

NYWEA 97th Annual Meeting Draft Program (Updated 1/15/25—Subject to Change)

Monday, February 3rd, 2025

SESSION 1: Design Build – Odets (4th)

MODERATORS: Scott Davis, *Carollo*; Gregg Shaw, *Stantec*

Water: **TBD** Wastewater: **1.0 RTC** Engineer: **1.0 PDH**

11:00 AM: Lessons Learned from Serving as an Owner's Advisor for Twenty Years

The use of collaborative delivery can help owners address project challenges. Utilizing an Owner's Advisor (OA) can assist communities in delivery of their projects. With a focus on aligning project goals with the owner's vision and strategic risk management, the OA assists in strategic planning, team selection, risk management, quality control, and conflict resolution. Lessons learned for collaborative delivery projects will be presented based on having served as an OA for the past two decades.

Brian Balchunas, *HDR* brian.balchunas@hdrinc.com

11:30 AM: Alternative delivery effectiveness for Small Infrastructure Projects

Floyd Bennett Field (FBF) in Brooklyn, New York, a former municipal airport and now part of the Gateway National Recreation Area, is undergoing a wastewater collection system rehabilitation. The project, using a Design-Build approach, focuses on repairing 10,000 linear feet of sewer lines and upgrading pump stations. Close collaboration between the National Park Service, engineers, and contractors ensured timely, cost-effective solutions, minimizing redesigns and change orders for a small infrastructure project.

Jake Oldenburger, *Tetra Tech* jake.oldenburger@tetratech.com

SESSION 2: Environmental Restoration – Ziegfeld (4th)

MODERATORS: Jacob Kocic, *GHD*; Briana Fitzgerald, *MJ Engineering*

Water: **TBD** Wastewater: **1.0 RTC** Engineer: **1.0 PDH**

11:00 AM: Wetlands: How to Construct High Value Saturated Habitats--The Do's and Don'ts

Many constructed wetlands would be considered failures by most astute wetland scientists. Volume, seasonality and consistency of water can contribute singly or combination the major problem. Lack of understanding watershed hydrology, hydrologic zones, wetland plant selection and wetland hydrogeomorphology are also major concerns. If designed properly a constructed wetland can function well, provide habitat and contribute significantly to the ecosystem. This presentation will enhance understanding of wetland science and provide tips on design.

Jane Rowan, *Mott MacDonald* jane.rowan@mottmac.com

11:30 AM: Bringing the Hudson Raritan Estuary Back to Life

After years of neglect, the estuaries surrounding the NYC metropolitan region have seen significant degradation. To reverse some of these impacts, Congress charged the US Army Corps of Engineers (USACE) with developing a comprehensive and prioritized solution to restore ecological function, structure, and dynamic processes to the Estuary. The Hudson Raritan Estuary (HRE) Ecosystem Restoration Projects result from this effort.

Matthew Luzzatto, *Tetra Tech* matthew.luzzatto@tetratech.com

SESSION 3: Internet of Things – Cantor/Jolson (9th)

MODERATORS: Toby Singer, Port Authority

Water: **TBD**

Wastewater: **1.0 RTC**

Engineer: **1.0 PDH**

11:00 AM: *Protect This House: Addressing Cybersecurity Vulnerabilities*

Water and wastewater utilities are seeing a continued escalation in malicious cyber-attack attempts. These assaults pose a severe threat, capable of disabling wastewater conveyance, treatment, and reclaimed water production, leading to catastrophic environmental and public health consequences. The Environmental Protection Agency (EPA) has urged utilities across the US to take added security precautions following the attacks. This presentation identifies steps utilities are taking (with utility names omitted) to assess, find, and mitigate cyber vulnerabilities.

David Espy, Tetra Tech David.espy@tetratech.com

11:30 AM: *Understanding the Cybersecurity Threat Landscape for Water and Wastewater Systems*

This session will review the cybersecurity threat landscape and specific challenges faced by the water and wastewater utilities including common findings identified during assessments and a possible road map to achieve cybersecurity maturity through smart investments and industry supported mitigation methods.

Brandon Erndt, HDR brandon.erndt@hdrinc.com

SESSION 4: Leadership Panel – Marquis C (9th)

MODERATORS: Rick Warner, Jacobs

Water: **TBD**

Wastewater: **1.0 RTC**

Engineer: **0.0 PDH**

(1HR) 11:00 AM: *Leading in the Age of “Be Ready for Anything, Anytime”.*

Water leaders will highlight lessons learned from leading transformative change, practicing adaptive management strategies, forming partnerships, while remaining personally resilient in times of unprecedented disruption. There is no shortage of technical, social, and financial challenges shaping how communities must be ready for anything, anytime. Wherever you are on your leadership journey, join us to learn, share, and find inspiration from personal stories and authentic insights from public agency and private sector water leaders.

Rick Warner, Jacobs rick.warner@jacobs.com

Panelists:

Shannon Harty, Commissioner of Water Environment Protection, Onondaga County

Angela Litcata, Deputy Commissioner of Sustainability, New York City Department of Environmental Protection

Shannon Spurlock, Senior Researcher, Public Policy and Practice Uptake, Pacific Institute

LUNCH BREAK

12:00 – 1:30 PM

SESSION 5: Collection System 1 – Marquis A (9th)

MODERATORS: Erin Moore, Tighe & Bond; Elaine Yarbrough, GA Fleet

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Trenchless Pipeline Installations in Differing Applications.*

Various trenchless methodologies can be utilized to install new infrastructure in differing applications, including those that require crossings for highways, railroads, rivers, environmentally sensitive areas, etc. This presentation presents the outcomes of three projects that utilized trenchless technologies, including Hertel New York (Horizontal Directional Drilling), ACUA Forcemain (Horizontal Directional Drilling), Locust Grove (Microtunnel and Horizontal Auger Boring)

Paige Gilliam, David Woolley, GHD paige.gilliam@ghd.com

2:00 PM: *Condition Assessment and Rehabilitation of a 54-inch PCCP Sanitary Force Main*

Tapping of a critical 54-inch force main failed at two separate locations. An emergency condition assessment approach was organized to determine the problem. Results of the inspection found nearly 550 linear feet of crown corrosion in a high-use area of downtown Tampa. A failure of this main could an overhead expressway, key commuter routes, and the convention center. A structural rehab option was selected, and a bypass system was designed to perform the work.

Timothy Palmer, Wade Trim tpalmer@wadetrim.com

3:30 PM: *Eliminating the Wet Well with Direct Inline Pumping*

A direct in-line pumping method is a method of pump station design that lifts influent directly from the point of entry, eliminating the wet well. Influent is contained, eliminating odors, and reducing maintenance. Lifting directly from the invert allows for only 23" below the centerline of the gravity inlet for this pump to be installed. This reduction of depth needed greatly reduces excavation, eliminating water table issues and bed rock issues.

Daniel Madden, Rebecca Turner, Flow Solutions dmadden@flowsolutions.com rturner@flowsolutions.com

4:00 PM: *Eliminating the Wet Well with Direct Inline Pumping*

Consolidation of five influent sewers at the entrance to the City of Sunnyvale's Water Pollution Control Plant (WPCP) to clear space for future facilities within the WPCP. The design included an evaluation of pipe materials culminating in the installation of fiberglass reinforced polymer mortar pipe (FRPMP), complex sequencing to keep the influent sewers online to avoid disruption to the WPCP, and relocation of several utilities.

Justin Davidson, Carollo jdavidson@carollo.com

SESSION 6: Affordability and Funding – Marquis B (9th)

MODERATORS: Katie McGuire, Woodard & Curran; Kathryn Serra, C.T. Male Associates

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **0.0 PDH**

1:30 PM: *Keys To Successfully Capture Funding for Water and Wastewater Projects*

The purpose of this presentation is to provide a strategic overview regarding present and emerging funding, suggested steps and governance to effectively leverage opportunities, and tools to support states and communities. This session is for any municipality water or wastewater agency interested in obtaining funding to improve water quality and resilience.

John Dorman, AECOM john.dorman@aecom.com

2:00 PM: *Clean Water State Revolving Fund Scoring System updates*

Following the lead of the Governor, NYSEFC proposed to update the Clean Water State Revolving Fund (CWSRF) regulations to include asset management and resilience to climate change to the Project Priority System (PPS). Additionally, NYSEFC and NYSDEC saw a need for other updates due to changes in available waterbody assessment data. The scoring system is expected to be updated for the federal fiscal year 2026 Intended Use Plan.

William Brizzell, NYSEFC william.brizzell@efc.ny.gov

(1HR) 3:30 PM: *Tackling Wastewater's Affordability Challenges: A Panel Discussion on Opportunities*

Wastewater services are expensive. Even with increasing levels of federal investment, communities still face significant costs upgrading aging infrastructure and taking climate action. Community leaders ultimately must decide how to charge rates equitably. Additionally, what happens when residents can't pay? This panel event will discuss the tradeoffs and lessons learned from rate affordability efforts across the region. The panelists will be representatives from a utility, municipality, national research and action institute, and policy experts.

Tess Clark (pclark@syr.edu), Syracuse University EFC, Walt Walker, TYLin

SESSION 7: Optimizing Biosolids Management – Marquis C (9th)

MODERATORS: Joseph Polomene, Sherwood Logan; Michael Lannon, Siewert Equipment

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **2.0 PDH**

1:30 PM: *Optimizing Biosolids Management: Strategies for Cost-Effective and Sustainable Solutions*

The cost of biosolids disposal is becoming critical item for the budget planning. The Class A biosolids can be considered as asset and sellable product, while the Class B not. With current regulatory requirements and reduced access to the landfills that will accept biosolids, it is critical to set program to decrease the biosolids volume, understand the characteristics of your biosolid in order to make biosolids management fit your budget including biosolids contaminated with PFAS.

Magdalena Gasior (magdalena.gasior@tylin.com), Jessica Ping (jing.ping@tylin.com), TYLin

2:00 PM: *Biosolids Master Planning in an Uncertain Regulatory Climate*

In this presentation, we will illustrate how biosolids master plans (BMPs) for three utilities provide pathways for each to address their near-term needs while also enabling them to pivot when needed upon regulatory or economic triggers without stranding assets or wasting their investments.

