

2017 BSCES Sustainability in Civil Engineering Award Winner: Yentile Farm Recreational Facility

by Melissa Carter, PE, Director of Project Management, Stantec and Chair of the BSCES Committee on Sustainability

The BSCES Committee on Sustainability has selected the Town of Wilmington to receive its 2017 Sustainability in Civil Engineering Award (small project category) for the Yentile Farm Recreational Facility project. The award will be presented at the BSCES annual awards dinner to be held later this year. This is the third year that BSCES has solicited nominations, convened a judging panel, and selected an esteemed recipient.

The Yentile Farm Recreational Facility includes a multi-use turf field, basketball courts, open green space, playground, concessions building, parking, landscaping, and a hard-surfaced path throughout the facility and incorporates multiple social, environmental and economic sustainable principles. To learn more about this project, please read Danielle Spicer's article included in this newsletter "Yentile Farm Recreational Facility: Promoting Sustainable Land Use Development."

About the BSCES Sustainability in Civil Engineering Award

BSCES through its Committee on Sustainability will soon be seeking nominations for the 2018 BSCES Sustainability in Civil Engineering Award. This award will be presented at the annual BSCES Awards Dinner in 2018. The award will recognize a Massachusetts civil engineering project constructed within the last three years that exemplifies the principles of sustainability espoused by the Institute of Sustainable Infrastructure (ISI). Project nominations will be accepted beginning in January 2018 and will then be evaluated by an independent judging panel. Submission guidelines and evaluation criteria will be published in future newsletters and posted on the BSCES website.

President's Report

by Malek A. Al-Khatib, PE, Vice President, Louis Berger



The engineering community is facing major challenges as consequences of the devastation caused by hurricanes, floods, fires, and earthquakes in North America and the Caribbean.

The loss of life, property, and infrastructure is beyond belief in this 21st century. The debilitated infrastructure in many communities compromised their resiliency and exacerbated the conditions and loss of life. Those whose lives have been ravaged by these disasters, please accept our sincere condolences. Our profession will respond with improved, safer, and more resilient infrastructure to minimize damages and fatalities in the future.

Facing these challenges requires each of us to aspire to greater efficiency, stronger partnerships, and more cooperation. Engineers who provide emergency support services to FEMA are stretched to the limits. BSCES gives us an ideal

opportunity to provide additional resources. BSCES is collaborating with the Structural Engineers Association of Massachusetts (SEAMASS) and the Boston Society of Architects (BSA) in developing an emergency program that supports the Massachusetts Emergency Management Agency's (MEMA) efforts in our state. Such support could be extended to other states as needed. I challenge each of our members to share your skills and talents with each other and the country. Please contact me at president@bsces.org and I will assist in making sure your talent and skills are placed in best use to support our community.

In line with sharing resources and talent, I'm pleased that our members will have the opportunity to participate in our new Mentor Program. Companies provide internal mentoring programs and engineers share experience with their colleagues at the workplace. However, this is limited to the collective knowledge

UPCOMING EVENTS

SEI Boston Chapter Lecture Series
October 24 and November 7, 2017

EWRI Boston Chapter and BSA Event
October 26, 2017

Southeastern Massachusetts Committee
Lunch Event
October 27, 2017

Charles C. Ladd Memorial Lecture
November 6, 2017

ASCE and BSCES Sponsored Seminar
November 9 – November 10, 2017

Further Details Inside



2017-18 Society Sponsors:

AECOM



Louis Berger

earthsoft



Robinson+Cole

available within the office or company. Having a technical and professional mentor outside the workplace eliminates the inherent company barriers and career advancement limitations.

The Mentor Program will make the vast resources at BSCES available to all members. As a member who may be expanding your skills, looking for more opportunities to showcase your expertise, seeking networking opportunities, or seeking to partner with other engineers or firms, BSCES has the resources and opportunities for you to achieve your goals. As presently envisioned, our Mentoring Program will allow engineers to meet, work together, and partner on challenging professional and business opportunities. Based on what members have requested, this will be a benefit for all who participate. Whatever your stage of your career, you can participate actively in either obtaining a mentor or being a mentor.

continued on page 8

President: Malek A. Al-Khatib, PE

President-Elect: Geoffrey B. Schwartz, PE

Secretary: Shallen C. Fitzgerald, PE

Treasurer: Robert L. Leger, PE

Assistant Treasurer: Gregory L. Mirliss, PE

Senior Vice Presidents: Richard D. Maher, PE;
Bruce L. Jacobs, PhD, PE

Vice Presidents: Christopher "Topher" Smith, PE;
Charles W. Roberts, PE

Past President: Brian A. Morgan, Esq.

Western MA Branch Vice President: Vacant

Institute Chapter & Technical Group Chairs

COPRI Boston Chapter: Ryan M. McCoy, PE

Construction Institute Boston Chapter: Hans T. Kuebler, EIT

Engineering Management Group: Jason R. Coy, PE

EWRI Boston Chapter: Ronald K. Burns, PE

Geo-Institute Boston Chapter: David W. Finocchio, PE

SEI Boston Chapter: Shahvir M. Vimadala, PE

T&DI Boston Chapter: Bryan Zimolka, PE

Younger Member Group: Jessica Wala, PE

BSCES Newsletter Editorial Board

Malek A. Al-Khatib, President@BSCES.org

Bonnie Ashworth, bmcash@aol.com

Ronald K. Burns, PE, LSP, rburns@arcadia-tec.com

John C. Cavanaro, PE, JCavanaro@cavanaroconsulting.com

Annahid Dastgheib-Beheshti, EIT, annahidb@gmail.com

Jessica DeBellis, PE, jdebells@geiconsultants.com

Michael R. Cunningham, PE, MCunningham@kleinfelder.com

Shallen C. Fitzgerald, PE, Secretary@BSCES.org

Richard F. Keenan, rkeenan@engineers.org

David M. Manugian, PE, dmanugian@bedfordma.gov

Angus J. O'Leary, PE, GOleary@kleinfelder.com

Matthew I. Shuman, PE, mshuman@watertown-ma.gov



Boston Society of Civil Engineers Section/ASCE

The Engineering Center, One Walnut Street, Boston, MA 02108

Phone: 617/227-5551, Fax: 617/227-6783

Email: bscses@engineers.org, Website: www.bscses.org

BSCES' newsletter, *BSCESNews*, is designed to provide information and opinion in regard to the subject matter covered. BSCES and its Board assume no responsibility for statements made or opinions expressed in this publication. It is published with the understanding that the Board and the authors are not engaged in rendering legal, accounting or other professional services. If assistance is required, the services of a competent professional should be sought. The Newsletter Editorial Board encourages reproduction of *BSCESNews* with appropriate acknowledgment. © 2017 BSCESNews.



