Chapter 8: Permanent Work Eligibility (Categories C-G)

Section 406 of the Stafford Act authorizes FEMA to provide assistance for both permanent work (categories C-G) and building code and floodplain management administration and enforcement activities (category I). Permanent work is subject to insurance obtain and maintain requirements to protect facilities against future loss. This requirement applies to insurable facilities or property (buildings, contents, equipment, and vehicles). Work must also comply with all applicable environmental and historic preservation laws, executive orders, and regulations.

I. Facility Restoration (Categories C-G)

Permanent work (categories C–G) is work required to restore a facility to its pre-disaster design (size and capacity) and function in accordance with applicable codes and standards.[322] Categories C-G work is subject to the eligibility of the facility as described under the Facility Eligibility section in Chapter 4 and shown in Figure 16. Permanent Work Eligibility.

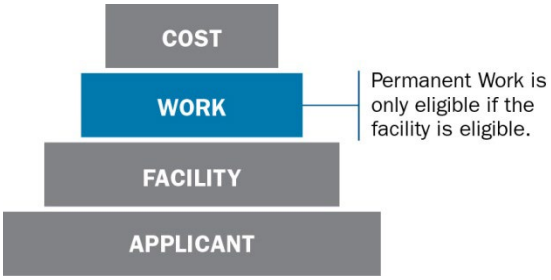


Figure 16. Permanent Work Eligibility

Pre-disaster design means the size or capacity of a facility as originally constructed or subsequently modified. It does not mean the capacity at which an applicant was using the facility at the time of the incident if different from the most recent designed capacity.[323]

Pre-disaster function is the function for which the facility was originally designed or subsequently modified. For example, if an applicant designed and constructed an administrative building, but later altered it in accordance with applicable construction codes or standards to use as a school, the pre-disaster function would be a school. If the facility was serving an alternate function at the time of the incident, but was not altered to provide that function, FEMA provides PA funding to restore the facility either to the original pre-disaster function, or pre-disaster alternate function, whichever costs less.[324]

[322] 44 Code of Federal Regulations (C.F.R.) § 206.201(i). Although this section of 44 C.F.R. does not reference function as part of the definition of permanent work, 44 C.F.R. § 206.203(d)(2) states that if the applicant does not restore the function, it is an alternate project. See Public Assistance Mitigation Funds for Capped Projects in Chapter 8 for discussion on alternate projects.
[323] 44 C.F.R. § 206.201(j).
[324] 44 C.F.R. § 206.226(k)(1).

Examples: Restoring to Pre-Disaster Design and Pre-Disaster Function

- Restoring to Pre-Disaster Design: If a school designed for a capacity of 100 students is damaged beyond repair, the eligible funding for the replacement facility is limited to that necessary for 100 students, even if more than 100 students were attending the school prior to the incident.
- Restoring to Pre-Disaster Function: If the applicant is using an office building as a storage facility at the time of an incident, and it is less costly to restore the facility as a storage facility, only those repairs necessary to restore it as a storage facility are eligible.

II. Codes and Standards

To promote resiliency and reduce future risk in the repair and replacement of disaster damaged facilities funded by the PA Program, FEMA requires the application of codes and standards throughout project development.[325] FEMA has a framework and requirements for consistent and appropriate implementation of consensus-based design, construction, and codes, specifications, and standards for PA to promote resiliency and achieve risk reduction ("consensus-based codes, specifications, and standards"). Applicants must incorporate these consensus-based codes, specifications, and standards in the planning, design, and execution of eligible repair, replacement, or new construction[326] projects, as feasible. Locally adopted codes, specifications, or standards may also apply or exceed FEMA's requirements as detailed under the Locally Adopted Codes and Standards section below.

A. Consensus-Based Codes, Specifications, and Standards

FEMA's consensus-based codes, specifications, and standards are intended to improve the resilience of PA-funded projects by establishing guidelines and standards to use as a benchmark. PA funding for eligible facilities must be in conformity with the latest published editions of relevant consensus-based codes, specifications, and standards that incorporate the latest hazard-resistant design provisions. These represent the minimum design criteria in cases where an applicant either has no code for the type of repair or restoration required, or the code's hazard resistance provisions are insufficient.

FEMA's consensus-based codes, specifications, and standards apply to permanent work projects for buildings, electric power facilities, roads, bridges, potable water facilities, and wastewater facilities. These codes apply when triggered by the type of repair or restoration required. However, the costs associated with ongoing operations and maintenance are not eligible under this policy.

Applicants are required to restore facilities in conformity with both local codes and FEMA's consensus-based codes, specifications, and standards. It is possible that applicants may have adopted a similar code to the one being required by the FEMA's consensus-based codes, specifications, and standards.[327] In these cases,

[325] For more information, refer to: Section 1235(b) | Consensus-Based Codes and Standards | FEMA.gov.
[326] This includes improved and alternate projects. Per 44 C.F.R. § 206.203(d), funding for improved and alternate projects is capped at the cost to restore the facility to its pre-disaster design and function in accordance with codes and standards, including the required codes and standards referenced in this section, that would otherwise be applicable to the facility if rebuilt as it existed.
[327] For more information, refer to the Locally Adopted Codes and Standards section in this chapter.

PA funds the use of these locally-adopted codes if the applicant can demonstrate their eligibility under FEMA's regulatory requirements discussed in more detail under Codes and Standards Eligibility Criteria in this chapter. State, local, Tribal Nation, and territorial (SLTT) codes or standards apply if they are equal to or more stringent or relate to facilities not covered by FEMA's consensus-based codes, specifications, and standards requirements, such as dams or levees.

Failure to include the required codes, specifications, and standards in eligible PA project restoration will result in denial or deobligation of project funding. However, there are situations where applicants are not required to follow FEMA's consensus-based codes, specifications, and standards, such as when:

- The jurisdiction has adopted codes that comply with 44 C.F.R. § 206.226(d) and have hazard-resistant elements that are the same or greater than those listed as FEMA's requirements;
- Implementing the required consensus-based codes, specifications, and standards would be technically infeasible;
- It would create an extraordinary burden on the applicant; or
- It would otherwise be inappropriate for the facility (such as adversely affecting a facility that is listed or is eligible to be listed on the National Register of Historic Places).

If any of the above conditions apply, Applicants may request a waiver for the incorporation of codes, specifications, and standards with approval from the Regional Administrator.

1. IDENTIFICATION REQUIREMENTS

Applicants are responsible for identifying which of the consensus-based codes, specifications, and standards are applicable for each damaged facility, element, or component.

Applicable consensus-based codes, specifications and standards outlined in Appendix M. Consensus-Based Codes, Specifications, and Standards are the minimum design criteria for eligible projects. Once these applicable codes, specifications, and standards are identified, applicants should develop a description of the work required to comply with those standards. The description should:

- Identify specific elements or components affected and describe how each code, specification, or standard applies (include damage inventory line item numbers);
- Describe the work related to the codes, specifications, and standards and provide design drawings, component lists, or other similar documentation;
- Include dimensions and quantities for all components; and,
- Describe the direct relationship between disaster-related damage and any upgrades to undamaged elements.

In addition, applicants must use the following criteria when implementing any of the consensus-based codes, specifications, and standards:

- The consensus-based codes, specifications, and standards apply to the damaged facility, element, or component, as appropriate, based on the type of repair or restoration required to restore the facility to pre-disaster capacity and function.

- If the applicant elects to rebuild to an alternate or improved project that alters the pre-disaster function or capacity of the facility, the applicant must incorporate any applicable consensus-based codes, specifications and standards to the new capacity or function of the facility.
- In the case where the consensus-based codes, specifications, and standards are being applied and require an upgrade to an entire structural facility, including undamaged elements/components, the upgrade is only eligible for PA funding if there is a direct relationship between the upgrade work and eligible damage.

When the consensus-based code, specification, or standard allows for discretion or for variances in the facility design to be appropriate for the facility's location, these adjustments need to be identified, documented and submitted to FEMA for approval.

2. VERIFICATION REQUIREMENTS

Compliance with the consensus-based codes, specifications, and standards requirements must be established by the applicant and will be validated by FEMA.

Upon completion of the project, the applicant must provide proof of compliance. Acceptable forms of proof include but are not limited to written certification by a registered engineer, design professional, or other qualified individual that the project was designed and constructed in compliance with the applicable consensus-based codes, specifications, and standards identified.

Failure to include these consensus-based codes, specifications, and standards or their equivalent in the planning, design and construction of eligible PA projects will result in the denial or deobligation of FEMA project funding.

3. ADDITIONAL ELIGIBLE WORK AND COSTS

- FEMA may approve PA funding as part of a project for technical assistance support, which may include architectural and engineering design (A&E), at the applicable cost-share of the project, to assist communities that lack the necessary subject matter expertise to implement the required codes, specifications, and standards.
- Applicants may include the cost for purchasing a code, specification, or standard on a specific project in the engineering and design expenses for the project. This is a one-time purchase per disaster where the applicant can use the code, specification, or standard for similar projects.
- Funding for capped projects will be based on the estimated amount to restore the facility to its pre-disaster capacity and function including any eligible work such as work required by the consensus-based codes, specifications, and standards.
- The scope of work will be based on pre-disaster capacity unless the adopted code or standard requires an increase to that capacity.

4. OTHER CONSIDERATIONS

- When evaluating whether a facility is eligible for replacement under 44 C.F.R. § 206.226(f), upgrades to meet the identified required consensus-based codes, specifications, and standards will be treated in the same manner as locally adopted codes, specifications, and standards for the purposes of calculating repair and replacement costs.

- When a consensus-based code, specification, or standard offers discretion in design, FEMA will fund the least expensive alternative unless FEMA determines, after demonstration by the applicant's engineer, design professional, or other qualified individual that another alternative provides greater hazard risk reduction to the facility. In making a determination, FEMA will consider the additional risk reduction, the additional cost, technical feasibility, and whether the alternative is better achieved through other programmatic options, such as mitigation funding.

B. Locally Adopted Codes and Standards

SLTT governments may have their own codes and standards that are required in the local jurisdiction as opposed to those required by the federal government as a condition of the grant. FEMA provides PA funding to restore facilities based on pre-disaster design and function in conformity with all current applicable codes, specifications, and standards.[328] Applicants must provide documentation to support the eligibility of facility upgrades required by codes or standards.

If the applicant identifies different locally adopted codes, specifications or standards that are the equivalent to or more stringent than the consensus-based codes, specifications, and standards, FEMA requires the applicant's engineer, design professional, or other qualified individual to justify that the hazard-resistant design criteria in the locally adopted code, specification, or standard is equivalent to or more stringent than those approved under FEMA's consensus-based codes, specifications, and standards. If the local code meets or exceeds the specifications of those in FEMA's requirements, FEMA will provide funding to meet that code if it also meets the criteria in the Codes and Standards Eligibility Criteria section below.

C. Codes and Standards Eligibility Criteria

Facility repairs and new construction may "trigger" upgrade requirements established by codes or standards. Upgrades required by federal or SLTT repair or replacement codes or standards are eligible only if the code or standard meets the criteria[329] below:

- Applies to the type of repair or restoration required;
- Is appropriate to the pre-disaster use of the facility;
- Is reasonable, in writing, formally adopted and implemented by the SLTT government on or before the declaration date, or is a legal federal requirement applicable to the type of restoration;
- Applies uniformly; and,
- Was enforced during the time it was in effect.

Details about each of these criteria are discussed in the following sections.

1. APPLIES TO THE TYPE OF RESTORATION REQUIRED

Codes and standards must apply to the type of restoration required. Codes and standards for new construction are often different than codes and standards for repair work. If FEMA determines a facility is eligible for replacement, compliance with current codes and standards for new construction is eligible. If

[328] Stafford Act § 406(e); 42 U.S.C. § 5172(e); 44 C.F.R. § 206.226(d); 44 C.F.R. 206.221(i).
[329] 44 C.F.R. 206.226(d).

FEMA determines a facility is ineligible for replacement, only code-required upgrades applicable to repairs are eligible.

Depending on the type of restoration work, a code or standard may require:

- Upgrades to all structural components; or
- In addition to upgrades to all structural components, upgrading the non-structural components into conformance with current codes or standards for new construction.

Example: Code-Required Upgrade Triggering Further Upgrades

One example of a code-required upgrade triggering further upgrades to additional undamaged structural components may be damages primarily caused by wind and seismic effects to a building resulting in substantial structural damage (SSD) of the gravity load-carrying elements of the facility. This triggers the professional evaluation of the lateral force-resisting elements of the facility and upgrades if the evaluation shows those structural components do not meet International Existing Building Code (IEBC) criteria. SSD, gravity load-carrying elements, and lateral force-resisting elements are defined in the International Existing Building code in terms of capacity loss. Only an evaluation by a licensed professional in compliance with IEBC criteria can determine SSD.

If an upgrade to an entire structural or non-structural system within a building is triggered by an eligible code or standard, the upgrade is only eligible if there is a direct relationship between the upgrade and the eligible work.[330] Eligibility is limited to code compliance for discrete elements within the system that was damaged.

Terminology

Substantial structural damage is defined in the International Existing Building Code in terms of capacity loss and requires evaluation by a licensed engineer and/or retrofitting of certain structural elements beyond the damaged components.

FEMA evaluates the eligibility of the work to upgrade or change the configuration of damaged systems for reasonableness with respect to the type and extent of damage.

Examples: Codes or Standards that Do Not Apply to the Restoration Required

- An applicant requests PA funding for the repair of a damaged building and the construction of a parking garage. The applicant states that while there was no parking garage prior to the incident, zoning codes and other local ordinances now require one. Because parking improvements have no relationship to the disaster-related repairs, they do not apply to the type of restoration required and are ineligible.

[330] 44 C.F.R. § 206.223(a)(1).

- An applicant requests PA funding for a project involving repairs to discrete damaged portions of a road's shoulders. The applicant states that a code or standard that applies to new construction, or the rehabilitation of an entire road, requires the construction of paved shoulders, drainage swales, and berms. Because the improvements, such as drainage swales and berms have no relationship to discrete damaged portions of a road's shoulders, the construction of these improvements is ineligible.

2. APPROPRIATE TO PRE-DISASTER USE

Codes and standards must be appropriate to the pre-disaster use of the facility. FEMA determines the eligibility of code-required upgrades based on the facility's pre-disaster design or actual use at the time of the disaster. The least costly of the following is eligible:

- Pre-disaster use of the facility, if serving the same function for which it was originally designed; or
- Alternate use of the facility, if serving an alternate function at the time of the incident.



Example: Code or Standard Not Appropriate to the Pre-Disaster Facility Use

The original design of a facility was a warehouse; however, the applicant was using the facility as a classroom before the incident. Restoring the facility as a classroom in conformance with classroom codes or standards would not be eligible if it would cost more than restoring the facility as a warehouse in accordance with code or standards applicable to a warehouse. It would be eligible if it would cost the same or less than restoring the facility as a warehouse in accordance with codes or standards applicable to a warehouse.

3. REASONABLE

Codes and standards must be reasonable. FEMA evaluates the eligibility of the work to upgrade or change the configuration of damaged systems for reasonableness with respect to the type and extent of damage. When determining reasonableness, FEMA:

- Examines the general reasonableness of the code or standard and the trigger for application of the code or standard;
- Determines whether the upgrade and trigger relate to the type of restoration required by the damage and whether the upgrade and trigger are justified based on the extent of damage;
- Considers whether the upgrade and the trigger are technically defensible from an engineering perspective; and,
- Determines whether the cost of the upgrade is reasonable.

FEMA may determine a very large upgrade based on a very low trigger to be unreasonable.

4. WRITTEN, FORMALLY ADOPTED, AND IMPLEMENTED

Codes and standards must be in writing, formally adopted by the SLTT government, and implemented by the applicant on or before the declaration date, or be a legal federal requirement, such as an Americans with Disabilities Act (ADA)[331] or seismic safety requirement. The authority that has jurisdiction must:

- Approve the code or standard;
- Make it a matter of public record; and,
- Formally incorporate it into the building code or other applicable ordinance.

