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November 9, 2023

Ms. A. Shonta Dunston, Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4325

**Via Electronic Delivery**

Re: Carolina Water Service, Inc. of North Carolina  
Docket No. M-100, Sub 164  
Second Verified Semi-Annual Report Regarding Federal Funding  
Available Under the Infrastructure Investment and Jobs Act

Dear Ms. Dunston:

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act, H.R. 3684, 117th Cong. (2021) (IIJA). The IIJA contains provisions that relate to utility infrastructure improvement, including electric generation and transmission, access to clean water, and improved cybersecurity.

On November 10, 2022, the Commission entered an Order (IIJA Order) in this docket whereby certain named water and sewer, electric, and natural gas public utilities are required to file semi-annual reports regarding certain matters and issues delineated in the IIJA Order. On May 11, 2023, Carolina Water Service, Inc. of North Carolina (CWSNC or Company) filed its First Semi-Annual Report.

Specifically, the Commission requires the named public utilities to report on the following issues:

- a. Any additional programs under the IIJA of which the Commission and parties should be aware;
- b. Any state IIJA Procedures not previously reported;

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- c. Developments in IIJA funding opportunities and procedures for obtaining funding;
- d. Efforts by the reporting party to obtain funding under the IIJA, including existing federal programs that received additional funding under the IIJA, such reports to quantify the net benefits provided or expected to be provided to customers;
- e. Any specific actions the Commission might take in the public interest to increase the opportunities for North Carolina utility customers to receive benefits under the IIJA.

In addition, the reporting public utilities are requested to notify the Commission of any funding opportunities under the IIJA that are only available to state utility regulatory commissions.

CWSNC hereby responds as follows to the specific issues raised by the Commission in the IIJA Order:

a. **Additional Programs Under the IIJA of Which the Commission and Parties Should Be Aware**

CWSNC's Response: CWSNC is not aware of any additional programs under the IIJA of which the Commission and Parties should be aware.

b. **Any State IIJA Procedures Not Previously Reported**

CWSNC's Response: CWSNC is not aware of any state IIJA procedures not previously reported.

c. **Developments in IIJA Funding Opportunities and Procedures for Obtaining Funding**

CWSNC's Response: CWSNC is not aware of any additional developments in IIJA funding opportunities and procedures for obtaining funding.

d. **Efforts by CWSNC to Obtain Funding Under the IIJA, Including Existing Federal Programs that Received Additional Funding Under the IIJA, including a Quantification of the Net Benefits Provided or Expected to be Provided to Customers**

CWSNC's Response: On October 2, 2023, CWSNC filed seven applications<sup>1</sup> for funding with the North Carolina Department of Environmental Quality (NCDEQ) for Drinking Water State Revolving Fund (DWSRF) funding. Three of the applications are for projects that CWSNC and the Public Staff identified for potential funding in the settlement in the Company's most recent rate case (Docket No. W-354, Sub 400).

Set forth below are synopses of the seven DWSRF applications filed by the Company with NCDEQ on October 2, 2023.

**Application # 1: High Meadows Main and Valve Replacement Project**

The High Meadows water system was installed in the mid-1960's, has 274 connections, and is made up of outdated plastic pipes with many breaks, leakages, and pressure issues in the system. The system, a collection of asbestos -cement pipe, PVC pipe, galvanized pipe, and other assorted plastic pipes, needs to be replaced. System pressure varies significantly in the system and is tied directly to elevation. During peak periods, pressure within the system ranges from 34 pounds per square inch (psi) to 122 psi. The NCDEQ requires that pressure within any system in North Carolina should not drop below a minimum of 30 psi. The High Meadows system satisfies this rule, but the proposed High Meadows Main and Valve Replacement Project is formulated to assist in stabilizing water pressure within the High Meadows system.

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<sup>1</sup> Applications for Projects 1 and 2 were previously filed with the NCDEQ on May 1, 2023, but they were not selected for funding. New Applications were created and resubmitted by CWSNC on October 2, 2023.