Boston Society of Civil Engineers



Yentile Farm Recreational Facility: Promoting Sustainable Land Use Development

by Danielle Spicer, PE, LEED AP, ENV SP, Senior Project Manager, Green International Affiliates, Inc.

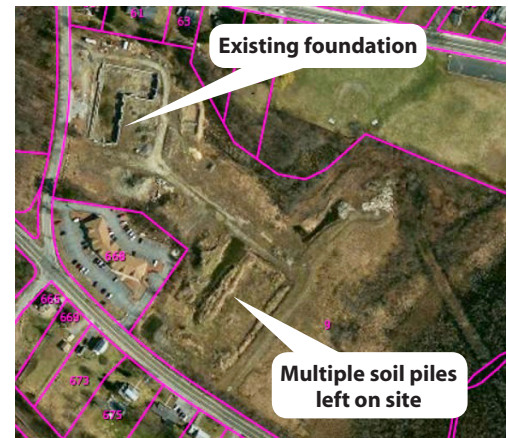
Acknowledging the inseparable relationship between climate change and both the built and natural environments, it is becoming more and more important to incorporate resilient and sustainable practices into proposed land use projects. The implementation of sustainable and low-impact development (LID) techniques can provide a healthier, more sustainable environment while also reduce construction and maintenance cost. Green International Affiliates, Inc along with their sub consultants (Stantec's Sports Group and GEI Consulting Engineers) worked for the Town of Wilmington to design a vibrant outdoor recreational facility on a property the town purchased in 2012 that had been neglected. The design of a new recreational facility for the Town of Wilmington that includes a multi-use turf field, basketball courts, open green space, playground, concessions building, parking, landscaping, and a hard-surfaced path throughout the facility has incorporated multiple social, environmental and economic sustainable principles that have allowed an abandoned, environmentally degraded site to become an energetic community space that meets the triple-bottom line of sustainability. The following is a breakdown of each of the sustainable principles that were incorporated into this project for the Town of Wilmington:

Social Sustainable Principles

When Wilmington purchased the property in 2012, the existing site was severely degraded after being abandoned in 2008 during construction of an over 55 housing development. The site lay in disrepair and was an eyesore in the middle of town until construction began on the Yentile Farm Recreational Facility project in 2016. Once Wilmington purchased the project, the town created a "Yentile Farm Committee" that included residents, whose goal was to come up with a master plan that would benefit the community's recreational needs. Wilmington held multiple meetings with the public to discuss the plan and receive resident input. The final master plan would turn this degraded and abandoned land into a thriving recreational area for all residents of the town (children and adults) to enjoy. To the right is an aerial photo of the disturbed site in 2011 and also a rendering of the proposed project in 2015.

Environmental Sustainable Principles

The project site is surrounded to the north and east by wetlands. Maple Meadow Brook borders the parcel to the east, and associated with the



Existing Conditions Aerial, 2011



Proposed Rendering, 2015

brook are wetlands, Riverfront Area and 100-Year Bordering Land Subject to Flooding. The following are the environmental sustainability principles that were incorporated into the design:

- **Protect land and ecosystems:** The entire parcel is approximately 20 acres; however, only 9 acres were developed. There were no direct impacts to any of the wetland resources onsite and no work was done within the 100-year floodplain. The limit of work was minimized to protect existing trees and shrubs on-site that provided a natural buffer and habitat adjacent to the wetlands.
- **Include LID stormwater management systems:** LID stormwater management systems include best management practices that maintain a site's existing hydrology, use decentralized components that manage stormwater close to the source, and maximize on-site infiltration to reduce runoff and

continued on page 3

Yentile Farm Recreational Facility

continued from page 2

landscape watering requirements. Some of these techniques include directing runoff via sheet flow, vegetation bio-filtration basins, implementing porous asphalt, and planting drought-tolerant plants.

- **Landscape the site appropriately:** Specially designed landscaping can both enhance an area's appearance and improve habitat. The Yentile Farm Recreational Facility project included the use of drought-tolerant plantings and the use of a meadow mix for the landscaped areas along the perimeter of the project. This area will not need to be mowed as often as similar areas with typical grass and the landscaping complements the natural wetland environment surrounding the site.



Figure 1. Rain Garden, 09/2017



Figure 2. Multi-use Turf Field, 09/2016

- **Creating Habitat:** The bio-retention basins constructed at the site are a sustainable way to mitigate stormwater runoff, and create habitat for butterflies, bees and other insects where natural habitat is diminishing. The Yentile Farm Recreational Facility project included swamp milkweed (*asclepias incarnate*) into the plantings to help support the Monarch Butterfly.

- **Removing Invasive Species:** Phragmites were present on the site in an isolated area. The contract specifications included removal and disposal of the invasive species as well as treatment of any soil within 20 feet of the phragmites.

Economic Sustainability Principles

The existing site was left in a state of disrepair. Not only was it an eyesore located in the middle of town, but no one was able to take advantage of its central location and recreational benefit. The proposed project provides a recreational playground area for children under 5, which was not offered previously in the town. The site provides a community space for people to gather either informally along the multiple walking paths or event green, or more formally for sporting events within the basketball/hockey or multi-use turf fields. In addition, the site had an abundance of topsoil located on-site. The contractor was able to provide an amendment to the topsoil to meet the project specifications so no new topsoil was imported; thereby reducing costs not only for provision of new material, but trucking costs as well.

