

# Agenda

*Presented by Chris Maxwell-Gaines, P.E.*

## Understanding and Implementing Principles of Low Impact Development

Understanding the status quo: conventional development and stormwater management  
Drawbacks of conventional approaches  
Origins of low impact development (LID) concept  
Principles of LID  
Benefits of LID for builders and municipalities

- Environmental benefits
- Public
- Municipal
- Developers

## State and Municipal LID Guidelines and Requirements

Reviewing state regulations and guidelines  
Reviewing municipal ordinances and guidelines  
Exploring sustainable certifications and designations

## Low Impact Development Site Planning

Environmental site design: natural resource assessment and evaluation  
Minimizing site disturbance  
Minimize stormwater runoff  
Development of site plan

## Ethical Issues, Sustainability and Low Impact Development

Meeting obligations to future generations  
Considering principles of social and environmental justice  
Impacting other species and their habitats

## Low Impact Development Integrated Management Practices

Choosing and designing integrated management practices (IMPs)

- Bioretention
- Dry wells
- Filter strips
- Vegetated buffers
- Level spreaders
- Vegetated swales
- Rain barrels
- Rain gardens
- Cisterns
- Infiltration trenches
- Pervious concrete/permeable pavers

## Pollution Prevention, Maintenance and Public Education

Pollution prevention techniques  
LID infrastructure maintenance  
LID public education and awareness

**Low Impact Development**  
Austin, TX - Thursday, January 16, 2020

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## Learning Objectives

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

**Learn** about origins and principles of the low impact development concept.

**Reference** and **comply** with state and municipal low impact development (LID) guidelines and practices.

**Minimize** site disturbance and stormwater runoff.

**Meet** obligations to future generations and consider principles of social and environmental justice.

**Review** integrated management practices including bioretention, vegetated buffers, filter strips, cisterns and pervious concrete.



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# Low Impact Development

*Austin, TX - Thursday, January 16, 2020*



**Learn** about origins and principles of the low impact development concept

**Explore** benefits of LID for builders and municipalities

**Study** low impact development site planning techniques

**Examine** ethical issues, including environmental and social justice issues

**Review** integrated management practices and LID infrastructure maintenance

## Continuing Education Credits

**Professional Engineers**  
6.5 PDHs,  
Including 1.0 Ethics Hour

**Architects & Landscape Architects**  
6.5 HSW CEPHs/CE Hours  
6.5 AIA LU|HSW  
6.5 LA CES HSW PDHs

**Certified Floodplain Managers**  
6.5 ASFPM CECs

**Contractors**  
Non-Credit Continuing Ed.



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# Faculty

**Chris Maxwell-Gaines, P.E.** *Innovative Water Solutions, LLC, Austin*

Mr. Maxwell-Gaines received a B.S. degree in Civil Engineering specializing in water and wastewater from Texas A&M University in College Station. After college, he and his wife joined the U.S. Peace Corps and accepted volunteer positions in Suriname, South America. They were assigned to the remote village of Godo Olo which is located in the Amazon rainforest, deep in the interior of Suriname. They helped the village implement a water well project, provided after-school tutoring, and provided business training for the villagers. They spent 27 months serving in the Peace Corps. After returning to Austin in 2002, Mr. Maxwell-Gaines worked at a civil engineering firm that provided a breadth of project experience ranging from TMDL computer modeling projects for impaired streams in Texas, to subdivision design, to water and wastewater treatment plant design. He became a licensed engineer in 2007. In 2004, Mr. Maxwell-Gaines started Innovative Water Solutions LLC. IWS is a design/build water conservation company that focuses on the nexus of stormwater management and water conservation. The company designs and installs rainwater/stormwater collection systems, stormwater management systems including green infrastructure, and graywater reuse systems, as well as efficient irrigation systems and water conservative landscaping for residential and commercial projects.

To date, Innovative Water Solutions has installed more than 6,500,000 gallons of rainwater storage capacity across the state of Texas. Mr. Maxwell-Gaines has designed rainwater harvesting systems for numerous municipalities and institutions including: Texas A&M University; The University of Texas at Austin; City of Austin; Austin Independent School District (Texas); Wimberley Independent School District (Texas); Hays Consolidated Independent School District (Texas); Atmos Energy; Denton County, Texas; City of New Braunfels; San Jacinto River Authority; SeaWorld; Texas Department of Transportation; and Texas Parks and Wildlife.

