

Mitigation and Resilience Strategies

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Topics

- **Mitigation and Resilience Strategies Overview**
- **Examples of Mitigation and Resilience Activities**

A big thank you to Brandy Bones, ICF, for providing this presentation. She will be participating in a resiliency session next week at HUD's disaster recovery problem-solving clinic.

Mitigation and Resilience Strategies Overview

Definitions

- **Resilience**

A system's capacity to recover from adversity, a community's ability to rebound quickly from shocks and stressors while at the same time reducing future risk (Lincoln Land Institute)

- **Mitigation**

The effort to reduce loss of life and property by lessening the impact of disasters (FEMA)

Different disciplines – planning, architecture, engineering, community development, infrastructure, emergency management - may define in somewhat different ways

Why it's Important to Promote Resilience and Mitigation

- **Reduces current and future risk and is essential to the long-term vitality, economic well-being, and security of all communities**
- **Maximizes preparedness, saves lives, and brings benefits to a community long after recovery projects are complete, by identifying future risk and vulnerabilities**
- **Protects people and property from harm – improves protection, evacuation, and emergency response**
- **Protects shoreline and riverine communities – preserves residential and business uses, beaches, wildlife habitats, ecosystems and fisheries**

Promoting Resilience/Mitigation Can.....

- **Ensure critical facilities are protected and can recover quickly**
 - Critical infrastructure and facilities – power systems, storm water systems, water treatment plants, communications networks
 - Transportation facilities and networks – roads, ports, airports, public transit, fuel supply infrastructure
 - Public facilities – government offices, first responder facilities, schools, hospitals, trauma centers
- **Protect community assets and vulnerable populations**
 - Public housing, affordable housing, senior housing, nursing homes, facilities serving the disabled and other vulnerable populations
 - Emergency shelters, community centers, parks and recreational facilities
 - Retail businesses, pharmacies, grocery stores
 - Social networks: faith communities, neighborhood groups, on-line communities

Examples of Mitigation and Resilience Activities

Hardening Critical Facilities

- Elevation of mechanical and electrical equipment
- Siting new facilities
- Backup power supplies
- Redundant systems
- Flexible networks



Deploying Backup Power Systems

In critical infrastructure, community facilities, and housing serving vulnerable populations

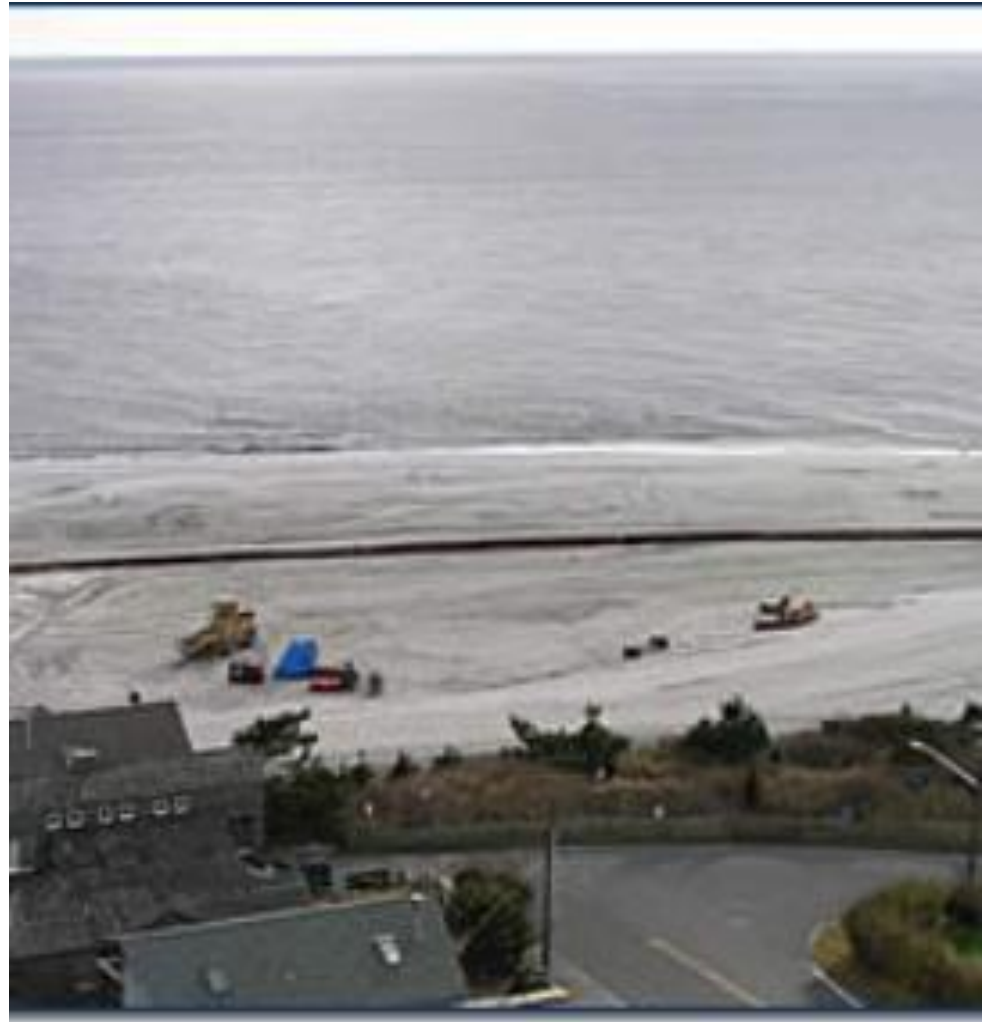
- Generators
- Solar
- Microgrid



Coastal Protection

- Seawalls
- Floodgates
- Storm surge protections
- Berms
- Beach restoration
- Wave attenuation

Green infrastructure projects such as berms and retention areas can double as recreational facilities during non-storm events



Storm Water Runoff Reduction

- Rain gardens
- Bio swales
- Permeable pavement
- Retention pools



Engaging Community Stakeholders

- Encourage housing providers to develop emergency plans with roles and responsibilities, communication with residents and stakeholders, upgrade facilities and infrastructure, plan for business continuity through an emergency event and long-term recovery
- Engage leaders of on-line communities to disseminate information and access resources they can mobilize



What HUD Requires.....

- **Emphasis on high quality, durability, energy efficiency, sustainability, mold resistance**
- **Support for adoption and enforcement of modern and/or resilient building codes**
- **Mitigation of hazard risk, including possible sea level rise, high winds, storm surge and flooding**
- **Implementation and compliance with Green Building Standards**
- **Identification and implementation of resilience performance standards that can be applied to each infrastructure project**
- **Alignment of infrastructure projects with other planned State and local capital improvements**

What HUD Requires.....

- **Integration of preparedness and mitigation measures into rebuilding activities**
- **Verification of how grantees will promote community-level and/or regional (e.g. multi-jurisdictional) post-disaster recovery and mitigation planning**
- **Identification of how grantees will address storm water management systems in flood impacted areas**
- **State grantees must work with local governments in the most impacted and distressed areas to identify the unmet needs and associated costs of needed storm water infrastructure improvements**

CDBG-DR Buyout Programs

- **Eligible activity under CDBG-DR program (as outlined in applicable Federal Register Notices)**
- **Allows CDBG-DR grantees to acquire properties located in flood-prone areas, demolish structures on-site, and maintain the property as green space in perpetuity**
- **HUD encourages buyouts as a means of acquiring contiguous parcels of land for uses compatible with open space, recreational, natural floodplain functions, other ecosystem restoration, or wetlands management practices.**