A year later, the area is thriving with residents visiting and enjoying all aspects of the site. The rain gardens continue to thrive while treating stormwater runoff from the site. Below are pictures of the built site.



Figure 3. Playground, 05/2017



Figure 4. Pavilion, 05/2017

The Aldrich Center—where history and technology meet on Beacon Hill...



Two blocks from the State House and overlooking Boston Common, the Aldrich Center is the perfect venue for your next event. This historic building accommodates private functions and business meetings. BSCES members receive a 20% discount off our room rental rates.

Visit www.aldrichcenter.org
for more information.

Aldrich Center
ONE WALNUT STREET
Beacon Hill Boston, MA

2017 International Conference on Sustainable Infrastructure

By Melissa Carter, PE, Director of Project Management, Stantec, and BSCES Committee on Sustainability Chair

From October 26–28, civil engineers and other professionals from around the world will assemble in Brooklyn, NY for the International Conference on Sustainable Infrastructure (ICSI). This will be the third ICSI, sponsored by the American Society of Civil Engineers (ASCE) with support from many cooperating organizations.

This year's focus is "Sustainable Cities for an Uncertain Future 2017" with topics related to the issues of uncertainty in regard to the maintenance, redesign, and replacement of necessary urban infrastructure, brings together experts from the communities of civil engineers, construction managers, financial experts, technology developers, and government decision makers. What works in one urban center may or may not be entirely appropriate or possible for other cities on the same continent, or located in a different cultural and political context. This conference is expected to draw the leading experts and practitioners of sustainable infrastructure from an international audience.

Session highlights:

- Guiding Principles for Design and Construction Excellence
- Innovate for 2025 and Beyond—Do the Right Project
- Envision™ 101: The What, How, and Why
- Climate Change—Understanding Infrastructure Vulnerability
- How US Cities Are Approaching the UNSDG's (United Nations Sustainable

Development Goals

- Resilient by Design: Agency Approaches to Climate Resilient Infrastructure
- One City Built to Last: Transforming New York City's Buildings for a Low-Carbon Future
- Financing Sustainable Infrastructure
- Business Case for Sustainable Infrastructure
- Sustainable Infrastructure—Leapfrogging from Unreliable to 'Smart' in the Global South
- Building Capacity for Civil Engineering Leadership in Sustainability—We Need You
- Flash Talks: Engaging Young Professionals as Leaders
- Bridge to Vision 2025—Engineering Sustainable Solutions

The BSCES Committee on Sustainability is planning to send a committee member to participate in a workshop hosted by ASCE on October 25. The workshop is named "Act Locally: Workshop for Sustainability Leaders" from ASCE Sections, Branches, and Institutes" and the intent is to share methods and successes from their respective sections, branches and institutes; and to discuss ways to engage their membership and advocate for sustainability in civil engineering design and infrastructure planning. Our committee is always striving to improve our engagement and support of BSCES members in advocating for sustainable infrastructure and we are looking forward to learning from others to share their ideas here at home.

[Click here](#) to learn more about the conference.

Become a BSCESNews Contributor

Would you like to contribute to the newsletter of the oldest civil engineering society in the country? The BSCES Newsletter Editorial Board is seeking members who are willing to write articles for publication in *BSCESNews* or to join the Editorial Board.

Typically 300 to 700 words, *BSCESNews* featured articles are about technical topics or professional matters of interest to civil engineers. The December 2017 issue of the newsletter for example, will highlight the Geo-Institute Boston Chapter and feature one or more articles on the theme of Dams.

Editorial Board members meet monthly via conference call to plan upcoming issues of the newsletter. They also solicit, write and/or review newsletter articles.

For more information on how you can become a BSCESNews contributor contact BSCES Association Manager Rich Keenan at rkeenan@engineers.org or at 617/305-4110.

**EARN YOUR
MASTER'S
IN 1 YEAR**

**MERRIMACK COLLEGE
North Andover, MA**



**MASTER OF SCIENCE
IN CIVIL ENGINEERING**

- Evening classes
- Scholarships
- Faculty Mentoring

**WWW.MERRIMACK.EDU/GRADCE
GRADUATE@MERRIMACK.EDU**

Rainwater and the Fowler Clark Farm

by Jessica Wala, PE, LEED AP ND, ENV SP, Project Engineer, Nitsch Engineering and Steven Ventresca, PE, LEED AP BD+C, Project Manager, Nitsch Engineering

The Fowler Clark Farm (the farm), is a City of Boston Landmark located on Norfolk Street in Mattapan, and will be restored as headquarters and urban farming education and training center for the Urban Farming Institute. Rehabilitation plans include land areas cultivated for local food production with a greenhouse, farm stand, classrooms, and demonstration kitchen. This article addresses the approach for rainwater management to meet the Project's and the City of Boston's goals for improved water quality, while addressing the historical nature of the farm.

The streets of Boston were paved in the late 1700s and this, literally, paved the way for the Industrial Revolution to transform Boston through advances in transportation, economy, innovation, medicine, and society. However, this also contributed to a history of poor water quality in Boston's bodies of water. Paved roadways create impervious surfaces which have three major consequences:

Consequence 1: Rainwater can no longer naturally infiltrate through these surfaces to the below ground aquifer and replenish the groundwater tables, which is a crucial natural resource. Maintaining pre-development groundwater levels is also important within parts of Boston to protect the wood pile foundations of buildings from rotting.

Consequence 2: Rainwater flowing from the impervious surfaces carries away contaminants such as bacteria, phosphorus, lead, and Polychlorinated Biphenyls (PCBs), according to the Environmental Protection Agency (EPA). These pollutants discharge into water bodies, such as the Charles River, degrading river uses, poisoning fish, and increasing algal growth.

