



Gloucester County, New Jersey Hazard Mitigation Plan – 2022 Update

Mitigation Strategy Workshop | August 26, 2021

complex world | CLEAR SOLUTIONS™

2

Agenda

- Introduction
- In-Kind Tracking
- Project Overview and Status – where we are in the process
- Developing Mitigation Strategies – NJOEM and FEMA
- Development of:
 - Mitigation Strategy/Actions/Projects
 - Action Worksheets using the Mitigation Action Development Worksheets
- Next Steps
- Questions



3

3

Gloucester County HMP - In-Kind Tracker

- Glooucester County received FEMA funding to update the Hazard Mitigation Plan (HMP). To help meet the required 25% match, the County will use in-kind services.
- Please use this form to document your time spent working on the HMP. This includes attending meeting, conference calls, working on your municipal annex, reviewing sections of the plan, etc.
- If you have any questions, please reach out to Heather Appar (heather.appar@tetratech.com | 973.630.8046) or Chris (973.630.8357).

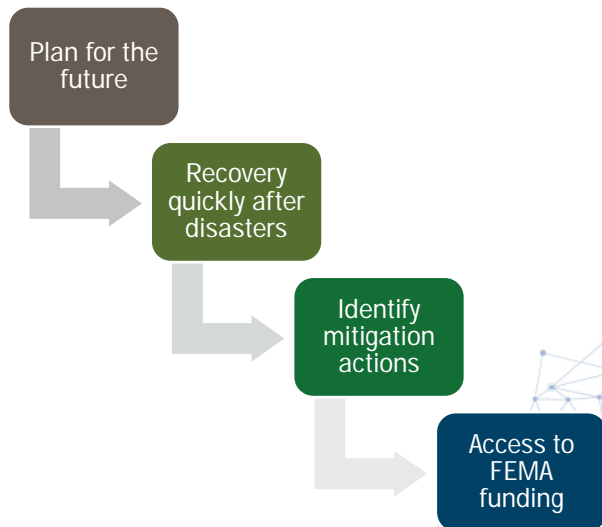
[illegible]

The diagram is a circular flow chart with four quadrants, each representing a phase of emergency management. The quadrants are:

- Mitigation** (top-left, blue background)
- Prepare / Prevent** (top-right, brown background)
- Response** (bottom-right, green background)
- Recovery** (bottom-left, green background)

 Arrows on the outer edge of the circle indicate a clockwise progression from Mitigation to Prepare / Prevent, then to Response, then to Recovery, and finally back to Mitigation.

- A red starburst shape labeled **Event** is positioned between the 'Prepare / Prevent' and 'Response' quadrants, indicating the point at which an event occurs.
- The **City of Houston** logo is located in the center of the 'Mitigation' and 'Recovery' quadrants.
- The **Harris County OEM** logo is located in the center of the 'Prepare / Prevent' and 'Response' quadrants.



2

Why Update?



- Every five years, FEMA requires a County's HMP to be updated.
- The mitigation plan update will:
 - Help the County prepare for and mitigate the effects of disasters
 - Continue to allow the County and participating communities to be eligible for pre- and post-disaster mitigation funding
 - Support CRS participation/rating of municipalities

Why are you spending time on this? Because mitigation works!



- For every \$1 spent on hazard mitigation, the U.S. saves \$6 in future disaster costs!
- The County has been leveraging FEMA funding for years – receiving money to prepare and update this plan, install generators at critical facilities, etc.

More Mitigation Measures, More Savings



**One dollar invested in mitigation =
six dollars U.S. saves in future costs**



Project Schedule Review



- | | |
|----------------------|---|
| ✓ April/May 2021 | Kick-Off Meetings |
| ✓ April-June 2021 | Data Collection |
| ✓ June 23, 2021 | Risk Assessment Presentation to Steering Committee |
| ✓ June 30, 2021 | Risk Assessment Presentation to Planning Partnership |
| ✓ April-June 2021 | Update Hazard Profiles |
| ✓ June-July 2021 | Develop Problem Statements with Municipalities and County |
| ❑ August 26, 2021 | Mitigation Strategy Workshop – TODAY! |
| ❑ September 23, 2021 | Completed Annex meeting with your Tetra Tech planner |
| ❑ Now-October 2021 | Plan Development |
| ❑ Mid-October 2021 | Review Draft Plan |
| ❑ Late-October 2021 | Plan Submitted to FEMA and NJOEM |

