Proposed Adjustments to the Public Assistance Program and Policy Guide (PAPPG)

[NOTE: The page numbers provided refer to the location of the material in the current PAPPG.]

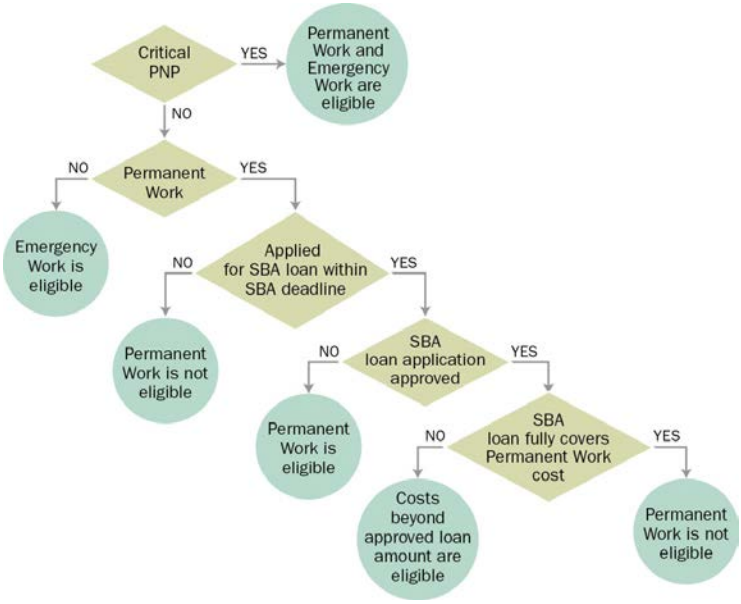
1. Adding request requirement and deadline for adding on areas and types of assistance to a declaration. (Page 2)

   The declaration designates which areas (e.g., county, parish, city, Indian Tribal Government) are eligible to receive Federal assistance. ~~The declaration usually identifies areas by county, parish, or Indian Tribal Government.~~ FEMA may add additional areas after the initial designation. However, for FEMA to consider adding an additional area, the Governor or Indian Tribal Chief Executive must request the addition within 30 days of the declaration date or the end of the incident period, whichever is later.[1]

   The declaration designates the types of Federal assistance authorized. The President may authorize assistance to individuals, households, and State, Territorial, Indian Tribal, and local governments, and certain types of private nonprofit (PNP) organizations. FEMA provides assistance to individuals and households via its Individual Assistance (IA) programs. FEMA provides assistance to State, Territorial, Indian Tribal, and local governments and certain types of PNP organizations via its Public Assistance (PA) Program. The type of assistance available may vary among designated areas. FEMA may add additional types of assistance after the declaration. However, for FEMA to consider adding additional types of assistance, the Governor or Indian Tribal Chief Executive must request the assistance within 30 days of the declaration date or the end of the incident period, whichever is later.[2]

2. Adding "within SBA deadline" to the third diamond in Figure 8. *SBA Loan Outcomes* below (Page 17) to convey that the requirement for a non-critical PNP to apply to SBA is not waived when the PNP misses the SBA application deadline as it is a frequently asked question and this is our consistent response.

[1] 44 CFR §§ 206.40(c) and (d).
[2] 44 CFR §§ 206.40(c) and (d).



3. Adjusting the following statement which only applies to the purchase of military type equipment (page 26):

   Executive Order (EO) 13688, Federal Support for Local Law Enforcement Equipment Acquisition, requires Federal agencies to ensure careful coordination and oversight of providing military and military-styled equipment, firearms, and tactical vehicles, including property covered under 22 CFR Part 121, The United States Munitions List, and 15 CFR Part 774, The Commerce Control List, (collectively "controlled equipment"), to State, Territorial, Tribal, and local law enforcement agencies. FEMA must comply with this EO when providing PA funding for the purchase of this type of equipment.

4. Adding a footnote to Chapter 2.V.H stating that if the Applicant utilizes mutual aid for other permanent work, FEMA evaluates the mutual aid agreement as a procurement utilizing the criteria noted in Chapter 2 Section V.G., which is based on footnote 123 in the *Field Manual for Public Assistance Grantee and Subgrantee Procurement Requirements*. The footnote statement will be added to the sentence "Three types of mutual aid are eligible: Emergency Work, emergency utility restoration (regardless of whether it is deemed Category B or F), and grant management" (page 33).

5. Adjusting third party definition to clarify for the purpose of allowing PNP VFDs to use the value of volunteer firefighter labor to offset their non-federal cost share (page 35):

   Individuals and organizations often donate resources (equipment, supplies, materials, or labor) to assist with response activities. FEMA does not provide PA funding for donated

resources; however, the Applicant may use the value of donated resources to offset the non-Federal share of its eligible Emergency Work projects and DFA.

The Applicant may apply the offset if all of the following conditions are met:

- The donated resource is from a third party (a private entity or individual that is not ~~involved in the Federal award, i.e., not from~~an employee of the Applicant or Federal, State, Territorial, or Tribal government);
- The Applicant uses the resource in the performance of eligible Emergency Work; and
- The Applicant or volunteer organization tracks the resources and work performed, including description, specific locations, and hours.

