting agenda, handouts, notes, and presentation materials unless assigned to the DB Team as noted below.
4. Deliverables will consist of one draft document and one final, unless otherwise noted.
5. Deliverables will be submitted as Adobe PDF files via email. Native files (MS Office, Project, AutoCAD) will be provided upon request.
6. LCFWASA's review comments to draft deliverables will be provided to OA in one collated file that addresses any conflicting comments.
7. LCFWASA's review will take no longer than two weeks per document, unless otherwise noted.
8. OA will support the LCFWASA decision-making processes throughout the Project. LCFWASA holds the decision-making authority.
9. OA will not perform geotechnical or field investigation studies. These studies will be performed by the DB Team.



10. DB Team is responsible for addressing LCFWASA/OA comments; OA is not responsible for updates or modifications to design documents or other DB Team deliverables. OA is not the Engineer of Record (EOR).
11. By performing these services, the OA shall not have authority or responsibility to supervise, direct, or control the DB Team's work, means, methods, techniques, sequences, or procedures of construction.
12. Services provided under this agreement are based on the scope of services and Project requirements.
13. Deliverables will follow OA standards for memoranda and cost estimating.
14. LCFWASA is responsible for providing access to all properties for the duration of this Project.
15. OA is not responsible for permitting fees.

Phase 1 - Scope of Services

Task 1 - Project and DB Team Contract Administration

The purpose of this task is to monitor and adjust the OA scope, schedule, and budget as well as provide monthly status reporting and reviews of the DB Team's invoicing. This task also includes attending Project progress meetings and workshops. The OA team will evaluate the DB Team proposal, review the DB Team's cost estimates and validate that the overall proposal meets the owners Project criteria.

Task 1.1 Project Administration Services

1. Prepare a Project Management Plan (Project Guide) outlining the Project scope, team organization, schedule, and communications information.
2. Coordinate with the Project team.
3. Prepare monthly status reports describing services completed during the month; services planned for the next month; needs for additional information; and a schedule update and financial status summary.
4. Prepare agendas and meeting notes for OA led meetings.
5. Prepare monthly invoices.

Task 1.2 Project Meetings & Workshops

1. OA will lead the following meetings focused on:
 - a. DB Team Phase 1 Scoping and Initial Negotiation
 - b. Finalize DB Team Contract
 - c. Phase 1 Project Kickoff with LCFWASA and DB Team
Define Project team roles, establish internal communications and decision-making strategy, and review initial schedule.
 - d. As-needed meetings (up to 18 meetings) with LCFWASA Leadership
2. DB Team will lead and OA will participate in the following meetings:



- a. Monthly DB Team Progress Meetings
- b. 30% Design and Cost Estimate Review
- c. Early Work and/or Procurement Review - If Necessary
- d. 60% Design and Cost Estimate Review
- e. GMP Proposal Review

Task 1.3 Project Controls and Schedule

- 1. Review DB Team's schedule for compliance with the contract.
- 2. Develop a plan for Project cost control and monitor Project costs.
- 3. DB Team Document Management
 - a. Serve as the record keeper on behalf of LCFWASA for documents associated with the Project development.
 - b. Utilize a 'simple' SharePoint site to organize and store final records. LCFWASA will be provided with access through the duration of the Project. At the end of the Project, the LCFWASA will be provided with a digital record of Project files.
- 4. Risk Management
 - a. Develop overall Owner's Project risk register (DB Team will keep their own risk register).
 - b. Review baseline cost and schedule and identify risks related to the baseline.
 - c. Monthly review of schedule and cost risks and update risk register.
 - d. Support the management of the mitigation actions for each critical Project risk.
 - e. Develop value engineering recommendations about how to mitigate and/or avoid risks.

LCFWASA RESPONSIBILITIES

- 1. Participate in Project meetings and workshops.
- 2. Timely processing and payment of invoices.
- 3. Review and process contract change requests and amendments, if needed.

ASSUMPTIONS

- 1. The Phase 1 task duration is approximately 19 months from approval of the OA contract to approval of the GMP.
- 2. DB Team will develop, update and own the overall Project schedule.
- 3. DB Team will utilize Project document management software (e.g., Procore) in which LCFWASA and OA have access.
- 4. DB Team will lead workshops for the 30% Design Review, 60% Design Review, and GMP Finalization. Workshops will be up to three hours in duration and will include one to three OA representatives depending on the agenda topics. DB Team will prepare workshop agendas, presentations, decision logs, and meeting notes for the DB Team-led workshops.
- 5. Additional meetings and workshops after the 60% Design and GMP approval will be held under the Phase 2 amendment.