Rashi Gupta, Carollo rgupta@carollo.com

3:30 PM: **Thickening Optimization – Improve Performance and Benefit Multiple Plant Processes**

When thickening performance is critical to reduce hauling cost or the size of downstream unit processes, selecting the right technology and operation strategy is as important, as selecting the right thickened sludge conveyance design, polymer selection and dose control, thickened sludge TS monitoring, as well as redundancy and resiliency considerations. This presentation will provide case study results from onsite polymer testing for a new thickening system.

Stephanie Spalding, HDR stephanie.spalding@hdrinc.com

4:00 PM: **What Was WAS Doing in Your Anaerobic Digester?**

Unlike primary solids, WAS does not create much benefit and is not efficiently destroyed in Anaerobic Digesters. What options might exist to handle these solids such that they can be more efficiently digested (or not!), dewatered or even thermally treated? This presentation will describe several established and other more innovative approaches to solving this unique challenge.

Matthew Williams, Thermal Process Systems, Inc. mwilliams@thermalprocess.com

SESSION 8: Energy Conservation – Odets (4th)

MODERATORS: Ted Nitza, Kimley-Horn; Kristen Wainwright, Hazen and Sawyer

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: **Biogas Utilization Case Studies: RNG or Cogeneration and Delivery Models**

What are the key factors behind a utility's decision to choose RNG over cogeneration or a public private partnership (P3) over design-bid-build procurement? This presentation will cover four biogas utilization case studies at large WRRFs, including the details on the decision-making criteria that led these utilities to implement different technological solutions and project delivery models.

Alison Nojima, Brown and Caldwell anojima@brwncald.com

2:00 PM: **Energy Management at WRRFs - Is Hydrogen a Viable Alternative?**

Green hydrogen, that is hydrogen produced with renewable energy, is a likely energy source to decarbonize heavy transportation and other industries. The production of hydrogen through electrolysis produces pure oxygen and thermal energy as green byproducts, which can be used at Water Resources Recovery Facilities (WRRFs). Two case studies will explore the viability of integrating hydrogen production at WRRFs, the full-scale demonstration project at St Cloud, MN and the feasibility study at Cedar Rapids, IA.

Dale Gabel, Carollo dgabel@carollo.com

3:30 PM: **Yonkers JWRRF - Engine Replacement Program**

Westchester County is implementing a multi-phase engine replacement program at the Yonkers JWRRF. The program includes the replacement of the engine driven blowers with dual fuel CHP systems and implementing improvements to the aeration system, including the use of magnetic bearing turbo blowers powered directly from the cogeneration engines. This presentation will provide an overview of the program and the methodology to maximize biogas use, reduce energy consumption, provide resiliency, and improve process control.

Megan Messmann, CDM Smith MessmannMR@cdmsmith.com

4:00 PM: *Pursuing Code Compliance through Sustainability, Energy Conservation, and Model Simulation*

As climate change concerns grow, local governments and agencies prioritize sustainability and energy conservation. Energy codes and local laws now emphasize energy compliance in design projects through energy modeling. Energy modeling plays a key role in assessing energy conservation by utilizing compliant software and calculation methods while considering factors like building envelope, mechanical components, and lighting to meet codes. Through early initiation and interdisciplinary collaboration, designs can improve to be more sustainable in the future.

Vishwa Raval (vraval@hazenandsawyer.com), Rachel Chin (rchin@hazenandsawyer.com), Kuan-Ting Wu (kwu@hazenandsawyer.com), *Hazen and Sawyer*

SESSION 9: Plant Hydraulics – Wilder (4th)

MODERATORS: Lauren Livermore, GHD; Casterland Fanfan, TYLin

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Hydraulic and Operational Challenges at Southtowns AWTF*

Improvements at the Southtowns Advanced Water Treatment Facility (AWTF) involve substantial realignment of the plant, with the inclusion of new clarifiers, new splitter structures, and retrofits to the high purity oxygen activated sludge system (UNOX). This work describes the hydraulic and construction challenges relating to maintaining operations using two separate pumping systems to feed the UNOX units at varying stages during construction while also maintaining the ability to pump storm flows to the overflow facility.

Heather Smith, *Arcadis* heather.smith@arcadis.com

2:00 PM: *Utilization of Computational Fluid Dynamics Modeling to Optimize Design*

As part of the design for the Nansmond Treatment Plant (NTP) Advanced Nutrient Reduction Improvements (ANRI) Phase II improvements project, Computational Fluid Dynamics (CFD) Modeling was utilized for several unit processes to optimize design and construction. This presentation will provide details of the various CFD Modeling performed, options that were developed to optimize the design, the results of those changes in the CFD models, and how these improvements were implemented in the design.

Marvin Weiss, *Tetra Tech* marvin.weiss@tetrattech.com

3:30 PM: *The More Things Change.... Using dynamic process models to aid in operations and design*

Wastewater treatment plants experience constantly changing conditions where flow, load, temperature and more change diurnally and seasonally. Despite this, plants are designed and operated using steady state calculations. This talk will show how use of dynamic models can inform both operations and design for permit compliance and aeration systems.

Eric Staunton, *Tetra Tech* eric.staunton@tetrattech.com

4:00 PM: *Selection and Evaluation of Emerging MOB Technology for Ammonia Removal*

The paper outlines the Philadelphia Water Department's methodology for evaluating emerging ammonia removal technologies, focusing on cost-saving alternatives to conventional methods. This process identified MOB (mobile organic biofilm) as one of the top three technologies for further evaluation, showing significant potential to reduce life cycle costs. Currently in the execution testing phase, with pilot testing set for April 2025, the presentation will detail the methodology, MOB selection, and testing results.

Mahsa Mehrdad, *HDR* mahsa1224@gmail.com

SESSION 10: Research & Innovation at the Plant – Ziegfeld (4th)

MODERATORS: Randy Ott, GP Jager; Robert Flores, Delaware Engineering

Water: TBD

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Addressing Unique Challenges to Potable Reuse and Emerging Contaminants through Piloting*

The Anne Arundel County, Maryland Our wAAtter Program is evaluating the feasibility of performing indirect potable reuse by adding advanced water treatment processes to an existing County water reclamation facility. A pilot system has been operational for approximately two years. The presentation will share water quality results from the AWT pilot, address the challenges encountered and solutions found during the pilot-scale study, and present strategies for validating the treatment approach for potable reuse.

Kelsey Kenel, HDR kelsey.kenel@hdrinc.com

2:00 PM: *Intensification Case Studies: From Pilot to Full Scale Applications of Densified Activated Sludge (DAS) and Mainstream Deammonification via Partial Nitrification-Denitrification-Anammox (PdNA/PANDA)*

As WRRFs are large contributors to nutrient loading in waterways, utilities are increasingly challenged with meeting more stringent effluent limits. A key challenge and opportunity for a growing number of utilities is to find financially responsible and effective nutrient treatment. Biological process intensification strategies like densified activated sludge and pdNA/PANDA provide potential solutions. This presentation will showcase the experiences and lessons learned from multiple pilot-scale and full-scale studies of both DAS and pdNA/PANDA.

Haley Noteboom, Hazen and Sawyer hnoteboom@hazenandsawyer.com

3:30 PM: *IntensiCarb: A novel vacuum process for anaerobic digestion intensification*

The IntensiCarb process utilizes vacuum evaporation to decouple SRT and HRT, increasing process capacity while simultaneously reducing the influence of toxic metabolic by products through extraction (ex. ammonia-N) and recovery additional methane. This paper summarizes 5 years of research evaluating the efficacy of the process utilizing a side-by-side comparison of conventional mesophilic digestion with varying intensification factors (2x, 3x, 4x, 5x) in bench-scale trials. The process offers new opportunities for digestion intensification and resource recovery.

Chris Muller, Brown and Caldwell cmuller@brwncald.com

4:00 PM: *Who said MBR's cannot be DENSE?*

Preliminary work on Membrane Bioreactors (MBR) indicates that continuous flow densification (external selection via hydrocyclones combined with adequate biological selection in continuous flow bioreactors) can improve mixed liquor filterability creating positive outcomes for MBR operation. This presentation explores the coupling of densified biomass with continuous flow MBR: process concept, modelling, full-scale demonstration plant and expected benefits for MBR design and operation including decreased OPEX, improved sludge quality, and improved performance.

Laura Stock, Veolia laura.stock@veolia.com

Tuesday, February 4th, 2025

SESSION 11: Operator's Forum – Marquis C (9th)

MODERATORS: Tyler Masick, *Albany County*; Alan Oates, *Monroe County*

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **1.0 PDH**

9:00 AM: Clear Waters Ahead: Navigating New York's Wastewater Operator Certification Program

This session explores New York's Wastewater Operator Certification Program, a critical component in ensuring the safe, efficient, and compliant management of wastewater treatment facilities.

Samantha McCart (samantha.mccart@dec.ny.gov), Warren Bautista, *NYSDEC*.

After completion of the presentation, moderators, panelists and attendees will discuss the Operator Certification Program.

"Suits and Boots, Communicating Across the Engineer/Operator Barrier."

Stephen Sanders, *Director/Head Trainer, Environmental Training Center.*

Have you had to work with an operator or an engineer before? Have you been able to feel the tension in the room between the two? Ever wonder how the two could co-exist? Please join us for an open discussion about this necessary relationship required for the advancement of our industry. We will discuss the potential disconnect between these two groups and other parties in the room. What are the consequences of the breakdown in communication? How can we all improve this essential relationship? This will be an interactive conversation with all who are willing to participate. There is no escaping that these two groups must work together, to advance and protect public health and the environment. We look forward to having an open, honest and enlightening conversation with you!