The code or standard must apply to the facility in question. For example, if a state has jurisdiction over a particular type of work and formally adopts a code or standard related to that work, a Tribal Nation or local government in that state does not necessarily have to formally adopt the code or standard for it to apply to its facility. The Tribal Nation or local government meets the above requirement if it shows that it has a history of enforcing the code or standard since it was adopted.

FEMA does not recognize codes or standards adopted by a private nonprofit (PNP) specifically for its facilities when determining whether compliance with codes or standards is eligible. FEMA also does not accept codes or standards adopted by agencies or divisions of SLTT governments that are not authorized to set codes or standards within the broad governmental jurisdiction of the SLTT government.



Example: A Standard that is Not in Writing, Formally Adopted, and Implemented

FEMA approves funding to replace a culvert that was washed out by a flood. The state natural resources department denies the applicant's permit application for replacing the culvert and recommends the applicant to construct a bridge instead. The decision of the permitting officials is discretionary and not based on a written and formally adopted code or standard; therefore, the bridge construction is ineligible.

5. APPLIES UNIFORMLY

Codes and standards must apply uniformly to all similar types of facilities, whether private or public, eligible or ineligible, in the applicant's jurisdiction or (if applicable) in a particular hazard zone within its jurisdiction.

For FEMA to find that a code or standard is uniformly applied, the code or standard must meet all of the following conditions. The code or standard must:

- Provide for uniform accountability in the event of noncompliance;
- Not be subject to discretionary enforcement by building or permitting officials; and,
- Not allow for selective application.

A code or standard must meet three tests to demonstrate that it is not selectively applied:

- The upgrade is generally triggered regardless of the cause of damage and is also triggered for renovations or improvements;

[331] For more information, refer to the Accessibility for Individuals with Disabilities section in this chapter.

- The code or standard is applied regardless of the source of funding for the work; and,
- The code or standard is not applied selectively based on the availability of funds.



Example: A Standard that Does Not Apply Uniformly

A local jurisdiction has authority over all facilities, both public and private. A statewide code or standard imposes seismic retrofit requirements for all public buildings, but not for privately-owned buildings. The seismic retrofitting is ineligible as it does not apply uniformly to all similar types of facilities within the applicant's jurisdiction.

6. ENFORCED

The code or standard must have been enforced during the time it was in effect. FEMA provides PA funding for costs related to an upgrade based on confirmation of previous enforcement and in reliance on continued enforcement. If the local jurisdiction subsequently violates this criterion, any additional work to comply with the code or standard is ineligible within the local jurisdiction.

If FEMA determines a jurisdiction has had no reasonable opportunity to enforce the code or standard, the upgrade is eligible with justification. A reasonable opportunity to enforce may be lacking when a code or standard is new or when a facility affected by the code or standard has not been damaged during the time the code or standard was in effect.



Example: A Code or Standard that was Not Enforced While in Effect

A city's building code requires foundation upgrades when installing new or repairing old portable buildings. Prior to the incident, the city allowed for the installation of several new portable buildings without the code-required foundation upgrades. After the incident, the applicant requests funding to upgrade the foundation of several publicly owned portable buildings that have been damaged by the incident, citing the city's building code. The upgrades to the foundation of the damaged portable buildings are ineligible because the applicant had not been enforcing the standard.

D. Ineligible Upgrades

Upgrades recommended by design standards, guidelines, policies, industry practices, or other non-mandatory provisions are ineligible if the provisions do not meet all of the criteria noted in FEMA's consensus-based codes, specifications, and standards or under Codes and Standards Eligibility Criteria in this chapter. Ineligible upgrades include those based on non-mandatory or non-prescriptive standards.

Upgrades FEMA initially deems ineligible but enhance a facility's ability to resist damage in a future incident may be eligible for funding as PA mitigation (see Hazard Mitigation in this chapter) or through FEMA's Hazard Mitigation Grant Program (HMGP)[332].

[332] For more information, refer to: Hazard Mitigation Grant Program (HMGP) | fema.gov.

Additional capacity necessary due to increased population or use of a building, even if required by code, is ineligible.

E. Accessibility for Individuals with Disabilities

The ADA[333] and other disability rights laws, such as the Architectural Barriers Act (ABA), require that all newly constructed facilities be accessible to and usable by individuals with disabilities and that repairs that might affect the ability of individuals with disabilities to use the facility comply with accessibility standards.[334] In some circumstances, FEMA provides PA funding for accessibility compliance requirements. FEMA funded activities and programs must be physically accessible to people with disabilities and access and functional needs.[335] [336]

FEMA provides PA funding regardless of whether the facility was in compliance prior to the incident, provided the applicant was not cited for a violation. If the applicant was notified of being in violation of a requirement prior to the incident and did not bring the facility into compliance, then accessibility requirements related to the violation are ineligible.

Some exceptions apply when ADA requirements threaten or destroy the historic significance of qualified historic buildings and facilities.[337] FEMA addresses these provisions during its consultation with the state historic preservation officer (SHPO) and/or tribal historic preservation officer (THPO) and incorporates them into the agreement regarding the repairs to the building.

FEMA may also provide PA funding for additional SLTT government ADA requirements that meet the eligibility criteria for codes or standards, as described under Locally Adopted Codes and Standards in this chapter.

F. Path of Travel

If the primary function area sustained disaster damage and the path of travel to the primary function area has not sustained damage (or has sustained less damage), FEMA may provide PA funding for reasonable changes required by an eligible code or standard. The purpose is to increase accessibility to undamaged elements that serve the primary function area. These changes may include accessible entrances, accessible path of travel to the primary function area (by ingress and egress), accessible parking, equal access to services (interior routes), and an accessible approach to public areas,

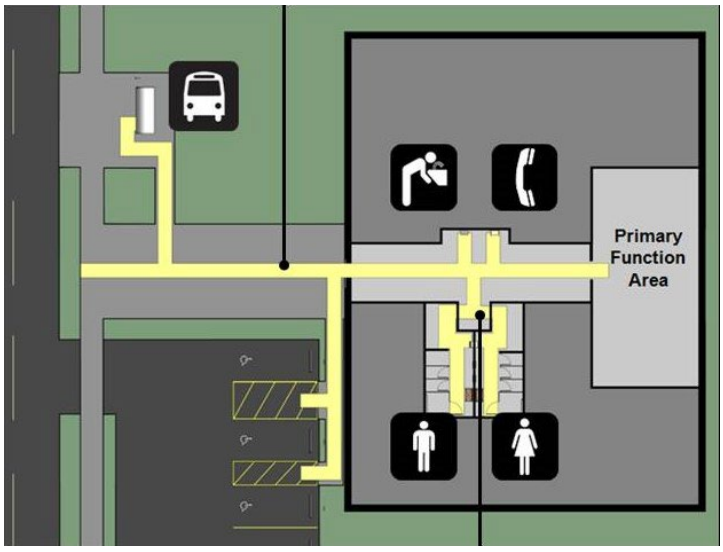


Figure 17. Path of Travel

[333] For more information, refer to: Guide to the ADA Accessibility Standards | access-board.gov.
[334] 42 U.S.C. § 12147(a); 28 C.F.R. § 35.151(b).
[335] Stafford Act, § 308; 42 U.S.C. § 5151.
[336] Section 504 of the Rehabilitation Act of 1973.
[337] 28 C.F.R. § 36.405.

such as restrooms, water fountains, and emergency/evacuation routes.

FEMA may provide PA funding when the code-required alterations have a reasonable and technically supportable relationship to the damaged elements of the facility (e.g., installing grab bars, enlarging toilet stalls, insulating pipes, or installing accessible faucet controls).[338] Applicants are not limited in the amount that they may fund for ADA improvements for their path of travel access, but the PA funding cannot exceed 20 percent[339] of its total funding to restore the primary function area.[340] If the costs for ADA upgrades exceed the 20 percent threshold, the applicant must prioritize elements that will provide the greatest access.[341]

If an applicant engages in repairs that are ineligible for PA funding, the cost of requirements triggered by those repairs are ineligible.

Terminology

A **primary function area** is the area where a major activity occurs for which the facility is intended. Examples include the dining area of a cafeteria, meeting rooms of a conference center, and public offices providing governmental services to the public.

Path of travel includes a continuous, unobstructed way of pedestrian passage to the primary function area. This includes interior and exterior approaches, such as hallways, doorways, sidewalks, streets, parking areas, and public transit drop points. See Figure 17. Path of Travel.

Service facilities to the primary function area include restrooms, telephones, and drinking fountains.

G. Permit Requirements

If a federal or SLTT government permitting agency requires additional work based on a code or standard that does not meet the criteria under Codes and Standards Eligibility Criteria in this chapter, the cost of the additional work is only eligible if the work:

- Does not change the pre-disaster size, capacity, or function of the facility;
- Applies to the type of repair or restoration required;
- Is reasonable based on the type and extent of damage; and,
- Is an established, enforced, uniform practice that applies to all similar types of facilities within the applicant's jurisdiction, regardless of the circumstance.

[338] 28 C.F.R. § 35.151(b)(4)(iii)(B)(2).
[339] For calculation purposes, the total costs of the primary function area repair include the repair costs of the roof, heating, ventilation, and air conditioning (HVAC) systems, mechanical rooms, janitorial closets, locker rooms, and private offices directly associated with the repair of the primary function area.
[340] 28 C.F.R. § 35.151(b)(4)(iii)(A).
[341] 28 C.F.R. § 36.403 (g)(2).

H. Additional Resources

Applicants are encouraged to visit FEMA's Building Science Resource Library[342] for additional information on the contents and potential applicability of select building codes that FEMA supports. These include appropriate building codes, standards, specifications, and national or local floodplain management ordinance compliance. If a community has adopted and enforces local building codes, floodplain management requirements must be met for all construction located in a special flood hazard area. Compliance with the minimum codes and standards do not always guarantee compliance with national or local floodplain management ordinances.

III. Hazard Mitigation

Additional funding to protect an applicant's facilities may be eligible as PA hazard mitigation.[343] Hazard mitigation[344] measures are those taken to help avoid repetitive damage from multiple disasters, reduce the potential for future damage to an eligible facility, and provide long-term solutions to the increasing frequency and severity of natural hazards. PA hazard mitigation allows work beyond code and standard requirements. In cases where the proposed resilience measure(s) exceed a code or standard requirement, eligibility is evaluated based on the work that is above and beyond the code requirements. Upgrades required to meet applicable codes and standards are not mitigation measures because these measures are part of eligible restoration work.

Approved PA hazard mitigation measures are considered part of the total eligible cost of repair, restoration, or reconstruction of a facility. In cases where the eligible repair costs are fully covered by insurance, the PA hazard mitigation may still be eligible if the "total eligible project cost," including mitigation, meets or exceeds the minimum project threshold.

A. Eligibility Criteria

FEMA evaluates proposed PA mitigation measures for eligibility, cost-effectiveness, technical feasibility and effectiveness, and compliance with Environmental and Historic Preservation (EHP) laws, regulations, and executive orders (EOs). In addition, FEMA ensures that the mitigation does not negatively impact the facility's operation or surrounding areas or create susceptibility to damage from another hazard. FEMA provides PA funding for engineering analysis and design services, including surveys, to develop a potential hazard mitigation proposal (HMP) if the work is included in the approved mitigation scope of work (SOW) and the work has been completed.

To be eligible for PA hazard mitigation funding, measures must directly reduce potential for future damage to the damaged portion(s) of the facility, meet cost-effectiveness criteria, and comply with all other federal,

[342] For more information, refer to: FEMA Building Science Resource Library | fema.gov.
[343] FEMA also refers to PA hazard mitigation as 406 mitigation. Section 406 of the Stafford Act provides funding for cost-effective measures that increase the resilience of disaster damaged facilities against future incidents.
[344] 44 C.F.R. § 206.2(a)(14).

state, local, tribal, and territorial legal requirements. PA hazard mitigation may only be included in facility restoration permanent work (categories C-G) projects, not emergency work projects.

Details about each of these requirements are discussed in the following paragraphs.

B. Future Damage Reduction

To ensure protection of the disaster-damaged facility, FEMA evaluates proposed measures to determine feasibility and the capability of the mitigation measure to protect against disaster damages, regardless of hazard type.

Generally, eligible PA mitigation measures are those that applicants perform on damaged portion(s) of a facility. PA mitigation measures protecting damaged portion(s) of a facility may also protect other portions of the facility. If an applicant proposes mitigation measures that are distinct and separate from the damaged portion(s) of the facility, FEMA evaluates the proposal and determines eligibility based on how the measures protect the damaged portion(s) of the facility.



Examples: Potentially Eligible Hazard Mitigation Measures That are Not Applied Directly to the Damaged Portion of the Facility

Examples of eligible PA hazard mitigation measures that may be separate and distinct from the damaged portion(s) of a facility include, but are not limited to:

- Constructing floodwalls or vegetated swales around damaged facilities;
- Installing new drainage structures (including culverts or permeable pavements) along a damaged road;
- Applying fire-resistant materials and/or creating defensible space around eligible facilities; and,
- Dry floodproofing both damaged and undamaged buildings that contain components of a system that are functionally interdependent (i.e., when the entire system is jeopardized if any one component of the system fails).

If FEMA determines that mitigation measures are ineligible as PA hazard mitigation (e.g., the mitigation measures do not protect the damaged portions of the facility against future risk), applicants may request to use hazard mitigation funding under FEMA's Hazard Mitigation Grant Program (HMGP). This provides protection to undamaged portions, while utilizing PA mitigation funds to provide protection to damaged portions.[345] Applicants may use both PA hazard mitigation and HMGP mitigation funds to implement mitigation measures on the same facility, but not for the same work.

If FEMA approves PA funding for mitigation and the applicant does not complete the PA mitigation work, FEMA will deobligate the PA mitigation funds.

[345] For more information, refer to: Hazard Mitigation Grant Program (HMGP) | fema.gov.

1. COST EFFECTIVENESS

To be eligible for PA hazard mitigation funding, mitigation measures must be cost effective.[346] FEMA considers PA hazard mitigation measures to be cost-effective if any of the following criteria are met:

- The cost for the mitigation measure does not exceed 15 percent of the total eligible repair cost (prior to any insurance reductions) of the facility or facilities for which the mitigation measure applies; or
- The mitigation measure is specifically listed in Appendix J: Cost-Effective Public Assistance Hazard Mitigation Measures and the cost of the mitigation measure does not exceed 100 percent of the eligible repair cost (prior to any insurance reductions) of the facility or facilities for which the mitigation measure applies; or
- The recipient or applicant demonstrates through an acceptable benefit-cost analysis (BCA) methodology that the measure is cost-effective, including FEMA's list of mitigation measures pre-determined to be cost-effective, using the FEMA BCA Toolkit.[347]
    - Hazard mitigation measures that do not meet the first two requirements above may prove to be cost-effective based on a BCA. If the hazard mitigation measure is not cost-effective based on the first two criteria, FEMA and the applicant will work together to develop a BCA to determine whether it is cost effective.

A BCA is based on a comparison of the total estimated cost for the PA hazard mitigation measure to the total value of expected benefits to society. FEMA's BCA methodology considers common project benefits, which include reductions in the magnitude or frequency of:

- Damage to the facility and its contents;
- The need for emergency protective measures;
- The need for temporary facilities;
- Loss of function;
- Casualties (typically included only for earthquake, tornado, and wildfire mitigation); and,
- Previous impacts regardless of whether the impacts occurred in federal disaster declarations (only if documented).

FEMA's BCA methodology also considers additional social, environmental, and other benefits that do not directly impact hazard mitigation.

2. COMPLIANCE WITH LEGAL REQUIREMENTS

To be eligible for PA hazard mitigation funding, mitigation measures must comply with applicable laws, regulations, and EOs as well as any federal or SLTT requirements. These may be different from an applicant's usual construction project compliance items.

