



Department of Environmental Quality

Collection System Laws & Regs Grade 2

March 2020





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**NORTH CAROLINA
OPERATOR
CERTIFICATION
PROGRAM**

Needs To Know "NTK"

LAWS AND REGULATIONS

NCAC Title 15A, Chapter 8

NCAC Title 15A 2H .0200

NCGS 143B-300

NCGS 90A - 35

1. I-IV Describe the circumstances which may cause a certified operator's certification to be revoked or suspended.
2. I-IV Identify the functions of the Water Pollution Control System Operators Certification Commission (WPCSOCC).
3. I-IV Explain the requirement for a certified operator in responsible charge (ORC) for each wastewater collection system in North Carolina.
4. I-IV Identify the North Carolina governmental agency which has permitting authority for wastewater collection systems.
5. I-IV Describe the current State regulatory procedure with respect to violations of the regulations and identify penalties which can be imposed for these violations.
6. I-IV Identify the North Carolina regulation which sets forth the requirements and procedures for application and issuance of collection system permits.
7. I-IV Identify the minimum design requirements for pumping stations and sewer systems and sewer system extensions as outlined in 15A NCAC 2H .0219.

WHY Laws & Regs?

WHY certify operators?

Qualified vs. Certified

Laws & Regs that cover:

- **Classification of Collection Systems**
- **Certified Operator Responsibilities**
- **Minimum Design Requirements**
- **Disciplinary Actions**

Operators protect 3 things...

Public Health



Environment



Infrastructure



[NCGS § 90A-35](#)



Saturday flooding causes Bailey sewer spill

Posted Sunday, October 9, 2016 7:30 pm

From staff reports

BAILEY – Heavy rain from Hurricane Matthew swamped the town's sewer system and caused a spill of roughly 18,000 gallons of untreated wastewater Saturday, Mayor Timothy Johnson said.

The wastewater discharge occurred near the intersection of Benson and Main streets and was discovered around 6:30 p.m. Inflow and infiltration of excessive rainwater caused the spill, Johnson said.

Envirolink, Inc., which operates the town's wastewater system, said the 18,000 gallons of wastewater entered an unnamed tributary to Camp Branch in the Tar River Basin.

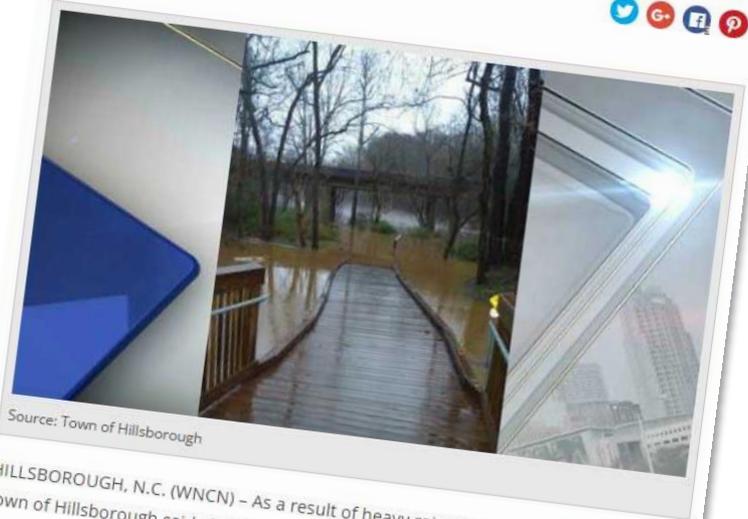
Workers found no evidence that the spill affected surface water in the basin, but Envirolink notified the N.C. Department of Environmental Quality of the spill Sunday. Johnson said the state Division of Water Resources is reviewing the matter.

State law requires cities and towns to notify the public when a wastewater discharge occurs.

For more information, contact Envirolink in Bailey at 252-235-4900.

Heavy rain causes discharge of untreated sewage in Hillsborough

By WNCN Staff
Published: December 24, 2015, 10:36 am



Source: Town of Hillsborough

HILLSBOROUGH, N.C. (WNCN) – As a result of heavy rain Wednesday afternoon, the town of Hillsborough said about 5,500 gallons of untreated sewage was discharged near the Eno River.

Five manholes along the Eno River overflowed at 2:30 p.m. Wednesday after Hillsborough received more than three inches of rain within 24 hours.

Hillsborough officials notified the North Carolina Department of Environmental Quality about the spill.

The Hillsborough Utilities Department are working on the issue.

The Riverwalk greenway and Gold Park were closed Tuesday, Dec. 22, after flooding of the Eno River submerged walkways in places. Closing signs and caution tape will be removed from entrances when the facilities are reopened.



wbvtv.com
ON YOUR SIDE



NEWS

WEATHER

SPORTS

VIDEO

TRAFFIC

FEATURES

COMMUNITY

CFPUA crews stop sewer overflow

Published: Monday, May 9th 2016, 2:02 pm EDT

Updated: Friday, May 13th 2016, 2:02 pm EDT

By: WECT Staff [CONNECT](#)



Crews with the Cape Fear Public Utility Authority responded to and stopped a sanitary sewer overflow at the intersection of Central Avenue and Washington Street on Monday.

(Source: WECT)

WILMINGTON, NC (WECT) - Crews with the Cape Fear Public Utility Authority responded to and stopped a sanitary sewer overflow at the intersection of Central Avenue and Washington Street on Monday.

The overflow happened at 11:29 a.m., and crews determined it was due to a broken air release valve.

Crews shut down a nearby pump station and turned the valve off to stop the spill at 12:15 p.m. Approximately 1,150 gallons of untreated wastewater entered Greenfield Lake, according to officials.

Vacuum trucks were used to clean the area.

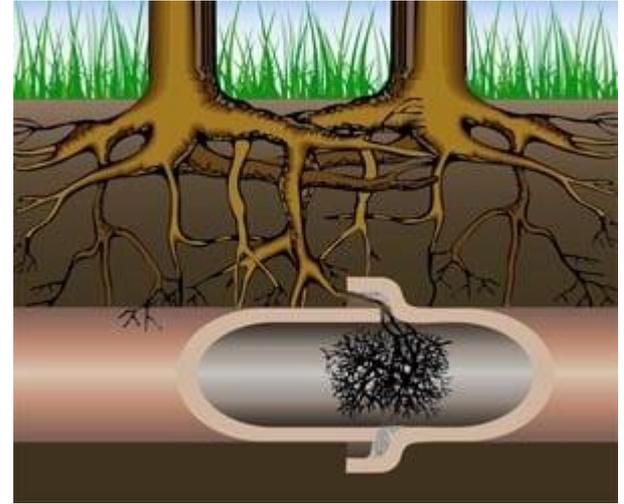
Copyright 2016 [WECT](#). All rights reserved.











Rules...Regs...Laws...