Consequence 3: Impervious areas prevent groundwater infiltration, causing the volume of rainwater flowing off site (the run-off volume) and the rate at which rainwater flows off site (the run-off rate) to increase significantly. This can have a detrimental effect on bodies of water. The City of Boston, along with many cities within the United States, has historically constructed combined sewer overflows (CSOs). CSOs combine sewage and rainwater in one culvert and direct the water to a treatment facility and include an emergency overflow system to a nearby water body. This polluted sewage rainwater mix is more likely to overload the system and overflow into water bodies, such as the Boston Harbor, because of the increased run-off volume and rate of rainwater discharging to the city's pipe systems.

Boston has already demonstrated leadership through decades of sewer separation projects, which have helped eliminate the discharge of untreated wastewater to Boston Harbor. These sewer projects separate the combined sewer pipe into a separate sewage pipe that flows to the Deer Island Wastewater Treatment Facility and separate rainwater pipe that flows to a water body. Despite these efforts, the Charles River, Neponset River, and Boston Harbor remain impacted during large rain events because of polluted urban rainwater run-off.

The Fowler Clark Farm is located within the Charles River Watershed, which means rainwater run-off from the farm eventually flows into the Charles River through a network of underground pipes. You may have seen the "Don't Dump: Drains to Charles River" plaques in the area.



Figure 1. Charles River BWSC Don't Dump Plaques. Source: The Charles Conservancy

There is a Total Maximum Daily Load (TMDL) set in place by the Environmental Protection Agency (EPA) for pollutants associated with rainwater discharges, including phosphorus and fecal coliform bacteria for the Charles River Watershed. According to the Massachusetts Office of Energy and Environmental Affairs, a TMDL is the greatest amount of a pollutant that a waterbody can accept and still meet water quality standards for protecting public health and maintaining the designated beneficial uses of those waters for drinking, swimming, recreation, and fishing. In order to comply with these requirements, the Boston Water and Sewer Commission (BWSC) has set in place goals and regulations for Boston projects as one part of a multi-pronged approach to address phosphorous discharges associated with rainwater run-off.

The Regenerative Design Group (the landscape architect) and Nitsch Engineering (the civil engineer) worked with BWSC to design a rainwater management system for the farm that contributes to Boston's efforts to provide cleaner, safer water.

continued on page 6



Simpson Gumpertz & Heger Inc. (SGH) is a national engineering firm that designs, investigates, and rehabilitates structures and building enclosures. We are always looking for talented engineering candidates for all of our offices.

SGH is an equal opportunity employer and values diversity in our work force. We are committed to providing equal opportunities to all job applicants and employees. We consider all qualified applicants, and encourage individuals with disabilities and protected veterans to apply.

www.sgh.com

SIMPSON GUMPERTZ & HEGER

Engineering of Structures
and Building Enclosures

Boston | Chicago | Houston | New York | San Francisco | Southern California | Washington, DC

Rainwater and the Fowler Clark Farm

continued from page 5

The farm's rainwater management system has two goals:

Goal 1: Get rainwater into the ground through groundwater infiltration techniques.

Goal 2: Treat the water that cannot be infiltrated into the ground to reduce the pollutants (primarily sediment and phosphorous) entering the city's pipe networks and eventually flowing into the Charles River.

Nitsch Engineering developed a rainwater management system for the farm that includes several Low Impact Development (LID) stormwater features to meet these goals and BWSC's regulations, while keeping in mind the unique nature of the historical site. The property consists of a historic house and barn, and it is one of the earliest, intact examples of agricultural properties in Boston and in urban centers across the Commonwealth. Archeological investigations determined two locations within the Property to have been potentially undisturbed since the house was built in 1786. In order to help preserve the historical site, Nitsch Engineering designed a rainwater system avoiding areas of archaeological significance.

The rainwater management system includes multiple infiltration trenches and bioretention basins. The infiltration trenches promote groundwater infiltration through clean stone and a filter fabric. The bioretention basins, often referred to as raingardens, treat rainwater through filtration and nutrient uptake by the plants, promote groundwater infiltration, and serve as visual amenities and educational opportunities. In fact, some of the bioretention basins on the farm will not only serve as rainwater treatment devices, but will also be used to grow plants and edible blueberries!

The infiltration trenches and the bioretention basins are designed to infiltrate and store the volume of water produced from a typical storm event, which is about one inch of rainfall. Run-off from the first inch of rainfall has the highest sediment and phosphorous pollutant load; by infiltrating the run-off from this first inch, the farm will significantly reduce the amount of pollutants flowing into to the city's pipe networks. The farm will also reduce the run-off volume and rate of the water discharging from the site into the city's pipe network system.

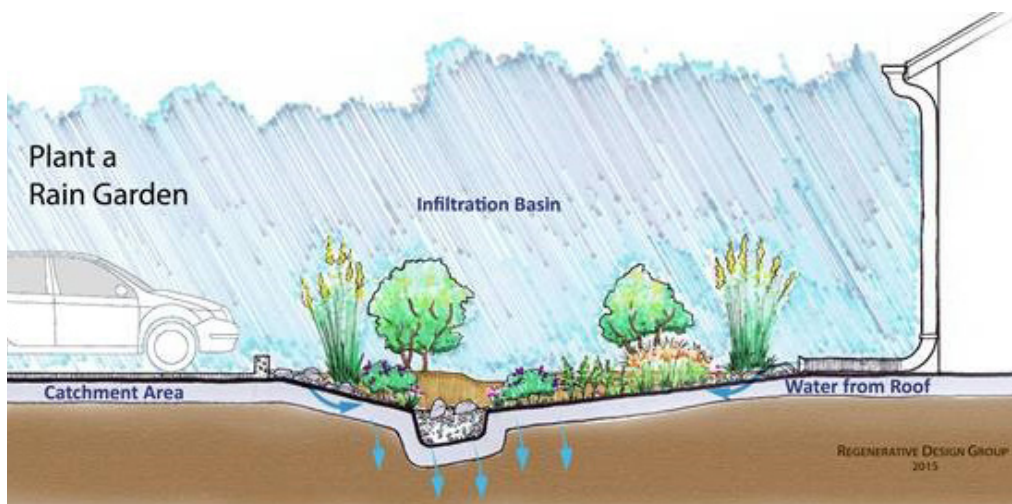


Figure 2. Plant a Rain Garden. Graphic by the Regenerative Design Group, 2015

In a typical rainfall event there is expected to be zero rainwater discharging from the farm into the city's system. The rainwater will be infiltrated into the ground or stored in the rainwater management system. During a larger rainfall event, the rainwater run-off volume and rate is expected to be about half of what it is today, and

the water that does discharge into the city's system, and ultimately into the Charles River, will be much cleaner than it is today.

