

ORWEF's 2026 Water Environment School Planner, At a Glance

DAY ONE		Tuesday, June 23, 2026		
7:00 AM		Zoom opens, tech checks, change your names.		
7:15 AM		An ORWEF Welcome and Introductions to the School: Housekeeping, What to Expect, Certification Process, and More.		
1	8:00-9:00am	Keynote Speaker:		
		Burn, Bury...or Beneficial? Vancouver's Journey to Sewage Solids Resource Recovery Frank Dick City of Vancouver		
		TRACK A: Collection Systems	Track B: Wastewater Operations	Track C: Source Control
2	9:10-10:10am	Case Study: Incorporating In-line Pipe Inspection Data into Trenchless Sewer Pressure Pipe Rehabilitation Planning Jessica Rinner of WES and Riley Walsh of Jacobs WES and Jacobs	Wastewater and Combined Collections System Flow: Overflow, Spill Notification, and Visual Volume Estimating Training Mike Hauser City of Portland, Bureau of Environmental Services	City of Portland's Sewer Spill Response Program: What We Do and Why Kevin Veaudry Casaus & Laura Johnson City of Portland, Bureau of Environmental Services
		3	10:20-11:20am	Mitigating Risks in Urban Wastewater and Sewer System Upgrades: A Case Study in Hydraulic Resilience Ruby Golshani, PE, PMP and Angelica Quintero WSP
4	11:30-12:30pm	Utilizing AI and Machine Learning in Water Distribution And Wastewater Collection Analysis Ken Hayes Core and Main	Preventing Serious Injuries in the Wastewater Industry Elena Estrada WES	Protecting Watersheds from Wastewater Through Industrial/Commercial Stormwater Inspections Galen Hoshovsky WES
			12:30-1:00pm	LUNCH
5	1:00-2:00pm	Wastewater Operators Certification Basics (This is a joint presentation with Track B) Kimi Grzyb DEQ	Wastewater Operators Certification Basics (This is a joint presentation with Track B) Kimi Grzyb DEQ	Decarbonizing the Flow: Carbon Management Strategies in Wastewater Collection & Resource Recovery Terrance Romaine WES
		6	2:10-3:10pm	Roadside Emergencies & Hazard Awareness for Wastewater, Water, and Utility Crews Dustin Ross Oregon Department of Transportation
7	3:20-4:20pm			Maximizing CMGC Delivery for the City of Portland's Carolina Sewer Trunk Rehabilitation Sarah Lingley and Ainsworth Marshall WSP and City of Portland, Bureau of Environmental Services
		DAY TWO		Wednesday, June 24, 2026
7:00 AM		Zoom opens, tech checks, change your names.		

7:15 AM		An ORWEF Welcome and Introductions to the School: Housekeeping, What to Expect, Certification Process, and More.		
8	8:00-9:00am	Keynote Speaker: 50 Years of Wastewater Workplace Communications: Looking Back, to Improve Tomorrow. Marion Sutor Barnes City of Eugene Public Works		
		TRACK A: Collection Systems	Track B: Wastewater Operations	Track C: Source Control
9	9:10-10:10am	Designing Resilient CSO/SSO Storage Systems for Today's Wastewater Infrastructure Christina Totland, PE Contech Engineered Solutions	Troubleshooting Facultative Lagoons in Wastewater Operations Jeff Hart West Yost	Wastewater Pretreatment Surveys and Permitting Chris Desiderati WES
10	10:20-11:20am	Engineering in Action: Lessons from Four 2025 Wastewater and Stormwater Projects Chris Hass, PE Contech Engineered Solutions	Wastewater Data Observability and Pragmatic Applications of AI Large Language Models (LLMs) for Operations, Maintenance, Engineering, Lab, and Executive Teams Rob Whitson Aquasight	Environmental Monitoring Best Practices and Common Equipment in Wastewater Applications and Processes Chirs Desiderati WES
11	11:30-12:30pm	Cleaning, Inspection, and Point Repairs to Extend the Life of your Wastewater and Collections Pipelines Michelle Beason, PE National Plant Services	Columbia Boulevard Wastewater Treatment Plant's Clarifier Startup, Staff Training, and Ribbon Cutting Stefan Chabane and Mark Walter City of Portland, Bureau of Environmental Services and Waterdude Solutions	Toilet Bowl to Super Bowl – A Story of Bear Poop, Beer, and Direct Potable Wastewater Reuse Yak Yerbich-Louman Carollo
	12:30-1:30pm	LUNCH - Wastewater Demonstrations and Short Sessions		
12	1:30-2:30pm	Thinking Outside the Pipe: Exposed Wastewater Pipes in Streams Michelle Adlong, P.E. Clean Water Services	Water Reuse Alternatives Analysis for the Columbia Boulevard Wastewater Treatment Plant Jesse Fields; Lesley Martinez; Stefan Chabane Tetra Tech and City of Portland, Bureau of Environmental Services	Non-Conforming Sewer Systems and Pretreatment Operations and Maintenance - A Case Study Brittany Grimes City of Portland, Bureau of Environmental Services
13	2:40-3:40 pm	Pumps for all Types of Wastewater Applications Nick Ivers Owens Pump & Equipment	Factors Impacting Dewatering in Wastewater Operations Mario Benisch HDR	Interesting Things in Wastewater Biosolids Production Chris Maher Clean Water Services
14	3:50-4:50pm	Wastewater Pipe Rehab and Replacement Challenges in a Small Community Anna Bolio, EIT and Hunter Bennett-Daggett, PE Tetra Tech	Reducing Energy Costs in Wastewater Treatment Plants Matt Smeraglio Cascade Energy	What I wish Wastewater Engineers and Project Managers Knew Before Construction Starts Debbie Caselton City of Portland Bureau of Environmental Services
DAY THREE		Thursday, June 25, 2026		
7:00 AM		Zoom opens, tech checks, change your names.		
7:15 AM		An ORWEF Welcome and Introductions to the School: Housekeeping, What to Expect, Certification Process, and More.		
15	8:00-9:00am	Keynote Speaker: Orient First, Then Act — 38 Years of Showing Up for Wastewater and Water Mark Walter Waterdude Solutions		
		TRACK A: Collection Systems	Track B: Wastewater Operations	Track C: Source Control
16	9:10-10:10am	Work Zone Traffic Control Safety (4 hours, Hour 1 of 4)	Flocculants and Coagulants-How the Magic Happens in Wastewater Processes	Insight into City of Portland's Wastewater FOG Control Program

		Mike Eastman <i>ODOT Technology Transfer Center</i>	Charles Scott <i>SNF Polydyne</i>	Ali Dirks <i>City of Portland, Bureau of Environmental Services</i>
17	10:20-11:20am	Work Zone Traffic Control Safety (4 hours, Hour 2 of 4) Mike Eastman <i>ODOT Technology Transfer Center</i>	Electronic Reporting for Wastewater Industry Water Quality Permits Mark Bentz <i>Oregon DEQ-NWR-WQ Compliance</i>	Sealing Up the Wastewater Collections System - A Holistic Approach to Pipe Rehabilitation LUNCH <i>Laboratory Testing for Wastewater Treatment</i>
18	11:30-12:30pm	Work Zone Traffic Control Safety (4 hours, Hour 3 of 4) Mike Eastman <i>ODOT Technology Transfer Center</i>	Understanding and Maintaining Wastewater Plant Control Systems Carl Serpa <i>Water Environment Services</i>	Metro's Sector Controls for Wastewater Operations Zach Foster <i>City of Eugene</i>
	12:30-1:30pm	LUNCH		
19	1:30-2:30pm	Work Zone Traffic Control Safety (4 hours, Hour 4 of 4) Mike Eastman <i>ODOT Technology Transfer Center</i>	Wastewater operators! Don't Guess – Anaerobically Digest: Data-driven Stability in Action! Ornella Sosa-Hernandez and Kevin Wegener <i>Clean Water Services</i>	Laboratory Testing for Wastewater Treatment Patrick Leach <i>Clackamas Water Environment Services, Water Quality Laboratory</i>
20	2:40-3:40 pm	Design on a Dash: Efficient Planning, Permitting, and Delivery of Exposed Wastewater Pipe Repair Projects Daniel Boatman, P.E. <i>City of Portland, Bureau of Environmental Services</i>	Tertiary Wastewater Granular Media Filtration – Theory, Operation, and Maintenance Chris Maher <i>Clean Water Services</i>	Hey! I've Seen That Movie! Wastewater's Own FOGbusters in The Dalles, OR Jill Hoyenga <i>Regulatory Compliance Manager, City of The Dalles, Department of Public Works</i>
21	3:50-4:50pm	A Time-Critical Spray Applied Wastewater Collections System Pipe Lining Culvert Rehabilitation in Ketchikan, Alaska Brandon Falk, PE <i>Conсор</i>	Reducing Wastewater and Water Operating Costs with Energy Efficiency Tyler Weber/Kelson Redding <i>Energy Trust of Oregon</i>	Just the Facts, Jack: A survey of industrial discharge permits in The Dalles Wastewater Collections Systems Jill Hoyenga <i>Regulatory Compliance Manager, City of The Dalles, Department of Public Works</i>