Department of Environmental Quality



General Statute

=

LAW

LAW: NC Gen. Stat. § 143-215.1

- Requires a permit if:
 - Enter into a contract for the construction and/or installation of any sewer system
 - Operate any sewer system, or
 - Alter or extend any sewer system
- Permitting authority for collection systems is
 - N.C. Division of Water Resources (DWR)

AUTHORITY: EMC

Environmental Management Commission

- Governing body over all things environmental in the state
- For violations of the rules, the EMC may assess penalties
 - Per day
 - Per violation
 - For every day the violation continues



AUTHORITY: DWR

Division of Water Resources

- State agency delegated by the EMC to issue CS permits

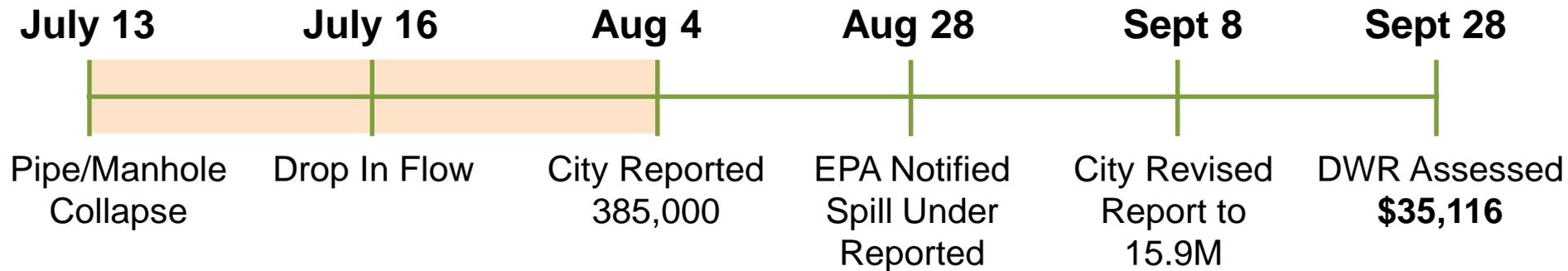
Legislature creates **LAW**

LAW gives authority to state (DWR)

- **PERMIT** collection systems
- Develop **RULES**



CITY OF THOMASVILLE – 2009 Massive SSO Assessed \$35,116



WHAT WERE THE MAJOR ISSUES?

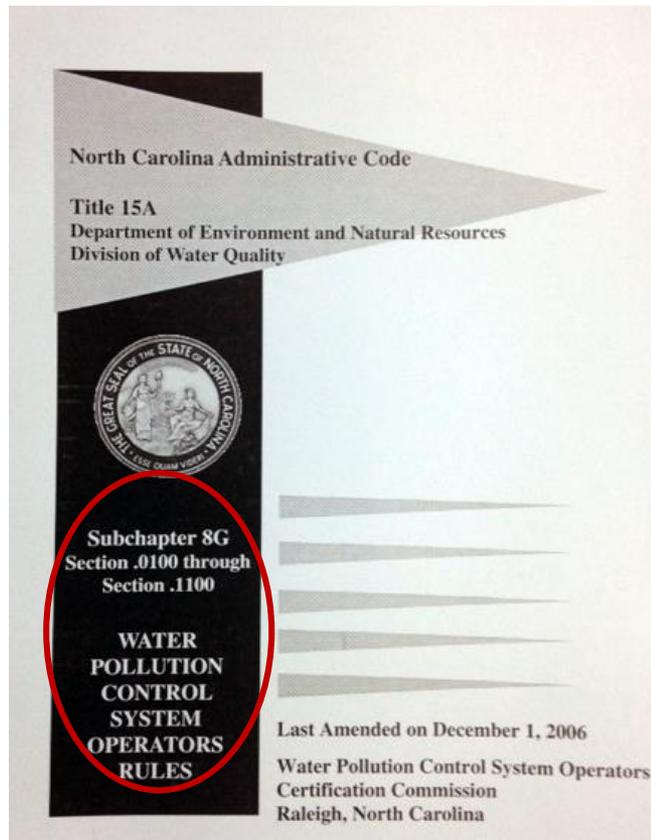
- 22 days unreported
- Intentionally under reporting spill

Initial report showed only data from 8/4
The city did not include data from 7/13 on in estimating spill amounts

RULES:

