



WATER WORKFORCE WEBINAR SERIES

Workforce Solutions in Action: *Innovative Approaches from Charlotte Water's Workforce Development Programs*

Office of Wastewater Management

Office of Water

U.S. Environmental Protection Agency

July 16, 2025

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Workforce Solutions in Action: *Innovative Approaches from Charlotte Water's Workforce Development Programs*

Jim Horne, Sustainable Utilities Program
Manager, U.S. EPA Office of Wastewater
Management

CREATING THE WATER WORKFORCE OF THE FUTURE

WEBINAR SERIES

Workforce Solutions in Action: Innovative Approaches from Charlotte Water's Workforce Development Programs

Today's water sector utilities face a growing set of workforce challenges, including high vacancy rates, the need for skilled labor, and the urgency of building a strong talent pipeline. To address these challenges as part of an overall workforce strategy, Charlotte Water is responding with a multi-pronged Workforce Development Program that attracts individuals from across the community into meaningful careers in water, not just a job. Charlotte Water utilizes registered apprenticeships, co-ops, and internships to train future water professionals with the goal of creating long-term career pathways. Participants gain a wide range of skills while being paid and supported under the supervision of experienced utility personnel.

Join us to learn more about Charlotte Water's experience in developing its apprentice program, job shadowing opportunities, targeted recruitment strategies, a variety of internship roles, and lessons learned that can help other utilities begin building their own programs. This webinar is part of an ongoing webinar series hosted by EPA, in partnership with leading water sector organizations around the country.]

ATTENDANCE IS FREE
Register now at:

[https://www.zoomgov.com/webinar/register/WN_oym9cD-8SKW2SZbp5g_0RQ]

JULY 16, 2025
12:00 – 1:30 PM ET

Moderators:

- **Jim Horne**, U.S. EPA

Speakers:

- **Carolyn Ross**, People Strategy Manager, Charlotte Water
- **Paula Holmes**, Workforce Development Lead, Charlotte Water
- **Rosbeli Peralta**, Workforce Development Specialist, Charlotte Water
- **Anthony Meadows**, Training and Workforce Development Specialist, Charlotte Water

This webinar series is supported by:



Workforce Development & Training Team



Carolyn Ross:

People Strategy Manager



Paula Holmes:

Workforce Development Lead



Rosbeli Peralta:

Workforce Development Specialist



Anthony Meadows:

Training and Workforce Development Specialist



Lee Anne Tourigny:

Workforce Development Intern



CREATING THE WATER WORKFORCE OF THE FUTURE

**CHARLOTTE WATER'S COMPREHENSIVE WORKFORCE
DEVELOPMENT APPROACH**

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Overview

- Welcome & Introductions
- Program History & Overview
- Workforce Development Best Practices & Lessons Learned
- Q&A



The Water Sector Workforce Crisis



Workforce Challenges

Water work: Jobs related to water utilities



U.S. BUREAU
OF LABOR
STATISTICS

High Vacancy Rates

Need for Skilled Labor

Aging Workforce & Retirement

Table 1. Selected occupations related to water utilities



Median hourly wages, projected employment growth, and typical education and training, all industries

	General and operations managers	First-line supervisors of production and operating workers	Pipelayers	Plumbers, pipefitters, and steamfitters	Water and wastewater treatment plant and system operators
Median hourly wage, all industries, 2016	\$47.74	\$27.78	\$18.47	\$24.74	\$22.00
Employment growth, all industries, projected 2014-24 (percent)	7.1	-3.1	11.4	11.5	6.0
Education	Bachelor's degree	High school diploma or equivalent	No formal educational credential	High school diploma or equivalent	High school diploma or equivalent
Work experience in a related occupation	5 years or more	Less than 5 years	None	None	None
On-the-job training	None	None	Short-term on-the-job training	Apprenticeship	Long-term on-the-job training

	Construction equipment operators	Utilities meter readers	General maintenance and repair workers	Construction laborers	All occupations
Median hourly wage, all industries, 2016	\$21.65	\$18.72	\$17.76	\$16.07	\$17.81
Employment growth, all industries, projected	10.2	-18.0	6.1	12.7	6.5