Compliance with codes and standards may be required. FEMA evaluates the project's SOW under all codes and standards requirements to determine eligibility (see Codes and Standards in this chapter). Resilience measures that are more stringent than codes and standards are implemented as PA hazard mitigation. If an applicant identifies different locally adopted codes, specifications or standards that are the equivalent to or

[346] 44 C.F.R. § 206.226(e).
[347] For more information, refer to: FEMA BCA Toolkit | fema.gov.

more stringent than the consensus-based codes, specifications and standards, FEMA requires the applicant's engineer, design professional, or other qualified individual to demonstrate that the hazard-resistant design criteria in the locally adopted code, specification or standard is equivalent to or more stringent than those approved under FEMA's consensus-based codes, specifications, and standards.[348]

3. PROPOSING PA HAZARD MITIGATION

An applicant, recipient, or FEMA may recommend that PA hazard mitigation measures be included in a project. Figure 18. PA Hazard Mitigation Process Flowchart provides an overview of the steps in the PA hazard mitigation process.

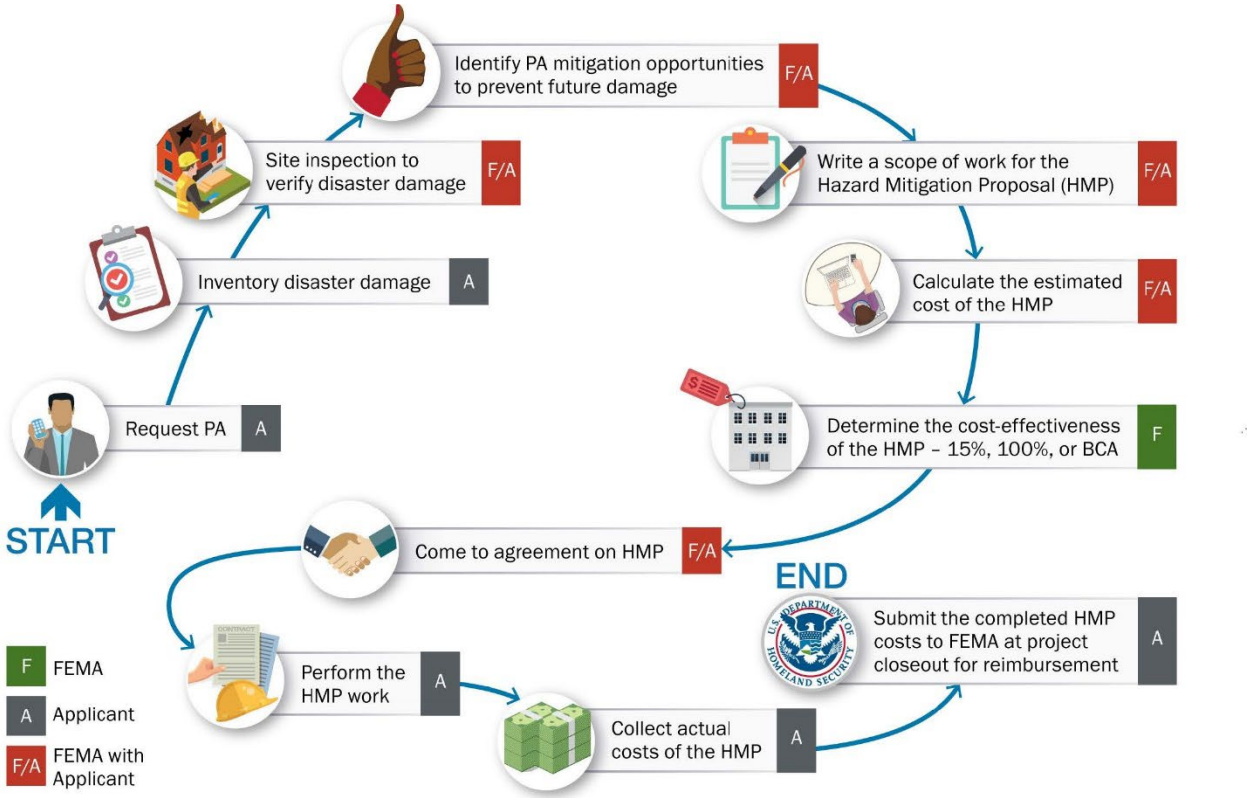


Figure 18. PA Hazard Mitigation Process Flowchart

Applicants may request assistance from FEMA hazard mitigation staff to identify and develop proposed hazard mitigation measures for their facility. These hazard mitigation measures are included in PA permanent work projects via hazard mitigation proposals (HMPs).

[348] For more information, refer to Consensus-Based Codes, Specifications, and Standards in this chapter.

4. REDUCE ADVERSE IMPACTS

To reduce risk, applicants should design hazard mitigation measures to reduce susceptibility to another hazard, adverse impacts to facility operation, and adverse impacts to surrounding areas.

5. POST-REPAIR HAZARD MITIGATION

PA hazard mitigation opportunities usually present themselves during facility repair. However, in cases where applicants need to repair a facility in an expedited manner, an applicant may miss an opportunity to implement hazard mitigation measures during repair. If an applicant implements hazard mitigation measures on a completed PA-funded repair, the mitigation work may still be eligible for PA funding; however, FEMA will not provide PA funding for any duplicative work triggered by the subsequent hazard mitigation.

6. COMPLETED HAZARD MITIGATION ELIGIBILITY

In some instances, applicants may implement hazard mitigation measures after the incident occurs but before the incident is declared or before FEMA can evaluate the measure for eligibility. In these cases, the hazard mitigation work may still be eligible for PA funding if it is cost effective and FEMA confirms compliance with applicable EHP laws, regulations, and executive orders (EOs).

C. Historic Preservation Compliance

1. FEDERAL REQUIREMENT

If the facility is listed in, or meets the criteria to be listed in, the National Register of Historic Places, and an applicable code or standard requires repair in a certain manner, costs associated with work to comply with that code or standard are eligible, even if repair costs exceed replacement costs. This is an exception to the regulatory requirement that when a facility is eligible for replacement, FEMA limits eligible costs to the less expensive of repairs or replacement (see Repair vs. Replacement in this chapter).[349]

2. STATE, TRIBAL NATION, OR TERRITORIAL GOVERNMENT REQUIREMENT

If a state and territorial historic building code or standard requires specific work be performed, FEMA evaluates the code or standard using the eligibility criteria provided under the Codes and Standards section in this chapter. Most state historic building codes and standards encourage code officials to allow *less* intrusive alternatives to requirements of the prevailing codes or standards, but do not require any particular work be performed. As a result, the codes and standards usually fail to meet the eligibility criteria.

Tribal Nation historic preservation allows tribes to protect and identify historic places in ways that align with tribal values. These duties can include enforcing preservation laws, identifying and nominating historic places, and preserving traditional cultural properties.

[349] 44 C.F.R. § 206.226(f)(2) and (3).

D. Public Assistance Mitigation Funds for Capped Projects

1. IMPROVED PROJECT

Improved projects that involve facility replacement or relocation can include mitigation funding. If the capped amount for an improved project includes PA mitigation funds and the applicant either does not complete the PA mitigation work, or replaces or relocates the original facility, FEMA deobligates the PA mitigation funds.

2. ALTERNATE PROJECT

If the SOW to restore a facility includes PA mitigation, and the applicant elects to proceed with an alternate project, FEMA does not include costs related to the PA mitigation in the capped amount for the alternate project.

E. Construction Method

FEMA considers changes to the pre-disaster design or construction method (including materials) and can approve them if the changes are required due to access or accessibility issues, site conditions, or to tie into existing infrastructure. The changes must not impact the capacity or function of the facility. Applicants must show that the changes are reasonable based on the type and extent of restoration and are consistent with their general construction practices and legal requirements. Codes and standards may also require changes to pre-disaster design or construction methods.

F. Pre-Existing Site Conditions

In cases where unrepaired, pre-existing conditions may compromise repair of disaster damage, FEMA provides PA funding to repair disaster damage contingent upon the applicant repairing the pre-existing damage. The costs associated with repairing the pre-existing damage are the responsibility of the applicant. For example, FEMA may determine that repairs to a damaged bridge deck are eligible. However, the deck cannot be repaired unless the applicant replaces the rotting timbers that support the deck.

IV. Flexible Restoration (Capped Projects)

FEMA offers flexible options that allow applicants to use PA funding for permanent work in ways other than restoring a facility to its pre-disaster design and function. For these options, FEMA limits (or "caps") the PA funding to the amount it would cost to repair or rebuild the facility as it was before the disaster, including costs for meeting current eligible codes and standards, as outlined in the Codes and Standards section of this chapter. Temporary facility funds are not included in fixed-cost projects. The three capped project options are: improved projects, alternate projects, and alternative procedures projects (see Appendix G: Alternative Procedures).

A. Processing Projects with Capped Funding

Sometimes during the development of the SOW, applicants realize that restoring a damaged facility to its original condition may not be the best choice for the community's recovery. If this decision is made before the project is formulated, a best practice is to submit the project without adding additional damages or

scopes of work. This ensures that the project can be reviewed and processed more smoothly, without interference from other faster-moving project reviews in the PA process.

However, in many cases, the decision to pursue an alternative to restoring the facility or improving the facility (beyond codes and standards upgrades and mitigation measures) may be made after the project is formulated and obligated. In such situations, only the site opting for an alternate or improved project will have its funding capped. Other sites within the project will follow the standard process for small or large projects, based on the total project cost after any reductions. Applicants choosing a capped project must first obtain approval from their recipient before moving forward.

B. Improved Project

Applicants may wish to make improvements to a damaged facility that are not required by eligible codes or standards, such as adding a new gymnasium to a school building or relocating a building outside a flood-prone area. An improved project is a project that restores the pre-disaster function of a facility and incorporates improvements or changes (including capacity changes) to the pre-disaster design. These changes may also include a facility replacement and/or hazard mitigation.

FEMA limits PA funding for an improved project to the lesser of the following:

- The federal share of the approved estimate to restore the damaged facility to its pre-disaster design and function; or
- The federal share of the actual costs of completing the improved project.

FEMA only increases eligible funding for an improved project if the applicant identifies an error or omission in the original scope of work or cost estimate related to restoring the facility to its pre-disaster design and function.

1. USE OF IMPROVED PROJECT FUNDS

Applicants may use improved project funds to improve the damaged facility. The facility must have the same function that existed immediately prior to the disaster. An applicant must obtain approval from their recipient before proceeding with an improved project.[350] The following are examples of improved projects:

- Laying asphalt on a gravel road;
- Replacing a firehouse that originally had two bays with a firehouse that has three bays;
- Incorporating requirements dictated by a code or standard that does not meet PA eligibility criteria; and,
- Relocating a facility when FEMA is not requiring the relocation.

The funding available for PA hazard mitigation for an improved project is limited to the amount that would have been available if the facility had been restored to its pre-disaster design. If the capped amount for an improved project includes PA mitigation funds and the applicant either does not complete the PA mitigation work or replaces or relocates the original facility, FEMA deobligates the PA mitigation funds.

[350] 44 C.F.R. § 206.203(d)(1).

Applicants can combine PA funds with funding from another federal agency to construct the improved project. However, FEMA cannot duplicate funds provided by another federal agency for the same work. In addition, applicants cannot use funding from another federal agency toward the non-federal cost share of the PA-funded project, with few exceptions. U.S. Department of Housing and Urban Development's (HUD) Community Development Block Grant – Disaster Recovery Program (CDBG-DR) is an example of a federal program that, in certain circumstances, may be used to meet the non-federal share of FEMA's PA program.[351]

If the improved project significantly changes the pre-disaster configuration of the facility, the recipient must forward the request to FEMA to ensure that the improved project complies with appropriate EHP laws, regulations, and EOs.

C. Alternate Project

Applicants may determine that the public welfare is not best served by restoring the pre-disaster function of the damaged facility. When this occurs, the applicant must obtain FEMA's approval to apply PA funding toward a different facility (or facilities). FEMA refers to this as an alternate project. The alternate project must be a permanent work project that benefits the general public, serving the same general area that was being served by the original facility. See Chapter 10: Environmental and Historic Preservation for more information on the limitations and requirements for the disposition of the original facility.

FEMA limits federal funding for an alternate project to the lesser of:

- The federal share of the approved estimate to restore the damaged facility to its pre-disaster design and function; or
- The federal share of the actual cost of completing the alternate project.[352]

1. USE OF ALTERNATE PROJECT FUNDS

Applicants may use alternate project funds toward a project that does not restore the pre-disaster function of the damaged facility. This includes the ability to:

- Repair, expand, mitigate, or construct a facility that would otherwise be an eligible facility under the PA Program;[353]
- Demolish facilities;
- Purchase capital equipment that has a useful life of at least 1 year and is equal to, or greater than, $10,000 per unit;
- Fund project shortfalls due to mandatory flood insurance reductions[354] taken from PA Program funding for repairs to buildings in special flood hazard areas (SFHAs);
- Supplement funds for an improved project; and,

[351] For more information, refer to: *FEMA-HUD CDBG-DR Flexible Match Implementation Guide*.
[352] 44 C.F.R. § 206.203(d)(2)(ii) and (iii).
[353] 44 C.F.R. § 206.203(d)(2)(iv).
[354] For more information, refer to the National Flood Insurance Program section in this chapter).

- Conduct cost-effective hazard mitigation measures, regardless of whether the facility was damaged by the incident and whether the measures reduce the risk of future damage from the same type of incident or of the same type of damage caused by the incident.

Alternate project funds may be used for hazard mitigation provided that:

- Funding does not duplicate other FEMA mitigation funding; and,
- Measures reduce the risk of future damage to a facility that is otherwise eligible either under the PA or Hazard Mitigation Assistance (HMA) programs. If the measures are the same type as those eligible for HMA funding, they must meet a need for governmental services and functions or eligible PNP services and functions in the area affected by the incident.

If an alternate project involves construction, the applicant must obtain FEMA approval prior to the start of construction as FEMA must ensure that it complies with appropriate EHP laws, regulations, and EOs.[355] If the SOW to restore a facility includes PA mitigation, and the applicant elects to proceed with an alternate project, FEMA does not include costs related to the PA mitigation in the capped amount for the alternate project.

Applicants may not use alternate project funds to:

- Meet budget shortfalls;
- Create a new community plan;
- Landscape;
- Pay for operating expenses;[356]
- Purchase supplies, furniture, or equipment costing less than $10,000 per unit;
- Pay the non-federal share of any PA project;[357]
- Fund buyouts for mitigation, such as acquisition of flood-prone property to create open space;
- Supplement funds on projects that utilize other federal agency grants; or
- Fund a project located in a FEMA-designated floodway.

V. Eligibility Considerations by Facility

This section details the types of facilities captured within each category (C-G) of permanent work along with specific eligibility criteria related to one or more of the facilities within each category. See Appendix I: Work Eligibility Considerations by Type of Facility for a summary of eligibility by facility type.

A. Roads and Bridges (Category C)

1. COMPONENTS

Roads may be paved, gravel, or dirt. Road components include, but may not be limited to:

[355] 44 C.F.R. § 206.203(d)(2)(v).
[356] Ibid.
[357] 44 C.F.R. § 206.203(d)(2)(v).

- Surfaces;
- Bases;
- Shoulders;
- Ditches;
- Drainage structures, such as culverts, vegetated swales, and water bars,
- Low water crossings, inlets, outfalls, swales; and,
- Associated facilities, such as lighting, sidewalks, guardrails, and signs.

Bridge components include, but may not be limited to:

- Decking;
- Guardrails;
- Girders;
- Pavement;
- Abutments;
- Piers;
- Slope protection;
- Approaches; and,
- Associated facilities, such as lighting, sidewalks, and signs.

2. ROAD AND BRIDGE ELIGIBILITY FOR PERMANENT WORK

Public roads are any publicly-owned, non-federal aid street, road, or highway for which an eligible applicant has legal responsibility. Some private non-profit applicants may have eligible roads and sidewalks, such as on a school campus.

