

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

S. DANIEL SMITH

Director



NORTH CAROLINA
Environmental Quality

December 21, 2021

Mr. Jamie Revels, P.E.
Public Utilities Director
Town of Cary
P.O. Box 8005
Cary, NC 27512-8005

Subject: Compliance Sampling Inspection (CSI)
North Cary Water Reclamation Facility (WRF)
NPDES Permit No. NC0048879
Wake County

Dear Mr. Revels:

On October 28, 2021, Cheng Zhang, Scott Vinson, Jason Robison, and Stephanie Goss with the Raleigh Regional Office (RRO) of the Division of Water Resources (DWR), and David Phillips of EPA Regional 4 conducted a compliance sampling inspection of the subject facility. The assistance of Paul Ray, Jonathan Bulla, and Jason Parker was greatly appreciated during the inspection. Observations during the inspection are summarized below, as well as an inspection checklist is attached for your records.

1. The current permit became effective on January 01, 2019 and expires February 28, 2023. North Cary WRF is permitted to discharge at a rate of 12.0 MGD and consists of: mechanical screening; influent pump station; grit and grease removal system; nutrient removal system consisting of anaerobic selectors, oxidation ditches, anoxic zones and reaeration zones; secondary clarifiers; deep-bed sand filters; UV disinfection; cascade aeration; gravity belt thickeners; and aerated sludge holding tanks. During the inspection one of the three reactor basins, one of two UV channels, and one of the three circular clarifiers were offline due to low flow. All online treatment units appeared to be operating satisfactorily.

2. Basinwide Information Management System (BIMS) classifies the facility as a WW-4 Wastewater Treatment Plant. Jonathan Bulla is listed as the Operator in Responsible Charge (ORC). Brian Cartwright, James Bridges, and Jason Parker are listed as Back-up Operator in Responsible Charge (Back-up ORC), they are all WW-4 certified. The plant is staffed 24 hours/day, 7 days a week.

3. Records Review: Discharge Monitoring Report records for January and July of 2021 were reviewed with lab bench sheets and no transcription errors were noted. Chain of Custody



North Carolina Department of Environmental Quality | Division of Water Resources
Raleigh Regional Office | 3800 Barrett Drive | Raleigh, North Carolina 27609
919.791.4200

forms are completed and kept on site. A daily operation log book is maintained and kept on site. Records are maintained for at least three years.

4. The laboratory on site is certified to analyze most permit parameters (Lab Certification No. 107). Toxicity and Mercury are sent to private labs for analysis. A cursory review of the laboratory noted all pH buffer stock was within expiration dates. Field meter calibration were performed as required. The sample refrigerator, as well as the fecal and BOD incubators, were all found to be compliant with temperature requirements.

5. Wasted sludge is thickened and temporarily stored on site in aerated tanks. Thickened sludge is hauled to the South Cary WRF or Western Wake Regional WRF for aerobic digestion and thermal drying into Class A residuals.

6. The receiving stream that the facility discharges to listed in the permit is Crabtree creek, Class B, Nutrient Sensitive Waters, in the Neuse River basin. The right of way to the discharged point is maintained. The effluent was clear and free of foam. No visible impacts were noted immediately downstream of the discharge point. **It was noted that the receiving stream is actually an unnamed tributary to Crabtree Creek (Outfall 001 is about 100 yards away from the main channel of Crabtree Creek), the receiving stream of the facility will be revised when the permit is up for renewal.**

7. As part of the CSI, influent and effluent composite samples collected using the facility's samplers were split into three portions and analyzed for permit required parameters by North Cary WRF laboratory, NC DWR laboratory, and a contract laboratory (Environmental 1). The inspector also collected a grab effluent sample for analysis of fecal coliform at DWR laboratory. Field parameters were analyzed by facility staff. DWR laboratory results (summarized below) were found comparable with the ones reported on the facility's October 2021 DMR.

