

# 30<sup>th</sup> Annual North Carolina Waterworks Operators Spring School

March 16-20, 2020



## Including Advanced Day

Wednesday, March 18, 2020

## Hickory Metro Convention Center - Hickory, NC

*Presented by the North Carolina Waterworks Operators Association with the cooperation and sponsorship of the North Carolina Department of Environmental Quality, Division of Water Resources, Public Water Supply Section*

### ATTENTION OPERATORS - Need help with math?

#### Special Class - Basic Math for Operators

(This class is designed for reviewing basic math skills for new operators in preparation to better understand the C-Surface & C-Well math classes.)

*This class will be held from 10:00am - 12:00noon on Monday prior to Spring School registration. This class is open to all operators free of charge who are registered for Spring School in either C-Surface or C-Well. This class is NOT REQUIRED as part of the certification school but is limited to 45 participants.*

### Class Schedule for B & C Well and A, B & C Surface

#### Monday, March 16, 2020

##### 10:00am - 12:00noon - Basic Math for Operators

1:00pm - 1:30pm Registration, Hickory Metro Convention Center

1:30pm - 2:00pm General Session, Hickory Metro Convention Center

2:00pm - 5:00pm Classes - Report to your assigned room

#### Tuesday, March 17, 2020

8:00am - 5:00pm Classes - Report to your assigned room. Lunch will be provided.

#### Wednesday, March 18, 2020

8:00am - 4:00pm **EXHIBITS!!!** Exhibit Hall open during Lunch and Breaks

8:00am - 5:30pm Classes - Report to your assigned room. Lunch will be provided.

7:00pm - 9:00pm Review - La Quinta Inn & Suites

#### Thursday, March 19, 2020

8:00am - 5:00pm Classes - Report to your assigned room. Lunch will be provided.

#### Friday, March 20, 2020

8:00am - 12:00pm Classes - Report to your assigned room.

12:00pm Certificates of Attendance Awarded

See page 6 for specific topics being **REVIEWED** in your class. Exact class agenda will be handed out at registration on Monday, March 16, 2020 for B & C Well and A, B & C Surface.

School **REGISTRATION FORM** must be received on or before **March 5, 2020**. Applications accepted on a first-come, first-served basis. Class sizes are limited.

**Host hotel will be the LaQuinta Inn & Suites**

(1607 Fairgrove Church Rd, Conover, NC 28613 - exit 128 off of I-40  
Hickory Metro Convention Center is exit 125)



## CHECKLIST

The following checklist is provided for your use to insure that you have taken the necessary actions to attend the School and be qualified to take the Exam.

- Send Class Registration Form (see page 4) and payment for the SCHOOL to:

Heather Cagle, Administrator  
NCWOA  
PO Box 5466, High Point, NC 27262  
Phone: 252-764-2094 ext 1  
Fax: 252-764-2095  
Email: heather@ncwoa.com

**Make check payable to: "NCWOA"  
or "North Carolina Waterworks  
Operators Association.**

**Registration must be received by  
March 5, 2020.**

→  
Please note  
NEW ADDRESS

- Send EXAM APPLICATION and check for \$50.00 to the NCWTFO Certification Board: Visit the NCWTFO website for the electronic, apprentice or regular exam applications: <http://deq.nc.gov/about/divisions/water-resources/operator-certification/drinking-water-operator-certification/dw-operator-certification-exams>. Phone: 919-707-9040

If you wish to take the exam on May 28, 2020, your exam application must be postmarked no later than April 28, 2020.

- Make hotel reservations – **HOST HOTEL IS THE LAQUINTA INN & SUITES**  
**To make reservations, call 828-465-1100. Guest should request group code NCWOA or group title NC Waterworks Operators Association.**  
Deadline for special group rate is March 1, 2020. (See page 6).
- Information on books is listed on the next page. All exam questions are taken from the books listed on the next page.
- Individuals registering for the Lab Analyst Voluntary Certification Exam (Process Chemistry or Bacteriology), please refer to page 7 for more information.
- Read and study recommended materials. **Be sure to bring a calculator to ALL classes.**

## REGISTRATION INSTRUCTIONS AND REQUIREMENTS

### SCHOOL REGISTRATION FORM

To be completed by ALL students. Please complete one form per person. Please print or type. This form must be accompanied by a payment for the correct registration fee. Please make checks or money orders payable to **NCWOA or North Carolina Waterworks Operators Association**. We do not accept Purchase Orders. Please be sure to enter all information requested on the form. Incomplete forms will delay your registration or may be returned. All attendees must be pre-registered and paid in advance.