SESSION 12: Professional Development & Mentorship (YP Panel) – Marquis A&B (9th)

MODERATOR: Sara Sepulveres, *Carollo*

Water: **TBD** Wastewater: **0.0 RTC** Engineer: **0.0 PDH**

SESSION 12: Professional Development & Leadership (Young Professional Session) – Marquis A&B (9th)

MODERATOR: Sara Sepulveres, *Carollo*

Water: **TBD** Wastewater: **0.0 RTC** Engineer: **0.0 PDH**

SESSION 12: – Marquis A&B (9th)

9:00 AM – 9:45 AM: Leveraging Your LinkedIn Presence – Caroline Bishop, E.I.T., Tighe and Bond

Discover how to leverage LinkedIn as a powerful tool for enhancing your professional presence, showcasing expertise, and expanding your network. This session offers real-world success stories and actionable strategies to help you maximize LinkedIn's impact on both personal and organizational growth.

9:45 AM – 10:15 AM: Young Professional Coffee/Networking Break (9th Floor)

10:15 AM – 11:00 AM: Leading with Conviction: Using Emotional Intelligence to Overcome Biases & Become a Better Manager – George Kansas, P.E., HDR & Kevin Hickey, P.E., Navitas

The session will provide insights into understanding and managing your emotions, as well as those of the people around us. This can lead to better communication, collaboration, and improve one's leadership skills. We will also discuss biases and ways to overcome them, which promotes a more inclusive environment for our teams. These concepts can lead to a more empathetic and aware work environment, which improves overall performance and fosters a culture of mutual respect and growth.

11:00 AM – 11:15 AM: Break-

Break (11-11:15)

11:15 AM – 11:45 AM: Conquer the Conference: Tips from NYWEA's Program Committee Chair – Kathryn Serra, P.E., CT Male Associates

Conclude the session with valuable insights from a NYWEA Program Committee Representative. Learn about key technical themes, effective networking strategies (including questions for exhibitors and during Q&A), and how the conference program is developed to empower newer members. This Q&A session offers a unique opportunity to gain valuable knowledge from a "conference expert" and navigate the NYWEA Conference with confidence.

SESSION 13: Asset Management – Cantor/Jolson (9th)

MODERATORS: Daniel Capano, Gannett Fleming; Danyel King, NYSDEC

Water: TBD

Wastewater: 2.0 RTC

Engineer: 2.0 PDH

9:00 AM: Is your control system an asset or a liability? Learn successful planning and implementation for large-scale control system replacement.

Control systems have an expiration date, a shelf-life, a best-by date. This can be difficult to predict and is driven by advances in hardware and software technology, changes in manufacturing processes and in some cases forced obsolescence by vendors. This phase in the life cycle of the hardware and software that makes up utility control systems cannot be avoided. This presentation will explore successful planning and implementation for large scale control system replacement.

Billy Fox, HDR billy.fox@hdrinc.com

9:30 AM: Development of Asset Management Plans for Municipalities under NY State's Asset Management Program.

This presentation will provide an overview of the State's Asset Management Program guidelines and procedures for developing AMPs and discuss innovative means and methods utilized to complete the AMP development process for multiple municipalities. Case studies for each municipality will be provided which will educate attendees on the different opinions and values of AMPs and the different approaches utilized for developing the AMPs – all while staying within the guidelines of the State's Program.

David Barnes, Zachary Monge, Jacobs david.barnes1@jacobs.com

11:00 AM: Don't Wait Until It's Too Late - In Situ/In Service Large Diameter Steel Pipe Rehabilitation

Using the rehabilitation of large diameter steel pipes wastewater header as a case study, this presentation offers strategies for extending the life of water and wastewater assets. It will cover non-destructive asset inspection, remaining life estimation, and feasibility assessments. Specific pipe repair solutions presented include corrosion-protective coatings, metal-rebuilding pastes, and strength-restoring carbon fiber wraps, which were evaluated considering ASME and AWWA design standards, and may extend asset life by up to 50 years.

Chirine Chidiac, Arcadis chirine.chidiac@arcadis.com

11:30 AM: **Case Histories - Extending Fiberglass Tank Life Under New NYS DEC Chemical Bulk Storage Regulations Lowers Cost: Erie County and North Tonawanda Lessons Learned**

The New York State aboveground hazardous substances storage tank inspection regulations have changed in late 2023 and continue to have an even more significant impact on asset management plans. These regulations have pitfalls, putting owners of tanks in harm's way. The Erie County Division of Sewerage Management and North Tonawanda Water Board share their lessons learned on how to use most recently promulgated inspection standards to extend fiberglass tank life and lower cost. Mitigating harm.

Gary Arthur, *Fiberglass Reinforced Plastics Institute, Inc.* garthur@frpi.org

SESSION 14: The Circular Water Economy – Odets (4th)

MODERATORS: Vatche Minassian, HDR; Maryia Spirydonava, Stantec

Water: **TBD**

Wastewater: **1.0 RTC**

Engineer: **2.0 PDH**

9:00 AM: **Embracing the One Water Framework to Build Resilient Utilities**

The purpose of this presentation is to help utilities and cities understand how the One Water Framework (OWF) can be utilized to either start or progress on their One Water journey and become a utility of the future. The presentation will first describe the development and structure of the OWF. Next, the application of the OWF will be illustrated using a variety of One Water case studies. Lastly, the case studies' lessons learned are shared.

Inge Wiersema, *Carollo* iwiersema@carollo.com

9:30 AM: **Carbon-Based Advanced Treatment brings (Direct) Potable Reuse to the East**

Several early projects, first on the Upper Occoquan, then Gwinnett County, and now around the Hampton Roads demonstrated Carbon-based advanced treatment (CBAT) for indirect potable reuse in the East. Now, CBAT projects push towards the last frontier: direct potable reuse (DPR). Starting in 2017 with the pureALTA project in Florida, and followed by similar projects in Florida, Utah, and Tennessee, CBAT has established itself as the standard approach to DPR where desalination is not required.

Eva Steinle-Darling, *Carollo* esd@carollo.com

11:00 AM: **Converting FOG Problems into Assets**

Managing fats, oils, and grease (FOG) is often an expensive proposition for municipalities from collection and treatment to disposal. Woodard & Curran currently has a few projects with an emerging solution called Greasezilla™ that converts FOG produced in food service establishments into a saleable product which offers treatment facility operators a new revenue stream and simplifies FOG management. This presentation will discuss the technology, its implementation, operation, and financials, and lessons learned during installation and operations.

Paul Brandt, *Woodard & Curran* pbrandt@woodardcurran.com

11:30 AM: **Heat Recovery from Wastewater and its Potential Role in Decarbonization of the Built Urban Environment**

Cities like New York City and others in the northeast have set greenhouse gas reduction targets. New ways of looking at public infrastructure and the built environment it supports is essential if these goals are ever going to be met. Recovery of thermal energy from wastewater is a technically viable and economically sustainable source for low-carbon indoor heat and hot water. This presentation will be focus on the role, opportunities and barriers with this technology.

Jim McQuarrie, *AECOM* jim.mcquarrie@aecom.com

SESSION 15: Stormwater: Doing More with Less & Equitable Design – Wilder (4th)

MODERATORS: David Railsback, *Schnabel Engineering*; Gunjan Khandwala, *HDR*

Water: **TBD**

Wastewater: **1.5 RTC**

Engineer: **2.0 PDH**

9:00 AM: City of New Rochelle, Watershed Drainage Analysis: Analyzing local municipality infrastructure to identify green and grey solutions for increased stormwater management

This presentation will focus on a case study describing a phased stormwater management analysis and design approach and a prioritization framework including the methodology, modeling, cost benefits, and stakeholder engagement which guided the City of New Rochelle's capital improvement plan.

Adriana Herrera, *WSP* Adriana.Herrera@wsp.com

9:30 AM: Protecting the Hudson River: How Albany and Hoboken are Scaling Smart Watershed Management Using Digital Adaptive Control to Mitigate Flooding and CSOs

Urban stormwater management has become one of the most pervasive and significant environmental issues impacting the East Coast. With extreme weather events, aging infrastructure and urbanization leading to mounting regulatory and community pressure for flood and CSO mitigation, cities must innovate to protect property, public health and our shared waterbodies. Along the Hudson River, Albany and Hoboken are using continuous monitoring and adaptive control (CMAC) technology to turn passive infrastructure into active stormwater management assets.

Viktor Hlas, *OptiRTC Technology Co.* vhlas@optirtc.com

11:00 AM: Achieving Resilient and Equitable Solutions: Strategies for Incorporating Principles of Social Equity, Environmental Justice, and Resiliency into Stormwater and Wet Weather Planning

This presentation will provide specific stormwater and combined sewer planning case studies where Environmental Justice (EJ) and equity tools were applied to incorporate principles of EJ and equity in the prioritization and selection of resilient stormwater and wet weather infrastructure projects, ranging from Green Stormwater Infrastructure (GSI) to CSO storage basins, to flood tunnels.

Bryan Rogne, *Brown and Caldwell* brogne@brwncald.com

11:30 AM: The One Water Approach in Action: The MacArthur Lake Stormwater Capture Project in Downtown Los Angeles

The MacArthur Lake Stormwater Capture Project, located in downtown Los Angeles, improves stormwater quality in an impaired watershed and disadvantaged community, reduces potable water use, increases water supply for downstream water reuse, and enhances the park with a cascading wetland and educational signage. The project puts the One Water approach in action with multi-department collaboration, broad community engagement, and enhancing the water cycle with stormwater treatment, potable water conservation, and increasing water reuse.

Julia Schmitt, *Carollo* jschmitt@carollo.com

SESSION 16: Nutrient Removal – Ziegfeld (4th)

MODERATORS: Danelle Bishoff, Stantec; Pierre Hourani, Brown & Caldwell

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **2.0 PDH**

9:00 AM: Evaluating Ultra-Low Nutrient Removal Technologies: A Northeast Case Study

Using the Attleboro Advanced Wastewater Treatment Plant in South Attleboro, Massachusetts as a case study, this presentation will discuss technologies for compliance with increasingly stringent NPDES permit limits on total nitrogen (TN) and total phosphorus (TP) at municipal water reclamation facilities. Additionally, considerations for operations and maintenance will be discussed, as well as the process utilized to select the appropriate technologies given the corresponding limits and wastewater characteristics.