This article was originally written for Historic Boston Incorporated's blog. [Click here to learn more about the Fowler Clark Epstein Farm Project.](#)

Northeastern University



Department of Civil and Environmental Engineering

Study Urban Engineering at Northeastern University

Full-time and Part-time Graduate Programs in:

- Construction Management
- Environmental and Water Systems
- Environmental Engineering
- Geotechnical Engineering
- Structural Engineering
- Sustainable Building Systems
- Transportation Engineering
- Engineering and Public Policy

Interdisciplinary research and education thrusts include:

Civil Infrastructure Security

Environmental Health

Sustainable Resource Engineering

For more information, contact

Northeastern University Department of
Civil and Environmental Engineering

617-373-2444 | civilinfo@coe.neu.edu | www.civ.neu.edu

Member Profile

Alyson Stuer, PE, M.ASCE, Receives Younger Member Award

by Bonnie Ashworth, Quincy, MA

Congratulations to Alyson Stuer who was recognized by BSCES with the 2016 Younger Member Award at its 168th annual awards dinner on November 14, 2016. The award is presented for having made an outstanding contribution to the BSCES. Alyson was nominated by a previous winner of the award who listed her considerable accomplishments and enthusiastically recommended Alyson.

Alyson's original career path didn't lead to civil engineering. She initially majored in physics and planned to teach at the high school level. But in her sophomore year of college, she shadowed a Turner Construction project manager who was working at the Mass General Hospital site, and she knew, "with certainty that I would be a civil engineer."

She changed her major and hasn't looked back. She earned her BSCE from Worcester Polytechnic Institute (WPI) in 2009 with high distinction. She spent two years at Northeastern University as an IGERT (Integrative Graduate Education and Research Trainee) Fellow, before returning to WPI to finish her MSCE in 2013. Her first CE internship, in the summer of her sophomore year, was with Watermark Environmental where she worked on an infiltration-inflow study at the Portsmouth Naval Shipyard. As she relates, she was out in the pouring rain in the middle of the night measuring flow velocities in sanitary sewer lines, and "I absolutely fell in love with the fieldwork." She returned for another internship, working with project managers on construction project management. Another summer internship, at Woodard & Curran where she worked with Joe Shea, confirmed her career path. She worked on a variety of projects but realized that she wanted to focus on bridges. She credits Joe with helping her develop her technical writing skills, a valuable asset.

While at WPI, she student-taught high school freshman physics and found teaching very rewarding. However, she realized that teaching "wasn't the same joy I'd found on a construction site." She took classes from Professor Leonard Albano in the Civil and Environmental Engineering department at WPI. He guided her through her junior year and was the adviser on her major-qualifying project, which awakened her love of bridges. He continues to be an important person in her life today.

Alyson began her career in bridge engineering at Steere Engineering, a DBE/WBE company in Rhode Island, as an intern and then full-time employee. It was a small company at the time; she watched it grow and loved the work, but "had a burning desire to

return to Boston where my friends and family were located," as she puts it. After a diligent search, she landed at C&C Consulting Engineers, another DBE and 8(a)-certified firm, where she was a civil and project engineer. Her purview included bridge design, feasibility studies, load ratings, design reviews, peer mentoring, and occasional trips out of the office and into the field for bridge and tunnel inspections.

The year 2016 was Alyson's year: she chaired the BSCES Younger Member Group (YMG), met her goal of being licensed, and moved to Alfred Benesch & Company where she works on bridge design and inspection, load ratings, design reviews, and construction services, in some cases. The firm approached her, and Ed Bauman, whom she'd met at a BSCES construction career day years before, drew her in with the North Washington Street (NWS) Bridge project, "an unbelievable signature bridge that I'm enthused to have a role in the design." She's been responsible for design development of the 1100-foot-long temporary utility and pedestrian bridge. It's a complicated undertaking that's been in the news because it's 117 years old, carries a key city artery, traffic is already disrupted because of other major construction projects in the area, and neighbors are concerned about the impact. Other recent projects include the design of a three-span continuous metalized plate girder bridge with splayed ends over the Westfield River in Agawam/West Springfield, and development of structural details for strengthening MBTA bridges so new transit vehicles can use existing bridges safely.

When asked about her favorite project so far, without hesitation Alyson names the Old Washington Bridge on the East Bay Bike Path, a multi-town trail in Rhode Island. She analyzed the existing structure, designed temporary bridge structures, and performed analysis of crane lifts on the existing and temporary bridges. It was early in her career; she could go and see what she'd designed, and feels "it was truly where I began to learn about real-life bridge engineering."

One of the themes running through Alyson's life is her appreciation of those who've mentored, helped, and served as examples to her in college and the work world. She in turn has been a mentor and volunteer. In Rhode Island she joined the section's younger member group, served as treasurer, and assisted in hosting the ASCE Eastern Region Younger Member Council (ERYMC). And then there's been her significant involvement in outreach with BSCES, beginning in 2009. She worked with a group from a



Alyson Stuer stands before the North Washington Street Bridge, a project she's been involved with, and that's going to be replaced starting next spring.

school in Worcester in the Future City Competition. The team won at the regional level and went on to compete in the nationals in Washington, DC. She has also volunteered for a number of activities, including STEM outreach to middle and high school students, Future City and Model Bridge Competitions, Geek is Glam WPI Girl Scout career event, and other one-day volunteer commitments. She belongs to the YMG and served as vice chair and then chair last year; currently she's serving on the nominating committee and as the Future City judge coordinator.

