

South Shore of Staten Island, New York

October 2020



US Army Corps of Engineers
New York District
BUILDING STRONG

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

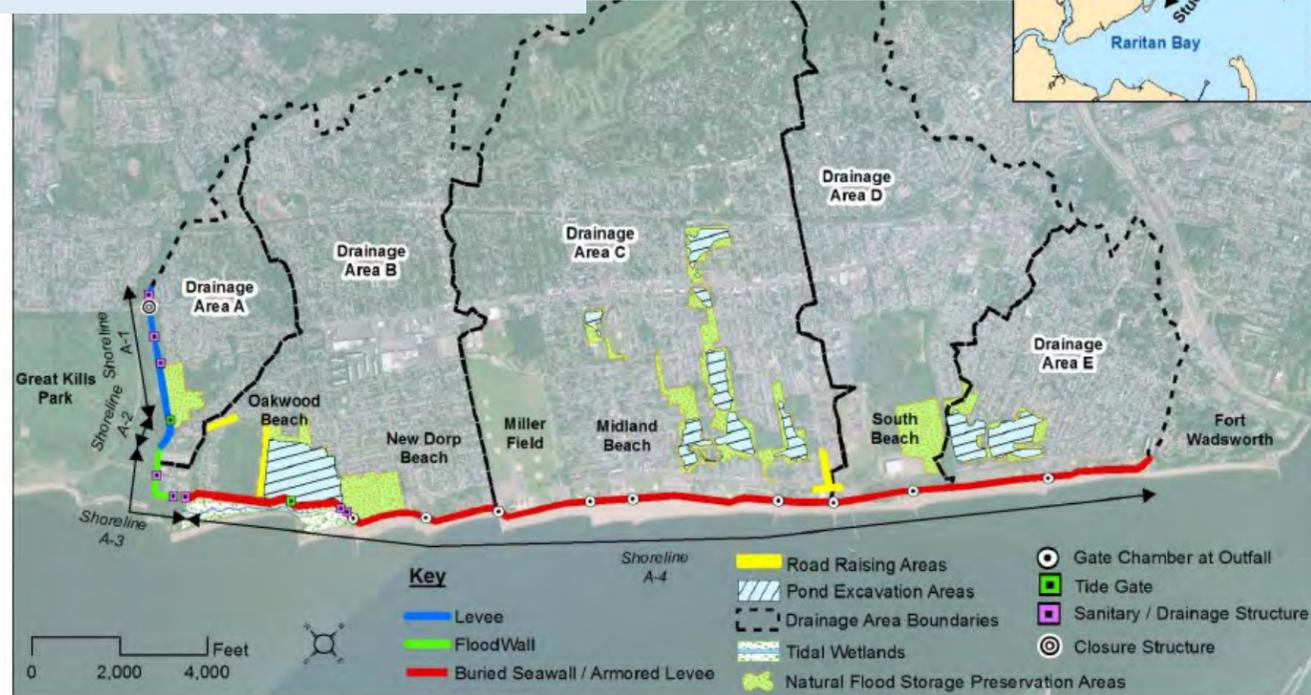
Project Features (final design underway)

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



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; SI University Hospital; Fire/police stations; schools & senior centers