DELIVERABLES

1. Meeting notes, schedule and budget updates from LCFWASA Board approval of the OA contract through approval of the DB Team Contract.
Subsequent meeting notes, schedule and budget updates will be provided by the DB Team for review by LCFWASA and the OA.
2. Monthly OA reports and invoices (one copy with invoice will be emailed as a PDF file).
3. LCFWASA Risk Register (DB Team will keep their own Risk Register).

Task 2 - Project Criteria Development and Permitting Matrix

The purpose of this task is to develop the initial Project Criteria and Permitting Matrix.

Task 2.1 - Project Information

Compile and review currently available information provided by LCFWASA. Identify additional information required for Project criteria development.

Task 2.2 – Owner’s Project Criteria

OA will assist LCFWASA with developing the Owner's Project Criteria document for an initial design-build agreement for a new reservoir using the Design Build Institute of America (DBIA) approach outlined by DBIA 520/525/530/535 contract documents.

Task 2.3 – Permitting Matrix

Develop a permitting matrix to list permits required, responsible party, required application date, potential phasing, etc.

Task 2.4 – Environmental Permit Review

Review the Environmental Assessment and USACE submittals to be prepared by the DB Team.

LCFWASA RESPONSIBILITIES

1. Provide necessary information for acquiring identified Project permits.

ASSUMPTIONS

1. DB Team is responsible for acquiring and managing Project permits.

DELIVERABLES

1. Owner's Project Criteria
2. Permitting Matrix

Task 3 - DB Team Procurement and Phase 1 DB Team Negotiations

The purpose of this task is to assist LCFWASA with DB Team procurement including developing contract documents and assisting LCFWASA in selecting a DB Team including contract negotiations for Phase 1 services. Key DB Team contract considerations include:

1. Start with the DBIA base documents
2. Develop DB Team contract that adheres to North Carolina law and standard
3. LCFWASA terms and conditions



4. Shared savings provision
5. The various phases of the Project
6. Termination clauses
7. "Open-book" cost requirements

Task 3.1 - Assist the LCFWASA in DB Team Procurement and Contract Negotiations

1. Assist LCFWASA with development of DBIA 520/525/530/535 contract documents.
2. Assist LCFWASA in answering respondent questions during the procurement process.
3. Review DB Team proposals and provide comments.
4. Review DB Team's bonds and insurance certificates and forward to LCFWASA for acceptance.
5. Participate as a non-voting member in the DB Team Interview and Selection (if Interview is required by LCFWASA).
6. Assist LCFWASA in negotiating the DB Team contract agreement, General Conditions, Pre-construction and 60% Design Services scope with the selected DB Team through meetings and workshops.

LCFWASA RESPONSIBILITIES

1. Provide legal services to review and approve the drafted DB Team RFQ and contract.
2. Review DB Team proposals and select the DB Team.
3. Provide Commercial Non-Discrimination Certification, E-Verify Certification, and other information necessary for the procurement process.

ASSUMPTIONS

1. DB Team Contract and RFQ will be based on DBIA standard documents.
2. Up to two DB Team contract negotiation meetings will be held.
3. LCFWASA will purchase right to use DBIA documents.
4. LCFWASA legal representative(s) will provide contract draft review updates within two weeks of draft submittal.

DELIVERABLES

1. Answer respondent questions during the procurement process.
2. Provide red-line comments and suggestions on the DBIA documents.
3. Maintain DB Team contract negotiations, meeting notes and documentation.

Task 4 - Funding Assistance

The purpose of this task is to assist with the coordination and administration of State Funding requirements and evaluate the feasibility of pursuing federal funding in support of the Project.

Task 4.1 – Initial Assessment

1. Obtain LCFWASA input on the possibility of North Carolina (State) and Federal grants.



2. Evaluate the implications of the federal grants on Project implementation (i.e., procurement and Project schedule).

Task 4.2 – Technical Memorandum

Prepare a Technical Memorandum on the generic federal process (unless a specific agency has provided specific guidance) and related conditions that are generally applicable.