Effluent

Parameter	Sample Type	Permit Limit (Weekly average)	Result
CBOD	Composite	6.0 mg/L	<2.0 mg/L
TSS	Composite	45 mg/L	<5.6 mg/L
Ammonia	Composite	1.5 mg/L	0.05 mg/L
TKN	Composite		*
Nitrate+Nitrite	Composite		0.68 mg/L
Total Nitrogen	Composite		**
Total Phosphorous	Composite		0.3 mg/L
Fecal coliform	Grab	400 CFU /100 ml	3 CFU /100 ml

* DWR lab was unable to analyze the sample

** Unable to calculate

Influent

Parameter	Sample Type	Permit Limit (Weekly average)	Result
BOD	Composite		250 mg/L
TSS	Composite		329 mg/L



Field Parameters (Effluent)

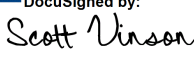
Parameter	Sample Type	Permit Limit	Result
Temperature	Grab		22.8 °C
pH	Grab	6-9	7.5
Dissolved oxygen	Grab	>6 mg/L	8.4 mg/L

Influent and effluent sampling performed by the facility was observed and found to meet the permit requirements. Sampling split performed by facility staff was observed. It was noted that:

- During sample pouring, a sample bottle cap fell to the ground, and was picked up, without rinsing or replacement;
- A section of tubing for influent sample appeared not of required material (Tygon).

The result of this compliance sampling inspection is compliant. If you have any questions regarding the attached reports or any of the findings, please contact Cheng Zhang at: (919) 791-4200 (or email: cheng.zhang@ncdenr.gov).

Sincerely,

DocuSigned by:

 BCD9D825D4A46D...

Scott Vinson, Regional Supervisor
 Water Quality Regional Operations Section
 Raleigh Regional Office
 Division of Water Resources

Attachments: Compliance Inspection Report
 EPA Sampling Inspection Checklist

Cc: Central Files w/attachment (Laserfiche)
 Raleigh Regional Office w/attachment
 Jonathan Bulla, ORC (electronic copy only)



United States Environmental Protection Agency Washington, D.C. 20460 Form Approved. OMB No. 2040-0057 Approval expires 8-31-98					
Water Compliance Inspection Report					
Section A: National Data System Coding (i.e., PCS)					
Transaction Code 1 N 2 5 3 NC0048879 11 12 21/10/28 17 S 19 S 20 	NPDES yr/mo/day Inspection Type Inspector Fac Type				
Inspection Work Days 67 Facility Self-Monitoring Evaluation Rating 70 3 B1 71 QA 72 N -----Reserved----- 73 74 75 76 					
Section B: Facility Data					
Name and Location of Facility Inspected (For Industrial Users discharging to POTW, also include POTW name and NPDES permit Number) North Cary WRF 1900 Old Reedy Creek Rd Cary NC 27513	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Entry Time/Date 08:30AM 21/10/28</td> <td style="padding: 5px;">Permit Effective Date 19/01/01</td> </tr> <tr> <td style="padding: 5px;">Exit Time/Date 03:00PM 21/10/28</td> <td style="padding: 5px;">Permit Expiration Date 23/02/28</td> </tr> </table>	Entry Time/Date 08:30AM 21/10/28	Permit Effective Date 19/01/01	Exit Time/Date 03:00PM 21/10/28	Permit Expiration Date 23/02/28
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Exit Time/Date 03:00PM 21/10/28	Permit Expiration Date 23/02/28				
Name(s) of Onsite Representative(s)/Titles(s)/Phone and Fax Number(s) /// Jonathan Andrew Bulla//919-677-0850 / Jonathan Andrew Bulla/ORC/919-677-0850/	Other Facility Data				
Name, Address of Responsible Official/Title/Phone and Fax Number Paul D Ray, 1900 Old Reedy Creek Rd Cary NC 27513//919-677-0850/	Contacted Yes				
Section C: Areas Evaluated During Inspection (Check only those areas evaluated)					
☒ Permit ☒ Flow Measurement ☒ Operations & Maintenance ☒ Records/Reports ☒ Self-Monitoring Program ☒ Sludge Handling Disposal ☒ Facility Site Review ☒ Effluent/Receiving Water ☒ Laboratory					
Section D: Summary of Finding/Comments (Attach additional sheets of narrative and checklists as necessary)					
(See attachment summary)					
Name(s) and Signature(s) of Inspector(s) Cheng Zhang	Agency/Office/Phone and Fax Numbers DWR/RRO WQ/919-791-4200/				
Date 12/21/2021	DocuSigned by: D6171508E1EC41F...				
Signature of Management Q A Reviewer					
Agency/Office/Phone and Fax Numbers					
Date					
DocuSigned by: Scott Vinson					
12/21/2021					