# Seminar Information

**Hilton Garden Inn Downtown**  
500 North Interstate 35  
Austin, TX 78701  
(512) 480-8181

Registration  
8:00 - 8:30 am  
Morning Session  
8:30 am - 12:30 pm  
Lunch (on your own)  
12:30 - 1:30 pm  
Afternoon Session  
1:30 - 4:30 pm

**Tuition**  
**\$289** for individual registration  
**\$269** for three or more registrations.

**Included with your registration:**  
*Complimentary continental breakfast and printed seminar manual.*

**Receive a reduced tuition rate of \$101** by registering to be our on-site coordinator for the day. For availability and job description, please visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org).

**How to Register**

- Visit us online at [www.halfmoonseminars.org](http://www.halfmoonseminars.org)
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

**Cancellations:** Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the self-study package. You may also send another person to take your place.

**Continuing Education Credit Information**  
This seminar is open to the public. It offers 6.5 PDHs (including 1.0 ethics hour) to professional engineers in all states. Educators and courses are not subject to preapproval in Texas.  
  
This course offers 6.5 HSW CEPHs to Texas architects and landscape architects. Educators and courses are not subject to preapproval in Texas.  
  
The American Institute of Architects Continuing Education System has approved this course for 6.5 LU|HSW (Sponsor No. J885), and the Landscape Architecture Continuing Education System has approved it for 6.5 HSW PDHs. Only full attendance can be reported to the AIA/CES and LA/CES. Educators and courses are not subject to preapproval in Texas. Visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org) for complete AIA/CES information under this course listing.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers, architects and landscape architects.

# Additional Learning

**Webinar Series**  
**National Electrical Code:**  
**Onsite Power Generation and Distribution**

- Part I**  
Wed., Dec. 4, 2019, 11:00 AM - 2:15 PM CST
- Part II**  
Thurs., Dec. 5, 2019, 11:00 AM - 2:15 PM CST

  
**Floodplain Mapping and Regulation**

- Floods, Floodplains and Introduction to Floodplain Management**  
Wed., Dec. 4, 2019, 11:00 AM - 12:30 PM CST
- Flood Maps and Flood Zones**  
Wed., Dec. 4, 2019, 1:00 - 2:30 PM CST
- Elevations in the National Flood Insurance Program (NFIP) and Floodplain Regulation**  
Thurs., Dec. 5, 2019, 11:00 AM - 12:30 PM CST
- Practical Floodplain Management**  
Thurs., Dec. 5, 2019, 1:00 - 2:30 PM CST

  
For more information and other online learning opportunities visit:  
**[www.halfmoonseminars.org/webinars](http://www.halfmoonseminars.org/webinars)**

The Association of State Floodplain Managers has approved this event for 6.5 CECs. ASFPM approval qualifies this program for Texas floodplain managers.

This course offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any state contractor licensing entity.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

**Can't Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!**  
Audio recordings of this seminar are available for purchase starting at \$269. See registration panel 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.

# Registration

**Low Impact Development**  
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How to Register	Registrant Information		
<b>Online:</b> <a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a>	Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____		
<b>Phone:</b> 715-835-5900	<b>Additional Registrants:</b> Name: _____ Occupation: _____ Email: _____ Phone: _____		
<table><tr><td><b>Fax:</b> 715-835-6066</td><td><b>Code:</b></td></tr></table>	<b>Fax:</b> 715-835-6066	<b>Code:</b>	Name: _____ Occupation: _____ Email: _____ Phone: _____
<b>Fax:</b> 715-835-6066	<b>Code:</b>		
<b>Mail:</b> HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	Occupation: _____ Email: _____ Phone: _____		
<b>Complete the entire form.</b> Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.		
( )  I need special accommodations. Please contact me.			

**Tuition**  
( ) **I will be attending the live seminar.** Single Registrant - **\$289.00**. Three or more registrants from the same company registering at the same time - **\$269.00** each.  
( ) **I am not attending.** Please send me the self-study package:

- ☐ Downloadable MP3 Audio/PDF Manual for **\$269.00**.
- ☐ CD/Manual Package for **\$289.00**.
- ☐ USB/Manual Package **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

**Checks:** Make payable to HalfMoon Education Inc.  
**Credit Card:** *Mastercard, Visa, American Express, or Discover*  
Credit Card Number: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_ CVV2 Code: \_\_\_\_\_  
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