2026 Water Environment School Planner		
Tuesday, June 23, 2026		
TRACK A Collection Systems: Operations & Maintenance, Safety, Asset Management		
Tuesday, June 23, 2026		
#1	KEYNOTE 8:00-9:00am	Burn, Bury...or Beneficial? Vancouver's Journey to Sewage Solids Resource Recovery
	Presenter Names:	Frank Dick
	Presenter Company:	City of Vancouver
	Session Summary:	The City of Vancouver is beginning the multi year process of planning for a new wastewater solids treatment train. This processing and treatment facility currently incinerates and changing to a new technology will be quite the undertaking! CoV is partnering with consultants to find the best project delivery and site implementation, while maintaining functionality. In parallel with this planning effort, the project team performed significant community outreach to identify key needs and the priorities of Vancouver's citizens, while keeping in mind the environmental justice concerns.
	Presenter Bio:	Frank is a chemical engineer who has been in the industry for over 18 years. He is currently the manager of the wastewater treatment engineering program at the City of Vancouver, Washington.
	9:00-9:10am	
#2	9:10-10:10am	Case Study: Incorporating In-line Pipe Inspection Data into Trenchless Sewer Pressure Pipe Rehabilitation Planning
	Presenter Names:	Jessica Rinner of WES and Riley Walsh of Jacobs
	Presenter Company:	WES and Jacobs
	Session Summary:	This case study will describe the condition assessment of the Bolton Force Main by Clackamas Water Environment Services (WES) and implications for trenchless rehabilitation. The sewer force main had experienced corrosion-related failures in 2017 and 2021, but had also showed reduced capacity even after a sewer pump station upgrade in 2022 with internal blockages being the suspected cause. The project culminated in a detailed in-line inspection using a specialized "smart pig" that could detect internal pitting and wall loss defects as small as 5mm in diameter. Ultrasonic readings at excavated test pits confirmed the findings. The results of which were used to assess the feasibility of trenchless pressure pipe rehabilitation technologies to address the deficiencies.
	Presenter Bio:	Jessica Rinner is a licensed Civil Engineer in both Oregon and Massachusetts with over 30 years experience designing, planning, and rehabilitating sanitary sewer collection systems. She is currently the Vice President of PNCWA and works for Clackamas Water Environment Services in the Capital Group. In her off time Jessica enjoys kayaking, whitewater rafting and star gazing with her teenage children.
	10:10-10:20am	
#3	10:20-11:20am	Mitigating Risks in Urban Wastewater and Sewer System Upgrades: A Case Study in Hydraulic Resilience
	Presenter Names:	Ruby Golshani, PE, PMP and Angelica Quintero
	Presenter Company:	WSP
	Session Summary:	Upgrading existing storm and sewer systems to provide resilient infrastructure poses risks and challenges that owners must overcome to safeguard public health and safety. The risks associated with construction of underground infrastructure are magnified by congested urban environments, steep topography and challenging geotechnical conditions. A case study will be presented for replacement of an aging critical sewer trunk that crosses beneath a major interstate highway, focusing on the risks associated with system hydraulics. The project utilized the Construction Manager/General Contractor (CM/GC) delivery method and due to the major highway crossing trenchless construction was required. The design team collaborated with the CM/GC to evaluate multiple trenchless storm and sewer installation methodologies against a variety of criteria including constructability, cost, public impacts, and resiliency.
	Presenter Bio:	Angelica Quintero is the deputy design and quality assurance/quality control (QA/QC) manager for WSP's current BES Carolina Sewer Project. She specializes in water quality, stormwater management, drainage design, and environmental permitting and analysis. Ruby Golshani, PE, PMP is a senior technical water resources engineer with 16 years of experience supporting large, multidisciplinary public infrastructure programs in dense urban environments. She supports program coordination, technical integration, and delivery of stormwater and utility related elements across planning and construction phases.
	11:20-11:30am	
#4	11:30-12:30pm	Utilizing AI and Machine Learning in Water Distribution And Wastewater Collection Analysis
	Presenter Names:	Ken Hayes
	Presenter Company:	Core and Main
	Session Summary:	Can AI and Machine Learning be applied to understanding water distribution and wastewater collection patterns, issues, predictive analysis, and decision making? These areas will be discussed in the session plus how this technology can actually help utilities with cost control, rate determination, and increase customer satisfaction. The session will delve into case studies that demonstrate the practical applications of this approach, as well as the challenges and opportunities that come with leveraging sensor data and AI in the utility industry. Attendees will gain a deeper understanding of the potential for artificial intelligence to drive innovation in the water and wastewater industry for utilities of all sizes.
	Presenter Bio:	Ken has been involved in technical and computer work for over 35 years. He completed his BA in Communications from Carson Newman University and MA in Organizational Behavior from Louisiana State University. He joined the Core & Main National Metering and Technical Solutions in the summer of 2019 focusing on utility software, wastewater and water solutions, including AMI.
	12:30-1:00pm	LUNCH
#5	1:00-2:00pm	Wastewater Operators Certification Basics (This is a joint presentation with Track B)
	Presenter Names:	Kimi Grzyb
	Presenter Company:	DEQ
	Session Summary:	This presentation will cover how to become certified with DEQ for wastewater operations and other classifications. It will also cover renewals, requirements for reciprocity, and DEQ program updates.
	Presenter Bio:	Kimi Grzyb has been the Program Coordinator for DEQ's statewide Wastewater Operator Certification Program since 2018. She holds a PhD in Environmental Sciences, an MS in Molecular Biology, and a BS in Biology.
	2:00-2:10pm	
#6	2:10-3:10pm	Roadside Emergencies & Hazard Awareness for Wastewater, Water, and Utility Crews
	Presenter Names:	Dustin Ross
	Presenter Company:	Oregon Department of Transportation
	Session Summary:	Water, sewer, and stormwater utilities are largely managed by Public Municipalities. And these Public Workers are on the roads all day, so it's just a matter of time before these employees could be the first on scene with one of these hazards. If that happens, will you know what to do? This session will cover the many unexpected hazards you could come across while working on our roadways; motor vehicle crashes, Haz-mat spills, suspicious persons, crime scenes, etc.
	Presenter Bio:	Dustin Ross is a training specialist for ODOT who has a diverse and significant resume in supporting operations, employees, safety trainings, and more.
	3:10-3:20pm	
#7	3:20-4:20pm	Maximizing CMGC Delivery for the City of Portland's Carolina Sewer Trunk Rehabilitation
	Presenter Names:	Sarah Lingley and Ainsworth Marshall

		Presenter Company:	WSP and City of Portland, Bureau of Environmental Services
		Session Summary:	The City of Portland Bureau of Environmental Services (BES) is undertaking the Carolina Sewer Trunk Rehabilitation Project; a critical infrastructure initiative aimed at replacing a deteriorating section of the Carolina Trunk sewer pipe whose alignment includes a section under Interstate 5. The project is being delivered using the Construction Manager/General Contractor (CMGC) method. The presentation will provide an overview of the project, highlighting the unique challenges and solutions associated with rehabilitating a nearly 90-year-old sewer trunk. Key topics will include early contractor involvement, risk management and construction strategies.
		Presenter Bio:	Sarah Lingley is a civil engineer with 16 years as a consultant in the water industry, working in project management, design, and construction of sewer, stormwater, and drinking water system improvement projects. She serves as the Design Team Project Manager for the BES Carolina Sewer CM/GC project. Ainsworth Marshall is a civil engineer with more than two decades of experience delivering complex infrastructure projects. He currently serves as a Senior Project Manager with the City of Portland's Bureau of Environmental Services, where he oversees planning, design, and execution of major capital projects.
		4:20-4:30pm	
Wednesday, June 24, 2026			
#8	KEYNOTE	8:00-9:00am	50 Years of Wastewater Workplace Communications: Looking Back, to Improve Tomorrow.
		Presenter Names:	Marion Suitor Barnes
		Presenter Company:	City of Eugene Public Works
		Session Summary:	Most of the time, sewer and water crews doing infrastructure construction or maintenance are focused solely on getting the job done; well and on time. They don't have the time or interest in talking to members of the public, members of the media, or, sometimes, even other people in their department. It's understandable. But there are many instances in which work crews and leads can find themselves in the spotlight, so it's best to be prepared. Learn how to get used to attention—from media, from the public and from coworkers—and use it to your advantage!
		Presenter Bio:	Marion Suitor Barnes is public affairs manager for City of Eugene Public Works, the city's largest department. Before representing Public Works, she was director of communications for the Oregon Department of Early Learning and Care and for Western Oregon University. Deep down, she's a journalist at heart, having spent 20+ years as a writer and editor for newspapers throughout the Pacific Northwest.
		9:00-9:10am	
#9		9:10-10:10am	Designing Resilient CSO/SSO Storage Systems for Today's Wastewater Infrastructure
		Presenter Names:	Christina Totland, PE
		Presenter Company:	Contech Engineered Solutions
		Session Summary:	Communities across the country are facing increasing pressure to manage Combined Sewer Overflows (CSO) and Sanitary Sewer Overflows (SSO) due to stricter regulatory requirements, aging infrastructure, and more intense rainfall events. Effective storage solutions are critical to mitigating overflow risks, protecting waterways, and maintaining system reliability. This presentation explores practical, high-performance CSO/SSO storage strategies designed to address today's infrastructure challenges. Attendees will gain insight into storage system options, material selection considerations, hydraulic and structural design principles, and long-term performance factors. Through real-world case studies and value-engineering examples, participants will learn how integrated storage solutions can optimize footprint, accelerate construction, and deliver cost-effective, durable performance.
		Presenter Bio:	Christina has a degree in mechanical engineering, and has worked in the civil engineering environment supporting stormwater design and conveyance systems for almost 20 years. She provides experience in construction solutions for project owners, engineers, and contractors.
		10:10-10:20am	
#10		10:20-11:20am	Engineering in Action: Lessons from Four 2025 Wastewater and Stormwater Projects
		Presenter Names:	Chris Hass, PE
		Presenter Company:	Contech Engineered Solutions
		Session Summary:	Join Contech Engineered Solutions for a technical review of four notable stormwater/collections projects completed in 2025. Each site offers practical insights into design considerations, material selection, and site-specific solutions that addressed real-world collections systems challenges. Attendees will come away with ideas and lessons that they can apply to their future stormwater designs.
		Presenter Bio:	Chris is a Regional Manager with Contech Engineered Solutions, serving clients throughout the Pacific Northwest. He brings over 14 years of stormwater experience across the public sector and private consulting, giving him a well-rounded perspective on site design. Chris develops solutions that meet regulatory requirements while optimizing long-term performance and minimizing maintenance. He holds a B.S. in Civil Engineering from Portland State University and is a licensed Professional Engineer in Washington State.
		11:20-11:30am	
#11		11:30-12:30pm	Cleaning, Inspection, and Point Repairs to Extend the Life of your Wastewater and Collections Pipelines
		Presenter Names:	Michelle Beason, PE
		Presenter Company:	National Plant Services
		Session Summary:	Cleaning and CCTV inspections are the first critical step of any asset management program, and wastewater collections is no exception. This presentation will provide; 1. tips to optimize cleaning and CCTV efforts, 2. Reviewing and understanding the CCTV PACP results, and 3. Assigning spot repairs such as grouting, CIPP Lateral lining, and CIPP Point repairs that will extend the life of a sewer, stormwater, or combined flow pipeline at the lowest cost.
		Presenter Bio:	Michelle Beason received a BS in Civil Engineering from Purdue University, and is a registered California PE with over 30 years experience in planning, design, construction, and asset management of water, stormwater, and wastewater assets. She is currently the Regional Manager for National Plant Services, Inc., covering the 12 Western States, including Hawaii and Alaska.
LUNCH		12:30-1:30pm	LUNCH - Wastewater Demonstrations and Short Sessions
			On Wednesday ORWEF is hosting a vendor fair lunch where in parallel to this, four of these vendors will be assisting ORWEF in hosting a "Wastewater Product Instructional Period." This extended lunch period will feature at least four vendors who will show and demonstrate the application, maintenance, installation, and strength of their products and applications. Short lectures will be offered on topics ranging from IAR testing, leak mitigation, and pump troubleshooting + disassembly. This optional instructional period will be tracked on the attendees' CEU cards and can provide an optional additional 0.1 CEU credit.
#12		1:30-2:30pm	Thinking Outside the Pipe: Exposed Wastewater Pipes in Streams
		Presenter Names:	Michelle Adlong, P.E.
		Presenter Company:	Clean Water Services
		Session Summary:	Over time, some sanitary sewers within streams in the Tualatin River watershed have become exposed. This increases the risk of pipe failure and sewage overflows. Learn why is this is happening and what Clean Water Services is doing to address the problem.
		Presenter Bio:	Michelle is an environmental & water resources engineer with a particular interest in urban streams—where infrastructure, people, and nature meet. She is a graduate of Oregon State and works for Clean Water Services in Washington County, Oregon.
		2:30-2:40pm	
#13		2:40-3:40 pm	Pumps for all Types of Wastewater Applications
		Presenter Names:	Nick Ivers
		Presenter Company:	Owens Pump & Equipment
		Session Summary:	This presentation will cover the types of pumps used throughout the wastewater industry, including treatment plants and pump stations. Benefits and weaknesses of each pump type will be highlighted using real-world examples from the field with discussions on recent case studies, trials, and practical applications.

