

Public Comment Summary

Project: Battery Park City Authority North/West Battery Park City Resiliency Project Walkshop

Battery Park City Authority

Meeting Date/Time: November 4, 2021 – 10:00 a.m. - 5:30 p.m.

Meeting Location: Southeast corner of North Moore St. And Greenwich Street New York, NY. 10013

Attendees: Garrett Avery, Hogan Edelberg, Gwen Dawson, Claudia Filomena, Nick Sbordone, Nora Madonick, Karina Vangani, Caroline Ibarra, Joseph Smith, Myraan Mays, Sebastian Kogler, Members of the public

Route 1: South Esplanade/South Cove route, Location J

Question from participant: What is the proposed glass flood wall in the South Battery Park City Project? What will it look like?

- Project team response: The glass-topped flood wall is a highly strengthened glass structure. In the South Project, there will be glass on approximately the top three feet of the design.

Follow-up question from participant: Will the glass-topped wall be a permanent structure?

- Project team response: Yes, the glass-topped wall would be a fixed structure.

Follow up question from participant: How high will the structure be?

- The masonry portion of the structure will be approximately 4' high, with a total height of approximately 7' including the glass portion.

Follow up question from participant: As a point of clarification, is the glass wall there to protect the museum?

- Project team response: Yes, the glass wall would protect the museum and reduce visual impacts

Question from participant: What is the timeline for this project? What is the project planning for?

- Project team response: The project is planning for a 100-year storm that we anticipate within the next 50 years. The coastal resiliency project considers storm surge, wave action and precipitation

Question from participant: Because Oasis Cove is at the water's edge, what are the options for design plans to preserve this area?

- Project team response: We are in the very early phases of design, so it is too soon to say. There are no definitive design plans yet. We are working to understand what is most important to the citizens of Battery Park City before any plans are made.

Question from participant: What is the objective of this project? Is it to protect the buildings in and on the edge of the park, or to protect the park and open space assets?

- Project team response: We are in the preliminary steps of determining which should be prioritized. It is a very tricky situation, and we are working to develop solutions to protect both the beloved open space assets and the buildings of Battery Park City. We are analyzing our options and soliciting input to determine the best strategy.

Question from participant: Will there be open community meetings for community input on protecting the building or assets?

- Project team response: Yes—public input is the pinnacle of importance to us. We are working to develop hybrid meeting strategies to accommodate all community members and their supporting input.
- **Follow up statement from participant: I don't see how you can do both.**
- Project team response: The goal is to protect both to the greatest extent feasible. At this point in the project we want to keep all possible options open.

Question from participant: Is there a plan in place for getting/receiving feedback from the community?

Question from participant: How does the project team plan on getting constructive feedback from the variety of residents and those who work here?

- Project team response: Collecting and receiving community feedback is the essential first step of the project, and this Walkshop is one of the first steps. There is a unique challenge in ensuring we engage with, encourage and receive feedback from all groups of people who may be interested or impacted by this project. There will be many opportunities to engage with the design and consulting engineer teams as this project moves forward.

Comment from participant: Part of what makes Battery Park special is Rockefeller Park and the green space. If they go away, we go away. The community came together for Rockefeller Park.

- Project team response: This is good feedback. At this point all options are on the table, including those that provide full or partial protection of open spaces including Rockefeller Park.

Comment from participant: Was resilience built into the art installation that was recently repaired at South Cove?

- Project team response: I don't believe so. The installation was a replacement in kind as an emergency public safety measure.

Question from participant: Can you talk about sunny day flooding?

- Project team response: We anticipate that the level of sunny day flooding will be at about 11.4 feet. Currently, the area is 7.5 feet now. The installation at this elevation is susceptible.

Follow up comment from participant: Not just open space, but open green space.

Question from participant: What are the projects using in terms of materials?

- Project team response: It depends on the alignment and what's immediately adjacent to the alignment. Durability, salt-tolerance, and sustainability will be important factors in selecting materials. The goal, as much as possible, is to not put an exposed wall without any co-benefits for the public realm.

Follow up comment and question from participant: Like salt marshes. Do you plant them? Are they what actually constitutes the barrier?

- Project team response: Salt marshes do not constitute a barrier, but can be included as part of a holistic response.

Comment from participant: I wish we'd considered videotaping this event.

- Project team response: That is a good point and a great idea for the next workshop we do.

Follow up comment from participant: Also, for public meetings, please make them hybrid.

- Project team response: That is a great point as well.

Route 1: South Esplanade/South Cove route, Location I

Question from participant: With the site-specific art installation that was just built at this location, were there any plans made beforehand to accommodate for it?

- Project team response: We believe the current art installation was an in-kind replacement as a public safety measure. Having said that, we will confirm details about the installation and will update the public when we know more.