### RECEIPT/CONFIRMATION OF REGISTRATION

**All participants who pre-register will receive a receipt/confirmation in the mail.** This acknowledgement will include specific information on the site.

### CERTIFICATES OF ATTENDANCE OR COMPLETION

At the conclusion of the event all participants, who have attended at least 80% of their classes, will receive a **Certificate of Attendance**. These certificates will document attendance for professional growth contact hour requirements and/or successful class completion. Participants must pick up their own certificate at the conclusion of the event. No certificates will be given out early, to another individual, or mailed.

### REFUNDS

**Refunds will be issued (minus a \$25 administrative fee), if the refund is requested, in writing, by March 5, 2020.** Substitutions may be made. Please inform us as soon as possible of substitutions so appropriate certificates of attendance may be generated.

### MEMBER/NON-MEMBER STATUS

Only individuals who are current members of NCWOA are eligible for the member rate. Please refer to your membership card for your member #. We will verify registrations for eligibility and will return those who pay the incorrect amount. If you would like to become a member, please complete the membership application in this brochure and return with payment.

# How to get books for school

## Surface Water Treatment - Study Materials

### Sacramento Manuals:

Website: <http://www.owp.csus.edu/> or call: (916) 278-6142

Water Treatment Plant Operator Vol. 1 – 7th Edition  
Water Treatment Plant Operator Vol. 2 – 6th Edition

### Rules Governing Public Water Systems (Green Book) (7/1/19)

Call 919-707-9100 or available for download from NCWOA website

### Surface Water “Needs To Know” – A Certification Study Guide for Surface Water Systems (2019)

available for download from NCWOA website

### Rules Governing Water Treatment Facility Operators (Blue Book) (12/12)

available for download from NCWOA website

*All books available for download from NCWOA website are listed under Training - Books [www.ncwoa.com](http://www.ncwoa.com)*

## Well Water Treatment - Study Materials

### Sacramento Manuals:

Website: <http://www.owp.csus.edu/> or call: (916) 278-6142

Small Water System Operation & Maintenance – 6th Edition

Water Treatment Plant Operator Vol. 2 – 6th Edition

### Rules Governing Public Water Systems (Green Book) (1/8/16)

Call 919-707-9100 or available for download from NCWOA website

### Ground Water “Needs To Know” – A Certification Study Guide for Groundwater Systems (2019)

available for download from NCWOA website

### Rules Governing Water Treatment Facility Operators (Blue Book) (12/12)

available for download from NCWOA website

### Well Construction Standards (Red Book) (10/2009)

available for download from NCWOA website

## WANT TO BE BETTER PREPARED TO TAKE YOUR CERTIFICATION EXAM? *Online Supplement for Certification Exam Review*

All attendees of NCWOA Certification Schools will be eligible to enroll in an online course that will supplement and enhance the materials presented in the week-long class. The online supplement is an optional, web-based Moodle class that includes multiple practice tests, videos of worked math problems, copies of presentation materials for many of the topics presented in the week-long school, and additional materials that will help you prepare for the certification exam. The online supplement should be available by the first day of the week-long school and will be accessible until the day of the first traditional certification exam after the school.

*If you wish to participate in this program, please be sure that YOUR email address is included on your registration form. Please note the online supplement is optional.*

*Individuals who register for the week-long school will receive an email with directions on how to log in and access the class.*



# NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

## Spring School Registration Form

RECEIVED ON OR BEFORE MARCH 5, 2020

Please Print or Type

NAME (First, Middle, Last): \_\_\_\_\_

NICK NAME for TAG: \_\_\_\_\_ SOCIAL SECURITY #: XX-XXX-\_\_\_\_\_

EMPLOYER / ORGANIZATION: \_\_\_\_\_

ADDRESS FOR CONFIRMATION & MAP: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_ COUNTY: \_\_\_\_\_

WORK PHONE: \_\_\_\_\_ EXT: \_\_\_\_\_ FAX: \_\_\_\_\_

ATTENDEE'S EMAIL: \_\_\_\_\_

*(Be sure to include if you would like access to NCWOA Moodle On-line supplement. Moodle log in and instructions will be sent to this email address.)*