Worthy of its own paragraph is that Alyson and the YMG applied for and was awarded a Student Transition Activity (STAY) Grant in 2015, and she volunteered to organize the effort and formed a committee. It was no small task to get local college students and professionals together for a night of networking and mentoring in the spring of 2016. The committee produced an amazingly comprehensive, attractive, and helpful handbook, "BSCES Student Resource Guide," of need-to-know information for those about to enter the professional engineering world. The event was a great success, reflected in the bonding among participants and the number signing up for ASCE/BSCES memberships.

Alyson likes that being a structural engineer working on bridges ensures that no two projects will ever be the same. She best sums it up in her own words: "I find civil engineering to be especially challenging because it is not a strictly technical field with many stakeholders and impacts from outside sources... The constant challenges of finding the best solution keeps me engaged and passionate... The fact that bridges are vital to everyday life for all, provides a level of satisfaction that I am serving the public through providing safe passages."

The BSCES Awards Committee chose well in naming Alyson Stuer as the recipient of the Younger Member Award in 2016. She's established a solid basis for her civil engineering career, and there are so many projects, activities, and experiences on the horizon.

BSCES Legislative Fellow Update from Beacon Hill—190th Massachusetts Legislative Session

by Bryon S. Clemence, PE, 2017–2018 BSCES Legislative Fellow



The Joint Committee on Environment, Natural Resources and Agriculture continues to evaluate H. 2777. This is Governor Baker's proposed bill to allow Massachusetts to administer the federal National Pollutant Discharge Elimination System (NPDES) permit program. A hearing was scheduled for October 10. Representative Carolyn Dykema spoke on H. 2777 before the 495/MetroWest Partnership on August 31. Bethany Card, MassDEP Deputy Commissioner, was the other speaker.

I have been providing input to legislators on this bill. The NPDES program applies to surface water discharges from municipal and industrial wastewater treatment plants, municipal stormwater systems (separate and combined), and certain industrial stormwater systems, federal facilities, and large construction sites. Massachusetts is one of four states that is not approved by EPA to administer this program. Generally, MassDEP and municipalities support this bill, and environmental groups oppose it.

However, I don't see a consensus on why this bill is a good idea, or a bad one.

Further information on specific bills is available on the [Legislature's website](#). There are links to legislators, bills, hearings, and session laws.

Last month, the Joint Committee on Transportation held a hearing on September 18. It included bills pertaining to aeronautics, Massport, MBTA/commuter rail, and bridge namings.

The Joint Committee on Environment, Natural Resources and Agriculture held a hearing on September 19. It included bills pertaining to wastewater/Title 5, solid waste, underground storage tanks, and wetlands/tidelands.

In related news, Representative William Strauss, the House Chair of the Joint Committee on Transportation, was a panelist at a BSCES presentation on infrastructure entitled MA Legislative Update. This was hosted by the Transportation & Development Institute Boston Chapter on September 28. He and his fellow panelists generally foresee large changes in how transportation infrastructure is funded.

Revenue from motor vehicles is expected to change with less reliance on fossil fuels, changes in vehicle miles traveled, and changes in vehicle ownership. Other funding issues discussed that night were the Trump administration's recent backing off from public-private partnerships (P3s) and its inability to find new revenues for his infrastructure plan.

The Working Group for the North-South Rail Link (NSRL) met at the State House on September 28. MassDOT is conducting a feasibility study of a deep tunnel linking North and South Station rail service. The Working Group is a group of advocates chaired by former Governor Michael Dukakis. It meets regularly at the State House and is holding community forums throughout eastern Massachusetts. It includes legislators, state and municipal officials, industry representatives, and environmental groups. In many ways, the group's goals are more about regional transit improvements than about simply connecting the two rail stations. The first of three public meetings will be on October 17, from 6:30 to 8:30 PM, at 290 Congress Street.

President's Report

continued from page 1

Some engineers may do both. It is personally rewarding, professionally recognized, and most importantly, we enjoy the camaraderie and friendships that are established along the way.

Also, BSCES is rolling out our Members Knowledge Exchange Forum in December on our website. We will be showcasing your successes and experience in a new section called Members Forum. Share with your colleagues a challenging issue of your work, and how you resolved it. Alternatively, if you are at a roadblock, such as ambiguous codes, that you want to have an open discussion about and reach professional consensus, we will support your efforts by providing a Forum. Various internet websites especially those of trade associations such as AISC, NSBA, PCI, etc., also provide valuable forums for information exchange but they lack what BSCES members have, which is knowledge of

the local codes and environmental conditions. Sharing experience and knowledge will be beneficial to all and will provide the specific local experience. The engineer can then draw his/her own conclusion.

Members who are interested in or have questions about mentoring, being mentored, or supporting the exchange forum, please email me at president@bsces.org. Please include your contact information and the type of mentoring discipline you are interested in.

I am pleased to share with you that BSCES Committee on Sustainability, chaired by Melissa Carter from Stantec, is the featured group for this month's newsletter. Please read her articles on pages 1 and 4.

Also, thank you to all our institute chapter, technical group and committees' chairs and members. They are doing important work and

having a constructive impact on the success of our organization. If you are interested in joining an institute chapter, technical group or committee, please contact one of the group chairs and get involved. Hyperlinks to these groups and their respective chairs contact information can be found on the [Technical Areas](#) or [Committees](#) pages of the BSCES website. We welcome all our members to participate.

Finally, I want to thank each member for your support. Our programs and activities are important to the profession and cannot be sustained without your financial support. Please take pride in your membership in this 169th year of BSCES. Take a leadership role and thank your company for supporting the profession through BSCES, or ask them to support BSCES with sponsorship if they are not sponsors. I am available to assist you if you need more information to take this step.