Hurricane Sandy Inundation

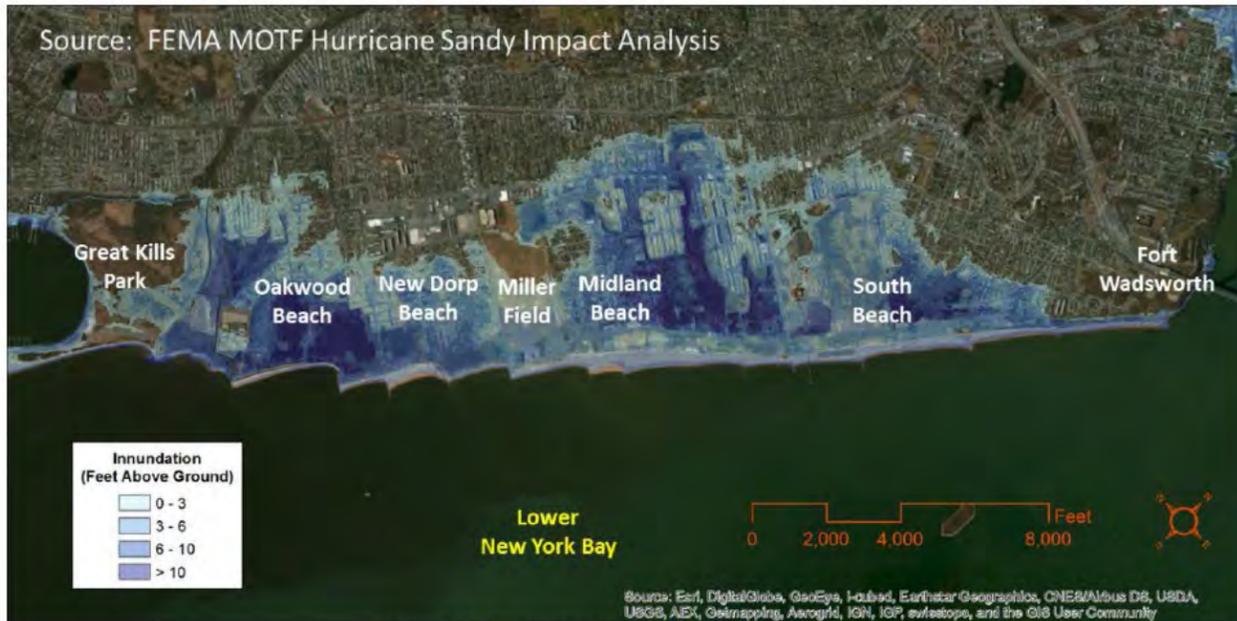