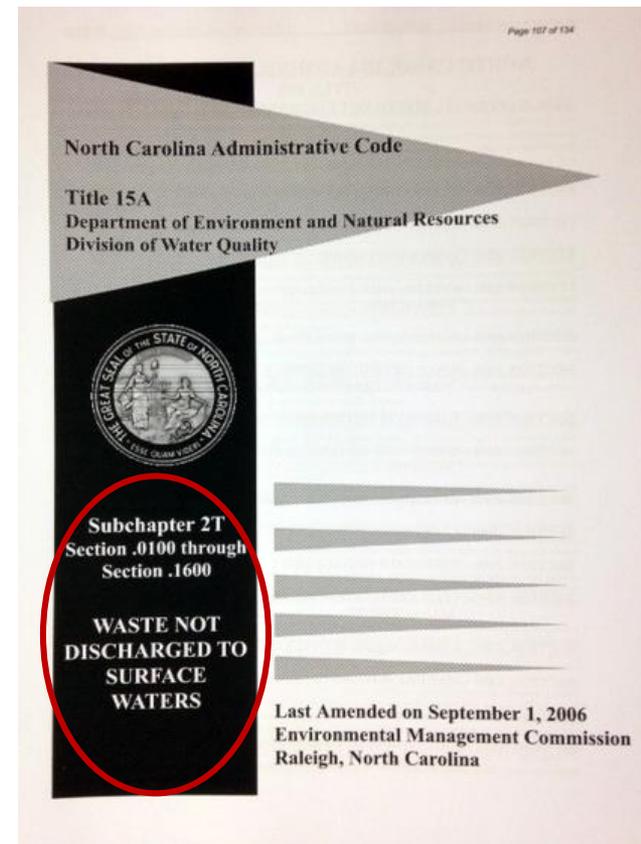
Regulating Operators

Title 15A NCAC 8G



Regulating Collection Systems

Title 15A NCAC 2T

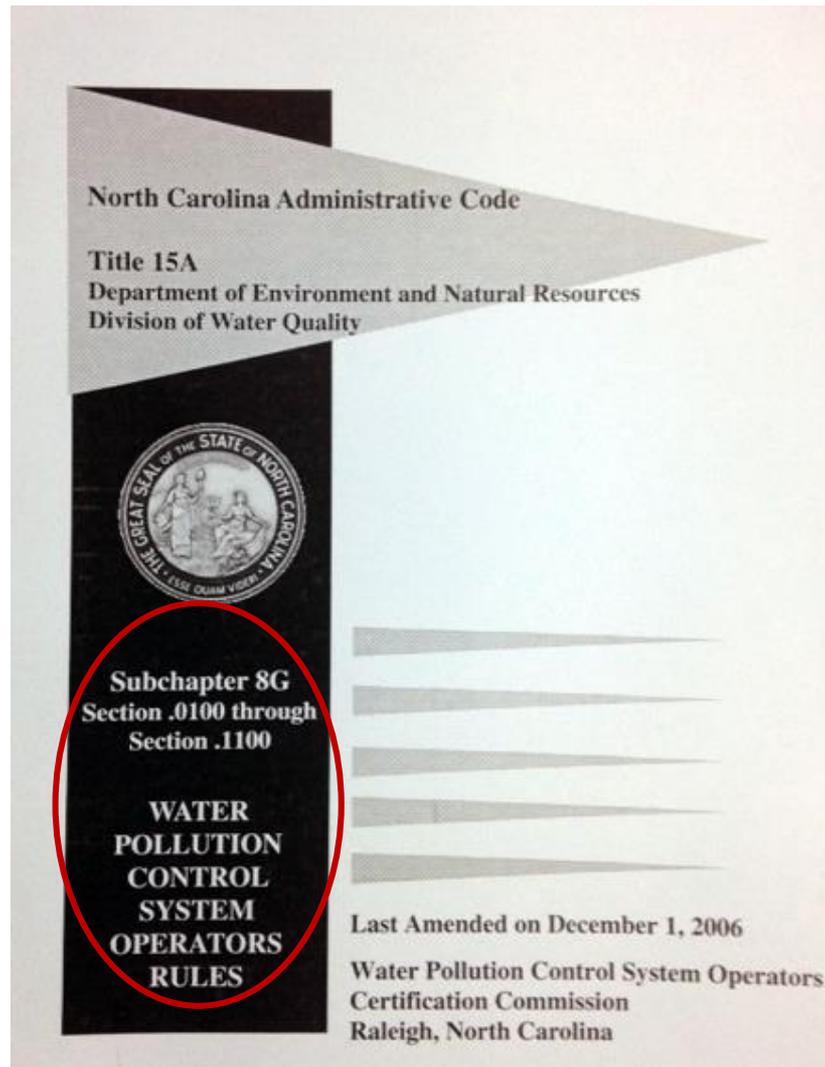


**KNOW THE
RULES!**



OPERATOR RULE:

Title 15A NCAC 8G



AUTHORITY: WPCSOCC

Water Pollution Control Systems Operator Certification Commission



Responsible for:

- Operator training & certification in NC, and
- Classification of collection systems

WPCSOCC: Classifying Collection Systems

How?

A collection systems grade is equal to WWTP it's tributary to, or the population it serves.

...WHICHEVER IS LESS...

- 1,500 or less Grade 1
- 1,501 – 15,000 Grade 2
- 15,001 – 50,000 Grade 3
- 50,001 – greater Grade 4

Owners: Designate Operators

Upon classification, the owner is required to designate:

- 1 ORC \geq classification
- 1 Backup ORC (at least) **no** $<$ 1 grade below classification

Their certification must be:

- Valid / Active for the **type** and **grade** of system.

Owners: Designate Operators

Upon vacating an ORC or Backup ORC position, you must

- **Notify** the Commission and the appropriate regional office in writing within **14 days**



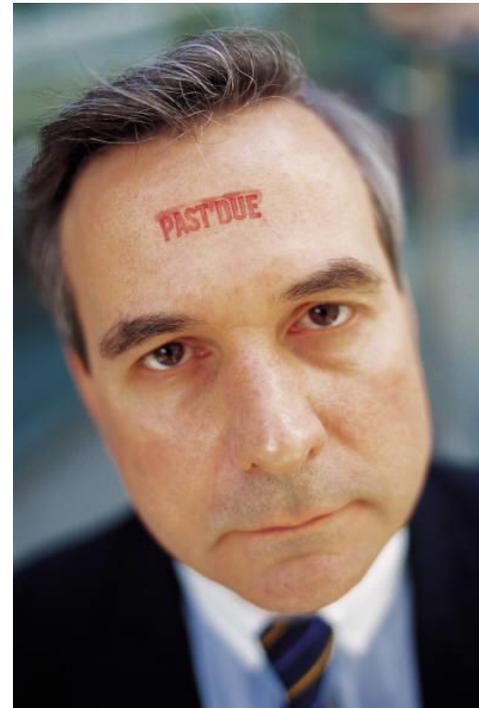
Certified Operators

- Certified by the Commission (WPCSOCC)
- Training schools are required
- Must pass an exam (passing grade 70%)
 - Administered 4x/year: March – June – September – December
 - 5 Locations: Raleigh - Williamston - Morganton - Salisbury – Kenansville
 - Exam fee = \$85 (w/application)
- For advancement beyond Grade 1, you need:
 - Valid / Active certification
 - Next level training school
 - Experience (6 months)



Certified Operators

- May relinquish certificate by submission to the WPCSOCC
- Certificate can be invalidated for failure to:
 - Complete annual CE requirement, or
 - Pay annual renewal fee



[15A NCAC 08G .0701\(a\)\(1\)-\(2\)](#)



Responsibilities of ALL Certified Operators

- **Comply** with terms/conditions of certificate
- **Notify** Commission within 30 days of an address change
- **BE RESPONSIBLE**: Renewal certificate on time
 - Comply with all Statutes & Rules for operation
 - Don't wait to the end of the year to get your CE hours
 - Pay the \$50 annual renewal fee (late fees after 12/31)

15A NCAC 08G .0203
15A NCAC 08G .0701(a)



REVIEW



Who is the permitting authority for collection systems?



Who is responsible for operator training and certification and classifying collection systems?



Collections systems are classified either by the wastewater treatment plant classification, or _____.