ATTENDEE'S INDIVIDUAL NCWOA MEMBER # (must be included to be eligible for member rate): \_\_\_\_\_

NC WATER TREATMENT CERTIFICATE TYPE PRESENTLY HELD:

- AW     BW     CW     DW     AS     BS     CS
- AD     BD     CD     DD     CC/BF     NONE YET

NC WATER TREATMENT CERTIFICATE # (OPERATOR ID #): \_\_\_\_\_

WASTEWATER CERTIFICATION # \_\_\_\_\_

**PLEASE CHECK WHICH CLASS YOU ARE REGISTERING FOR AND CIRCLE RATE:**

<u>CLASS TITLE</u>	<u>NCWOA MEMBER RATE</u>	<u>NON-MEMBER RATE</u>
<input type="checkbox"/> A-Surface (M-F)	\$ 275.00	\$ 330.00
<input type="checkbox"/> B-Surface (M-F)	\$ 275.00	\$ 330.00
<input type="checkbox"/> C-Surface (M-F)	\$ 275.00	\$ 330.00
<input type="checkbox"/> B-Well (M-F)	\$ 275.00	\$ 330.00
<input type="checkbox"/> C-Well (M-F)	\$ 275.00	\$ 330.00
<input type="checkbox"/> Advanced Day (Wednesday)	\$ 120.00	\$ 165.00

Will you be attending the Basic Math for Operators from 10am-12noon on Monday, March 16th? \_\_\_\_\_ Yes \_\_\_\_\_ No  
It is not required as part of the certification school. (limited to first 45 participants)

By Credit Card: \_\_\_ Visa \_\_\_ MC \_\_\_ Am Ex \_\_\_ Discover

Name on Credit Card: \_\_\_\_\_

Credit Card Number: \_\_\_\_\_

Exp Date: Month \_\_\_\_\_ Year \_\_\_\_\_ Security Code from back of card: \_\_\_\_\_

Cardholder Signature: \_\_\_\_\_

**PLEASE SEND APPLICATION AND PAYMENT TO:**

Heather Cagle, NCWOA Administrator  
PO Box 5466, High Point, NC 27262  
Phone: 252-764-2094 ext 1  
Fax: 252-764-2095  
Email: [heather@ncwoa.com](mailto:heather@ncwoa.com)

← Please note  
NEW ADDRESS

If cardholder is other than attendee, what email address should the CC receipt be sent to? \_\_\_\_\_

To ensure that you receive the emailed receipt, please add [heather@ncwoa.com](mailto:heather@ncwoa.com) to your email address book.

NCWOA USE: Amount \_\_\_\_\_ CK# \_\_\_\_\_ E S Processed \_\_\_\_\_



# North Carolina Waterworks Operators Association MEMBERSHIP APPLICATION

MISSION STATEMENT: To provide knowledge, skills & educational opportunities for drinking water professionals; develop working relationships with other water treatment organizations; project a positive image and communicate the importance of safe drinking water.

## NEW OR RENEWAL MEMBERSHIP APPLICATION – ANNUAL DUES \$40.00 for 2020

First Name: \_\_\_\_\_ Middle Initial: \_\_\_\_\_ Last Name: \_\_\_\_\_

Nick Name: \_\_\_\_\_ Social Security #: XX-XXX-\_\_\_\_\_ If Renewal, what is your NCWOA Member #: \_\_\_\_\_

YOUR Individual Operator Certification #: (Issued by NCWTFOCB) \_\_\_\_\_

Certificate(s) Held:

\_\_\_\_ A-Surface    \_\_\_\_ B-Surface    \_\_\_\_ C-Surface    \_\_\_\_ A-Well    \_\_\_\_ B-Well    \_\_\_\_ C-Well    \_\_\_\_ D-Well

\_\_\_\_ A-Dist    \_\_\_\_ B-Dist    \_\_\_\_ C-Dist    \_\_\_\_ D-Dist    \_\_\_\_ Cross-Connection

\_\_\_\_ Wastewater #'s \_\_\_\_\_

\_\_\_\_ None Yet    \_\_\_\_ You Are Not an Operator & Do Not Plan to Become Certified.

