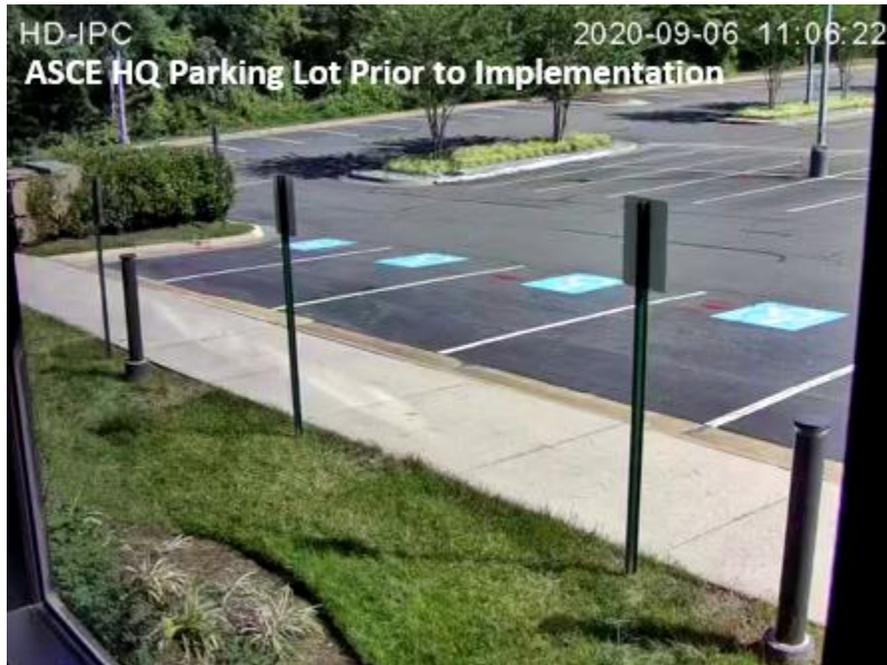


# ASCE Installs Sustainable Parking Lot

By -Scott Struck, Ph.D., M.ASCE, ENV SP, F.EWRI, and EWRI Past-President

ASCE doesn't just talk about sustainable infrastructure, we practice it! While the SARS-CoV-2 has upset our daily lives, the vacancy of staff and visitors has provided a better opportunity to easily retrofit the ASCE headquarters parking lot in Reston, Virginia.

ASCE decided, when considering the need to repave the parking lot and with funding from the ASCE Foundation, to invest in green stormwater infrastructure to demonstrate and practice the obligation for the practice of sustainable engineering. Several ASCE technical committees and Institutes, including EWRI, which has many professionals that research and practice green stormwater infrastructure design, installation, and monitoring, provided input and guidance to assist in the parking lot design retrofit.

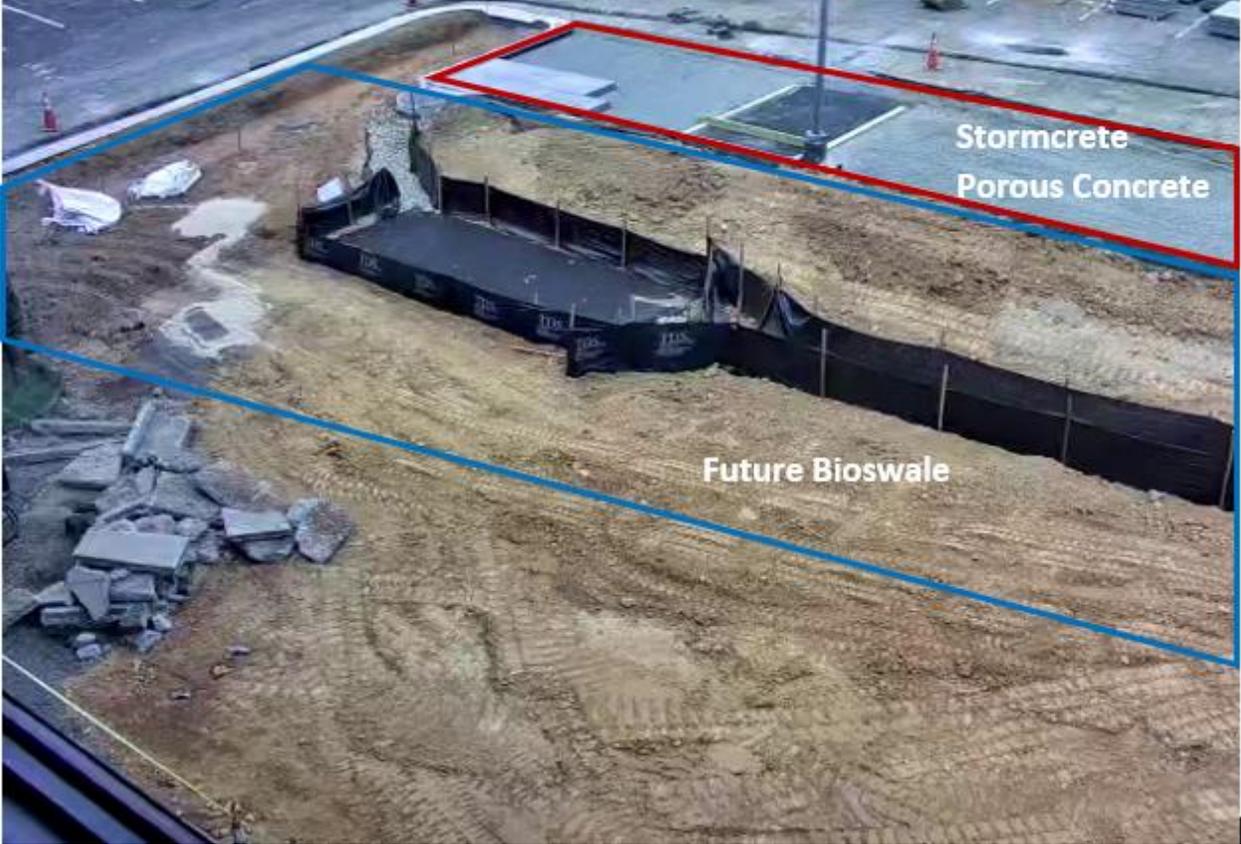


Many EWRI members participated to shape the design while others contributed to developing a monitoring strategy to more simply demonstrate the benefits of this investment. EWRI design practitioners helped to shape the final drainage and stormwater treatment systems that included Stormcrete® Precast Porous Concrete to help filter and infiltrate stormwater runoff from the impervious areas of the parking lot. Downstream from the porous concrete in this treatment train is a bioswale filter to further remove pollutants from the runoff. In other locations ASCE placed Filterra® stormwater treatment units at inlets and installed Permeable Interlocking Concrete Pavement (PICP) to reduce the overall impermeable area that would generate runoff. Monitoring recommendations included documentation of the construction process, installation of staff gauges and other electronic depth sensors to understand filling and emptying dynamics of the bioswale, as well as soil moisture sensors and other inexpensive equipment to document changes during and between storm events. A camera was donated to document the construction activities and serve as a visual monitoring system into the future. Due to the timing of the installation, pre-installation monitoring was not feasible. Monitoring results will be published in a future Currents article.

The investments made by ASCE and the ASCE Foundation demonstrate the commitment to green stormwater infrastructure and sustainable engineering, in general. It is exciting to see ASCE lead by example to “engineering tomorrow” through meaningful actions and inclusion of members to advance the state of the practice.

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Stormcrete  
Porous Concrete

Future Bioswale