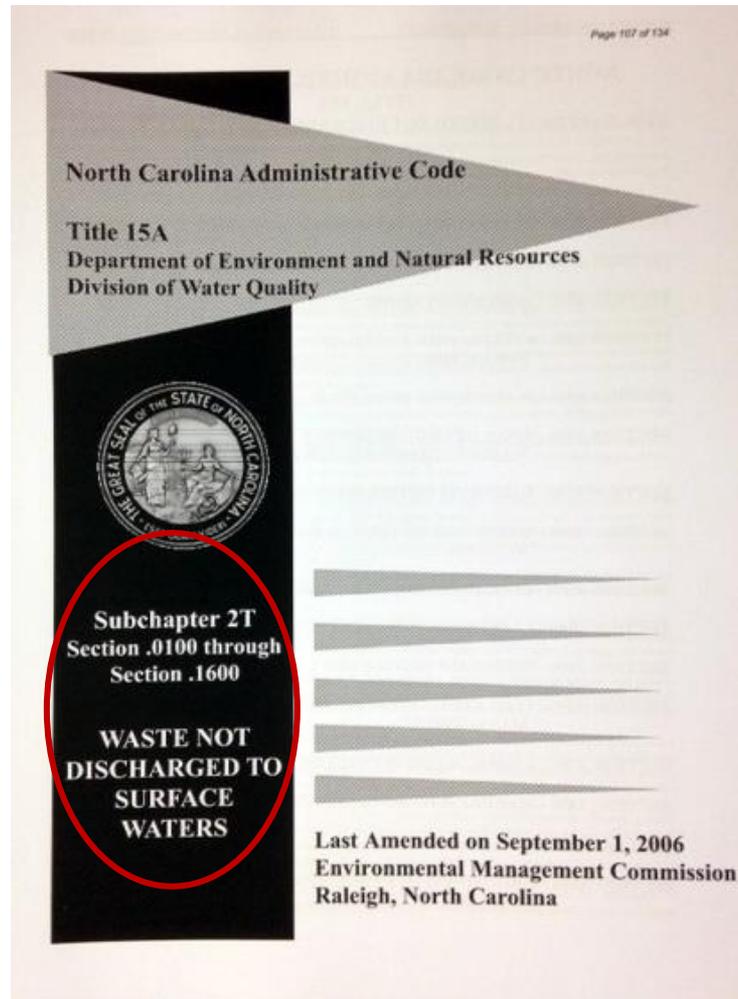
An ORC for a Grade 4 collection system must be certified as what grade?



What about a back up ORC for a Grade 4 collection system?

COLLECTION SYSTEM RULES:

Title 15A NCAC 2T



Minimum Design Criteria

For NEW pump stations:

- No bypass or overflow lines
- Peak flow can be pumped with largest pump out of service
- Dual source or standby power
- Stations with 2+ pumps shall telemetry



Minimum Design Criteria



- For pump stations:
 - Restricted access
 - Screened vents
 - High water audible & visual alarms
 - All-weather roadway
 - Waterproof sign
 - station identifier
 - 24-hour contact number
 - emergency instructions



[*15A NCAC 02T .0305\(h\)*](#)

Reward offered for information on sewer spill

Saturday

Posted Dec 22, 2012 at 12:01 AM

Crime Stoppers is offering a cash reward for new information in a summertime vandalism case that led to a sewer spill in the Northwoods neighborhood.

By LINDELL KAY - Daily News Staff

Crime Stoppers is offering a cash reward for new information in a summertime vandalism case that led to a sewer spill in the Northwoods neighborhood.

The City of Jacksonville Water Utilities Department filed a police report July 12 indicating an unknown person or persons had vandalized the water pump station located at 335 Henderson Drive.

The vandalism included someone tampering with the equipment at the pump station which resulted in sewage release, said Beth Purcell, media liaison with the Jacksonville Department of Public Safety.

“This is an open and active investigation,” she said this week.

An air release valve was disconnected from a major sewer line allowing untreated wastewater to spray on the ground, city officials said at the time.

Utility crew members found the disconnected valve at the Mill Creek substation on a Saturday morning and closed the line. The spray hit the ground about 30 feet from Mill Creek, which runs behind Northwoods Shopping Center.



Minimum Design Criteria

For sewer systems & extensions:

- Minimum design velocity of 2 feet per second
- Infiltration limited to:
100 gallons per day – per inch of pipe diameter – per mile of pipe
- Minimum pipe diameter allowed – gravity sewers:
 - *8-inch for public*
 - *6-inch for private*

15A NCAC 02T .0305(i)(1)

Minimum Design Criteria

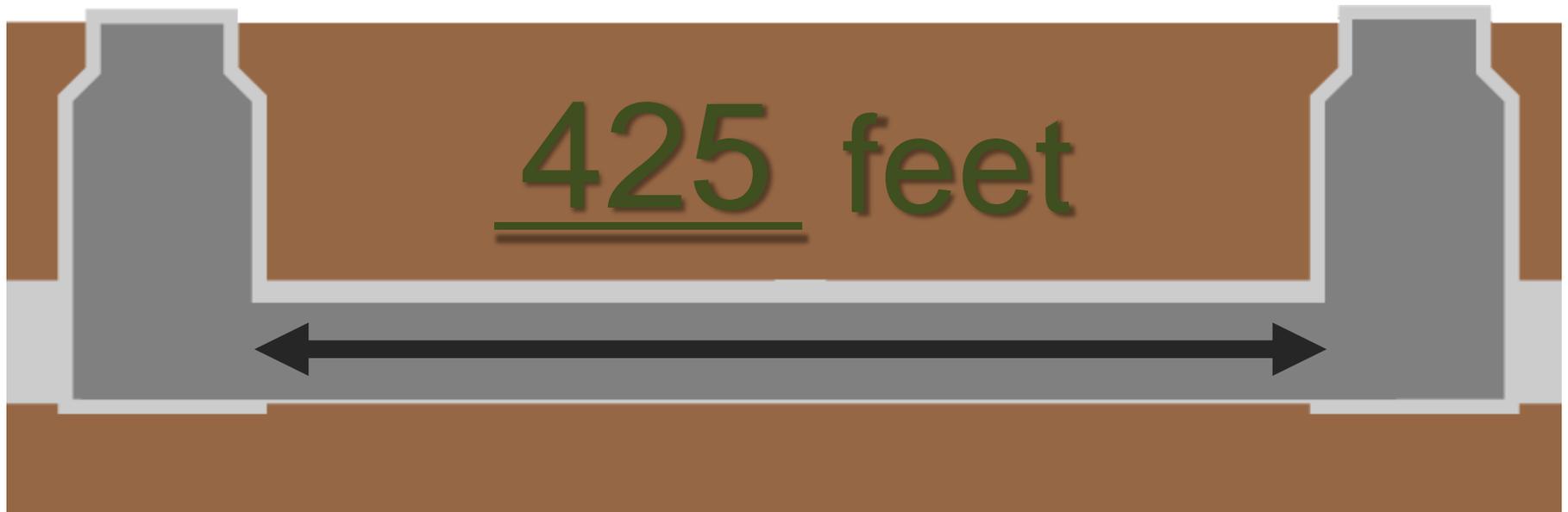
For sewer systems & extensions:

- **3 feet** minimum soil cover shall be provided for all sewers unless ductile iron pipe is used

Minimum Design Criteria

For sewer systems & extensions:

- What is the maximum separation between manholes?



