

SUN-DD02 WATER OR WASTE? ADAPTIVE APPROACHES TO WATER RESOURCES MANAGEMENT

SESSION OVERVIEW

We face challenges mitigating the impacts of plastic and water waste in designed landscapes. Gain insight from arborists, nursery experts, engineers, and landscape architects piloting innovative irrigation practices that respond to green building standards, client expectations, resource scarcity, and climate change.

Learning Objectives

1. Transform your practice through dialogues with industry experts who are challenging the status quo of irrigation design and water resource management.
2. Understand how client expectations, green building standards, and project types (institutional, residential, civic, etc.) can influence the ways that water resources tend to be managed.
3. Discover techniques for creating landscapes that require less water, such as the use of temporary irrigation systems and effective water conveyance through soils.
4. Learn about the history of irrigation practices across cultures and contexts, and the ways in which modern plastic-based systems contribute to water and plastic waste.
5. Explore common products used in the irrigation industry and sustainable alternatives through an interactive break-out session.
6. Gain insight into how arborists, nursery experts, engineers, and landscape architects provide water to plant material during the contractor-guaranteed establishment period, and how they adapt irrigation protocols and systems post-establishment.

MEG GRISCOM ASLA / REED HILDERBRAND

"Adaptive Approaches to Water Resources Management: An Introduction"



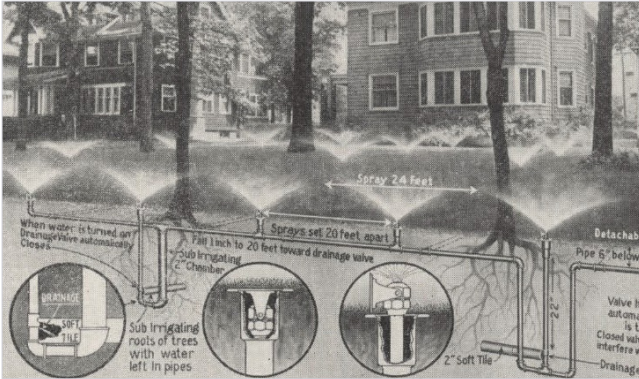
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bottom: © Eve White

How can we convince clients of the value of irrigation, and achieve exemplary outcomes in the solutions we provide while addressing climate change, drought and the ubiquity of plastic waste in irrigation systems?

As landscape architects, it is our duty to educate clients about the best ways to keep plants healthy-and to act responsibly as we design and implement these systems. Join us for this Deep Dive to learn how Reed Hilderbrand and our collaborators at Aqueous Consultants, Summerhill Nurseries, and Williams College are developing innovative approaches to solving the challenge of irrigating sustainably and adaptively in a time of extreme weather and climate change. The session's introduction will set the stage for our collective conversation with examples of how we are currently intervening in cycles of design, maintenance and adaptation to reduce water and plastic waste in landscapes. Breakout sessions will offer participants opportunities to workshop their site challenges, learn from our session's experts, and interact with irrigation technologies and prototypes.

CHARLOTTE LEIB, ASSOCIATE ASLA / REED HILDERBRAND

“Irrigation Then and Now: Navigating Histories & Technologies, Challenging Norms”



top image: Landscape Architecture Magazine Advertisement, Brooks Irrigation Systems, 1921 / middle: modern irrigation technology collage © Reed Hilderbrand / bottom: Boston Common Water Celebration, 1848, U.S. Library of Congress.

How can knowledge of irrigation’s histories and changing materialities help us design more sustainable landscapes?

The practices we use to irrigate landscapes have not always been beholden to the large technological and plastic-based systems we tend to use today. This section of the Deep Dive will compliment the session’s introduction by taking a look back at the ways that the profession of landscape architecture grew to embrace highly-engineered systems of irrigation. *Landscape Architecture Magazine* advertisements, the initial death of plants in Central Park during the 1860’s, and a century-long embrace of the abundance of public water resources, along with the rise of the petroleum industry’s influence over material supply chains will provide touchstones within a brief narrative of how practices of plastic and water waste became embedded within our profession’s design culture. The recent influence of certification programs on standard approaches to irrigation (such as LEED, LBC, and SITES) will also be discussed.



Is irrigation a waste, or is it a means of solving water problems sustainably on sites?

The short answer: it depends. In landscape architecture, irrigation is often an afterthought, or a mere "yes or no" box-checking exercise as part of prescriptive rating systems. There are three results that could occur, two of which are deleterious to sustainable sites. 1) An excess use of water and plastic without conscious design and consideration of the "what, when, and who" of irrigation by over-irrigating. 2) The risk of allowing plant material to die, leading to replacement costs and negative carbon impacts, as well as the risk of soil moisture management, leading to flash flooding, erosion, heat island impacts increasing, and invasive species proliferation. 3) Leverage the hydraulics, mechanics, and technology of irrigation to monitor, manage, and mitigate plant health, carbon sequestration, stormwater, and soils to serve as the lifeblood of a fully sustainable landscape.

images: © Aqueous Consultants



How does an integrated nursery and residential landscape company reduce water and plastic waste through adaptive, phased irrigation methods?