Task 4.3 – Funding Administration Support

Provide continuing assistance on administration of the on-going State funding process.

1. Provide funding conditions for DB Team contract documents.
2. Assist LCFWASA in preparing reimbursement requests for existing funding sources.

LCFWASA RESPONSIBILITIES

N/A

ASSUMPTIONS

1. Funding Administration Support for potential future federal funding is not included in this scope of services. Should funding from federal agencies be obtained, OA can submit a contract amendment proposal to provide assistance on administration of the funding process. This might include: 1) provide funding application preparation support; 2) provide funding conditions for DB Team contract documents; and 3) assist LCFWASA in preparing reimbursement requests.
2. This task does not include support for application preparation for new funding sources.
3. The DB Team will provide necessary reports for the funding process such as engineering reports and environmental documentation.

DELIVERABLES

1. Technical Memorandum

Task 5 - Cost Estimating Review

The purpose of this task is to review cost estimates prepared by DB Team to validate the Project budget and the GMP.

Task 5.1 – Cost Estimate Review

Review the DB Team's applicable cost estimates at the 30% Design and 60% Design milestones.

Task 5.2 – Early Work/Procurement Package

Review one early work/procurement package.

Task 5.3 – GMP

Review the GMP package.

LCFWASA RESPONSIBILITIES

1. Attend workshops and meetings.

ASSUMPTIONS

1. The DB Team will provide necessary design information to complete independent cost estimates and reviews.



2. Resident Project Representative (RPR) services or third-party testing services provided by OA will be negotiated at a later date depending on early work/procurement package needs or prior to the amendment for Phase 2 – OA Construction Services.

DELIVERABLES

1. 30% Cost Estimate
2. 60% Cost Estimate
3. Early work/procurement package review comments.
4. GMP review comment

Task 6 - Design Reviews, Quality Assurance, and Value Engineering

The purpose of this task is to perform design reviews at the 30% and 60% submittal milestones, assist LCFWASA with Quality Assurance, review DB Team's Quality Control Plan, and participate in a Value Engineering session. OA will attend design build Project meetings and assist LCFWASA with review of submittals, schematics, cost reports, maintain an overall Project schedule, and review the 30 and 60% design documents to confirm the Project scope is met.

Task 6.1 – Design Reviews

OA will perform the following:

1. Review of the Geotechnical Investigations Plan
2. Review of the 30% Design including design report, drawings, and specifications
3. Review of the 60% Design including design report, drawings, and specifications

The design reviews will:

1. Confirm the proposed design approach appears consistent with LCFWASA's requirements,
2. Identify significant technical risks, missing information, assumptions, or major decisions that could affect Project success. Consistency with state of practice and regulatory requirements, as applicable.
3. The 30% Design review will specifically focus on raising questions regarding alternatives before design decisions become difficult to change.

Task 6.2 – Quality Control

OA will review the DB Team's Quality Control Plan.

Task 6.3 – Value Engineering

OA will participate in a Value Engineering session with DB Team and LCFWASA.

LCFWASA RESPONSIBILITIES

1. Attend workshops and meetings.

ASSUMPTIONS

1. DB Team will provide necessary design information to complete design reviews.
2. DB Team will track and provide value engineering recommendations.



DELIVERABLES

1. Review comments on the DB Team's design deliverables.
2. Review comments on DB Team's QC Plan.
3. Summary of VE ideas from both OA and DB Team.

Task 7 - GMP Review and Phase 2 Negotiations

The purpose of this task is to assist LCFWASA in reviewing and negotiating the GMP for Phase 2 activities by the DB Team.

Task 7.0 - Assist LCFWASA with DB Team GMP negotiations.

OA recommends the following approach:

1. Request proposers submit their approach to GMP development with their proposal. Identify and discuss approaches with selected team prior to finalizing selection of DB Team.
2. State in RFQ any limitations or expectations regarding work to be self-performed by the DB Team.
3. Require major equipment, materials, or significant work intended to be subcontracted to be bid out with 60% and final GMP cost estimates.
4. Establish cost estimate software, formatting, work breakdown structure, and taxonomy early in pre-construction phase. Cost estimate reviews can be optimized if formats and protocol are jointly established.
5. Review DB Team estimate at each milestone submission.
6. OA and DB Team track any scope deviations and identify cost and schedule impact with each deviation.