FEMA is prohibited from providing PA funding when another federal agency has specific authority to restore facilities damaged or destroyed by an event which receives a major disaster declaration. However, if a Tribal Nation has received funding from the Bureau of Indian Affairs (BIA) or FHWA for construction or maintenance of their roads, those roads are still eligible for PA funding under presidentially declared major disasters for debris removal, emergency protective measures and permanent restoration, if they meet the other eligibility requirements. Tribal roads that receive FHWA Emergency Relief (ER) Program[358] funding continue to be ineligible for PA funding for permanent restoration. Additionally, roads owned by a Tribal Nation are eligible for PA even if they are not open to the general public.

FHWA has authority to restore public roads and bridges under the Emergency Relief (ER) Program. Roads and bridges that are eligible for ER assistance are identified as federal-aid routes, which include highways on the federal-aid highway system and all other public roads not classified as local roads or rural minor

[358] For more information, refer to: Emergency Relief Program - Federal Highway Administration | dot.gov.

collectors and includes all elements within the cross section of a highway that are damaged as a direct result of a qualifying disaster.

The ER Program is activated separately from presidential declarations under the Stafford Act and may not be activated for all incidents. Federal-aid routes and ancillary facilities are ineligible for permanent work even if the ER Program is not activated or if the program is activated but FHWA does not provide funding for the work. FHWA also has authority to assist with restoration of transportation facilities under the Emergency Relief for Federally Owned Roads (ERFO) Program, including tribal transportation facilities, federal land transportation facilities, and other federally owned roads open to public travel under the ERFO program.[359]

Private roads are those that are not owned or operated by or otherwise the legal responsibility of a federal or SLTT entity (including orphan roads, roads in gated communities, homeowners' association roads, etc.). These roads are ineligible.

3. TYPES OF DAMAGE

The repair of damage to eligible roads and bridges caused by the disaster event is eligible under the PA Program.

The incident may cause minor damage to roads that results in damage similar to that which may occur over time from other causes, such as the age of the road, traffic flow, and frequent rain. Costs related to maintenance of roads are ineligible. Work to repair potholes or fatigue cracking is usually ineligible as this type of damage is rarely caused directly by one incident. Different types of damage to roads caused by flooding are discussed below.

i. Deterioration, Deferred Maintenance, Negligence

FEMA does not provide PA funding for repair of damage caused by deterioration, deferred maintenance, the applicant's failure to take measures to protect a facility from further damage, or negligence. When evaluating eligibility of reported road damage, in addition to evaluating how the incident caused the damage, FEMA reviews maintenance records or documentation establishing that the applicant has a routine maintenance program. In the absence of maintenance records, FEMA reviews material purchase invoices and activity logs and inspects other sections of the applicant's road system to confirm the performance of regular maintenance activities. More information on maintenance documentation requirements is available in Chapter 4: General Facility and Work Eligibility.

ii. Scour and Erosion

Work to repair scour and erosion damage to a channel or stream bank is only eligible if the repair is necessary to restore the integral ground of an eligible road, bridge, culvert, or drainage structure. Earthwork in a channel or stream embankment that is not related to restoring the structural integrity of an eligible facility is ineligible.

[359] For more information, refer to: Emergency Relief for Federally Owned Roads (ERFO) | dot.gov.

Work which involves replacing or upsizing drainage structures or culverts, or may have an adverse impact upstream or downstream, or on critical habitats, will require coordination with PA, EHP, and PA hazard mitigation staff to determine whether a hydrologic and hydraulic (H&H) study is needed. H&H studies are part of eligible permanent work projects and project costs (see Facility Located in or Impacting a Floodplain in this chapter).

4. INUNDATED AND SUBMERGED ROADS

Restoration of sections of road with disaster-related surface damage will follow the guidance described above for roads and bridges. The guidance provided in this section explains the eligibility of funding for roads for which disaster damage is due to flood water inundation as a direct result of a federally declared major disaster. A submerged or inundated road is defined as a section of road that is covered by flood waters for any period of time. The inundation must have occurred as a direct result of a federally declared major disaster. When roads are inundated or submerged from flooding, driving on them can compromise the integrity of the road. When damage occurs on roads that have been inundated by flood water, FEMA provides funding for the repair when an applicant can substantiate the following conditions:

- The road is a public road;
- The road has visible (after flood waters have receded) and quantifiable damage that is a direct result of the major disaster, such as washouts, collapses, and slips; and,
- Traffic-induced surface damage is the result of emergency vehicles performing eligible emergency work or the road is a single-access road that is required to be reopened due to lack of detour/alternate routes.

i. Inundated Roads with Visible Damage

Work to repair road surface damage caused by the declared event (including damage from saturation and flood water inundation) that is visible and quantifiable during inspection once flood waters have receded, and directly attributed to the declared event is eligible for PA funding.

Examples of major visible and quantifiable surface damage caused by the declared event includes, but is not limited to, major erosion, washouts, collapses, and slips. Minor surface damage to roads caused by the declared event is often similar to damage that may occur over time from other causes, such as the age of the road, traffic volume, and frequent rain.

Distinguishing between pre-existing damage and minor damage caused by the declared event may be difficult. Distress evident on the surface, such as potholes or fatigue cracking is generally ineligible for repair as this type of damage is rarely caused directly by one incident.

When evaluating whether eligibility of reported damage to a road that was inundated or submerged was caused by the declared event, FEMA will evaluate the pre-disaster condition of the road and how the incident caused the damage.

a. Documentation to Support Claimed Damage

The minimum documentation to support damage to inundated or submerged roads includes:

Table 23. Required Documentation and Information to Support Damage to Inundated or Submerged Roads

For Small and Large Projects
▪ Pre-disaster and post-event photos or videos of impacted sections of road, or other documentation to demonstrate pre- and post-event surface condition. ▪ Maintenance records or other documentation establishing that the applicant has a routine maintenance program. These maintenance records may include, if applicable: bridge inspection reports, public meeting or contract work records, documentation of a pavement evaluation program or pavement management system (e.g., a regular documented pavement inspection using standards found in Distress Identification Manual for the Long-Term Pavement Performance Program);[360] and, ▪ Documentation of any repairs following pre-disaster assessment, specific to each section of road claimed and/or documentation of any post-disaster repair work already completed, specific to each section of road claimed.

In the absence of those records, FEMA reviews material purchase invoices and activity logs (and whatever documentation is available) to determine if the damage was caused by the event. FEMA may review specific other sections of an applicant's road system to confirm the performance of regular maintenance activities and to assist in making an informed decision on the condition of the road at the time the disaster occurred.

FEMA does not provide PA funding for repair of damage caused by deterioration, deferred maintenance, an applicant's failure to take measures to protect a facility from further damage, or negligence.

ii. Inundated Roads without Visible Surface Damage

Restoration work for roads that have experienced inundation by flood waters as a direct result of a declared event is only eligible for PA funding if surface damage is visible and quantifiable during an inspection after the flood waters have receded. Claims of subsurface damage based on the findings of an inspection for sections of road without visible and quantifiable surface damage will not be considered eligible for PA funding. Accordingly, costs associated with methods of inspection on sections of road without visible and quantifiable surface damage are not eligible for PA reimbursement. This includes destructive and non-destructive methods of inspection, such as ground-penetrating radar, core sampling, soil boring, and falling weight deflectometers.

a. Projected Loss of Useful Service Life

Restoration work based on a projected loss of useful service life (that is the potential reduction in the road's remaining service life) is ineligible because it is not damage caused by the major disaster event. Service life is part of the design of roadways. Loss of useful service life is based on aging and use of the roadway.[361] For example, if an applicant is claiming subsurface deterioration of a section of road that has experienced

[360] For more information, refer to: DOT's *Distress Identification Manual for the Long-Term Pavement Performance Program (Fifth Revised Edition)*.
[361] See Loss of Useful Service Life in Chapter 6.

inundation based on the findings of an inspection,[362] this alone does not constitute disaster-related damage eligible for PA funding since such deterioration is not caused by a single incident but is the result of the use of the road and normal weather conditions over time.

iii. Surface Damage Resulting from Reopening Roads Prematurely

To help avoid damage to roads that have been inundated or had underlying layers saturated, applicants should allow time for saturated underlying layers and soil to dry out prior to reopening roads to normal traffic. If saturated roads are re-opened prematurely, they may sustain traffic-induced damage. This damage is not a direct result of the disaster and may constitute negligence. Therefore, it is not usually eligible for PA funding.[363]

Exceptions include:

- Surface damage caused by vehicles performing eligible debris removal or other emergency work under PA necessary as a result of the declared event, or
- Single-access roads that an applicant determined were required to be reopened for emergency response purposes due to lack of detour/alternate routes.

In such cases, the applicant must provide documentation to justify reopening the road prematurely as described below:

Table 24. Required Information to Support Damage Resulting from Reopening Roads Prematurely

For Small and Large Projects
▪ An explanation/justification for reopening the road prior to allowing saturated soil to dry (such as emergency response, the performance of eligible PA emergency protective measures, or emergency access); ▪ For emergency response traffic, documentation of emergency call logs and a map showing the route taken by the emergency vehicle(s); or ▪ If claiming surface damage from normal traffic loads due to reopening a single-access road immediately following the declared event or once flood waters have receded, documentation to support that no detour or alternate route was available, and the road was required to reopen for emergency access.

iv. Closed Basin Flooding

Closed basin flooding[364] can result in roads that remain submerged indefinitely as water is not able to drain from closed basin areas. In such cases, waiting for flood waters to recede may not be feasible to assess potential damage and provide time extensions safely and effectively. PA funding may be used to raise the

[362] Including destructive and non-destructive methods of inspection, such as ground-penetrating radar, core sampling, soil boring, and falling weight deflectometers.
[363] See 44 C.F.R. §§206.223(a)(1) and (e).
[364] For more information, refer to: FHWA Emergency Relief Manual | dot.gov.

grades of eligible sections of road faced with long-term loss of use due to an unprecedented rise in closed basin water level when closed basin flooding is directly attributed to the declared event.

PA funding is generally limited to grade raises of highways and bridges of critical routes projected to experience long-term loss of use due to closed basin flooding, as demonstrated by an applicant. Only those routes that are critical to restoring traffic service are eligible for grade raises. Factors to evaluate whether individual routes are critical include: functional classification; provision of critical or essential community services (such as access for emergency response, schools, and mail/delivery vehicles); and availability of alternate routes and/or detours. FEMA, in coordination with the recipient and applicant, will determine if the claimed roadway is a critical route and eligible for grade raises based on the applicant's request for impacted sections of roads in closed basin flooding areas. It is not the intent of the PA Program to raise the grades in dips or other low spots along roadways that suffer inundation from chronic flooding problems.

If requested by an applicant, FEMA will also consider permanent reroutes to move roadways outside of closed basin flooding areas instead of grade raises if the applicant can demonstrate that a permanent reroute is more cost effective than grade raises. Reroutes are subject to relocation requirements as well as EHP review and approval to ensure the reroute does not have adverse impacts.

a. Documentation to Support Claimed Damage for Closed Basin Flooding

Permanent work, including raising the grade of the roadway, is only eligible if an applicant can demonstrate all of the following for closed basin flooding:

Table 25. Required Documentation and Information to Support Closed Basin Flooding

For Small and Large Projects
▪ Information to support that the submerged section of road is in a closed basin flooding area; ▪ Information to support the closed basin flooding was directly attributed to the declared major disaster event and the long-term loss of use of critical routes; ▪ For long-term loss of use of critical routes, information demonstrating the length of time the roadway has been closed to traffic and is projected to remain closed to traffic based on the basin water level elevations that occurred as a direct result of the declared major disaster event; and ▪ For closed basin flooding as a direct result of the declared major disaster event: ○ Information showing that the water elevation in the closed basin has reached historically high levels; ○ The rise in the water level occurred during the designated incident period; ○ Historic water level elevation and rainfall intensity records; and/or, ○ Maintenance reports or other information that provides some historical perspective on events and water levels within the closed basin.

v. Gravel Roads

Gravel surface loss from damage or inundation is not assumed and cannot be based on projected or estimated loss. Applicants must be able to demonstrate actual gravel surface loss. This includes documentation indicating gravel loss directly attributed to the declared event (such as work logs and

material invoices quantifying the amount of aggregate gravel placed in the damaged section within 12 months of the start of the incident period) and/or photographs or video of the field of displaced gravel.

If an applicant chooses to lay gravel on a longer section of the road, FEMA only reimburses for the portion of the road that was disaster damaged. Gravel laid on non-disaster damaged sections of the road are not eligible.

Corrugation of gravel roads is not eligible for repair or restoration. Corrugation (or "wash boarding") is associated with traffic in dry conditions and not attributable to inundation.



Terminology

Corrugation or "washboarding" comprises a series of ripples which occur with the passage of wheels rolling over unpaved roads at speeds sufficient to cause bouncing of the wheel on the initially unrippled surface.

Rutting of a roadway is a depression or groove worn into the surface of the road due to heavy traffic loads or wear over time. For gravel roads, rutting is generally removed by re-grading the road surface.

Any post event rutting of gravel roads may be the result of premature opening of the road. Consequently, the rutting is not eligible except under the limited circumstances outlined below.

a. Documentation and Information to Support Gravel Loss

Table 26. Required Documentation and Information to Support Gravel Loss

For Small and Large Projects
▪ Documentation indicating gravel loss directly attributed to the declared event (e.g., work logs and material invoices quantifying the amount of aggregate gravel placed in the damaged section within 12 months of the start of the incident period); and, ▪ Photographs or video of the field of displaced gravel.

b. Documentation and Information to Support Gravel Road Rutting

Table 27. Required Documentation and Information to Support Gravel Road Rutting

For Small and Large Projects
▪ For emergency response traffic, documentation of emergency call logs and a map showing the route taken by the emergency vehicle(s); and, ▪ If claiming rutting from normal traffic loads due to reopening a single-access road immediately following the declared event or once flood waters have receded, documentation, such as a work log, indicating that the rutted section of road was graded, and surface aggregate applied prior to the event.

5. DEMONSTRATING DISASTER-RELATED DAMAGE

Submerged roads should only be assessed for visible and quantifiable surface damage after flood waters have receded to avoid additional damage. Applicants must substantiate surface damage claims with supporting documentation as described below. FEMA will not accept a damage report simply based on a claim that a section of road has experienced inundation without demonstrating any resulting surface damage. Similarly, damage repair to an inundated or submerged road is not assumed to be eligible simply because estimated repair costs were included in a joint preliminary damage assessment.

B. Water Control Facilities (Category D)

Water control facilities are those facilities built for the following purposes:

- Channel alignment;
- Recreation;
- Navigation;
- Land reclamation;
- Irrigation;
- Maintenance of fish and wildlife habitat;
- Interior drainage;
- Erosion prevention;
- Flood control; or
- Storm water management.

They include:

- Dams and reservoirs;
- Levees and floodwalls;
- Lined and unlined engineered drainage channels;
- Canals;
- Aqueducts;
- Acequias
- Sediment and debris basins;
- Storm water retention and detention basins;
- Urban stormwater management infrastructure;
- Coastal shoreline protective devices;
- Irrigation facilities;
- Pumping facilities; and,
- Navigational waterways and shipping channels.

1. RESTORING THE CAPACITY OF CHANNELS, BASINS, AND RESERVOIRS

Restoring the pre-disaster carrying or storage capacity of engineered channels, debris and sediment basins, storm water detention and retention basins, and reservoirs is eligible, if the facilities were not constructed by a federal agency and if the applicant provides documentation to establish the following (see Table 28. Required Documentation and Information to Support Pre-Incident Capacity of Channels, Basins, and Reservoirs).

Table 28. Required Documentation and Information to Support Pre-Incident Capacity of Channels, Basins, and Reservoirs

For Small and Large Projects
▪ The pre-disaster capacity of the facility;[365] and, ▪ That the applicant maintains the facility on a regular schedule.   ○ Documentation supporting regular maintenance would be a written maintenance plan and/or activity logs documenting regular intervals of activity. Applicant logs documenting clearance of blockages in response to resident complaints are not sufficient to substantiate a regular maintenance schedule.

If the applicant chooses to remove non-incident-related material along with that deposited as a result of the incident, the project is considered an improved project.