		Presenter Bio:	Nick has worked with pumping technology for more than 14 years. At Owens Pump he focuses on sales and site specific solutions for wastewater, combined, and treatment pumping applications.
		3:40-3:50pm	
#14		3:50-4:50pm	Wastewater Pipe Rehab and Replacement Challenges in a Small Community
		Presenter Names:	Anna Bolio, EIT and Hunter Bennett-Daggett, PE
		Presenter Company:	Tetra Tech
		Session Summary:	As sewer infrastructure ages cost effective and feasible upgrades are essential for the longevity of small systems. The City of Carlton, Oregon has a population of about 2,200 residents many of which are connected to a clay pipe sewer main which was constructed in 1928. The City of Carlton is working to upgrade all old clay pipes in their wastewater system and in 2024 they initiated the design effort for the Main Street and Grant Street Project. This presentation describes the process of working with a small community and challenges that occur during wastewater system design and construction.
		Presenter Bio:	Hunter has more than 20 years of experience working in the design, permitting, and construction of wastewater and water projects including treatment facilities, pump stations, sewer conveyance systems, water distribution systems, and fisheries. Anna has more than 3 years of experience working on civil projects, including street, water, and sewer projects.
		4:50-5:00pm	
Thursday, June 25, 2026			
#15	KEYNOTE	8:00-9:00am	Orient First, Then Act — 38 Years of Showing Up for Wastewater and Water
		Presenter Names:	Mark Walter
		Presenter Company:	Mark Walter, Senior Operations and Maintenance Specialist at Waterdude Solutions
		Session Summary:	This keynote connects the 50-year history of the ORWEF / WES short school to the challenges facing today's wastewater workforce: AI-assisted operations, remote monitoring, PFAS, workforce shortages, and capital programs that demand operators be ready to run systems they've never seen before. Walter draws on current work supporting Portland's Columbia Boulevard Wastewater Treatment Plant expansion—one of the largest active solids process startups in the Pacific Northwest—to illustrate what orientation looks like in practice.
		Presenter Bio:	Mark Walter is the founder and principal of Waterdude Solutions LLC, a wastewater operations and maintenance consulting firm based in Oregon City, Oregon. Since 2016, Waterdude Solutions has completed over 70 projects with 30 different clients, including large and small utilities, engineering firms, and private industry. Sixty percent of clients have scoped additional projects—a reflection of the firm's commitment to practical, operator-centered work.
		9:00-9:10am	
#16		9:10-10:10am	Work Zone Traffic Control Safety (4 hours, Hour 1 of 4)
		Presenter Names:	Mike Eastman
		Presenter Company:	ODOT Technology Transfer Center
		Session Summary:	This hour is part 1 of a 4 part series: This certification class can only be completed in person. It will cover state regulations and minimum requirements for setting short term flagging operations on state and city right of way. We will cover flagger procedures and minimum requirements for setting up and working on county and city roads. At the end of a this 4-hour session, the student will take the state exam and will be issued a state of Oregon flagger certification good for 3 years.
		Presenter Bio:	Michael Eastman is an experienced Trainer with a demonstrated history of working in the traffic control industry. He has 44 years of experience in public works, including municipal traffic sign manufacture and installation, work zone traffic control, flagging, training, and nine years as manager of a small general aviation airport.
		10:10-10:20am	
#17		10:20-11:20am	Work Zone Traffic Control Safety (4 hours, Hour 2 of 4)
		Presenter Names:	Mike Eastman
		Presenter Company:	ODOT Technology Transfer Center
		Session Summary:	This hour is part 2 of a 4 part series: This certification class can only be completed in person. It will cover state regulations and minimum requirements for setting short term flagging operations on state and city right of way. We will cover flagger procedures and minimum requirements for setting up and working on county and city roads. At the end of a this 4-hour session the student will take the state exam and will be issued a state of Oregon flagger certification good for 3 years.
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		11:20-11:30am	
#18		11:30-12:30pm	Work Zone Traffic Control Safety (4 hours, Hour 3 of 4)
		Presenter Names:	Mike Eastman
		Presenter Company:	ODOT Technology Transfer Center
		Session Summary:	This hour is part 3 of a 4 part series: This certification class can only be completed in person. It will cover state regulations and minimum requirements for setting short term flagging operations on state and city right of way. We will cover flagger procedures and minimum requirements for setting up and working on county and city roads. At the end of a this 4-hour session the student will take the state exam and will be issued a state of Oregon flagger certification good for 3 years.
		Presenter Bio:	Michael Eastman is an experienced Trainer with a demonstrated history of working in the traffic control industry. He has 44 years of experience in public works, including municipal traffic sign manufacture and installation, work zone traffic control, flagging, training, and nine years as manager of a small general aviation airport.
		12:30-1:30pm	LUNCH
#19		1:30-2:30pm	Work Zone Traffic Control Safety (4 hours, Hour 4 of 4)
		Presenter Names:	Mike Eastman
		Presenter Company:	ODOT Technology Transfer Center
		Session Summary:	This hour is part 4 of a 4 part series: This certification class can only be completed in person. It will cover state regulations and minimum requirements for setting short term flagging operations on state and city right of way. We will cover flagger procedures and minimum requirements for setting up and working on county and city roads. At the end of a this 4-hour session the student will take the state exam and will be issued a state of Oregon flagger certification good for 3 years.
		Presenter Bio:	Michael Eastman is an experienced Trainer with a demonstrated history of working in the traffic control industry. He has 44 years of experience in public works, including municipal traffic sign manufacture and installation, work zone traffic control, flagging, training, and nine years as manager of a small general aviation airport.
		2:30-2:40pm	
#20		2:40-3:40 pm	Design on a Dash: Efficient Planning, Permitting, and Delivery of Exposed Wastewater Pipe Repair Projects
		Presenter Names:	Daniel Boatman, P.E.
		Presenter Company:	City of Portland, Bureau of Environmental Services

		Session Summary:	This presentation will discuss the design and delivery challenges for a complex, urgent sewer system repair project whose pipe alignments included exposed, aerial pipes crossing streams and natural areas. The project delivered a full planning, permitting, and designed project on an expedited process timeline of roughly 8 months, where typically this level of project would normally take 1 to 1.5 years to get to the construction bidding phase. The presentation will cover the project background and scope, challenges, permitting, lessons learned, and more.
		Presenter Bio:	Daniel is a civil engineer in the Collections System Engineering group at the City of Portland's Bureau of Environmental Services (since 2014). Daniel manages and designs projects of varying size and complexity, primarily focused on sewer pipe rehabilitation. Daniel also manages programs that address urgent and emergency pipe repairs throughout the City.
		3:40-3:50pm	
#21		3:50-4:50pm	A Time-Critical Spray Applied Wastewater Collections System Pipe Lining Culvert Rehabilitation in Ketchikan, Alaska
		Presenter Names:	Brandon Falk, PE
		Presenter Company:	Conzor
		Session Summary:	In 2024, the City of Ketchikan successfully completed the rehabilitation of a 475-foot-long, 12-foot-wide by 8-foot-tall corrugated metal pipe arch culvert that conveys salmon-bearing Schoenbar Creek beneath a critical two-lane road, using spray applied pipe lining (SAPL). Construction was completed under challenging conditions, including managing variable creek flows, high groundwater, limited access, and maintaining environmental compliance in a high-value urban creek corridor. This presentation will detail the full project lifecycle and share key lessons learned in planning, coordination, and adaptive construction techniques.
		Presenter Bio:	Brandon is a project engineer with eight years of experience serving municipal clients in the Pacific Northwest, including water and wastewater pipelines, condition assessments, pump stations, and stream improvement projects. His experience is taking projects through their full lifecycle, from feasibility studies to permitting, design, construction, and closeout, with a strong background in trenchless technologies for new installations and rehabilitation.
		4:50-5:00pm	

2026 Water Environment School Planner

Tuesday, June 23, 2026

Wastewater Operations: Basics & Beyond, Safety, Asset Management/ Technology/ Activated Sludge