FEMA considers unpaid individuals who volunteer their labor to an Applicant to be third party even if they are officially members or employees of the Applicant organization (e.g. volunteer fire fighters at a PNP volunteer fire department).

6. Adding language in the donated resources section (Page 35) as it's a frequently asked question and a factual statement based on how EMMIE calculates donated resources:

   FEMA deducts the non-Federal cost share from the total value of donated resources and applies this amount toward ~~caps the total offset at~~ the ~~combined total~~ non-Federal share of ~~all of~~ the Applicant's Emergency Work projects ~~funded in that incident, and any~~(including DFA)~~, so that the Federal share does not exceed the actual incurred cost for the work~~.

7. Adjusted the following language to convey that the $20 million cap is across both PA and HMGP (page 37):

   FEMA provides 100 percent Federal funding for management costs based on actual costs incurred up to a percentage of the Federal share of projected eligible program costs, not including DFA. For PA, ~~T~~the maximum percentage is 3.34 percent~~is different~~ for Major Disaster Declarations[3] and 3.90 percent for Emergency Declarations.[4] ~~and is~~ Management costs are capped at a combined total of $20 million dollars per declaration across both PA and the Hazard Mitigation Grant Program (HMGP)[5], unless FEMA approves an exception.[6]

   - ~~The percentage for Major Disaster Declarations does not exceed 3.34 percent~~[7]
   - ~~The percentage for Emergency Declarations does not exceed 3.90 percent~~[8]

8. Adding the following clarifying commercial debris removal language in the Debris Removal Section (page 44)

[3] 44 CFR § 207.5(b)(4)(i).
[4] 44 CFR § 207.5(b)(4)(iii).
[5] For HMGP, the maximum percentage for Major Disaster Declarations is 4.89 percent.
[6] 44 CFR § 207.5(c).
[7] ~~44 CFR § 207.5(b)(4)(i).~~
[8] ~~44 CFR § 207.5(b)(4)(iii).~~

Removal of debris placed on the public ROWs from commercial properties is not eligible unless it is pre-approved by FEMA [see Chapter 2.VI.A.6(d)].

9. Adding the following clarifying commercial debris removal language in Chapter 2.VI.A.6(d) (page 55)

   Removal of debris from commercial properties, such as industrial parks, golf courses, cemeteries, apartments, condominiums, and trailer parks, is generally ineligible as it is expected that the commercial enterprises retain insurance that covers debris removal. In very limited, extraordinary circumstances, FEMA may provide an exception. In such cases, the Applicant must meet the requirements of Chapter 2.VI.A.6(a) and (b).

10. Adding documentation criteria for emergency non-congregate sheltering (page 66)

    Generally, FEMA does not provide PA funding for emergency sheltering in non-congregate environments, which are locations where each individual or household has their own living space (e.g., hotels, motels, casinos, dormitories, retreat camps, etc.)~~such as hotels or motels~~. In limited circumstances, such as when congregate shelters are not available or sufficient, FEMA may reimburse costs related to emergency sheltering provided in non-congregate environments. FEMA's Assistant Administrator for Recovery has the authority to ~~must pre-~~approve this policy exception~~ for the use of hotels or motels~~. The Applicant must submit a request for PA funding for costs related to emergency, non-congregate sheltering and obtain FEMA approval prior to sheltering survivors in non-congregate facilities. At a minimum, the Applicant should include the following information in its request:

    - Justification for the necessity of non-congregate sheltering;
    - The type of non-congregate sheltering available;
    - An analysis of the available options with the associated costs of each option; and
    - The time frame requested.[9]

    FEMA will limit any approval to that which is reasonable and necessary to address the needs of the event (generally no more than 30 days). The Applicant must obtain FEMA approval for any time extensions, which should include a detailed justification for the continued need and a revised analysis of options, including the costs for each option.

    ~~FEMA will provide additional guidance on the use of hotels or motels at the time of any approval of a request for an exception.~~If FEMA approves the request, the Recipient will need to track and maintain sufficient data and documentation to establish eligibility (including the need for non-congregate sheltering resulting from the disaster, reasonableness, and costs. Sufficient documentation includes:

    - Number of survivors sheltered by age group;
    - Number of survivors sheltered with disabilities or access and functional needs;
    - Number of household pets, and assistance and service animals;
    - Length of stay per "household unit;"
    - Number of meals and other services provided;

[9] 44 CFR §§ 206.225(a)(2) and 206.202(c) and (d).

- Number of survivors seeking assistance via FEMA's IA Programs; and
- Number of survivors referred to State or non-governmental organization programs for assistance.

As with any activity, lack of full documentation may result in FEMA determining that some or all of the costs are ineligible.

11. Adding language to address Host-State Sheltering FAQs inadvertently not included in Version 1 (page 69):

When FEMA provides PA funding to a Host-State/Tribe directly, FEMA reimburses 100 percent of the Host-State/Tribe's eligible costs, including straight-time and benefits of the Host-State/Tribe's permanent employees[10] so that they have no out-of-pocket costs. In these cases, the Impact-State/Tribe is responsible for the non-Federal cost share and must subsequently reimburse FEMA for the non-Federal cost share of the eligible costs incurred by the Host-State/Tribe. The non-Federal cost share is based on the Category B cost-share amount designated in the declaration. The Impact-State/Tribe cannot offset its non-federal cost share with the Host-State/Tribe's volunteer labor.