Summerhill's operations encompass many different facets of horticulture, including built landscapes, garden maintenance and the growing of trees and shrubs. The decision of when to irrigate and what tools to use at each step in the life of a landscape have evolved alongside the growth of our practice over the last 30 years. That evolution has deepened our staff's connection to managing water during the construction and maintenance of landscapes and reduced water usage and plastic waste at our tree farms. The challenges we face now are how to continue that evolution and irrigate plants in a way that adapts to climate change and diminishing ground water while continuing to reduce plastic waste within our operation.

images: © Summerhill Landscapes and Anthony Crisafulli



In what ways are horticulturalists and arborists creatively answering to the requirements of LEED and LBC standards to increase the success of plantings?

Plants all have the same basic requirements for establishment: light, water, air, nutrients, sufficient space, and time. On the Williams College campus, new landscapes meet LEED and LBC standards but not the basic needs of plants, creating challenges for maintenance staff to provide those basic needs for plant survival. The current landscape designs do not address the basic requirement of water, a critical component of plant survival. See how the Williams staff keeps new plantings alive through innovative tools, methods, and hand-watering practices that adapt to sustainability initiatives and changing weather patterns.

images: © Felicity Purzycki

PANELISTS



MEG GRISCOM ASLA

Hailing from Galisteo, New Mexico, a village near the Rio Grande River surrounded by piñon-juniper forest, prairie, and meandering stream corridors, Meg brings an attention to land and water resource stewardship to her work. As Senior Associate at Reed Hilderbrand, she is currently managing the Storm King Capital Project in Upstate NY, a renovation to the Georgia O'Keefe Museum in Santa Fe, NM, and a Black land stewardship project in Terrell, TX, amongst other residential projects. When not practicing, she teaches design studios at Connecticut College. Her award-winning work has been exhibited at MoMA and honored by the CT ASLA.



CHARLOTTE LEIB, ASSOC. ASLA

Charlotte is an environmental historian and educator with a decade of combined experience in the fields of landscape architecture, design, and education. She is currently completing a Ph.D. in History at Yale University, where she has served as a Teaching Fellow for courses on urban history, environmental history, architectural history, energy history, and the history of science & technology. Charlotte holds a BA in Architecture from Princeton University and dual Masters degrees in Landscape Architecture and Design Studies from Harvard University. At Reed Hilderbrand, she works closely with staff to advance the firm's research efforts.



MICHAEL IGO, AFFIL. ASLA, PE, LEED AP, CID

Mike is a professional civil engineer who founded Aqueous Consultants in 2014. He has 20+ years of experience engineering water resources, has contributed to the ASLA Water Conservation Professional Practice Network since 2018, and is currently Chair of the Network. His dual B.S. in Aerospace Engineering and M.S. in Civil Engineering degrees prepared him to move between the design of both mechanical systems (irrigation, pumps, controls) and civil engineering systems (seepage, ponds, tanks, drainage). Mike takes pride and joy in assisting architects in the design of complicated, technical landscape-water systems using self-created climate models, engineering principles, creativity, and graphic arts.

PANELISTS



TOM VOLK, AFFIL. ASLA, ISA-CERTIFIED ARBORIST

Tom Volk is the Director of Landscape Management at Summerhill Landscapes, whose mission is to harness its team's collective experience in horticulture, project management and business operations to deliver landscapes that are constructed and maintained at the highest level. A practicing ISA Certified Arborist since 2005, he is responsible for the co-management of the firm's landscape construction operations and has overseen high end residential landscape installations in the Hamptons, Manhattan, Connecticut and the Hudson Valley. A graduate of St. Michael's College in Colchester, Vermont, he earned a Bachelors Degree in Political Science in 2002.



FELICITY PURZYCKI, ISA CERTIFIED ARBORIST

A native Vermonter, Felicity Purzycki joined the Williams College Grounds staff in 2021 as the first ISA-certified arborist. She is currently working to bring Reed Hilderbrand's Williams College Landscape Study to life as the College's Landscape Ecology Coordinator. Growing up she was taught respect and love for the natural world. She began her career working in nurseries after completing her studies at Siena College, managing a wholesale tree nursery in upstate New York for over a decade. Felicity brought her strong background in horticulture and arboriculture to Williams where she has improved grounds maintenance practices and increased awareness of the campus forest. Felicity is currently pursuing a Master's degree in Urban Ecology and Sustainable Planning at Unity College.