Tuesday, June 23, 2026

#1	8:00-9:00am	Burn, Bury...or Beneficial? Vancouver's Journey to Sewage Solids Resource Recovery
KEYNOTE	Presenter Names:	Frank Dick
GO TO TRACK A. TO EDIT	Presenter Company:	City of Vancouver
	Session Summary:	The City of Vancouver is beginning the multi year process of planning for a new wastewater solids treatment train. This processing and treatment facility currently incinerates and changing to a new technology will be quite the undertaking! CoV is partnering with consultants to find the best project delivery and site implementation, while maintaining functionality. In parallel with this planning effort, the project team performed significant community outreach to identify key needs and the priorities of Vancouver's citizens, while keeping in mind the environmental justice concerns.
	Presenter Bio:	Frank is a chemical engineer who has been in the industry for over 18 years. He is currently the manager of the wastewater treatment engineering program at the City of Vancouver, Washington.
	9:00-9:10am	
#2	9:10-10:10am	Wastewater and Combined Collections System Flow: Overflow, Spill Notification, and Visual Volume Estimating Training
	Presenter Names:	Mike Hauser
	Presenter Company:	City of Portland, Bureau of Environmental Services
	Session Summary:	Sewage and combined collected flow is regulated to pipes, which take it from citizens and customers down and over to treatment facilities and re-use locations. But, sometimes, some escapes. When this occurs City of Portland operations and maintenance crews serve a primary function in reporting, recording, containing, and remediating these issues, aka CSO. This presentation will go over the process and roles of this department, and associated departments, during sanitary sewer overflow events. It will include stages of notifications and how to accurately estimate release volumes. This presentation includes demonstrations of controlled, clean water discharges to show release volumes and help operators accurately report real life scenarios. When this demonstration is not possible due to facility availability, the presenter has produced curated videos of these controlled volumes to demonstrate and test participants.
	Presenter Bio:	Mike is an environmental investigator for BES. He is responsible for the day-to-day implementation of BES' Sewage Release Response Plan. Mike is responsible for ensuring that crews are investigating and reporting accurate information from sewage release incidents, he makes the required regulatory notifications and crafts required regulatory reports, he holds regular training events for response crews and other work groups throughout multiple bureaus, and he performs QA/QC of the sewage release database and also updates the response manual as necessary. Mike has been in this position since 2011.
	10:10-10:20am	
#3	10:20-11:20am	Wastewater Membrane Bioreactor Basics
	Presenter Names:	Blake Raines
	Presenter Company:	Clackamas - Water Environment Services
	Session Summary:	This presentation will describe the basics of wastewater membrane bioreactors, what they are, how a membrane system functions, important plant design ideas, and lessons learned from operating an MBR facility in parallel to a Conventional Activated Sludge (CAS) facility.
	Presenter Bio:	Blake Raines is a Treatment Operator with a Grade IV License. He works as a Wastewater Operations Coordinator at Clackamas Water Environment Services, has been at WES for about 19 years at the Tri-City Facility, and was a part of construction/commissioning process of the MBR facility in 2011.
	11:20-11:30am	
#4	11:30-12:30pm	Preventing Serious Injuries in the Wastewater Industry
	Presenter Names:	Elena Estrada
	Presenter Company:	WES
	Session Summary:	This course examines the leading causes of injuries within the wastewater industry, with an emphasis on work conditions and environmental factors that contribute to serious injuries and fatalities. Participants will gain insight into high-risk activities, common incident trends, and the underlying factors that increase exposure to harm. The course will introduce incident prevention strategies and provide practical tools for evaluating job tasks, identifying hazards, and implementing controls. By the end of the session, participants will be better equipped to recognize risk, apply preventative measures, and contribute to a safer work environment.
	Presenter Bio:	Elena Estrada is a Safety & Risk Analyst with Clackamas County Water Environment Services, where she has supported occupational safety initiatives for over three years. She brings more than 11 years of experience in the wastewater industry, including six years dedicated specifically to safety and risk management.
	12:30-1:00pm	LUNCH
#5	1:00-2:00pm	Wastewater Operators Certification Basics (This is a joint presentation with Track B)
	Presenter Names:	Kimi Grzyb
	Presenter Company:	DEQ
	Session Summary:	This presentation will cover how to become certified with DEQ for wastewater operations and other classifications. It will also cover renewals, requirements for reciprocity, and DEQ program updates.
	Presenter Bio:	Kimi Grzyb has been the Program Coordinator for DEQ's statewide Wastewater Operator Certification Program since 2018. She holds a PhD in Environmental Sciences, an MS in Molecular Biology, and a BS in Biology.
	2:00-2:10pm	
#6	2:10-3:10pm	Unseen Dangers in Wastewater Operations: Protecting Your Team from Hidden Hazards
	Presenter Names:	Lauren Wilcox, CSP, ARM
	Presenter Company:	City of Portland Bureau of Environmental Services
	Session Summary:	Wastewater facilities present a range of safety risks that are not always obvious but can have serious consequences for operators. This session will explore hidden hazards including exposure to endotoxins, the dangers of sharps, electrical classification concerns, and biogas risks. Participants will gain practical strategies for identifying, mitigating, and managing these hazards to enhance workplace safety. Through real-world examples and proactive safety measures, this presentation empowers teams to recognize risks before they become incidents, ensuring a safer and healthier working environment in wastewater operations.
	Presenter Bio:	Lauren is the Health Safety Security and Environmental (HSSE) Manager at the City of Portland Bureau of Environmental Services with over 15 years of experience in safety, security, and environmental compliance initiatives. Her work involves emergency management, change management, and leadership development, supporting the organization in fostering a safer and more sustainable work environment.
	3:10-3:20pm	
#7	3:20-4:20pm	MBR Nitrification Optimization at the Tri-City Wastewater RR Facility — And the Downstream Consequences of Getting It Right
	Presenter Names:	Steven Rice
	Presenter Company:	WES
	Session Summary:	This presentation traces the journey of optimizing the MBR nitrification at WES's Tri-City WRRF — from diagnosing centrate-driven ammonia instability and constructing an equalization solution, to the unexpected alkalinity and lime handling challenges that followed, plus an ongoing pilot evaluation of calcium carbonate as an alternative to hydrated lime. These detailed studies will inform the wastewater community as a whole with applications to their own facilities.
	Presenter Bio:	Steven Rice is a Civil Engineer at Clackamas Water Environment Services (WES), where he supports treatment process optimization and capital projects at the various WES-owned Water Resource Recovery Facilities. He holds a B.S. and M.S. in Environmental Engineering from the University of Oklahoma and worked as a consulting engineer before joining WES in 2020. His current work focuses on process optimization, facility planning, and upcoming capacity expansions of the Tri-City WRRF.
	4:20-4:30pm	

Wednesday, June 24, 2026		
#8	8:00-9:00am	50 Years of Wastewater Workplace Communications: Looking Back, to Improve Tomorrow.
KEYNOTE	Presenter Names:	Marion Suitor Barnes
GO TO TRACK A. TO EDIT	Presenter Company:	City of Eugene Public Works
	Session Summary:	Most of the time, sewer and water crews doing infrastructure construction or maintenance are focused solely on getting the job done; well and on time. They don't have the time or interest in talking to members of the public, members of the media, or, sometimes, even other people in their department. It's understandable. But there are many instances in which work crews and leads can find themselves in the spotlight, so it's best to be prepared. Learn how to get used to attention—from media, from the public and from coworkers—and use it to your advantage!
	Presenter Bio:	Marion Suitor Barnes is public affairs manager for City of Eugene Public Works, the city's largest department. Before representing Public Works, she was director of communications for the Oregon Department of Early Learning and Care and for Western Oregon University. Deep down, she's a journalist at heart, having spent 20+ years as a writer and editor for newspapers throughout the Pacific Northwest.
	9:00-9:10am	
#9	9:10-10:10am	Troubleshooting Facultative Lagoons in Wastewater Operations
	Presenter Names:	Jeff Hart
	Presenter Company:	West Yost
	Session Summary:	This presentation describes a field investigation of four facultative sludge lagoons experiencing poor wastewater solids dewaterability and solids overloading. Each lagoon was sampled to characterize chemistry, biology, and solids volume using traditional sludge judge methods alongside SONAR technology. The SONAR-based assessment provided a more accurate and comprehensive quantification of sludge accumulation, improving confidence in solids inventory and management decisions.
	Presenter Bio:	Jeff has over 15 years of experience focused on the planning, design and construction management of wastewater treatment plants, pump stations, and recycled water. Jeff is currently a Principal Engineer at West Yost and the President of the Lower Columbia Section of PNCWA. Prior to joining West Yost, Jeff served in a dual leadership role for Clean Water Services as both the lead pump station engineer overseeing over 44 pump stations as well as the District's Interim Capital Planning Manager.
	10:10-10:20am	
#10	10:20-11:20am	Wastewater Data Observability and Pragmatic Applications of AI Large Language Models (LLMs) for Operations, Maintenance, Engineering, Lab, and Executive Teams
	Presenter Names:	Rob Whitson
	Presenter Company:	Aquasight
	Session Summary:	You've likely heard of the top three large language models that are commercially available in the US: ChatGPT (OpenAI), Claude (Anthropic), and Gemini (Google), you may already have one of their apps downloaded on your phone! But have you ever considered what kind of applications do AI LLMs have when they are able to interact with structured and unstructured wastewater system performance, water quality, CMMS, SOP, and design data? This session will explore the state of data observability and AI software that is purpose built for the wastewater industry applications and how they can complement current O&M, Engineering, Lab, Compliance, and Management workflows.
	Presenter Bio:	Rob Whitson is Aquasight's Director of Operations, US West Region. He leads a team that deploys purpose-built software solutions that integrate existing data from across the water cycle, complement existing workflows, and drive efficiency across multiple utility divisions. Rob has nearly two decades in the wastewater, water, and waterpower sectors with experience working with government, industry, and others to drive adoption of new water and wastewater technologies, and design and implement water quality compliance programs that benefit rate payers and the environment.
	11:20-11:30am	
#11	11:30-12:30pm	Columbia Boulevard Wastewater Treatment Plant's Clarifier Startup, Staff Training, and Ribbon Cutting
	Presenter Names:	Stefan Chabane and Mark Walter
	Presenter Company:	City of Portland, Bureau of Environmental Services and Waterdude Solutions
	Session Summary:	This presentation covers the wastewater operators' training and the details of the startup activities required for the implementation of new clarifiers at the City of Portland's Columbia Boulevard Wastewater Treatment Plant. Lessons learned from this experience will be directly applicable to operators across the industry.
	Presenter Bio:	Stefan is a Wastewater Analyst with 9 years of experience in the water industry. A certified grade 3 operator, Stefan has worked primarily in municipal wastewater but has a background in industrial waste treatment as well as water reuse and distribution. Mark Walter is the founder and principal of Waterdude Solutions LLC, a wastewater operations and maintenance consulting firm based in Oregon City, Oregon. Since 2016, Waterdude Solutions has completed over 70 projects with 30 different clients, including large and small utilities, engineering firms, and private industry. Sixty percent of clients have scoped additional projects—a reflection of the firm's commitment to practical, operator-centered work.
	12:30-1:30pm	LUNCH - Wastewater Demonstrations and Short Sessions
		On Wednesday ORWEF is hosting a vendor fair lunch where in parallel to this, four of these vendors will be assisting ORWEF in hosting a "Wastewater Product Instructional Period." This extended lunch period will feature at least four vendors who will show and demonstrate the application, maintenance, installation, and strength of their products and applications. Short lectures will be offered on topics ranging from IAR testing, leak mitigation, and pump troubleshooting + disassembly. This optional instructional period will be tracked on the attendees' CEU cards and can provide an optional additional 0.1 CEU credit.
#12	1:30-2:30pm	Water Reuse Alternatives Analysis for the Columbia Boulevard Wastewater Treatment Plant
	Presenter Names:	Jesse Fields; Lesley Martinez; Stefan Chabane
	Presenter Company:	Tetra Tech and City of Portland, Bureau of Environmental Services
	Session Summary:	The Columbia Boulevard Wastewater Treatment Plant (CBWTP) is gearing up to replace their water reuse treatment system. Currently, the plant water needs are provided by approximately 4 million gallons of groundwater daily due to persistent challenges with its existing microscreen filtration water reuse system. In 2024, the Bureau of Environmental Services, with support for Tetra Tech, conducted a thorough evaluation and selected a cloth disk filter system, designed to produce up to 8 million gallons per day of Class A Recycled Water. This reliable solution will address previous operational hurdles while incorporating new filter feed pumps and a sodium hypochlorite disinfection system. This session will focus on the technical evaluation and decision-making process behind CBWTP's innovative approach to sustainable water treatment.
	Presenter Bio:	Stefan is a Wastewater Analyst with 9 years of experience in the water industry. A certified grade 3 operator, Stefan has worked primarily in municipal wastewater but has a background in industrial waste treatment as well as water reuse and distribution. Jesse is a Project Engineer with a decade of experience in the municipal utilities sector. His experience in water and wastewater infrastructure includes projects from planning and feasibility through design and construction. Lesley is a Civil Engineering Intern with six years of experience working on wastewater, drinking water, and stormwater projects for small municipalities. Lesley primarily focuses on the design and construction phases of water conveyance and treatment projects.
	2:30-2:40pm	
#13	2:40-3:40 pm	Factors Impacting Dewatering in Wastewater Operations
	Presenter Names:	Mario Benisch
	Presenter Company:	HDR
	Session Summary:	The focus of the presentation will be on providing tangible information that operators, utility managers, and engineers can apply to improve dewatering performance, future dewatering facility designs, and to further the understanding about the interrelations between liquid treatment, solids treatment, and the impact that transfers of external loads have on the receiving plant. To sum up the underlying message; most factors impacting dewatering are outside of the dewatering building.
	Presenter Bio:	Mario Benisch graduated from University of Stuttgart, Germany with MS in Environmental Engineering. Since 1998, he has worked with HDR in Portland, OR. He is now senior wastewater process engineer with focus on nutrient removal and recovery, emerging technologies, process intensification, dewaterability, and plant data visualization.
	3:40-3:50pm	