NPDES	yr/mo/day	Inspection Type	(Cont.)	1
3 NC0048879 11	12 21/10/28 17	18 S		

Section D: Summary of Finding/Comments (Attach additional sheets of narrative and checklists as necessary)

On October 28, 2021, Cheng Zhang, Scott Vinson, Jason Robison, and Stephanie Goss with the Raleigh Regional Office (RRO) of the Division of Water Resources (DWR), and David Phillips of EPA Regional 4 conducted a compliance sampling inspection of the subject facility. The assistance of Paul Ray, Jonathan Bulla, and Jason Parker was greatly appreciated during the inspection. Observations during the inspection are summarized below, as well as an inspection checklist is attached for your records.

- The current permit was effective January 01, 2019 and expires February 28, 2023. The facility is permitted to discharge at a rate of 12.0 MGO and consists of: mechanical screening; influent pump station; grit and grease removal system; Nutrient removal system consisting of anaerobic selectors, oxidation ditches, anoxic zones and reaeration zones; secondary clarifiers; deep-bed sand filters; UV disinfection; cascade aeration; gravity belt thickeners; aerated sludge holding tanks. During the inspection one of the three reactor basins, one of two UV channels, and one of the three circular clarifiers were offline due to low flow. All online treatment units appeared to be operating satisfactorily.
- Basinwide Information Management System (BIMS) classifies the facility as a WW-4 Wastewater Treatment Plant. Jonathan Bulla is listed as the Operator in Charge (ORC). Brian Cartwright, James Bridges, and Jason Parker are listed as back-up Operator in Charge (bORC), they are all WW-4 certified. The plant is staffed 24 hours/day 7 days a week.
- Records Review: Discharge Monitoring Report records for January and July of 2021 were reviewed with lab bench sheets and no transcription errors were noted. Chain of Custody forms are completed and kept on site. A daily operation log book is maintained and kept on site. Records are maintained for at least three years.
- The laboratory on site is certified to analyze most permit parameters (lab cert. no. 107). Toxicity and Mercury are sent to private labs for analysis. A cursory review of the laboratory noted all pH buffer stock was in date. The sample refrigerator, as well as the fecal and BOD incubators, were all found to be compliant with temperature requirements. Field meter calibration records were reviewed.
- Biosolids are thickened and temporarily stored on site in aerated tanks. The sludge is hauled to the South Cary WRF or Western Wake Regional WRF for aerobic digestion and thermal drying into Class A residuals.
- The facility discharges to Crabtree creek, Class B, Nutrient Sensitive Waters, in the Neuse River basin. The right of way to the discharged point is maintained. The effluent was clear and free from foam. No visible impacts were noted immediately downstream of the discharge point. It was noted that the receiving stream is actually an unnamed tributary to Crabtree Creek (Outfall 001 is about 100 yards away from the main channel of Crabtree Creek), the receiving stream of the facility will be revised when the permit is up for renewal.
- Influent and effluent composite samples collected using the facility's samplers were split into three aliquots and analyzed for permit required parameters by North Cary WRF laboratory, NC DWR laboratory, and a contract laboratory (Environmental 1). The inspector also collected a grab effluent sample for analysis of fecal coliform at DWR laboratory. Field parameters were analyzed by facility staff. DWR laboratory results were found comparable with the ones reported on the facility's October 2021 DMR.