LCFWASA RESPONSIBILITIES

1. Attend workshops and meetings.

ASSUMPTIONS

1. Two negotiation meetings with the DB Team.
2. GMP will be based on 60% Design documents.
3. Opinions and updates provided by LCFWASA legal representation during initial agreement negotiations in Task 3 will not require additional reviews, opinions, or updates.

DELIVERABLES

1. Review comments and recommendations to proceed with GMP.
2. Letter of recommendation for approval of GMP.

Task 8 - As-Needed Support

The purpose of this task is to provide technical support to the Project on an as-needed basis.

Task 8.0 – Additional Owner's Advisor Services

Assist LCFWASA with scope items not currently identified.



LCFWASA RESPONSIBILITIES

1. Provide timely authorization to proceed with this support.

ASSUMPTIONS

1. An allowance in the amount of \$30,000.00 has been provided for this task.

DELIVERABLES

1. To be determined with authorization of additional service items.

Schedule

The term for the Phase 1 scope of services is approximately 19 months from notice to proceed (NTP) and assumes a NTP in October of 2026. The actual timeframe will be influenced by the terms of the DB Team contract which will be negotiated after selection of the DB Team.

Compensation

Compensation to OA for the Phase 1 scope of services will be on a time and materials basis with a not to exceed the amount shown in the table below. The table provides compensation by task based on the attached rate schedule (Attachment A). Hours may be shifted around tasks as the Project develops.

PHASE 1		
Task	Description	Not-to-Exceed Budget (Hourly Billing)
1	Project and DB Team Contract Administration	\$131,017.31
2	Project Criteria Development and Permitting Matrix	31,346.80
3	DB Team Procurement and Phase 1 DB Team Negotiations	129,449.95
4	Funding Assistance	32,893.28
5	Cost Estimating Review	19,900.20
6	Design Reviews, Quality Assurance, and Value Engineering	115,892.92
7	GMP Review and Phase 2 Negotiations	35,103.16
8	As-Needed Support	30,000.00
Total		525,603.63

The total fee will not be exceeded without written approval by LCFWASA.



Attachment A - Hourly Rates Schedule

Services will be performed on an hourly rate basis using the rates shown in the table below:

Job Title/Classification	2026 Hourly Rate		
Sr Principal	\$339	to	\$446
Principal	\$275	to	\$338
Engineer/Consultant III	\$314	to	\$369
Engineer/Consultant II	\$276	to	\$313
Engineer/Consultant I	\$221	to	\$275
Technical Specialist II	\$159	to	\$220
Technical Specialist I	\$124	to	\$158
Project Controller II	\$141	to	\$173
Project Controller I	\$114	to	\$140
Administrative	\$98	to	\$113

Additional codes and classifications may be utilized in the implementation of the services if authorized by LCFWASA.

Hourly rates will escalate 4% on an annual basis, based on calendar year, but will be held constant for the first 3 months from the date of this agreement.

AGENDA ITEM

To: CHAIRMAN PHILLIPS AND BOARD MEMBERS

From: TIM H. HOLLOMAN, EXECUTIVE DIRECTOR

Date: October 12, 2026

Re: Executive Director's Report

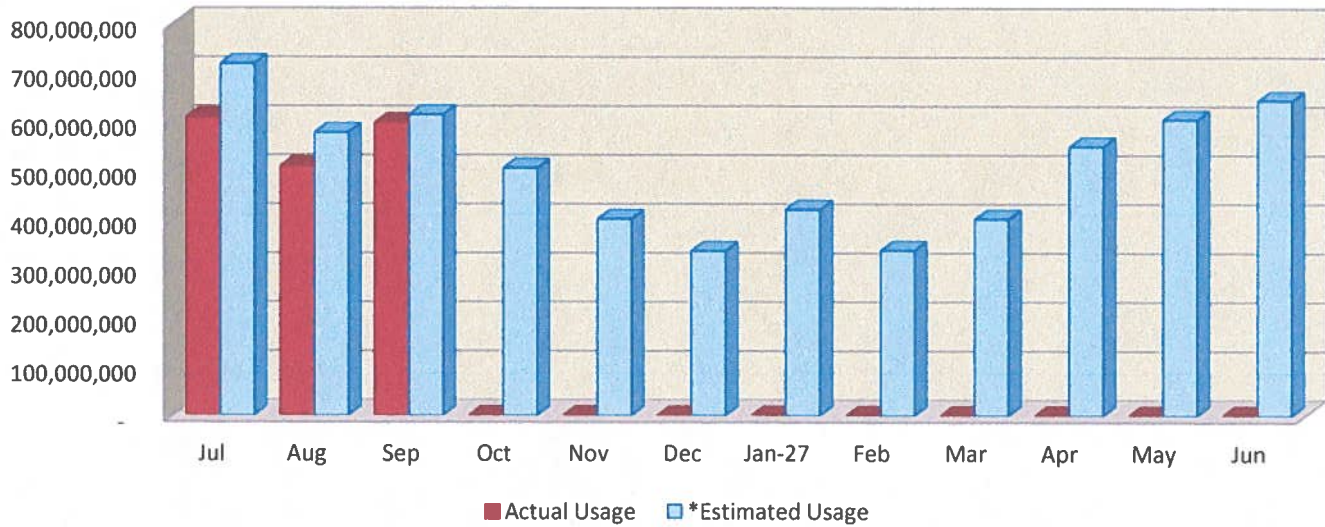
EDR1 - Comments on Customers' Water Usage and Raw Water Revenue for Fiscal Year to Date Ending September 30, 2026