Recent News and Updates

BSCES Welcomes its New Members

The BSCES Board of Government is pleased to welcome the following new members who joined BSCES in August 2017:

Members

Edward Breed, Marblehead, MA
Sarah Ebaugh, Brighton, MA

Students

Mehdi Akhlaghi, Tufts University
Amr Ibrahim, Boston Architectural Design College
Erin Keough, University of Vermont
Noelle Koch, University of Massachusetts Amherst
Judith Rodriguez, Harvard University
Ruth Roman, Northeastern University
Sophie Shipe, Villanova University
Jonathan Spada, Wentworth University

BSCES Thanks EarthSoft for its Society Sponsorship

The BSCES Board of Government would like to thank EarthSoft for becoming the newest 2017–2018 BSCES Society Sponsor. Other firms supporting BSCES as 2017–2018 Society Sponsors include AECOM, GZA, Louis Berger, and Robinson + Cole LLP.

BSCES Thanks its Newest 2017–2018 Program Sponsors

The BSCES Board of Government would like to thank the following firms for becoming the newest 2017–2018 BSCES Program Sponsors:

GEI Consultants, Inc.
Helical Drilling
McMillen Jacobs Associates
Nitsch Engineering
Weston & Sampson

These companies join 11 other organizations that had previously committed to becoming BSCES Program Sponsors. A complete list of the 15 BSCES Program Sponsors can be found at the bottom of the Upcoming Events page (See page 10).

It is Time to Renew Your ASCE and BSCES Memberships

All dues-paying ASCE members assigned to BSCES should have received a notice to renew your society membership by paying 2018 dues. When renewing your ASCE membership, don't forget to also renew your BSCES membership by paying your section dues of \$93 for calendar year 2018. Paying your BSCES dues in a timely manner ensures that you will continue to receive the numerous member benefits

that BSCES has to offer. These include: discounted registration fees for numerous seminars, lectures and meetings that impart practical skills and technical knowledge; opportunities to network with and learn from fellow professionals across various disciplines; topical communications like *BSCESNews* that keep you informed about your chosen profession; participating in advocacy programs and outreach efforts that are intended to raise awareness of the need for infrastructure investment and ensure there is a future generation of civil engineers.

BSCES Public Awareness & Outreach Committee Seeks Fall 2017 Volunteers

The Public Awareness & Outreach Committee is looking for volunteers to help at the Women in Transportation (WTS) YOU Summit and the Massachusetts STEM Summit in November. The committee is also looking for mentors to help students with the Future City and Model Bridge competitions. Please see the insert at the end of this newsletter for more information on these volunteer opportunities or contact Public Awareness & Outreach Committee Chair Olivia Richards at Outreach.Comm@BSCES.org.



BSCES Thanks Linda Hager for Her Service as ASCE Region 1 Governor

The BSCES Board of Government would like to thank Linda C. Hager, PE, who works for the MBTA and is a past president of BSCES, for her service as the ASCE Region 1 Governor. Linda represented BSCES for a three-year term as Region 1 Governor and was recognized for her dedication and service at the recent ASCE Region 1 Assembly with a service plaque. BSCES Past President Danielle Spicer, PE,

Green International Affiliates, Inc., was elected as the new Region 1 Governor representing BSCES. Her term of service began on October 1.

Anatoly Darov Receives University of Massachusetts Amherst Distinguished Alumni Award

BSCES would like to congratulate Anatoly Darov, PE, Esq., Darov & Associates US PLLC, a former BSCES president, on receiving the University Of Massachusetts Amherst Academy Of Distinguished Alumni Award by the Department of Civil and Environmental Engineering. Anatoly and other award recipients were honored at the Academy of Distinguished Alumni's Annual Banquet on Friday, September 29, 2017.

Wentworth Institute of Technology Earns 'University' Status

Wentworth Institute of Technology received approval from the Massachusetts Department of Higher Education for "university" status this past July. To obtain that status, the Institute needed to establish graduate programs in four "distinct professional fields of study" and demonstrate that it has "faculty, facilities, and resources necessary to support sound graduate programs." Over the past eight years, Wentworth has developed graduate programs in Design (Master of Architecture); Management (Master of Science in Construction Management, Master of Science in Facility Management, and Master of Science in Technology Management); Engineering (Master of Engineering in Civil Engineering); and Sciences (Master of Science in Applied Computer Science).

Update Your ASCE Profile

Have you moved lately, changed jobs, or do you have a new email address? It is very important that we receive your updated contact information. Please make sure you update your profile at ASCE National. Every month BSCES receives updated member information from ASCE that we utilize for all BSCES correspondence. You have a personal profile that you can access and update your contact information. Simply go to the ASCE "[Membership & Communities](#)" page and click on the "Log in..." bullet under the Already a Member section. Once you've logged in, you can edit your contact information. Members can also always call 800/548-2723 and have someone in Customer Service make updates for them over the phone.

SEND US YOUR NEWS! Looking to strengthen the community that is BSCES, the BSCES Executive Committee and Newsletter Editorial Board has decided to expand the content of this *BSCESNews* Recent News and Updates column by including more member news. Have you recently been recognized for a professional accomplishment, passed the Professional Engineer Exam, received a promotion, or changed employers? If so, send your news items to BSCES Association Manager, Rich Keenan, rkeen@bsces.org.

Upcoming Events

For more information and to register for events, please visit www.bsces.org

To register online for an event at the BSCES member rate you must login using your BSCES assigned username and password. If you do not know your BSCES member login information, call 617/227-5551.

Structural Engineering Institute Boston Chapter Lecture Series

**Two Lectures Remaining:
October 24 and November 7**

Tufts University, Medford, MA

6:30 PM – 8:30 PM

Construction Aspects of Structural Engineering —“If You Design It, Can They Build It?”

There is still time to register for the SEI Boston Chapter's Fall Lecture Series two remaining sessions! The Lecture Series is organized under the theme Construction Aspects of Structural Engineering—“If You Design It, Can They Build It?” Featured topics and presenters for the remaining lectures are as follows:

Lecture 4 – Tuesday, October 24, 2017

Legal Aspects / Risk Management

David Hatem, PC, Partner, Donovan Hatem LLP, and Paul Kelley, PE, Senior Principal, Simpson Gumpertz & Heger

Lecture 5 – Tuesday, November 7, 2017

You Want to Build It How?