Nigel Beaton, *CDM Smith* nigellbeaton@gmail.com

9:30 AM: Navigating Ultra-Low Phosphorus Limits at Fish Hatcheries

Achieving ultra-low phosphorus limits at a New England Fish Hatchery utilizing dual stage sand filtration and metal salt addition. The presentation will cover evaluating alternative phosphorus removal technologies, technology piloting, bench scale testing, and preliminary design.

Samuel Brown, *HDR* Samuel.Brown@hdrinc.com

11:00 AM: Decades of Successful Wastewater Intensification with BioMag® and CoMag® Systems!

This paper presents data from multiple sites operating BioMag® and CoMag® systems over the last 10+ years. Monthly reported data demonstrates longevity and operational consistency. Each site being presented has a unique configuration and permit requirements. All sites have met/exceeded expectations and have been operating since/before 2014. Some sites include Upper Gwynedd, PA, Waterbury, VT, and Taneytown, MD.

Richard Liebhaber, *Xyelm/Evoqua* richard.liebhaber@evoqua.com

11:30 AM: Enhanced Biological Nutrient Removal with an Intensified Flat Plate-MBR

A pilot study was conducted in Sherburne, NY with an intensified flat-plate MBR in an A2/O biological process configuration. The only source of aeration was from the submerged membrane unit scour air diffuser. Complete nitrification was accomplished, as well as achieving 82% TN removal and >97% TP removal. BOD and TSS were reduced >99%, while fecal coliforms were below the detection limit.

Larry Morris, *Kubota* larry.morris@kubota.com

SESSION 17: Emerging Contaminants – O’Neill (4th)

MODERATORS: Matt Oster, Stantec; Cristhian Mancilla, HDR

Water: **TBD** Wastewater: **1.5 RTC** Engineer: **1.0 PDH**

9:00 AM: Reframing the Conversation on Emerging Contaminants

Recently, emerging contaminants such as PFAS and microplastics have become an issue of growing public concern. Utilities face the challenge of communicating information that is fact-based and understandable to the communities they serve. Technical information can often confuse and alarm the public. This presentation outlines best practices for effective public communications around PFAS and other emerging contaminants, and how to motivate a public audience to better understand and take action on the issues at hand.

Anna Kloiber, *Brown and Caldwell* akloiber@brwncald.com

9:30 AM: ***Photodegradation of Pesticides in Water with Model Photosensitizers***

Pesticide use has substantial societal benefits from improving crop yields but also necessitates purposeful release of pesticides to environmental systems on a regular basis. In this work, we aim to develop and validate experimental procedures for modeling the photodegradation of pesticides in environmental and engineered systems. In indirect photodegradation experiments, model photosensitizers were used to assess photodegradation of a wide range of pesticides and determine pesticide susceptibility to reaction with different photochemically produced reactive species. Luana de Brito Anton, *New York University* ld2393@nyu.edu

11:00 AM: ***Leveraging Ultrapure Water System Operations to Standardize Microplastics Measurement and Control in Wastewater***

Based on how the semiconductor industry manages total organic carbon for its critical manufacturing processes, this presentation will propose a readily available, cost effective, and practical strategy for measuring and controlling microplastics in effluents from publicly owned treatment works and from industrial generators of wastewater that discharge directly to the environment.

John Rydzewski, *Carollo* jrydzewski@carollo.com

11:30 AM: ***Solving Forever Chemicals in Under Five Years: Aqua Pennsylvania's PFAS Program***

Aqua Pennsylvania recognized the challenge of mitigating PFAS at multiple groundwater and surface water sources within a short timeframe to comply with the federal MCL and is working with Brown and Caldwell to manage this effort as a comprehensive program. This presentation outlines the overall approach of Aqua Pennsylvania's PFAS program and how a diverse group of internal departments, consultants, vendors, and regulatory agencies is working together to deliver on this challenging but critical effort.

Jon Reuther, *Brown and Caldwell* jreuther@brwnncald.com

SESSION 18: The Drier the Better: Case Studies on Biosolids Dryers – Chelsea/Gotham (7th)

MODERATORS: Jeffrey LeBlanc, *Denali Water*; Robert Frost, *Hazen and Sawyer*

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

9:00 AM: ***Innovations with Biosolids Process Technologies***

This presentation will explore biosolids innovations and opportunities which are available or in development. These mainly include thermal technologies including drying, gasification, pyrolysis, and hydrothermal processing. With ever increasing restrictions on landfill and land application and a growing concern with emerging contaminants, specifically perfluorinated compounds (ie. PFAS), there is increasing interest in these types of thermal technologies. The state of the research on these technologies to deal with emerging contaminants will also be presented.

Terry Goss, *AECOM* terry.goss@aecom.com

9:30 AM: ***Dryer Dust Mitigation Measures and Regional Dryer Design: Experiences from Two Plants***

This presentation will focus on two projects where lessons learned and real world experiences will be shared. The first half will be on dust mitigation measures from a paddle dryer designed by others. The second half will highlight the design of regional dryer facility. The new dryer facility will process unstabilized dewatered cake which adds chlorine dioxide to the WAS for odor reduction and be able to also handle hauled cake from another WRRF.

Vin Apa, *CDM Smith* apavl@cdmsmith.com

11:00 AM: ***JEA's Measured Approach to Regional Biosolids Management with Drying – Setting a Trend for Utilities Concerned about Narrowing Management Options***

Treatment and the security of disposal of biosolids is constantly evolving due to more stringent regulations as new contaminants raise concerns about potential migration into biosolids and subsequent impacts. Advancements in treatment technologies offer opportunities to mitigate risks to current biosolids management options while maintaining a certain level of institutional control. Economics and utility-specific drivers and constraints play key roles in selecting the right combination of treatment technology and end use.

Sudhan Paranjape, *Carollo* sparanjape@carollo.com

11:30 AM: ***Live to Dry Another Day: Low Energy Residuals Drying***

Thermal drying provides opportunity to reduce biosolids volume and mass and produce a dry product suitable for thermal conversion to fuel and destruction of PFAS. However, the energy intensity, cost and operational complexity of conventional dryers has prevented this approach from becoming ubiquitous. A new generation of advanced thermal drying technologies is emerging, which use low-energy and low-temperature approaches to overcome these barriers. This presentation will compare technology using case studies from three manufacturers.

Paul Knowles, *Hazen and Sawyer* pknowles@hazenandsawyer.com

SESSION 19: Public Education & Outreach – Empire (7th)

MODERATORS: Amie Lenkowiec, HDR; Magdalena Gasior, TYLin

Water: **TBD**

Wastewater: **1.0 RTC**

Engineer: **1.5 PDH**

9:00 AM: **Public Outreach Program on The Bay Park Conveyance Project**

The Bay Park Conveyance Project was envisioned, planned and procured during the height of the pandemic. The project is an example of a very sustainable and resilient. The project included a public engagement, information and an outreach program elements of which will be highlighted here.

Deanna Laney, *NYSDEC* deanna.laney@dec.ny.gov

9:30 AM: **Leveraging Public Engagement and Outreach to Deliver Alexandria's Largest Infrastructure Project**

The implementation of the RiverRenew stakeholder outreach and engagement plan has been instrumental in reducing risks and key to developing and maintaining community trust during planning, design, and on-going construction.

Isabella Evangelista, *Brown and Caldwell* ievangelista@brwncald.com

11:00 AM: **Utilizing the Consulting Framework for Ethical Foreign Aid**

Engineers Without Borders-USA is a non-profit that partners engineers with underserved communities to implement projects to sustainably meet their basic human needs. EWB-USA has developed their International Community process model which closely mirrors the consulting framework. This presentation will step through the Western Rwanda multi-phase water distribution project and show how this framework can be used to ethically and effectively implement infrastructure projects for disadvantaged communities across the globe.

Katie Byrnes, *Brown and Caldwell* kbyrnes@brwncald.com

11:30 AM: **Living Shorelines, Living Classrooms, Living Communities: A Hands-On Approach to Environmental Engineering Education and Engagement**

Daniel Galarza-Lojano, *Manhattan University*

LUNCH BREAK
12:00 – 1:30 PM

SESSION 20: Diversity in Water: Equity, Trends, and Collaborative Partnerships – Marquis C (9th)

MODERATORS: Stephen Mitchell, TYLin; Jenelle Armstrong, Brown & Caldwell

Water Wastewater: **1.0 RTC** Engineer: **0.0 PDH**

1:30 PM: *Workforce Trends in Water / Wastewater Utilities: Challenges and Opportunities*

This presentation highlights the challenges of the water / wastewater workforce and explores opportunities to transform the industry, to match the current demographics. Opportunities include leveraging technological advancements, to develop knowledge capture, talent, and strategic partnerships. The presentation concludes by emphasizing the crucial importance of proactive preparation for workforce change and proposes a roadmap for attracting and retaining top talent.

Simon Baker, AECOM simon.baker@aecom.com

2:00 PM: *Building Partnerships through Diversity, Equity, Inclusion, and Belonging Initiatives*

This presentation will demonstrate how the Wade Trim DEI program has been successful in strengthening work partnerships, enhancing our work environment, and building a community that values the perspectives and experiences of our employees.

Mia Mariotti, Wade Trim mmariotti@wadetrim.com

3:30 PM: *DE&I Best Practices for the Water Sector*

As utilities reevaluate organizational health, diversity, equity, and inclusion (DE&I) become essential. Water Research Foundation Project #5186 advances DE&I by tailoring strategies to the unique needs of water utilities. Our findings emphasize integrating DE&I into all facets of utility management, including recruitment, hiring practices, job design, strategy, and community outreach. The report offers actionable insights and a path toward a more inclusive, equitable future for the water sector.

Katie Porter, Brown and Caldwell kporter1@brwnncald.com

4:00 PM: *Engineering Justice in Design – Water Equity Approaches in Practice*

This presentation will present a Water Equity Practice framework for infrastructure implementation that an organization can put into action both internally (for staff and employees) and externally (social and infrastructure impact). Principle focus areas for equitable infrastructure implementation include: (1) Vision Setting; (2) Engagement, Goal Setting, Planning; (3) Funding, Financing, & Structuring; (4) Infrastructure Project and Program Delivery; (5) Service Equity; (6) Evaluation and Adaptive Management.