Permit: NC0048879

Owner - Facility: North Cary WRF

Inspection Date: 10/28/2021

Inspection Type: Compliance Sampling

Operations & Maintenance**Yes No NA NE**

Is the plant generally clean with acceptable housekeeping?

☒ ☐ ☐ ☐

Does the facility analyze process control parameters, for ex: MLSS, MCRT, Settleable Solids, pH, DO, Sludge Judge, and other that are applicable?

☒ ☐ ☐ ☐

Comment: Facility analyzes the following parameters for process control: mixed liquor settleometer, suspended solids, pH, phosphax (PO4-P), nitratex (NOx), temperature; UV dose and flow; returned activated sludge flow; wasted sludge volume; alkalinity; and clarifier sludge blanket.

Permit**Yes No NA NE**

(If the present permit expires in 6 months or less). Has the permittee submitted a new application?

☐ ☐ ☒ ☐

Is the facility as described in the permit?

☐ ☒ ☐ ☐

Are there any special conditions for the permit?

☒ ☐ ☐ ☐

Is access to the plant site restricted to the general public?

☒ ☐ ☐ ☐

Is the inspector granted access to all areas for inspection?

☒ ☐ ☐ ☐

Comment: The receiving stream is actually an unnamed tributary to Crabtree Creek (Outfall 001 is about 100 yards away from the main channel of Crabtree Creek), receiving stream will be revised when the permit is up for renewal.

The gate was left open due to the ongoing construction.

Record Keeping**Yes No NA NE**

Are records kept and maintained as required by the permit?

☒ ☐ ☐ ☐

Is all required information readily available, complete and current?

☒ ☐ ☐ ☐

Are all records maintained for 3 years (lab. reg. required 5 years)?

☒ ☐ ☐ ☐

Are analytical results consistent with data reported on DMRs?

☒ ☐ ☐ ☐

Is the chain-of-custody complete?

☒ ☐ ☐ ☐

Dates, times and location of sampling

☒

Name of individual performing the sampling

☒

Results of analysis and calibration

☒

Dates of analysis

☒

Name of person performing analyses

☒

Transported COCs

☒

Are DMRs complete: do they include all permit parameters?

☒ ☐ ☐ ☐

Has the facility submitted its annual compliance report to users and DWQ?

☒ ☐ ☐ ☐

(If the facility is = or > 5 MGD permitted flow) Do they operate 24/7 with a certified operator on each shift?

☒ ☐ ☐ ☐

Permit: NC0048879

Owner - Facility: North Cary WRF

Inspection Date: 10/28/2021

Inspection Type: Compliance Sampling

Record Keeping**Yes No NA NE**

Is the ORC visitation log available and current?

☒ ☐ ☐ ☐

Is the ORC certified at grade equal to or higher than the facility classification?

☒ ☐ ☐ ☐

Is the backup operator certified at one grade less or greater than the facility classification?

☒ ☐ ☐ ☐

Is a copy of the current NPDES permit available on site?

☒ ☐ ☐ ☐

Facility has copy of previous year's Annual Report on file for review?

☒ ☐ ☐ ☐Comment: DMR records and ORC logbook are maintained for three years.**Flow Measurement - Influent****Yes No NA NE**

Is flow meter used for reporting?

☐ ☒ ☐ ☐

Is flow meter calibrated annually?

☒ ☐ ☐ ☐

Is the flow meter operational?

☒ ☐ ☐ ☐

(If units are separated) Does the chart recorder match the flow meter?

☐ ☐ ☒ ☐Comment: Influent and effluent flow meters are calibrated twice per year. Last calibration was on September 27, 2021.**Bar Screens****Yes No NA NE**

Type of bar screen

a.Manual

☒

b.Mechanical

☒

Are the bars adequately screening debris?

☒ ☐ ☐ ☐

Is the screen free of excessive debris?

☒ ☐ ☐ ☐

Is disposal of screening in compliance?