### PLEASE SELECT YOUR PREFERRED ADDRESS (This is where confirmations & membership info will be sent.)

\_\_\_\_ Home Address: \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ County: \_\_\_\_\_

\_\_\_\_ Employer Name: \_\_\_\_\_

MAILING Address: \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ County: \_\_\_\_\_

Work Phone: \_\_\_\_\_ Ext: \_\_\_\_\_ Fax: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Email Address: \_\_\_\_\_

How would you like to receive your issues of Go With The Flow?    Email \_\_\_\_\_ or    Postal Delivery \_\_\_\_\_

How would you like to receive your Section Meeting notices?    Email \_\_\_\_\_ or    Postal Delivery \_\_\_\_\_

**\*NOTE:** Memberships are based upon a calendar year. Membership cards will be mailed with receipt. These cards will contain your name, membership number, and membership expiration date.

**\*\*NOTE:** Please make checks payable to: "North Carolina Waterworks Operators' Association" or "NCWOA". We accept Checks, Cash, Money Orders or Credit Card. We do NOT accept Purchase Orders. Credit Card payments may be mailed or faxed.

**By Credit Card:** \_\_\_\_ Visa    \_\_\_\_ MC    \_\_\_\_ Am Ex    \_\_\_\_ Discover

Name on Credit Card: \_\_\_\_\_

Credit Card Number: \_\_\_\_\_

Exp Date: Month \_\_\_\_ Year \_\_\_\_ Security Code from back of card: \_\_\_\_\_

Cardholder Signature: \_\_\_\_\_

### PLEASE SEND APPLICATION AND PAYMENT TO:

Heather Cagle, NCWOA Administrator

PO Box 5466, High Point, NC 27262

Phone: 252-764-2094 ext 1

Fax: 252-764-2095

Email: [heather@ncwoa.com](mailto:heather@ncwoa.com)

 Please note  
NEW ADDRESS

If cardholder is other than member, what email address should the CC receipt be sent to? \_\_\_\_\_

To ensure that you receive the emailed receipt, please add [heather@ncwoa.com](mailto:heather@ncwoa.com) to your email address book.

**NCWOA USE:** Amount \_\_\_\_\_ CK# \_\_\_\_\_ E S Processed \_\_\_\_\_

# Surface & Well Review Topics

## WELL REVIEW CLASSES

A	B	C	Class Title
X			Administration
X	X	X	Bacteriology
X	X	X	Corrosion Control
X	X	X	Disinfection & Disinfection By-Products
X	X	X	Distribution Systems & Cross Connection
X	X	X	Drinking Water Regulations & Records
X	X		Fluoridation
X	X	X	Ground Water Hydrology
		X	Groundwater Treatment Processes
X	X		Handling & Disposal of Process Wastes
X	X		Instrumentation
X	X		Iron & Manganese Removal
X	X	X	Lab Procedures & Sample Collection
X	X	X	Maintenance
X	X	X	Math
X	X		Membrane Processes
		X	Operation of Small Water Systems
X	X	X	Pumps
X	X	X	Safety
X	X	X	Softening
X	X	X	Well Construction
	X	X	Well-Water Chemistry

## SURFACE REVIEW CLASSES

A	B	C	Class Title
X			Administration
X	X	X	Bacteriology
X	X	X	Coagulation & Flocculation
X	X	X	Corrosion Control
X	X	X	Disinfection & Disinfection By-Products
X	X	X	Distribution Systems & Cross Connection
X	X	X	Drinking Water Regulations & Records
X	X	X	Fluoridation
X	X		Handling & Disposal of Process Wastes
X	X		Instrumentation
X	X	X	Iron & Manganese Removal
		X	Jar Test
X	X	X	Lab Procedures & Sample Collection
X	X	X	Maintenance
X	X	X	Math
X	X	X	Plant Operations
X	X	X	Pumps
X	X	X	Safety
X	X	X	Sedimentation & Filtration
X	X	X	Taste & Odor
X	X	X	WTP Operator & Reservoir Management



## HOTEL ACCOMMODATIONS

A block of rooms has been reserved in the name of the North Carolina Waterworks Operators School at the LaQuinta Inn & Suites in Hickory. Be sure to tell reservations that you will be attending the NC Waterworks Operators School.

### LaQuinta Inn & Suites (headquarters)

1607 Fairgrove Church Rd (exit 128),  
Hickory, NC 28613, (828) 465-1100

Rate: Single: \$87.00 plus tax

Double: \$87.00 plus tax.

**Group rate deadline is March 1, 2020**

Hot breakfast included.

