Edward A. Ames Spring 2020 Seminar

Innovative Green Infrastructure Programs: Benefits, Challenges, Opportunities, and Lessons Learned

The panelists, Pinar Balci, Marc Cammarata, and Jennifer Cass, presented and discussed their green infrastructure programs on June 16th. Moderated by Andy Kricun, the panelists answered several questions during the seminar. Responses to questions are listed below.

Questions Answered During the Seminar:

For responses to the following questions, please revisit the webinar recording where the panel discussions begin approximately at 1:11:25.

1) How can utilities best invest public dollars to address the needs of the community while making progress on permits to achieve regulatory goals?
2) How is adaptive management of design, construction, and maintenance of green infrastructure assets working? Can adaptive management achieve both regulatory and community goals?
3) With climate change and climate science providing more information, how are we thinking about wet weather permitting to address climate change impacts such as sea level rise? Does the current CSO programming allow for you to take actions towards climate resiliency? Why or why not?
4) The last I checked, NYC DEP green infrastructure grants were not eligible to be given to coop/condo apartment buildings because the Board signing the covenant isn't enough guarantee for the requirement of future maintenance. This prevents many urban buildings from considering green roofs and permeable-scaping. Any examples from other cities on how apartment owners can bring more green infrastructure to their buildings, and how the utility can become more adaptive with legal requirements with apartment Boards?
5) Regarding differences between NYC and Philly, how do stormwater fees for commercial properties compare for NYC ($5.41 per 500 sq ft of Impervious Area and $0.717 per 500 sq ft of Gross Area for Philly)? Is it time in NYC for dramatically increasing some of the rates on the very higher end new developments to subsidize/encourage larger scale GI retrofits, for example on the many commercial parking lots in NYC?
6) Were reductions tied to monitoring of water and payment for use?
7) How do green roofs figure in these programs? Is there any effort to encourage the use of green roofs under Local Laws 92 & 94?
8) An early slide showed CSO output down dramatically from all the programs in the last 10 years. Question: Has the Long Island Sound summer oxygen levels shown an improvement yet?
9) For NYC speakers: Getting stormwater out of the CSO pipes is a major priority. Are other City agencies capable of moving from their stove pipe operations to help with the cause? I'm thinking of sites like the already constructed Staten Island Industrial lands warehouses and specific private development initiatives like the proposed 28 acres retail establishment at the Graniteville Swamp. These two alone presented the largest opportunities for green infrastructure in the entire city but were largely ignored for the opportunities they are. How are you working with City Planning and the NY EDC to affect big change at those agencies to further your vision.

Written Response to Questions:

1) Would it be possible to incentivize filters on washing machine outflow in NYC to eliminate plastic microfibers introduced into outflowing waters?

   I don't know much about filters – unsure if there are any on the market that could be placed on washing machine outlet lines and/or can filter microplastics. Filters are typically rather expensive and need frequent replacement. What about a public education campaign suggesting that those that live in CSO sewersheds should wait to flush or wait to do laundry both during and shortly after a wet weather event? For example, NYC's WAIT program - https://www1.nyc.gov/site/dep/whats-new/wait.page.

2) To what extent are NYC, Philadelphia or other cities considering hybrid green infrastructure approaches (once that can integrate with many applications, roofs, green plazas, green streets, bioswales)? Agree we need green, grey…but would also argue that hybrid needs to be considered as well.

   PWD has been constructing systems (large underground infiltration basins) under public recreation/athletic fields fed by newly installed storm sewers delivering street runoff from surrounding drainage areas.

3) I did not hear any discussion of how these activities can be coupled with benefits for wildlife even though there are many potential benefits, particularly for freshwater species. Why do you all think there's so little attention given to wildlife in these conversations and what can be done to bring greater attention to this consideration? Thanks.

   Birds, bees and other good bugs are common at and around GSI. Our sites at and near our urban parks/forests see some additional wildlife species. If you build wildlife habitat into the sites, they typically will come – i.e. bat boxes.

4) In regards to TW restoration and creation, how are they designed to be sustainable and how will they be able to migrate landward due to sea level rise? All the TW creation projects located along the East River promenades in Brooklyn and Queens are not sustainable due to a lack of space for migration and due to immediate adjacent hard structures.

   NYCEDC recently completed the first wetland mitigation bank on the West Shore of Staten Island at Saw Mill Creek. This project has created and restored 54 acres of wetlands within the West Shore Industrial Business Improvement District. The project See the link below for more info https://edc.nyc/project/marshes-initiative

5) How do you really address green and livable neighborhoods without addressing the inequity issue that have been so poignantly raised by the public in the past week?

   Great question. Recent attention (both fairly and unfairly) has been paid linking green infrastructure to gentrification. Marc has a lot of thoughts on this topic and happy to speak more on this. However, leveraging water ratepayer monies in community-centered locations like parks, libraries and recreation facilities in under-invested neighborhoods should be encouraged and embraced.