☒ ☐ ☐ ☐

Is the unit in good condition?

☒ ☐ ☐ ☐Comment: Two coarse screens (1/2 inch) and two fine screens (1/4 inch). Manual bar screen serves as backup.**Pump Station - Influent****Yes No NA NE**

Is the pump wet well free of bypass lines or structures?

☒ ☐ ☐ ☐

Is the wet well free of excessive grease?

☒ ☐ ☐ ☐

Are all pumps present?

☒ ☐ ☐ ☐

Are all pumps operable?

☒ ☐ ☐ ☐

Are float controls operable?

☒ ☐ ☐ ☐

Is SCADA telemetry available and operational?

☒ ☐ ☐ ☐

Permit: NC0048879

Owner - Facility: North Cary WRF

Inspection Date: 10/28/2021

Inspection Type: Compliance Sampling

Pump Station - Influent**Yes No NA NE**

Is audible and visual alarm available and operational?

☐ ☐ ☐ ☒Comment: Influent pump station #1 and #2, each with four pumps.**Grit Removal****Yes No NA NE**

Type of grit removal

a. Manual

☐

b. Mechanical

☒

Is the grit free of excessive organic matter?

☒ ☐ ☐ ☐

Is the grit free of excessive odor?

☒ ☐ ☐ ☐

Is disposal of grit in compliance?

☒ ☐ ☐ ☐

Comment:

Grease Removal**Yes No NA NE**

Is automatic grease removal present?

☒ ☐ ☐ ☐

Is grease removal operating properly?

☒ ☐ ☐ ☐

Comment:

Influent Sampling**Yes No NA NE**

Is composite sampling flow proportional?

☒ ☐ ☐ ☐

Is sample collected above side streams?

☒ ☐ ☐ ☐

Is proper volume collected?

☒ ☐ ☐ ☐

Is the tubing clean?

☒ ☐ ☐ ☐

Is proper temperature set for sample storage (kept at less than or equal to 6.0 degrees Celsius)?

☒ ☐ ☐ ☐

Is sampling performed according to the permit?

☒ ☐ ☐ ☐Comment: Flow proportional composite sample is collected, 220 ml/pulse (125,000 gallons)**Aeration Basins****Yes No NA NE**

Mode of operation

Ext. Air

Type of aeration system

Diffused

Is the basin free of dead spots?

☒ ☐ ☐ ☐

Are surface aerators and mixers operational?

☒ ☐ ☐ ☐

Are the diffusers operational?

☒ ☐ ☐ ☐

Permit: NC0048879

Owner - Facility: North Cary WRF

Inspection Date: 10/28/2021

Inspection Type: Compliance Sampling

Aeration Basins**Yes No NA NE**

Is the foam the proper color for the treatment process?

☒ ☐ ☐ ☐

Does the foam cover less than 25% of the basin's surface?

☒ ☐ ☐ ☐

Is the DO level acceptable?

☒ ☐ ☐ ☐

Is the DO level acceptable?(1.0 to 3.0 mg/l)

☒ ☐ ☐ ☐

Comment: Three trains of biological nutrient removal basins, Train A and C were on line. Train A was converted to a Biotenipho unit with submersible diffusers and ammonia/nitrate analyzers; Train C was the original BNR with surface aerators. Train B was being converted to Biotenipho unit. Train C will be converted to Biotenipho unit eventually.

Nutrient Removal**Yes No NA NE**

Is total nitrogen removal required?

☒ ☐ ☐ ☐

Is total phosphorous removal required?

☒ ☐ ☐ ☐

Type

Biological

Is chemical feed required to sustain process?

☐ ☒ ☐ ☐

Is nutrient removal process operating properly?

☒ ☐ ☐ ☐

Comment: Ferric sulfate can be used for phosphorous removal if needed. Facility plans to feed a carbon source to facilitate nutrient removal process.

Secondary Clarifier**Yes No NA NE**

Is the clarifier free of black and odorous wastewater?

