



Public Comment Summary

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

Battery Park City Authority

Meeting Date/Time: November 13, 2021 – 10:00 a.m. - 1:30 p.m.

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

Attendees: Garrett Avery, Tom Heltzer, Claudia Filomena, Kim Robledo, Nick Sbordone, Nora Madonick, Karina Vangani, Caroline Ibarra, Joseph Smith, Sebastian Kogler, Members of the public

10:00 a.m. Southwest corner of Moore and Greenwich, Location A:

Question from participant: Are there any principals that are already established for this that can guide our thinking?

- Project team response: There are several: One: Provide flood risk protection for Battery Park City (and by extension a significant part of Lower Manhattan). Tribeca is currently the only ground high enough on the east side to tie a flood mitigation system back in. Two: We expect 30 inches of sea level rise overall and are building for a model that factors in sea-level rise, wave action, and storm surge in order for the project to be FEMA certified.

Question from participant: Which parts of Battery Park city will you be protecting? Is it to the East?

- Project team response: 88 Acres of Battery Park City will be protected. And 96 acres of Lower Manhattan will also be protected as an added benefit. Based on coastal modeling, the design flood elevation is one foot where we're standing. For your information, design flood elevation is shorthand for how high the features of the project will need to be above sea level.

Question from participant: Can you repeat that? Who certifies the project?

- Project team response: FEMA certifies the project.

Follow up question from participant: Why? What does that do?

- Project team response: It allows the area to be removed from flood insurance maps.

Follow up comment from participant: Oh, so it's about insurance.

- Project team response: Insurance map removal is one of the benefits of the project, but the core goal is protecting the build environment of the City.

Question from participant: Will this project have adaptability for greater sea level rise?

- Project team response: One of our design principles is to allow for adaptation. Typing ourselves into something that would have to be torn down and rebuilt is undesirable. We are primarily focusing on long-term solutions.

Follow up question from participant: So, it will be adaptable?

- Project team response: There are certain things in the design parameters like foundation and pile-sizing that will allow for greater height to be built on top.

Corner of Moore and West Street, Location B:

Question from participant: Will this project protect North of Moore Street or will it be a future project?



- Project team response: To our understanding there is currently no project that is being executed north of Moore Street

Follow up question from participant: How high [in street numbers] would you need to go to get to a height that doesn't need to be protected?

- Project team response: You would have to get into the low 50's.

Question from participant: So, was Sandy not a 100-year storm?

- Project team response: We are designing for a 100-year storm in 2050 which will be more powerful than Sandy

Follow up question from participant: So, is everyone using that? 2050?

- Project team response: Yes, everyone is generally using that except for the Financial District and the Seaport district who are looking at a 100-year storm in 2100.

Question from participant: Can you talk about the sea level rise?

- Project team response: Yes. We are looking at a 30-inch rise in sea level, which is in the high band for 2050. That being said, it gets into the median band and eventually the lower band all the way out to 2100. So, we believe it will have utility until 2100.

Harrison and West Street

Question from participant: Where would the actual flip up gates go?

- Project team response: They would be perpendicular to West Street and parallel to the crosswalk on the north or south side of Harrison. Both north and south conditions have been considered and it makes more sense to cross on the north side, which would allow for flip up deployable.

Question from Participant: Why can't the barrier system go in the median?

- Project team response: The Department of Environmental Protection has its regional sewer line directly under the median, and we cannot build a flood barrier system directly above DEP infrastructure.

Question from Participant: And you're saying the city sewer is under West St.?

- Project team response: The sewer line is directly underneath the median

How does the sewer work with below ground water?

- Project team response: Any flood barrier system is going to go down pretty deep to between 40 and 50 feet below grade. The sewer is only 20 feet or so beneath the street. Creating a barrier system parallel to West Street would impact maintenance and usability for the sewer system. Furthermore, the system is gravity-based so it zig-zags and has a 15-foot build moratorium on either side of it. Part of the reason this project is so complicated is because there is a lot of existing infrastructure that the flood barrier system will have to co-exist with.

Is the project going north and west?

- Project team response: Yes, the project goes as far north as North Moore Street.

West Side of West Street, interim stop between Locations B and C:

Project team comment: This side of West Street has a lot of different jurisdictions. The HPRK department administers Hudson river park, the New York City Department of Transportation administers the bike lanes, and the BPCA administers the rest. When navigating the resiliency system, we will have to cross through 6 or 7 different jurisdictions.

Question from participant: What factors go into determining where the alignment goes?