Within the High Meadows system, PVC pipe and valves need to be replaced. Seven hundred fifty linear feet (LF) of the 2-inch lines will be replaced with 6-inch lines that will provide better service, allowing High Meadows to meet NCDEQ requirements related to system pressure.

CWSNC has determined the best solution for the High Meadows water system through hydraulic modeling of the system. This solution includes the following updates:

Replacing and relocating the 1,100 LF of 2-inch waterline on Tree Top Lane east and west of the intersection with Meadow View Road. This replacement will include terminating the lines with blow-off valves and the installation of a pressure reducing valve (PRV) to help operating pressures and reduce the chance of future line breaks in the area. The waterline will be relocated out of the current roadway to lower the cost of future repairs.

The collective replacements of waterlines within the High Meadows Water system totals 1,850 LF of 2-inch waterline, 750 LF of which would be replaced with 6-inch waterline. This would increase the scope and ability of the High Meadows project to create a better economy of scale and stabilize the pressure issues within the system.

The combined cost of the project is \$410,000. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until the Company receives funding.

**Application # 2: Rutledge Landing North Well #3 Rehabilitation Project**

CWSNC owns and operates a water system at Rutledge Landing in Knightdale, North Carolina. The water system serves approximately 283 customers. The water system is currently served by two groundwater wells: Well #4 and Well #5. Another well exists, Well #3, but it is out of service due to water quality issues related to the radiological of Uranium and Combined Radium. Uranium and Combined Radium do not meet the applicable existing Maximum Contaminant Levels (MCLs).

Upon completing a review of the entire Rutledge Landing water system, CWSNC developed the Rutledge Landing Well #3 Treatment Project to initiate the complete overhaul of the water system to bring the site into compliance with current MCL requirements. The Project consists of replacing the entire water system with a new greensand filter system, a uranium/radium removal system, an iron removal system, a backwash system, the inclusion of remote monitoring, and specific piping network modifications.

By adding new water treatment systems, CWSNC intends to maintain the existing water source of supply and treat the water at Well #3 to meet existing MCLs. Upon completion of the Rutledge Landing Well #3 Treatment Project, CWSNC will put Well #3 in service, which will serve as a public health benefit by providing a clean and reliable source of water.

The Rutledge Landing Well #3 Treatment project will cost \$495,980. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

### **Application # 3: Phase 1 - AMI Meter Exchange Project**

CWSNC owns and operates 112 separate water systems in 38 counties across North Carolina. In most water systems, utility lines are connected to customer service lines with an aging manual water meter. The Phase 1 - AMI Meter Exchange Project will exchange aging manual water meters with Neptune MACH 10 AMI Meters in 19 systems across North Carolina, serving approximately 9,324 customers. The project also includes installing network equipment to fully implement AMI enabled systems. The table below provides the list of water systems that are in scope for this project, the County in which each system is located, and the average age of the existing meters within each system. This project is expected to be completed by the end of 2023.

Neptune MACH 10 AMI meters will be installed at all service connections in the systems listed below. AMI technology improves customer service and customer satisfaction by reducing the number of estimated reads, reducing customer service time, and providing customers with increased access to water usage throughout each billing cycle. AMI technology also improves meter reading and billing accuracy by providing real time data used for high bill investigations and reduces the potential for human errors in meter reading or entering read data. Operational efficiencies can be achieved with implementation of AMI technology by providing automated data collection that enables resources to be deployed in more impactful ways across the utility, and providing easy access to data that allows operations staff to resolve water issues more quickly.

Water System Name	PWSID	County	Average Age of Existing Meters (Years)	Number of Connections
Bradfield Farms	01-60-264	Cabarrus County	14	1,138
Danby	01-60-156	Mecklenburg County	14	1,634
Silverton	01-13-219	Cabarrus County	3	61
The Point	01-49-185	Iredell County	14	1,583
Bear Paw	01-20-103	Cherokee County	21	366
Bent Creek	01-11-102	Buncombe County	9	307
Carolina Trace	03-53-101	Lee County	17	1,699
Forest Hills	01-50-107	Jackson County	18	127
High Vista Estates	01-45-140	Henderson County	17	245
Riverbend Estates	01-57-108	Macon County	6	140
Sherwood Forest	01-88-116	Transylvania County	0.5	277
The Ridges	01-22-108	Clay County	4	64
Waterglyn	01-56-134	McDowell County	10	45
Woodhaven	01-45-147	Henderson County	15	81
Chapel Hills	01-95-108	Watauga County	23	95
Crestview Estates	01-95-128	Watauga County	19	38
Hound Ears	01-95-112	Watauga County	19	449
Ski Mountain	01-95-119	Watauga County	19	251
Wolf Laurel	01-58-101	Yancey County	16	724