Minimum Design Criteria

For sewer systems & extensions:

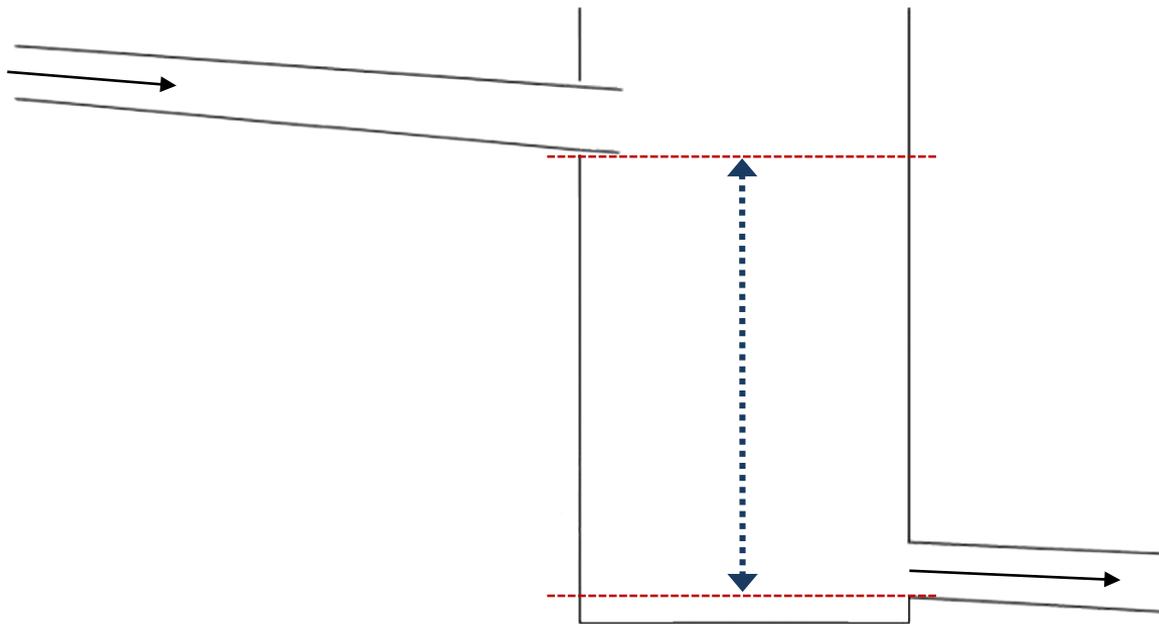
- If minimum separations cannot be met, ductile iron pipe with joints equivalent to water main standards is required



Minimum Design Criteria

For sewer systems & extensions:

- If invert elevations exceed 2.5 feet . . .

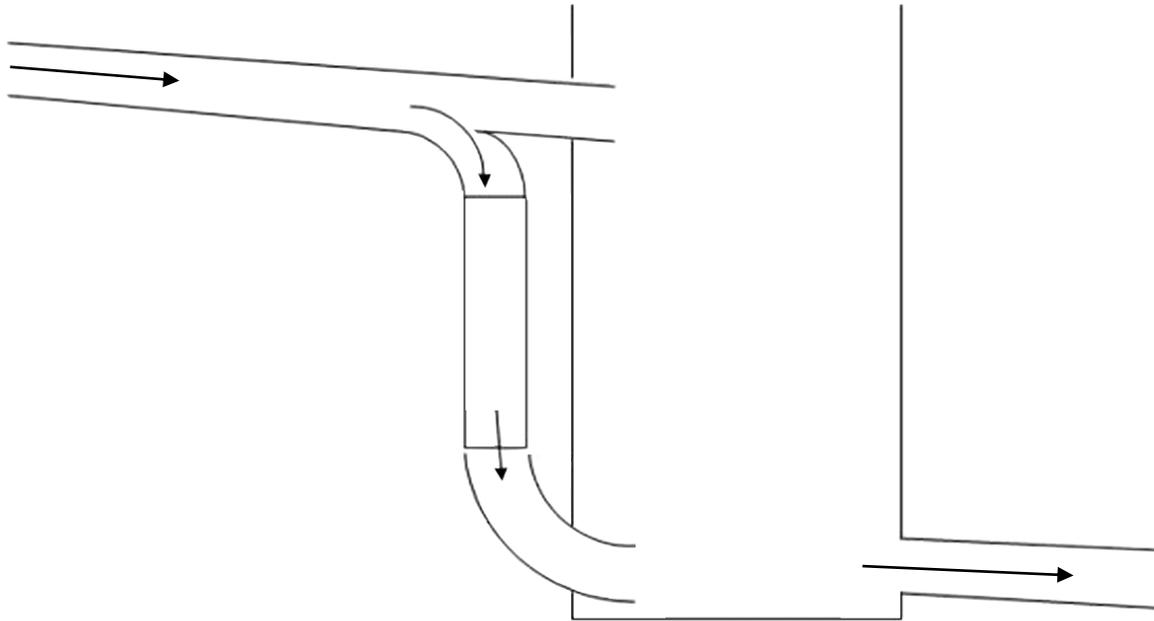


15A NCAC 02T.0305(i)(3)

Minimum Design Criteria

For sewer systems & extensions:

- Then a drop manhole shall be provided



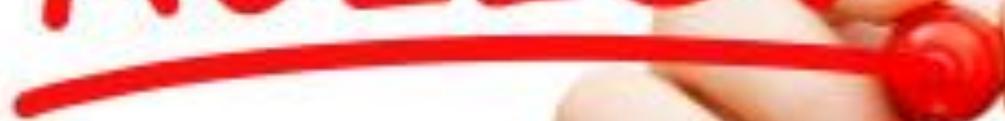
15A NCAC 02T .0305(i)(3)

Minimum Design Criteria

For sewer systems & extensions:

- *air relief valves* shall be provided at all high points of force mains; where vertical distance exceeds 10 feet.

**KNOW THE
RULES!**



SSO

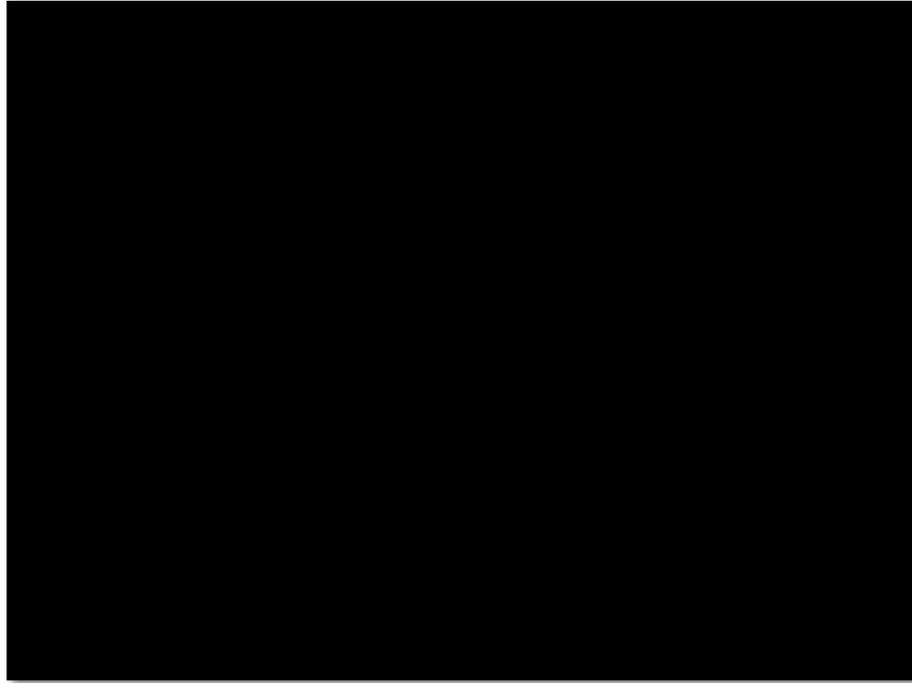
Any failure of a pump station or collection system resulting in a

by-pass without treatment

of all or any portion of the wastewater



Sanitary Sewer Overflow



Sanitary Sewer Overflow

An ORC **must** do 2 things:

