RESILIENT HAMPTON

Joint Subcommittee on Coastal Flooding
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The Challenge
Sea Level Rise Projection
Sea Level Rise Planning Horizons

Projected Relative Sea Level Change at Sewell's Point, Virginia - 2000-2100

- Low (Historic)
- Intermediate-Low
- Intermediate
- Intermediate-High
- High
- Extreme
- Observed MMSL

Year


Feet

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

- 1.5' SLR
- 3' SLR
- 4.5' SLR

NOAA 2017

RESILIENT HAMPTON
Resilient Hampton’s Approach

- Solutions based on values
- Reinforce assets
- Layer benefits
- Strengthen partnerships
- Use best data
- Share knowledge & resources
Community Engagement
Community Defined Values

SAFE – REDUCE RISK
EQUITABLE – DISTRIBUTION OF BENEFITS
NATURAL – PROTECT ECOSYSTEMS
HERITAGE – HISTORY AND CULTURE
INTEGRATED – CONNECT SYSTEMS
SUFFICIENT – LEVERAGE INVESTMENTS
NIMBLE – BE ABLE TO ADAPT
INNOVATIVE – FORWARD THINKING
Phase 2 Pilot

Resilient Hampton
Newmarket Creek Pilot Project
Water Plan

Outreach Plan
Water Plan
Conceptual Designs
Implementation Plan
Policies & Ordinances
Newmarket Creek Pilot Area
Pilot Area Design Workshop
Briarwood Terrace

Image Credits: Velva Goodman
Resulting Themes

SLOW
STORE
REDIRECT
ADAPT
Big Bethel Blueway

Section 1 option A

- Precast concrete pad, grade is less than 1%.
- Safe railing system required.
- Adjacent grade is greater than 10%.
- Precast concrete installation system.
- 1% slope.
- Existing grade.
- Shelf with native plantings.
- Existing slope.
- Precast concrete pad.

North of Mercury Blvd, the existing waterway has a steeper slope that requires substantial stabilization. Option A stabilizes the bank through a shallower regrading with wetland shelves. To achieve this shallower regrading, the path becomes a boardwalk made from precast concrete.

Section 1 option B

- Stabilized stone screenings path.
- Barriers of use.
- Shelf with native plantings.
- Existing slope.
- Precast concrete pad.

Option B stabilizes the existing steep slope with a gabion system. The path remains on grade. Both options A and B provide additional stormwater storage in addition to bank stabilization.

The path is at grade along the Blueway, in this section. Most of the Blueway has sufficient storage; the recommended shared use path will be at grade along the Blueway. Standards accessed here: http://www.resourcesLocDep/DRM/Agenda21

Example of boardwalk trail in residential neighborhood (site photo)
WATER QUALITY
ENVIRONMENT
FLOOD RISK REDUCTION
PUBLIC ACCESS
ENVIRONMENT
WATER QUALITY
FLOOD RISK REDUCTION
CULTURE & HERITAGE
PROPERTY VALUES
INNOVATION
PARKS & OPEN SPACE
HEALTH

WACCONNER & BALL
RESILIENT HAMPTON
Multifamily Residential
MD-1 & Single Family
Residence R-9

MD-1 Townhouse:
- total units: TBD
- parcel size: TBD
- unit size: TBD

R-9 Single Family:
- total units: TBD when subdivided
- parcel size: TBD
- unit size: TBD
- total building area: TBD

Proposed Parcel
Proposed Unit
Proposed Paved Area
Boundaries

500 400 300 200 100 50

RESILIENT
HAMPTON
Creek Walk & Patriot Center
Crossroads Resilient Parking
Tree Canopy and Impervious Surface

Image Credits: NASA DEVELOP Team
Pilot Area Tree Canopy Change

2000-2019

- White: Newmarket Creek Watershed
- Green: Tree canopy increase
- Red: Tree canopy decrease

Image Credits: NASA DEVELOP Team
Runoff in Newmarket Creek

Total Area per Parcel Type

- Right of Way: 183M SF
- Single Family Residential: 146M SF
- Commercial: 61M SF
- Public: 34M SF
- Park: 20M SF
- Multi Family Residential: 29M SF

% Impervious

10 Year Event Runoff

- 1500 Acre-ft
- 1020 Acre-ft
- 510 Acre-ft
- 250 Acre-ft
- 310 Acre-ft
- 180 Acre-ft

RESILIENT HAMPTON
Resilient And Innovative Neighborhoods

French Drain: Improve soil drainage condition

Tree Planting: Trees slow and infiltrate water and de-saturate the soil over long periods of time

Rain Barrel: To catch 1 inch of rain per 1,000 SF of roof, approximately 15 rain barrels (65 gallons each) are required

Rain Gardin: Store and infiltrate stormwater

Cistern: A single cistern can hold the same amount of water as several rain barrels

Incorporate Water Management into Road Design: Most of the runoff in the watershed comes from roads in the right of way. As part of a long term water management strategy, porous pavement, bioswales, and subsurface storage could be integrated into road design

Backyard Drainage Redesign: Existing runnels become planted French drains to slow and infiltrate water
Funding and Partnering

**Partnerships**
- Environmental Impact Bond
- Grants
- In-kind Studies and Work

**Stormwater Fee Increase**
**Capital Improvement Plan**
**State & Federal $**
Legislative Priorities

- **Give funding priority to localities and regions that demonstrate regional and intergovernmental cooperation and collaboration.**

- **Create incentives to promote development of new technologies and jobs to support resiliency efforts, particularly solutions which are replicable.**

- **Continue to align and integrate programs, departments, regulations, etc. to remove barriers and move forward in a coordinated effort for maximum benefit.**

- **Allow both structural and non-structural resiliency projects and programs to be eligible for more existing pre-disaster funding sources.**

- **Include a social vulnerability index in funding formulas and cost/benefit analysis requirements and include FEMA’s CRS ratings in evaluations of funding eligibility.**