2. FLOOD CONTROL WORKS

Flood control works are those structures such as levees, flood walls, flood control channels, and water control structures designed and constructed to have appreciable effects in preventing damage by irregular and unusual rises in water levels.

Restoration of damaged flood control works that are under the authority of another federal agency are ineligible. Secondary levees riverward of a primary levee are ineligible unless the secondary levee protects human life. See Appendix I. Work Eligibility Considerations by Type of Facility. for more information.

C. Buildings and Equipment (Category E)

Facilities under category E include buildings, contents, equipment, and vehicles. Specific to category E, insurance is generally available for buildings, contents, equipment, and vehicles, for most perils such as flood, wind, and fire; therefore, insurance should be the primary source of recovery for PA applicants.

1. BUILDINGS

Buildings include all structural and non-structural components, including mechanical, electrical, and plumbing systems.

For buildings and building systems, distinguishing between damage caused by the incident and pre-existing damage may be difficult. Before making an eligibility determination, FEMA considers each of the following:

[365] Survey data that is either recent or covers a multi-year period to substantiate the amount of new material reasonably attributable to the incident can be used to support pre-disaster capacity claims.

- Evidence of regular maintenance as described in Chapter 4: General Facility and Work Eligibility;
- Evidence of pre-disaster condition, such as interior water stains from a leaky roof (in such cases, FEMA evaluates whether the roof was repaired prior to the incident);
- The severity and impacts of the incident; and,
- Whether the applicant took prudent actions to prevent additional damage.

Mold remediation and removal of mud, silt, or other accumulated debris is eligible as permanent work when conducted in conjunction with restoration of the facility.

A public housing authority facility is only eligible for permanent work if Congress does not appropriate funds to the U.S. Department of Housing and Urban Development (HUD) for the facility's emergency capital needs.

i. Earthquake Damage to Welded Steel Moment Frame Buildings

FEMA has specific eligibility criteria for evaluating and repairing earthquake damage to buildings constructed with welded steel moment frames. For details, see Safety Inspections in Chapter 7. Generally, detailed analytical or experimental studies or Level 2 evaluations as described in Recommended Post-Earthquake Evaluation and Repair Criteria for Welded Steel Moment-Frame Buildings (FEMA-P-352),[366] are ineligible unless FEMA provides approval before the applicant initiates the work. Repairs consistent with applicable International Existing Building Code[367] are eligible for reimbursement.

2. CONTENTS AND SUPPLIES

Building contents include furnishings, equipment, consumable or other supplies, files, records, research-related contents, animals, irreplaceable collections and individual objects, library books, publications and specialized items related to the function of the building and the service it provides. Contents can also include equipment on the property rather than within the building. Replacing destroyed supplies with the same number of comparable items is eligible. Applicants may replace supplies with different items used for the same general purpose and FEMA caps the eligible cost at the estimated amount for items comparable to those damaged. Contents damaged as a result of the disaster are eligible even if the building housing the contents is not damaged (e.g. basement flooding which does not result in structural damage, rain driven through open windows or vents). More information about contents eligibility is available in Appendix I. Work Eligibility Considerations for Contents.

i. Files

Eligible activities associated with the recovery of files include, but are not limited to:

- Recovery of damaged hard copies;
- Stabilizing the damaged hard copies;
- Sanitizing damaged hard copies;
- Photocopying or scanning damaged hard copies to re-establish files; and,

[366] For more information, refer to: *Recommended Post-Earthquake Evaluation and Repair Criteria for Welded Steel Moment-Frame Buildings (FEMA-P-352)*.
[367] For more information, refer to: International Existing Building Code (IEBC) | iccsafe.org.

- Recovering data from water-damaged computer hard drives and portable or external drives.

Recovery of damaged hard copies includes labor and materials, such as bags, boxes, and containers. Stabilizing damaged hard copies includes freeze-drying. Photocopying or scanning includes labor and materials such as new folders and paper.

Not all activities are eligible. Examples of ineligible activities include:

- Establishing new information databases;
- Manually entering data that was lost in damaged computers;
- Scanning re-established hardcopy files into computers to create digital files; and,
- Deciphering photocopies of damaged hard copies.

ii. Library Books and Publications

Replacement of damaged or destroyed library books and publications is eligible based on the pre-disaster inventory of the quantities of the books and publications. Re-shelving, cataloging, and other work incidental to the replacement of library books and publications is also eligible.

However, special library collections, including rare books, manuscripts, and other fragile materials, are only eligible for treatment, not replacement.

iii. Irreplaceable Collections and Individual Objects

Collections and individual objects are artifacts, specimens, artworks, archives, public records, and other items that are often considered irreplaceable because of their artistic, educational, historic, legal, scientific, or social significance. They are nonliving and, therefore, do not include animals or plant material, and are usually one-of-a-kind. Eligible collections and individual objects may be in storage or on display in a public or PNP facility and may include items located outdoors, such as sculptures and public art installations. Documentation of collections and individual objects generally include accession, catalog, and inventories.

Stabilization of damaged collections or individual objects is eligible. Stabilization is a series of treatment measures to maintain the integrity of a collection or object and to minimize deterioration. Stabilization involves taking the minimum steps necessary to return a collection or object to a condition in which it can function in the same capacity as it did prior to the incident. This includes:

- Treating damaged items utilizing environmental controls to achieve proper temperature and humidity; and,
- Chemical or mechanical cleaning to stabilize items to prolong their existence, maintain their integrity, and minimize further deterioration from the damaging effects of the incident.

Additional treatment beyond stabilization is eligible if it is necessary to maintain the integrity of the collection or object and return it to its pre-disaster function.

Terminology

Archives are materials created or received by a person, family, or organization, public or private, and preserved because of the enduring value they contain, or as evidence of the functions and responsibilities of their creator, especially those materials maintained using the principles of provenance, original order, and collective control.

Accession is a formal process used to legally accept and record a specimen or artifact as a collection item.

A **catalog** is a full record of information specific to an item and cross-referenced to other records and files, including identification and documentation of the material.

Stabilization is a series of treatment measures intended to maintain the integrity of a collection or object and to minimize deterioration. It involves the minimum steps necessary to return a collection or object to a condition in which it can function in the same capacity as it did prior to the disaster.

Special library collections include unique, rare, printed books, first editions (often author-signed), manuscripts, archives, artifacts, photos, engravings, graphics, music, and ephemera, as well as limited edition print runs of special collections of maps or other important topics.

In some cases, costs associated with restoring an item to pre-disaster condition as a result of the incident is eligible; however, restoring an item to original condition is ineligible. For example, repairing a tear in a painting that was a direct result of the incident may be eligible, whereas costs to remove signs of pre-disaster aging, such as layers of old varnish, are ineligible.

Costs associated with the development of a treatment plan for a damaged collection or individual object are eligible. Treatment needs to be conducted by a qualified conservation professional with the appropriate specialty and in accordance with the American Institute for Conservation Code of Ethics and Guidelines for Practice.[368] FEMA, in consultation with the recipient and applicant, may recommend no treatment when non-intervention best serves to promote the preservation of damaged items.

Replacement of destroyed irreplaceable collections or objects is ineligible. Collections and individual objects damaged to the extent that stabilization is not practicable or possible are considered destroyed.

Restoring materials, equipment, and exhibition furnishings associated with the storage, display, preservation, or exhibition of collections and individual objects is eligible. These may include, but are not limited to:

- Equipment regulating temperature or humidity;
- Exhibit panels;

[368] For more information, refer to: Code of Ethics and Guidelines for Practice | culturalheritage.org.

- Models; and,
- Video and audio equipment.

iv. Research-Related Contents

Reagents and specimen collections are eligible for replacement based on the following criteria:

The number of reagent units eligible for replacement will be equal to the number lost or the number needed to restore basic research activities, whichever is lower. FEMA reimburses the purchase price based on the cost from either commercial sources or other institutions, using the lesser of the two. However, reagents that are unique and considered outcomes of a research program are not eligible for replacement. In terms of specimen collections, replacing a representative portion, though not necessarily the entire collection, may be eligible. To qualify for replacement, the specimen types must be available for purchase from commercial sources or other institutions and support an ongoing eligible educational or medical program.



Terminology

A **reagent** is a substance used in a chemical reaction to detect, measure, examine, or produce other substances. Some reagents are very common and available for purchase from commercial sources.

A **specimen** is a portion or quantity of material for use in testing, examination, or study, including blood plasma and flesh tissue.

A **specimen collection** is a repository of specimens related to biomedical, marine, or agricultural research.

v. Animals

Animals housed or exhibited in an eligible facility are eligible for replacement with the same number of comparable animals if they are:

- Injured to the extent they are no longer able to function for the intended purpose;
- Killed;
- A destroyed specimen; or
- A damaged specimen that is not recoverable.

An animal is ineligible for replacement if a comparable animal is not available for purchase, or the applicant is unable to obtain a comparable one at a reasonable cost.

The replacement of animals on loan to an eligible facility at the time they are destroyed is eligible if the applicant substantiates legal responsibility.

Additionally, FEMA may provide PA funding for actions taken to save the lives of these animals as a category B emergency protective measure.

Examples: Animals Eligible for Replacement

Eligible animals may include, but are not limited to:

- Police animals;
- Trained and certified rescue dogs;
- Animals in museums, zoos, or publicly owned nature centers;
- Fish in fish hatcheries;
- Taxidermy specimens (animals preserved and mounted in lifelike representations);
- Animals used by rehabilitation facilities as part of diagnosis or treatment; and,
- Laboratory animals used in an active research program.

Determining Costs

The estimated cost to replace an animal is usually determined through market surveys. Costs associated with acquiring donated, loaned, or wild animals as replacement animals are eligible if they do not exceed the estimated cost of purchasing a comparable animal.

If a destroyed animal is replaced through a donation or loan of a comparable animal, the costs associated with purchasing a replacement comparable animal, will then become ineligible.

For laboratory animals, eligible costs associated with replacement include, but are not limited to, the replacement cost of a laboratory animal that is as genetically close as possible to, but does not exceed, the genetic progression of the lost animal AND can be reasonably procured commercially. If an identically genetic animal is not available, the eligible cost is based on a readily procured animal that is as genetically close as possible to the original animal. The applicant, using its scientific research staff, an independent member of the scientific community, or a certified expert, needs to make reasonable decisions on the genetic likeness of the replacement lab animals.

Ineligible costs associated with replacing laboratory animals include:

- The cost of reproducing a new animal with all the characteristics of the lost animal to re-establish research;
- The cost of using a laboratory to perform a breeding program to advance benchmark stock to the genetic changes lost because of the incident;
- The cost associated with surgery required to replace a surgically altered animal; and,
- The cost associated with the replacement of a laboratory animal when an animal of similar genetic characteristics can be obtained at no cost from other researchers or institutions.

If an applicant requests, and the recipient approves, other than in-kind and exact number of replacement animals, FEMA caps the federal share based on the estimated in-kind replacement costs.

3. EQUIPMENT

Equipment includes vehicles or standalone machinery as well as construction or heavy equipment. Repairing damaged or replacing destroyed equipment with the same number of comparable items is eligible.[369] Comparable items are similar in age, condition, and capacity. Applicants may replace equipment with different items used for the same general purpose. This may include instances when a similar item is not reasonably available. However, when a used item (within a reasonable cost, time, or distance) is not available or does not meet applicable national consensus standards, the purchase of a new item with similar capacity is eligible. FEMA caps the eligible cost at the estimated amount for items comparable to those damaged.



Terminology

National consensus standards are voluntary codes, specifications and standards that incorporate the latest hazard-resistant designs.[370] For a full list of FEMA's consensus-based codes, specifications, and standards, refer to Appendix M. Consensus-Based Codes, Specifications, and Standards.

If the cost to replace the item is less than the cost to repair it, FEMA limits PA funding to the replacement cost.

4. VEHICLES

Vehicles include motorized on-road licensed vehicles and non-highway or off-road driven wheeled vehicles. When vehicles are not repairable, FEMA uses "blue book" values or similar price guides to estimate the eligible cost.

D. Utilities (Category F)

Utilities include:

- Water storage facilities, treatment plants, and delivery systems;
- Power generation, transmission, distribution, and storage facilities, including, but not limited to, wind turbines, generators, substations, anaerobic digestors, solar power installations, and power lines;
- Natural gas transmission and distribution facilities;
- Sewage collection systems and treatment plants; and,
- Communication systems.

1. POWER RESTORATION

For power restoration projects that meet both emergency work and the permanent work eligibility criteria (i.e., being necessary to reduce or eliminate an immediate threat to life, health or safety and restoring the facility in accordance with applicable codes, standards and EHP requirements) applicants may either claim

[369] 44 C.F.R. § 206.226(h).
[370] For more information, refer to: Section 1235(b) | Consensus-Based Codes and Standards | FEMA.gov.

the work as an emergency protective measure (category B) or as permanent work (category F). However, straight-time force account labor for budgeted employees is not eligible for reimbursement when power restoration is claimed under category B. Additionally, funding for PA hazard mitigation is only available when power restoration is claimed as category F permanent work.

2. RIGHT-OF-WAY CLEARANCE

It is the applicant's responsibility to maintain its right-of-way (ROW). However, FEMA may fund limited clearance of incident-related debris from the ROW to enable the applicant or emergency workers to obtain access to the facility. Additionally, if trees in the vicinity of the facility were damaged by the incident and an arborist confirms that the trees cause an immediate threat of further damage to the facility (e.g., overhead power lines), FEMA may provide PA funding to remove those trees. Any further clearance of debris in the ROW is ineligible for FEMA funding.

3. POWER: TRANSMISSION AND DISTRIBUTION SYSTEM CONDUCTOR REPLACEMENT

For electrical transmission or distribution systems, determining the disaster-related damage to some components, such as poles, guys, and cross-arms, can usually be accomplished by visual inspection. However, determining the full extent of disaster-related damage to conductors is more challenging, particularly with older systems. A conductor is eligible for replacement when it is stretched beyond the point where it can be effectively repaired and re-sagged to meet appropriate clearances, sag, and tension, and to meet pre-disaster reliability.

Example: Conductor Spans

The number of conductor spans is calculated by multiplying the number of conductors per span by the number of spans.

For example, a three-phase line section with three spans has 12 conductor spans:

- 4 conductors x 3 spans = 12

If a single conductor span has damage in more than one location, it only counts as one damaged conductor span. Similarly, if more than one conductor is damaged, it still only counts as one damaged span.

A conductor is only eligible for replacement (reconductoring) when an applicant cannot effectively repair it because one of the following exists within a line section:

- Twenty-five percent or more of the conductor spans have visible damage, such as broken strands, splices, or sleeves (installed as a result of the incident) or severe pitting, burns, or kinks;
- Thirty percent or more of the line spans are visually stretched (out of sag), or do not meet clearance requirements such as conductor-to-conductor or conductor-to--ground clearance;
- Forty percent or more of the supporting poles need to be replaced or plumbed (straightened). A pole is considered to be in need of straightening if it is leaning such that it is unsafe to climb;
- Forty percent or more of the supporting structures (other than poles) have damage such as broken cross-arms, braces, ties, insulators, guys, pulled anchors, or bent pins. If more than one element of the

support structure is damaged, it still only counts as one damaged support structure. If a pole is counted under the previous bullet, FEMA does not count the supporting structure under this criterion;

- Sixty-five percent or more of any combination of the damage described in the bullets above; or
- Evidence provided by a licensed professional engineer that demonstrates the conductor is damaged beyond repair.

If the applicant provides sufficient documentation establishing the pre-disaster condition and a line section of its system meets one of the six criteria above, that line section is eligible to be reconductored.

Terminology

A **line section** is a group of contiguous spans selected for evaluation. A span is the distance between two poles or structures.

The applicant has flexibility in defining a line section. A line section can be:

- A single span
- All the spans between two dead-end structures
- All the spans on a feeder
- All the spans on a tap; or
- Any other group of contiguous spans that are evaluated together.