☒ ☐ ☐ ☐

Is the site free of excessive buildup of solids in center well of circular clarifier?

☒ ☐ ☐ ☐

Are weirs level?

☒ ☐ ☐ ☐

Is the site free of weir blockage?

☒ ☐ ☐ ☐

Is the site free of evidence of short-circuiting?

☒ ☐ ☐ ☐

Is scum removal adequate?

☒ ☐ ☐ ☐

Is the site free of excessive floating sludge?

☒ ☐ ☐ ☐

Is the drive unit operational?

☒ ☐ ☐ ☐

Is the return rate acceptable (low turbulence)?

☒ ☐ ☐ ☐

Is the overflow clear of excessive solids/pin floc?

☒ ☐ ☐ ☐

Is the sludge blanket level acceptable? (Approximately ¼ of the sidewall depth)

☒ ☐ ☐ ☐

Comment: Two (A and C) of three secondary clarifiers were on line, sludge blankets were 1 and 1.75 feet, respectively.

Pumps-RAS-WAS**Yes No NA NE**

Are pumps in place?

☒ ☐ ☐ ☐

Permit: NC0048879

Owner - Facility: North Cary WRF

Inspection Date: 10/28/2021

Inspection Type: Compliance Sampling

Pumps-RAS-WAS**Yes No NA NE**

Are pumps operational?

☒ ☐ ☐ ☐

Are there adequate spare parts and supplies on site?

☒ ☐ ☐ ☐Comment: Each clarifier has a RAS-WAS pump station, with two RAS pumps and one WAS pump.**Filtration (High Rate Tertiary)****Yes No NA NE**

Type of operation:

Up flow

Is the filter media present?

☒ ☐ ☐ ☐

Is the filter surface free of clogging?

☒ ☐ ☐ ☐

Is the filter free of growth?

☒ ☐ ☐ ☐

Is the air scour operational?

☒ ☐ ☐ ☐

Is the scouring acceptable?

☒ ☐ ☐ ☐

Is the clear well free of excessive solids and filter media?

☒ ☐ ☐ ☐Comment: Deep-bed sand filters with 12 cells are backwashed constantly.**Disinfection - UV****Yes No NA NE**

Are extra UV bulbs available on site?

☒ ☐ ☐ ☐

Are UV bulbs clean?

☒ ☐ ☐ ☐

Is UV intensity adequate?

☒ ☐ ☐ ☐

Is transmittance at or above designed level?

☒ ☐ ☐ ☐

Is there a backup system on site?

☐ ☐ ☒ ☐

Is effluent clear and free of solids?

☒ ☐ ☐ ☐Comment: One of two UV channels were in use. Each channel has capacity of 21 MGD.**Flow Measurement - Effluent****Yes No NA NE**

Is flow meter used for reporting?

☒ ☐ ☐ ☐

Is flow meter calibrated annually?

☒ ☐ ☐ ☐

Is the flow meter operational?

☒ ☐ ☐ ☐

(If units are separated) Does the chart recorder match the flow meter?

☐ ☐ ☒ ☐Comment: Influent and effluent flow meters are calibrated twice per year. Last calibration was on September 27, 2021.**Effluent Sampling****Yes No NA NE**

Is composite sampling flow proportional?

☒ ☐ ☐ ☐

Is sample collected below all treatment units?

☒ ☐ ☐ ☐

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Effluent Sampling**Yes No NA NE**

Is proper volume collected?

☒ ☐ ☐ ☐

Is the tubing clean?

☒ ☐ ☐ ☐

Is proper temperature set for sample storage (kept at less than or equal to 6.0 degrees Celsius)?

☒ ☐ ☐ ☐

Is the facility sampling performed as required by the permit (frequency, sampling type representative)?

☒ ☐ ☐ ☐Comment: Flow proportional composite sample is collected, 220 ml/pulse (125,000 gallons)**Effluent Pipe****Yes No NA NE**

Is right of way to the outfall properly maintained?

☒ ☐ ☐ ☐

Are the receiving water free of foam other than trace amounts and other debris?