Question from participant: Can you talk about tidal flooding and sea-level rise for this area?

- Project team response: Currently, we are 7.4 feet above sea-level. We are projecting that, with sea level rise, the elevation of this area will need to increase to 11.4 feet.

Question from participant: From your experience, what type of materials will be used for this project?

- Project team response: Much of that decision will be determined by where the alignment is located. Durability, salt-tolerance, and sustainability will be important factors in selecting materials.

Question from participant: When the team talks about building these resiliency efforts out, is it possible that they will be built once but revamped for the future if needed?

- Project team response: Yes—this is essential. We are going to have to continue to improve and revamp these efforts for maximum adaptability.

Question from participant: Where are you getting the calculations for elevations from?

- Project team response: There are four parts that go into the calculations which are then aggregated into computer modeling software from which a model is generated: Sea level rise is one, Storm surge is a second, wave action is a third, and "free board" or an extra foot of space over the expected height of the previous three is the fourth.

Follow up question from participant: Where are the sources of those numbers?

- Project team response: The National Oceanic and Atmospheric Administration (NOAA) and the New York City Panel on Climate Change (NPCC). We are using the 90th percentile of the NPCC's predicted 100-year storm in 2050. 2050 doesn't sound far off, but as the time frame gets further out, the coastal resiliency project will be closer to a median 100-year storm.

Follow up question from participant: What are the storm projections based on? Where are you getting the numbers?

- Project team response: Our projections are informed by the data shared by an international panel of

climate scientists.

Question from participant: Is there a possibility of building a shorter wall initially, and then building on top of it?

- Project team response: This is possible, but at a minimum this project will be built to the 2050's datum with adaptability for future increases being studied.

Follow up comment from participant: We don't want to overprepare and have a less usable space.

- Project team response: Exactly right. We want to find ways to integrate it into the landscape to maintain the character of the space.

Comment from participant: I know Sandy was an 11-foot to 16-foot rise.

- Project team response: Sandy caused an 11-foot to 13-foot rise.

Follow up comment and question from participant: Thank you for saying that. How can we test the model? Models historically have been extremely wrong. What are you doing to check?

- Project team response: Understood. We're basing this on real-life historical events. There is very little appetite for being off that observed line.

Follow up from participant: My only feedback would be to question that because we were told it was 11 feet to 16 feet with Sandy but parts of where we are standing now were dry.

- Project team response: I'm not surprised there wasn't extensive flooding. It's important to note that Sandy was just one storm and that the storm we're protecting against is larger than Sandy.

Comment from participant: Waves are difficult to figure out because of wind and the moon.

- Project team response: We've run over 1000 models and arrived at a worst-case scenario within that modeling, which would include a high tide, a north-west wind and a king moon.

Project team comment: We will have to rebuild the relieving platform in areas of this project, but we need to be strategic about where we do that, because if we must rebuild too much of it, the project becomes unaffordable.

Comment from participant: Salt-resistant vegetation will be important, as I suspect the alignment will be closer to the buildings.

- Project team response: Any vegetation on the "wet" side of the alignment will need to be salt tolerant.

Question from participant: What is the platform we are standing on made of?

- Project team response: It is a series of vertical concrete piles topped with pre-stressed concrete planks, with fill, finish paving, and planting on top of that.

Question from participant: What are they pumping into the revitalization project to the south of South Cove?

- Project team response: They're repairing in 670 piles, fixing the piles with encasements, and pumping in epoxy to stop the saltwater erosion.

Follow up question from participant: How long is the shelf-life for the revitalized piles?

- Project team response: 20 to 25 years.

Question from Participant: So, is the water coming up right to the line (the top of the alignment)?

- Project team response: There will be a foot of wall space above the top of the wave, called "freeboard"

Question from participant: Hypothetically, if we built a wall or reinforced the existing infrastructure, could we keep the Esplanade?

- Project team response: If the existing masonry wall were rebuilt to FEMA standards on the edge of the platform, the existing esplanade could remain outside of the flood barrier.

Comment from participant: I thought the clearance requirement was 30 feet.

- Project team response: There is a 15' offset from each side of a floodwall where trees cannot be planted.

Comment from participant: We're going to have to have tradeoffs. We can't save everything. If we go gangbusters with walls and reshaping the landscape, no one's going to want to live here.

Route 1: South Esplanade/South Cove route, Location I, Rector Gate

Question from participant: How is the sea-level rise over here?

- Project team response: We believe it is between 11 and 15 feet.

Question from participant: are you considering deployable barriers?

- Project team response: Yes, this is a section where you can expect to see deployable barriers. This comes with tradeoffs because the flip-up gates have especially large foundations and vehicular access requirements.