The Phase 1 - AMI Meter Exchange Project will cost \$5,628,879. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

#### **Application # 4: Phase 2 - AMI Meter Exchange Project**

CWSNC's Phase 2 - AMI Meter Exchange Project will exchange aging manual water meters with Neptune MACH 10 AMI Meters in 16 systems across North Carolina, serving approximately 4,222 customers. The project also includes installing network equipment to fully implement AMI enabled systems. The table below provides the list of water systems that are in scope for this project, the County in which each system is located, and the average age of the existing meters within system.

Neptune MACH 10 AMI meters will be installed at all service connections in the systems listed below.<sup>2</sup>

Water System Name	PWSID	County	Average Age of Existing Meters (Years)	Number of Connections
Amber Acres	03-92-236	Wake County	4	95
Belvedere	04-71-111	Pender County	16	1,374
College Park	01-36-214	Gaston County	13	81
Country Hills	01-60-218	Mecklenburg County	15	68
Eagle Crossing	43-92-195	Wake County	18	77

<sup>2</sup> Note that the robust benefits of AMI technology are the same as listed above in the discussion of Application # 3, Phase 1 – AMI Meter Exchange Project.



Eastgate	03-26-280	Cumberland County	17	81
Forest Brook	01-36-205	Gaston County	13	82
Grandview	02-34-124	Forsyth County	17	77
Heathfield	20-60-020	Mecklenburg County	18	66
Huntington Forest	01-60-146	Mecklenburg County	12	80
Sherwood Park	03-63-115	Moore County	18	99
Ski Country	01-06-119	Avery County	8	75
Tanglewood South	03-26-367	Cumberland County	19	102
Tuckahoe	03-92-333	Wake County	24	87
Winston Plantation	40-51-002	Johnston County	21	89
Whispering Pines	03-63-112	Moore County	16	1,689

The Phase 2 - AMI Meter Exchange project will cost \$2,745,537. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

#### **Application # 5: Bear Paw - Drill New Well Project**

CWSNC owns and operates the water system for the Bear Paw Resort Community in Murphy, NC. There are currently 364 connections with four wells in service. Well #1 is near 191 Overlook Drive, and Wells #2, #5, and #6 are near 60 Village Road. CWSNC proposes to add an additional well to the system to

address capacity constraints and to create redundancy. The well is planned to be at the entrance to Bear Paw Resort.

CWSNC will begin the process of drilling and developing a new well to add redundancy to the existing water supply system and ensure regulatory compliance. There are currently 365 premises, 364 of which are approved by NCDEQ. Current well capacity is 103,000 gallons per day pumping at 12 hours per day as allowed by NCDEQ. The current peak demand is at 100,000 gallons per day during the summer months. The wells are challenged to meet demand during drought periods.

The goal of the project is to add a ground water supply source to support the Bear Paw Resort community and its continued growth of 5 to 10 homes per year. The design will include location of the proposed well, details of the well head construction and layout, and location of the proposed water supply piping from the well location to the treatment building and any related storage facility.

The Bear Paw - Drill New Well Project will cost \$447,329. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

#### **Application # 6: Watauga Vista - Water Main Replacement Project**

CWSNC owns and operates the water system for the Watauga Vista Community in Jackson County, NC. There are currently 142 connections served by two wells. The system also includes four water tanks and three booster systems. CWSNC is proposing to replace the existing 2-inch waterline that runs

cross-country from Possum Trot Trail to North Valley View Road with a 6-inch waterline to increase volume and pressure.