1. **Report by phone** to the appropriate DEQ regional office ASAP but no later than 24 hours of first knowledge

919-733-3300

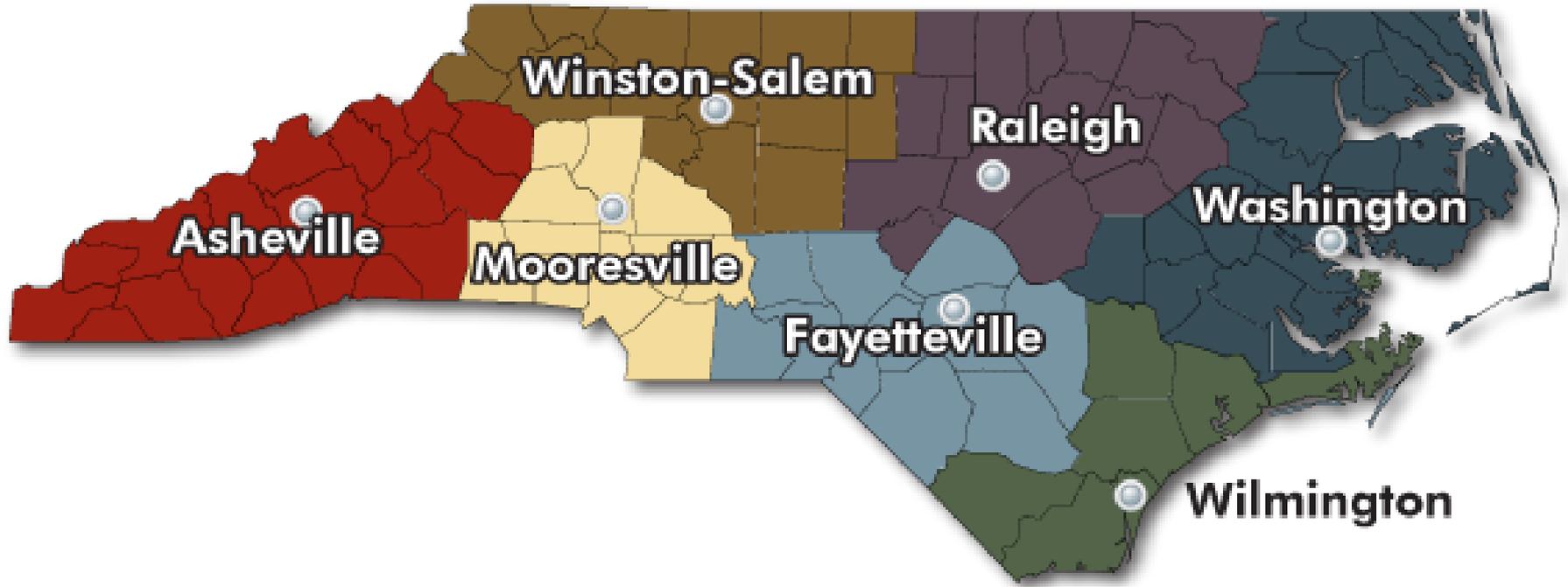
or

800-858-0368

2. **Visit the site**



DEQ Regional Offices



SSO Notification

What MUST be reported by an ORC?

- 1000 gallons or more on the ground, or
- ANY AMOUNT that reaches surface waters of the state...

SSO Notification

Is this reportable?



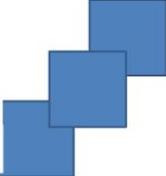
SSO Notification

What about this?



**SEWER SPILL
ESTIMATION
GUIDE**

Developed by the Orange County
Area Waste Discharge
Requirements Steering Committee



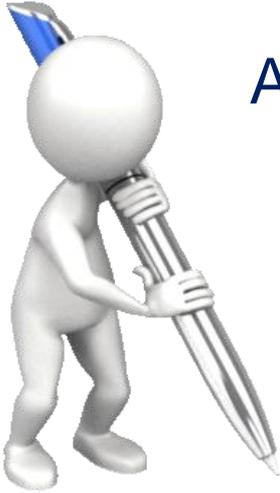
Estimate Sewer Overflow Volumes

SSO Notification

What about these?



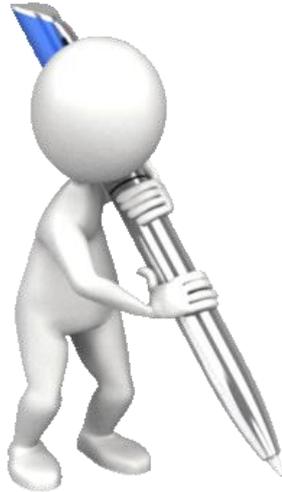
SSO Notification



After the telephone report:

- A written report must be submitted to system owner within five (5) business days following first knowledge of the occurrence

SSO Notification



PART I:

This form shall be submitted to the appropriate DWR Regional Office within five business days of the first knowledge of the sanitary sewer overflow (SSO).

Permit Number: _____ (WQCS# if active, otherwise use WQCS#)

Facility: _____ Incident #: _____ Owner: _____

Region: _____ City: _____ County: _____

Source of SSO (check applicable): Sanitary Sewer Pump Station / Lift Station

SPECIFIC location of the SSO (be consistent in description from past reports or documentation - i.e. Pump

Station 6, Manhole at Westall & Bragg Street, etc.): _____

Manhole #: _____

Latitude (degrees/minute/second): _____ Longitude (degrees/minute/second): _____

Incident Started Dt: _____ Time: _____ Incident End Dt: _____ Time: _____

(mm-dd-yyyy) (hh:mm) AM/PM (mm-dd-yyyy) (hh:mm) AM/PM

Estimated volume of the SSO: _____ gallons Estimated Duration (round to nearest hour): _____ hour(s)

Describe how the volume was determined: _____

Weather conditions during the SSO event: _____

Did the SSO reach surface waters? Yes No Unknown

Volume reaching surface waters: _____ gallons Surface water name: _____

Did the SSO result in a fish kill? Yes No Unknown

If Yes, what is the estimated number of fish killed? _____

SPECIFIC cause(s) of the SSO:

Severe Natural Conditions Grease Roots Inflow & Infiltration

Pump Station Equipment Failure Power Outage Vandalism Debris in line Pipe Failure (Break)

Other (Please explain in Part II)

24-hour verbal notification (name of person contacted): _____

DWR Emergency Management Date (mm-dd-yyyy): _____ Time: (hh:mm AM/PM): _____

Per G.S. 143-215.1C(b), the owner or operator of any wastewater collection system shall:

In the event of a discharge of 1,000 gallons or more of untreated wastewater to the surface waters of the State, issue a press release to all print and electronic news media that provide general coverage in the county where the discharge occurred setting out the details of the discharge. The press release shall be issued within 24 hours after the owner or operator has determined that the discharge has reached surface waters of the State.