Tom Zieman, PE, Principal, Zieman Engineering

Please see the Insert at the end of this month's newsletter for further details.

EWRI Boston Chapter and BSA Infrastructure Committee Event

Thursday, October 26, 2017

BSA SPACE, Boston, MA

6:00 PM

Waste Not: Design Excellence and Resiliency in Wastewater Treatment Plants

Greg Clawson, AIA LEED BD+C, Associate Partner, Ennead

Stephen Estes-Smargiassi, Director of Planning and Sustainability, Massachusetts Water Resources Authority

Wastewater treatment plants are among the most basic and critical infrastructure systems. In addition to protecting public health and the environment, many of these facilities are in locations that are highly visible and vulnerable to flood events. Forward-thinking investments are adapting plants for future resiliency and leveraging the opportunity to design excellence. Featured speakers will present the approaches undertaken at the Newtown Creek Wastewater Treatment Plant in New York and facilities within the MWRA's system.

Please see the Insert at the end of this month's newsletter for further details.

Southeastern Massachusetts Committee Lunch Event

Friday October 27, 2017

Bella's Restaurant

933 Hingham St., Rockland, MA

12:00 PM – 3:00 PM

Business Issues for Engineers

Philip Ashcroft, Business and Executive Coach, Professional Business Coaches, Inc.

Bernard Heine, Business and Executive Coach, Professional Business Coaches, Inc.

This Business for Engineers event will benefit engineers, managers, and planners who are involved in business development, as well as those who are starting off and want to learn the do's and don'ts in engineering business sales, marketing and management. Attendees will learn the practice of engaging clients, building business relationships, and client retention as well as setting and achieving goals and monitoring the effectiveness of your business strategies.

Please see the Insert at the end of this month's newsletter for further details.

continued on page 11

Save the Dates!

**Tuesday–Wednesday
December 5–6, 2017**

Culvert Design for Peak Flow and Aquatic Organism Passage

Sponsored by the Program Committee

Simpson Gumpertz & Heger, Waltham, MA

This two-day ASCE-developed seminar will give participants a solid understanding of the policies and procedures involved in culvert design through discussions and interactive workshops.

See future BSCES emails for further details.

Mark Your Calendar!

Tuesday, December 12, 2017

169th BSCES Annual Awards Dinner

Royal Sonesta Boston, Cambridge, MA

5:30 PM Cocktail Reception

6:30 PM Dinner

Keynote Speaker: Matthew A. Beaton

Secretary, Executive Office of Energy and Environmental Affairs

See future BSCES email updates for additional details.

ASCE Webinars

ASCE WEBINARS

SUPPORT OUR SECTION

Use WEBBOSSEC to have
20% of your purchase
donated to our Section.

ASCE | CONTINUING
EDUCATION

Are you planning to take an ASCE webinar? Sign up with the code WEBBOSSEC and 20% of your registration fee will be donated to the Boston Society of Civil Engineers Section/ASCE.

For a full listing of ASCE Webinars, [click here](#).

2017–2018 BSCES Program Sponsors

Alfred Benesch & Co. | BSC Group | Childs Engineering Corporation | GEI Consultants, Inc. | Green International Affiliates, Inc. | Haley & Aldrich, Inc.
Hayward Baker | Helical Drilling | Howard Stein Hudson | Hoyle, Tanner & Associates | McMillen Jacobs Associates | Nitsch Engineering
Department of Civil and Environmental Engineering, Northeastern University | Tufts University | VHB | Weston & Sampson

Upcoming Events *(continued from page 10)*

Geo-Institute Boston Chapter Charles C. Ladd Memorial Lecture

Monday, November 6, 2017

Northeastern University, Boston, MA

Registration and Social: Alumni Center
716 Columbus Ave., 6th Floor, Boston, MA

5:30 PM Registration and Social

6:30 PM Presentation

Selected Case Histories of Ground Characterization and Performance: SHANSEP and Beyond

*Demetrious C. Koutsoftas, PE, GE, Geotechnical
Consultant, DKGC, Inc.*

This memorial lecture highlights important lessons learned from several case histories involving projects for which Professor Ladd served as consultant and made important contributions. The common thread to the projects is the application of the SHANSEP method in the test procedures and interpretation of field and laboratory test results in order to characterize the different clay formations involved in each project, to solve problems of

stability and deformation analysis. The other common characteristic is that the case histories involve complex and high profile projects which required extensive investigations, laboratory testing, and in special cases prototype field tests to properly characterize the soils and develop design and construction recommendations.

Please see the Insert at the end of this month's newsletter for further details.

ASCE and BSCES Sponsored Seminar

Saturday – Sunday, November 9 – 10, 2017

Wyndham Boston Beacon Hill Hotel
5 Blossom St., Boston, MA

8:30 AM – 4:30 PM

Designing Non-Building Structures Using ASCE/SEI 7-16 Seminar

*Dave K. Adams, PE, SE, Principal Associate,
BWE, Inc.*

This seminar will provide tools for a practicing engineer to design efficient non-building structures, using the requirements of ASCE/SEI 7-10 as a base document for determining wind and

seismic forces. Practical design examples will be used throughout the seminar to illustrate discussed principles.

[Click here for more information, or to register for this seminar and pay online.](#)

Suggest a Seminar Topic

Is there an engineering topic that you would like BSCES to feature in an upcoming seminar?

If so, members of the BSCES Program Committee would like to hear from you.

Charged with developing technical training programs that address members' professional development needs, the Program Committee oversees the Society's National Highway Institute training, spring and fall Professional Engineer Refresher Courses and other topical workshops. If you have a technical topic that you would like the Program Committee to consider, send your suggestion to BSCES Program Committee Chair Jeff Lewis at jlewis@garofaloassociates.com or BSCES Association Manager Rich Keenan at rkeenan@engineers.org.

Classifieds

We're

HIRING

Project Managers
& Schedulers

Seeking PM and APM candidates with 10+ years' experience in the construction industry in urban environments on civil and infrastructure projects. Must be a registered PE in Massachusetts.

pmaconsultants.com/careers