The existing 2-inch PVC waterline that serves CWSNC customers on Possum Trot Trail is fed from two directions. One source comes from North Valley View Road and cross-country up a steep slope. The second feed source is a 2-inch PVC from the West along Possum Trot Trail. Pressures are low on Possum Trot Trail and numerous leaks and breaks occur on the steep cross-country section.

CWSNC proposes to install approximately 2,300 linear feet of new 6-inch ductile iron pipe (DIP) waterline from Young Cove Road to the end of Possum Trot Trail to reduce leaks and line breaks and increase pressure in the system.

The Watauga Vista - Water Main Replacement Project will cost \$151,083. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

**Application # 7: Amber Acres North - Well #4 - Radium/Uranium Treatment Addition Project**

CWSNC owns and operates the water system at Amber Acres North in Durham, North Carolina. The system currently serves 308 connections with four groundwater wells. One of the wells within the system, Well #4, has been operational since 1996, and was in compliance with NCDEQ standards until October 2022, when the well exceeded the MCL for Uranium with a Running Annual Average (RAA) of 28.58 pCi/L. A Notice of Violation (NOV) was issued for violation of the combined Uranium MCL allowed by North Carolina's Rule

Governing Public Water Systems (15A NCAC 18C .1520 [40 CFR 141.66(b,c,c)]) exceedance on October 26, 2022.

The Amber Acres North - Well #4 - Radium/Uranium Treatment Addition Project includes the design, permitting and construction of a water supply system to bring Well #4 into NCDEQ compliance with the addition of an anion exchange resin filtration system, a Best Available Technology, to the well treatment system; an updated backwash system; remote monitoring; piping modifications; and site work (inclusive of grading, cleanup, and restoration).

The nearby Well #2 already contains a resin treatment system that is undersized for the combined flow of the two wells. The wells are approximately 75 yards apart. The proposed project would install a single tandem tank filtration system with backwash brine tank capable of removing uranium and radium from the combined flow of both wells.

The Amber Acres North - Well #4 - Radium/Uranium Treatment Addition Project will cost \$495,980. CWSNC does not currently have any quantification or calculations of net benefits to customers for this funding and those benefits cannot be calculated until CWSNC receives funding.

e. Any Specific Actions the Commission Might Take in the Public Interest to Increase the Opportunities for North Carolina Utility Customers to Receive Benefits Under the IIJA

CWSNC's Response: CWSNC requests that the Commission and Public Staff file written responses with the NCDEQ in support of each of the seven DWSRF applications filed by the Company on October 2, 2023.

f. Funding Opportunities Under the IIJA That Are Only Available to State Utility Regulatory Commissions

CWSNC's Response: CWSNC is not aware of any new funding opportunities under the IIJA that are only available to state utility regulatory commissions.

This concludes CWSNC's response to the issues posed by the Commission. A copy of this Second Semi-Annual Verified Report has been served on the parties of record to this docket.

**Electronically Submitted**

**/s/Jo Anne Sanford**  
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North Carolina State Bar No. 6831

**/s/Robert H. Bennink, Jr.**  
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Attorneys for Carolina Water Service, Inc. of  
North Carolina

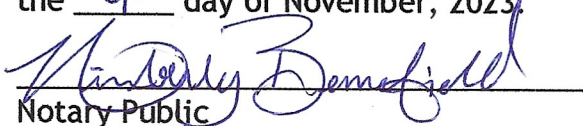
VERIFICATION

Reese Hannon, being duly sworn, deposes and says: that he is the Chief of Staff for Carolina Water Service, Inc. of North Carolina; that he is familiar with the facts set out in the Second Verified Semi-Annual Report of Carolina Water Service, Inc. of North Carolina Regarding Federal Funding Available Under the Infrastructure Investment and Jobs Act filed in Docket No. M-100, Sub 164; that he has read the foregoing Second Verified Semi-Annual Report and knows the contents thereof; and that the same is true of his knowledge except as to those matters stated therein on information and belief, and as to those he believes them to be true.



Reese Hannon

Sworn to and subscribed before me this  
the 9th day of November, 2023.

  
Notary Public

My Commission Expires: November 8, 2032

