

INTRODUCTION TO SUSTAINABLE SITES is a statewide, section by section, event hosted by the NC Chapter of the American Society of Landscape Architects (NCASLA) in partnership with the US Green Building Council, ASLA, and NC State & NC A&T University Landscape Architecture Departments. The Mountain Section event will feature a core *Introduction to Sustainable Sites* presentation, ecosystem service design presentations, and an exclusive tour of the Sierra Nevada Brewing Co. LEED Platinum brewery and grounds. FREE for students, with limited seating available.

**REGISTRATION REQUIRED.** TO REGISTER CLICK [HERE](#)

MONDAY, NOVEMBER 5TH, AGENDA:

- 1:45-2:15**     **Registration**
- 2:15-2:30**     **Introductions**
- 2:30-3:00**     **Sierra Nevada Brewery, LEED Platinum design, (Owner Rep, Design Team, Facilities)**
- 3:00-4:00**     **Tour- Sierra Nevada Brewery, LEED Platinum**
- 4:00-5:00**     **Core Intro to Sustainable SITES, Jesse Turner, PLA , Lifte[ED] & Sarah Parsons, Doctoral Candidate, NCSU**
- 5:00-5:30**     **The Ecology of SITES, Sarah Parsons, NCSU, Doctoral Candidate**
- 5:30-6:00**     **A Case Study in Biomimicry Design: Furman University's Lake Restoration Project, Rick Huffman, Earth Design**
- 6:00-8:00**     **Networking**

LOCATION: Sierra Nevada Brewing Co., 100 Sierra Nevada Way, Mills River, NC 28732

CEUs: 3.5 NCBOLA--Approved. LEED AP, SITES AP & AIA--Submitted

PRESENTERS: Jesse Turner, PLA, Lift[ed] Design; Sarah Parsons, NCSU Doctoral Candidate; Sierra Nevada Brewery Design & Owner team; Rick Huffman, Earth Design

SITES was created as an interdisciplinary effort to develop guidelines and a voluntary rating system for sustainable land design, construction and maintenance. The SITES program began in 2006 as a joint collaboration between the United States Botanic Garden, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin, and the American Society of Landscape Architects. The presentation will begin by looking at the background and context for the development of the Sustainable Sites Initiative program and the overarching concepts and goals of sustainable and regenerative land design. This discussion will include a look into two North Carolina SITES Pilot Projects, an introduction to the SITES v2 Rating System and SITES as a tool for design collaboration in development industries. We will look at the framework for the SITES Rating System, based on the concept of ecosystem services; or, the benefits that are provided by the natural, ecological processes working all around us and that support our lives. Aside from those direct impact benefits, other non-direct benefits of SITES include recreation and a sense of place, and cultural services that improve human health and well-being.



MOUNTAINS, Asheville, NC (11/05)  
CHARLOTTE, Charlotte, NC (11/06)  
TRIAD, Greensboro, NC (11/07)  
TRIANGLE, Raleigh, NC (11/08)  
COASTAL, Wilmington, NC (11/09)



Meg Calkins, FASLA, is Head of the Landscape Architecture Department at North Carolina State University. She is the author of the book *Materials for Sustainable Sites* and editor of the *Sustainable Sites Handbook*. As one of the founding members of the Sustainable Sites Initiative (SITES), Calkins has taken an active leadership role in development and implementation of the Standard since 2003. She is a frequent Contributing Editor to *Landscape Architecture* magazine writing several articles on site construction materials and exemplary designed works.

**Charlotte & Triangle Sections**



Emily McCoy, PLA, ASLA, SITES AP, is the Director of Integrative Research and an Associate Principal at the ecological planning and landscape architectural firm Andropogon Associates, located in Philadelphia and Raleigh, NC. As Director of Integrative Research and professor of practice at NC State University, Mrs. McCoy strives to contribute to the knowledge base of landscape architecture by exploring the interplay between professional practice and landscape performance research. Through her practice, she has been able to integrate research and design through such projects as the US Coast Guard Headquarters, Washington, DC; Shoemaker Green, University of Pennsylvania; Sidwell Friends School, Washington, DC; and Phipps Conservatory's Center for Sustainable Landscapes, Pittsburgh, PA.