8

Annex Progress

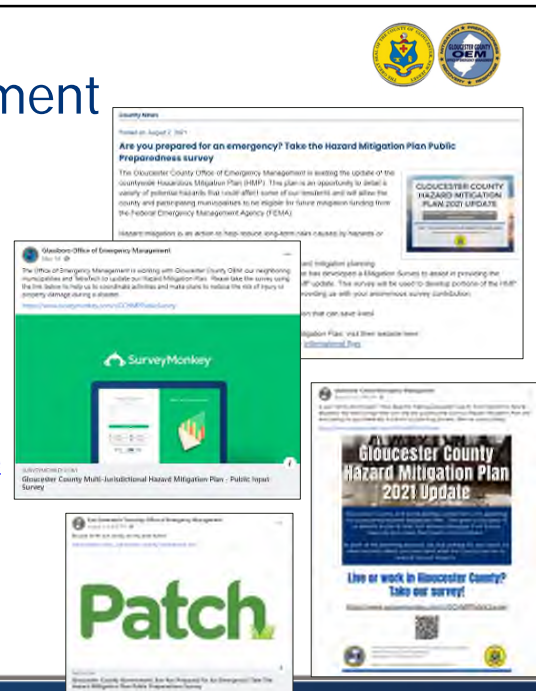
- Looking ahead...
 - Confirm hazard ranking
 - Status updates on previous mitigation actions
 - Identify new mitigation actions for the 2022 update
 - Complete action worksheets
 - Finalize annexes by October
- Red municipalities – received little to no information to date
- Orange municipalities – missing LOIP or a worksheet
- Green municipalities – annex in good shape; need to identify mitigation actions

Status (8/25/2021)	
Gloucester County	Annex in progress
Clayton (B)	Annex in progress
Deptford (Twp)	Annex in progress; missing capability assessment and hazard ranking worksheets
East Greenwich (Twp)	Annex in progress
Elk (Twp)	Annex in progress; missing hazard ranking worksheet
Franklin (Twp)	Annex in progress; missing LOIP
Glassboro (B)	Annex in progress
Greenwich (Twp)	Received LOIP; no worksheets to date
Harrison (Twp)	Annex in progress; missing hazard ranking worksheet
Logan (Twp)	Annex in progress; missing NFIP and hazard ranking worksheets
Mantua (Twp)	Annex in progress
Monroe (Twp)	Annex in progress
National Park (B)	No LOIP; missing majority of worksheets
Newfield (B)	No LOIP; annex in progress
Paulsboro (B)	No LOIP; no worksheets to date
Pitman (B)	Annex in progress
South Harrison (Twp)	No worksheets to date
Swedesboro (B)	No worksheets to date
Washington (Twp)	No worksheets to date
Wenonah (B)	Annex in progress
West Deptford (Twp)	Annex in progress
Westville (B)	Annex in progress
Woodbury (C)	No LOIP; no worksheets to date
Woodbury Heights (B)	No LOIP; no worksheets to date
Woolwich (Twp)	No worksheets to date
Rowan University	Annex in progress

9

Public Outreach and Engagement

- All meetings are open to the public
- All meeting presentations and agendas are up on the HMP website -
<https://www.gloucestercountyjhmp2021.com>
- Public Survey – 195 responses (as of 8/25/2021)
 - We will send you municipal-specific comments to review and incorporate (if needed) into your annex and mitigation actions
- The HMP Story Map is now live! Check it out here -
<https://experience.arcgis.com/experience/54eaeae970ed42bbb9dcda728f364f3d/>
- Social media and municipal websites
 - Let Tt know when you post about the HMP so we can include in the HMP



