

# South Shore of Staten Island, New York

Nov - Dec 2022



## Dec '92 Nor'easter



## Oct 2012 Sandy



## Hurricane Sandy

- Water levels peaked at +12.5 ft NAVD
- Flooding depths over 10 ft
- 4 ft higher than prior record
- 24 Staten Island deaths
- 43 total in New York City
- 80% structures damaged in project area
- Over \$1B in damages

## Project Features (final design underway)

- 4.5 miles buried seawall
- 0.6 miles levee & road raising
- 0.35 miles floodwall
- Natural storage & excavated ponds
- Tidal wetlands

A-1/2 (levee) 3,400 ft @ +16.9 ft NAVD

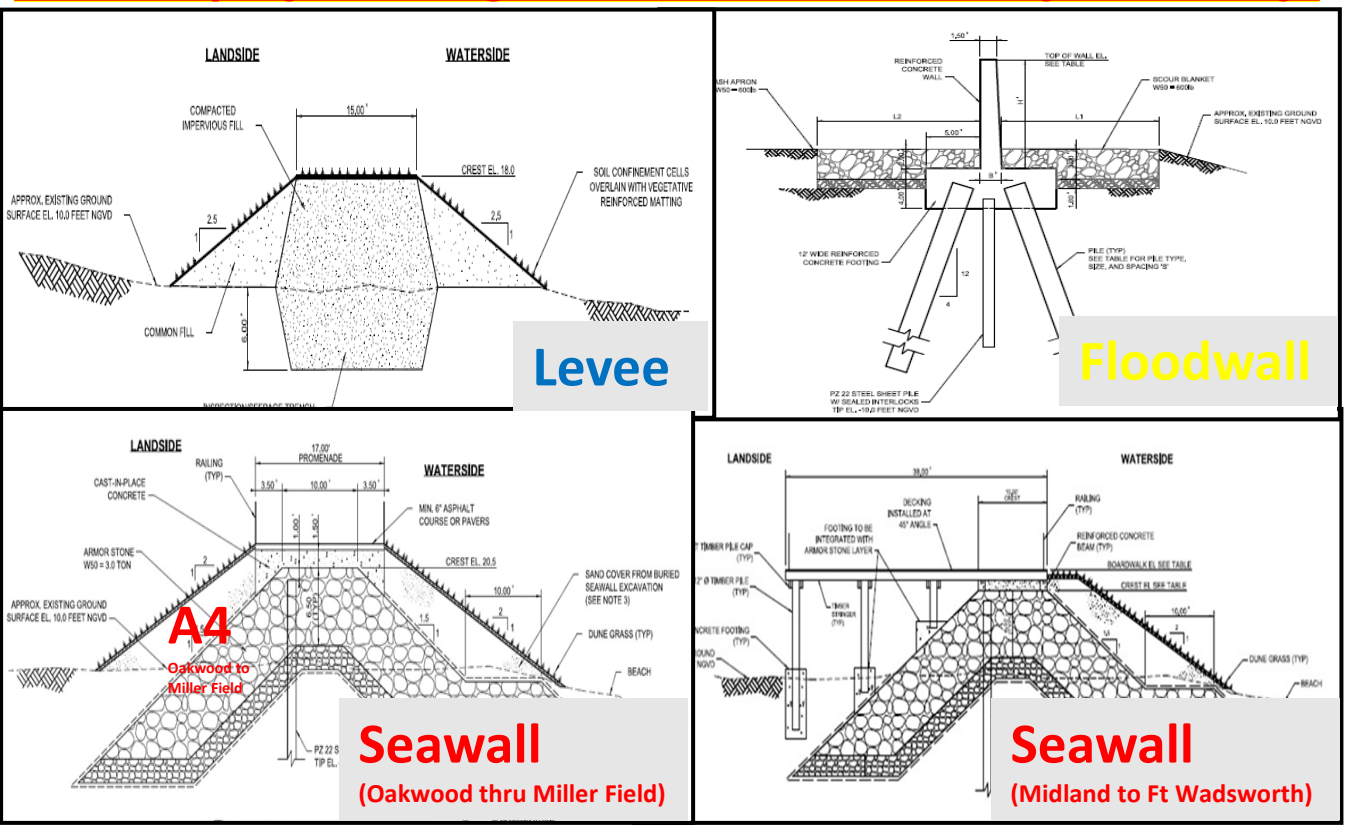
A-3 (floodwall) 2,100 ft @ +19.4 ft NAVD