In addition to the evacuation and sheltering costs noted in Chapter 2:VI.B.10, FEMA will also reimburse a Host-State/Tribe for the following:

- Straight-time and benefits of entities' employees that provide assistance under a mutual aid agreement or a contract with the Host-State/Tribe such as a local government or PNP.
- National Guard personnel (See Chapter 2:V.J)
- Costs paid to the American Red Cross (ARC) or other Non-Governmental Organizations (NGO) to operate shelters under a written agreement (provided the operation of the shelters is not part of the organization's regular mission).
- Sheltering self-evacuees (self-evacuee transportation costs are not eligible);
- Costs to provide the requested shelter capacity, even if the shelter was underused or not used at all;
- Costs for evacuee-caused damage to hotel rooms if the Host-State/Tribe is legally responsible for the damage;
- Costs related to arrest and incarceration of evacuees who commit unlawful acts in a Host-State/Tribe congregate shelter, including costs incurred by on-duty law enforcement officers in order to detain, take into custody, or make an arrest (costs of chemical tests, processing, charging, booking, and holding such persons are not eligible costs). Costs to transport a detainee back to the shelter is eligible if the individual was not charged;
- When patients in hospitals in the Impact-State/Tribe are evacuated, transported, and admitted into hospitals in the Host-State/Tribe through mission assignment with HHS, and the patients are treated and discharged but require follow-on care while they await transport and shelters are not available, the costs that a Host-State/Tribe's

[10] 44 CFR § 206.202(f)(1)(ii).

hospital incurs for hotel rooms during patients' follow-on care until the patients can be transported back to the Impact-State/Tribe, provided that Medicare, Medicaid, or private insurance does not cover these costs.

- Bus or shuttle transport to pick up evacuees at the airport, train station, or bus terminal when the expected plane, train, or bus is re-routed, canceled, or rescheduled;
- Costs to transport evacuees from a congregate shelter to an assisted living facility;
- Ambulance costs for hospital-to-hospital transfers, provided it is a transfer within the Host-State/Tribe;
- When the Impact-State/Tribe determines that it is safe for re-entry, it will coordinate with the Host-State/Tribe and FEMA to return evacuees, household pets, and service and assistance animals to the Impact-State/Tribe by air, rail, or bus. Return transportation costs are eligible along with food, water, and security during transport.
- Return transportation costs for family members of an Impact-State/Tribe evacuee who was admitted to a hospital after the congregate shelters close;
- When evacuees are discharged from a hospital after all congregate shelters have closed and transportation cannot be arranged for departure on the same day discharged, FEMA will reimburse up to five (5) nights of hotel lodging while awaiting return transport;
- FEMA may reimburse a State agency from the Impact-State/Tribe for the transportation costs and related expenses to transport deceased evacuees and accompanying family members to the Impact-State/Tribe. The costs of State-mandated embalming or cremation of the body prior to return are also eligible.

The Host-State/Tribe must determine whether any ambulance or medical service costs are covered by a patient's private insurance, Medicare, Medicaid, or a pre-existing private payment agreement as FEMA will deduct this amount from the Host-State/Tribe's eligible cost.

Fees that a Host-State/Tribe waives for the use of State parks by self-evacuees with recreational vehicles (RVs) are not eligible. Additionally, purchase and distribution of gas cards, bus passes, cash vouchers, debit cards, food vouchers, or direct payments to evacuees are not eligible.

12. Deleting language below (page 77) to convey more simply that each applicant selects its 48-hour period:

    Snow-related activities are eligible for a continuous 48-hour period to address the most critical emergency needs. Each Applicant designates the beginning of its 48-hour period. However, ~~all agencies, departments, or branches of a local government must use the same 48-hour period. A~~a State agency that conducts snow-related activities in multiple locations throughout a State, such as a Department of Transportation, may use different 48-hour periods for different locations.

13. Refining the language below (Page 82) for clarity:

Changes ~~made~~ to the pre-disaster design and/or construction method (including materials) may be approved as eligible if required due to access issues, site conditions, or to tie in to existing infrastructure. ~~a facility during repair may be eligible as long as t~~The changes must~~are~~ not ~~to~~impact the size, capacity, or function of the facility. ~~For the changes to be eligible, t~~The Applicant must show that the changes are reasonable based on the type and extent of ~~repair~~ restoration and consistent with the Applicant's general construction practices. ~~Some examples include work required to tie in to existing infrastructure or work necessitated by site conditions, access issues, or availability of materials.~~

14. Adding language regarding the costs of EAs and EISs (Page 83):

    Projects that do not qualify for a STATEX or CATEX will require a higher level of analysis. The most common higher level analysis is referred to as an environmental assessment (EA). In rare circumstances, a project may require an environmental impact statement (EIS), the highest level of analysis, which requires a more detailed analysis than an EA. FEMA is responsible for identifying the required level of NEPA review. FEMA usually conducts the EA or EIS. In cases where the Applicant elects to conduct the EA or EIS, FEMA will determine whether the Applicant demonstrates that it has sufficient capabilities. If FEMA determines the Applicant has sufficient capabilities to conduct the analysis, FEMA will reimburse the EA or EIS costs based on the cost share of the project.