**Triad & Coastal Sections**



Jesse Turner, PLA, is a professional landscape architect (PLA) and a teacher. His work includes multiple awards and highly visited public landscape architecture projects in places such as Duke Gardens at Duke University, the North Carolina Museum of Art, North Carolina State University, the North Carolina Botanical Garden, Minnesota Landscape Arboretum at the University of Minnesota, and more. His firm, Lift Environmental Design, combines design excellence with ecologically sensitive design and evidence-based approaches to problem-solving. His work has been the topic of sustainability case studies, most recently by the Landscape Architecture Foundation's Case Study Investigation Program, and is known to exhibit high standards of quality and performance. Jesse is also a steering committee member of the Cullowhee Native Plants Conference at Western Carolina University, which is dedicated to deepening the knowledge of natural systems in efforts to protect and create ecologically sustainable landscapes.

**Mountain, Charlotte & Triangle Sections**





Sarah Parsons, PHD Candidate, NC State University, is an entomologist and sustainable landscape consultant, who specializes in SITES Certification. Sarah is currently pursuing her PhD at NC State University, where she is evaluating the effects of sustainable landscape design principles on pest management of urban trees. She has worked as a consultant for two pilot projects in the Triangle area of North Carolina, including the Charlotte Brody Discovery Garden at Duke Gardens and Raleigh's Horseshoe Farm Nature Preserve. As a consultant she advises clients and landscape architects on how best to achieve certification through design, construction, and maintenance and manages all the documentation for the certification process. Sarah also worked as a SITES reviewer for the pilot phase of SITES. Sarah hopes to continue her research on sustainable landscapes upon the completion of her PhD program. She also hopes to teach ecology at a liberal arts institution to the next generation of landscape designers, researchers, and policy makers. Sarah has her Masters of Environmental Management (MEM) from Duke University, and her B.A. in Environmental Studies from Emory University.

**Mountain & Triad Sections**



Eric Davis, PLA, Vice President, LEED AP, at Surface 678. He brings 22 years of award-winning experience in landscape design, master planning, recreational design and community planning. Eric's work reflects his goal to impact the community through the creation of healthier, more resilient and socially and physically accessible outdoor environments. As a LEED Accredited Professional, Eric has worked on over a dozen LEED Certified projects. Eric was a member of the design team for the National Association of Realtors Building in Washington D.C., the capital's first LEED Accredited New Construction Project completed in 2004. As lead designer on Horseshoe Farm Nature Preserve, Eric worked with the City of Raleigh to submit the project to the SITES Pilot Program. The project received certification and serves as both a reference and a benchmark for future parks projects throughout the United States. Most recently, NCASLA awarded Horseshoe Farm Nature Preserve a Merit Award in the General Design Category.

**Triangle & Coastal Sections**



### **Charlotte Brody Discovery Garden, Duke Gardens, Durham, NC, 2-Star SITES Certified**

The Charlotte Brody Discovery Garden sits within the 55-acre Sarah P. Duke Gardens on the Duke University campus. The Discovery Garden is part of a larger mission to reinvest in the overall gardens and increase their impact within the local community. The garden stands as a legacy to Charlotte Brody, a passionate organic gardener who was interested in teaching community members how to grow their own food. At just under 1 acre, the garden illustrates what is possible on small, residential-scale parcels. In the Discovery Garden, visitors are exposed to organically grown fruit and vegetables, bee keeping, plant/insect relationships, sustainable stormwater management, and the importance of balancing human production and natural processes. The garden donates organically grown produce to local food banks, totaling over 2,000 lbs annually.

Leveraging Duke Garden's vision of sustainability, the Discovery Garden participated in the Sustainable SITES Initiative pilot program, where it received two stars becoming one of the first 14 certified projects in the nation and the first in the State of North Carolina. Following SITES certification, the project was the subject of a successful Landscape Architecture Foundation Case Study Investigation.

The design team was led by landscape architect, Jesse Turner of Lift Environmental design, in collaboration with a team of consultants and Duke Gardens staff. This compelling landscape highlights ecosystem services as the main garden attraction, and welcomes over 10,000 visitors annually.



### **Horseshoe Farm Nature Preserve, Raleigh, NC, 2-Star SITES Certified**

Surface 678 worked with the City of Raleigh to create a model public recreation and environmental education facility grounded in resource conservation and sustainable development principles. Horseshoe Farm Nature Preserve is situated above a dramatic oxbow formed by the Neuse River and is a showcase for innovation in sustainability and low impact park development and management practices. The 146-acre site, designated a State Natural Heritage Area, its rich cultural history and the preservation and enhancement of its large open meadow, mature forested slopes, wetlands and shoreline environments are key programming features. All park structures are designed “off-the-grid,” served by green, alternative energy systems, wastewater treatment terraces and on-site water sources to present unique interpretive and demonstration opportunities. Storm water runoff is treated in a decentralized fashion, utilizing bioretention rain gardens, porous pavements and vegetated swales. The trails in the park access the 27-mile City of Raleigh Neuse River Greenway.