A-4 (seawall) 22,700 ft @ +21.4 ft NAVD



## Typical Project Cross-Sections

(Several project design revisions are currently underway)



## Project Area Key Facts

- Flood-prone, high risk, low-lying area, low-capacity storm sewers
- Nearly 7,300 structures; over 30,000 people

### Critical infrastructure:

Wastewater Plant; Staten Island Hospital; Fire/police stations; schools & senior centers

## Hurricane Sandy Inundation

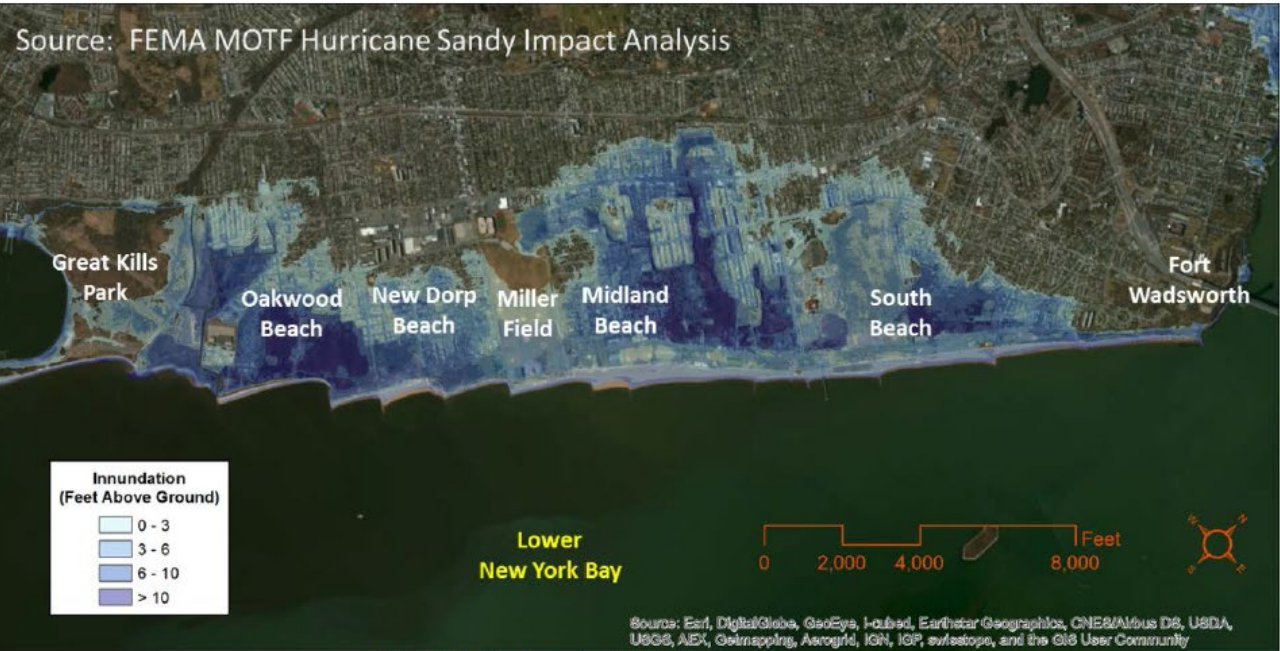
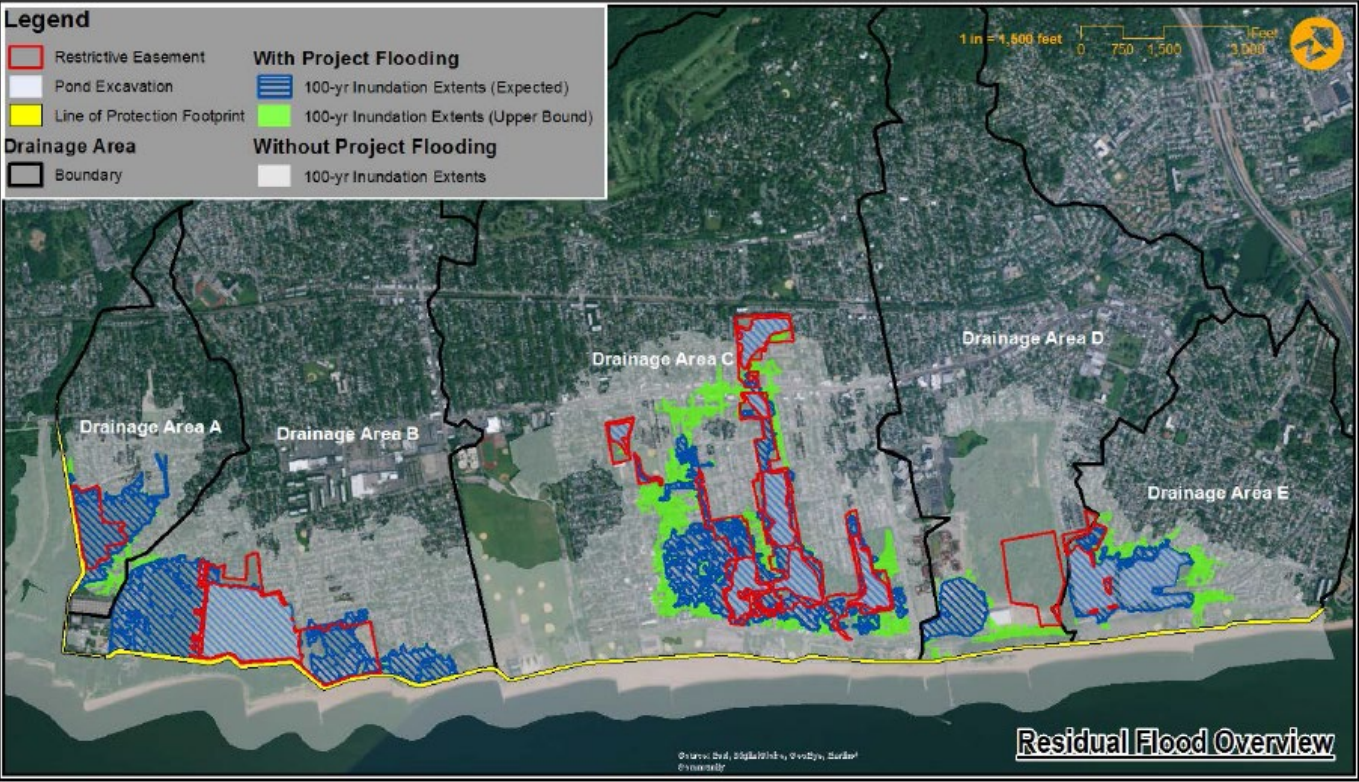