15. Deleting the Seismic Safety language (Page 93) as it is superseded by the language in the new PA policy "FEMA Required Minimum Standards".

    ~~7. Seismic Safety for New Buildings~~

    ~~(a) Federal Requirement~~

    ~~If a building is eligible for replacement, FEMA must ensure compliance with EO 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction. This EO requires FEMA to ensure that the Applicant uses appropriate seismic design and construction standards and practices for new construction. Costs related to meeting required seismic standards are eligible regardless of the cause of damage.~~

    ~~Appropriate seismic standards vary by location based on the probability of a seismic incident occurring in a given area. The Interagency Committee on Seismic Safety in Construction recommends seismic design, construction standards, and practices appropriate for implementing this EO.~~

    ~~(b) State, Territorial, Tribal, or Local Government Requirement~~

    ~~If a community uses a standard other than those accepted by the Interagency Committee on Seismic Safety in Construction, FEMA evaluates the standard based on written justification from the community.~~

16. Adding language (Page 98) based on a contradiction between a policy statement and our allowance for culvert replacement in our HMP appendix:

With exception of specific projects identified in Appendix J: Cost Effective Hazard Mitigation Measures, ~~S~~section 406 hazard mitigation funding cannot be applied to replacement facilities, unless the facility is part of an Alternative Procedures Project.

17. Adjusted the following language applicable to relocation projects (Page 100):

The Applicant may sell or lease the original facility or the land on which a relocated facility was originally located. The Applicant 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.

~~FEMA reduces support facility and land acquisition costs by the net proceeds from the disposition of the original property. For example, if FEMA provides $400,000 to acquire new land and construct the support facilities necessary to make the relocated facility operational (not including construction costs of the actual facility itself) and the Applicant sells the land on which the facility was originally located for $750,000, FEMA deducts $400,000 from the final project cost.~~

~~The sale price of the property must be reasonable. Selling the property below market value while receiving PA funding equivalent to the full value for the property at the new location will result in the Applicant receiving a net profit. If the Applicant sells the property at less than a fair and reasonable price, FEMA offsets the full market value against the cost of the new property.~~

~~If the Applicant leases the original property, FEMA reduces land acquisition costs by the amount of rent collected until FEMA closes the relocation project (see Chapter 3:IV.C for closeout procedures).~~ The property which the facility is relocated to, and the relocated facility itself, are subject to the real property provisions of 2 CFR part 200 including reporting and disposition requirements under 2 CFR §200.329 and §200.311, respectively.

18. Adjusted the following language regarding Capped Projects (Page 100):

FEMA provides three options that provide flexibility for the Applicant to use PA funding differently than restoring the pre-disaster design and function of the facility. For these options, FEMA caps the amount of PA funding based on the estimated amount to restore the damaged facility to its pre-disaster design and function.

The three capped project options are:

- Improved Project:[11] A project that restores the pre-disaster function, and at least the same capacity, of the damaged facility and incorporates improvements or changes to its pre-disaster design.
- Alternate Project:[12] The use of funds toward a project that ~~neither~~ does not restore~~s~~ the ~~damaged facility nor its~~ pre-disaster function of the damaged facility. If the Applicant determines the public welfare would not be best served by restoring a damaged facility or its function, it may use the funds toward a different facility (or facilities) that benefit the same community.

[11] 44 CFR § 206.203(d)(1).
[12] 44 CFR § 206.203(d)(2).

- Alternative Procedures Pilot Program for Permanent Work Project (Large Projects only):[13] The use of Large Project funds toward a project(s) that restores the facility to its pre-disaster design and function or toward a project that would otherwise be an Improved or Alternate Project, or other projects, including a combination of projects. This type of capped project offers the maximum amount of funding options to include flexibility with how the Applicant may use the funds and retention of funds not authorized under the standard Improved and Alternate Project options, including the following four alternative procedures:
  - Consolidation of multiple capped projects
  - Elimination of reduced funding for an Alternate Project
  - Retention of excess funds for approved purposes
  - Third-party expert panel[14] review for estimates with a Federal share of $5 million or greater. FEMA requires this review for estimates that exceed $25 million.

Each of these options is subject to different eligibility and process requirements, which are described in detail below. As FEMA is implementing the Alternative Procedures via a pilot program, FEMA may periodically adjust program specifics. Therefore, FEMA maintains additional policy specifics at https://www.fema.gov/alternative-procedures.

Capped Amount

As stated above, FEMA caps the amount of PA funding based on the estimated amount to restore the damaged facility to its pre-disaster design and function, including applicable codes and standards. The capped amount may include a reasonable amount of DAC and soft costs based on the SOW to restore the facility to its pre-disaster design and function. However, the capped amount does not include costs that are only related to, or only triggered by, changes to the pre-disaster design or function of the damaged facility. This includes, but is not limited to, costs related to:

~~Seismic Safety~~Minimum Standard Requirement on New Construction under a Capped Project

If the Applicant is constructing a new building as part of a capped subaward, ~~FEMA requires that~~ it must comply with ~~seismic safety~~FEMA's minimum standard requirements. However, FEMA does not adjust the amount of the capped subaward to account for the cost of the work associated with the requirements.