Walt Walker, TYLin walt.walker@tylin.com

SESSION 21: Design Build 2 – Odets (4th)

MODERATORS: Toby Singer, *Port Authority*; Scott Davis, *Carollo*

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Successful Delivery through Collaboration: the Progressive Design Build (PDB) Silicon Valley Clean Water Regional Environmental Sewer Conveyance Upgrade (RESCU) Program*

The Silicon Valley Clean Water RESCU Program was successfully delivered using Progressive Design Build (PDB) and included the first tunnel project in North America to be completed using PDB. Project team members co-located and collaborated to progress the design and achieve impactful programmatic cost and schedule reductions. PDB is a delivery model that provides the advantage of collaboration from design through construction that is not easily obtained through traditional design-bid-build methods.

Aren Hansen, *Brown & Caldwell*

Jon Hurt, (jon.hurt@arup.com) *Arup*

2:00 PM: *Utilizing a Design-Build-Operate Delivery Model for Initial Capital Improvements at Springfield's Regional Wastewater Treatment Facility*

AECOM led the design-build effort for capital improvements at the Springfield Regional Wastewater Treatment Facility (SRWTF). Major process improvements included converting the existing aeration basin process into a Hybrid MLE, utilizing the basin's existing channels. The project incorporated innovative approaches to rehabilitate existing structures and install new equipment while maintaining plant operations. AECOM's design-build approach minimized capital and operations cost, all while improving process control and efficiency.

Vaibhavi Shankar, *AECOM* vaibhavi.shankar@aecom.com

3:30 PM: *Leveraging Market Soundings for Enhanced Design-Build Project Delivery: Best Practices and Real-World Applications*

This presentation examines the use of Market Soundings in enhancing design-build project delivery. Market Soundings help assess project viability, refine assumptions, and foster market engagement by gathering early industry feedback. This process supports informed decision-making, reduces risks, and aligns market capabilities with project demands. The session also covers best practices and case studies, demonstrating how early market engagement leads to successful project outcomes.

Gus Hrcir (Ghrncir@brwncald.com), *Ernie Maschner, Brown and Caldwell*

4:00 PM: *Project Delivery & Challenges of Novaliches-Balara Aqueduct 4 (NBAQ4) in Manila, Philippines*

The presentation will provide an overview of the Novaliches-Balara Aqueduct 4 project and how Arup worked with Manila Water to execute the construction of a new 3m(10 ft) diameter, 7.3km(4.5 mi) underground aqueduct water transfer tunnel with TBM methodology. The presentation will discuss alignment selection, tunnel excavation and intake and outlet construction methodologies. Then the focus will change to procurement of the design and build contractor and final the construction management of the project.

Li-Ling Chen, (li-ling.chen@arup.com) Anil Kumar, *Arup*

SESSION 22: CSO/SSO 1 – Cantor/Jolson (9th)

MODERATORS: Erin Moore, Tighe & Bond; George Kansas, HDR

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **2.0 PDH**

1:30 PM: *A City with a Plan is a City with a Vision. Developing the City-Wide Sewer Separation Master Plan in Chelsea, MA*

Attendees will learn about a successful master plan for sewer separation and drainage infrastructure upgrades that is helping to guide a community with outdated pipe networks. They will also learn how modeling plays a role in long-term solutions to sewer separation. Construction challenges will be shared in the presentation.

Louis Mammolette, Dewberry lmammolette@dewberry.com

2:00 PM: *Separating Combined Sewers Using Gray and Green Infrastructure (SS Outfalls 066/067)*

The purpose of this project was to separate ~280 acres of combined sewers in two combined sewersheds. Improvements included sanitary, and gray and green stormwater infrastructure to completely separate the basins. Detailed hydraulic modeling was used to evaluate the best future use of each existing sewer, size new infrastructure, evaluate the green stormwater infrastructure, and evaluate private I/I improvements throughout the project area.

Ryan Rossell, Carollo rrossell@carollo.com

3:30 PM: *Machine Learning and SMART Sewer Management*

This presentation presents applications of machine learning techniques in collection system modeling, and a case study for smart combined sewer overflow monitoring and control project in Wilmington, DE.

Zachary Monge, Jacobs zachary.monge@jacobs.com

4:00 PM: *Dynamic Planning: Buffalo Sewer Authority's Bird Island WWTF Wet Weather Capacity Projects*

The Bird Island Treatment Facility Wet Weather Capacity project represents the largest investment in clean water infrastructure in western New York in over 40 years and will be undertaken in three phases and is expected to take approximately 10 years to complete. Our presentation will focus on Phase I, rehabilitation of the biological systems, and Phase III, expansion of the biological systems including the twists and turns encountered along the way.

Jamie Johnson, AECOM (jamie.l.johnson@aecom.com) Christopher Ryan (rchristopher@greeley-hansen.com), TYLin, Tim Blake (tblake@buffalosewer.org), Buffalo Sewer Authority

SESSION 23: Plant Upgrades & Disinfection – Marquis A&B (9th)

MODERATORS: Sundaram Solai, TYLin; Jessica Ping, TYLin

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **2.0 PDH**

1:30 PM: *Optimizing Expansion Design through Hydraulic Modeling: A Case Study of Waco Bull Hide Creek WWTP Phase 2*

These abstract aims to explain the optimization of the expansion of an existing wastewater treatment plant using the case study of Waco Bull Hide Creek WWTP, Texas. The methodology adopted for modeling and the key findings will be explained in detail. The use of the Visual Hydraulics software for hydraulic modeling will be discussed with key features.

Divya Bhaskaran, CDM Smith divyakb@cdmsmith.com

2:00 PM: ***Beyond In-Kind Replacement: The FEV Capital Improvement Program***

In 2015, the Monroe County Department of Environmental Services (MCDES) recognized the need for a Capital Improvements Program at its Frank E. Van Lare WRRF (FEV) to improve compliance, flexibility, and resiliency. MCDES and Arcadis developed improvements to FEV's aeration system, secondary clarifiers, and electrical infrastructure, relying on bench-scale testing to optimize full-scale implementation. This presentation discusses how this approach-built confidence in full scale improvements, maximized MCDES' return on investment, and value for ratepayers.

Andrew Kuzio (andrew.kuzio@arcadis.com) Arcadis, Monroe County DES

3:30 PM: ***In-situ Replacement of a 90-Year-old WWTP – Solving a Gauntlet of Challenges at the Napanoch WWTP***

The Napanoch Wastewater Treatment Plant (WWTP), located in Ulster County NY, required nearly complete replacement due to severe deterioration and need to comply with a Consent Order. However, the WWTP was located within a confined area surrounded by a flood protection berm. This presentation shows the design challenges encountered and solutions to construct the replacement plant while continuing to maximize treatment of influent wastewater using a 6-phase construction sequence.

Christopher Martin (christopher.martin@ghd.com), Nicole Cheplowitz, NYSOGS

4:00 PM: ***Finding the Best Disinfection Alternative for your WRRFs***

Selection of a disinfection technology has become complicated with the addition of advanced technologies and changing regulations. Utilities often have to analyze the effectiveness, reliability, benefits, and economics of disinfection alternatives to aid in selection suitable for a specific application. An alternatives analysis can aid utilities in selection of treatment technologies that not only protect public health but that can also provide a cost savings and/or added benefits specific to their applications.

Nicola Fontaine, Carollo, nfontaine@carollo.com

SESSION 24: Utility Management – Wilder (4th)

MODERATORS: Nadia Mugisha, Arcadis; Michelle McEntire, Ramboll

Water: **TBD**

Wastewater: **1.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: ***Optimize Sludge Pumping System and Right – Sizing the Sludge Pumps with AFT Fathom Hydraulic Modeling***

Approach and methodology of accurately estimating the total head of complicated sludge pumping system with hydraulic modeling software, sludge rheology test and calibration with field data. The calibrated hydraulic model will also help significantly reduces the effort to investigate various operation scenarios. As a result, all operation points of the system were well understood, and the pump was properly sized to operate in the optimum zone.

Lisa Cheng, CDM Smith chengw@cdmsmith.com

2:00 PM: ***Leveraging MCDA for the Newtown Creek CSO Tunnel Project Site Selection***

Engineers Without Borders-USA is a non-profit that partners engineers with underserved communities to implement projects to sustainably meet their basic human needs. EWB-USA has developed their International Community process model which closely mirrors the consulting framework. This presentation will step through the Western Rwanda multi-phase water distribution project and show how this framework can be used to ethically and effectively implement infrastructure projects for disadvantaged communities across the globe.

Rachel Philipson, Brown and Caldwell rphilipson@brwncald.com

3:30 PM: *Setting up a Program Management System for a Major Capital Projects Implementation Plan*

This presentation will discuss how Buffalo Sewer Authority (BSA) approached establishing a program management system to oversee and coordinate the extensive Queen City Clean Waters initiative and integrate into it the necessary capital work already required to operate and maintain one of the largest and oldest treatment facilities and sewer systems in New York State.

Walt Walker (walt.walker@tylin.com), TYLin, Rosaleen Nogle (rnogle@buffalosewer.org), Buffalo Sewer Authority

4:00 PM: *Updating Water Demand and Wastewater Projection Modeling for NYC*

This presentation will overview the features and development of NYC Department of Environmental Protection's new water demand and wastewater projection model and its supporting geodatabase. This updated methodology provides DEP with a powerful planning tool capable of producing projections with unprecedented geographic resolution with consideration for consumption patterns by land use sector.

Joseph Woodrick, NYCDEP jwoodrick@dep.nyc.gov

SESSION 25: Resiliency – Ziegfeld (4th)

MODERATORS: Michael Manning, Ramboll; Marcella Capuco, Carollo

Water: **TBD**

Wastewater: **0.5 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Future-Proofing Water Resource Recovery Facilities: Strategies for Climate Resiliency and Sustainability*

This presentation highlights the critical role of climate risk and vulnerability assessments in enhancing resiliency of water resource recovery facilities (WRRFs). Through case studies and best practices, methods for analyzing vulnerabilities, assessing risks, and developing robust resiliency strategies will be examined. Moreover, incorporating resilient design into WRRF projects via risk assessment frameworks and cost-benefit analysis tools will be discussed. Participants will gain practical insights into implementing these assessments and understanding long-term benefits of resilient design.