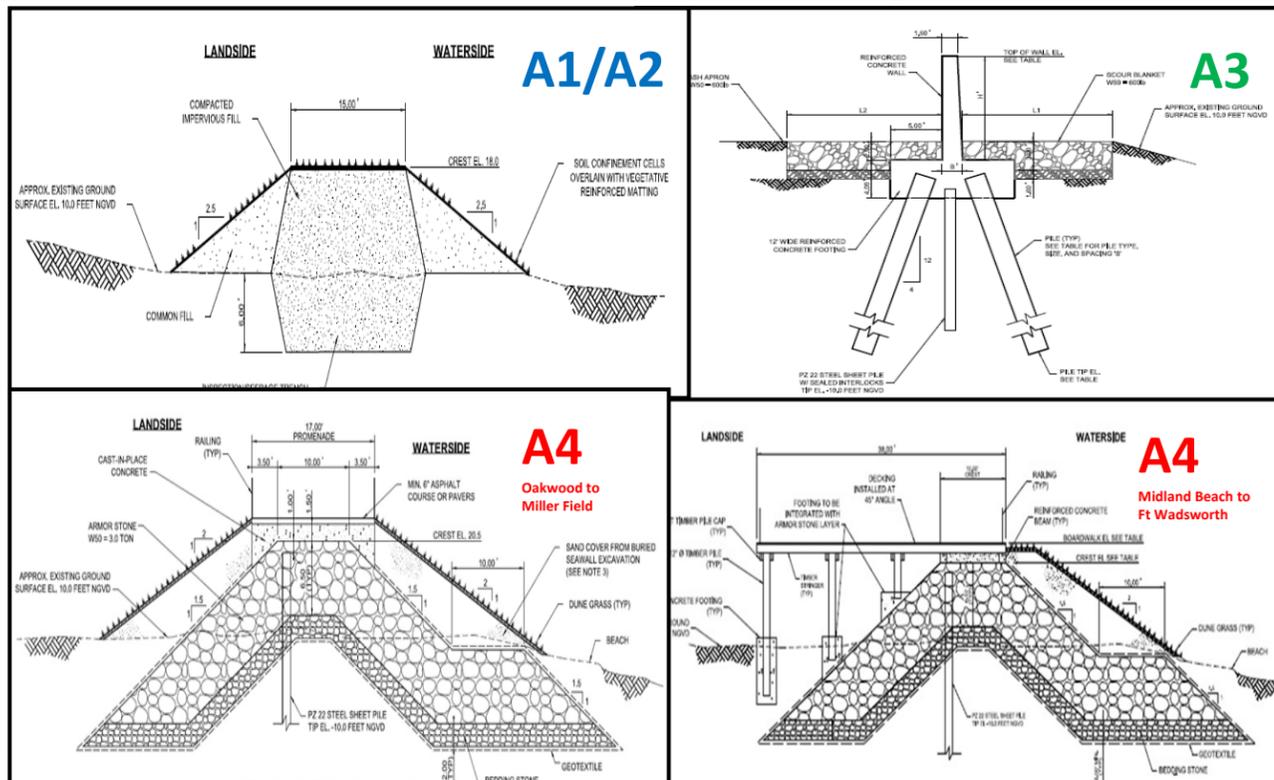
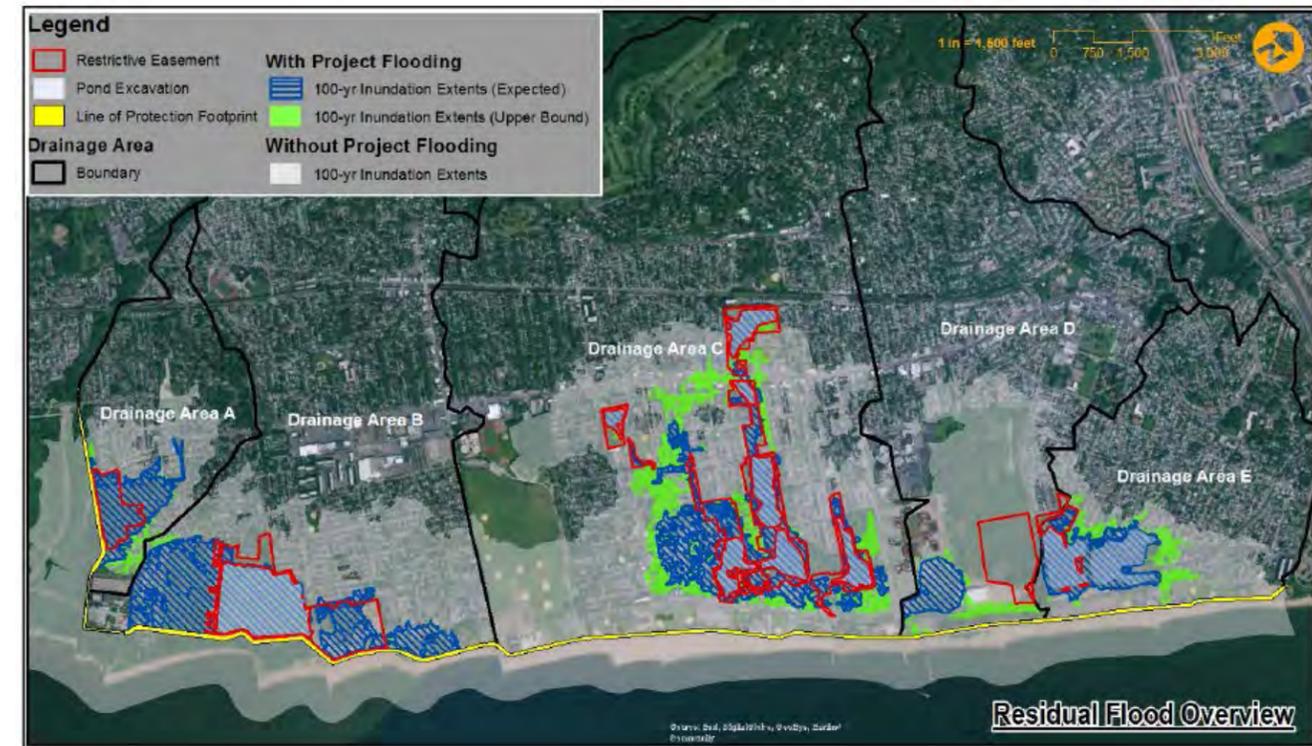