The use of #2 Aluminum Conductor Steel Reinforced (ACSR) is considered a lower cost alternative to replacing conductor with equal or lesser amperage capacity such as copper weld conductor, hard and soft drawn copper wire, smaller ACSR, and Amerductor. Therefore, if a conductor with equal or lesser amperage capacity to #2 ACSR is eligible for reconductoring, the line section is eligible to be replaced with #2 ACSR. When an applicant replaces conductor with #2 ACSR, adjustments to other components of the electric distribution and transmission systems to accommodate #2 ACSR, including, but not limited to, adjusting span lengths between utility poles, and increasing pole heights and standards to meet appropriate design requirements are eligible. Applicants do not need to cite a code or standard for this additional work even though the appropriate design requirements may come from federal or SLTT codes or standards, including National Electrical Safety Code or Rural Utilities Service (RUS) standards.

The use of advanced conductors or other technologies that improve the resilience of power generation, transmission, and distribution facilities may also be eligible for reconductoring when the community has adopted applicable electrical codes and standards, as referenced in the Codes and Standards section of this chapter. Additionally, even where the community has not adopted applicable codes and standards, advanced conductors or other resilient technologies are eligible as an upgrade through PA mitigation where the community requests the upgrade and it meets the benefit-cost analysis (BCA), or through an improved project. The Department of Energy (DOE) has developed resources to support a more resilient nation and an

improved awareness of advanced transmission technologies.[371] If the damage does not meet the criteria for replacement, only the repair of the damaged line section(s) is eligible.

To document the pre-disaster condition of a conductor, applicants must provide the following information:

Table 29. Required Documentation and Information to Support Pre-Disaster Conductor Condition

For Small and Large Projects
▪ A signed, dated, and stamped letter from a licensed professional engineer who has direct experience with the damaged electrical transmission or distribution system certifying the pre-disaster capacity and condition of the conductor along with records providing satisfactory evidence of the pre-disaster capacity and condition of the conductor; ○ Records may include, but are not limited to, maintenance records, contract documents, work orders, inspection logs, or a description of past inspection and maintenance activities certified by a licensed professional engineer. ▪ If available, copies of construction work plans demonstrating the utility's past practices, as well as current and future projects; ▪ If required by RUS, a copy of any corrective action plans submitted to RUS in compliance with 7 C.F.R. §1730.25, Corrective action (RUS borrowers only); and, ▪ Staking sheets.

If an applicant provides the information above, FEMA does not require further documentation to establish pre-disaster condition. Applicants are not precluded from substantiating the pre-disaster condition with other documentation if they are unable to provide the documentation described above.

E. Parks, Recreational, Other (Category G)

Examples of eligible publicly owned facilities in this category include:

- Mass transit facilities such as railways;
- Beaches;
- Parks;
- Playground equipment;
- Swimming pools;
- Bath houses;
- Tennis courts;
- Boat docks;
- Picnic tables;
- Golf courses;
- Ball fields;

[371] For more information, refer to: *Department of Energy Advanced Transmission Technologies, December 2020.*

- Fish hatcheries;
- Ports and harbors;
- Piers; and,
- Other facilities that do not fit in categories C–F.

Unimproved natural features are ineligible. For more information and examples, see the Facility Eligibility section in Chapter 4.

Grass and sod replacement are eligible if it is an integral part of the restoration of an eligible recreational facility. Vegetation replacement is also eligible if necessary to restore the function of the eligible facility (e.g., if vegetation is a component of a sewage filtration system).

Plantings required to mitigate environmental impacts, such as those required to address impacts to wetlands or endangered species habitat, are eligible when required by a federal or SLTT codes, standards, or permit that meets the criteria described under the Permit Requirements section in this chapter.

Long-term monitoring to ensure vegetative growth is ineligible even if it meets the requirements above.

Replacement of damaged trees, shrubs and other vegetation during site restoration is ineligible. Replacement of damaged crops, agricultural land, or other vegetation not at the site of an eligible facility is ineligible.

1. BEACHES

Replacement of sand on beaches is only eligible under certain conditions.[372] A beach is considered an eligible facility when all the following conditions exist:

- The beach was not constructed under the specific authority of USACE;[373]
- The beach was constructed by the placement of imported sand—of proper grain size—to a designated elevation, width, and slope;[374] and,
- The applicant has established and adhered to a maintenance program involving periodic renourishment with imported sand to preserve the original design or a specific engineered design, which is clearly justified and outlined in the maintenance program.[375] Placement of sand under the following circumstances does not meet this requirement:
  - Emergency or “one-time” nourishment, even if to a design;
  - Emergency or “as-needed” renourishments when the beach has eroded to a critical condition where all original nourishment is gone;
  - Partial renourishments or “hot-spot” nourishments; or
  - Renourishment using material from a channel maintenance project when dredge spoils do not meet compatibility design criteria and the amount placed is dependent on the amount dredged, not the beach design.

[372] 44 C.F.R. §§ 206.226(j) and 206.201(c).
[373] 44 C.F.R. § 206.226(a).
[374] 44 C.F.R. § 206.226(j)(2)(i).
[375] 44 C.F.R. § 206.226(j)(2)(ii).

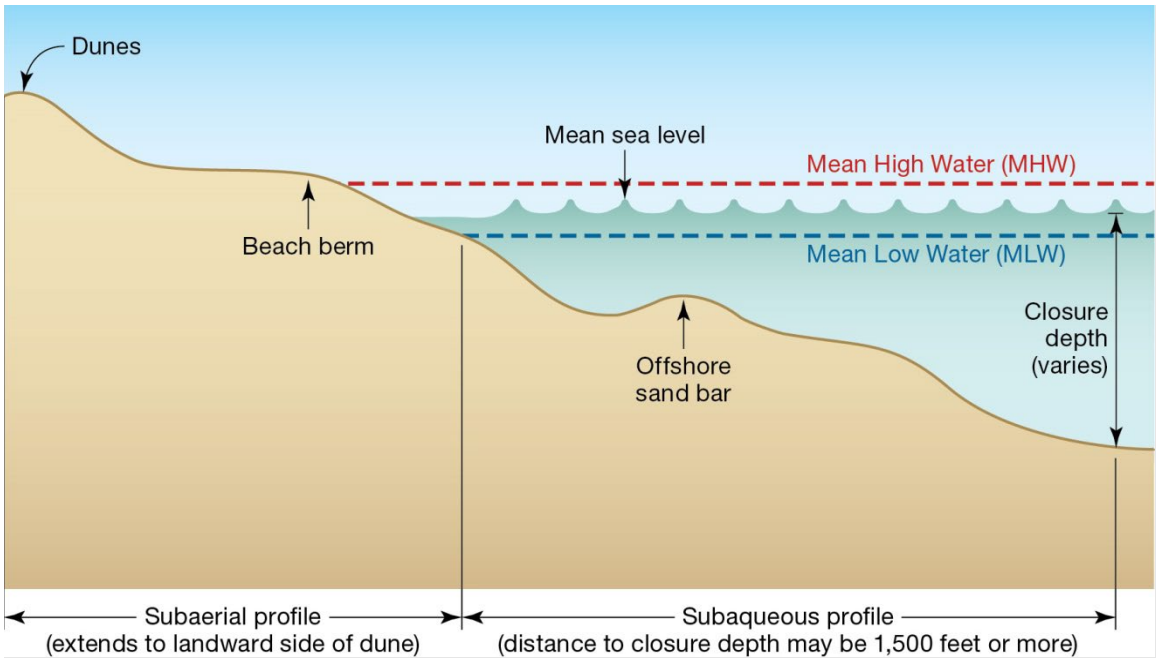


Figure 19. Typical Beach Profile

Sand replenishment for beaches under the specific authority of the USACE is not eligible for PA funding.

The amount of sand eligible for replacement is limited to the amount lost due to the incident. The applicant needs to substantiate the amount of sand claimed with pre-and post-incident profiles that extend at least to the seaward edge of the sub-aqueous nearshore zone (Depth of Closure) (see Figure 19. Typical Beach Profile). If pre-storm profiles are not available, documentation may include design documents and renourishment history. Applicants need to adjust quantities to account for any erosion that occurred between the pre- and post-incident profiles.

Replacing sand that eroded prior to the incident is ineligible. However, FEMA encourages applicants to renourish the project to maintain and achieve the design profile.

To document eligibility of a beach as a designed and maintained facility, applicants must provide the following information:

- Design studies, plans, construction documents, and as-builts for the original nourishment;
- Documentation and details of the maintenance plan, including how the need for renourishment is determined and funded; and,
- Renourishment history, design studies, and as-builts for every renourishment, including construction documents if applicable.

FEMA may request only a portion of this information if the beach was previously determined eligible.

Beach access crossover structures are eligible facilities for repair or replacement. Sand placement adequate for covering crossover footings is eligible, unrelated to eligible beach sand replacement.

F. Landslides and Slope Stabilization

If an eligible facility is located on a slope and is damaged as a result of a landslide or slope instability triggered by the incident, FEMA determines the stability of the slope that supports the facility before it approves PA funding to restore the facility. Restoration of the integral ground that supports the facility may also be eligible. The impact of slope stability on eligibility is as follows:

- If the site is stable, permanent restoration of the facility and its integral ground is eligible.
- If the site is unstable and there is no evidence of pre-disaster instability after the facility was constructed, permanent restoration of the facility and its integral ground is eligible, including measures to stabilize the integral ground.
- If the site is unstable and there is evidence of pre-disaster instability after the facility was constructed, restoration of the facility's integral ground is ineligible. Restoration of the facility is eligible only upon the applicant stabilizing the site and restoring the integral ground.

If permanent restoration of the facility is eligible based on above determination, additional funding to protect the facility from future damage is eligible as PA hazard mitigation as outlined in this chapter.

Site inspections and limited geotechnical assessments are eligible if they aim to determine site stability and to obtain a technical opinion of the cause of the slope failure. This is applicable when an eligible facility located on a slope is impacted due to a landslide or slope instability triggered by a declared incident.

Permanent repair to stabilize natural ground that is not integral to the function of an eligible facility or does not support an eligible facility is not eligible for funding. However, there are limited circumstances where a qualified individual may determine that the upslope makes a facility vulnerable to repetitive damage. In such cases, these repairs may be considered eligible. FEMA may approve permanent relocation of the facility if the facility is subject to repetitive heavy damage and relocation is cost effective. Eligible costs for relocation are described under the Relocation section in this chapter.

Applicants may request an alternate project if restoration of the facility is not feasible because of soil instability.

VI. Repair vs. Replacement

When evaluating whether a damaged facility is eligible for replacement, FEMA compares the estimated repair cost with the estimated replacement cost and evaluates the feasibility of repairing the facility.[376]

A facility is considered repairable when:

- The cost to repair the disaster-related damage does not exceed 50 percent of the cost to replace the facility based on its pre-disaster size, capacity, and function; and,
- It is feasible to repair the facility so that it can perform the pre-disaster function as well as it did prior to the incident.[377]

[376] 44 C.F.R. § 206.226(f).
[377] 44 C.F.R. § 206.226(f)(1).

The comparison of the repair cost to the replacement cost results in a fraction that expresses repair as a percentage of replacement. The percentage is calculated with the estimated repair cost as the numerator and the estimated replacement cost as the denominator. FEMA refers to this as the "50 percent rule."

The purpose of the 50 percent rule is to make an early determination on whether it is more prudent to repair or replace a facility. It is not intended to be a full calculation of all eligible project costs. FEMA does not perform the calculation when it is not feasible to restore the facility so that it can perform its pre-disaster function as well as it did before. If the restoration of the facility is not feasible, replacement is eligible.

The feasibility evaluation criteria is crucial in evaluating whether it is practical and technically feasible to repair a facility so it can perform to the same pre-disaster function from an engineering standpoint. Qualified professionals, such as professionally licensed individuals, qualified cost estimators, construction managers, and staff with other technical expertise, as necessary review feasibility studies and ancillary information provided to FEMA when a facility is not considered technically repairable under 44 C.F.R § 206.226(f)(2).

A floodplain manager's substantial damage determination is part of the NFIP eligibility process and is separate and distinct from the PA eligibility process for determining whether a facility is eligible for replacement or relocation. FEMA determines whether replacement costs are eligible for PA funding based on the 50 percent rule. The substantial damage[378] determination is used to determine whether certain floodplain management requirements are triggered in communities participating in the NFIP.

A. Calculation

The repair cost estimate (numerator) is the estimated cost of repairing disaster-related damage only and includes costs related to compliance with codes and standards that apply to the repair of the damaged elements only.[379] The numerator does not include costs associated with:

- Upgrades of non-damaged elements which are not directly associated with the method of repair of the damaged element, even if required by codes or standards (e.g., elevation of an entire facility triggered by repair);
- Selective demolition beyond that which is essential to repair the damaged elements;
- Site work;
- Soft costs;
- Contents;
- Hazard mitigation measures; or
- Emergency work.



Terminology

Site work is any exterior work at the site. Examples include:

[378] For more information, refer to: Substantial Damage Quick Guide | fema.gov.
[379] This includes consensus-based codes, specifications, and standards.

- Excavation;
- Backfill;
- Erosion control;
- Utility installation; and,
- Paving.

The replacement cost estimate (denominator) is the estimated cost of replacing the facility based on its pre-disaster design (size and capacity) and function in accordance with applicable codes or standards. The denominator does not include costs associated with:

- Demolition;
- Site work;
- Soft costs;
- Contents;
- Hazard mitigation measures; or
- Emergency work.

In order to support timely replacement determinations, rapid recovery, and streamline the process for 50 percent rule calculations, FEMA provides the option to not use higher consensus-based codes, specifications and standards in 50 percent rule calculations. Costs associated with compliance to meet existing federal, state, local, tribal, and territorial codes and standards must still be included in the calculation When applicable, consensus-based codes, specifications, and standards will be applied in the same manner as locally adopted codes, specifications, and standards for the purpose of calculating the 50 percent rule. Although certain costs are not included in the 50 percent rule calculation to determine whether the facility is eligible for replacement, the costs may be eligible for PA funding subjeft to all other eligibility requirements.

B. Request for Replacement

Applicants should submit their requests for replacement within one year of the declaration. The request should include both repair and replacement cost estimates with supporting documentation, prepared in accordance with the requirements described under the Applicant Estimates section in Chapter 9.

FEMA's professionally licensed engineers and architects, qualified cost estimators, construction managers, and staff with other technical expertise, as necessary, develop or review and validate the estimates used in the 50 percent rule calculations. Re-running the calculation is appropriate if there is an error in the initial calculation, or if costs associated with applicable codes and standards need to be added.

For any replacement requests over $5 million, FEMA submits the estimates to an independent third-party for an additional review of the estimates. FEMA considers the results of the third-party review prior to approving replacement.

C. Eligible Funding

If replacement is eligible either because it is not feasible to restore the facility so that it can perform its pre-disaster function as well as it did before or based on the 50 percent rule, the actual replacement cost is eligible. Alternatively, applicants may elect to repair the facility in conformance with applicable codes and standards. In this case, FEMA limits the eligible cost to the estimated cost of repair or replacement, whichever is less.[380]

Because the repair vs. replacement determination is made based on a subset of the total costs of what it would take to repair or replace a facility (see excluded costs above), it is possible that replacement would not be eligible under the repair vs. replacement determination even though the total cost to repair the facility would be greater than the total cost to replace it (once all costs were considered). In this case, FEMA would limit funding to the replacement cost since it is less than the cost to repair.

.

The costs to comply with a local floodplain management ordinance that requires elevation or floodproofing of a substantially damaged facility in an SFHA are eligible for PA funding. These costs are not included in the repair cost of the 50 percent rule calculation but are included in the replacement cost of the calculation. Therefore, the repair cost for the 50 percent rule calculation is estimated without regard to whether the facility receives a substantial damage determination or whether the facility contains a critical action. A floodplain manager's substantial damage determination is part of the NFIP eligibility process and is separate and distinct from the PA eligibility process for determining whether a facility is eligible for replacement or relocation. FEMA determines whether replacement costs are eligible for PA Program according to the criteria specified in the Repair vs. Replacement section within this chapter. FEMA determines whether relocation costs are eligible for PA funding based on the criteria under the Relocation and Hazard Mitigation sections in this chapter. Facilities eligible for replacement are subject to Federal Flood Risk Management Standard requirements, and compliance costs are eligible for PA funding.

