



FEMA

Mitigate Disaster Damage with FEMA Public Assistance

The Federal Emergency Management Agency (FEMA) recognizes that after a disaster, the best time to protect a facility from future, similar damage is during the recovery period.

Mitigation projects done during the recovery period reduce overall cost and construction efforts associated with retrofitting a repaired facility.

If you qualify for repairs through FEMA's Public Assistance (PA) Program (Robert T. Stafford Disaster Relief and Emergency Act, Section 406), you may also be eligible for additional funding to protect your facility.

During the recovery process, FEMA will assist you with assessing damage, developing a Hazard Mitigation Proposal, and evaluating the cost-effectiveness of mitigation projects.

Examples of Mitigation Projects Funded by Public Assistance

Flood door to provide facility dry floodproofing mitigation



Heat pump elevated 4 feet above ground to prevent flooding damage



Steel reinforced concrete and waterproofed flood walls around a building to protect facility from the horizontal pressure of flood water



Concrete wingwalls around a culvert to prevent road erosion



Lourdes Hospital, a critical care hospital in Binghamton, New York is on the banks of the Susquehanna River.

In 2006, the river flooded, forcing the hospital to evacuate its patients and close for 2 weeks. In addition, the disaster caused \$20 million in damages to the facility.

After deciding that relocating to avoid future, similar damage was not an option, the hospital incorporated a PA mitigation project into its repairs.

A floodwall was built around the facility and in the event of flooding, entry-point gates would automatically trigger from floodwater pressure and raise to completely seal the property.

The hospital used Section 406 Hazard Mitigation funding under PA from FEMA and New York State to fund the floodwall, which was completed in 2010, 4 years after the initial flood event.

Just a year later in 2011, Tropical Storms Irene and Lee made landfall within 10 days of each other, causing the Susquehanna River to crest at over 25 feet—nearly twice the level necessary to declare a flood in that area.

Because floodwaters never breached Lourdes Hospital's floodwall (photo), the facility was able to remain fully operational.

How Can Public Assistance Mitigation Benefit You?



Prevents or reduces loss of function for public services



Helps avoid repetitive damage from disasters



Provides a long-term solution to a problem

Who Pays for Your Public Assistance Mitigation Project?

Projects are funded by a combination of federal and non-federal sources. The federal share is determined by FEMA and may be used to pay a minimum of 75 percent of eligible costs. Any remaining eligible costs are derived from non-federal sources (e.g., state, community).

Eligibility Requirements

FEMA will verify damage is the result of a declared disaster and that mitigation measures do not negatively impact the facility's operation or make it susceptible to devastation from another hazard.

FEMA evaluates proposed PA mitigation measures for four main factors: risk reduction, cost-effectiveness, technical feasibility, and compliance with applicable laws and regulations (described on the next page).

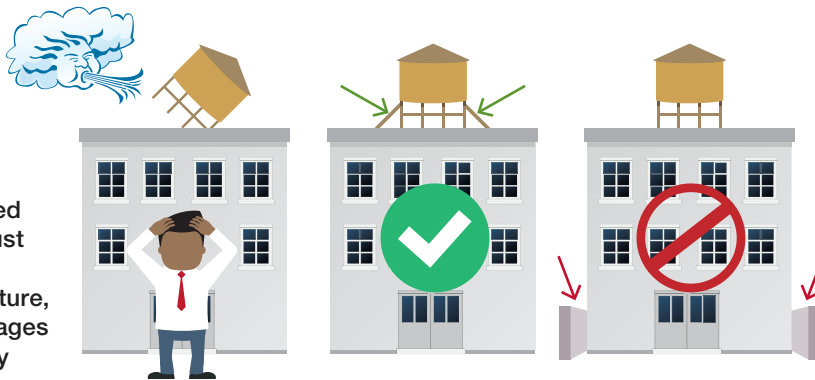


Lourdes Hospital, Binghamton, New York, 2011

The Four Main Factors Required for Proposed PA Mitigation

1

The proposed measure must reduce the impact of future, similar damages to the facility



2

The proposed mitigation must be cost-effective (see the sidebar to the right)



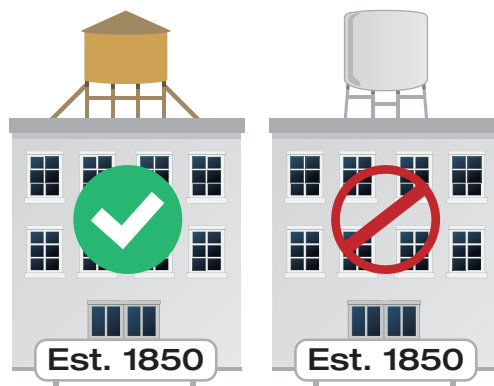
3

The proposed mitigation must be technically feasible



4

The proposed mitigation must be compliant with federal Environmental Planning and Historic Preservation regulations, laws, and Executive Orders as applicable