#14	3:50-4:50pm	Reducing Energy Costs in Wastewater Treatment Plants
	Presenter Names:	Matt Smeraglio
	Presenter Company:	Cascade Energy
	Session Summary:	The presentation will teach attendees how to identify and implement energy-saving opportunities at their municipal wastewater treatment facility. Learning objectives include: 1. Estimate potential energy cost savings from operational changes 2. Apply the lessons learned to achieve immediate results 3. Document improvements to ensure they become standard practice This session will share the top low and no-cost ways to reduce energy costs and WRRFs, teach energy cost calculations, and highlight electric utility grant funding opportunities.
	Presenter Bio:	Matt Smeraglio is a Senior Energy Efficiency Engineer at Cascade Energy, where he partners with water and wastewater operators and engineers to reduce energy costs at treatment plants. His experience spans energy efficiency consulting for capital improvement projects, low- and no-cost strategic energy management programs, and utility grant funding. Matt holds an M.S. in Mechanical Engineering from Portland State University, a B.S. in Mechanical Engineering from the University of Portland, and he is a registered Professional Engineer in the state of Oregon.
	4:50-5:00pm	
Thursday, June 25, 2026		
#15	8:00-9:00am	Orient First, Then Act — 38 Years of Showing Up for Wastewater and Water
KEYNOTE	Presenter Names:	Mark Walter
GO TO TRACK A. TO EDIT	Presenter Company:	Mark Walter, Senior Operations and Maintenance Specialist at Waterdude Solutions
	Session Summary:	This keynote connects the 50-year history of the ORWEF / WES short school to the challenges facing today's wastewater workforce: AI-assisted operations, remote monitoring, PFAS, workforce shortages, and capital programs that demand operators be ready to run systems they've never seen before. Walter draws on current work supporting Portland's Columbia Boulevard Wastewater Treatment Plant expansion—one of the largest active solids process startups in the Pacific Northwest—to illustrate what orientation looks like in practice.
	Presenter Bio:	Mark Walter is the founder and principal of Waterdude Solutions LLC, a wastewater operations and maintenance consulting firm based in Oregon City, Oregon. Since 2016, Waterdude Solutions has completed over 70 projects with 30 different clients, including large and small utilities, engineering firms, and private industry. Sixty percent of clients have scoped additional projects—a reflection of the firm's commitment to practical, operator-centered work.
	9:00-9:10am	
#16	9:10-10:10am	Flocculants and Coagulants-How the Magic Happens in Wastewater Processes
	Presenter Names:	Charles Scott
	Presenter Company:	SNF Polydyne
	Session Summary:	The training will include the basics about flocculants and coagulants, why we use them, their differences, their properties, formula specific applications, how they work, storage/handling and some optimization techniques. This will teach skills to operators and facility managers that they can directly apply to their sites.
	Presenter Bio:	Charles has over 23 years in the chemical industry including 15 years in the polymer industry. Of the 15 years in the polymer industry the first 9 years was spent in a polymer manufacturing plant as an Operator, Supervisor and Foreman. In this role he was directly involved in the production of Dry Polymers and Emulsion Polymers. The last 6 years Charles has spent educating operations and problem solving for site specific applications.
	10:10-10:20am	
#17	10:20-11:20am	Electronic Reporting for Wastewater Industry Water Quality Permits
	Presenter Names:	Mark Bentz
	Presenter Company:	Oregon DEQ-NWR-WQ Compliance
	Session Summary:	Water Quality permitting started using Your DEQ Online (YDO) on April 16, 2025. This transition aligned all water quality compliance reporting onto the internet and eliminated pen and paper submissions. Application, payment, and reporting processes are now assimilated into one online platform. Most of the Department of Environmental Quality are already using YDO to support the public and collaborate internally and a phased rollout included registration, training, and support mechanisms. This is a significant change, and guidance on how to manage expectations for associated work will be communicated. Much of the information stored in YDO will be readily available and accessible with a few keystrokes, offering immediate access to a large amount of environmental data. Questions and Answers about implications will follow a walkthrough for wastewater operators during this presentation.
	Presenter Bio:	Mark Bentz is a Water Quality Compliance Specialist at the Oregon Department of Environmental Quality in Portland, Oregon. He's a DMR Reviewer for Northwest Region and since 2019 he's worked with wastewater facilities on their reporting methods. When he's not reading water reports, he is also tasked with enforcements, inspections, and investigations. Mark graduated from Marylhurst University with a BA in science and environmental science in June 2018.
	11:20-11:30am	
#18	11:30-12:30pm	Understanding and Maintaining Wastewater Plant Control Systems
	Presenter Names:	Carl Serpa
	Presenter Company:	Water Environment Services
	Session Summary:	During this presentation wastewater plant staff will learn the terminology and principles of control systems and SCADA. This will aid plant staff in their day-to-day interactions with plant controls and process operation. Help them improve their work and interface with these systems, and provide opportunity for situation specific questions and lessons learned.
	Presenter Bio:	Carl Serpa is a registered professional control systems engineering in the State of Oregon with over 30 years of industry experience including 25 years in the water and wastewater sector as both an engineering consultant and plant engineer. Carl works as a control systems engineer for Clackamas Water Environment Services in Oregon City, Oregon.
	12:30-1:30pm	LUNCH
#19	1:30-2:30pm	Wastewater operators! Don't Guess – Anaerobically Digest: Data-driven Stability in Action!
	Presenter Names:	Ornella Sosa-Hernandez and Kevin Wegener
	Presenter Company:	Clean Water Services
	Session Summary:	Many groups of Clean Water Services work together to monitor and maintain digestion stability. This presentation will describe the collaborative efforts that took place to troubleshoot a digester upset event where the assembled team worked together to bridge operational and technical perspectives and translate data into a common understanding, coordinating efforts that maintain and improve digestion stability. These documented observations were compared to historical performance, field and laboratory testing was performed, and an innovative Digestion Stability Test helped the team investigate abnormalities and define corrective actions. This led to defined warning parameters and improvements to ensure reliability of site measurements. In the end, analyzing data collaboratively helped this team manage the digesters conservatively, ensuring prompt recovery with no treatment capacity losses.
	Presenter Bio:	Kevin is a Senior Process Analyst with Clean Water Services, bringing over 18 years of experience. He possesses a grade IV certification in Wastewater Treatment and an Associates Degree in Water and Environmental Technology. He specializes in anaerobic digestion, solids processing, hauled waste programs and biogas utilization. Ornella Sosa-Hernandez is a Senior Process Engineer in the Process Engineering Group of Research and Innovation at Clean Water Services. She received her Ph.D. of Science and Engineering from the Monterrey Institute of Technology and Higher Education in Mexico specializing in Environmental Systems, after obtaining a Bachelor of Science in Biotechnology Engineering.
	2:30-2:40pm	
#20	2:40-3:40 pm	Tertiary Wastewater Granular Media Filtration – Theory, Operation, and Maintenance
	Presenter Names:	Chris Maher

	Presenter Company:	Clean Water Services
	Session Summary:	Tertiary treatment processes are used in wastewater treatment facilities to meet low permit limits, historically nutrient limits and increasingly to address emerging contaminants. These processes are often chemical coagulation-flocculation-sedimentation processes followed by filtration, similar to water treatment facilities. Clean Water Services operates two such facilities. With the primary focus in wastewater on biological and chemical processes, tertiary filtration can be overlooked in process control, operation and maintenance. Clean Water Services has been working to assess and improve tertiary filtration performance. In this presentation we review the theory and operation of granular media filtration, then discuss the drivers, chronology and results of the filter assessment, media cleaning, and O&M projects.
	Presenter Bio:	Graduated from Colorado State University with a BS in Chemistry and began his career in wastewater as an operator at the Upper Blue Sanitation District in Breckenridge, CO where he worked for 13 years and earned his MS degree in Environmental Engineering through the Illinois Institute of Technology. He has been with Clean Water Services for 12 years as an Oregon Grade IV Certified Wastewater Operator. He is currently a Senior Operations Analyst in the Research and Innovation Department.
	3:40-3:50pm	
#21	3:50-4:50pm	Reducing Wastewater and Water Operating Costs with Energy Efficiency
	Presenter Names:	Tyler Weber/Kelson Redding
	Presenter Company:	Energy Trust of Oregon
	Session Summary:	Energy Trust of Oregon will share an overview of energy use in Water and Wastewater Treatment operations. This presentation will touch on common efficiency measures, will include real life examples of implementations, and describe program incentive opportunities. The presentation will be followed by a question-and-answer session.
	Presenter Bio:	Tyler Weber began his career as an environmental consultant and has been supporting the Energy Trust Industrial efficiency program since 2020. He has worked with dozens of industrial and municipal water and wastewater facilities across the West Coast to improve operations and decrease energy use. He is a registered Professional Environmental Engineer in Oregon and has a chemical engineering degree from Oregon State University.
	4:50-5:00pm	