- Additional engineering and design
- EHP compliance (including EAs and EISs)
- Work required by applicable standards, including ~~ADA and seismic safety~~Federally required standards

For Alternative Procedures Projects specifically, FEMA does not adjust the capped amount even if the Applicant discovers hidden damage during the course of completing previously approved work.

If the Applicant's actual costs exceed the capped amount, FEMA does not approve additional funds.

[13] Stafford Act § 428.
[14] FEMA utilizes the USACE Center for Excellence for Cost Engineering as the expert panel.

19. Adding language regarding the costs of EAs and EISs specific to capped projects (Page 102):

    Capped projects may involve significant changes to the pre-disaster configuration of a facility (e.g., location, footprint, or size). When an EA or EIS is required, FEMA usually conducts the review. If the scope of work to restore the facility to its pre-disaster design and function triggered an EA or EIS and that Applicant elects to conduct the review, FEMA will determine whether the Applicant demonstrates that it has sufficient capabilities. If FEMA determines the Applicant has sufficient capabilities to conduct the analysis, FEMA may include such costs as part of the capped amount. If the changes or improvements trigger the EA or EIS and the Applicant elects to conduct the review, FEMA will not include EA or EIS costs as part of the capped amount. However, the Applicant may utilize funds from its capped project for the environmental review. As with all projects, the Applicant needs to obtain FEMA approval prior to the start of construction so that FEMA can ensure that the project complies with appropriate EHP laws, regulations, and EOs. If the Applicant starts construction prior to FEMA's completion of this review, it will jeopardize PA funding for the entire project.

20. Adding the following language (page 110) to add reference to FHWA's ERFO program:

    Permanent Work to restore roads and bridges is eligible unless restoration is under the specific authority of another Federal Agency such as FHWA. ~~or BIA as follows:~~ FHWA has authority to restore public roads under the Emergency Relief (ER) Program[15]. Roads 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 collectors. The ER Program is activated separately from Presidential declarations under the Stafford Act; and it may not be activated for all incidents. Federal-aid routes are not eligible 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 Program (ERFO).[16]

21. Adjusting the following language (page 110) as the language in the PAPPG is incorrect due to previous unclear and contradicting language between the 9500 policy issued in 2007 and the Policy Digest issued in 2008:

    For Tribal Governments specifically, ~~either have jurisdiction for U.S. Government "trust lands" or own their land. Roads on U.S. Government "trust lands" are the responsibility of BIA absent any other agreement, and are not eligible for Permanent Work. However,~~ either BIA or FHWA may have~~has no~~ authority to provide permanent restoration of public Tribal roads ~~on tribally owned lands, regardless of whether they are owned or maintained by BIA. Therefore, public roads on tribally owned lands are eligible~~. However, such roads may be eligible for PA funding provided the Tribal Government is not receiving funding from FHWA or BIA for the same work.

[15] http://www.fhwa.dot.gov/programadmin/erelief.cfm.
[16] http://flh.fhwa.dot.gov/programs/erfo/.

Private roads, including homeowners' association roads, are not eligible. However, roads owned by a Tribal Government may be eligible even if they are not open to the general public.

22. Adding language (Page 135) to clarify language that differs for time extensions under the sliding scale portion of the Debris Pilot.

    The Recipient has authority to extend deadlines for individual projects based on extenuating circumstances. It may extend Emergency Work projects by 6 months[17] and Permanent Work projects by 30 months.[18] FEMA has authority to extend individual project deadlines beyond these timeframes if extenuating circumstances justify additional time.[19] With exception of debris removal operations funded under the Accelerated Debris Removal Procedure of the Alternative Procedures Pilot Program, FEMA generally considers the following to be extenuating circumstances beyond the Applicant's control:
    - Permitting or EHP compliance related delays due to other agencies involved
    - Environmental limitations (such as short construction window)
    - Inclement weather (site access prohibited or adverse impact on construction)

23. Adding the following section to Chapter 3 Section IV to summarize and reference the 705 Policy (Page 140):

    F. Stafford Act Section 705

    Section 705 of the Stafford Act imposes a three (3) year limit on FEMA's authority to recover payments made to State, Tribal, or local government Recipients and Subrecipients unless there is evidence of fraud. Section 705 does not apply to PNPs. In order to ensure consistent application of the provisions contained in Section 705, FEMA issued Recovery Policy (FP 205-081-2), *Stafford Act Section 705, Disaster Grant Closeout Procedures*, which describes the limitations and requirements in detail.[20]

[17] The Recipient may not grant time extensions on debris removal projects funded under the Accelerated Debris Removal Alternative Procedure.
[18] 44 CFR § 206.204(c)(2)(ii).
[19] 44 CFR § 206.204(d).
[20] FEMA's Policy on Stafford Act Section 705 is available at http://www.fema.gov/media-library/assets/documents/115804.

24. Adding the following footnote to the first sentence in Appendix H: Snow Assistance (Page 180) as it was in the previous snow policy 9523.1 and inadvertently omitted:

    FEMA generally considers near record as being within 10 percent of the record snowfall.