Cost-Effectiveness

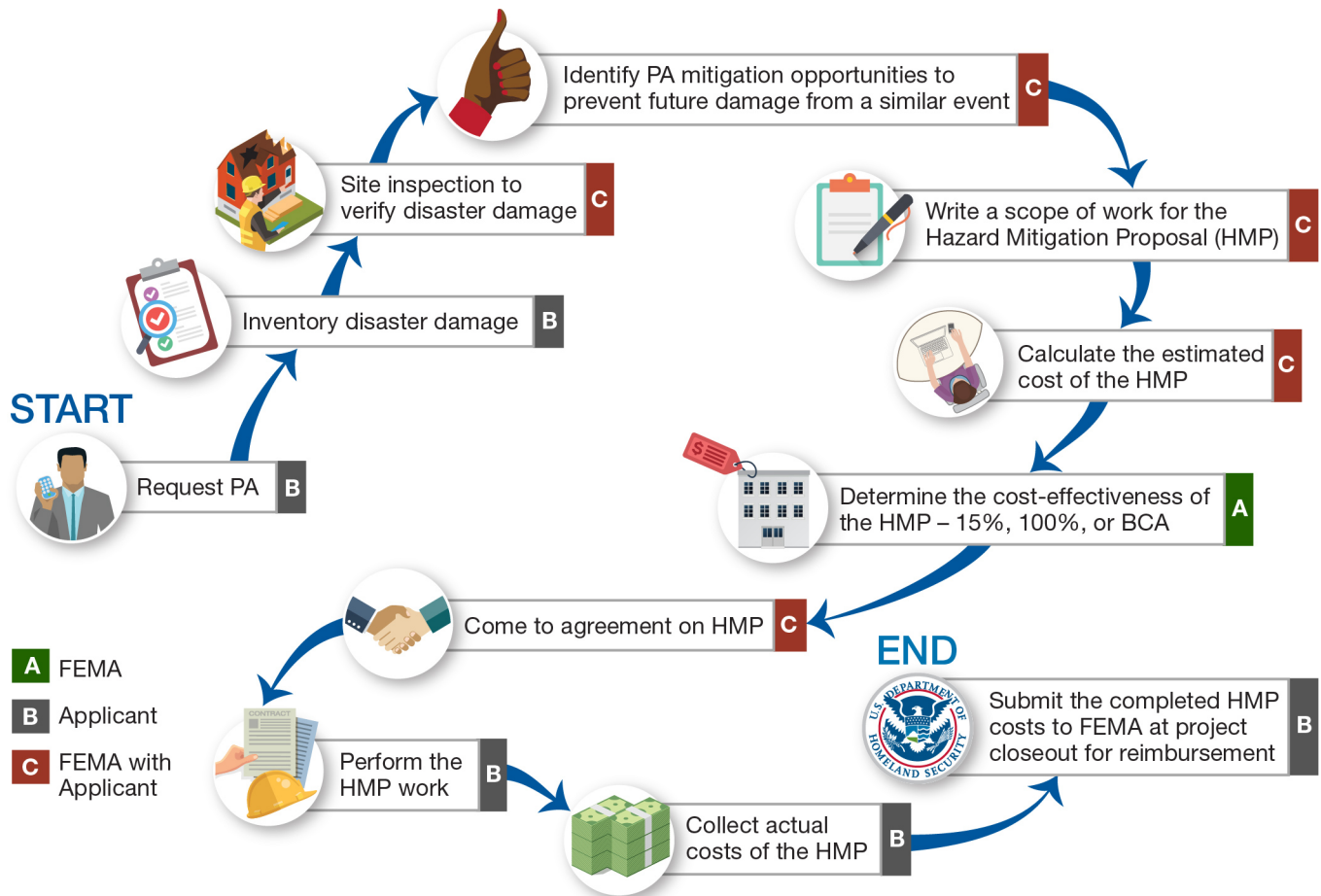
PA hazard mitigation measures must meet one of the following tests of cost-effectiveness:

- Demonstrate that a mitigation project is cost-effective with FEMA's Benefit-Cost Analysis (BCA) toolkit
- The cost for the mitigation measure does not exceed 15 percent of the damaged facility's repair cost to which mitigation measures apply
- The mitigation measure must specifically be listed in *Appendix J: Cost-Effective Hazard Mitigation Measures*, AND the cost of the mitigation measure does not exceed 100 percent of the damaged facility's repair cost to which the mitigation measure applies

The following are examples of cost-effective PA hazard mitigation measures listed in the *Public Assistance Program and Policy Guide* Appendix J that protect infrastructure:

- Replace drainage structure with a larger structure
- Install submersible pumps in water or wastewater plants
- Elevate equipment above the base flood elevation
- Anchor storage tanks to prevent movement
- Install shut-off valves on underground pipes
- Dry floodproof buildings
- Install connectors to secure roofs to walls
- Construct floodwalls to retain floodwater

Process Flowchart



Where Can You Find Further Guidance?

- Public Assistance Program and Policy Guide, <https://www.fema.gov/public-assistance-policy-and-guidance>
A list of cost-effective mitigation measures is included in Appendix J.
- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707), <https://www.fema.gov/media-library/assets/documents/15271>.
- Office of Environmental Planning and Historic Preservation, <https://www.fema.gov/office-environmental-planning-and-historic-preservation>.
- If you are currently recovering from a disaster, contact your assigned FEMA Public Assistance Program Delivery Manager. You can find contact information in your Applicant Event Profile in FEMA's [Public Assistance Grants Portal](#).

The Public Assistance Alternative Procedures (Section 428) Pilot Program is a capped grant program available through PA. It can be a valuable tool for a faster, more flexible, and less costly disaster recovery while also improving long-term resilience and mitigation against future disasters. For more information, please contact your PA Program Delivery Manager or visit <https://www.fema.gov/alternative-procedures>.