In the event of a discharge of 15,000 gallons or more of untreated wastewater to the surface waters of the State, publish a notice of the discharge in a newspaper having general circulation in the county in which the discharge occurs and in each county downstream from the point of discharge that is significantly affected by the discharge. The Regional Office shall determine which counties are significantly affected by the discharge and shall approve the form and content of the notice and the newspapers in which the notice is published.

Disciplinary Actions



Disciplinary Actions

- The WPCSOCC may issue a *written reprimand*, *suspend* or *revoke* an operator's certification if it finds that the operator:
 - Practiced fraud or deception
 - Failed to use reasonable care, judgement in the performance of their duties
 - Failed to apply knowledge or ability in performance of their duties
 - Was incompetent or unable to properly perform his/her duties



Leading up to Disciplinary Action . . .



1

Discovery

Usually the result of an inspection or complaint

If no concern, matter may be closed.

If yes . . .

Leading up to Disciplinary Action . . .



2

Show Cause

Operator called in to answer allegation

Regional Office's Role:

- Gather facts
- Decide if action should be taken

If no, matter may be closed.

If yes . . .

Leading up to Disciplinary Action . . .



3 Advisory Committee

- Commission Chairman calls committee
- Committee hears both sides
- Regional Office makes recommendation
- Operator offered opportunity to influence the outcome

**Within 10
Days . . .**

Potential Outcomes



4

Decision

- **No Action**
- **Letter of Reprimand**
- **Suspension w/Conditions**
- **Revocation**

Disciplinary Action Process



REVIEW



What is the minimum pipe diameter for public gravity sewers?



What is the maximum separation between manholes?



An ORC must report an SSO within what time frame?

Must report to who?



The system owner has how long to submit a written report?



The system owner has how long to submit a written report?

WPCSOCC EXAM APPLICATION

REQUIRED WITH APPLICATION:

- \$85.00 Fee [Non-refundable/Payable ONLY by check or money order to: **WPCSOCC**]
- Copy of Certificate of Completion for the Commission approved school you attended
- COMPLETE application with BOTH signatures. Incomplete applications will be returned.
- Year high school diploma/GED received:

Is applicant applying as Operator-In-Training? (OIT = doesn't meet [experience requirement](#) for this grade level) NO YES

Disciplinary Status?

Wastewater Operator Number (if applicable):
Required ONLY for initial certification DOB

APPLICANT INFORMATION:

First Middle Last

Address

Email Cell # Work # Home #

EMPLOYER INFORMATION:

Applicants presently working at a water pollution control system MUST complete this section:

Employer Employer Phone #

System Permit # Permit Classification

Supervisor Supv. Phone # Supv. Ext.

Is supervisor a WPCSOCC certified operator? NO YES, Provide supervisor's operator number:

OPERATIONAL EXPERIENCE:

- Provide only time working as a water pollution control system operator, or, ORC whose job responsibility is the physical operation of process equipment. Job responsibilities such as laboratory testing, facility and equipment maintenance, administrative support, or direct or indirect supervision do not qualify as actual experience. [15A NCAC 08G .0102(2)]
- Employment at a water pollution control system does not, on its own, qualify an applicant for certification. Applicant must have operational experience on the system noted below. See [Eligibility Requirements](#).
- **Grade III & IV applicants:** If eligibility is based on education, college transcripts are required.
- **OIT:** Applicants that do not demonstrate on THIS application that they meet eligibility requirements will be issued an OIT certification. Any correction(s) as a result of incomplete or incorrect information on THIS application will be required to apply for [conversion](#) (\$20.00 fee).

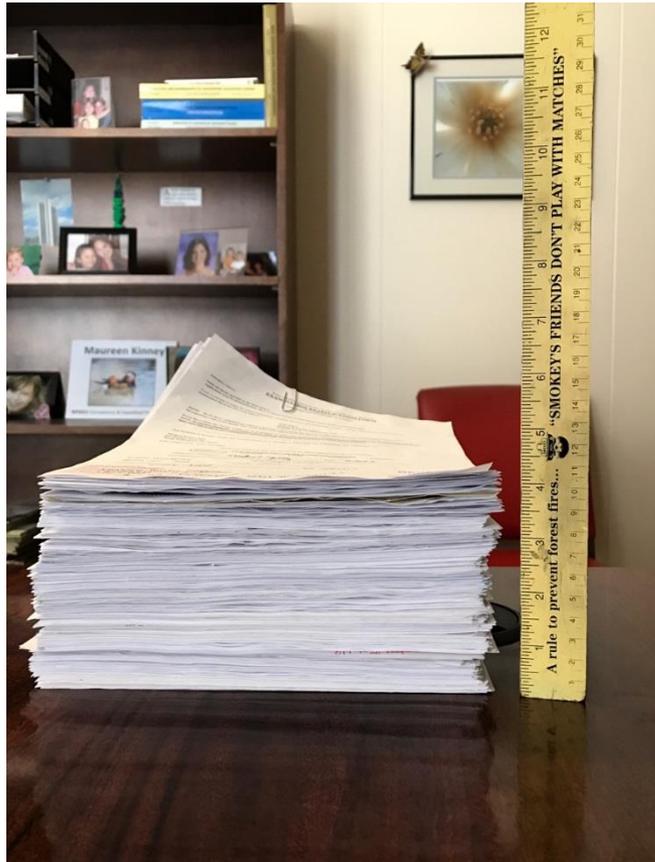
Employment Dates mm/yyyy From To		System Name/Address/Phone AND System Permit #	Permit CLASSIFICATION	Hours Per Week	Provide <u>DETAILS</u> of Physical Operations Experience for this system
Required	Required	Most Recent - Leave blank if same as above.	Leave blank if same as above.	Provide if operations is part-time.	Provide DETAILS Here...see OIT info above.
		Other (Include Permit #)			

- I have reviewed this application and hereby verify all the information and statements provided by the applicant are true and correct.
- I understand that I am responsible for verifying the experience information provided on this application and that any false information provided by the applicant may lead to the revocation of any and all certificates issued to me by the WPCSOCC. I recommend that the WPCSOCC consider this applicant for certification.