TETRA TECH

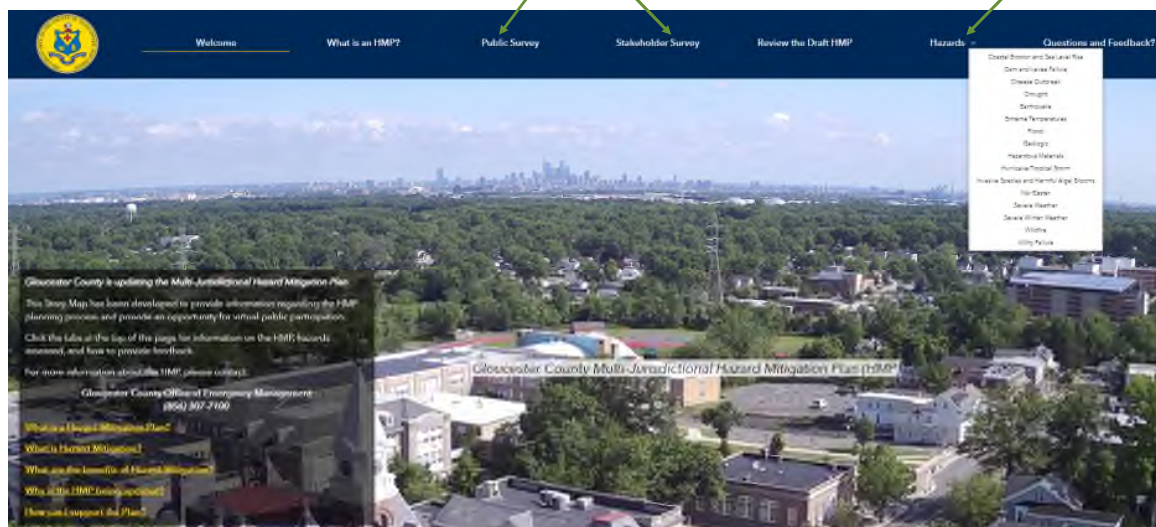
10

10

Story Map

Links to take the surveys

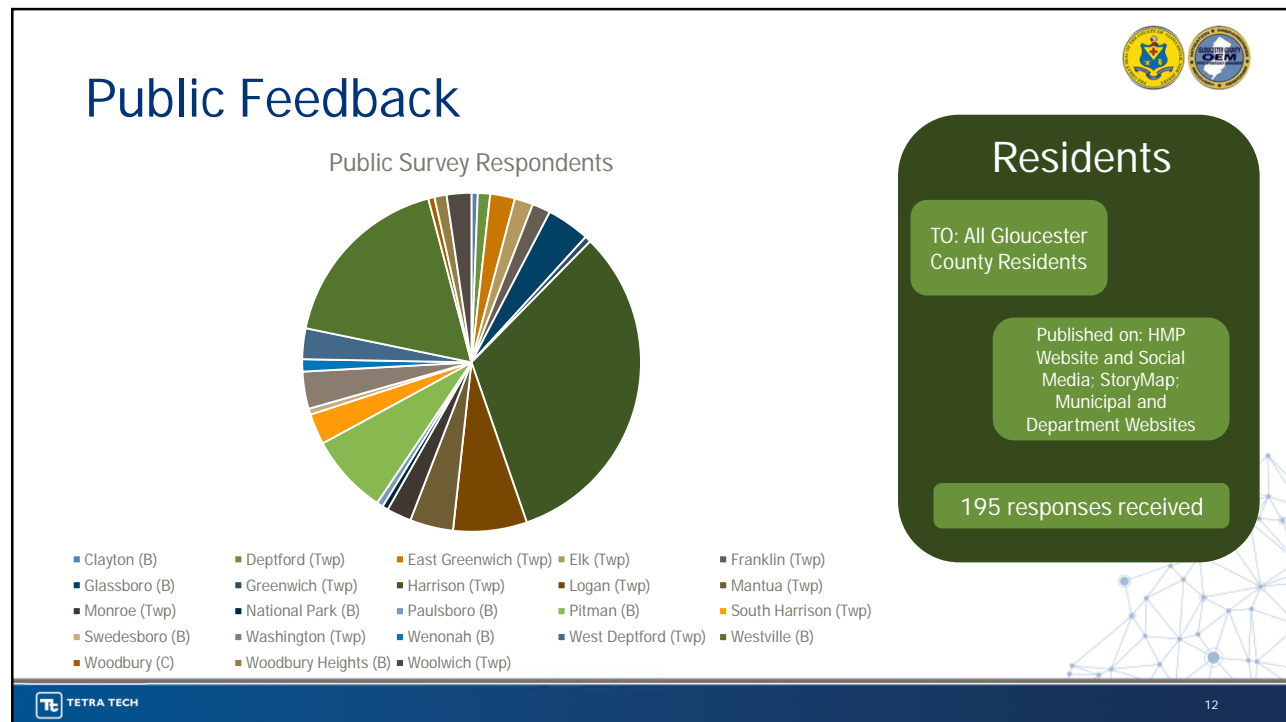
Learn more about the Hazards of Concern



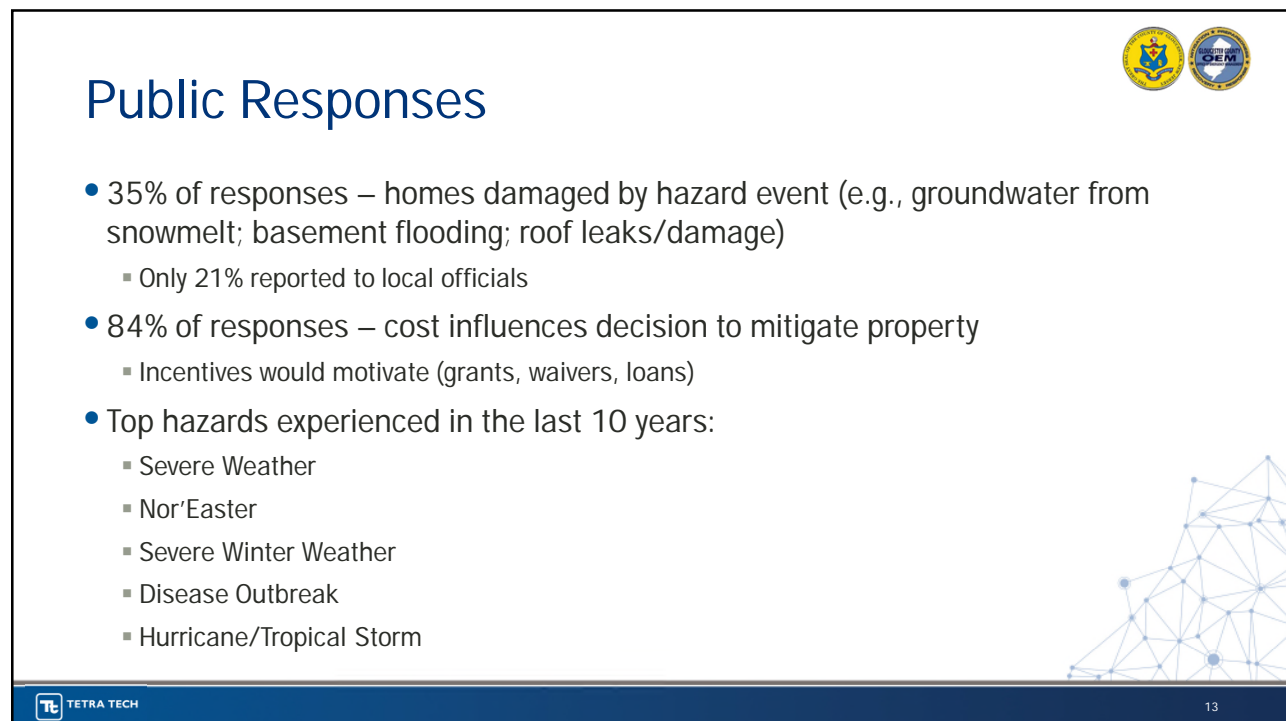
TETRA TECH

11

11



12



13



Public Feedback on Mitigation Projects

- Identified issues:
 - Flooding
 - Stormwater flooding
 - Power outages
 - Downed trees
 - Backup power at critical facilities
- Top Three Choices Selected:
 - 71%: Improve damage resistance of utilities
 - 69%: Improve and strengthen infrastructure (e.g., elevating roads, improve drainage systems)
 - 42%: Replace inadequate or vulnerable bridges

14



Mitigation Strategy

15

2022 HMP Hazards of Concern



- Coastal Erosion
- Dam/Levee Failure
- Disease Outbreak
- Drought
- Earthquake
- Extreme Temperature
- Flood
- Geological Hazards
- Hazardous Materials
- Invasive and Nuisance Species
- Nor'Easter
- Severe Storm
- Severe Winter Storm
- Wildfire
- Utility Outages

16

Risk Reduction



- How do you reduce risk for a hazard?
 - **Manipulate the Hazard**
 - Structural flood control
 - **Reduce/Eliminate Exposure**
 - Acquire floodprone properties
 - **Reduce Vulnerability**
 - Retrofit (floodproofing)
 - **Increase Capability**
 - \$, preparation, technical assistance, planning enforcement

17

Using Your Mitigation Strategy to Reduce Risk



- What is a **Mitigation Strategy**?