Seth Kamens, JK Muir sjkamens@gmail.com

2:00 PM: *Living Shorelines - Fostering Widespread Acceptance*

Climate change and rising sea levels are escalating threats to lives, property, and infrastructure, especially in coastal areas. Miami-Dade County (NDC) faces risks including property damage, real estate loss, and marine resource threats. Living shorelines offer a resilient solution. This presentation highlights how MDC is promoting living shorelines through a comprehensive guidance document to protect its coastline and the crucial Biscayne Bay.

Jake Oldenburger, Tetra Tech jake.oldenburger@tetratech.com

3:30 PM: *Innovative approaches on adapting tide gate infrastructure to be resilient from impacts of climate change - Case Study from NYCDEP Infrastructure in Staten Island, New York*

NYCDEP is proactively assessing the impacts of climate change on the operation of existing tide gate structures. A feasibility study utilized advanced H&H and CFD modeling programs to assess potential impacts at a pilot study site. The study collected monitoring datasets and development of a 3D model. The study led to developing solutions to retrofit and adapt existing tide gate to reduce risk from impacts of climate change.

Ashok Khadka, Dewberry akhadka@dewberry.com

4:00 PM: ***Bringing Grey, Green, and Blue Infrastructure Together for Climate-Resilient Active Transportation Networks in Vulnerable Communities***

Climate change impacts are an increasing threat to urban infrastructure and are expected to disproportionately affect vulnerable communities. The Los Angeles City's Department of Public Works Bureau of Street Services (StreetsLA) is collaborating with partner agencies and the community to apply a One Infrastructure approach to proactively plan safe, sustainable, and equitable streets that prioritize the needs and character of each community.

Lyndsey Davis, *Brown and Caldwell* ldavis1@brwnncald.com

SESSION 26: Pre-Treatment – O'Neill (4th)

MODERATORS: Kevin Hickey, Navitas; Craig Hurteau, Albany County

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: ***Headworks Loading Evaluation at FEV WRRF***

This presentation will provide an overview how the MCDES pretreatment program evaluates, develops, and implements technically based local limits for industrial users within its collection system. The County utilizes the USEPA guidance document to perform routine assessments of existing local limits and develop new limits based on site-specific conditions that are unique to that system.

Kenneth Smith, *Monroe County DES* kensmith@monroecounty.gov

2:00 PM: ***Developing Flexible Local Limits***

Creating flexible local limits is something many pretreatment programs are unaware of. This presentation will identify alternative allocation strategies that build in flexibility to local limits while minimizing violations and enforcement required. These approaches are currently being used by many pretreatment programs and serve them very well.

Joshua Balentine, *Brown and Caldwell* Jbalentine@BrwnCald.com

3:30 PM: ***Brewery Guidance Document Overview***

This presentation will review the NYWEA Industrial Wastewater Committee's recently completed Brewery Guidance Document. This document is intended to assist the fermented beverage industry by providing information on industrial wastewater treatment and how to effectively communicate and coordinate with local municipalities.

Kevin Hickey, *Navitas* khickey@navitas.us.com

4:00 PM: ***Industrial Wastewater Pre-Treatment Panel***

This will be a panel discussion about industrial wastewater treatment and pretreatment.

Kevin Hickey, *Navitas* khickey@navitas.us.com

SESSION 27: Exhibitor/Manufacturers Presentations – Exhibit Hall (5th)

MODERATORS: Sara Urbanczyk, GA Fleet; Mark Candido, GA Fleet

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: 27.1: *Advancements in Primary Treatment – Moving Beyond Clarification,*

Primary treatment has long relied on clarification via sedimentation to achieve removals of particulate organic and inorganic constituents prior to Secondary biological treatment. However primary treatment via mechanical filtration has started to garner interest in the market due to its much smaller footprint, lower capital costs, and improved Secondary biological performance. This presentation will cover stainless-steel disk filtration which has a proven track record of over 40 years in high solids and high FOG applications, as well as almost 20 years of operation in municipal Primary treatment in the European market.

Robert Wiley, *NUOVE ENERGIE USA, Inc.* r.wiley@nuoveenergie.com

2:00 PM 27.2: *Optimizing Nitrogen Removal and Reducing Energy Using Low DO Operation,*

The upgraded Warren, RI WWTF was completed and went online in 2019 and is designed to achieve seasonal total nitrogen (TN) limits of 5.0 and 9.5 mg/L in the summer and winter permit seasons, respectively. Through the 4 years of WWTF operation, the facility staff have progressively implemented operational measures to reduce the energy and chemical consumption of the biological treatment process. Recent operational of the WWTF has used a combination of SRT and low dissolved oxygen (DO) setpoints to achieve summer season TN concentrations of 2.5 mg/L while lowering aerations costs by approximately 50%.

Patrick O’Connell, *INVENT Environmental Technologies* POConnell@invent-et.com

3:30 PM 27.3: *Regenerative Digester Gas Cleaning*

Siloxanes are commonly found in wastewater derived biogas as they are widely used in personal care products such as shampoos and lotions, but if not properly removed in the gas stream, they pose significant issues to downstream process equipment such as an engine or RNG upgrading. Conventional solutions have historically been deployed to remove these contaminants, however advancements in technology allow for minimized downtime and extended media life to provide owners with a cost saving solution. This presentation will provide insight into conditioning solutions including advanced regenerative Temperature-Swing Adsorption technology for siloxane removal.

Evan Pellici, Hillary Grissom, *GraniteFuel Engineering* hgrissom@granitefuel.com

4:00 PM 27.4: *Lessons Learned from the Testing, Design, and Installation of the First Foam-Fractionation + Electrochemical Oxidation Treatment System for PFAS Destruction in Metal Finishing Wastewater*

This presentation will provide an overview of the selection, design, and installation of the first full-scale onsite PFAS treatment and destruction system for metal finishing wastewater.

Louis LeBrun, *Axine Water Technology* louis_lebrun4@gmail.com

SESSION 28: University Forum – Chelsea/Gotham (7th)

Water: **TBD**

Wastewater: **0.0 RTC**

Engineer: **0.0 PDH**

1:00 PM: Aslhy Torres, *Clarkson University*

1:20 PM: Mahnoor Sultan, *Manhattan University*

1:40 PM: Lauren Henkler, *SUNY ESF*

2:00 PM: Ella Weldy, *Clarkson University*

BREAK 2:30 - 3:30 PM

3:30 PM: Hayden McElduff, *Manhattan University*

3:50 PM: Alma Rocha, *New York University*

4:10 PM: Kelechi Okere, *Clarkson University*

Wednesday, February 5th, 2025

SESSION 29: Collection System 2 – Cantor/Jolson (9th)

MODERATORS: Angela Hintz, *JM Davidson Engineering*; Will Stradling, *Siewert Equipment*

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

9:00 AM: Protecting New York City's Water Supply with a Collection System 100 Years in the Making

The busy commercial Hamlet of Katonah in the Town of Bedford, New York was served by aging septic systems, and its proximity to the Muscoot Reservoir meant that this could impact the water supply for New York City. Using a mix of funding sources, a combination of proven technologies, and extensive cooperation across municipal and organizational boundaries, Katonah now has modern wastewater collection, unlocking potential economic development and protecting the water quality in the reservoir. Emily Nealon, *Woodard & Curran* enealon@woodardcurran.com

9:30 AM: Kensico Eastview Connection Project: Current Status and Key Challenges

The Kensico Eastview Connection Project, located in Valhalla, NY, will provide redundancy and higher capacity for potable water supply to consumers in New York City and upstate New York. This presentation will go through project journey on challenges from the early design phase through construction and coordination to obtain the resolution. Jonalen Protacio (jonalen.protacio@arup.com), Wylie Tsang (Wylie.Tsang@arup.com), *Arup*
Justin Rivellino, *NYCDEP*

11:00 AM: Forge River Watershed Sewer Project Overview: Protecting the Forge River

The Forge River Watershed Sewer Project is the largest sewer collection system program undertaken by the Suffolk County Department of Public Works in the past 40 years. The \$223 million project will provide a new sewer collection and conveyance system and an advanced wastewater treatment facility. The new system will help reduce the adverse impacts of elevated levels of nitrogen in the ground and surface waters and coastal wetlands caused by cesspool and septic system failures.

Lars Augustin, *Gannett Fleming* laugustin@gfnet.com

11:30 AM: Bypass Pumping During Construction: The Avenue U Pumping Station Rehabilitation Case Study

The Avenue U Pumping Station rehabilitation project provides valuable insights into designing a comprehensive bypass pumping system for future infrastructure rehabilitation efforts, focusing on constructability and resiliency. As urban centers around the world continue to grapple with the challenges of aging infrastructure, the experiences gained from the Avenue U project will serve as a valuable resource for engineers and policymakers tasked with safeguarding the continuity of essential services during complex construction projects.

Tom Fini, *AECOM* Tom.Fini@aecom.com

SESSION 30: Research & Innovation in the Collection System – Odets (4th)

MODERATORS: Alicia Vaccaro, *HDR*; Dahlia Thompson, *Hazen and Sawyer*

Water: **TBD**

Wastewater: **0.5 RTC**

Engineer: **2.0 PDH**

9:00 AM: Locating and Quantifying I/I Economically and Rapidly using a Combination of Flow and Level Sensors in Dartmouth Massachusetts

Dartmouth, MA requested an economical way to characterize Inflow and Infiltration (I/I) in their sewer system. An innovative approach combining a small number of flow meters with numerous level sensors to subdivide larger metered watersheds was implemented. This allowed rapid quantification and identification of I/I on a systemwide basis in less than six months. Compared to traditional flow-meter-only approaches, this technique achieved significant time and cost savings while providing actionable data for I/I removal.