   As shown in the presentation, the NYCEDC-DEP GI projects are predominantly in neighborhoods with lower median household incomes. In addition to projects installing rain gardens and infiltration basins within roads and sidewalks, we are constructing green infrastructure directly

within NYCHA campuses, NYC Schools and Parks. These projects will add green space (i.e. trees, plantings, grass strips) and improve drainage conditions (e.g. reducing ponding in NYCHA parking lots and ball fields) within neighborhoods that need them, while effectively improving water quality in NY harbor. In addition, the EDC-DEP green infrastructure projects include a provision that 30% of the project budget is contracted to Minority and Women-owned Businesses, which we are exceeding slightly at 30.33%.

6) Would it be possible to get a link to the recorded version of this when it's over to be able to watch it again? So much exciting info!
   Yes! The link to the recording will be sent out within the week.
7) Please define SMIP and GARP.
   Stormwater Management Incentive Program (our single property grant program) and Greened Acre Retrofit Program (grants for aggregated, multi-property delivery)
8) Marc, how did you build trust with the developer community?
   Lots and lots of communication (and very thick skin). Seriously, though, numerous resources (robust and dedicated staff, a facilitated Development Services Committee forum, online materials, etc.) to assist with incorporating new rules and requirements in development projects while not impacting development schedules.
9) When/how will we be able to make public comments?
   NYSDEC provides information regarding the LTCP process here: https://www.dec.ny.gov/chemical/48985.html.
10) When will NYC propose a regulatory Storm Water Management Permits and Fee system that is somewhat similar to what Philadelphia requires?
    NYCDEP introduced a local law amendment to city council which is waiting for a hearing. This will enable us to reduce the 1-acre soil disturbance threshold to 20,000 sqft and expand it to city wide. we are also incentivizing private property through GI incentive program by acquiring a 3rd party contractor to build 200 greened acres in the city targeting large commercial lands. Please note that unlike Philadelphia, NYC does have large non-residential impervious acres hence applying what Philadelphia had done won't produce the same benefits in NYC.
11) Regarding water use reduction, Is that because of better/conservation residential water use, or less commercial water use? Or both?
    Both of those points. Water use reduction is partly due to NYCDEP's water conservation program which we are replacing fixture with low flow EPA approved fixtures such as toilets, shower heads, and providing grants to private sector on water reuse projects to reduce water use of cooling towers, build gray/black water systems for reuse.
12) Please define ROW
    Right-of-Way (ROW) - legal rights to a piece of land/grounds. In this water context discussion, cities refer to streets as right-of-way areas - areas where the city (streets/water departments) are responsible for stormwater collection/conveyance/management.
13) What about green infrastructure on the shoreline? How are you considering balancing the need for storm protection with the value of permeability?
    NYCDEP are rebranding our GI program to incorporate tidal wetland restoration which provides WQ treatment and reduction of wave action while also providing ecosystem habitat. We need

state and other regulators to allow us to count wetland restoration as part of our regulatory requirements. NYCEDC has also constructed several projects with Green Infrastructure on the city shorelines such as New Stapleton Waterfront and Hunter's Point South.
https://edc.nyc/project/new-stapleton-waterfront
https://edc.nyc/project/hunters-point-south

14) What regulation at the state level was helpful and/or necessary for you to achieve your stormwater goals at the municipal level?
Honestly, having our regulatory agencies incorporate Green Infrastructure (on public and property property) in compliance orders/decrees and permits.
15) With waterfront sites on the frontlines of climate change, what are some of the most effective green (or green/gray) infrastructure strategies to implement?
Incorporating tidal wetland restoration as part of the GI portfolio and count it towards the mandates for funding allocation.
16) Define MWBD's.
Minority and Women-owned Business Enterprises.
17) Are there any GI grants for private properties in NJ?
At this time, there are no direct grant programs for private properties, although NJDEP does provide information and resources where partnerships can exist to support implementation of projects on private properties. https://www.nj.gov/dep/gi/.
18) When cities install MS4s compared to CSOs, how does the outflow of MS4s contrast to CSOs?
Combined systems discharge co-mingled storm and sanitary flow when capacity in the pipe is exceeded. MS4s (Municipal Separate Storm Sewer Systems) carry sanitary flow and storm flow in separate pipes. Combined Sewer Systems (CSS)s capture and treat flow at the treatment plants and a portion of the stormwater. Separate stormwater pipes discharge urban runoff (sediment, oils, greases, pet waste, etc.) directly to rivers and streams every time it rains.
19) What about green infrastructure on riparian or forest wetlands area as part of the umbrella of construction work to be done to improve water quality?
Agreed. We need to rebrand the GI program to be able to incorporate wetlands and count it as part of the mandated acres or volume requirements. So far regulatory agencies were not as supportive.
20) Where are MS4s mainly located in NYC?
NYCDEP's MS4 maps are available on their website here: https://www1.nyc.gov/site/dep/water/municipal-separate-storm-sewer-system.page
21) Will recording be available?
Yes, the recording will be emailed to all participants of this webinar and on our website here: https://www.hudsonriver.org/article/spring-2020-ames-seminar-green-infrastructure
22) What green infrastructure plans are projected for Manhattan?
NYCDEP offers an interactive map, shared in the presentation, online for everyone to access. This map includes constructed, in construction, and in the design-phase. https://www1.nyc.gov/site/dep/water/green-infrastructure.page
23) Will a participant list be available?

The Foundation does not typically release a participant list, but please reach out to info@hudsonriver.org and we'll follow up with you.