Figure 11 - Hurricane Sandy Flood Inundation

## Residual Flooding After Project Construction

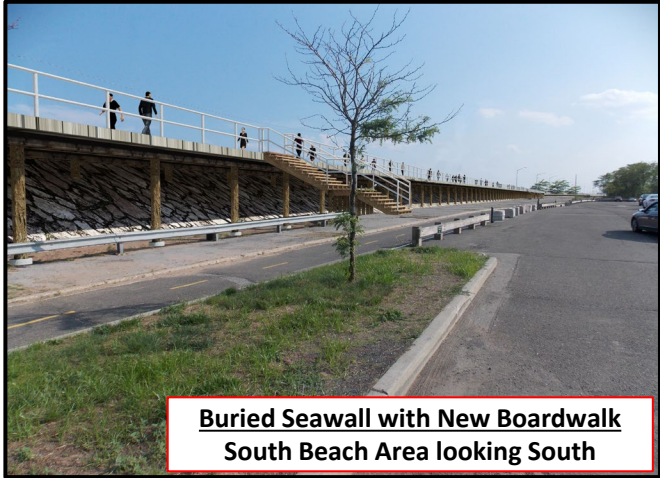




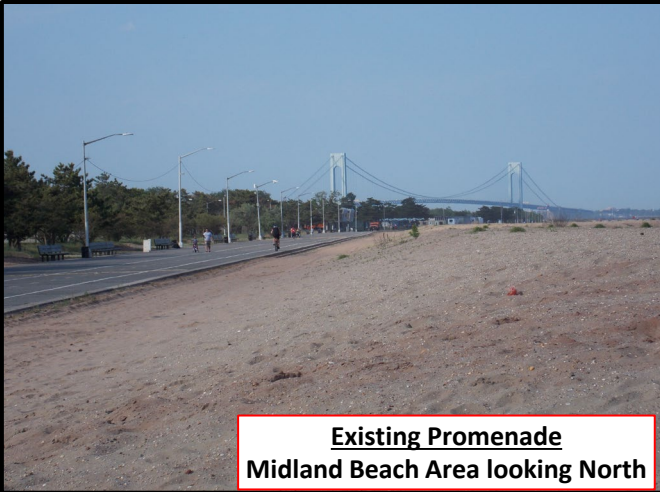
Project Renderings (Before & After)



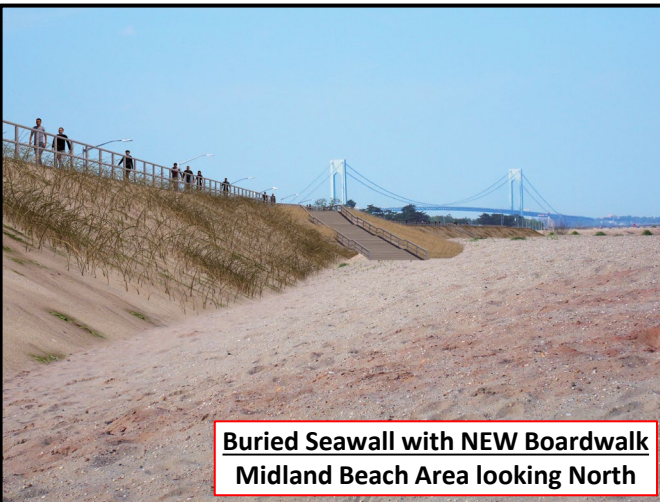
Existing Boardwalk  
South Beach Area looking South



Buried Seawall with New Boardwalk  
South Beach Area looking South



Existing Promenade  
Midland Beach Area looking North



Buried Seawall with NEW Boardwalk  
Midland Beach Area looking North

- ✓ Project is technically feasible, economically justified, environmentally acceptable
- ✓ Federally funded through Public Law 113-2
- ✓ Assistant Secretary of Army approved Final Feasibility Report, EIS, Record Of Decision, Director's Report, with Congressional notification, Dec 2016
- ✓ 3-party agreement with Corps, NYS (sponsor), NYC (party) executed 15 Feb 2019
- ✓ Initial Construction cost-shared 65% Federal, 35% Non-Federal
- ✓ Project Operation & Maintenance is State/City of New York 100% responsibility
- ✓ Residual Risk – project annual exceedance probability is 0.3% (300-yr event)
- ✓ Resiliency – allows emergency response in previously flooded areas; accelerated recovery
- ✓ Reliability – proven engineering solution to withstand multiple storms
- ✓ Adaptability - project can be modified in future to address sea level rise, if required
- ✓ Design Phase of entire project is currently underway: Surveys/mapping, utilities, geotechnical, cultural investigations, physical modeling, interior drainage modeling, construction contract designs, plans, specifications, various contractual packages
- ✓ Coordination is underway with various sponsors/stakeholders: Corps of Engineers, State of New York, Gov Office, City of New York, Mayor Office, City Parks/DEP/DOT, Boro Pres Office, National Park Service, FEMA, Congressional and local interests
- ✓ Design of all construction contracts are currently underway, including significant coordination with the State and City of New York in order to finalize specific project design details