- A group of projects or actions to reduce the impacts of the hazards of concern on your community
 - Plans and Regulations
 - Structure and Infrastructure Studies and Projects
 - Natural Systems Protection Studies and Projects
 - Education and Awareness Programs

- Terms to describe the Mitigation Strategy include:

- **Mitigation Action Plan** or **Action Plan**
- **Mitigation Projects** or **Initiatives** or **Actions**

Your Mitigation Strategy table is included in your annex. Action Worksheets are needed for grant-eligible projects (e.g., elevations, acquisitions, generators, etc.)

Requirements for the Mitigation Strategy Update



- Quality not quantity
- 2016 projects
 - If a project is not finished and still a priority, include in 2022 HMP
 - Remove general projects or make more specific
 - Remove maintenance
 - Remove ongoing capabilities
- Minimum of 2 quality projects (a generator can be a 3rd project)
- High-ranked hazards need a mitigation action
- Repetitive and Severe Repetitive Loss Properties - need an action with specifics (street or neighborhood names, not specific addresses)
- Action Worksheets are needed for any projects that can be funded by FEMA HMA grants.



FEMA



Other Mitigation Strategy Actions to Consider



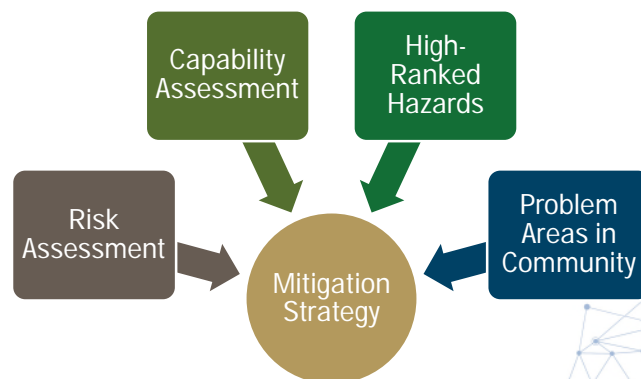
- Local Disaster Debris Management Plans
- Update of Flood Damage Prevention Ordinances to meet new recommended language from NJ DEP
- Actions to address high hazard or significant hazard dams
- Actions to meet Stormwater requirements