2026 Water Environment School Planner		
Tuesday, June 23, 2026		
Source Control/Pollution Prevention: Industrial Pretreatment, Stormwater, Reuse & Biosolids		
Tuesday, June 23, 2026		
#1	8:00-9:00am	Burn, Bury...or Beneficial? Vancouver's Journey to Sewage Solids Resource Recovery
KEYNOTE GO TO TRACK A. TO EDIT	Presenter Names:	Frank Dick
	Presenter Company:	City of Vancouver
	Session Summary:	The City of Vancouver is beginning the multi year process of planning for a new wastewater solids treatment train. This processing and treatment facility currently incinerates and changing to a new technology will be quite the undertaking! CoV is partnering with consultants to find the best project delivery and site implementation, while maintaining functionality. In parallel with this planning effort, the project team performed significant community outreach to identify key needs and the priorities of Vancouver's citizens, while keeping in mind the environmental justice concerns.
	Presenter Bio:	Frank is a chemical engineer who has been in the industry for over 18 years. He is currently the manager of the wastewater treatment engineering program at the City of Vancouver, Washington.
	9:00-9:10am	
#2	9:10-10:10am	City of Portland's Sewer Spill Response Program: What We Do and Why
	Presenter Names:	Kevin Veaudry Casaus & Laura Johnson
	Presenter Company:	City of Portland, Bureau of Environmental Services
	Session Summary:	City of Portland Bureau of Environmental Services Spill Protection and Community Response Program (SPCR), presents Information about our program. We will discuss spill and illicit discharge investigations, as well as our dry weather outfall inspection program. The presentation will discuss how our program meets City permit requirements, including the Wastewater Treatment Plant NPDES Permit, MS4 Permit and UIC permit requirements and how we coordinate with other groups and programs within the City and externally, with an emphasis on impacts to BES's stormwater system.
	Presenter Bio:	Laura has worked in the BES Spill Protection and Community Response (SPCR) Program within BES for 5 years. Laura prepares enforcement actions for city code violations and cost recovery by reviewing investigation findings and coordinates with other work groups to gather information. Prior to working for the Spill Response Program, Laura worked at the BES Industrial Stormwater program, conducting site inspections and industrial and commercial facilities. Laura has worked for BES for 19 years. Kevin has managed the BES Spill Protection and Community Response (SPCR) Program since 2019. SPCR maintains 24/7 Duty Officer coverage to respond to reports of spills, illicit discharges, or sewage releases impacting the City's stormwater or sanitary systems. SPCR is responsible for investigating, ensuring appropriate clean up, identification of responsible parties, and enforcement, which can include civil penalties and cost recovery, for incidents that are violations of City Code and/or DEQ permits. SPCR received over 2,000 phone calls and emails in 2025, with approximately 40% requiring staff investigations.
	10:10-10:20am	
#3	10:20-11:20am	Tri-City Wastewater RRF Reuse Feasibility Study
	Presenter Names:	Terrance Romaine
	Presenter Company:	WES
	Session Summary:	This presentation outlines the findings of a Reuse Feasibility Study for the Tri-City Wastewater Water Resource Recovery Facility (WRRF). The primary purpose of the study was to evaluate the viability of producing and delivering Class A recycled water to external users to mitigate the impacts of climate change and enhance future water supply security. Key findings indicate that the Tri-City facility can reliably reclaim and commit 1.5 million gallons per day (MGD) of Class A recycled water. This classification signifies that the water is tertiary-treated and disinfected, making it safe for uses involving frequent human contact.
	Presenter Bio:	Terrance Romaine is the Environmental Services Manager for Clackamas Water Environment Services. He oversees several programs responsible for the beneficial reuse of wastewater residuals and developing water recycling and renewable energy opportunities for the County and our Industrial Pretreatment and Watershed Protection staff. In addition to his 20 years of experience in wastewater, he has a Bachelor of Science in Biology from Arizona State University and a Master of Science Technology in Environmental Technology Management from Arizona State University Polytechnic.
	11:20-11:30am	
#4	11:30-12:30pm	Protecting Watersheds from Wastewater Through Industrial/Commercial Stormwater Inspections
	Presenter Names:	Galen Hoshovsky
	Presenter Company:	WES
	Session Summary:	This session shares how WES developed its industrial and commercial stormwater inspection program to meet the Wastewater MS4 requirements while advancing pollution prevention and watershed protection goals. The presentation highlights how inspections are structured, what is commonly found in the field, and how findings are used to drive corrective action and education. Attendees will gain practical lessons for building or improving municipal private stormwater programs that balance compliance, field realities, and watershed outcomes.
	Presenter Bio:	Galen Hoshovsky is an Environmental Services Specialist with Clackamas Water Environment Services, where he leads industrial and commercial stormwater compliance, including inventory development, inspections, and enforcement across more than 1,000 facilities. He has a Bachelor of Science from Oregon State University and over four years of experience leading Phase I MS4 programs. He supports broader watershed protection efforts through program development and implementation, pollution prevention, spill response, and public education.
	12:30-1:00pm	LUNCH
#5	1:00-2:00pm	Decarbonizing the Flow: Carbon Management Strategies in Wastewater Collection & Resource Recovery
	Presenter Names:	Terrance Romaine
	Presenter Company:	WES
	Session Summary:	This presentation outlines the modern paradigm shift from traditional wastewater treatment to the development of Water Resource Recovery Facilities (WRRF). The ultimate objective of this transition is achieving Net Zero emissions through core pillars like energy neutrality, nutrient recovery, and greenhouse gas (GHG) mitigation. The session examines the carbon footprint of collection systems across three distinct scopes: direct fugitive emissions like methane and nitrous oxide (Scope 1), indirect emissions from grid electricity used for pumping (Scope 2), and embodied carbon within infrastructure materials (Scope 3). Specifically, it addresses the challenges of methane production in anaerobic pipes and the high energy demands associated with pumping during peak, high grid-intensity hours.
	Presenter Bio:	Terrance Romaine is the Environmental Services Manager for Clackamas Water Environment Services. He oversees several programs responsible for the beneficial reuse of wastewater residuals and developing water recycling and renewable energy opportunities for the County and our Industrial Pretreatment and Watershed Protection staff. In addition to his 20 years of experience in wastewater, he has a Bachelor of Science in Biology from Arizona State University and a Master of Science Technology in Environmental Technology Management from Arizona State University Polytechnic.
	2:00-2:10pm	
#6	2:10-3:10pm	Upper Kellogg Wastewater and Combined Pipe System Restoration Project
	Presenter Names:	Leah Johanson
	Presenter Company:	WES
	Session Summary:	The Upper Kellogg Creek area faced a history of collections systems challenges due to undersized residential driveway crossings, leading to chronic residential flooding. The project's multi-objective goals were to reduce nuisance flooding, optimize stormwater and combined conveyance and restore natural conditions of Upper Kellogg Creek. Key project components included daylighting a tributary to the creek, converting a dry pond into a wetland, improving the collections system in SE Clackamas Rd, and restoring Upper Kellogg Creek. In addition, a large portion of the project was on private property, which required the acquisition of 3 open space parcels and easements from 4 residential property owners. Through a collaborative effort between WES, the engineering design team and the contractor, the Upper Kellogg project was successfully taken from concept design to substantial completion in just under 2 years.

