South Shore of Staten Island, New York

**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

**Hurricane Sandy Inundation**

- 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

**Dec ‘92 Nor’easter**

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

**Oct 2012 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

**Residual Flooding After Project Construction**

- Winter 2023

**Project Area Key Facts**

- 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

**Typical Project Cross-Sections**

(Several project design revisions are currently underway)

- Levee
- Floodwall
- Seawall

**Sources:**
- FEMA MOTF Hurricane Sandy Impact Analysis
- Critical infrastructure: Wastewater Plant; Staten Island Hospital; Fire/police stations; schools & senior centers

**Figure 11 - Hurricane Sandy Flood Inundation**
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 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 Awards**
Several project design, cost, and schedule revisions are currently underway

**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 Total Completion Schedule is under revision**

**Project Renderings (Before & After)**

Existing Promenade
Midland Beach Area looking North

Existing Boardwalk
South Beach Area looking South

Buried Seawall with New Boardwalk
South Beach Area looking South

Buried Seawall with New Boardwalk
Midland Beach Area looking North

Existing Boardwalk
South Beach Area looking South

Existing Promenade
Midland Beach Area looking North

Buried Seawall with New Boardwalk
Midland Beach Area looking North

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