AN INTERSECTION AND OPPORTUNITY: ENHANCING CLIMATE ADAPTATION AND ECOSYSTEM SERVICES

Living in the Norm and With the Storm

ACES, 2018
A Community on Economic Services
4 December 2018
THEME OF OUR DISCUSSION

RESILIENCE
The Challenges Facing Coastal Communities
EXTREME WEATHER AND PRECIPITATION
CLIMATE ADAPTATION IN 21ST CENTURY LONG ISLAND AND NYC

Increases in Significant Storms

Predicted Sea Level Rise

OUR MASTER PLAN APPROACH

Three overall components to the approach

- **Risk**
- **Investment**
- **Added value**

In the **Cost-benefit Analysis** costs and benefits (the three components) are evaluated over time into a Net Present Value (NPV)
“TOOL BOX” APPROACH TO INTERVENTION MEASURES

Blue / Green Infrastructure
• Placement of Dunes
• Smart Street
• Bioswales
• Living Reefs
• Littoral Sand Replenishment / Management
• Marsh Islands
• Sculpted Land
• Blue-Green Parks / Public Facilities
• Wetlands

Built Infrastructure
• Floodgates
• Elevated Structures
• Outfall Invert Flaps
• Deployable Flood Barriers / Gates
• Integration with Inland Storm Water BMPs
• Pond / Lake / Stream Management
• Raised Streets / Barriers
• Legislation and Planning
• Retreat and Land-use Planning
Hard Engineering Approaches
BLUE GREEN INFRASTRUCTURE.... NORM AND THE STORM

Queens, New York
SWAMPSCOTT, MASSACHUSETTS
A Developing Example

Brookhaven, NY
National Coastal Resilience Fund 2018
Managed Retreat and Ecological Restoration of Southern Mastic Beach, Brookhaven, NY

PLANNING STUDY - PROJECT GOALS

- Restore the reclaimed floodplain to a native healthy salt marsh and maritime scrub-shrub/forest community
- Provide the public safe access to the waterfront via a natural walkway
- Provide a buffer from future flooding for inland residential communities
- Address precipitation impacts.
- Serve as a model that managed retreat can employ an innovative buyout/restoration program. Be Catalytic and Prototypical
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