Ben Agrawal, *Hazen and Sawyer* bagrawal@hazenandsawyer.com

9:30 AM: FloodNet Sensors and Deployment NYC

FloodNet is an informational tool that tracks flooding frequency, severity, and allows communities, researchers, and NYC agencies to analyze flooding across NYC. Through ultrasonic sensors, chosen for their affordability and practicality, the FloodNet team draws on city and community knowledge to strategically place these devices in flood vulnerable areas to collect real-time data on flooding throughout the city.

Anna Botwina, *NYCDEP* abotwina@dep.nyc.gov

11:00 AM: Redesigning Urban Shorelines for Resilience

There is an urgent need for innovative replacements of conventional sea walls to protect the urban edge, support biodiversity, and elevate human experience. The main goal of the Urban Shorelines project is to design a new type of infrastructure to better protect urban shorelines while simultaneously enhancing local biological communities and human engagement with the coastline.

Dmitrijs Obolevis, *Arup* dmitrijs.obolevics@arup.com

11:30 AM: **Wastewater Surveillance is an Important Public Health Tool**

Wastewater surveillance has been used to monitor levels of various illnesses and substances to track prevalence and monitor trends since the 1940s. WWS and analysis of the SARS-CoV-2 viral load coupled with epidemiological trends provides an opportunity to prepare communities for COVID-19 surges. Early notification provides a unique opportunity to better prepare communities and public facilities. This same tool can be used to understand trends of other diseases and conditions such as opioid use.

Irina Gelman, *Nassau County* IGelman@nassaucountyny.gov

SESSION 31: Managing Your Biosolids: Class A, PFAS, and More – Wilder (4th)

MODERATORS: Lina Posso, Carollo; Sarah Teevan, Hazen and Sawyer

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

9:00 AM: **Direct comparison between thermal hydrolysis and thermophilic digestion as alternatives for Class A biosolids management**

Whilst thermal hydrolysis and thermophilic digestion are well know options for the production of Class A biosolids, very little work has been done to directly compare how they perform against each other and with respect to a control via mesophilic digestion. This paper will show results of a laboratory study looking at how they influence digestion and production of Class A biosolids under identical conditions.

Bill Barber, *Cambi* bill.barber@cambi.com

9:30 AM: **Navigating the Path to Class A Biosolids: Startup, Optimization, and Four Years of Insights at HRSD's Atlantic Treatment Plant**

In mid-2020, HRSD's Atlantic Treatment Plant transitioned to Class A biosolids using Cambi thermal hydrolysis. This presentation covers startup, optimization, aerobic curing, and recent lessons learned, including troubleshooting rapid rise events and assessing digester health now that the plant is four years post-startup. It also highlights a successful zero-loadout Cambi shutdown. Ultimately, THP and aerobic curing have prepared HRSD for future regulatory changes, including advanced treatment for PFAS and CECs.

Dana Gonzalez, *Carollo* dgonzalez@carollo.com

11:00 AM: **Biosolids Gasification and Pyrolysis – Lessons Learned from Early Adopters**

Gasification and pyrolysis processes, although considered proven and have been successfully used for decades by the energy and biomass industry, are considered innovative for the wastewater industry. Commercial scale experience with implementation of pyrolysis and gasification for biosolids is limited. Using case studies, the presentation will provide an understanding of lessons learned during implementation of pyrolysis and gasification for biosolids treatment, design considerations, procurement and construction considerations, O&M requirements and biochar beneficial use.

Jay Surti, *GHD* Jay.Surti@ghd.com

11:30 AM: **A Surveillance of PFAS in Biosolids and Sludge at 27 water resource recovery facilities across USA and Western Canada**

This surveillance study evaluated the concentrations of PFAS in biosolids and sludge at 27 water re-source recovery facilities across the USA and Western Canada

Shubha Oza, *Brown and Caldwell* SOza@brwnald.com

SESSION 32: Water Reuse and Pumping – Ziegfeld (4th)

MODERATORS: Kristin Wilkinson, *Hazen and Sawyer*; Oleg Fomin, *TYLin*

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

9:00 AM: Bay Park Conveyance Project, New York – From Planning to Construction

The Bay Park Conveyance Project (a collaboration between Nassau County and New York State Department of Environmental Conservation) will divert treated effluent away from the Western Bays of Long Island to an existing ocean outfall. The works include 3.6 miles of microtunneling, 7 miles of sliplining, 14 shafts, and a 75 MGD pump station. This presentation provides an overview from the perspective of the Owner's Engineer (WSP) regarding planning, design, construction, and commissioning.

David Smith, *WSP* David.i.smith@wsp.com

9:30 AM: Startup and Commissioning of the New Main Sewage Pumping System at the Coney Island Wastewater Resource Recovery Facility

Replacement of the 220 MGD main sewage pumping system and associated piping and equipment at the Coney Island WRRF in Brooklyn, NY presented a generational opportunity to bring pumping facilities up to present standards. Main pumps, motors, drives, starters, and controls were replaced with new equipment, requiring a structured, complex startup program including operator training and equipment integration. This presentation will discuss the development and execution of the startup sequencing.

Timothy Groninger, *HDR* Timothy.Groninger@hdrinc.com

11:00 AM: Designing a Water Reuse System for the South Shore Water Reclamation Facility

A newly implemented water reuse system at the South Shore Water Reclamation Facility in Nassau County provides an example of how municipalities can sustainably recycle effluent water within their facilities to reduce water bills and reliance on utility water. This presentation will also examine the existing regulatory frameworks for water reuse in the State of New York, and its potential for future expansion.

Larry Ge, *Hazen and Sawyer* (lge@hazenandsawyer.com) James Gowans, *Veolia Long Island* (james.gowans@veolia.com)

11:30 AM: Case Studies of Advanced Filtration Technology in Primary and Wet Weather Treatment Across North America

Explore viable technologies for expanding biological capacity through advanced primary and wet weather treatment, with a focus on Pile Cloth Media Filtration (PCMF). PCMF's versatility in treating primary influent, effluent, and wet weather flows will be highlighted. Case studies from North America will demonstrate how PCMF technology has effectively expanded biological treatment capacity, ensured compliance with facility permit requirements, and eliminated untreated wet weather discharges.

John Dyson, *Aqua-Aerobic Systems Inc.* jdyson@aqua-aerobic.com

SESSION 33: Regulatory – O’Neill (4th)

MODERATORS: Tom Saldutti, *Stantec*; Ted Nitza, *Kimley-Horn*

Water: **TBD** Wastewater: **1.5 RTC** Engineer: **1.5 PDH**

(1HR) 9:00 AM: Unified Stormwater Rule – A SWeePPP through 3 years of NYC’s new Stormwater Permitting Program
February 2025 marks 3 years since the NYC USWR went into effect. This presentation provides an opportunity for DEP to engage with the NYC water community, to overview key milestones and benefits of the NYC USWR journey thus far. It will cover key benefits of the USWR, overview the permit process and provide strategies for navigate it efficiently, and present the updated SWPPP template as a key tool to meet applicable requirement.

Clare Moriarty, *Arcadis* clare.moriarty@arcadis.com

11:00 AM: Mohawk Valley Stream Restoration Project

~~Two water transmission lines in the town of Marcy, New York have been compromised due to streambed erosion. Two possible solutions were evaluated: Pipe Suspension, which proposes elevating the pipes over the stream channel, and Instream Modification, which proposes backfilling the stream along with additional protective measures. Each alternative was evaluated on it's ability to sufficiently protect the transmission lines, minimize cost, and minimize social and environmental impacts.~~

~~Lauren Henkler, *SUNY ESF* lauren.henkler@gmail.com~~

11:30 AM: Emerging Issues and Solutions in Wastewater Disinfection

This presentation provides an overview of the regulatory framework for wastewater disinfection, will present results for comparative disinfectant results across various indicators, and demonstrate how an improved disinfection model could be adapted to optimize treatment performance. The project, WRF Project #5219, includes participation of more than 10 WRRFs across the US and Canada and results of this project may have a significant impact on disinfection practices across North America.

Katherine Bell, *Brown and Caldwell* kbell@brwnaald.com

LUNCH BREAK

12:00 – 1:30 PM

SESSION 34: Resource Recovery – Cantor/Jolson (9th)

MODERATORS: Julie Stein, *HDR*; Kinnari Shah, *Hazen and Sawyer*

Water: **TBD** Wastewater: **2.0 RTC** Engineer: **2.0 PDH**

1:30 PM: Approaches to detect, quantify, and measure fugitive methane emissions at New York City WRRFs

New York City’s Department of Environmental Protection has launched a fugitive methane emissions reduction initiative across its 14 WRRFs. The program uses advanced detection and quantification techniques to identify and mitigate methane leaks, improving air quality and public health. Ground-level surveys were employed to locate hotspots, and DEP is currently assessing the use of various quantification technologies. The initiative aims to enhance the agency’s GHG inventory through targeted upgrades and retrofits.

Aditya Desai, *NYCDEP* addesai@dep.nyc.gov

2:00 PM: ***Phosphorus Removal and Recovery – Converting Wastewater Treatment Plants to Water Resource Recovery Facilities***

The presentation will provide the audience basic fundamentals of phosphorus removal via chemical and/or biological treatment and how phosphorus is being recovered for beneficial reuse. A business case example will be presented that discusses avoided costs and benefits of phosphorus recovery.

Joseph Husband, *Arcadis* Joe.husband@arcadis.com

3:30 PM: ***Biogas to Biomethane – Design, Construction and Operation Lessons Learned***

The Lulu Island WWTP Sludge Gas Treatment System upgrades surplus biogas produced from the digesters and delivers pipeline quality biomethane to the natural gas utility. The focus of this discussion is on the challenges faced during the design, construction, and operation of the treatment system, including technology selection, fluctuating surplus biogas flow, and process design and control considerations. Construction of the system was completed in September 2021, and it is currently in operation.