- Project team response: First, the matter of how much of the area will be protected overall. There are also technical considerations including preserving the Borough of Manhattan Community College (including BMCC's garbage facilities and utility systems) and independence plaza. We are speaking with project owners in the area to help decide the alignment.

Question from participant: Can you put the barrier right on the river?

- Project team response: The closer you get to the river, the higher the wall has to get because of the increase of wave action close to open water. Because of that, it is more expensive to put it closer to the river, but it is an option. The barrier system also needs to be free of trees 15 feet on each side of it, which will impact where the system is placed and what trees are preserved.

Question from participant: Do you complete the design first and hope to get the permits later?

- Project team response: no, it would not be the smartest move on a tight timeline. There will be several pre-application meetings and the permitting team will be involved in the early design process.

Follow up question from participant: So that would include building on Hudson River Park property?

- Project team response: There are no plans as of yet to build on Hudson River Park property

Follow up question from participant: So, you're not building?

- Project team response: The design-build team is coming on later. That being said, we can do preliminary permitting work with the parameters we are developing.

Comment from participant: So, at this point there's a sea wall under us.

North end of Stuyvesant High School, Location C:

Question from participant: Can you build out into the river?

- Project team response: There's a pier headline to the west, so we cannot expand westward any further. We do have some more flexibility on the north end of Battery Park City. We have more flexibility to work with in North and South coves.

Northwest side of Rockefeller Park, Location D:

Question from participant: Where does the relieving platform go and how does it impact the design?

- Project team response: The platform begins at the sea wall and extends 70 feet into the park. The trees and fountains are on the platform. We have a tricky situation. If the flood barrier footprint is in the relieving platforms, that would open up larger questions. There is a benefit to being off the relieving platform, but in some areas that is impossible. Navigating the relieving platform is a big framework as we go through the area. Thinking about restricting the relieving platform will allow us to look at programming in the area, including expanding green space, seating, etc.

Question from participant: Further back, is it protected? The flood could be in the middle of the park:

- Project team response: The alignment would not go further than river terrace.

Question from participant: What is the timeline, schedule, and budget?

- Project team response: We aim to have the project completed by 2026, which is a very aggressive schedule. The construction of the project budgeted for up to \$575 million which would be raised through the issuance of public bonds.

Follow up question from participant: In regard to the bonding: the Battery Park City Authority currently has more than \$1 billion in public bonds out right now

- Project team response: Our cap limit was raised to accommodate the issuance of these bonds.



Follow up question from participant: Will raising the cap have an effect on ground rent?

- Project team response: No, we don't expect it to affect ground rent.

Question from participant: We're talking about a 100-year flood. What about everyday flooding?

- Project team response: that was the 11.4 feet we were talking about earlier. That has to be the baseline and will be addressed with passive structures. We also have to model these structures to avoid cascading impacts on other parts of the city and other climate resiliency projects. Part of our resilience strategy would include elevating the esplanade with a couple feet of fill. These sorts of passive flood protection will help minimize the chance of human error.

Comment from participant: We talked before about seepage. It's a big issue in Battery Park City.

Between Ferry Terminal and the Irish Hunger Memorial, Location E:

Question from participant: How high is the alignment here?

- Project team response: We are at 11.5 feet. This area is highly susceptible to flooding because of the aspect of north cove. The surge wave hits this spot hard. Additionally, there is a CSO outfall under us that is a 96 inch-in-diameter pipe. We have to weigh how critical the public assets like the Lily Pond and the Irish Hunger Memorial are here as well. The Lily Pond could be elevated or relocated; however, the Irish Hunger Memorial would be more difficult to adjust and would tamper with the artist's intention of the piece. There is also a lot of utility infrastructure here, and we need to consider how to navigate that.

The north edge of North Cove, Location F:

Question from participant: How high is the pole here?

- Project team response: We are still at 11.5 feet. That plaza is four feet above where we are standing. There is also open water above the path tunnels under belvedere plaza.

Question from participant: It is my understanding that in Taipei, they have flood walls that come up out of the ground.

- Project team response: Yes, that is one of the two systems we are looking at. The big component there is an active component. Active components are more expensive and require mechanics which are vulnerable to freezing, thawing, and snowing. Weather here will impact a system like that more than it will in Taipei.

Question from participant: If, somehow, there is a decision to proceed with a flood wall barrier in the harbor, how would it impact the Battery Park City project?