EDR2 - Operating Budget Status, Ending August 31, 2026

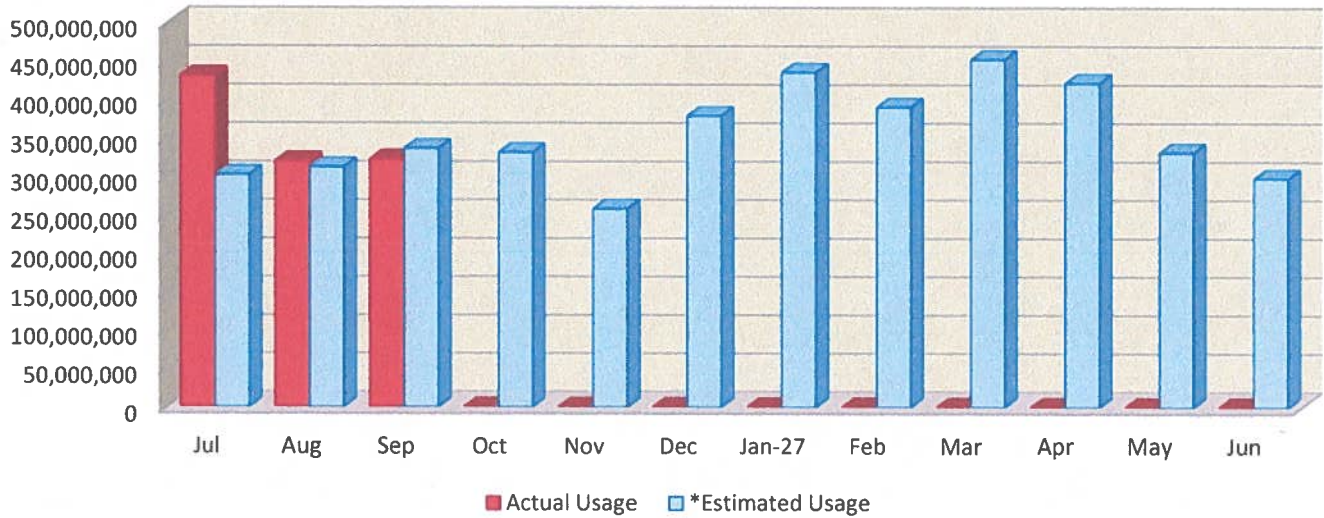
EDR3 - Summary of Activities

Action Requested: For information purposes.