Comment from participant: Point to note: this is a gradient, which saved the whole block during Sandy. It's the only sledding spot in the neighborhood. Those three inches are why we didn't lose power. Can you make climate resilience barriers things people can use?

- Project team response: You're making a very interesting point about how small differences in elevation can make a big difference in function. Can we raise areas a little bit in elevation to protect from nuisance flooding? The flood barrier system can be integrated into many useable and functional features that can enhance the public realm.

Question from participant: The walls that are here now; do they have to go higher?

- Project team response: Yes—the walls will need to be a bit higher than they are today.

Route 2: Belvedere Plaza/North Cove Marina, Location H

Question from participant: The permitting process will take a long time; are there plans for interim protection for Battery Park City?

- Project team response: Currently, Battery Park City has walls from tidal resiliency and flood planning before and can be deployed at any time if needed. We can't predict Mother Nature, but we do have measures currently in place.

Southwest corner of the marina:

Question from participant: Where is all the money going to come from after the bonds? The permitting process is going to take a lot of time. Is there Stop-gap protection planned?

- We've used Muscle Walls in certain locations. Hopefully we won't have to use them here, but it's good to be prepared.

Follow-up comment from participant: We're looking at a good ten years for Permitting.

- Project team response: That's not our goal. We're working on a streamlined permitting strategy now. There is very little opportunity for on-site mitigation.

Question from participant: What does alignment mean?

- Project team response: Alignment refers to the location of the individual sections of the flood barrier

system that connect to create a continuous line of protection.

Route 2: North Esplanade/Rockefeller Park, Location E

Project team comment: The alignment here must be 11.5 feet above where we currently stand and represents the second or third most dramatic change in the project. The question in this area is : How much should we raise the platform? How do we maintain access to the Ferry Terminal?

Question from participant: Who permits the ferry terminal?

- Project team response: I believe it's permitted by State and Federal agencies.

Question from participant: Is it possible to raise the platform and keep all else the same?

- Project team response: Raising the platform is very likely in this area. Once the platform is raised, accommodations must be made for universal access, views, and access to the Ferry Terminal and 300 Vesey.

Question from participant: Are you going to be looking into redesigning the North Cove terminal?

- Project team response: Not as part of this project.

The Irish Hunger Memorial

Project team comment: Here, the alignment is in the eight-to-ten-foot range.

Route 3: Belvedere Plaza/North Cove Marina, Location F

Question from participant: What is Design Flood Elevation?

- Project team response: The Design Flood Elevation is a datum determined with 4 considerations: sea-level rise-which we are estimating at 30 inches in 2050, storm surge, five feet of wave action and freeboard. We are using the 90th percentile of sea level rise for we which are using the most conservative approach available based on current sea-level rise curves.

Follow up question from participant: What's the likelihood of that happening?

- Project team response: We are designing for a 100-year storm. That means there's a 1 percent chance per year of the event we just described occurring.

Follow up question from participant: If you were going to solve for a more likely scenario, what would that look like?

- It's not something we're considered thus far. Sea level rise is the only thing that could change in the scenario. Just to clarify, that we're not attempting to build a wall. There is a toolkit of different options we use to integrate flood protection into the public realm. T

Comments and Questions from Participant: The area around West Street and Chambers Street was flooded during Sandy. I'd like to suggest that there be a barrier at West Street and another one a block or two beyond. I'd strongly suggest you do that. I've noticed they've drilled holes around the World Trade Center to put in temporary flood barriers if need be. Can we pre-drill holes now to give temporary barriers a place to anchor?

- Project team response: I hope you stay with us on the tour because we'll be looking at options for that

later today. To your second point, we'll have deployable barriers, but they will be integrated into the design of the landscape.

Follow up comment from participant: I'm talking about something short term; in case we have another Sandy this year.

- Project team response: We're doing an interim measure in tandem with buildings that have already put in their own protection systems.

Follow up comment from participant: The temporary barriers can't go over 4 or 5 feet. The worst-case scenarios are getting more severe every year.

Follow up question from participant: Are trees destined to be lost because they're not saltwater resistant?

- Project team response: Yes, and to your point, I want you to look behind us where we have almost 8 acres of what is one of the most important public spaces in Battery Park City. The location of the alignment will determine in part how these spaces will change over time.

Question from participant: You said the river is running under us. Have you considered the springs and underground water that occur naturally throughout New York City? How are you proposing to deal with those?

- Project team response: that's a two-part answer. There are two parts to a flooding system, an above ground piece and a below ground piece. The below-ground piece is called a groundwater cutoff, the above ground piece is what we've been talking about today.

Follow up question from participant: So, if you have an alignment further back, the lawn would be exposed to salt water, right?

