

Aquatecture Task Force Meeting Minutes
May 3, 2010
9:30am to 12:30pm
Center for Architecture

The Aquatecture Task Force Meeting was held to develop recommendations for the New York City Comprehensive Waterfront Plan on changes needed to address climate resilience, ecological design, improved public access, increases in population, and other challenges facing the New York City waterfront. Participants were asked:

- What plans should the City make now to incorporate innovation in the Comprehensive Waterfront Plan to address these challenges?
- What are the barriers to all types of innovative design and how can the City overcome those barriers?
- What metrics can we develop to hold ourselves accountable for waterfront improvements?

1. What plans should the City make now to incorporate innovation in the Comprehensive Waterfront Plan to address these challenges? What are the barriers to all types of innovative design and how can the City overcome those barriers?

The results of the discussion centered on six basic themes:

- Design Guidelines and Better Waterfront Planning
- Natural Areas, the Natural Waterfront
- Improving Waterfront Permitting
- Climate Change and Sea Level Rise
- Reductions in Combined Sewer Overflows (CSO) to the Harbor
- Transportation

Discussion under each of these topics is summarized below and are the opinions of the meeting participants.

Design Guidelines and Better Waterfront Planning

There was lengthy discussion about the need for better design guidelines and agency guidance as ways of fostering and improving the waterfront. The lack of guidelines and the lack of guidance from agencies are seen as significant barriers to innovative design and improvements on the waterfront.

One participant explained that an example of why guidelines are needed is that oysters, for example, may not be the right restoration method or type of project in all areas. Design guidelines are especially needed if project developers cannot afford or plan not to hire an architect. Guidelines will help to open possibilities even for those who do hire architects. Lack of maritime infrastructure around the harbor is an example of how even broad guidelines are needed.

It was explained that if we do develop waterfront design guidelines, alternatives to prescriptive design guidelines are important because innovation is needed on the waterfront. Guidelines must strike a balance between guidance and innovation. We want options and uniqueness on the waterfront. We want the guidelines to find the right balance. Pilot projects and evaluations are ways to address this. Building in feedback loops into entire projects and using an interactive approach are keys to this.

It was emphasized that the guidelines development process should be more holistic but also must be built around the results of and need for more pilot projects. Best Management Practices (BMPs) will be slowly integrated into green infrastructure design as we determine their effectiveness. BMPs for streets, for example, are often not incorporated into street design because agency approvals for projects are not coordinated with BMP guidelines or standards.

It was explained we will need to take a systems approach/comprehensive approach to see the interrelations between waterfront issues. We don't want guidelines to be prescription or constricting of creative solutions. Instead of waiting for guidelines that match everything, we should encourage a dynamic process that accounts for experimental approaches. Risk can be integrated into the culture. If there is higher involvement on the local level, it will drive local solutions that are experimental and dynamic. A systems and comprehensive approach to guideline development may allow agencies and others to produce preliminary information that is helpful instead of having to wait for guidelines that match every need.

A separate set of guidelines for temporary structures may be required and should include information on the end of useful life and dismantling requirements and guidelines. An example are floating wetlands.

Performance based guidelines can be developed through a tool box approach. The tool box explains all the things you can do to protect and/or restore a wetland area. A tool box for wetlands protection was developed for the Hackensack Meadowlands. For the development of the Meadowland Comprehensive Restoration Plan, they used a tool box approach that focused on a suite of measures for wetland protection as opposed to strict or prescriptive guidelines. The tool box should be created in conjunction with the stakeholder process. The stakeholders should include people on the ground who are involved in helping to formulate the protection measures and the tools in the toolbox.

The tool box approach is an effective way to get all small issues heard in a large set of solutions. It can also address performance metrics and is not prescriptive as it does not tell project designers exactly how to do something.

It was explained it is important to identify and develop uses that are best for an area with the understanding that mixed uses are often in conflict with each other. Transitions and interfaces between different areas are key to look to in the development of flexible guidelines. Even viewpoints are ways to connect different uses. One way to start is to look at areas that are currently considered the best developed and base the development of the first sets of guidelines on those areas.