Laura Locke, *AECOM* laura.locke@aecom.com

4:00 PM: ***What's it Worth to You? Arlington Re-Gen Biogas Utilization Evaluation***

The purpose of the biogas utilization evaluation was to review all feasible alternatives for the beneficial use of the biogas to assist in meeting the County's sustainability goals while also meeting the energy needs of the WPCP and then perform monetary, non-monetary, and sustainability evaluations to determine the recommended alternative for the County. The scope of the analysis included only biogas utilization portion of the Program, and not any other of the solids handling components.

Brian Bakke, *HDR* brian.bakke@hdrinc.com

SESSION 35: CSO/SSO 2 – Odets (4th)

MODERATORS: Robin Miller, *HDR*; Andrew Watson, *HDR*

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: ***CSO Program: Post-Construction Compliance Monitoring***

The CSO Control Policy requires implementation of NMCs, an LTCP, and PCCM. Following implementation of an LTCP, communities are expected to implement a PCCM program to verify the effectiveness of the CSO controls and attainment of water quality standards. This presentation will include an overview of the PCCM requirements, the USEPA guidance, and a regulatory perspective for how to develop a satisfactory program. A case study of recently approved PCCM programs will also be presented.

Steven Wood, *NYSDEC* steven.wood@dec.ny.gov

2:00 PM: ***No Feasible Alternative: The Planning and Design of a Secondary Bypass at the Passaic Valley Sewerage Commission to Drastically Reduce CSO Discharges***

The Passaic Valley Sewerage Commission (PVSC) is in the process of implementing a secondary treatment bypass to expand its wet weather treatment capability up to a capacity of 720 mgd. In addition to the secondary bypass, the project includes the redirection of sludge recycles from their current discharge location at the head of the oxygenation tanks to the head of the Primary Clarifiers (PCs), as well as new screening facilities for the PC effluent flow.

Nicholas Bowen, *Hazen and Sawyer* nbowen@hazenandsawyer.com

3:30 PM: ***Get Your Mind in the Gutter: Overcoming Planning and Design Challenges of a CSO Retention Tank***

This presentation will discuss the planning and corresponding systemwide hydraulic modeling, and design work that HDR and Boswell team has performed for the North Bergen, as they work to address the Long-Term Control Plan (LTCP) for reducing combined sewage overflow (CSO) within their community. North Bergen is one of the first of the PVSC CSO communities to tackle addressing the LTCP by completing the design of 5-million-gallon CSO storage tank.

Jeffrey Arnesman and Hayley Bundz, *HDR* hayley.bundz@hdrinc.com

4:00 PM: *Hydraulic and Constructability Design Considerations for Flow Diversion, Control, Drop Shafts, and Outfalls for CSO Tunnels*

The presentation introduces the first of the three deep CSO tunnels - the Ohio River Tunnel (ORT), of ALCOSAN's Clean Water Plan, and then focuses on the planning and design considerations of the critical near surface CSO flow diversion and control regulators, outfalls, deep flow drop shafts. A focused example will be given to one of the six flow capture and regulating Near Surface Facilities, that is concentrated at the tunnel downstream terminus shaft site.

Zhenqi Cai, *Mott MacDonald* zhenqi.cai@mottmac.com

SESSION 36: NYC Stormwater – Wilder (4th)

MODERATORS: David Stahl, AKRF; Haley Noteboom, Hazen and Sawyer

Water: **TBD**

Wastewater: **1.5 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Building a New Green Infrastructure Maintenance Workforce in NYC*

NYC Department of Environmental Protection is launching a green infrastructure workforce development pilot program intended to diversify its green infrastructure maintenance by working directly with community partners to manage over 1,000 right-of-way rain gardens in Brooklyn and Queens. The program will provide valuable on-the-job training to participants in green infrastructure maintenance and horticultural care and aims to develop a workforce pipeline to feed the City's growing need for green infrastructure service professionals.

Alisen Downey, *NYCDEP* adowney@dep.nyc.gov

2:00 PM: *NYC Green Infrastructure Grant Program – Lessons Learned and Looking Ahead*

Since its introduction in 2011, the Green Infrastructure Grant Program has sought to strengthen public-private partnerships and public engagement regarding the design, construction, and maintenance of green infrastructure on private property in NYC. To date, DEP has committed more than \$14 million for 34 private property owners to build green infrastructure through the Grant. This presentation will cover lessons learned and the program's evolution from over a decade of implementing the Grant Program in NYC.

Nyleen Euton, *NYCDEP* neuton@dep.nyc.gov

3:30 PM: *NYC Cloudburst Resiliency: Transformational Community Adaptation through Strong Partnerships*

A "cloudburst" is a sudden, heavy downpour that can overwhelm sewer systems and result in flash floods. NYC's Cloudburst Program will protect vulnerable communities, mitigate flood damage, and improve water quality. Based on this project's recommendations, the city will construct \$400 million of Cloudburst Resiliency Projects to better manage intense rainfalls in flood-prone neighborhoods. This presentation covers: Program Goals; Social and Physical Vulnerability Assessment; Opportunity Screening and Adaptation Analysis; Adaptation Toolbox; Social and Economic Considerations.

Kevin Obey, *Hazen and Sawyer* kobey@hazenandsawyer.com

4:00 PM: *Modeling Dynamic Capture Rates for Porous Pavements*

CFD modeling was utilized to evaluate the performance of roadway porous pavement under wet weather conditions. Estimates of the stormwater capture efficiency were calculated for rainfall events and compared to infiltration rates determined under static conditions (ASTM C1701). The rainfall capture infiltration rate was 75-80% of the observed ASTM infiltration rate due to the dynamic nature of flow interacting with the panel. These results were utilized to inform GI modeling in larger-scale models like SWMM.

Heather Smith, *Arcadis* heather.smith@arcadis.com

SESSION 37: Climate Impact & Sustainability – Ziegfeld (4th)

MODERATORS: Vincent Rubino, Wade Trim; Marissela Gomez, Stantec

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Finding Fugitives: Where Wastewater Agencies Can Make a Climate Impact*

Cities and utilities in New York have carbon neutrality goals and climate action plans to address climate change. This presentation will provide an overview of GHG emissions from WRRFs, feature case studies, and discuss opportunities for mitigation with detailed discussion about fugitive methane and nitrous oxide emissions associated with biosolids, energy production, and nutrient removal.

Bill Brower, *Brown and Caldwell* BBrower@BrwnCald.com

2:00 PM: *Developing GHG Inventory Tools for Water and Wastewater Facilities: A Mountain Utility's Example*

A greenhouse gas (GHG) inventory tool can be critical in establishing tradeoffs between sustainability and operational costs. For example, a GHG inventory tool developed for Eagle River Water and Sanitation District (ERWSD) demonstrated how understanding emissions can be used to help with planning and design. The tool has been used to establish a GHG emissions baseline, compare emissions pre- and post-facility upgrades, and as part of an alternatives analysis to factor emissions into design decisions.

Michelle Young, *Carollo* myoung@carollo.com

3:30 PM: *Fire Island; Sustainable Wastewater Management Plan*

Fire Island is a barrier island bordered by the Great South Bay and the Atlantic Ocean. Fire Island receives 2 million visitors each year. There is one WWTP in Ocean Beach. Most parcels use onsite treatment of cesspools, septic tanks and leaching pools. High groundwater makes their effectiveness marginal. The Plan identifies sustainable treatment alternatives. Factors that influence treatment technologies efficacy include sea level rise, depth to groundwater, vicinity to the ocean/bay, and seasonality.

Steve Hadjiyane, *IMEG Corp.* steve.hadjiyane@imegcorp.com

4:00 PM: *Integrating Sustainability in the Design and Construction of Water Infrastructure: Insights from the Kensico Eastview Connection*

Sustainability in water infrastructure is often centered on maximizing efficiency, implementing nature-based solutions, and reducing combined sewer overflows. However, in many other forms of infrastructure, decarbonization is the focus. This session aims to bridge this gap by highlighting the ways sustainability – with a focus on decarbonization – can be incorporated into water infrastructure projects, using the Kensico Eastview Connection as a case study and recent NY State and City sustainability policies as critical context.

Sonja Hartmann, *Arup* sonja.hartmann@arup.com

SESSION 38: PFAS – O’Neill (4th)

MODERATORS: Bridget Fitz-James, C.T. Male Associates; Nancy Struzenski, Pace Labs

Water: **TBD**

Wastewater: **2.0 RTC**

Engineer: **2.0 PDH**

1:30 PM: *Solutions to PFAS in the Real World*

EPA’s April 2024 issuance of MCLs for six PFAS chemicals is the latest regulatory measure affecting water and wastewater systems and assessing retrofitting systems to remove PFAS. This presentation covers real world PFAS treatment systems implemented over the past three years and examples of why certain PFAS treatment was selected and approaches and lessons learned to how facilities/sites were retrofitted. Four example sites are covered including projects recognized as ASCE Projects of the Year.

Steve Tedesco, *Tetra Tech* steve.tedesco@tetratech.com

2:00 PM: *Navigating the Challenges and Implementing Innovative, Cost-Effective PFAS Compliance Strategies*

This presentation will discuss a range of compliance strategies ranging from source water management to optimization of existing treatment to identification and implementation of innovative treatment approaches. It will discuss some of the unique challenges associated with PFAS and present case studies of utilities' experiences throughout the U.S. and their approaches to navigate the challenges presented by the recent rule and their innovative compliance and funding strategies to comply with the rule.

Chris Hill, *AECOM* christopher.hill@aecom.com

3:30 PM: *Practical Lessons for Integrated PFAS Management at WRRFs*

This paper will provide insights into best practices for mitigating PFAS as related to management of water resource recovery facilities. Three case studies will be used to provide practical insights into how these strategies may be implemented at full-scale WRRFs.

Wendell Khunjar, *Hazen and Sawyer* wkhunjar@hazenandsawyer.com

4:00 PM: *A Micro Sorbent Alternative to using GAC and IX for PFAS Removal*

The paper and presentation will look at a range of source waters from drinking water to stormwater to brine waste from RO with varying concentration of PFAS levels. These levels of PFAS ranged from 25 ng/l to >20,000 ng/L. The results will compare adsorption rates of this new micro-sorbent to GAC and IX.

John Dyson, *Aqua Aerobic* Jdyson@aqua-aerobic.com