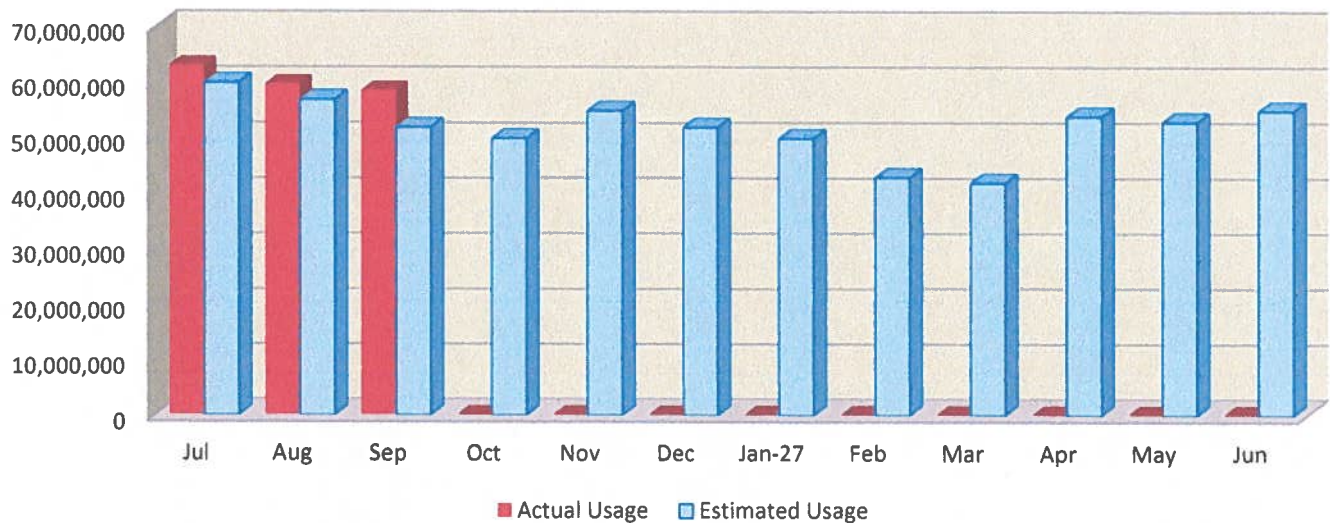
Brunswick County Water Usage FY 26-27



CFPUA Water Usage FY 26-27



Pender County Water Usage FY 26-27



LOWER CAPE FEAR WATER AND SEWER AUTHORITY
FISCAL YEAR 2026-2027 BUDGET

ACCOUNT NO.	REVENUES	FY 2026-2027 APPROVED BUDGET	FY 2026-2027 AMENDED BUDGET	July 1 - August 31, 2026 ACTUAL		FY 26-27 TOTAL COMBINED BUDGET	% of Amended Budget As of 08/31/2026
				KINGS BLUFF	BLADEN BLUFFS		
	OPERATING						
3001-01	Brunswick County	\$ 3,176,853	\$ 3,176,853	\$ 580,606	\$ -	\$ 580,606	18%
3002-01	Cape Fear Public Utility Authority	\$ 2,213,427	\$ 2,213,427	\$ 390,904	\$ -	\$ 390,904	18%
3003-03	Pender County	\$ 323,960	\$ 323,960	\$ 63,891	\$ -	\$ 63,891	20%
3004-01	Stepan/Invista	\$ 133,200	\$ 133,200	\$ 19,927	\$ -	\$ 19,927	15%
3005-01	Praxair, Inc	\$ 20,720	\$ 20,720	\$ 5,705	\$ -	\$ 5,705	28%
3006-01	Bladen Bluffs Reimbursement for Plant Operation Costs	\$ 3,313,000	\$ 3,313,000	\$ -	\$ 261,827	\$ 261,827	8%
3006-02	Bladen Bluffs Administrative Reimbursement	\$ 267,241	\$ 267,241	\$ -	\$ 36,790	\$ 36,790	14%
3007-01	Sales Tax Refund	\$ 255,835	\$ 255,835	\$ -	\$ -	\$ -	0%
	Subtotal	\$ 9,704,236	\$ 9,704,236	\$ 1,061,034	\$ 298,617	\$ 1,359,650	14%
	Non-Operating						
3105-01	Interest	\$ 195,207	\$ 195,207	\$ 1,928	\$ -	\$ 1,928	1%
3120-01	Other Revenue (Insurance Proceeds/Refunds/FEMA)	\$ -	\$ -	\$ -	\$ -	\$ -	0%
3125-01	Federal Tax Subsidy	\$ -	\$ -	\$ -	\$ -	\$ -	0%
3156-00	Rental House Income	\$ -	\$ -	\$ -	\$ -	\$ -	0%
3170-01	Transfer In	\$ -	\$ -	\$ -	\$ -	\$ -	0%
3900-01	Renewal and Replacement Fund Appropriated	\$ -	\$ -	\$ -	\$ -	\$ -	0%
3900-02	SRF/ARPA	\$ 24,327,864	\$ 24,327,864	\$ 3,565,184	\$ -	\$ 3,565,184	15%
2900-00	Fund Balance Appropriated	\$ 546,638	\$ 546,638	\$ -	\$ -	\$ -	0%
	Subtotal	\$ 25,069,709	\$ 25,069,709	\$ 3,567,112	\$ -	\$ 3,567,112	14%
	TOTAL REVENUES	\$ 34,773,945	\$ 34,773,945	\$ 4,628,146	\$ 298,617	\$ 4,926,762	14%