25. **Floodplain Management and Wetland Protection**

    When providing PA funding for a project in or impacting a floodplain or wetland, the following requirements apply. The terms in this section are defined in Chapter 2:VII.F.

    Minimum Requirements for Structures in a Floodplain

    For any structure (walled or roofed buildings, including mobile homes and gas or liquid storage tanks)[21] that is built, replaced, or Substantially Improved in a Special Flood Hazard Area (SFHA), the Applicant must, at a minimum, elevate the lowest floor (including the basement) to or above the 100-year base flood elevation (BFE).[22] If the structure is non-residential, the Applicant may opt to floodproof to the required level instead of elevating.[23]

    Similarly, if the structure houses critical actions and is in the 500-year floodplain, the Applicant must elevate the lowest floor (including the basement) to the 500-year flood elevation.[24] If the structure is non-residential, the Applicant may opt to floodproof to the required level instead of elevating.[25]

    Further, if the structure is in a Coastal High Hazard Area, the Applicant must elevate the facility to the BFE (the 500-year level for critical actions) (including wave height) on open works (walls columns, piers, piles, etc.) and anchor it properly.[26]

Commented [RAH1]: This Replaces Chapter 2 Section VII.C.5. (Page 90).

Terminology

FEMA publishes **Flood Insurance Rate Maps (FIRMs)** that identify the following:

- **Special Flood Hazard Area (SFHA)**: the land area subject to inundation during a flood having a 1 percent chance of occurring in a given year (also referred to as the base flood or 100-year flood).
- **Base Flood:** The flood which has a one percent chance of being equaled or exceeded in any given year (also known as a 100-year flood). This term is used in the National Flood Insurance Program (NFIP) to indicate the minimum level of flooding to be used by a community in its floodplain management regulations.
- **Base Flood Elevation (BFE):** the computed elevation to which floodwater is anticipated to rise during the base flood.
- **Coastal High Hazard Area**: the area subject to high velocity waters including but not limited to hurricane wave wash or tsunamis. On a Flood Insurance Rate Map (FIRM), this appears as zone V1-30, VE or V~~both the one-percent annual flood event (100-year flood) and hazards associated with storm-induced waves, winds, and tidal surges~~.
- **Floodway**: portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is that area which provides for the discharge of the base flood so the cumulative increase in water surface elevation is no more than one foot.~~the channel of a river or other watercourse and the adjacent land areas where the carrying capacity~~

[21] 44 CFR § 9.4.
[22] 44 CFR § 9.11(d)(3)(i).
[23] 44 CFR § 9.11(d)(3)(iii).
[24] 44 CFR § 9.11(d)(3)(ii).
[25] 44 CFR § 9.11(d)(3)(iii).
[26] 44 CFR § 9.11(d)(2) and (7).

Requirement for Communities Participating in the NFIP

A community that participates in the NFIP must adopt and enforce a floodplain management ordinance that meets or exceeds the minimum NFIP requirements.[27] Such an ordinance must contain construction requirements for new construction or Substantial Improvement of buildings located in a 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.)

Work required for compliance with the floodplain ordinance is eligible provided the ordinance meets the eligibility criteria for standards and the Substantial Improvements are disaster-related repairs. If the cost to repair a facility in accordance with the floodplain ordinance is greater than the cost to replace the facility in accordance with the ordinance, the eligible cost is capped at the replacement cost.

F. Facility Located in or Impacting a Floodplain

When FEMA provides PA funding for restoration of a facility located in or impacting a floodplain, FEMA is required to ensure minimization of harm to or within the floodplain.

Commented [RAH2]: This will be inserted in Chapter 2 between Sections VII.F. and G. of the PAPPG [the language under the Floodplain Management Considerations header in the beginning of Section VII (page 84) has also been moved and refined here along with the language in VII.F.1. (page 99)]:

1. 8-Step Decision-making Process

For any projects located in or impacting the 100-year floodplain (500-year floodplain for critical actions), FEMA initiates the 8-step decision-making process defined in 44 CFR § 9.6. As part of the 8-step decision-making process FEMA evaluates practicable alternatives to restoring the facility within the floodplain. Practicable is that which can be done within existing constraints. FEMA considers all pertinent factors, such as environment, cost, and technology. FEMA evaluates practicable alternatives to a proposed action in the context of what is practicable to both FEMA and the Applicant.

FEMA may review alternatives that are not eligible for PA funding (e.g., relocation that does not meet the requirements for PA funding as described in Chapter 2:VII.E). FEMA still evaluates these alternatives to determine whether they are practicable based on environmental, social, economic, and legal factors. In evaluating costs, FEMA considers whether each alternative identified is eligible for PA funding and, if not, whether the Applicant has funding available to proceed with the alternative without PA funding.

Projects in the 100-year floodplain (500-year floodplain for critical actions) are only eligible if, as a result of completing the 8-step process, FEMA is unable to identify a practicable alternative to restoring the facility within the floodplain. The 8-step process is not required for most projects where the repair cost is less than $5,000.[28]

2. Facility Located in a Special Flood Hazard Area

SFHAs[29] are areas that are subject to inundation during a 100-year flood (a flood having a 1 percent chance of occurrence in a given year).

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[27] 44 CFR § 60.3.
[28] 44 CFR § 9.5(c)(13).
[29] 44 CFR § 206.251.