	Presenter Bio:	Leah Johanson is a senior civil engineer at Clackamas Water Environment Services. She has been with WES for nearly 17 years and currently works in the Capital Engineering Group. Leah manages capital improvement projects including storm drainage repairs, water quality retrofits, and restoration projects.
	3:10-3:20pm	
#7	3:20-4:20pm	Beaver Basics and Thinking Like a Beaver, A Guide to Managing your Watersheds so that they don't mix with your wastewater.
	Presenter Names:	Reese Mercer, co presenter Conrad Ely
	Presenter Company:	Western Beavers Cooperative
	Session Summary:	A well managed watershed is a key component to keeping your wastewater system from becoming overwhelmed during a rain event. But how do you control one of nature's most industrious builders? This presentation will assist wastewater professionals in learning about how to think like a beaver, and using it to your advantage. This is an applied introduction to beaver life cycles, seasonal behavior, dispersal, forage needs, and what beavers require to family raise and persist. We also focus on "thinking like a beaver" - how beavers read the landscape and choose where to settle. Learn why features like culverts, irrigation infrastructure and ditches consistently attract beavers, and how those choices tie to water depth, flow, and nearby forage. Participants will leave better able to understand where beavers show up, understand common conflict points, and apply this insight to their work in order to encourage beaver activity in locations where it does not disrupt the overall collections system.
	Presenter Bio:	Reese Mercer is a Founder of Western Beavers Cooperative. She works with landowners, state and local municipal agencies to support beaver recolonization, reduce conflict, and improve stream function across Oregon. A Board Director with the Beaver Institute and a BeaverCorps Wetlands Professional, Reese brings over 8,500 hours of field experience in stream surveys, riparian vegetation work, BDA implementation, and monitoring, with a focus on practical, on-the-ground approaches that help people work with beavers rather than against them. Conrad Ely is an Oregon Department of Fish and Wildlife Beaver Conservation Biologist. In this position Conrad works with landowners and municipal partners on non-lethal beaver conflict solutions and leads beaver activity surveys in the Upper Nehalem Headwaters as part of a statewide effort. He also supports project implementation, including vegetation uplift and flow devices.
	4:20-4:30pm	
Wednesday, June 24, 2026		
#8	8:00-9:00am	50 Years of Wastewater Workplace Communications: Looking Back, to Improve Tomorrow.
KEYNOTE GO TO TRACK A. TO EDIT	Presenter Names:	Marion Suito Barnes
	Presenter Company:	City of Eugene Public Works
	Session Summary:	Most of the time, sewer and water crews doing infrastructure construction or maintenance are focused solely on getting the job done; well and on time. They don't have the time or interest in talking to members of the public, members of the media, or, sometimes, even other people in their department. It's understandable. But there are many instances in which work crews and leads can find themselves in the spotlight, so it's best to be prepared. Learn how to get used to attention—from media, from the public and from coworkers—and use it to your advantage!
	Presenter Bio:	Marion Suito Barnes is public affairs manager for City of Eugene Public Works, the city's largest department. Before representing Public Works, she was director of communications for the Oregon Department of Early Learning and Care and for Western Oregon University. Deep down, she's a journalist at heart, having spent 20+ years as a writer and editor for newspapers throughout the Pacific Northwest.
	9:00-9:10am	
#9	9:10-10:10am	Wastewater Pretreatment Surveys and Permitting
	Presenter Names:	Chris Desiderati
	Presenter Company:	WES
	Session Summary:	This session will cover the regulatory foundation and implementation objectives for Water Environment Services (WES's) Industrial Wastewater permitting program. Surveying topics will include permitting criteria, how we survey our business community to determine permit coverage, who may be required to apply for a permit, and what a permit entails. Permit conditions include : Definitions, Discharge Limits, Self-Monitoring Requirements, Record Keeping, Authorized Signatory, Notification Requirements, Compliance Schedules, Toxic Organic Management Plans (TOMP), and Slug Control Plans (SCP).
	Presenter Bio:	Chris Desiderati is an Environmental Services Supervisor at Clackamas Water Environment Services. He has 10 years of experience at WES implementing and planning pollution prevention and environmental monitoring programs. Prior to his time at WES, Chris worked for an industrial chemical manufacturer and a private environmental testing lab.
	10:10-10:20am	
#10	10:20-11:20am	Environmental Monitoring Best Practices and Common Equipment in Wastewater Applications and Processes
	Presenter Names:	Chirs Desiderati
	Presenter Company:	WES
	Session Summary:	This session will cover the fundamentals of monitoring conducted at businesses to evaluate compliance with Water Environment Services permits. Industrial wastewater monitoring is critical to verify that permit-holders are meeting their permit discharge limitations. Goals of monitoring include minimizing contamination, conducting the work safely, collecting representative samples, and evaluating compliance with local ordinance and issued permits. Topics to cover will include how those goals are achieved through the use of common equipment including field meters, grab sampling equipment, and composite autosamplers.
	Presenter Bio:	Chris Desiderati is an Environmental Services Supervisor at Clackamas Water Environment Services. He has 10 years of experience at WES implementing and planning pollution prevention and environmental monitoring programs. Prior to his time at WES, Chris worked for an industrial chemical manufacturer and a private environmental testing lab.
	11:20-11:30am	
#11	11:30-12:30pm	Toilet Bowl to Super Bowl – A Story of Bear Poop, Beer, and Direct Potable Wastewater Reuse
	Presenter Names:	Yak Yerbich-Louman
	Presenter Company:	Carollo
	Session Summary:	A mobile direct potable reuse (DPR) trailer called the Pure Water Wagon (PWW) was recommissioned after five years of unuse to produce clean water for Columbia Sportswear's partnership with Breakside Brewing to produce high-quality potable water for an unconventional but highly visible demonstration project. The PWW was used to treat source water – intentionally seeded with bear poop – and then successfully used to brew the Nature Calls beer for a Superbowl LX social media campaign. Learn about the PWW treatment train's ultrafiltration (UF), reverse osmosis (RO), and a UV advanced oxidation process (UVAOP) to meet direct potable reuse water quality standards. How the trailer was recommissioned, the results of initial testing, and the success of the venture.
	Presenter Bio:	Yak is a Staff Professional at Carollo Engineers Portland office working primarily on drinking water process design with several "side" wastewater projects. Yak graduated with an MS in Civil Engineering from the University of Washington in 2025, where I designed and built benchtop treatment reactors to remove organic arsenic from landfill liquid wastes.
	12:30-1:30pm	LUNCH - Wastewater Demonstrations and Short Sessions
		On Wednesday ORWEF is hosting a vendor fair lunch where in parallel to this, four of these vendors will be assisting ORWEF in hosting a "Wastewater Product Instructional Period." This extended lunch period will feature at least four vendors who will show and demonstrate the application, maintenance, installation, and strength of their products and applications. Short lectures will be offered on topics ranging from IAR testing, leak mitigation, and pump troubleshooting + disassembly. This optional instructional period will be tracked on the attendees' CEU cards and can provide an optional additional 0.1 CEU credit.
#12	1:30-2:30pm	Non-Conforming Sewer Systems and Pretreatment Operations and Maintenance - A Case Study
	Presenter Names:	Brittany Grimes
	Presenter Company:	City of Portland, Bureau of Environmental Services
	Session Summary:	This presentation will offer a case study of a Significant Industrial User in the City of Portland wastewater collections system that caused substantial damage to public infrastructure due to an aging onsite private sanitary lateral. Discussion will include the overall conditions and event, permitting, city response and collaboration, and enforcement actions with results.

	Presenter Bio:	Brittany graduated from PSU with a degree in Environmental Studies and Geography. Brittany then began her career at the City of Portland as an intern with the Industrial Stormwater and Industrial Permitting Programs where she worked as a Permit Manager for the Industrial Permitting team for 7 years and was recently promoted to Permit Writer for the Program.
	2:30-2:40pm	
#13	2:40-3:40 pm	Interesting Things in Wastewater Biosolids Production
	Presenter Names:	Chris Maher
	Presenter Company:	Clean Water Services
	Session Summary:	Clean Water Services' Rock Creek Advanced Water Resource Recovery Facility has engaged in two pilots over the past year; dewatering polymer make down with nanobubbles and replacement of hydrated lime with micronized calcium carbonate. The nanobubble pilot specifically targeted enhancing polymer dissolution and therefore efficiency and has led to interesting thoughts about dewatering performance evaluations and a provisional 17% reduction in polymer dose. The calcium carbonate pilot was executed for cost and climate reasons but at one point resulted in a 12% increase in cake dryness and a 22% reduction in polymer dose. Technology, pilot logistics, and results and analysis are presented.
	Presenter Bio:	Graduated from Colorado State University with a BS in Chemistry and began his career in wastewater as an operator at the Upper Blue Sanitation District in Breckenridge, CO where he worked for 13 years and earned his MS degree in Environmental Engineering through the Illinois Institute of Technology. He has been with Clean Water Services for 12 years as an Oregon Grade IV Certified Wastewater Operator. He is currently a Senior Operations Analyst in the Research and Innovation Department.
	3:40-3:50pm	
#14	3:50-4:50pm	What I wish Wastewater Engineers and Project Managers Knew Before Construction Starts
	Presenter Names:	Debbie Caselton
	Presenter Company:	City of Portland Bureau of Environmental Services
	Session Summary:	Major sewer and stormwater projects do not happen in empty spaces. They happen in neighborhoods, business districts, school zones, and along busy streets where construction impacts directly affect the public every day. This session will share practical lessons learned from more than 27 years of public involvement experience supporting sewer and stormwater infrastructure projects, including large-scale capital improvements and complex neighborhood construction. Attendees will gain insight into common communication challenges, strategies that help reduce conflict and build public trust, and real-world examples of how effective public involvement can improve project delivery and community relationships
	Presenter Bio:	Debbie Caselton has worked for the City of Portland Bureau of Environmental Services for more than 27 years, specializing in public involvement and community outreach for sewer and stormwater infrastructure projects. Throughout her career, she has supported a wide range of complex construction projects, including work associated with Portland's nationally recognized Big Pipe Projects, green street installations, pump stations, sewer repairs, and neighborhood infrastructure improvements. Debbie focuses on helping bridge the gap between technical project teams and the communities affected by construction through clear communication, community coordination, and practical problem-solving.
	4:50-5:00pm	
Thursday, June 25, 2026		
#15	8:00-9:00am	Orient First, Then Act — 38 Years of Showing Up for Wastewater and Water
KEYNOTE GO TO TRACK A. TO EDIT	Presenter Names:	Mark Walter
	Presenter Company:	Mark Walter, Senior Operations and Maintenance Specialist at Waterdude Solutions
	Session Summary:	This keynote connects the 50-year history of the ORWEF / WES short school to the challenges facing today's wastewater workforce: AI-assisted operations, remote monitoring, PFAS, workforce shortages, and capital programs that demand operators be ready to run systems they've never seen before. Walter draws on current work supporting Portland's Columbia Boulevard Wastewater Treatment Plant expansion—one of the largest active solids process startups in the Pacific Northwest—to illustrate what orientation looks like in practice.
	Presenter Bio:	Mark Walter is the founder and principal of Waterdude Solutions LLC, a wastewater operations and maintenance consulting firm based in Oregon City, Oregon. Since 2016, Waterdude Solutions has completed over 70 projects with 30 different clients, including large and small utilities, engineering firms, and private industry. Sixty percent of clients have scoped additional projects—a reflection of the firm's commitment to practical, operator-centered work.
	9:00-9:10am	
#16	9:10-10:10am	Insight into City of Portland's Wastewater FOG Control Program
	Presenter Names:	Ali Dirks
	Presenter Company:	City of Portland, Bureau of Environmental Services
	Session Summary:	This presentation on the City of Portland's FOG Program outlines the need for stronger FOG controls in our collections systems in order to mitigate sewer maintenance burdens, lack of enforcement tools, and persistent SSO risks. This presentation summarizes how Portland's processes and FOG program has evolved from reactive cleaning to adopting comprehensive 2012 administrative rules that enabled enforcement, GI maintenance oversight, and improved plumbing code language. Today, the program demonstrates measurable system improvements through reduced hot spots, structured GI inspections, and regional collaboration via the Preferred Pumper Program.
	Presenter Bio:	Ali Dirks is an Environmental Specialist with City of Portland's FOG Management Program. Since 2009, Ali Dirks has been responsible for administering the City of Portland's FOG Inspection Program and is the Executive Chair of the regional Preferred Pumper Program
	10:10-10:20am	
#17	10:20-11:20am	Sealing Up the Wastewater Collections System - A Holistic Approach to Pipe Rehabilitation
	Presenter Names:	Chris Larson
	Presenter Company:	C&L Water Solutions
	Session Summary:	The class covers trenchless installation options that wastewater operators, owners, crews, and utility managers can use to rehabilitate pipes or stop leaks into, or out of, assets. Various construction methods will be discussed, such as UV cure CIPP, lateral seals, maintenance hole rehab products; and their site specific applications. Discussions on when it could be best to use which product, conditions needed for site planning, job analysis, and case studies will also be discussed.
	Presenter Bio:	Chris Larson is the general manager for C&L, an Azuria Water Solutions Company. Chris graduated from the University of Denver in 2007 and began working to educate and expand the UV cured in place pipe application for sewer rehab in the predominantly felt driven CIPP pipelining marketplace of that time. Chris also coordinates job sites specializing in site specific planning for manhole rehabilitation, lateral rehabilitation, pipe bursting, slip lining, pipe fusion, cut and cover utility installations.
	11:20-11:30am	
#18	11:30-12:30pm	Metro's Sector Controls for Wastewater Operations
	Presenter Names:	Zach Foster
	Presenter Company:	City of Eugene
	Session Summary:	This presentation details and highlights the sector controls used by the Metropolitan Wastewater Management Commission in the City of Eugene and the City of Springfield, which are non-permit regulatory control measures for specific industries. When used correctly, Sector Controls can provide regulatory oversight of industries that can discharge problematic wastewater, but may not qualify for a full industrial discharge permit. Highlighted in the presentation are legal authority, use-cases, and implementation tips for operators and regulators.
	Presenter Bio:	Zach Foster is an Environmental Compliance Specialist with City of Eugene and manages Industrial Pretreatment Permits. He has been in this role for three years. Prior to coming to work for the City of Eugene, he worked for eight years at Hop Valley Brewing, a regional brewery in Eugene. He was Quality Manager and managed the QA/QC laboratory, as well as performing various other roles including brewing, automation programming and IT, and Environmental Health and Safety.
	12:30-1:30pm	LUNCH
#19	1:30-2:30pm	Laboratory Testing for Wastewater Treatment