Aging Workforce & Knowledge Capture

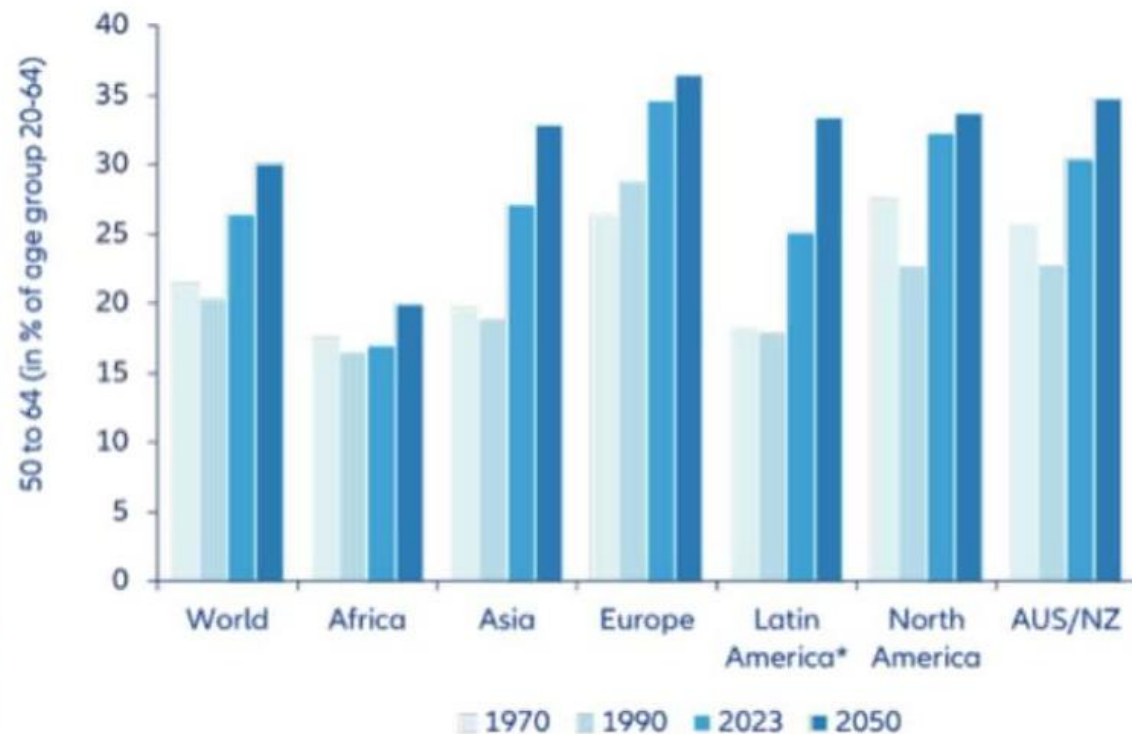
Utilities facing significant amount of workforce at retirement age

In 2023, over 1 in 5 workers were aged 55 years or older

Retirement Surge: Mass exodus over the next decade

Significant rise in workers aged 65 and above

Figure 5: The global workforce population is aging



* Latin America and the Caribbean.

Source: UN Population Division (2022).

Charlotte Water's Workforce Development Strategy



Career Training Academy Programs

Experience + Skills + Networking

	CTA Internship	CTA Co-Op Internship	Apprenticeship (DOL Registered)
Description	Provides experience in primarily entry level roles	Opportunity for practical application of classroom knowledge (2 yr, 4 yr, Grad) in a role that typically requires higher level of education for entry positions	Opportunity to become skilled in a specific role resulting in full-time employment at conclusion & Journeyman classification *Division must have a vacant position available by the end of the cohort.
Duration	7 months	Up to 1 year	1 or more years
Example Positions	Survey Tech, Backflow Investigator, WTP & WWTP Operator, Pre-Bill, Dispatch, Manhole Inspector, Water Service Tech, Lift Station, Admin.	Lab Analyst 1, Workforce Development, Human Resources, Eng. Design & Construction, Business Systems Analyst, WRR Fellowship	Utility Tech 1, Lift Station, Facilities Management

Costs for all above programs, including, but not limited to: salary, uniforms, PPE, technology, required trainings, etc. are reimbursed at the end of the fiscal year by Workforce Development. Hiring beyond the program's end date requires the division to identify/fund a position.