APPENDIX J: COST-EFFECTIVE HAZARD MITIGATION MEASURES

FEMA considers the following ~~potential~~ mitigation measures to be cost-effective if the measures do not exceed 100 percent of the eligible repair cost (prior to any insurance reductions). The mitigation measures must meet all eligibility requirements described in Chapter 2:VII.D: Hazard Mitigation. There may be instances where these measures are required by codes or standards. In such cases FEMA first evaluates the work eligibility as a code or standard.~~:~~

~~Do not exceed 100 percent of project cost;~~
~~Are appropriate to the disaster damage;~~
~~Will prevent future similar damage;~~
~~Are directly related to the eligible damaged elements;~~
~~Do not increase risks or cause adverse effects to the property or elsewhere; and~~
~~Are technically feasible for the hazard and location.~~

I. Drainage Structures:

A. ~~When drainage structures are destroyed, r~~Replace with multiple structures or a larger structure. The Applicant may use existing State, Territorial, Tribal, or local drainage criteria for sizing replacement culverts. The Applicant needs to consider using green infrastructure techniques such as bioswales, bioretention, rain gardens and similar techniques that may be used in public drainage systems. The Applicant must consider replacement structures with regard to a total drainage system and cannot upgrade structures without a watershed hydrology study with an emphasis on downstream effects and National Flood Insurance Program regulations.

Example

Adding a relief culvert located at the same crossing site as a damaged culvert and in the embankment above the flow line of the primary culvert or located upstream of the main culvert. A relief culvert provides an alternate route for the flow if the main culvert is over capacity or gets plugged, and prevents sedimentation through the high-flow scouring action.

B. For the purpose of erosion control, add properly designed entrance and exit structures, such as a headwall, wingwalls, flared aprons, or energy dissipation measures to increase efficiency and help to minimize scour and erosion. Depending on the severity of erosion, solutions for bank protection may include~~line drainage ditches and armor embankments with~~ gabion baskets, rip rap, cast-in-place concrete, crushed stone or rock, grouted rip rap, sheet-piling, ~~and/or~~ geotextile fabric or similar measures to control erosion. Alternatively, the use of vegetation or a combination of vegetation and construction materials are eligible such as live fascines, vegetated geogrids, live cribwalls, brushmattresses, root wads, or similar measures.

C. Culverts:

1. Where the alignment of a culvert is inconsistent with existing water flow, realign the culvert vertically or horizontally or relocate the culvert to improve hydraulics and

minimize erosion and scour. The Applicant must consider realignment of structures with regard to a total drainage system and cannot replace structures without a watershed hydrology study with an emphasis on downstream erosion effects.

2. Extend the culvert discharge to mitigate erosion and scour by extending the discharge end beyond the toe of the embankment.
3. Install a debris barrier to prevent debris blockage or fins designed to orient floating debris for passage through the culvert.
4. Install a debris barrier riser to allow debris to float up with the rising floodwaters without blocking flow into the culvert.

II. Transportation Facilities:

A. Bridges:

1. ~~When bridges are destroyed and w~~Where traffic counts are low, replace with ~~carefully placed~~ low-water crossings.
2. Install cables to restrain a bridge from being knocked off piers or abutments during floods or earthquakes.
3. ~~Also, where bridges have been damaged or destroyed when girders, beams, and decking system are displaced by storm surges or earthquakes, i~~Install girder and deck uplift tie-downs to prevent displacement from the substructure.
4. Install Longitudinal Peaked Stone Toe Protection with nature planting, upstream of a failed abutment, to provide a stable floodplain bench for the protection of the abutment and the adjoining bridge approach. Consider other relevant Bio-engineering applications such as engineered logjams, log vanes or log bendway weir.

B. Marine Pier Ramps: If ~~marine piers ramps~~ attached to decking ~~have been damaged by storm surge uplift and buoyancy~~, install open decking or floating decking with uplift-resistant tie-downs and fasteners.

C. Roadways and Railways: Where shoulders are ~~damaged by~~susceptible to overflow from adjacent water courses, stabilize shoulders and embankments with geotextile fabric and revetments.

D. Roadways: Use geotextile drainage blankets between the pavement section and subbase to strengthen subgrade.

III. Mechanical and Electrical Components:

A. Provide seismic bracing for electrical lines, conduit, piping, duct-work, water heaters, and other MEP equipment. Components can be wall mounted, floor mounted, or suspended.

B. Roof-Mounted Equipment: Secure to roof top via a continuous load path, using tie-downs, straps, or other anchoring systems that will resist expected wind forces.

C. ~~Buildings without a Substantial Damage Determination based on the community's floodplain management ordinance: If technically feasible, e~~Elevate or dry floodproof components or systems vulnerable to flood damage, including equipment, controls, electrical panels; heating, ventilation, and air conditioning/machinery rooms; emergency

generators; and fuel tanks. When wiring cannot be elevated, replace with equipment suitable for submerged applications.

D. ~~If pump station equipment is damaged as a result of power failure, i~~Install switches, circuit isolation and/or quick connect capability to facilitate rapid connection of backup power for any damaged or susceptible mechanical and electrical components.