Relocation is only eligible for PA funding if it meets the requirements under the Relocation section in this chapter. If compliance with a code or standard is not feasible without relocating a facility and relocation is not eligible for PA funding, FEMA caps the funding without including the costs related to relocation and considers it an improved project.

Costs associated with demolition of a facility that is eligible for replacement are eligible as part of the permanent work project to replace the facility. Eligible costs include removal, recycling, and disposition of the associated demolition debris.

PA mitigation can be applied to replacement projects. Specifically, cost-effective PA hazard mitigation funding will be eligible for inclusion on replacement projects (including improved projects involving relocation). The total eligible project cost is determined after PA hazard mitigation costs are added and all reductions are accounted for. In cases where the eligible repair costs for a replacement project are fully

[380] 44 C.F.R. § 206.226(f)(2).

covered by insurance, the PA hazard mitigation may still be eligible if the "total eligible project cost," including mitigation, meets or exceeds the minimum project threshold.

As discussed in Chapter 10: Environmental and Historic Preservation, if an applicable code or standard requires that a historic facility be restored in a certain manner and does not allow other options, the cost to restore the facility in accordance with the code or standard is eligible and may exceed the estimated replacement cost.[381] A historic facility is defined as one listed in, or eligible for listing in, the National Register of Historic Places.[382]

D. Replacement of Components of a Facility or System

FEMA does not apply the 50 percent rule to a facility's structural or mechanical components (e.g., windows; roofs; heating, ventilation, and air conditioning (HVAC); electrical; plumbing). For example, FEMA does not apply the 50 percent rule to a damaged HVAC system to determine whether the system should be repaired or replaced because it is a component of a building. If the HVAC system is repairable, as determined by an inspector or engineer with appropriate technical expertise, FEMA limits its funding to the repair of the system.

For facilities that are systems composed of multiple, easily segregated components, FEMA applies the 50 percent rule to individual components of the system, rather than the entire system.

Examples: FEMA's Application of the 50% Rule

The following are examples of facilities that are systems to which FEMA applies the 50% rule calculation to **individual components**:

- Drainage channel or irrigation system: A section from damaged node to damaged node, which is where there are intersections or connecting points.
- Water or sewer line system: A section of piping from damaged manhole to damaged manhole, a lift station, or a manhole structure.
- Water or wastewater treatment plant: A control building, clarifier, or sedimentation pond.
- Electrical distribution systems are evaluated for replacement based on the criteria under Power: Transmission and Distribution System Conductor Replacement in this chapter.

The following are examples of facilities to which FEMA applies the 50% rule to the **entire facility**:

- Bridges;
- Culverts;
- Buildings;

[381] 44 C.F.R. § 206.226(f)(3).
[382] For more information, refer to: National Register of Historic Places | nps.gov.

- Pumping stations;
- Piers;
- Pools, including integral pumping;
- Equipment; and,
- Lighting structures.

VII. Relocation

There are opportunities for relocating a facility utilizing PA funding.

A. FEMA-Directed Relocation

The Regional Administrator may approve funding for and require restoration of a destroyed facility at a new location when all of the following conditions apply:

- The facility is subject to repetitive heavy damage because of its location. For example, facilities located in a SFHA or wildland-urban interface and subject to repetitive heavy flood or fire damage;
- Project approval is not barred by other regulations; and,
- The overall project, including all costs, is cost-effective.
  - If the cost to relocate the facility is less than the eligible cost to replace the facility at its original location (the value of the land at the original site is not included as part of this evaluation) then the project is cost effective. In instances where the cost of relocation exceeds the cost to replace the facility at its original location FEMA uses its BCA process and software[383] to determine cost effectiveness.[384]

Terminology

The **wildland-urban interface (WUI)** is the area between wildland and urban land.

If the Regional Administrator requires an applicant to relocate, and the applicant does not feel that relocating would be in the best interest to the community it serves, the applicant can choose to use the flexibility of an alternate project.[385] An alternate project allows eligible funding to be used to repair or expand other public facilities, purchase capital equipment, or perform hazard mitigation measures unrelated to the original facility. For more information, see the Flexible Restoration (Capped Projects) section in this chapter. If relocation of a facility is not feasible or cost effective, the Regional Administrator shall disapprove federal

[383] For more information, refer to: Benefit-Cost Analysis.
[384] 44 C.F.R. § 206.226(g)(1).
[385] 44 C.F.R. § 206.226(g)(4).

funding for the original location when it is determined that restoration in the original location is not allowed. In such cases, an applicant may apply for an alternate project.[386]

B. Applicant-Driven: Repair vs. Replacement

When an applicant's facility is destroyed (i.e., eligible for replacement) and the Regional Administrator does not require the facility to be relocated, the applicant can request the facility be built at a different location through an improved project.

When an applicant's facility is repairable, the applicant can choose to relocate the facility through an improved project. The eligible funding will be capped based on the repair costs.

C. Code-Driven: Part 9 and Other Code and Standard Relocations

An applicable federal or SLTT code or standard, such as a floodplain management regulation, may also require that a damaged facility be relocated away from a hazardous area (e.g., floodway). If compliance with a code or standard is not feasible without relocating a facility and relocation is not eligible for PA funding, FEMA caps the funding for the cost to repair, without including the costs related to relocation, and considers it an improved project.

Cost-effective PA hazard mitigation funding is allowable on replacement projects (including improved projects involving relocations). Where relocation is not required by an applicable code or standard, an applicant can request FEMA fund a relocation as a mitigation measure if it meets the requirements identified in the Hazard Mitigation section of this chapter. In this case, FEMA evaluates the cost effectiveness using its BCA tool.

D. Eligible Work and Funding

Eligible work associated with relocation includes land acquisition and construction of necessary support facilities, such as roads, parking lots, and utilities. Demolition and removal of the original facility including costs for deconstruction and reuse of materials are also eligible if deemed necessary.[387] FEMA limits PA funding to the amount necessary to make the relocated facility and its associated components operational.

FEMA considers the proximity of the new site to utilities (water, sewer, and electric) and approves the least costly solution. Construction of an off-site support facility is only eligible if it is a utility that would serve the relocated facility exclusively.

For land acquisition, if the facility was located on 10 acres of land at the time of the incident, and FEMA determines that 10 acres is not necessary for the operation of the facility, FEMA limits PA funding to the necessary amount of land.

[386] 44 C.F.R. § 206.226(g)(5).
[387] 44 C.F.R. § 206.226(g)(2).

In situations where the applicant owns the facility, but not the land or the support facilities at the original location, the cost to purchase the land or build support facilities is ineligible.

When FEMA requires relocation, FEMA does not provide future PA funding for repair or replacement of the original facility or for other facilities at the original site unless the facility facilitates an open space use.[388] For example, if the applicant converts the original site to a park, FEMA may provide PA funding in the future for park components, such as benches, tables, restrooms, or gravel roads.

E. Sale or Lease of Property at Original Site

Applicants may sell or lease the original facility or the land on which a relocated facility was originally located. Applicants must inform the purchaser of the property that FEMA will not provide future PA funding for repair or replacement of the original facility or for other facilities at the original site unless the facility facilitates an open space use.

The property which the facility is relocated to, and the relocated facility itself, are subject to the real property provisions of 2 C.F.R. Part 200 including disposition and reporting requirements under 2 C.F.R. §§ 200.311 and 329, respectively.

For PA funds to be used for the original site, FEMA must complete an EHP review before an applicant can take a specific action, such as demolition.

VIII. Environmental and Historic Preservation Requirements

Applicants need to make every effort to afford FEMA the opportunity to perform environmental and historic preservation (EHP) reviews prior to starting any work that has the potential to impact the environment or historic properties. This includes, but is not limited to, demolition work, site preparation, and ground disturbing activities. Prompt compliance with EHP requirements can facilitate the processing of a PA project. Permanent work projects that restore a damaged facility to pre-disaster design are generally excluded from some EHP review. Projects that involve changes in location, footprint, alignment, or size of a facility may not fall under these exclusions. For more information on the EHP program, see Chapter 10: Environmental and Historic Preservation.

A. Floodplain Management and Wetland Protection

FEMA has a responsibility to consider and safeguard the benefits of floodplains and wetlands[389] when providing federal assistance. When providing PA funding for a project in or impacting a floodplain or wetland, several requirements apply.

Projects may not be located in a floodplain or wetland if there are other options that avoid construction in or disturbance to the floodplain or wetland. Applicants are responsible for securing and complying with any

[388] 44 C.F.R. § 206.226(g)(3).
[389] EO 11990, "Protection of Wetlands"; EO 11988, "Floodplain Management."

required permits[390] for work in areas designated as wetlands by the U.S. Army Corps of Engineers. Failure to do so may result in denial or deobligation of funding. New construction is not allowed in coastal high hazard areas unless the project helps manage natural areas like parks or low-impact recreational paths. New construction and substantial improvements are also not allowed in floodways.[391] These types of activities can result in continuing vulnerability to flood damage.

Terminology

Floodplain: The lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a 1% or greater chance of flooding in any given year.

Coastal high hazard area (CHHA): An area of flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

Substantial improvement: Any repair, reconstruction, or other improvement of a structure or facility, which has been damaged in excess of, or the cost of which equals or exceeds, 50% of the market value of the structure or replacement cost of the facility.

Flood risk reduction requirements apply to PA-funded projects that:

- Are located in floodplains or wetlands;
- May affect floodplains or wetlands; and/or,
- Have the potential to be affected by floodplains or wetlands.

FEMA may also require other measures based on its 8-step decision-making process (see the 8-Step Decision-making Process section in this chapter). For additional information on floodplain management and wetland protection authorities that guide PA work in and around these areas, see 44 CFR part 9.

Terminology

1 percent Annual Chance Floodplain: The land area having a 1% chance of flooding in a given year (This area may change over time.) This term is often used interchangeably with the terms "base flood" or "100-year flood."

Base Flood: A flood which has a 1% chance of being equaled or exceeded in any given year. This term is used in the National Flood Insurance Program (NFIP) to indicate the minimum level of flooding to be

[390] Section 404 of the Clean Water Act; 33 U.S.C. § 1344.
[391] 44 C.F.R. § 9.11(d)(1).

used by a community in its floodplain management. This is often used interchangeably with the terms "1% annual-chance flood," or "100-year flood."

Base Flood Elevation (BFE): The computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is also known as the 1% annual chance flood elevation or 100-year flood elevation.

1. CRITICAL ACTIONS

The minimum floodplain level for critical actions that do not involve substantial damage, substantial improvement, or new construction is the 0.2 percent annual chance floodplain (500-year floodplain).

i. Potential Critical Actions

If an action is not specified as a critical action in 44 C.F.R. § 9.4, FEMA determines whether a proposed action is deemed a critical action[392] by considering the following:

- The potential for additional impacts if the proposed project is flooded in a future incident (e.g., the structure or other facility contains volatile or toxic materials);
- The ability for occupants of buildings such as hospitals, schools, and nursing homes to evacuate in time to avoid loss of life and injury given the flood warning lead-time available in a future incident; and,
- The potential for emergency services and utilities to become inoperative, or essential and irreplaceable records to be lost if a facility is flooded in a future incident.

ii. Non-Critical Actions

For non-critical actions that do not involve repairs to substantial damage, substantial improvement, or new construction, the minimum floodplain for consideration is the 100-year or 1 percent annual chance floodplain.

2. COASTAL HIGH HAZARD AREAS

New construction is prohibited in coastal high hazard areas except for projects that help with the management of natural areas like parks or other less-developed recreational areas. If the structure was substantially damaged, is substantially improved, or undergoes new construction in a coastal high hazard area, the applicant must elevate or floodproof the structure in accordance with the requirements summarized above. In coastal high hazard areas, structures must be elevated on open works (walls, columns, piers, piles, etc.) and anchored properly.[393]

[392] For more information, refer to: *Guidelines for Implementing EO 11988* | fema.gov.
[393] 44 C.F.R. § 9.11(d)(2) and (7).

3. REQUIREMENT FOR COMMUNITIES PARTICIPATING IN THE NATIONAL FLOOD INSURANCE PROGRAM.

FEMA manages the National Flood Insurance Program (NFIP),[394] which provides flood insurance that helps property owners, renters, and businesses recover faster. The NFIP works with communities required to adopt and enforce floodplain management regulations that help mitigate flooding effects.

A community that participates in the NFIP must adopt and enforce a floodplain management ordinance that meets or exceeds the minimum NFIP requirements.[395] This ordinance must contain requirements for new construction or substantial improvement of buildings located in an area with a 1 percent chance of flooding in any given year (also known as a special flood hazard area or "SFHA"). In addition to other requirements, the ordinance must require that new or substantially improved buildings be elevated so that the lowest floor is at or above the BFE or floodproofed to a level equal to or above the BFE.

Some communities have more restrictive ordinances that require elevation or floodproofing to greater levels. The requirements that a community adopts in order to participate in the NFIP may be different than FEMA's requirements. PA will fund the stricter requirements.

Building upgrades required for compliance with the floodplain ordinance are eligible as long as:

- The ordinance meets the eligibility criteria for codes and standards; and,
- The substantial improvements are disaster-related repairs.

Based on the floodplain ordinance, if the cost to repair a facility is greater than the cost to replace the facility, the eligible cost is capped at the replacement cost. There is an exception for facilities eligible for or on the National Register of Historic Places.[396]

IX. Facility Located in or Impacting a Floodplain

FEMA actions must comply with the regulations set forth in 44. C.F.R. Part 9 if they have the potential to affect floodplains or wetlands, or if they are subject to potential harm by location in floodplains. This includes funding of permanent restorations. When FEMA provides PA funding for restoration of a facility located in, or impacting a floodplain, FEMA must:

- Determine if an action is critical or non-critical; and,
- Require mitigating actions aligning with any minimization standards that apply.

FEMA may create more stringent requirements than the current regulatory standards in order to minimize harm to or within the floodplain. PA-funded projects may also be required to demonstrate compliance with SLTT floodplain regulations in cases where a uniformly-applied SLTT code or standard is more stringent than the federal requirements.

[394] For more information, refer to: Flood Insurance | FEMA.gov.
[395] 44 C.F.R. § 60.3.
[396] 44 CFR Part 206.226(f)(3).

A. 8-Step Decision-making Process

FEMA determines whether a PA project will have a negative impact on the floodplain.[397] To make this determination, FEMA uses the 8-step decision-making process defined in 44 C.F.R. § 9.6. This process is not required for projects where the repair cost is less than $18,000.[398]

Using the 8-step process, FEMA evaluates the impacts the project may have on the floodplain. FEMA also looks at viable alternatives for environmental, social, economic, technical, and legal factors.[399] It is possible for alternatives to be ineligible for PA funding. FEMA considers whether each alternative is eligible for PA funding and, if not, whether the applicant has economic or legal limitations[400]. Projects in the floodplain are only eligible if FEMA is unable to identify a viable alternative to restoring the facility in its current location.



Example: 8-Step Process Identified Alternatives

Some alternatives may not be eligible for PA funding. The 8-step review process may identify relocation of a facility as a viable alternative to repairing it. However, if the facility is ineligible for relocation as described under the Relocation section in this chapter, costs associated with relocating the facility are ineligible for PA funding.

For projects located within or that may affect a floodplain or wetland, FEMA must consider the following alternatives to meet regulatory requirements:

- No action;
- Alternative locations; and,
- Alternative actions, including ones that use natural features..

.

B. Hydrologic and Hydraulic Studies

Hydrologic and hydraulic (H&H) studies can help identify whether facilities located in a floodplain are likely to have an adverse impact upstream or downstream. Generally, an H&H study is necessary when:

- The facility is in a special flood hazard area;
- There is a potential adverse impact to the floodplain;
- There is a potential adverse impact to a federally listed threatened or endangered species, critical habitat, or essential fish habitat; or
- It is required to demonstrate compliance with the Clean Water Act (CWA).

