

# Agenda

**Presented by Steven Trinkaus**

## **Site Investigation for Low Impact Development Practices**

- Deep test holes – soil limitations
- Infiltration testing
- Types of infiltration tests; which ones are most accurate to use
- Is percolation testing useful or not

## **Environmental Conditions**

- Land slope
- Potentially restrictive soil conditions

## **How to Design LID Infiltrative Practices for Variable Site Conditions**

- Bioretention systems
- Permeable pavement systems
- Infiltration trenches
- Dry swales

## **Designing Bioretention Systems for Peak Rate Attenuation Without Affecting Water Quality Aspects**

- The importance of designing practices with all required components
- Pollutant loading analysis
  - What are they and why are they necessary?
  - Sources for non-point source pollutants
  - Sources for pollutant removal efficiencies
  - Equations to be used to calculate pollutant loads and pollutant removal rates
  - Standalone treatment systems and systems in series
  - Using dry and wet systems to enhance removal rates of pollutants
  - Determining pollutant loads removal
  - Efficiencies for systems in series

## **Case Studies – The Good, The Bad and The Ugly**

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Recordings of this webinar are available for purchase. See details online for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

## **Designing Low Impact Development Practices for Water Quality**

Natick, MA or Online - Friday, August 18, 2023

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PO Box 278  
Altoona, WI 54720-0278



## Learning Objectives

### **You'll be able to:**

**Discuss** site investigation for low impact development practices.

**Analyze** types of Infiltration tests; which ones are most accurate to use.

**Explore** environmental conditions and **learn** about potentially restrictive soil conditions.

**Learn** about designing LID infiltrative practices, including bioretention systems, permeable pavements and infiltration trenches.

**Examine** the process of designing bioretention systems for peak rate attenuation without affecting water quality aspects and **discuss** the importance of designing practices with all required components.



## Live, In-Person Seminar and Live Webinar

# Designing Low Impact Development Practices for Water Quality

*Natick, MA or Online - Friday, August 18, 2023*



**Investigate** site conditions to determine feasibility of low impact development practices

**Discuss** appropriate applications for bioretention systems, permeable pavements and infiltration trenches

**Preserve** water quality by addressing pollutant loads

**Review** case studies of successful (and not-so-successful) practices

### Continuing Education Credits

**Professional Engineers**  
6.0 PDHs

**Architects**  
6.0 HSW CE Hours  
6.0 AIA HSW LUs

**Landscape Architects**  
6.0 HSW CE Hours  
6.0 LA CES HSW PDHs

**International Code Council**  
0.6 CEUs (Sitework)

**Floodplain Managers**  
6.0 ASFPM CECs



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# Seminar/Webinar Information

## Courtyard by Marriott Natick

342 Speen Street,  
Natick, MA 01760  
(508) 655-6100

**Registration**  
8:00 - 8:30 am EDT

**Lunch** (on your own)  
11:45 am - 12:45 pm EDT

**Morning Session**  
8:30 - 11:45 am EDT

**Afternoon Session**  
12:45 - 4:00 pm EDT

## Webinar Information:

Webinars are presented via GoToWebinar Instructions and login information will be provided in an email sent close to the date of the webinar. For system requirements, please visit the FAQ section of our website, or visit [www.gotowebinar.com](http://www.gotowebinar.com).

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or scan here



# Faculty



## Steven Trinkaus

*Principal at Trinkaus Engineering, LLC, in Southbury, CT*

Mr. Trinkaus is an internationally recognized expert in the field of low impact development, having presented at many ASCE/EWRI international conferences and many other regional conferences and workshops on LID and water quality issues. He has been an invited presenter and consultant in Taiwan, China, and South Korea. He has also presented on Sustainable Stormwater at the University of St. Andrews in Scotland. Mr. Trinkaus has written LID design manuals for the Towns of Tolland, Plainville, Harwinton, East Granby, and Morris, Connecticut. He has designed many types of LID treatment systems for a variety of residential and commercial applications. Mr. Trinkaus is chair of the EWRI LID Guidance Document Task Committee and primary author of the Committee's national guidance document on adopting LID standards. Mr. Trinkaus is a licensed professional engineer in Connecticut and Maryland. He received a Bachelor of Science degree in Forest Management in 1980 from the University of New Hampshire. He has more than 38 years of experience in the land development field, more than 19 years of experience designing low impact development treatment systems, and six years of experience writing LID regulations and design manuals.

## Tuition

**\$319** for individual registration

**\$289** for three or more registrants from the same company at the same time.

**Included with your registration:** PDF Seminar Manual.

*A printed manual is available for an additional cost upon request. Please call to order.*

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# Additional Learning

## Bioretention System Design

- Wednesday, July 12, 2023 | 2:00 - 4:00 pm EDT

## Cool Roofs

- Thursday, July 13, 2023 | 2:00 pm - 5:15 pm EDT

## Design-Build Contracting: Focusing on AIA Contract Documents

- Thursday, July 20, 2023 | 10:00 am - 5:30 pm EDT

## Avoiding, Identifying and Resolving Ethical Issues in Land and Water Transactions

- Friday, July 21, 2023 | 3:00 - 4:00 EDT

## International Residential Code 2021

- Wednesday, July 26, 2023 | 9:30 am - 5:30 pm EDT

## PFAS Remediation in City Water Supplies

- Wednesday, August 2, 2023 | 2:00 - 5:00 pm EDT

## Decarbonizing Existing Buildings

- Thursday, August 10, 2023 | 11:00 am - 2:15 pm EDT

## Solar Photovoltaic Covered Parking Facilities

- Thursday, August 17, 2023 | 11:00 am - 1:00 pm EDT

For more information and other online learning opportunities visit:

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# Credit Information

This seminar and online webinar are open to the public and are designed to qualify for 6.0 PDHs for professional engineers, 6.0 HSW continuing education hours for licensed architects, and 6.0 HSW continuing education hours for landscape architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner §68.14(i)(2) and §69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The American Institute of Architects Continuing Education System has approved this course for 6.0 HSW LUs (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The Landscape Architecture Continuing Education System has approved this course for 6.0 HSW PDHs. Only full participation is reportable to the LA CES.

The International Code Council has approved this event for .6 CEUs in the specialty area of Sitework (Preferred Provider No. 1232).

This course has been approved by the Association of State Floodplain Managers for 6.0 CECs for floodplain managers.

Attendance will be monitored, and attendance certificates will be available after the course for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

## On-Demand Credits

The preceding credit information only applies to the live presentation. This course in an on-demand format may not be eligible for the same credits as the live presentation; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request:

6.0 HSW LUs (AIA) | 6.0 HSW PDHs (LA CES) | 6.0 ASFPM CECs