LOWER CAPE FEAR WATER AND SEWER AUTHORITY
FISCAL YEAR 2026-2027 BUDGET

ACCOUNT NO.	EXPENDITURES	FY 2026-2027 APPROVED BUDGET	FY 2026-2027 AMENDED BUDGET	July 1 - August 31, 2026 ACTUAL		FY 26-27 TOTAL COMBINED BUDGET	% of Amended Budget As of 08/31/2026
				KINGS BLUFF	BLADEN BLUFFS		
	Administration						
4001-01	Salaries	\$ 278,920	\$ 278,920	\$ 46,726	\$ 13,946	\$ 60,672	22%
4010-01	Per Diem and Mileage Board Members	\$ 65,053	\$ 65,053	\$ 5,132	\$ 3,253	\$ 8,385	13%
4012-01	Vehicle Allowance	\$ 5,200	\$ 5,200	\$ 540	\$ 260	\$ 800	15%
4019-01 & 4024-01	FICA Taxes	\$ 27,399	\$ 27,399	\$ 2,693	\$ 1,370	\$ 4,063	15%
4029-01	Retirement	\$ 42,079	\$ 42,079	\$ 2,682	\$ 2,104	\$ 4,786	11%
4035-01	401K Plan	\$ 15,835	\$ 15,835	\$ 1,433	\$ 792	\$ 2,225	14%
4036-01	Miscellaneous Payroll Processing Expenses	\$ 2,900	\$ 2,900	\$ 326	\$ -	\$ 326	11%
4038-01	Group Insurance	\$ 50,251	\$ 50,251	\$ 3,712	\$ 2,513	\$ 6,225	12%
4039-01	Property and Liability Insurance	\$ 155,000	\$ 155,000	\$ 30,068	\$ 8,658	\$ 38,726	25%
4046-00	Professional Services General	\$ 200,000	\$ 200,000	\$ 17,235	\$ -	\$ 17,235	9%
4046-01	Attorney	\$ 45,000	\$ 45,000	\$ 3,147	\$ -	\$ 3,147	7%
4047-01	Auditor	\$ 9,500	\$ 9,500	\$ 2,200	\$ 2,800	\$ 5,000	53%
4048-01	Engineer	\$ 150,000	\$ 150,000	\$ 2,518	\$ -	\$ 2,518	2%
4049-01	Information Technology	\$ 22,000	\$ 22,000	\$ 3,904	\$ -	\$ 3,904	18%
4050-01	Financial Advisor	\$ 10,000	\$ 10,000	\$ -	\$ -	\$ -	0%
4055-01	Office Maintenance/Repair/Common Charge	\$ 30,000	\$ 30,000	\$ 5,299	\$ -	\$ 5,299	18%
4058-01	Office Utilities	\$ 4,000	\$ 4,000	\$ 500	\$ -	\$ 500	13%
4059-01	Office Expenses (telephone, Printing, Adv)	\$ 15,000	\$ 15,000	\$ 492	\$ -	\$ 492	3%
4062-01	Office Equipment	\$ 30,000	\$ 30,000	\$ 3,666	\$ -	\$ 3,666	12%
4064-01	Printing and Advertising	\$ 15,500	\$ 15,500	\$ 200	\$ -	\$ 200	1%
4065-01	Telephone and Internet	\$ 7,500	\$ 7,500	\$ 765	\$ -	\$ 765	10%
4070-01	Travel and Training	\$ 36,000	\$ 36,000	\$ 976	\$ -	\$ 976	3%
4070-20	Phone Allowance	\$ 520	\$ 520	\$ 54	\$ 26	\$ 80	15%
4075-01	Vehicle Expense	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4080-01	Miscellaneous Expense	\$ 25,000	\$ 25,000	\$ 4,221	\$ -	\$ 4,221	17%
4081-01	Dues & Subscription	\$ 15,500	\$ 15,500	\$ 1,976	\$ -	\$ 1,976	13%
	Subtotal	\$ 1,258,157	\$ 1,258,157	\$ 140,465	\$ 35,721	\$ 176,186	14%