- Project team response: Yes, and would cause us to have to do long term operations and maintenance. Over time the health of the lawn would deteriorate until replacement with saltwater tolerant planting would be necessary.

Route 3: North Esplanade/Rockefeller Park, Location D

Comment from participant: Given all the resiliency planning, it's silly to put another memorial in Battery Park. You don't need additional infrastructure to protect.

Route 4: Tribeca/BMCC/Hudson River Park, Location C

Project team question: How do we take a continuous line of elevation at the building around the esplanade? We also have stairway and ramp access to consider, as well as views out of the windows of the buildings.

Comment from participant: I'm a big fan of Murphy's law: Whatever can go wrong, will go wrong. All it takes is for one thing to not work. I'd like to suggest a large supply of high-volume pumps.

- Project team response: There's a tradeoff with fixed and deployable barriers. It's likely that areas that are going to have to be crossed are going to need more mechanical systems.

Question from participant: How long have we given ourselves to complete this project?

- Project team response: One and a half years to plan and six years until total completion

Follow up comment from participant: In that time, we could have another storm that would throw a monkey wrench into things.

- Project team response: That is possible

Follow up question from participant: and that doesn't include permitting time?

- Project team response: We're working on the most efficient permitting process possible.

Question from participant: Is this part of the Lower Manhattan Coastal Resiliency project?

- Project team response: No, but we have been coordinating with the City as they are responsible for that project.

Question from participant: How is this going to be paid for?

- Project team response: The project will be paid for by excess revenue that the Battery Park City Authority would have otherwise given to the city,

Follow up question from participant: What happens when the extra money runs out?

- Project team response: We don't expect that to happen for a long, long time

Follow up question from participant: What happens when there's a storm in the next five years?

- Project team response: We have temporary barriers to use in discrete areas. It's more complicated when we look at the whole of Battery Park City. A lot of buildings have purchased building flood protection and tiger dams.

Follow up comment from participant: You don't currently have sufficient temporary barriers to protect an area larger than the battery park ball field.

- Project team response: The temporary barriers we currently have are able to protect significant assets effectively.

Comment from participant: With all due respect, I'm not particularly worried about pedestrians during major storms. People shouldn't be out on the esplanade during a major storm.

- Project team response: That's exactly right. We're designing this for everyday use while implementing resiliency measures to protect us during major storms.

Question from participant: Why was Battery Park constructed this way? Will we compromise something we don't know about with these building projects?

- Project team response: it was built this way because it's a landfill project. The landfill tapers into the river. The platform was built to maximize useable waterfront space.

Comment from participant: As I remember, it was the inset western low point that flooded West Street, not the promenade.

- Project team response: That's right. We'll talk about that more as we move on.

Route 4: Tribeca/BMCC/Hudson River Park, Location B

Project team comment: Deployables may be a good option as they can be stored flat.

Question from participant: How would mechanical deployables work?

- Project team response: They all have a mechanical engine that's hydraulically powered which would be powered by a nearby hydraulic power unit. For redundancies, there will be backup electrical power unit to lift the gate, and finally, all gates are required to be able to be deployed manually.

Comment from participant: We would have to account for the time the deployables take to deploy.

- Project team response: Yes. We don't know how many deployables we will have as of yet, but there will be a plan in place once we do. There are many factors to take into account. For example, manual deployment is not available from the south side of the street because MBCC walls are not compliant as a flood control system. There are also federal landmark houses down the street that have been moved once already. Moving them again may damage their integrity to the point that they would be uninhabitable.

Question from participant: What about all the water coming from the unprotected Hudson River Park? How do you deal with that?

- The focus is to protect Battery Park City. We understand that there are needs beyond BPCA lands, but we don't have jurisdiction.

Follow up question from participant: Is Hudson River Park doing anything?

- Project team response: Not that I'm aware of.

Follow up question from participant: So can you reach out to the city?

- Project team response: It would be the City's prerogative to reach out and begin work on Hudson River Park.

Follow up question from participant: What about to the south?

- Project team response: We're connecting to the NYC Economic Development Corporation's Battery Wharf project to the south.

Route 4: Tribeca/BMCC/Hudson River Park, Location A

Comment from participant: I strongly suggest deployable covers at the midpoint of the street.

Question from participant: How far down Greenwich Street will the project extend?

- Project team response: To the North Bollards at the entrance of the parking garage on the southwest corner of Moore and Greenwich Streets.

Follow up question from participant: So, it wouldn't protect Chambers Street?

- Project team response: That would already be behind the line of protection to the north

Did you have other people with the same concerns at other walkshops?

- Project team response: Miraculously, yes.

Comment from participant: I would urge you to find some protection from another Sandy in a year or less.

Comment from participant: Your presentation was very good.