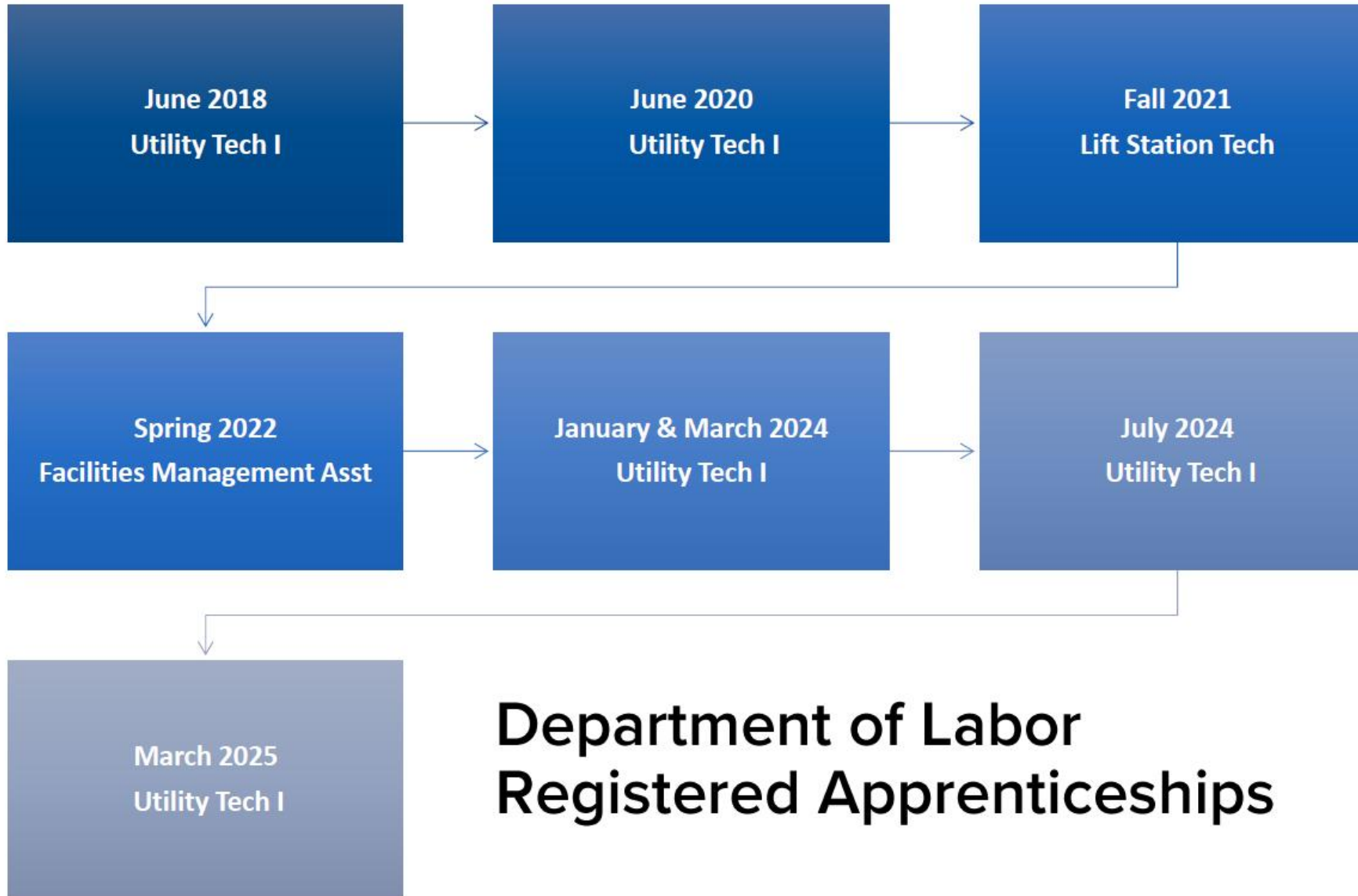
What's the purpose of the programs?

The "What?"

- ▶ Career focused
- ▶ Engaged and “seen” employees
- ▶ Shared opportunities
- ▶ Reflective of City of Charlotte
- ▶ Relationships

The "Why?"

- ▶ Skills Gap
 - 7,000+ wastewater operators needed annually
- ▶ Retirement
 - 1/3 of workers retiring in next 10 years
- ▶ Succession Planning
 - Workforce Representation



Department of Labor Registered Apprenticeships





[https://www.youtube.com/watch?v= S3oEpjc61M](https://www.youtube.com/watch?v=S3oEpjc61M)

Utility Technician I Apprentice

Career Training Academy: Internships & Co-ops

February 2019

- ☐ Meter Shop Assistant
- ☐ Water Meter Service Tech
- ☐ Dispatch
- ☐ Lift Station Tech
- ☐ Warehouse Assistant
- ☐ Meter Shop Assistant

2022

- ☐ Lab Analyst I
- ☐ Water Quality Tech I
- ☐ WFD Assistant
- ☐ Talent Acquisition Asst.