☒ ☐ ☐ ☐

If effluent (diffuser pipes are required) are they operating properly?

☐ ☐ ☒ ☐

Comment:

Upstream / Downstream Sampling**Yes No NA NE**

Is the facility sampling performed as required by the permit (frequency, sampling type, and sampling location)?

☒ ☐ ☐ ☐

Comment:

Laboratory**Yes No NA NE**

Are field parameters performed by certified personnel or laboratory?

☒ ☐ ☐ ☐

Are all other parameters(excluding field parameters) performed by a certified lab?

☒ ☐ ☐ ☐

Is the facility using a contract lab?

☒ ☐ ☐ ☐

Is proper temperature set for sample storage (kept at less than or equal to 6.0 degrees Celsius)?

☒ ☐ ☐ ☐

Incubator (Fecal Coliform) set to 44.5 degrees Celsius +/- 0.2 degrees?

☒ ☐ ☐ ☐

Incubator (BOD) set to 20.0 degrees Celsius +/- 1.0 degrees?

☒ ☐ ☐ ☐

Comment:

Standby Power**Yes No NA NE**

Is automatically activated standby power available?

☒ ☐ ☐ ☐

Is the generator tested by interrupting primary power source?

☒ ☐ ☐ ☐

Is the generator tested under load?

☒ ☐ ☐ ☐

Was generator tested & operational during the inspection?

☐ ☐ ☒ ☐

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Standby Power**Yes No NA NE**

Do the generator(s) have adequate capacity to operate the entire wastewater site?

☒ ☐ ☐ ☐

Is there an emergency agreement with a fuel vendor for extended run on back-up power?

☐ ☐ ☐ ☒

Is the generator fuel level monitored?

☒ ☐ ☐ ☐

Comment:

Chemical Feed**Yes No NA NE**

Is containment adequate?

☒ ☐ ☐ ☐

Is storage adequate?

☒ ☐ ☐ ☐

Are backup pumps available?

☒ ☐ ☐ ☐

Is the site free of excessive leaking?

☒ ☐ ☐ ☐

Comment:

Solids Handling Equipment**Yes No NA NE**

Is the equipment operational?

☒ ☐ ☐ ☐

Is the chemical feed equipment operational?

☒ ☐ ☐ ☐

Is storage adequate?

☒ ☐ ☐ ☐

Is the site free of high level of solids in filtrate from filter presses or vacuum filters?

☒ ☐ ☐ ☐

Is the site free of sludge buildup on belts and/or rollers of filter press?

☒ ☐ ☐ ☐

Is the site free of excessive moisture in belt filter press sludge cake?

☒ ☐ ☐ ☐

The facility has an approved sludge management plan?

☒ ☐ ☐ ☐

Comment: Two gravity belt thickeners dewater wasted sludge. Not in operation at the time of inspection (facility usually wastes sludge at night). Dewatered sludge is stored in two sludge holding tanks, and then taken to South Cary WRF or Western Wake Regional WRF for further treatment.

Aerobic Digester**Yes No NA NE**

Is the capacity adequate?

☒ ☐ ☐ ☐

Is the mixing adequate?

☒ ☐ ☐ ☐

Is the site free of excessive foaming in the tank?

☒ ☐ ☐ ☐

Is the odor acceptable?

☒ ☐ ☐ ☐

Is tankage available for properly waste sludge?

☒ ☐ ☐ ☐

Comment: Two 0.75 million gallon aerated sludge holding tanks. Only one was in use.

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Equalization Basins**Yes No NA NE**

Is the basin aerated?	☒	☐	☐	☐
Is the basin free of bypass lines or structures to the natural environment?	☒	☐	☐	☐
Is the basin free of excessive grease?	☒	☐	☐	☐
Are all pumps present?	☒	☐	☐	☐
Are all pumps operable?	☐	☐	☐	☒
Are float controls operable?	☐	☐	☐	☒
Are audible and visual alarms operable?	☐	☐	☐	☒
# Is basin size/volume adequate?	☐	☐	☐	☐

Comment: Being converted from two existing clarifiers, one with aeration, an EQ pump station was under construction at the time of inspection.