Participants wondered if there could be zoning incentives for sustainable waterfront design to encourage good waterfront projects. An incentive would fit into many of the New York City administration's goals for sustainability through PlanNYC.

It was mentioned that the American Society of Landscape Architects in conjunction with others has developed a landscape rating system, the [Sustainable Sites Initiative](#), which is similar to energy efficiency ratings for buildings. This landscape rating program rates the environmental quality and sustainability of landscapes. The format and the grassroots appeal of the Sustainable Sites Initiative is a model for the waterfront development guidelines that NYSDEC and others can work together to produce.
<http://www.nyasla.org/content/view/127/71/>

One participant explained the importance of a refocus on ensuring the architectural components of piers are designed to allow for more large ship access. Piers designed without any attention to the possibility that ships could use the piers are designed improperly and incorrectly. It was explained that the Harlem River Park piers broke hearts because of the lack of maritime infrastructure that would have allowed access to larger ships.

It was explained the American Institute of Architects will be giving boat tours with designers over the course of the summer. This and other on-the-water summer activities will be an opportunity for the design community to begin to think about their role in the advocacy and development of good waterfront design guidelines.

Natural Areas, the Natural Waterfront

The importance of the natural waterfront and incorporated habitat enhancing design into all areas of the waterfront was important. Dividing the shoreline into pieces should not be the goal and is not progressive since all of the waterfront is potential habitat. You look at the shoreline differently if you don't parcel it out as one kind of waterfront here and one kind of waterfront there, but instead as one potential, interconnected area of habitat you can restore in different ways everywhere depending on land-use. It's all available as potential habitat.

It was explained we have reached a level of water quality in the harbor such that water quality is good enough for diverse aquatic life to live in most places along the waterfront. Habitat enhancement and the natural waterfront is now for the first time in many years an infrastructure issue, not a water quality issue. The natural shoreline has been changed but it is all still connected and every area has potential habitat. There are low cost ways to provide aquatic habitat.

It was explained that the City could view the waterfront as an ecosystem. Other cities have done diversity maps on land and in water. Through diversity maps you can determine where we need more intervention and where we need less for the good of the entire system. This approach could bridge the working waterfront and recreational waterfront areas, for example. Dynamic mapping of the City as an "integrated ecological-social-infrastructure system" includes ecological and humans systems in one analysis. This mapping can be especially important in New York and New Jersey where

human institutions and businesses have shaped the harbor and waterfront almost more than bio-physical forces.¹

The mapping that agencies do is technical so it is important to have mapping that the public can understand and get the public to a new understanding of what these places are on our waterfront. This can change the way people see things.

One participant explained that looking at the whole system, the entire waterfront including people and their lives and interactions with the water is important. At a basic level you should recognize that people living in an integrated way with a waterfront with fish and with oysters will help the fish, oysters, and other organisms to survive because the people see themselves as part of a larger system. This is a better way of evolving an ecosystem. Strict conservation areas therefore may not be the most progressive thing to do for our waterfront. We must instead integrate human activities with conservation. Diversity and heterogeneity produces resilience and capacity in case of a shock of any kind.

The hands off approach to nature will go away when we allow and encourage ecological restoration. This is closely linked to the need for public access and the need for infrastructure that supports active use of the waterfront and harbor.

There is an opportunity to do habitat enhancement all along the shoreline because the entire waterfront is potential habitat. Bringing ecosystems and humans together can be more beneficial than segregating the waterfront by uses. Strict conservation areas may not be the most progressive thing to do because diversity produces resilience in any kind of system. It was stated that this is hampered by the New York Department of Environmental Conservation's (DEC) hands-off of nature approach.

Improving Waterfront Permitting

It was explained several times in the meeting that the "interminable permitting process" is what deters change and progress on the waterfront. For example, participants explained that the process for changing a bulkhead is onerous and therefore changes to a bulkhead are hard for designers to recommend to a client.