Horseshoe Farm Nature Preserve was selected as one of the initial projects to participate in the ASLA’s program testing the nation’s first rating system for green site design, construction and maintenance - the Sustainable Sites Initiative (SITES). The selection was based on its extensive environmentally friendly approaches – protecting and enhancing a variety of habitats, minimizing site disturbance, implementing sustainable building systems, treating and recycling storm and waste water on site and promoting environmental education. The pilot program evaluated the new SITES rating system for sustainable landscapes and site development, designed as a complement to the LEED certification process. Upon its final adoption, the USGBC anticipates incorporating the SITES guidelines and performance benchmarks into future iterations of its Green Building Rating System.



### **Sierra Nevada Brewery, Asheville, NC, LEED Platinum Presentation & Tour**

In June 2016, Sierra Nevada Brewing Co. was the first production brewery in the US to be LEED® certified, Platinum —the highest level awarded—for its Mills River, North Carolina, brewing facility. By including brewing equipment in energy model calculations, Sierra Nevada took the certification further than any other brewery has before. Many of the brewery’s design aspects and construction innovations were simply the right thing to do and were part of the plan before we decided to pursue LEED® certification. Having a third party organization verify and validate these efforts is essential in creating a more sustainable built environment and recognizes Sierra Nevada’s founding commitment to environmental stewardship.

Spending time in the great outdoors is inherently sustainable – it gets you moving and develops connections with your environment. Our culture has always been deeply rooted in nature; our name itself pays homage to the spectacular mountain range that first inspired our founder, Ken Grossman.

#### **Mills River Forest Restoration**

When we took a closer look at the forest on our Mills River, NC, property, we found it was actually quite unhealthy. One of the first teams in place at the brewery was our Natural Resources Department which was tasked with bringing the forest back to a healthy state by removing non-native and invasive species, supporting the health of the existing native plants and replanting cleared areas.

#### **Mills River Recreation**

With Mills River’s breathtaking forest setting, we wanted to balance work with outdoor play. Our amphitheater allows visitors to enjoy live music while breathing in the Carolina air, and outdoor patios behind the brewery provide an inviting place to sit back, relax and enjoy the view.





**Sarah Parsons, PHD Candidate, NC State University**, is an entomologist and sustainable landscape consultant, who specializes in SITES Certification. Sarah is currently pursuing her PhD at NC State University, where she is evaluating the effects of sustainable landscape design principles on pest management of urban trees. She has worked as a consultant for two pilot projects in the Triangle area of North Carolina, including the Charlotte Brody Discovery Garden at Duke Gardens and Raleigh's Horseshoe Farm Nature Preserve. As a consultant she advises clients and landscape architects on how best to achieve certification through design, construction, and maintenance and manages all the documentation for the certification process. Sarah also worked as a SITES reviewer for the pilot phase of SITES. Sarah hopes to continue her research on sustainable landscapes upon the completion of her PhD program. She also hopes

to teach ecology at a liberal arts institution to the next generation of landscape designers, researchers, and policy makers. Sarah has her Masters of Environmental Management (MEM) from Duke University, and her B.A. in Environmental Studies from Emory University. [Moutain, Charlotte & Triad Sections](#)

### **The Ecology of SITES.**

SITES prioritizes native plants and increasing biomass on landscapes... but why? This presentation will speak to the ecological theory and assumptions on which many of the SITES' vegetation credits are based. This presentation will also highlight ways that the SITES vegetation credits can look beyond the plant level and consider landscapes that serve higher trophic levels. How can we start designing metrics, for example that increase pollinator visitation on sites? How can we create landscapes that attract beneficial insect predators that can ultimately help reduce pesticide use? This presentation will have a plant-insect interaction focus to ask larger questions about how we can build and measure landscapes that function not only for humans, but the other organisms that utilize them.