- Project team response: It would impact the Battery Park City Project only if it has been approved and paid for. If a system like that was actually built, it would affect the project, but we are not aware of a plan to go through with that at this time.

I'm awed by the level of complexity. Is there ever a point where you say "this isn't feasible"

- Project team response: No. It is exceedingly complex, but we have been studying what it means along the west and there absolutely are solutions that will accomplish what seems impossible. Additionally, we would love to impact Battery Park City positively by augmenting the public space. It is complex, but it is possible. There is no point along this stretch that is impossible to protect

Question from participant: You mentioned \$575 million. What does that cover?

- Project team response: It covers the whole north section which begins where we started walking today and ends at the Museum of Jewish Heritage. This budget number will also be continuously refined as the design process proceeds.

Question from participant: Can you go over the four sections that comprise the lower Manhattan resiliency project?



- Project team response: The ball field, the South Battery Park Resiliency project are two. There used to be a West Battery Park Resiliency Project and a North Battery Park resiliency project, but we have now combined them into the North/West Battery Park Resiliency Project, which is where we are walking today.

Comment from participant: \$575 million seems like a low number based on what we've seen today.

- Project team response: We are setting the parameters to make sure the design-build team is on budget. On the relieving platform, the cost is \$120,000 per foot. That drops significantly when you are off the platform to around \$40,000 to \$60,000 per foot.

Comment from participant: For magnitude of cost, just re-piling the [where did they re-pile?] cost \$100 million.

- Project team response: It really is a balancing act. Just raising the land costs very little when you compare it to rebuilding a platform which includes re-piling.

Question from participant: What is the cost of a deployable flood wall?

- Project team response: That is a tough one because it has to do with what is around the deployable barrier. It will be different based on location.

Comment from participant: What would be helpful for context is a discussion of goals and who's on the project team.

- Project team response: We want to talk about the Battery Park City North/West Resiliency Project with the public while collecting feedback such as need-to-haves, want-to-haves, and opinions on the public space.

Question from participant: You mentioned the timeline extending to 2026. When will the design-build team be on board?

- Project team response: We released a request for qualifications in September and received the final responses this week. We are beginning to review and hope to have a progressive design-build (PDB) team on board by June.

Follow up question from participant: What is a PDB team?

- Project team response: Progressive design-build. This delivery method allows for construction and design efficiencies when compared to the traditional model of a design team hiring a third-party contractor.

Follow up question from participant: Have any of the RFQ respondents had any experience with complex projects like this one?

- Project team response: I cannot comment yet, because I have not read the RFQs, but the one we pick will absolutely have deep experience.

Follow up question from participant: So AECOM will be advising the Battery Park City Authority on selection?

- Project team response: Yes, and BPCA will make the ultimate decision.

Belvedere Plaza, Location G:

Question from participant: What height are we on the pole?

- Project team response: We are at 8 feet above sea level and have to come up to 18.5 so it is a total of 10.5 feet.

Question from participant: So, is one solution to create a wall that is that high?

- Project team response: We are not considering that as a solution right now

Follow up question from participant: So how do you think about design interpretation?



- Project team response: At the top of the steps near Brookfield mall, there is a requirement of an additional 6 feet of flooding protection which opens up a world of design opportunities that involve terracing, or deployables. The Brookfield elevation is not likely to change.

Follow up comment from participant: Or the damage is fine. Who's doing the cost-benefit analysis?

- Project team response: I think the conversation is about how the benefits are derived from making some parts of Battery Park City resilient but floodable, and then getting everything behind the alignment FEMA certified. On the benefit side of the ledger—in damage avoided and assets protected—we are in the several billion-dollar range.

Question from participant: Does sloping give any relief?

- Project team response: We are not going to go steeper than a 5% slope. For example, we could introduce a planter and stagger it. However, sloping would be beneficial from the perspective of making the area more accessible.

Follow up question from participant: If we have to get from blue (8 feet) to Orange) 9 feet. Can you slope it?

- Project team response: We can do both. We can make the space more accessible and protect it from flooding. We believe this progress tangential issues like accessibility

Project Team Comments: The existing relieving platform only has so much structural capacity and if we want to move flood protection back there, we will be adding more and more weight to the relieving platform. This is one of the main tradeoffs when it comes to building on the relieving platform.

We are also currently standing in between the two PATH train tunnels, and it is necessary to keep pressure off the tunnels, as they are starting to peak up above bed rock. As we move further east, we have less and less verticals clearance and it becomes a delicate balance, moving east makes sense for preserving openness, but also comes with a few tricky conditions.