LOWER CAPE FEAR WATER AND SEWER AUTHORITY
FISCAL YEAR 2026-2027 BUDGET

ACCOUNT NO.	EXPENDITURES	FY 2026-2027 APPROVED BUDGET	FY 2026-2027 AMENDED BUDGET	July 1 - August 31, 2026 ACTUAL		FY 26-27 TOTAL COMBINED BUDGET	% of Amended Budget As of 08/31/2026
				KINGS BLUFF	BLADEN BLUFFS		
	Operating						
4501-01	Sales Tax Expense	\$ 263,500	\$ 263,500	\$ -	\$ 100,321	\$ 100,321	
4510-01	Bladen Bluffs O & M	\$ 1,400,000	\$ 1,400,000	\$ -	\$ 373,437	\$ 373,437	38%
4515-01	Bladen Bluffs Hurricane Florence	\$ -	\$ -	\$ -	\$ -	\$ -	27%
4520-01	Utilities/Energy Kings Bluff	\$ 650,000	\$ 650,000	\$ 103,542	\$ -	\$ 103,542	0%
4530-01	Contract O & M Kings Bluff	\$ 592,857	\$ 592,857	\$ 219,569	\$ -	\$ 219,569	16%
4537-01	O&M Kings Booster Pump Bluff Pump Station	\$ -	\$ -	\$ -	\$ -	\$ -	37%
4541-01	Combined Enterprise Funded Series 2010 Principal	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4542-01	Combined Enterprise Funded Series 2010 Interest	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4543-01	Combined Enterprise System Ref Series 2012 Principal	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4544-01	Combined Enterprise System Ref Series 2012 Interest	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4545-01	Bladen Bluffs Debt Service Principal	\$ 1,190,000	\$ 1,190,000	\$ -	\$ -	\$ -	0%
4546-01	Bladen Bluffs Debt Service Interest	\$ 523,000	\$ 523,000	\$ -	\$ 58,570	\$ 58,570	11%
	Operating Capital Expense	\$ 9,645,810	\$ 9,645,810	\$ -	\$ 315,410	\$ 315,410	3%
4998-05	Transfer to R&R - Kings Bluff R&R Expense	\$ 250,621	\$ 250,621	\$ -	\$ -	\$ -	0%
	Transfer to R&R - Industrial	\$ -	\$ -	\$ -	\$ -	\$ -	0%
4998-06	Transfer to Enterprise Fund	\$ -	\$ -	\$ -	\$ -	\$ -	0%
2041-01	421 Relocation New Hanover County Loan Principal	\$ 19,000,000	\$ 19,000,000	\$ -	\$ -	\$ -	0%
5180-00	SRF/7 mile parallel line expenditures	\$ 33,515,788	\$ 33,515,788	\$ 4,275,148	\$ 4,598,259	\$ 8,873,407	23%
	Subtotal	\$ 34,773,945	\$ 34,773,945	\$ 4,738,725	\$ 883,459	\$ 5,622,184	16%
	TOTAL EXPENDITURES	\$ 34,773,945	\$ 34,773,945	\$ 4,738,725	\$ 883,459	\$ 5,622,184	16%

Executive Director Highlighted Activities:

- Regular Monthly meetings with the Design Build Team and the Owner's Advisor for the parallel line project.
- Routine meetings with HDR concerning projects
- Certify BB Monthly Report
- Monthly meeting with McKim and Creed
- Met with Director Dixon, and Danielle administered the Oath.
- Continued Fuquay-Varina IBT meeting with partners.
- Worked with HDR and Attorney to finalize HDR contract for consideration.
- Electus coordinated a tour of Kings Bluff with Rep. Rozer and Senator Jackson's staff, and they toured our facilities.
- Attended WEFTEC annual conference.
- Rural Water Long-Range Planning Committee meeting.
- Attended Brunswick County Commissioners meeting.
- 75 to 100% Project 2 Plan review.
- NCRWA Legislative and Regulatory Committee meeting.
- Pender County Hexivon project tour of Foam Fractionation Pilot for PFAS.
- Quarterly Meeting with Area Utility Directors.