SUPERVISOR Signature:  _____ Date: _____

- I certify that the information given in this application is true and correct. I understand that providing false information on this application may lead to the revocation of any and all certificates issued to me by the WPCSOCC.
- I have read the eligibility requirements for the type and grade certification that I am seeking and believe that I am eligible to sit for the examination for that certification.

APPLICANT Signature:  _____ Date: _____



MARCH



JUNE



Operator Certification

Click program for information:



[ANIMAL WASTE](#)
919-807-6353



[DRINKING WATER](#)
919-707-9040



[WASTEWATER](#)
919-807-6353

Want to be a NC certified operator?

If you are 18 years old and have a high school diploma or GED, you are eligible.

Download brochures for details:

[Water Treatment Certification](#)

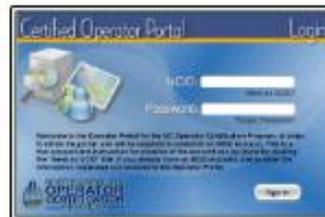
[Wastewater Certification](#)

[Water Treatment \(VETERANS\)](#)

[Wastewater \(VETERANS\)](#)

Already a NC certified operator?

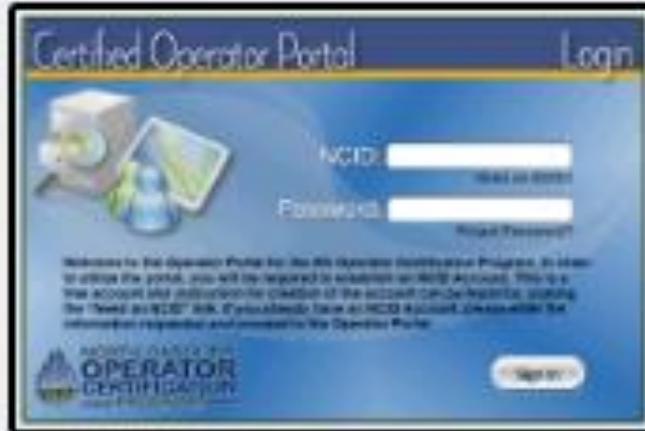
Access your records on the portal:



Certified Operator Portal

To access the NEW Operator Portal:

1. Create a: [Free NCID account](#) 
2. Log in here: [Certified Operator Portal](#) 



The screenshot shows the login interface for the Certified Operator Portal. At the top, it says "Certified Operator Portal" and "Login". On the left, there is a graphic of a computer monitor, a mouse, and a globe. The main area contains two input fields: "NCID:" with a "New to NCID?" link below it, and "Password:" with a "Forgot Password?" link below it. Below the input fields is a paragraph of text: "Welcome to the Operator Portal for the 4th Operator Certification Program. In order to utilize the portal, you will be required to establish an NCID Account. This is a free account and will become the owner of the account can be updated, adding the 'Need an NCID?' link. If you already have an NCID Account, please click the information regarding and access to the Operator Portal." At the bottom left is the "NORTH CAROLINA OPERATOR CERTIFICATION" logo, and at the bottom right is a "Sign In" button.

Contact Info

Payment

Professional
Growth

Examinations

Certifications

Facilities

Contact Information

Name

Drinking Water ID: 990529

AW or WW ID: 1002806

Home Address Preferred Contact

Home Phone

Street

City

Email

State Zip Code

Work Address Preferred Contact

Work Phone

Street

Ext

City

Employer

State Zip Code

Submit Changes

Payments Due



No payments due.

Payment History

Date	Invoice Number	Invoice Type	Fee Type	Amount	Status
11/06/2019	N/A	Certificate Renewal	DW- Cross-connection	30.00	Paid
11/06/2019	N/A	Certificate Renewal	DW- C-Well	30.00	Paid
11/06/2019	N/A	Certificate Renewal	DW- A-Distribution	30.00	Paid
11/06/2019	N/A	Certificate Renewal	DW- A-Surface	30.00	Paid
10/12/2019	2019RE002175	Certification Renewal Fee	WW	50.00	Paid
11/02/2018	N/A	Certificate Renewal	DW- Cross-connection	30.00	Paid

Classes

Please choose...



[History](#)

Professional Growth Hours

Current Certification Hours



No classes found for the current certification period.

	Completed Hours	Needed Hours	Date Hours Due
Drinking Water	0	6	12/31/2020
Waste Water	0	6	12/31/2020

Upcoming Exams

Please choose... ▼

Examinations - Current

Exam Type	Location	Date	Status
Cross-connection	Raleigh	02/27/2020	Scheduled

Examinations - History

NOTE: You can review your test results for electronically administered exams by clicking on the 'Review Results' link in the grid below.

Type	Location	Date	Status	Exam Review
SURFACE IRRIGATION Operator	NCSU McKimmon Center	09/08/2016	Pass	
Grade 4 BIOLOGICAL Operator	NCSU McKimmon Center	03/10/2016	Pass	
Grade 4 BIOLOGICAL Operator	NCSU McKimmon Center	12/10/2015	No Show	
Grade 3 BIOLOGICAL Operator	NCSU McKimmon Center	09/10/2015	Pass	
Grade 4 COLLECTIONS Operator	NCSU McKimmon Center	06/11/2015	Pass	

WATER Certification exam results are not final until the Board approves them and you receive your Exam Result Letter in the mail.

Certifications

Active Certifications: 8

Certification Type	Status	Effective Date	Valid Through
A-Distribution	Active	10/25/2012	12/31/2020
Cross-connection	Active	05/31/2012	12/31/2020
A-Surface	Active	04/05/2002	12/31/2020
C-Well	Active	10/27/2011	12/31/2020
CS-4	Active	06/11/2015	12/31/2020
PC-1	Active	06/09/2005	12/31/2020
WW-4	Active	03/10/2016	12/31/2020
SI	Active	09/08/2016	12/31/2020
C-Surface	Upgraded	04/28/2000	N/A
C-XSurface Temp	Upgraded	12/23/1999	N/A
B-Surface	Upgraded	04/20/2001	N/A
B-Distribution	Upgraded	08/25/2011	N/A
C-Distribution	Upgraded	08/26/2010	N/A

[Download ORC / OIC Form](#)

Please choose... ▼

Facility Information

- If you have been newly designated as an ORC or OIC, your employer must submit a Designation Form. Click 'Download ORC / OIC Form' above.
- Click 'Remove Designation' link to send an email requesting your ORC or OIC Designation be removed for that facility.

Facility	Facility Type	Cert Type	Location	Designation	
Henderson-Kerr Lake Reg Wtr	Community	A-Distribution	Vance	ORC	(Remove ORC Designation)
Henderson-Kerr Lake Reg Wtr	Community	A-Surface	Vance	ORC	(Remove ORC Designation)
Henderson-Kerr Lake Reg Wtr	Community	Cross-connection	Vance	ORC	(Remove ORC Designation)
Kerr Lake Regional WTP-City of Henderson	Wastewater	PC	Henderson	ORC	(Remove ORC Designation)

Questions?

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