PA, EHP, and PA hazard mitigation staff coordinate to determine whether an H&H study is needed. If so, FEMA requests the applicant retain a licensed civil, environmental, or hydrologic engineer to prepare the

[397] 1 percent annual chance floodplain, 0.2 percent annual chance floodplain.
[398] 44 C.F.R. § 9.5(c)(9).
[399] 44 C.F.R. § 9.9.
[400] Ibid.

H&H study. FEMA staff can provide guidance on the general contents for such studies. H&H studies are eligible as part of the overall project.

These studies identify upstream and downstream impacts (such as stage, velocity, duration) of alterations to the floodplain by the proposed work. H&H studies are often requested when there will be new construction or alterations to bridges or culverts. These alterations include changes to the length, diameter, number of culverts, or modifications to exits and entrances (such as head walls, wing walls, rounding, grouted riprap).

H&H studies are not required:

- If water at a stormwater drainage or conveyance structure does not flow regularly or flows only seasonally; or
- If the project will return the facility back to its exact pre-disaster condition (in length, diameter, material, number of culverts, exit and entrance conditions), and stream morphology has not significantly changed.

C. Facility Located in a Special Flood Hazard Area

Special flood hazard areas (SFHAs)[401] are areas that are subject to inundation during a 1 percent annual chance flood (also known as the 100-year floodplain).

1. NATIONAL FLOOD INSURANCE PROGRAM

For a National Flood Insurance Program (NFIP) insurable facility located in an SFHA, FEMA must reduce PA funding when the facility is:

- Located in an area that FEMA has identified as an SFHA for more than 1 year;
- Damaged by flooding; and,
- Uninsured for flood loss.

If an applicant believes that its property is incorrectly identified on a flood insurance rate map (FIRM) as being located within the SFHA, it may request a letter of map amendment or letter of map revision from FEMA within 6 months of the disaster declaration. If the applicant's request is approved and FEMA determines that the property is not located in an SFHA, FEMA may reinstate PA funding. Costs incurred in pursuit of a letter of map amendment or letter of map revision are ineligible for PA funding.

Pursuant to Stafford Act section 406(d)(2), if an applicant does not have flood insurance for the facility or carries inadequate flood insurance for the insurable facility, FEMA reduces eligible project costs by the lesser of:

- The maximum amount of insurance proceeds that could have been obtained from an NFIP standard flood insurance policy for the building and its contents;[402] or
- The value of the building and its contents at the time of the incident.

---

[401] 44 C.F.R. § 206.251(e). Special flood hazard areas have special flood, mudslide, and/or flood-related erosion hazards, and shown on a flood hazard boundary map (FHBM) or the flood insurance rate map (FIRM) issued by FEMA as Zone A, AO, A1-30, AE, A99, AH, VO, V1-30, VE, V, M, or E. "Special flood hazard area" is synonymous with "special hazard area," as defined in 44 C.F.R. Part 59.

[402] 44 C.F.R. § 206.252(a).

FEMA does not apply this reduction to PNP facilities in communities that do not participate in the NFIP.[403] However, for FEMA to provide PA funding for the PNP facility, the community where the facility is located must agree to participate in the NFIP within 6 months of the declaration. Additionally, the PNP must purchase the required flood insurance; or the PNP must obtain and maintain flood insurance from another source.[404]

X. Requirement to Obtain and Maintain Insurance

Applicants that receive PA funding for permanent work to replace, repair, reconstruct, or construct a facility must obtain and maintain insurance to protect the facility against future loss.[405] Applicants must comply with this requirement as a condition of FEMA assistance. This requirement applies to insurable facilities or property (buildings, contents, equipment, and vehicles), including those funded as an alternate or improved project.[406] FP 206-086-1 Public Assistance Policy on Insurance[407] describes these requirements in detail.

Applicants must obtain and maintain insurance on damaged facilities with the types and extent of insurance reasonably available, adequate, and necessary to protect against future loss to the property. Recipients must provide assurance that the required insurance coverage will be maintained for the anticipated life of the restorative work or the insured facility, whichever is shorter.[408] The type of insurance refers to the hazard(s) that caused the damage and extent refers to the amount of insurance required, which is calculated based on the eligible costs prior to any reductions (including the non-federal share reduction).

The requirements of Stafford Act Section 311 are waived when eligible costs for an insurable facility do not exceed $5,000.[409]

Applicants may request that FEMA modify the insurance requirement when:

- The required insurance is not reasonably available; and,
- The required insurance is not necessary to protect against future loss to the property.

Additionally, FEMA does not require greater types and amounts of insurance than those certified as reasonably available, adequate, or necessary by the appropriate state or territorial insurance commissioner.[410] The state or territorial insurance commissioner cannot waive federal insurance requirements but may certify the types and extent of insurance reasonable to protect against future loss to an insurable facility.[411]

[403] 44 C.F.R. § 206.252(b).
[404] Ibid.
[405] Stafford Act § 311; 42 U.S.C. § 5154; 44 C.F.R. § 206 Subpart I; 2 C.F.R. 200.310.
[406] 44 C.F.R. § 206.203(d).
[407] For more information, refer to: Public Assistance Policy on Insurance (FP 206-086-1) | fema.gov.
[408] Stafford Act § 311; 42 U.S.C. § 5154; 44 C.F.R. § 206.253(e).
[409] 44 C.F.R. § 206.253(d).
[410] 44 C.F.R. § 206.253(c).
[411] 44 C.F.R. §§ 206.252(d) and 206.253(c).

Applicants may comply with the insurance requirement for both flood and non-flood hazards with coverage available through commercial property insurance, which may include blanket insurance policies, standard flood insurance policies, insurance pools, or a combination of these sources.[412] In some cases, with FEMA approval, the applicant may comply with the insurance requirement using a self-insurance plan.[413]

A. Failure to Obtain and Maintain Insurance

If an applicant does not comply with the requirement to obtain and maintain insurance, FEMA will deny or deobligate PA funds related to the noncompliance from the current disaster. Additionally, the facilities for which the applicant failed to comply are ineligible for future PA funding.

If an applicant cannot insure a facility prior to grant approval (for example, if a building is being reconstructed), the applicant may provide a letter of commitment (LOC) stating that they agree to the insurance requirement and will obtain the types and extent of insurance required, followed at a later date by proof of insurance once it is obtained. If a facility is damaged in a subsequent disaster prior to work being completed from a previous disaster, the LOC for the O&M requirement allows the first disaster projects to remain open and allows the facility damaged in a subsequent disaster to be eligible for funding and proceed with the project formulation and insurance review process.

XI. Building Code and Floodplain Management Administration and Enforcement (Category I)

After a disaster, recovering communities face an increase of administration and enforcement work to ensure that repair and replacement of damaged facilities and infrastructure meet adopted regulatory requirements, such as those set forth in floodplain management regulations and building codes. Additional resources are spent reviewing permits, inspecting repair work, and enforcing adopted regulations.

The Disaster Recovery Reform Act (DRRA) of 2018 amended Sections 402 and 406 of the Stafford Act to authorize FEMA to provide communities PA funding to effectively administer and enforce building codes and floodplain management ordinances for a period of no longer than 180 days after the date of the major disaster declaration. FEMA reimburses costs for eligible work starting on the first day of the incident period and up to 180 days following the date the major disaster declaration is amended to authorize PA permanent work. FEMA will not extend assistance beyond 180 days for these activities.

All communities that participate in the National Flood Insurance Program must adopt and enforce regulations that meet or exceed the minimum standards for participation. These standards apply in the community's regulated floodplain. All development in this area must be reviewed for compliance and approved by the local floodplain administrator. These regulations can be found in a variety of places, including stand-alone ordinances, zoning codes, sanitary and sewer regulations, and building codes.

[412] 44 C.F.R. § 206.253(b)(2).
[413] Stafford Act § 311(c); 42 U.S.C. § 5154(c); 44 C.F.R. Part 75.

In communities that have adopted building codes, the codes apply to the construction, repair, and rehabilitation of all structures in the community, not just those within the regulated floodplain.

In both cases, local officials review development, construction, and repair proposals for completeness and compliance and issue permits. It is the local official's responsibility to ensure that the developments are compliant through inspections and the receipt of final compliance documentation.

The principles of the DRRA Section 1206 amendments are:

1. Increase the overall speed of recovery by providing assistance to conduct building inspections, review disaster-related development in the floodplain, review applications for permits, and issue permits to adequately administer and enforce adopted building codes and floodplain ordinances.
2. Enhance compliance with state and local building codes and floodplain management ordinances by providing state, local, Tribal Nation, and territorial governments additional resources to carry out required activities after a disaster.

Communities that are suspended from or have been sanctioned for not participating in the National Flood Insurance Program (NFIP) are ineligible for category I activities. The *NFIP Community Status Book*[414] contains the current "NFIP status" of a community in the declared counties.

A. General Requirements

To be eligible, building code and floodplain management administration and enforcement field activities must be:

- Conducted in the designated areas as identified in the major disaster declaration;
- Within the applicant's jurisdiction;[415] and,
- Related to the repair, replacement, retrofit, or relocation of disaster damaged facilities. This may include public, private, and residential structures.

Activities to administer and enforce building code and floodplain management ordinances are eligible regardless of whether the building code or floodplain management ordinance in question meets PA's regulatory eligibility criteria for facility restoration.

Example: Building Code Administration

After a disaster is declared, a community decides to update its building code to require a four-foot freeboard for all buildings in the special flood hazard area. Work associated with administering and enforcing the four-foot freeboard for disaster-damaged buildings in the community is eligible under this policy. However, PA would not fund the physical repairs to a school building to meet the new four-foot freeboard requirement since the code was adopted after the date of the disaster declaration and therefore ineligible according to PA regulation and policy (FEMA would fund the repair work to meet the

[414] For more information, refer to: Community Status Book | fema.gov.
[415] 44 C.F.R. § 206.223.

minimum code requirements as described in Chapter 8: Permanent Work Eligibility (Categories C-G) and 44 C.F.R. Part 9.11).

Work that is eligible under category I cannot:

- Be used as the basis for an alternate project;[416] or
- Have an associated hazard mitigation proposal (HMP).

B. Eligible Work

The activities below are eligible under category I. Activities not specifically listed here will be evaluated on a case-by-case basis for eligibility.

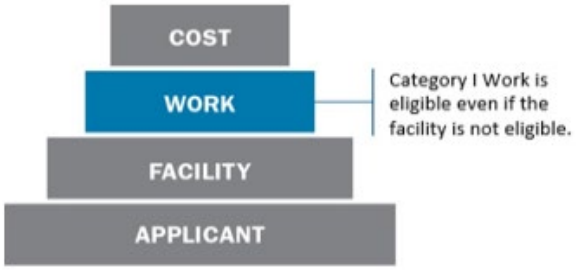


Figure 20. Category I Work Eligibility

1. BUILDING CODE ADMINISTRATION

- Review and process applications for the following:
  - Building permits;
  - Certificates of occupancy;
  - Certificates of compliance; and,
  - Associated plans, specifications, and construction documents for compliance with federal, state, and municipal building, housing, and life-safety codes and standards applicable to disaster-related repair, replacement, or retrofit.
- Process requests for building code variances;
- Collect fees;
- Hire, train, supervise, certify, and license staff, as required to conduct eligible activities;
- Contract for services (e.g., contract planning, initiation, solicitation, evaluation, and award);
- Provide training and information to staff, contractors, and the public on unique considerations for repair of disaster-damaged historic buildings;
- Provide training and outreach to the public on building code and building permit requirements applicable to the repair, replacement, or retrofit of disaster-damaged buildings;
- Establish construction plan reviews and inspection processes, procedures, and instructions for permit holders;
- Monitor impacted areas for unpermitted construction activities; and,
- Coordinate building code administration and enforcement with floodplain management ordinance administration and enforcement, as appropriate.

2. CODE ENFORCEMENT

- Inspect structures under construction for compliance with approved plans, specifications, and all requirements of applicable codes, laws, and ordinances;

[416] Stafford Act Section 406(c); 42 U.S.C. § 5172; 44 C.F.R. § 206.203(d)(2).

- Identify and carry out corrective action in cases where construction, design, and occupancy do not comply with codes and/or ordinances;
- Conduct and process condemnation determinations;
- Review and issue elevation certificates; and,
- Investigate complaints and assist in preparation of materials for abating violations of building codes and related ordinances.

3. FLOODPLAIN MANAGEMENT ORDINANCE AND ENFORCEMENT

- Enforce or administer standards for development according to community floodplain management regulations;
- Determine whether proposed disaster-related development activities are in areas regulated by the community's floodplain management ordinance or building code;
- Hire, train, supervise, certify, and license staff, as required to conduct eligible activities;
- Contract for services (e.g., contract planning, initiation, solicitation, evaluation, and award);
- Provide training and outreach to the public on floodplain permit requirements applicable to the repair, replacement, or retrofit of disaster-damaged buildings;
- Provide training and information to staff, contractors, and the public on unique considerations for repair of disaster-damaged historic buildings;
- Review disaster-related development proposals to ensure compliance with the requirements of applicable floodplain management ordinances;
- Process permits for disaster-related development in the floodplain associated with the declared disaster;
- Inspect all disaster-related development in the applicable jurisdiction;
- Monitor impacted areas for unpermitted construction activities;
- Process requests for floodplain management ordinance variances;
- Process, maintain, and track temporary occupancy permits and inspect temporary occupancy buildings;
- Provide information on flood hazards, floodplain map data, advisory flood data, and compliance to residents and property owners;
- Conduct inspections to ensure the removal of temporary fill and related materials used in flood fighting;
- Take corrective action necessary to ensure compliance with federal, state, and local floodplain regulations; and,
- Coordinate floodplain management ordinance administration and enforcement with building code administration and enforcement, as appropriate.

4. SUBSTANTIAL DAMAGE DETERMINATIONS

- Conduct initial field surveys to determine extent of damage;
- Establish damage trends to identify areas to focus building-specific assessment efforts;
- Prepare cost information on repairs and pre-disaster market value estimates for substantial damage estimates;
- Hire, train, supervise, certify, and license staff, as required to conduct eligible activities;
- Collect field data for damage assessments;

- Enter damage inventory administrative data into the Substantial Damage Estimator or comparable data collection software;
- Track cumulative substantial damage and repetitive loss for communities, if required;
- Conduct damage inventory of structures;
- Inform property owners of damage determination and provide compliance requirements;
- Perform inspections to ensure compliance with repair and substantial damage construction requirements;
- Determine whether proposed improvements are substantial improvements and trigger requirements for compliance, including a building permit;
- Determine if damaged structures have been designated as historic or that may be eligible for such designation; and,
- Review, adjudicate, and resolve substantial damage determination appeals.

C. Ineligible Work

Funding is limited to work that is required as result of the declared incident. The following are ineligible:

- Activities associated with non-disaster damaged structures or non-disaster-related development; and,
- Activities to update a community's laws, rules, procedures, or requirements, such as:
  - Adopting new or updating current building codes or floodplain management ordinances;
  - Adopting or updating zoning laws and requirements; and,
  - Developing new land use plans or requirements.

For category I activities, only overtime costs are eligible for budgeted labor. Straight-time and overtime costs are eligible for unbudgeted labor.

D. Required Documentation and Information for Category I Work

Applicants must submit the following to support claims for category I projects:

Table 30. Required Documentation and Information for Category I Work

For Small Projects	For Large Projects
▪ List of activities performed; and, ▪ Number of locations where activities took place (if applicable).	▪ List of activities performed; ▪ Documentation necessary to demonstrate work completed, such as activity logs or sign in sheets; ▪ Number of locations where activities took place (if applicable); ▪ Locations where activities were conducted, including addresses or GPS coordinates (if applicable); and, ▪ Copies of the rights-of-entry and agreements to indemnify and hold harmless the federal government (if applicable).