20

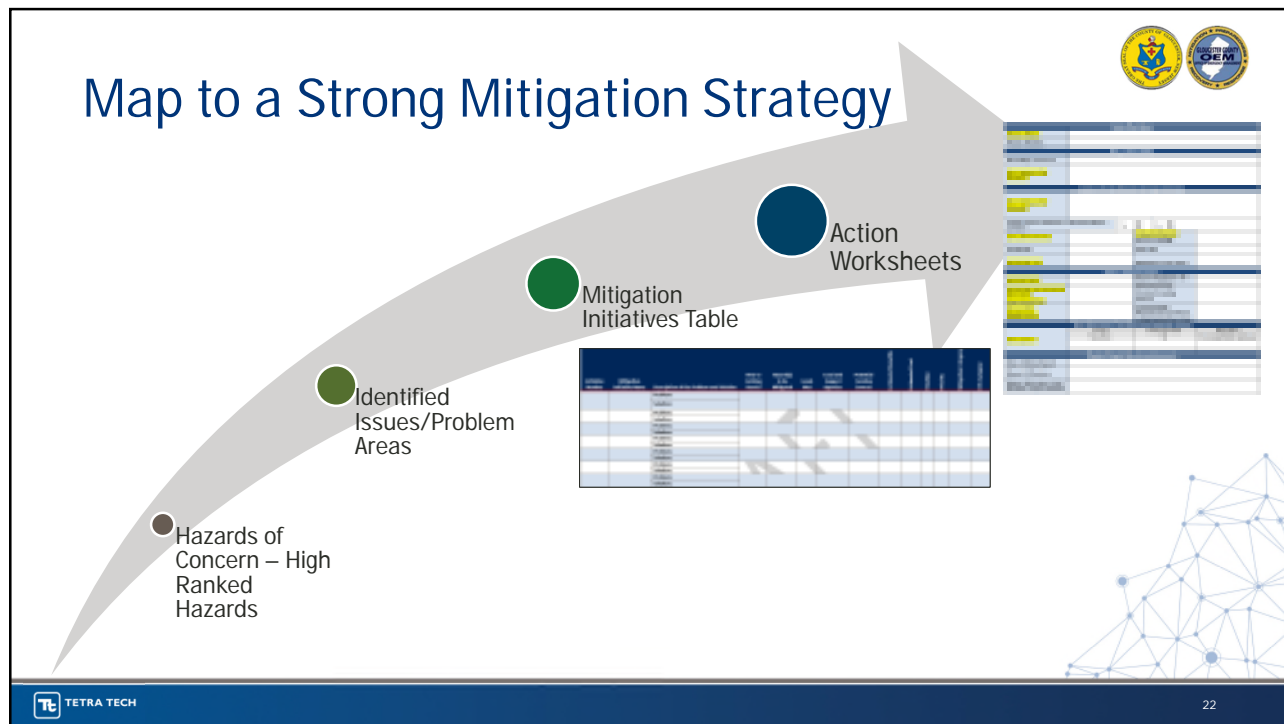
Connecting to the Mitigation Strategy



- Need a clear connection between vulnerability and proposed mitigation actions.
- Capability assessment provides insight into challenges and opportunities for the mitigation strategy.
- Provides the factual basis for activities proposed in the mitigation strategy.



21



22

Where do you need to focus?

- Stronger connection between the risk assessment and mitigation strategy
- More specific, achievable actions
 - Specific projects, in specific locations, in a specific timeframe
- Diverse actions
 - Focus on highest ranked hazards but also look to address other hazards
 - Include a variety in the types of actions

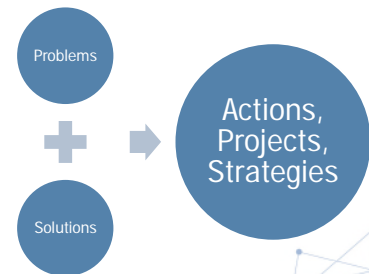
23

23

Use Your Hazard Ranking Worksheet



- In the Hazard Ranking Worksheet sent out in July, we asked several questions to help identify problems and solutions.
- Your Tetra Tech planner will help you use the problems identified in the worksheet to develop mitigation strategies for your municipality.
 - Tetra Tech will be reaching out to you to set up a time to discuss actions, develop action worksheets, and complete your annex.



24



Update the Mitigation Strategy

Action Types

Initiative Table – Actions and Projects

25

Update the Mitigation Strategy



- Review the Goals and Objectives of the HMP
- Start with problems (look at the hazard ranking worksheet!)
 - Turn challenges/obstacles/gaps into mitigation actions
 - Examine historic impacts
 - Review the risk and capability assessment results
 - RL/SRL properties
 - Stormwater/urban flooding areas
 - Critical facilities and lifelines located in a hazard area (if feasible)
 - Additional areas of vulnerability
 - Previous FEMA HMA submitted projects – awarded/unawarded
- Identify new Mitigation Actions/Projects/Strategies
- Modify 'carry-over' projects from the 2016 HMP
 - **More specific** or to **address different aspects of the original problem**



26

Mitigation Action Types



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.



27

Range of Mitigation Actions

- For CRS credit, flood-related actions should cover a range of CRS categories:

Preventative	<ul style="list-style-type: none"> Floodplain mapping Open space preservation Floodplain regulations Stormwater management
Property Protection	<ul style="list-style-type: none"> Relocation Acquisition Elevation
Natural Resource Protection	<ul style="list-style-type: none"> Wetland protection Erosion and sediment control Water quality improvement Environmental corridors
Emergency Services	<ul style="list-style-type: none"> Hazard warning Critical facilities protection Health and safety maintenance
Structural Projects	<ul style="list-style-type: none"> Floodwalls Storm drain improvements Channel modifications
Public Information	<ul style="list-style-type: none"> Outreach projects Real estate disclosure Map information Environmental education

- Primary types of mitigation actions to reduce long-term vulnerabilities include:

