Learn more about the project’s implementation:
ESCR: www.nyc.gov/escr
LMCR: www.nyc.gov/lmcr

To learn more about or get involved in resilient planning for the Lower East Side: LESReady.org

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Proposal by the BIG TEAM:
BIG (Bjarke Ingels Group) with One Architecture, Starr Whitehouse, James Lima Planning + Development, Buro Happold, Green Shield Ecology, AEA Consulting, Level Agency for Infrastructure, Arcadis, and the Parsons School of Constructed Environments

These tours are for the concept created during the Rebuild By Design competition. For up to date information about implementation visit rebuildbydesign.org

REBUILD BY DESIGN
AN INTERACTIVE WALKING TOUR

THE BIG 'U'
Start: 23rd St. and the East River
Finish: The Battery
Length: 4 miles
Duration: 1.5 hours

This walking or biking tour will help you engage with a section of the “BIG U,” a proposal put forth by the BIG Team during the Rebuild by Design competition. You will begin at E 23rd St. and Ave C, continuing south down the coastline to The Battery, exploring eight uniquely designed flood protection systems.

Aspects outlined here are conceptual, designed for the Rebuild by Design competition. The actual project will change as it is implemented. For up to date information on the status of implementation or more about the competition, visit rebuildbydesign.org.
The BIG Team’s proposal would replace a US Coast Guard building (1 South St) with a new maritime museum or environmental education facility, such as a middle school for the Harbor School. This signature building could feature what the team calls a “reverse aquarium,” (pictured above) with its form derived from the flood protection at the water-facing ground floor.

A sequence of attractive urban spaces on the waterfront would protect the city while serving and delighting the millions of visitors and thousands of workers in the area.

You have reached the last stop on the walking tour, The Battery. This point serves as a key international reference point for sea level, a visible reminder of water-related challenges that the BIG U is intended to address.

Here, the BIG Team’s proposal includes a protective berm along the most-inland parts of the park’s walkway. The purpose of this extensive berm would be to build upon the current topographic elevation as a protective landscape and create a barrier during storm events.

Looking back, a flood-wall would connect through the Staten Island Ferry building and align with the FDR Drive at The Battery Maritime Building. An elevated plaza would bring the latter’s monumental mezzanine floor level with its surroundings.

The plaza would also connect to an elevated bikeway, which would, in turn, connect to a system of urban furniture, deployable panels, and pavilions providing flood protection in conjunction with sliding flood gates.
BETWEEN TWO BRIDGES
During design workshops, community residents expressed that the underpass below the elevated highway was not well lit, and the neighborhood lacked community space. In response to these concerns, the BIG Team proposed to transform the FDR Drive underpass by including better lighting and programming such as for markets, spaces to practice Tai Chi, and other recreational activities. The team proposed this concept with two options: The first alternative was called the “BIG Bench,” a zig-zagging 4 foot high bench inserted underneath the FDR Drive that would create unique spaces for community programs. This bench would also act as a floodwall during non-severe storms. The second alternative: “Flip Down Deployables,” attach to floodwalls on the underside of the FDR Drive and close as needed. These attachments would incorporate brighter lighting and could be decorated by local artists. The two alternatives could be paired together to maintain the continuous protection around the Manhattan floodplain.

The City learned from the ESCR project that flip down deployables cannot be attached to the FDR. They are working with community and design team to search for effective alternates.

SOUTH STREET SEAPORT
After you pass the Manhattan Bridge, you reach the iconic Brooklyn Bridge. The concept in this section of the BIG U was developed to protect an area that is home to some of the city’s most iconic streets, including South St. and Wall St. Superstorm Sandy caused the first multi-day, weather-related shut down of the United States Stock Exchange on Wall St. Here, the team recognizes that there could be more amenities for fair-weather enjoyment paired with a system of deployable barriers and protective furniture for storms. As you continue past the Brooklyn Bridge, the FDR Drive goes back down to street-grade level and creates a pedestrian pathway linking to The Battery.