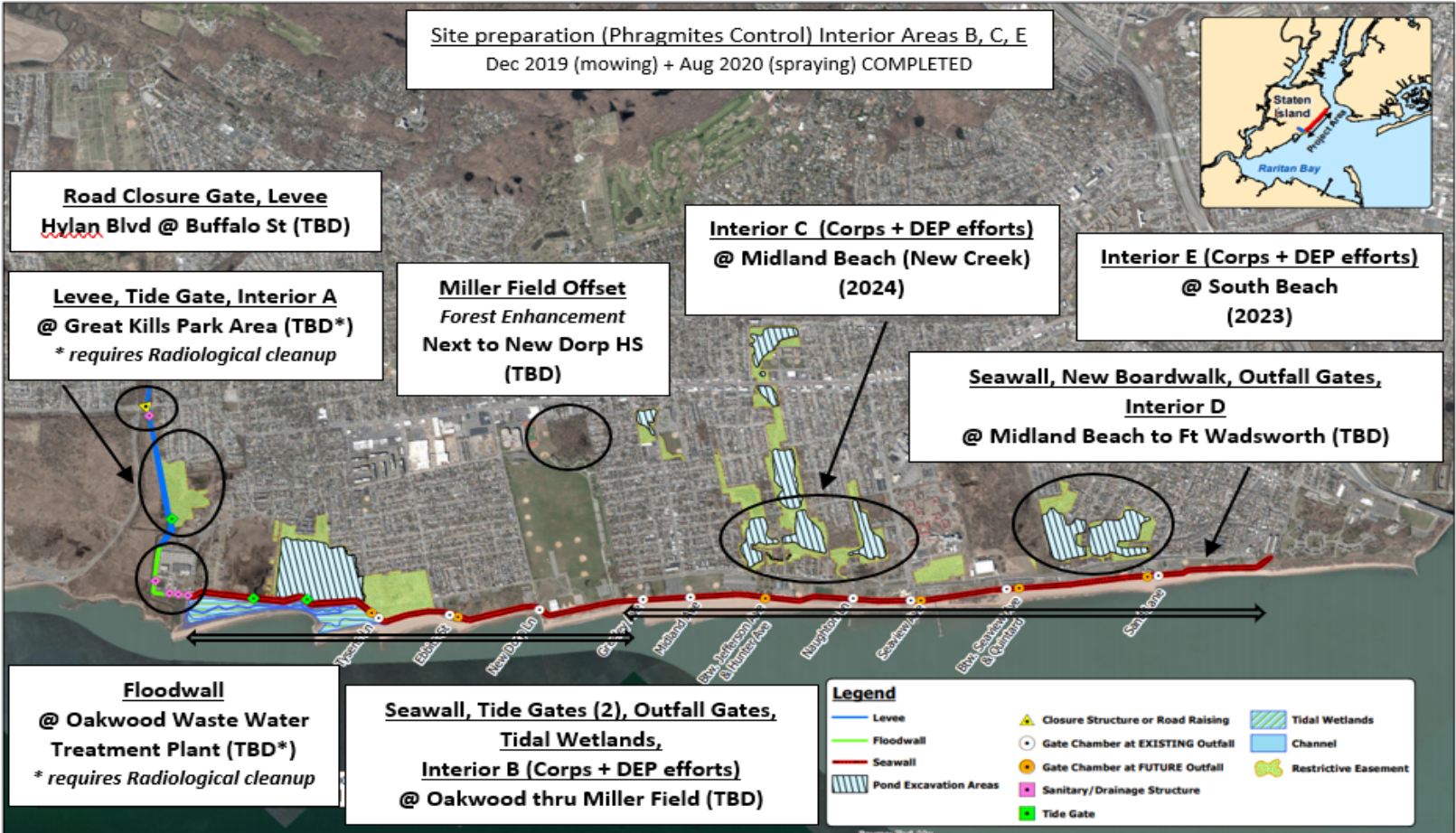
Estimated Project Cost (Cost updates are underway)

Initial Construction Cost (ESTIMATED)	\$615,231,000
Project Cost-share – Federal (65%)	\$399,900,150
Project Cost-share – Non Federal (35%)	\$215,330,850
Annual Operation & Maintenance (Non Federal)	\$679,000

Estimated Project Schedule

Project Partnership Agreement Executed between Corps, NYS, NYC	15 Feb 2019
Phragmites control efforts complete Interior Areas B, C, E	2019 (mow) 2020 (spray)
Estimated Start Construction	Interior E (2023) Interior C (2024)
Estimated Project Total Completion	Schedule is under revision

Anticipated Contract Breakouts with Estimated Contract Award Timelines  
(Several project design, cost, and schedule revisions are currently underway)



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US Army Corps of Engineers (website)  
<http://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-York/South-Shore-of-Staten-Island/>