South Esplanade, interim stop between Locations G and H:

Comments from project team: Almost every residential building along the esplanade is pretty tight against the relieving platform, they meet at the privacy wall. This is a major consideration for how the project is designed as there is a potential for high costs if you have to rebuild sections of the platform. When we get back off the esplanade the walls there now are within six inches to a foot and a half of where they need to be.

We have been studying different approaches towards maintaining the appearance and height of privacy walls, including adding reinforced glass to avoid a looming effect with high walls near back patios. As we go down with esplanade, putting flood protection against privacy walls makes a lot of sense, but would impact the character of the vegetation in the area. In a flood scenario a tree could become uprooted and allow for water infiltration in unexpected areas.

Comment from participant: Then there will be no trees

- Project team response: There are ways to containerize the tree to avoid some of the issues. One of the challenges with deployable systems is that the foundations have to be 30 feet away from planted trees which would make deployable design an issue in this section.

Question from participant: How are you going to engage the public as the progressive design-build team comes on and begins work/

- Project team response: The formats of the community engagement will change. We can do public meetings, workshops like this one, and actual workshops. Public engagement will happen continually. Throughout the design process, there will be a series of milestones and at each milestone we will check in with the community to get feedback on how things are going.



Comment from participant up until this point, the Battery Park City Authority has been great with the community, but this walk shop is very interactive compared to previous engagement. The more you can do, the better.

Question from participant: Who should we contact if we have questions?

- Project team response: We have several channels set up, but if you have additional thoughts on how you would like to receive information, we would love to hear them.

Follow up question from participant: Is there a website where we can go to learn more?

- Project team response: Yes, there is a link on your handout.

Rector Place, Location H:

What is the public art you're planning to protect?

- Project team response: Any of the three pieces you see near Rector Pplace. That's a question that hasn't been answered yet. Do we see ourselves negotiating the alignment around it? How do you use the space?

Comment from participant: Living here on this block, it's beautiful the way it is. Whatever is going to protect it will come first. But we'd like to keep it as unchanged as possible.

- Project team response: That would be difficult to do without replacing the platform.

Comment from participant: What I value most is the trees and the green. Being confined here for almost two years, it was a savior.

- Project team response: We are looking for a way to keep the green as much as possible.

Comment from participant: The most amazing thing for me is the open water. I don't care about the art. I don't like it.

Comment from participant: We'd like to make the space as green as possible/

- Project team response: If we locate the alignment further back, this space will be inundated.

Comment from participant: There is vegetation that is consistent with inundation and brackish water.

- Project team response: There are health and safety considerations to take in with the trees. A lot of these trees are reaching maturity and are quite large, however they are planted in shallow soil. Additional considerations to take in include adding a bike lane to the esplanade.

Response comment from participant: Being on the bike way task force. It's very important to have the passive space. There are a lot of older people who live here now and a lot of strollers.

- Project team response: So, you are saying there are a lot of demands on the space

Response comment from participant: But it works well. Having the extra space is key.

North-west end of South Cove, Interim stop between locations H and I:

Question from participant What is the pole height here?

- Project team response: A foot or two above the fence, up to 12 feet at the esplanade.

Comment from participant: That would block the views.

- Project team response: Yes, it may be an opportunity for a deployable system.

South Cove



Comment from participant: This doesn't feel fully functional. Is there an intermediate solution that involves a lawn?

- Project team response: Any large change to the space would be done with the artist who designed the space, or, if the artist is unavailable, to the artist's original intent.

Comment from participant: Mary Miss is the name of the artist.

- Project team response: Yes.

Question from participant: Is there a way to replace the trees to work with flooding?

- Project team response: Yes. These trees were planted between 1984 and 1988.

Question from participant: How would this area be protected?

- Project team response: We could interface with the water differently here. We could allow people to get closer to the water and actually have a water's edge.

Near the Museum of Jewish Heritage, Location I:

Question from participant: Where are we on the pole here?

- Project team response: about six inches above the wall at the corner.

Question from participant: So, to protect the buildings we're good, but to protect the rest of the park, is it resilience?

- Project team response: it could be an opportunity to add climate resilience to the park or reimagine the space entirely.

Comment from participant: I like this space the way it is.

Comment from the project team: The northwest project ties into the south project and will be met by a deployable.

Question from participant: How soon will the video be available? When do documents close for comment?

- Project team response: Comments don't close, but to incorporate them, we will need them within the next couple of weeks. The video will take some time.

That's perfect. Thanks so much.