To achieve a comprehensive solution, the multidisciplinary team brought together a variety of expertise, from urban ecology to infrastructure engineering, fostering collaboration on a global and local scale. The resulting proposal is unified in function but diverse in character. It responds to the specific needs of each adjoining neighborhood by including an array of programs and amenities, while remaining flexible for future additions as sea level rise and climate change continue to change the landscape of the city.

In June 2014, The United States Department of Housing and Urban Development (HUD) announced a $335 million award to the City of New York for the implementation of a section of the “BIG U” proposal from E 23rd St. to Montgomery St.

GETTING TO THE START: E 23RD ST AND AVE C
The easiest way to arrive here by public transportation is to take the N, R, or 6 subway lines to E 23rd St. and then walk or take the crosstown M23 bus east to Ave C. As you pass 1st Ave, notice all of the hospitals and medical facilities there.
BEFORE YOU START

THE COMPONENTS

The proposal was conceived as 10 continuous miles of protection tailored to respond to individual neighborhood typology as well as community-desired amenities. The BIG U is designed to protect Lower Manhattan from future storms while improving social and recreational assets in the area. The proposal breaks the area into sections, known as compartments: East River Park; Two Bridges and Chinatown; and Brooklyn Bridge to The Battery. Like the hull of a ship, each can provide a flood-protection zone, providing separate opportunities for integrated social and community planning processes for each. Each compartment comprises a physically separate flood-protection zone, isolated from flooding in the other zones, but each equally a field for integrated social and community planning. The compartments work in concert to protect and enhance the city, but each compartment’s proposal is designed to stand on its own.

For implementation the project has been broken into the original three components. The East River Park Component is being implemented as the East Side Coastal Resiliency (ESCR), and from Montgomery street through Battery Park City is the Lower Manhattan Coastal Resiliency (LMCR) projects. LMCR is being implemented in two separate parts.

A LOOK INTO THE LOWER EAST SIDE

The Lower East Side (LES) is a unique neighborhood that encompasses a diversity of incomes, ethnicities, essential services, and social groups that lend to its vibrancy. However, it remains vulnerable in many ways. It is home to Manhattan’s largest stock of public housing that lies within a floodplain. As compared to the rest of the city, the neighborhood has less public space and parks. Its waterfront access is obstructed by a major highway.

Community organizations and strong social advocates within the neighborhood work to improve equity and justice. After Superstorm Sandy, neighborhood organizations came together to form LESReady!, a long-term recovery coalition that remains engaged today. Slide through to see some maps that represent the demographics of this neighborhood.
E 23RD ST AND AVE C
You are beginning your walking tour at the northeast boundary of the “BiG U” concept. The BiG team proposed a generously sized median at 23rd street. The median would provide a safe, segregated bicycle lane along the promenade. They envisioned the median being transformed into a social space with the utilization of built-in benches and planters. They also explored the possibility of the median supporting deployable flood gates.

This vision shifted slightly through the implementation process. In order to prevent blocking visual and physical access to the historic Asser Levy Bath House and to protect both the Bath House and Asser Levy Playground, the alignment now crosses 23rd Street with a series of floodwalls and closure gates and goes up the south side of East 25th Street until it connects with the VA Hospital wall to close the compartment.

STUYVESANT COVE: E 23RD ST TO E 18TH ST ALONG FDR DRIVE
As you proceed south, you will see that today this area is mainly parking lots. Notice that the existing park at the water’s edge is beneath the elevated FDR.

PROPOSAL: The proposal suggested pavilions housing food concessions and recreational programming. In preparation for storm events, deployable walls could be inserted between pavilions to create a continuous line of vertical protection. Existing parking lots under the FDR would be moved and stacked in order to create more public space, including space for rain gardens.

IMPLEMENTATION: After doing a feasibility study, the team realized the impracticality of attaching deployables below the FDR Drive. Thus, this is the location where the project’s implementation most dramatically diverges from the Big U proposal – there will now be a raised, protective, exterior to the FDR Drive to maximize passive protection elements, preserve existing parking infrastructure, and allow future flexibility to re-think the FDR Drive structure in that area.