2025

- ☐ Business Analyst I
- ☐ Water Resource Recovery Fellowship

October 2019

- ☐ Water Meter Service Tech
- ☐ Office Assistant
- ☐ Construction Inspector
- ☐ Lift Station Tech
- ☐ Warehouse Assistant
- ☐ CCTV Tech
- ☐ Manhole Inspector
- ☐ Maintenance Mechanic Assistant

2023

- ☐ Customer Service Dispatcher
- ☐ Customer Service Pre-Billing
- ☐ Damage Billing Assistant

October 2021

- ☐ Water Treatment Plant Operator
- ☐ Industrial Meter Repair Tech
- ☐ Dispatch Rotation
- ☐ Meter Shop Assistant
- ☐ WWTP Plant Maintenance Tech, Backflow Assistant

2024

- ☐ WW Research Assistant
- ☐ EMD-Office Assistant

Charlotte Water's History of Career Training Academy Workforce Development Programs



Career Development

- ▶ Job shadowing
- ▶ Mentoring
- ▶ Workshops: Resume, LinkedIn, Interview Skills
- ▶ Lunch & Learns
- ▶ Internal Conferences



Charlotte Water Workforce Development: Program History & Outcomes

Charlotte Water's History of Apprenticeship & Career Training Academy Workforce Development Programs

Created apprenticeship programs to develop a workforce skilled in much-needed entry-level positions. Expanded hiring roles through internships and co-ops.

*of eligible employees

FY19

73% Employed

15 Participants Hired
11 Participants
Employed Full-time in
Industry

FY20

93% Employed

15 Participant Hired
14 Participants
Employed Full-time in
Industry

FY21

88% Employed

9 Participants Hired
8 Participants
Employed Full-time in
Industry

FY22

86% Employed

22 Participants Hired
19 Participants
Employed Full-Time in
Industry

FY23

100% Employed*

20 Participants Hired
15 Participants
Employed Full-Time in
Industry

FY24-25

87% Employed

24 In Programming
11 Participants Hired
67 Total Participants

What do the numbers say?



High Completion Rate

Solid Graduate Base

Retention Success

Career Advancement

Broad Career Opportunities

Workforce Development Success Stories



Sandra G. Co-op

- Biology Degree
- Lacked workplace lab experience but had a strong interest.
- Was hired full-time as a Lab Analyst I during her Co-op experience.
- Volunteers at STEM education events for youth in the community.



A picture containing indoor, ceiling, person, table

AI-generated content may be incorrect.



Daval R. UT1 Apprentice

“Completing my GED was an important milestone, but it’s been the leadership opportunities within the apprenticeship that have truly shaped me. I’m proud of how I’ve been able to guide my team and contribute to our zone’s success, all while learning new skills that will benefit me in my career for years to come.”



Richard - CTA

- ▶ Worked at Walmart and had a “tinkering” side business repairing small machines.
- ▶ CTA participant as WWTP Maintenance Mechanic and transitioned to WWTP Operator.
- ▶ Obtained his WWTP certifications in record time and is currently a lead at the plant.
- ▶ Paid off \$10,000 in debt and is pursuing purchasing his first home.





Future Focused Hiring

Identify high demand jobs



Consider possible retirements within 1-3 years



Knowledge capture



Identify skill set, areas of interest, strengths/ areas for improvement



Exploration is KEY

Key Recruitment Strategies

Community Partnerships

City of Charlotte WFD Programs

Hands-on Learning Opportunities

Public Engagement Events

CTA Essential Partnerships

Internal

- Partner with Human Resources to re-envision recruitment practices
- Identify internal hiring gaps (hard to recruit and retain positions)
- Collaborate with divisions to understand positions and why challenges exist
- Identify effective trainers and create alignment of program goals
- Provide continuous support to divisions to address barriers and challenges that may arise during experiences (continuous coaching)

External

- Participate in hiring events throughout the community
- Seek to understand community organizations and those who can be “talent pipelines”
- Build a reciprocal relationship with key partners



Hiring Events at Local High School
& Training Schools



Community Partnerships

- ▶ **Central Piedmont Community College**
 - Single Stop
 - NextGen
 - Skilled Trades
- ▶ **Charlotte Area Fund**
- ▶ **Charlotte Works**
- ▶ **Charlotte Mecklenburg Public Library**
- ▶ **Charlotte-Mecklenburg Schools**
- ▶ **Goodwill Industries of the Southern Piedmont**
 - Goodwill Construction Skilled Training Center
- ▶ **Innovation Barn**
- ▶ **Mecklenburg County**
- ▶ **She Built this City**
- ▶ **TWIN (Training to Work an Industry Niche)**
- ▶ **Urban League**



Lessons Learned & Best Practices

Targeted
Recruitment

Hands-On
Training

Mentorship
& Support

Program
Flexibility

Building the Workforce of the Future

- ▶ **Immediate Action**
- ▶ **Commit to Implementation**
- ▶ **Partner and Collaborate**
- ▶ **Set Long-Term Goals**
- ▶ **Invest in the Future**
- ▶ **Stay Engaged**





Thank you!



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