\$ 87.00 Single or Double Rate

+ \$ 11.31 13% Room Tax

\$ 98.31 Single or Double Rate / Night

### LAQUINTA INN & SUITES POLICIES

#### Payment by Check:

Hotel advises to have the check made out for the exact amount of room and tax for stay and use a debit/credit card for the incidentals.

#### Payment using debit/credit card:

Hotel does not allow anyone to use any form of payment which does not bear their name; regardless of if they are an authorized user on the account or not. La Quinta Inn & Suites system will automatically authorize the full amount of room and tax for all nights and an additional 10% of total costs, at check-in for incidental purposes. Any authorizations placed on guest credit/debit card may take up to 14 days to fully process--hotel staff does not have ability to release/remove/lessen any holds placed by merchant system.

Best Western at exit 125, (828) 323-1150

\$85.00 double exterior/\$89.00 king exterior

\$90.00 double interior/\$95.00 king interior

(room block - mention NCWOA

cut off date - March 2, 2020)

\$ 85.00 Double Exterior Room Rate \$ 90.00 Double Interior Room Rate

+ \$ 11.05 13% Room Tax + \$ 11.70 13% Room Tax

\$ 96.05 Double Exterior Rate / Night \$101.70 Double Interior Rate / Night

### Other hotels in Hickory (Call for rates)

Crown Plaza at exit 125, (828) 323-1000

Holiday Inn Express Hickory at exit 126, (828) 328-2081

All classes and Advance Day will be held at Hickory Metro Convention Center in Hickory. (1960 13<sup>th</sup> Avenue Drive SE - Hickory, NC 28602). Confirmation/receipts will be mailed to all paid in full students. If you **DO NOT** get a confirmation/receipt by March 9, 2020, call (252) 764-2094 ext. 1.



# NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

## Advanced Day Agenda

Wednesday, March 18, 2020 in Hickory, NC

### Plan for the Future - Strategies.Process.People

**EXHIBIT HALL OPEN FROM 8:00AM - 4:00PM**

#### The morning sessions will consist of:

Contaminant Remediation/Mitigation  
What do chemicals do?  
Water Chemistry  
Physical/chemical treatment

#### The afternoon session will consist of:

Residuals management  
Personnel/Succession planning

- Hiring
- Training
- Longevity

This class has been pre-approved for 6 contact hours for drinking water and/or wastewater certification.

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### Examination for Laboratory Analyst Certification Water Bacteriology OR Water Process Control Chemistry

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**OBJECTIVE:** The North Carolina Waterworks Operators Association is sponsoring a voluntary certification program for laboratory analysts. Certification will be given in the area of water process control chemistry.

Upon completion of a written examination, the analyst will receive a certificate. The certificate must be renewed every five years.

**Water Bacteriology Examination Content:** The examination will cover sampling techniques, quality control and media, equipment and techniques used in the water bacteriology laboratory. Knowledge of the Multiple Tube Fermentation Procedure, Membrane Filter Procedure, Colilert Procedure and Standard Plate Count Procedure is required.

**Water Process Control Chemistry Examination Content:** The examination will include safety, sampling techniques, conductivity, hardness, turbidity, chlorine, and selective electrode and spectrophotometric techniques.

**EXAMINATION DATE:** Wednesday, March 18, 2020 at 6:00 p.m.

**PLACE:** Hickory Metro Convention Center (*Room to be announced*)

**FEE:** \$20.00 (*Payable at time of the examination.*) Payment must be made by check or money order to: North Carolina Waterworks Operators Association (NCWOA) - NO CASH WILL BE ACCEPTED.

**HOW TO APPLY:** Each applicant must contact Michelle Rufus: (919) 807-8751 or [michelle.rufus@dhhs.nc.gov](mailto:michelle.rufus@dhhs.nc.gov)

Heather Cagle, Administrator  
N.C. Waterworks Operators Association  
PO Box 5466  
High Point, NC 27262  
[www.ncwoa.com](http://www.ncwoa.com)

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Permit No 71



## NORTH CAROLINA WATERWORKS OPERATORS ASSOCIATION

### 30<sup>th</sup> Annual North Carolina Waterworks Operators School

March 16-20, 2020 & **Advanced Day** Wednesday, March 18, 2020

We Appreciate Our Corporate Sponsors! Look to them first for all of your industry needs.