GLOSSARY OF BERMS
This proposal utilizes multiple berm typologies.

Bridging Berm – In order to access the East River Park, one must cross over a bridge. The BiG team re-envisions these bridges as extensions of the park itself.

Undulating Berm – Vegetated land that is elevated with the intent of creating a barrier between the inland areas and the water.

RIGHT: THE VARIOUS FUNCTIONS OF DEPLOYABLE WALLS
Top: During flood events, these can be deployed for flood protection.
Middle: For everyday use the walls could add an aesthetic and lighted effect, brightening the currently dimly lit space.
Bottom: Some panels can be deployed while others remain open to allow for some extra sheltered space during the winter.

ABOVE: ENTERING THE PARK
The new topographies created by the Undulating Berm will work in conjunction with the Bridging Berm to build continuity between the park and the neighborhood.
The community deeply values their uninterrupted access to the waterfront. The BIG Team’s proposal would create spaces that would allow for safer recreational areas at stops F and G, which also include deployable walls for protection during flood events.

For implementation, where you stand serves as the end of the ESCR project and the beginning of the LMCR project, which started planning in Summer 2016.

The ‘Two Bridges Neighborhood’ takes its name from two legendary East River crossings: the Manhattan Bridge and, farther south, the Brooklyn Bridge. This neighborhood is different than the rest of the East River waterfront due to its concentration of public housing as well as proximity to the extensive, elevated FDR Drive viaduct. More so here than elsewhere in Manhattan, the storm exacerbated the residents’ social vulnerabilities.

The City received money for this component earlier this year from the National Disaster Resilience Competition. Implementation kicked off in mid-2016. Learnings from the ESCR project are being applied to the LMCR implementation. Community meetings are happening now. Learn about upcoming meetings at www.nyc.gov/lmcr.
“CON-ED FLYOVER”: E 18TH ST–E 13TH ST
Continuing south, you will come to the narrowest public passage along the East River. This is due to its proximity to the Con Edison energy substation and generating plant, which you can see to the west. The team’s proposal includes plans for a 0.28 mile long bridge and integrated levee to connect the East River Esplanade to the upland neighborhood just south of 20th Street. This would create continuity along the waterfront and transform the narrow passageway into a wide thoroughway.
In the project’s implementation, there will be a floodwall built to line the inland edge of the FDR and front the Con Edison Plant. It will come back over the FDR at 13th Street.

10TH ST BRIDGE
The 10th Street Bridge is one example of the “bridging berm concept”. As you enter the park, think about the relationship between the bridge and the park. How would this relationship change if the bridge had glass walls instead of chain and featured the same salt tolerant vegetation as the rest of the park? The “bridging berm” would replace the current chainlink overpasses to the East River Park, incorporating a visually engaging topography, as an earthen structure lined with salt-tolerant vegetation. These new bridges would give the community greater access to the park and waterfront.

10TH ST BRIDGE (continued)
As you walk past this bridge, notice that there are two pathways along the East River Park; one closer to the water’s edge and one further. The pathway further from the water is designed to be a bikeway and the closer is designed to be a pedestrian pathway. The BIG Team’s proposal enhances this design by creating an undulating pathway along the base of a “bridging berm” that would run over the highway.
The BIG Team suggested a 1.4 mile long berm along the FDR Drive in the East River Park. This undulating berm would protect the neighborhood from storm surge and rising sea levels as well as create passive social spaces useful for physical activities or sunny picnic spots. This design would support a series of frequent, and generous pedestrian bridges connecting the neighborhood to the sports fields and waterfront esplanade located in the park. The areas along the bridges and berms would be planted with salt tolerant plants to create a resilient urban habitat that helps filter exhaust from car traffic along the FDR Drive and buffers the park against noise and air pollution.

BELOW: The BIG Team’s vision for East River Park from the waterfront is skirted by an undulating berm on the left (east) side to the bridging berm on the right (west) side that would cross the FDR Drive at E 10th St.