Figure 11 - Hurricane Sandy Flood Inundation

Typical Project Cross-Sections (note, final design revisions underway)



Residual Flooding After Project Construction



Residual Flood Overview

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
- ✓ Initial Construction cost-shared 65% Federal, 35% Non-Federal
- ✓ Project Operation & Maintenance is State/City of New York 100% responsibility

- ✓ Assistant Secretary of Army approved Final Feasibility Report, EIS, Record Of Decision, Director's Report, with Congressional notification, Dec 2016

- ✓ Residual Risk – project annual exceedance probability is 0.3% (300-yr event)
- ✓ Resiliency – project allows emergency vehicle response in previously flooded areas; recovery is accelerated due to improved drainage
- ✓ Reliability – proven engineering solution to withstand multiple storms
- ✓ Adaptability - project can be modified in future to address sea level rise, if required

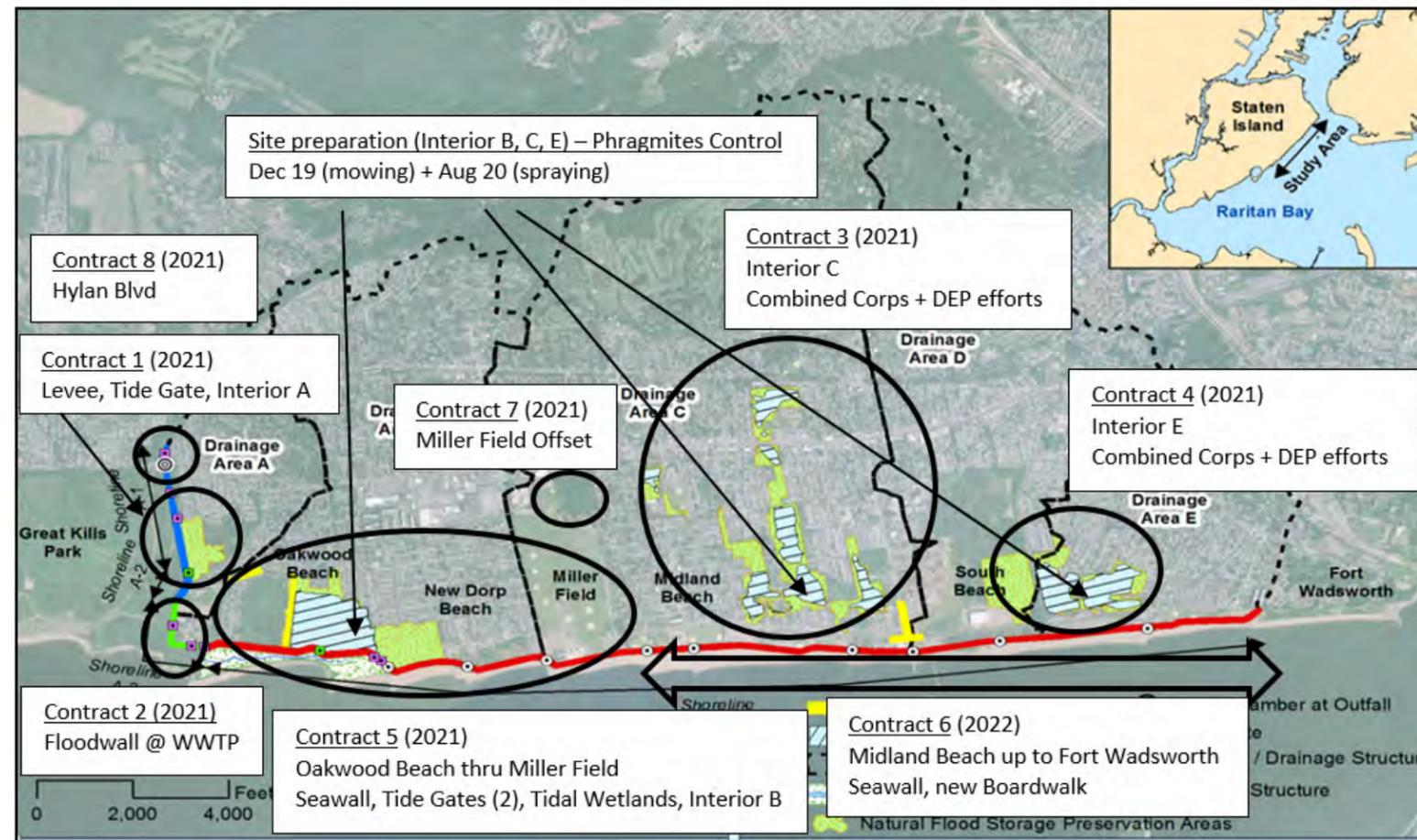
- ✓ Design Phase underway: Surveys/mapping, utilities, geotechnical, hazardous material, cultural investigations, physical modeling, interior drainage modeling, project construction contract design, plans, specifications, contractual packages
- ✓ Coordination underway with various sponsors/stakeholders
 - ✓ Corps of Engineers, State of New York, Gov Office, City of New York, Mayor Office, City Parks, City DEP, City DOT, Boro President, National Park Service, FEMA, and various Congressional and local interests

- ✓ 3-party agreement with Corps, NYS (sponsor), NYC (party) executed 15 Feb 2019

Estimated Project Cost	
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 underway (multi-season fall mow/summer spray)	Dec 2019 (mow) Aug 2020 (spray)
Estimated Start Project Construction (Contract 1) (multiple contracts to follow)	Early 2021
Estimated Project Total Completion	Late 2025 (estimated)

Anticipated Contract Breakouts with Estimated Contract Award Timeline



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