It was explained the New York City Department of City Planning (DCP) has no jurisdiction past the handrail or the get down, and generally isn't involved where the water meets the land. Project developers are therefore left to deal with DEC for the bulk of the decision making on the waterfront. Participants stated they believed DCP is in a similar position to project developers with respect to waterfront permitting and that the uncertainty of permitting affects DCP as well.

It was explained that all agencies must make it easier for people to do good things on the waterfront. The process is set up to tell people what not to do and that's part of the problem. This is also why guidelines are needed.

¹ This approach is explained in the article, *Resilient Cities: Meaning, Models, And Metaphor For Integrating The Ecological, Socio-Economic, And Planning Realms*, by S.T.A. Pickett, M.L. Cadenasso, J.M. Grove. The abstract can be found at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V91-4BBHBTN-3&_user=10&_coverDate=10%2F30%2F2004&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1398160876&_rerunOrigin=google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=af6b62622147967b49bb79f2e6150e8c

It was explained there are major differences between small and large projects. Small projects by nature have smaller budgets. Yet the permitting process, the lack of uncertainty caused by the permitting process, and the decisions that must be made in a timely manner are the same for smaller projects as they are for large projects. This puts small, important projects in a bind. For example, one participant explained that a small sea wall took over a year to permit.

It was suggested that design guidelines could focus at first on small designs and projects. This can be also helpful for small design firms that are usually working on smaller projects. It was requested that regulators assist small firms and small projects by giving small firms better guidance: this is what you do to apply, this is the flow chart for the process, here is the timeline...etc. The regulators should look at projects through the lens of how the regulatory process is affecting the small consultants working with the small projects of less powerful and less resourced clients.

(Note, MWA has produced a template for this type of system, the “Users Guide to Waterfront Permitting.” The guide and associated website have not yet been reviewed by regulators but is a starting point for such assistance. Find information from the Users Guide on the website <http://nynjwaterfrontpermitting.squarespace.com/> The Users Guide is downloadable from this site at <http://nynjwaterfrontpermitting.squarespace.com/users-guide-permitting/>)

It was explained we need to pull the agencies into the process so that they have the same vision and an aligned process for waterfront decision making when reviewing permit applications.

Climate Change and Sea Level Rise

It was explained that DEC regulations are not adaptable to sea level rise. There is probably a strong recognition of this and desire to change this internally but limited resources at DEC to do so. One participant explained that a first step could be to build a relationship between the City and the state and that advocacy may help.

Meeting participants explained that there is trepidation on the part of applicants when they approach DEC because of uncertainty. It was stated that applicants should feel like they can go and meet with the state and find out what the next steps are without fear of major changes or delays affecting the project.

It was explained that New York State Energy Research and Development Authority (NYSERDA) may serve as a model for DEC’s waterfront planning and permitting. NYSERDA is able to use funding as the incentive for energy efficiency. For each project they assign you a project manager and consultants to help you undertake your project.

The way applicants see waterfront permitting now is that the waterfront permitting system is onerous and regulators don’t want people to touch the water. Instead there should be someone who would help shepherd applicants through the process from the government level, even from the mayor’s office. We need to cut through the red tape and we must have leadership before we can realign the system.

If one were to provide a zoning incentive for sustainable projects every developer would do it. When the City was looking at the building codes, there was a decision not to adopt

LEED but rather find items that could be adopted. The development of incentives in the building codes could be a model for waterfront development incentives.

It was explained that New York City Department of Environmental Protection (DEP) has a successful permitting approach by taking care of the little steps in the process that could be confusing or take a lot of time. Maybe DEP's process can serve as a model for some permitting reform.

It was stated that workshops were held about the plan for Governors Island. At the workshops there was talk about changing the hard edge of the island but it seems there isn't interest or ability to do it and a participant wondered if this was because of waterfront permitting issues.