Local Plans and Regulations	<ul style="list-style-type: none"> Zoning codes Ordinances Open space plan Debris management plan
Structural Projects	<ul style="list-style-type: none"> Elevation Drainage improvements Property acquisitions
Natural Systems Protection	<ul style="list-style-type: none"> Stream and wetland restoration Erosion control
Education and Outreach	<ul style="list-style-type: none"> Public awareness Education programs

28

Proposed Action Table

- Each municipality will need to complete the *Proposed Hazard Mitigation Initiatives* table in their annex (Table 9.X-16)
- Each column needs to be filled in. Tetra Tech will assist you with completing each cell.
- Action Worksheets will need to be completed for ANY project that can be funded by FEMA HMA grants.

Initiative Number	Mitigation Initiative Name	Description of the Problem and Solution	New or Existing Assets?	Hazard(s) to be Mitigated	Goals Met
2021-Your Town-001	Repetitive Loss Property Outreach	<p>Problem: There are 100 repetitive loss properties located in the Borough. According to NFIP claims records, these properties have experienced extensive flood damage through the years. Without proper mitigation, the structures will continue to experience flood damages.</p> <p>Solution: Conduct outreach to the property owners to inform them of their repetitive loss designation and provide mitigation options to protect the structures. If the property owners choose elevation or acquisition, the Borough will develop a grant application to fund acquisitions or elevations of the properties.</p>	Existing	Flood, Severe Storm, Hurricanes/Tropical Storms	All

Lead and Support Agencies	Potential Funding Sources	Estimated Benefits	Estimated Cost	Timeline	Priority	Mitigation Category	CRS Category
Municipal Floodplain Administrator, Property Owner	Borough Budget for outreach; FEMA FMA or HMGP for mitigation measures	Increase resilience of structure and Borough; decrease flood damages	<\$10,000 for outreach; mitigation costs vary depending on project	One year for outreach; 5 years for mitigation measures	High	EAP, SIP	PP, PI

29

Gloucester County Stormwater



Tier A:

- Clayton Borough
- Deptford Township
- East Greenwich Township
- Franklin Township
- Glassboro Borough
- Greenwich Township
- Harrison Township
- Logan Township
- Mantua Township
- Monroe Township
- National Park Borough
- Newfield Borough
- Paulsboro Borough
- Pitman Borough
- Swedesboro Borough
- Wenonah Borough
- West Deptford Township
- Westville Borough
- Woodbury City
- Washington Township
- Woodbury Heights Borough

Tier B:

- Elk Township
- South Harrison Township
- Woolwich Township



30

Tier A Requirements



- Annual report
- Stormwater Pollution Prevention Plan
 - Review annually and update, as necessary
 - Post to website
- Municipal Stormwater Management Plan
 - Review annually and update, as necessary
 - Post to website
- Local Public Education and Outreach
- Post Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping
- Mapping and Illicit Discharge Control
- Stormwater Facilities Maintenance
- Total Maximum Daily Loads
https://www.nj.gov/dep/dwq/tier_a.htm



31

Tier B Requirements



- Local Public Education and Outreach
- Post Construction Stormwater Management in New Development and Redevelopment

https://www.nj.gov/dep/dwq/tier_b.htm



32

How do you fill in the Action Worksheets?



The entire worksheets needs to be filled in; however, Tetra Tech will assist with this. We ask that each municipality fill in (at least) the highlighted cells.

Focus on providing highly detailed:

- Description of the Problem
- Description of the Solution



33

33

Next Steps



- Actions and Annexes
 - Work with your assigned Tetra Tech Planner (Heather, Chris, Mike and Jen) to complete your annex, mitigation actions, and action worksheets by **September 23rd**
- Review your draft annex and provide an email to your assigned Tetra Tech planner to approve your annex for posting for public review



34

Questions?



35



Gloucester County Project Contacts	
Dennis McNulty, Coordinator (856) 307-7100 dmcnulty@co.gloucester.nj.us	Chuck Murtaugh, Deputy Coordinator (856) 307-7100 cmurtaugh@co.gloucester.nj.us
Tetra Tech Project Contacts	
Heather Apgar, CFM, Project Manager (973) 630-8046 heather.apgar@tetratech.com	Chris Huch, CFM, Lead Planner (973) 630-8357 chris.huch@tetratech.com

Thank
You!