E. Install camlocks, transfer switches, and electrical panels to facilitate the connection of portable emergency generators.

IV. Pipes:

1. Install pipe joint restraints, flexible piping at pipe/conduit connections ~~to equipment~~, or replace pipes with more ductile material.
2. ~~Sewer Lines: Repair~~ Install continuous lining or encasement ~~of damaged sections~~ to prevent infiltration or structural collapse.
3. Underground Pipes: Install shut-off valves so that damaged sections of pipe can be isolated.

V. Water/Wastewater:

F. Pumps: If pumps and their attached motors are ~~damaged by~~susceptible to stormwater inundation, replace them with submersible or inline pumps as appropriate.

G. Sewer Access Covers: Elevate to the hydraulic grade line. ~~There are a number of~~When elevation is not feasible or practicable, install devices ~~that~~ to prevent infiltration into access holes such as cast iron watertight frames and covers.

H. Well Systems: Seal exposed portions of well casing or raise the elevation of the well head to prevent infiltration of flood waters.

I. Raw water intakes: Install buttressing to prevent damage from erosion, scour, and flood debris.

VI. Electric Power Systems:

A. Provide looped distribution service or other redundancies in the electrical service to critical facilities, such as hospitals and fire stations.

B. Install surge suppressors and lightning arrestors.

C. Transformers:

1. Elevate pad-mounted transformers above the Base Flood Elevation.
2. Support pole-mounted transformers with multiple poles.

D. Power Poles:

1. Replace ~~damaged poles~~ with higher-rated poles (preferably two classes stronger) of the same or different material~~, such as replacing wood poles with precast concrete or steel~~. When replacing poles with higher-rated poles, install guys and anchors to provide lateral support for poles supporting pole-mounted transformers, regulators, capacitor banks, reclosers, air-break switches, or other electrical distribution equipment.

2. Remove large diameter lines ~~from poles~~.
3. Add cross-bracing to H-frame poles to provide additional strength.

E. Power Lines: Add guy-wires or additional support.

VII. Storage Tanks:

A. Anchor or otherwise protect from movement by~~.~~ ~~S~~strengthening or stiffening base connections.

B. Install self-initiating disconnects and shut-off values between tanks and distribution lines to minimize damage and leaks.

VIII. Buildings and structures:

A. For small support buildings subject to uplift or rollover from high winds, securely anchor the buildings to foundations to prevent toppling or becoming missile hazards.

B. Dry or wet floodproof buildings.

C. Footings: Where spread footings have been undercut by scour, underpin footings.

D. Siding: ~~If siding has been damaged by wind, r~~Replace with a stronger siding with stronger attachments to the wall sheathing and structure.

E. Vents: ~~Where there has been water damage caused by water intrusion through venting systems, r~~Replace ~~the vents~~ with water-resistant vents.

F. Non-structural Building Components: Brace interior walls, partitions, parapets, anchor veneer or cladding, suspended light features, drop ceilings, soffits, and other non-structural elements that could collapse and cause injury or block safe exit of a building during an earthquake or high-wind event.

G. Furnishings: Provide seismic ties, straps, or clips to secure replaced furniture, cabinets, computers, bookcases, and other furnishings.

H. Roofs

1. Install hurricane ~~clips in locations subject to high winds.~~ clips, fasteners, anchors, straps, and connectors that are~~should be~~ compatible with the roof system and corrosion-resistant in coastal areas.
2. Strengthen the high-wind pressure areas (e.g., corner zones, roof soffits, overhangs) ~~When roof damages are due to wind pressure~~.
3. ~~When there is roof system damage or water intrusion due to damage to~~ Strengthen roof openings, such as hatches and skylights.
4. Low Slope Roofs: Replace entire roof with a roof covering with a secondary membrane and a fully adhered roof covering, such as modified bitumen. Mechanically fastened insulation or membranes are not acceptable.
5. Gable Roofs: ~~For gable roofs damaged by wind, r~~Replace the gable-end framing with hipped roof framing to reduce wind forces (lower edge pressure; reduced projected wind area) and strengthen the roof framing.

6. Gutters and Downspouts: ~~If damaged by wind or water, u~~Upgrade ~~the gutter and downspout system~~ to direct water away from the structure to prevent interior or basement water damage.

I. Doors and Windows

1. ~~Where damage has resulted from wind and water intrusion around weather stripping, u~~Upgrade the weather stripping to prevent water infiltration.
2. ~~Where damage has been caused by wind-induced failure of entry and garage doors, r~~Replace doors, door frames, hinges, and hardware with wind-resistant units.
3. Strengthen windows
4. Replace glass with impact-resistant material.
5. ~~In areas subject to hurricane winds,~~ Install shutters on windows:
   a. ~~All damaged windows on~~Of critical facilities, such as hospitals.
   b. On the lower floors of non-critical facilities ~~with damaged windows~~ most likely to be struck by debris.
   c. ~~Damaged windows o~~Of buildings with very high-value contents that can be damaged by water (such as libraries and document centers).
   d. ~~Damaged windows o~~Of buildings where failure of roofing materials or other portions of nearby structures could create impact hazards.

IX. Signage: Replace sign panels and their supports with a stronger type of system of supports and panels. Consider using multiple support posts and stronger panels and fasteners.