**Rick Huffman, ASLA, USGBC MLAB, LEED GA**, is principal and founder of Earth Design a leading Environmental Design and Landscape Architecture firm with over 30 years of experience in landscape architecture, environmental design, horticulture, bioengineering, and ecology. Mr. Huffman approach to design incorporates science, ecology, and art while creating functional spaces that also heal and inspire. Mr. Huffman was co-author of 'Life at the Water's Edge' which received Natural Resource Publication of the Year in 2006. Currently, he serves on the US Green Building Council's MLAB, Green Ribbon committee for city of Greenville and Greenville County's 5R BMP committee focused on water quality. He was named the Upstate Forever Volunteer of the Year for 2010 and received the 2003 Environmental Educator of the Year Award from the Environmental Educators Association of South Carolina. In 2006, Mr. Huffman received the

Governor's Award for Environmental Awareness for his educational outreach and conservation efforts across the state. He also is founder and past president of the South Carolina Native Plant Society. [Mountain, Charlotte & Triad Sections](#)

**A Case Study in Biomimicry Design: Furman University's Lake Restoration Project.** This program will frame the SITES paradigm shift in designing and implementing landscapes that are botanically diverse, that value water and soils, and that function as part of eco-system services. Mr. Huffman will focus on 'How' we can utilize the science of myco-remediation and phytoremediation as design tools to heal our soils and clean our water. He will demonstrate how applied ecology or biomimicry is a foundational holistic approach to landscape design that strives to create living systems that expand awareness and acceptance of different outcomes. Through the integrated process and education, we can produce high quality, visually pleasing landscapes that give back by supporting all trophic levels of landscape ecology. The program will use Furman University's Lake Restoration project as a case study that demonstrates campus watershed design, stormwater mitigation, bio-engineering, riparian buffers, and plant communities as integral design applications. In addition, the program will address implementation and maintenance practices for natural systems.



# INTRODUCTION TO SUSTAINABLE SITES

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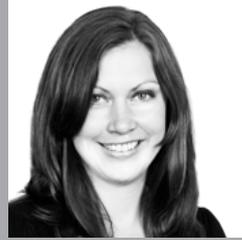
### THANK YOU CORE PRESENTERS!



**Meg Calkins**  
FASLA, NC  
State University,  
Landscape  
Architecture  
Department Head  
Charlotte & Triangle



**Jesse Turner**  
PLA, Lift  
Environmental  
Design, Professor  
of Practice, NC  
State University  
Mountain, Charlotte  
& Triangle



**Emily McCoy**  
PLA, SITES AP,  
Associate Principal,  
Andropogon  
Associates,  
Professor of Practice,  
NC State University  
Triad & Coastal



**Eric Davis**  
PLA, Vice  
President, LEED AP,  
Surface 678  
Triangle & Coastal



**Sarah Parsons**  
PHD Candidate,  
Entomology, NC  
State University  
Mountain & Triad



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### THANK YOU EVENT CONTRIBUTORS!



**Stephanie Kelly**  
NCASLA Event  
Coordinator &  
Coastal Section  
Chair



**Debora  
Steenson**  
NCASLA  
Manager



**Dr. Gunwoo Kim**  
NC A&T  
University &  
NCASLA Triad  
Section Liaison



**Jessica Wilson**  
USGBC  
Carolinas Project  
Manager



**Katie Riddle**  
ASLA  
Professional  
Practice Senior  
Manager



**Leslie  
Bartlebaugh**  
NCASLA  
Communications



**Josh Karrick**  
NCASLA  
Mountain  
Section Chair



**Katie Lloyd**  
NCASLA  
Charlotte  
Section Chair



**Blake Hall**  
NCASLA  
Triangle  
Section Chair



**Rick Huffman**  
USGBC, MLAB



**Lora Greco**  
NCASLA  
President



**Dr. Larry  
Cahoon**  
UNCW Marine  
Biology





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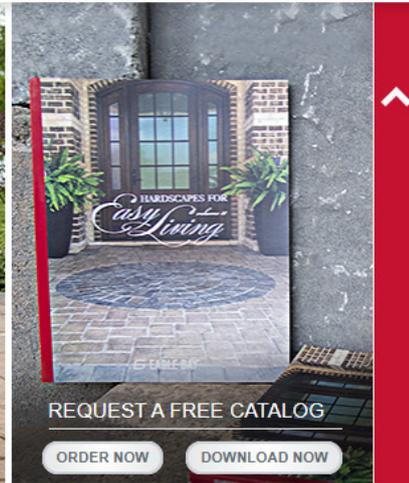
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