#### FEDERAL INSURANCE AND MITIGATION ADMINISTRATION



# **HAZARD MITIGATION ASSISTANCE**

New Partners for Smart Growth Conference - February 3, 2018

Jennie Orenstein, FEMA HQ

### **Objectives**

By the end of this session you will:

- Become familiar with the FEMA's HMA grant programs
- Learn about how HMA programs can be used to address future risk



### Hazard Mitigation's Value to Society



- Encourages sustainable residential and commercial redevelopment.
- **Provides** a long-term solution to a natural hazard problem.

#### **Mitigation Saves!!**



# Hazard Mitigation Assistance Programs

#### The HMA Programs include:

- Hazard Mitigation Grant Program
  - Funding provided post-disaster
  - All hazards, funds projects and plans
- Pre-Disaster Mitigation
  - Funded based on annual appropriation
  - All hazards, funds projects and plans
  - Competitive grants program
- Flood Mitigation Assistance
  - Funded based on annual appropriation
  - Flood mitigation project and floodplains only









# Who is Eligible & What is the Application Process?





# **Programmatic Requirements**

#### All HMA project applications must be:

- Must have approved & adopted Hazard Mitigation Plan
- Feasible & effective
- Comply with Environmental Planning & Historic Preservation requirements
- Comply with National Flood Insurance Program
- Cost effective
  - Ecosystem services may apply



#### Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program *February 27, 2015* 



Federal Emergency Management Agency Department of Homeland Security 500 C Street, S.W. Washington, DC 20472



# **Hazard Mitigation Activity Types**

- Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to human life and property from natural hazards
- Examples of mitigation actions are:
  - Flood Diversion & Storage
  - Floodplain & Stream Restoration
  - Minor Localized Flood Reduction
  - Acquisition/Demolition
  - Acquisition/Relocation
  - Seismic Retrofit
  - Tornado Safe Rooms
  - Floodproofing
  - Structure Elevation
  - Ignition Resistant Construction (wildfire)
  - Defensible Space and Hazardous Fuels Reduction (wildfire)









# **Innovative Drought & Flood Mitigation**

- Aquifer Storage and Recovery
- Flood Diversion and Storage
- Floodplain & Stream Restoration







# What Is Aquifer Storage & Recovery?





### What Is Flood Diversion & Storage?



**FEMA** 

Source: UK Environment Agency (2010).

### What Is Floodplain & Stream Restoration?

 Definition: Restoration of the original function of floodplains and associated wetlands of flood-prone river and stream systems to pre-development conditions



Ecology Park, Valley Creek - East Whiteland Township, Chester County

Source: Dewberry (2016).



### **Ecosystem Services for BCA**

- Ecosystem services are beneficial goods and services provided by nature for people
- Provides ecosystem service benefits for post mitigation land use types

Ecosystem/Land Use Type	Value (per acre, per year)
Forest	\$554
Green Open Space	\$8,208
Marine and Estuary	\$1,799
Riparian	\$39,535
Wetland	\$6,010







### What Is Green Infrastructure in HMA?

Green infrastructure provides a framework and methodology for designing and implementing resilient mitigation activities



Engineering With Nature Alternative Techniques to Riprap Bank Stabilization



- An integrated, natural systems-based sustainable design approach to effective water management (storm and flood), resulting in measureable flood and drought risk reduction
- Focus is on re-establishing a site's predevelopment natural hydrology and function, reduce damage to life and property
- Reconnect disrupted natural systems (e.g. reconnect interrupted watersheds or drainage systems)
- Project must demonstrate measurable natural hazard risk reduction



#### **Case Studies**



#### Case Study: Spring Creek New York, NY



#### Jamaica Bay in Queens, NYC



2016 Spring Creek Park



### Case Study: Salinas, Puerto Rico



#### Severe Drought - 2015

#### **Patillas Reservoir**





### 2017 – What a Year!





#### Setting the Stage Risks and impacts are evolving





For information on HMA projects in your community, reach out to your local emergency management official and/or your State or Tribe Hazard Mitigation Officer.

For information from FEMA, contact your FEMA Regional Office or contact FEMA HMA HQ at FEMA-HMA-Grants-Policy@fema.dhs.gov

**HMA Programs** 

https://www.fema.gov/hazard-mitigation-assistance

FEMA Regional Office

https://www.fema.gov/about-agency

**Benefit Cost Analysis** 

https://www.fema.gov/benefit-cost-analysis