There were comments that New York City does not have wetland mitigation banks or associated fees since mitigation is site specific. It was stated that mitigation banks are a way to make the mitigation process more predictable.

Design for Climate Change and Sea Level Rise

It was stated that climate resiliency is fundamentally about when water gets into our cities, we have a plan and have designed ways to get the water out. Because of this, water takes space and we have to live with water. We have to determine what areas can be allowed to be flooded. We can't allow the water to go back directly to the waterfront and the harbor in all cases especially if the water is contaminated. We may have to treat and process the water before it goes back. Newtown creek is an example of where this could be necessary.

We cannot have the mitigation of climate change be dealt with only by the city and corporate sector. Communities have to be integral to the planning and management more so than in the past because of the need for climate resiliency. We must have more experimental ways of engaging communities. Government and the corporate sector can't mitigate the effects of climate change single-handedly; citizens have to be more engaged.

It was stated that we need to look beyond sea level rise. It's also about extreme weather events.

Reduction in CSO Events

CSOs can be reduced by retaining more storm water. It is important to retain storm water runoff but it is difficult to permit green infrastructure projects. D Land Studio's [Sponge Park](#) project is an excellent example of a cutting edge infiltration project.

The City has encouraged infiltration through its Green Streets program, but at a much smaller scale than is necessary for significant CSO reductions.

Vancouver and Minneapolis have been able to develop large scale infiltration projects. Infiltration can be facilitated by small changes such as more bioretentive soil, the pitch or slant to sidewalks, etc. Small but important changes can make a difference depending on the scale – scale is very important.

When communicating with the public you have to communicate to the lay audience – use terms like garbage or sewage in the water instead of floatables and wastewater. Using terms such as IF and WHEN are important for when we communicate to the public.

Transportation

In order to expand public access to the waterfront people have to be able to get there more easily, directly, and rapidly.

It was explained the New York City Economic Development Corporation (EDC) is finalizing with the New York City Department of Transportation (DOT) on a comprehensive ferry study. Starting in Spring 2011, ferry service will connect 34th street and Pier 11 in Manhattan with a series of stops in Queens. EDC explained it is working to connect bike paths to ferry terminals.

It was stated that transit oriented development of the waterfront and commercial activity on the waterfront will drive ferry service. Ferry service should be planned as part of an overall plan for civic infrastructure and not completed in a piecemeal way.

It was noted that few if any of our subways go directly to the waterfront. Ferry service could be enhanced by providing light rail along 42nd street.

2. What metrics and indicators are needed for measuring change and improvement on the waterfront?

Participants offered the following indicators:

- Number of shoreline softening projects.
- The number of points of access where you can actually touch the water.
- How many people go to a waterfront location to touch the water.
- Measure the outcome of the interactions with the water.
- Accessibility – number of square feet open to the public
- The number of boat tie ups, pedestrians, pedestrian access.
- Number of high school students who have taken chemistry at the water's edge.
- Tracking of groups that have an interest in the waterfront and compare them to what previously existed.
- Number of green infrastructure pilot projects.
- Revenues from businesses within 100 feet of the shoreline.
- Number of ferry riders and ferry trips.

- Amount of sustainable infrastructure, connected into the storm water system, and recognized by the city as pre-treatment.

The amount of commercial activities on the waterfront and measuring commercial activity through a study of jobs on the waterfront was suggested as a way to develop indicators and should include information on what industries are present and how many people are employed. The perception is that commercial activity is not there. It was explained that the EDC Maritime Support Services Study addresses some of this information and can be found [here](#).

It was explained that the City has 433 CSO outfalls. Participants asked if it was possible for there to be meters installed on the outfalls to measure water quality and quantity. The City explained the problem with measuring at the outfalls is the large rush of water at the outfall. Blowouts, recalibration, and lost monitoring equipment due to high water volumes prevent meters from being installed on outfalls. There is instead a model used to measure water quality parameters that is in compliance with state permits.

It was explained that the creativity of the design community should be tapped by challenging the design community to come up with 10,000 solutions for performance based solutions.