	Presenter Names:	Patrick Leach
	Presenter Company:	Clackamas Water Environment Services, Water Quality Laboratory
	Presentation Abstract:	This session will describe the categories of laboratory testing that are performed to support and inform wastewater treatment facilities. Specific examples of testing within each category will be described, with an emphasis on those most often used to support process control and permit requirements. This session will also discuss the differences and challenges in the methods for different phases of wastewater treatment, such as: solids versus liquids, treated versus untreated or partially treated waters.
	Presenter Bio:	Patrick Leach is a laboratory analyst at Clackamas Water Environment Services (WES) in Oregon City. This laboratory provides wastewater and biosolids testing services for the agency's four wastewater treatment facilities as well as surface water testing for its watershed protection program. Patrick oversees the microbiology section of the WES lab and also specializes in nutrient analysis. He received a bachelor's degree in Environmental Science and Biochemistry from the University of San Francisco, taught biology laboratory classes, worked at a soil and water research lab at the University of Arizona, worked as a chemist at Turner Laboratories, then joined the staff at Clackamas WES in 2009.
#20	2:40-3:40 pm	Hey! I've Seen That Movie! Wastewater's Own FOGbusters in The Dalles, OR
	Presenter Names:	Jill Hoyenga
	Presenter Company:	Regulatory Compliance Manager, City of The Dalles, Department of Public Works
	Presentation Abstract:	The US EPA has consistently found that fats, oils and grease (FOG) from restaurants, homes, and industrial sources are the most common cause (47%) of reported wastewater sewer system blockages. FOG abatement is a pretreatment requirement and is also part of a comprehensive approach to Capacity, Management, Operations and Maintenance (CMOM). This presentation offers two detailed case studies that demonstrate how a collaborative approach can streamline efforts to keep FOG out of sanitary sewer mains and the stormwater conveyance system.
	Presenter Bio:	Jill has worked at the City of The Dalles Public Works Department since 2017. She is responsible for ensuring that the City is in compliance with water, wastewater, stormwater and transportation regulations. She manages the Industrial Pretreatment Program for the City, which includes a robust FOG abatement program. She served on the Oregon Association of Clean Water Agencies FOG Working Group that developed the model ordinance and served as primary author of the model.
	3:40-3:50pm	
#21	3:50-4:50pm	Just the Facts, Jack: A survey of industrial discharge permits in The Dalles Wastewater Collections Systems
	Presenter Names:	Jill Hoyenga
	Presenter Company:	Regulatory Compliance Manager, City of The Dalles, Department of Public Works
	Presentation Abstract:	The US EPA recommends, but does not require fact sheets to be written when issuing industrial wastewater discharge permits. This presentation describes the value of fact sheets and presents the results of a statewide survey of fact sheet templates as well as a thorough review of the US EPA fact sheet template
	Presenter Bio:	Jill has worked at the City of The Dalles Public Works Department since 2017. She is responsible for ensuring that the City is in compliance with water, wastewater, stormwater and transportation regulations. She manages the Industrial Pretreatment Program for the City, which includes a robust FOG abatement program. She served on the Oregon Association of Clean Water Agencies FOG Working Group that developed the model ordinance and served as primary author of the model.
	4:50-5:00pm	

List of Alternative Speakers or Videos As Substitutes for Pre-Approval

The below list of presentations are being submitted for OESAC approval as potential substitutes to the presentations listed in our overall schedule. These are presentations or videos that can be shown as last minute fill in without losing that credit hour, because they are pre-approved.

Presentation Title	Wastewater PIGS, Portland's Drove
Presenter Name	Molly Nause-McCord, P.E.
Phone	503-823-6361
Email	molly.nause-mccord@portlandoregon.gov
Abstract	Last time we talked about how to start looking at your wastewater pressure pipes for condition assessment and inspection. Well, the team of engineers, millwrights, consultants, and inspection tools have been working on this since 2017 in the BES system. Now, let's hear where they are at! Fun field photos, gross stories, data, recent site updates, and more! this direct look into the perceived status of the wastewater pressure pipes, and the results of those inspections, will show operators and planners what their systems are up to, and how we figured that out.
Bio	Molly is a Wastewater Collections Systems Maintenance Engineer for the City of Portland's Bureau of Environmental Services. Where she maintains and repairs existing sewer infrastructure as well as coordinating waste water pressure pipe condition assessment and field operations City wide. She says that her job is to be a professional problem solver, and is an overall science enthusiast with a passion for STEM, trades, and education of all types.

Presentation Title	Wastewater Lagoons Workshop: Ammonia Removal and Other Common Lagoon Issues
Presenter Name	Mike Hawkins
Workplace	Clackamas Water Environment Services
Abstract	This hour long collaborative workshop will discuss common lagoon issues and solutions that have worked in the past. Attendee participation will be strongly encouraged! We hope to share issues that have plagued lagoon operators, and unique solutions that have helped solve those issues.
Bio	Michael Hawkins is the lead operator at the Boring Oregon Wastewater Facility and the Hoodland Wastewater Treatment Plant. He has been working in the wastewater field for 18 years, has a great deal of experience with small system operations, and is a long time board member of the ORWEF-WES planning committee.
Email	mhawkins@clackamas.us

Presentation Title	More Introductions to Excel for Wastewater Operations: Using Simple Functions for Complex Math
Presenter Name	Mike Hawkins
workplace	Clackamas Water Environment Services
Abstract	Back by popular demand! This presentation will focus on building spreadsheets and using simple excel functions to calculate and predict Excess Thermal Load in your wastewater operations. We will also go over formulae to calculate percent removal, Chlorine contact time, and pounds calculations for BOD and TSS.
Bio	Michael Hawkins is the lead operator at the Boring Oregon Wastewater Facility and the Hoodland Wastewater Treatment Plant. He has been working in the wastewater field for 18 years, has a great deal of experience with small system operations, and is a long time board member of the ORWEF-WES planning committee.
email	mhawkins@clackamas.us

Movies for OESAC Approval

The below list of movies are being submitted for OESAC approval as potential substitutes to the presentations listed in our overall schedule. These are presentations or videos that can be shown as last minute fill in without losing that credit hour, because they are pre-approved.

Title	Description	TIME	Requested CEUs
LAST CALL TO THE OASIS	Water. It's the earth's most valuable resource. Our cities are powered by it, countless industries depend on it and all living things need it to survive. But it's very possible that in the near future, there won't be enough to sustain life on our planet. This movie sheds light on the vital role water plays in our lives, exposes the defects in the current system, shows communities already struggling with its ill effect and introduces us to individuals who are championing revolutionary solutions.	105 minutes for movie/15 minute Q & A	0.1 for each hour shown
THE HISTORY OF MANCHESTER'S WATER AND WASTEWATER, 1973	1973: The Story of MANCHESTER's WATER The Longest Drink; a fascinating look into a well preserved documentary from 1973 about the municipal system of Manchester in 1973. this follows several sections of their water and wastewater planners, lab techs, contractors, engineers, and other professionals as they tackle emergency digs, public involvement, planning, increased demand for sewer and water services. And many other shockingly similar issues that today's operations staff face in their work. a look into how problems were approached then, and how we can learn and apply them to today. ((PLAY VIDEO WITH SUBTITLES))	50 mins	0.1 for each hour shown
LIQUID ASSETS	Water infrastructure plays a critical role in protecting public health, promoting economic prosperity, and ensuring quality of life across the United States. Though largely out of sight and out of mind, many of these complex systems are aging, neglected and in need of immediate national and local attention. This movie seeks to facilitate local discussions about the urgent challenges facing our water infrastructure.	130 MINUTES	0.1 for each hour shown
WATERLIFE	Waterlife is an immersion into the extraordinary beauty and complex toxicity of the Great Lakes. Following the epic cascade from Lake Superior to the Atlantic Ocean. Waterlife remind us of our essential connection to the water we take care of everyday.	109 MINUTES FOR MOVIE/11 MINUTES Q & A	0.1 for each hour shown
EARTH DAYS	Earth Days looks back to the dawn and development of the modern environmental movement—from its post-war rustlings in the 1950s and 1962 publication of Rachel Carson's incendiary bestseller Silent Spring, to the first wildly successful 1970 Earth Day Celebration and the subsequent firestorm of political action. Earth Days' secret weapon is a one-two punch of personal testimony and rare archival media. The extraordinary stories of the era's pioneers are illustrated with an incredible array of footage from candy-colored Eisenhower-era tableau to classic tear-jerking 1970s anti-litter bug PSAs. Directed by acclaimed documentarian Robert Stone this AMERICAN EXPERIENCE film is both a poetic meditation on man's complex relationship with nature and engaging history of the revolutionary achievements—and missed opportunities—of groundbreaking eco-activism.	102 MINUTES MOVIE/18 MINUTES Q & A	0.1 for each hour shown
POISONED WATERS	More than three decades after the Clean Water Act, two iconic waterways—the great coastal estuaries of Puget Sound and the Chesapeake Bay—are in perilous condition. With polluted runoff still flowing in from industry, agriculture and massive suburban development, scientists fear contamination to the food chain and drinking water for millions of people. A growing list of endangered species also is threatened in both estuaries. POISONED WATERS examines the rising hazards to human health and the ecosystem and why it's so hard to keep our waters clean.	120 MINUTES	0.1 for each hour shown
BLUE GOLD WORLD WATER WARS	Wars of the future will be fought over water, as they are today over oil, as the source of all life enters the global marketplace and political arena. Corporate giants, private investors, and corrupt governments vie for control of our dwindling freshwater supply, promptin protests, lawsuits, and revolutions from citizens fighting for the right to survive. Past civilizations have collapsed from poor water management. Will ours too?	90 minutes movie/30 minutes Q & A	0.1 for each hour shown