PERMITTEE SAMPLING INSPECTION CHECKLIST

Inspection Date: 10/28/2021

Owner / Facility Names: North Cary WRF

NPDES Permit #: NC0048879

County: Wake

	Y	N	N/A	NE
A. PERMITTEE SAMPLING EVALUATION				
1. Take samples at sites specified in the permit.	☒	☐	☐	☐
2. Locations adequate for representative samples.	☒	☐	☐	☐
3. Flow proportioned samples obtained when required by the permit.	☒	☐	☐	☐
4. Complete sampling and analysis on parameters specified by the permit.	☒	☐	☐	☐
5. Conduct sampling and analysis in frequency specified by the permit.	☒	☐	☐	☐
6. Permittee uses the method of sample collection required by the permit. Required method: <u>Grab and composite</u> If not, method being used is: ☐ Grab; ☐ Manual Composite; ☐ Automatic Composite	☒	☐	☐	☐
7. Sample collection procedures adequate:				
a. Samples refrigerated during compositing.	☒	☐	☐	☐
b. Proper preservation techniques used.	☒	☐	☐	☐
c. Containers and sample holding times before analyses conform to 40 CFR 136.3.	☒	☐	☐	☐
d. Samples analyzed in timeframe needed.	☒	☐	☐	☐
8. Facility performs monitoring and analyses more often than required by the permit. If so, results reported in the permittee's self-monitoring report.	☒	☐	☐	☐
9. Samples contain chlorine.	☐	☒	☐	☐
10. Use contract laboratory for sample analysis.	☒	☐	☐	☐
11. POTW collects samples from industrial users in pretreatment program.	☒	☐	☐	☐
B. SAMPLING INSPECTION PROCEDURES AND OBSERVATIONS				
12. Obtain grab samples.	☒	☐	☐	☐
13. Obtain composite sample. Sample frequency: <u>220 ml/pulse (125,000 gallons)</u> Preservation: <u>None</u>	☒	☐	☐	☐
14. Sample refrigerated during compositing?	☒	☐	☐	☐
15. Flow-proportioned sample collected.	☒	☐	☐	☐
16. Sample obtained from facility sampling device.	☒	☐	☐	☐
17. Sample representative of volume and nature of discharge.	☒	☐	☐	☐
18. Sample split with permittee.	☒	☐	☐	☐
19. Employ chain-of-custody procedures.	☒	☐	☐	☐
20. Samples collected in accordance with the permit.	☒	☐	☐	☐
21. Observe excessive foam, grease, floating solids at the outfall.	☒	☐	☐	☐
C. AUTOMATIC SAMPLER PROCEDURES AND OBSERVATIONS				
22. Sample intake tubing placed in a well-mixed, representative location (0.4 to 0.6 depth).	☒	☐	☐	☐
23. Individual aliquot volume checked and at least 100 ml aliquot collected.	☒	☐	☐	☐

	Y	N	N/A	NE
24. Proper sample tubing (Teflon™ for organics, otherwise Tygon®) and tubing with inner diameter at least 0.25 inches.	☐	☒	☐	☐
25. Proper composite sample container (glass for organics, otherwise plastic).	☒	☐	☐	☐
26. Proper refrigeration (≤ 6 deg. Centigrade or ice), with required documentation.	☒	☐	☐	☐
27. Proper wastewater velocity in the sample tubing (at least 2 feet per second).	☒	☐	☐	☐

D. EFFLUENT CHARACTERISTICS FOR ANALYSIS

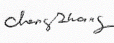
Sampling results are summarized in the inspection letter. A segment of tubing for influent sampling appeared not Tygon®.

E. COMMENTS

Both influent and effluent composites were flow proportional.

INSPECTOR: Cheng Zhang

SIGNATURE: _____

DocuSigned by:

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