

Flood Risk Reduction: Information Required for Environmental Review

This Job Aid is to help communities applying for Hazard Mitigation Assistance grants for flood risk reduction mitigation projects. It outlines the required documentation needed for FEMA to carry out an Environmental Planning and Historic Preservation review of a project.

ABOUT THIS RESOURCE

It is required by law that all projects funded with Hazard Mitigation Assistance (HMA) grants comply with Environmental and Historic Preservation (EHP) laws, regulations and Executive Orders (EOs). During the EHP review process, FEMA evaluates the potential impacts of the project on the human and natural environment.



Figure 1. Photo of a flooded urban area with most of the streets under water; only the arched bridge is visible.

FEMA begins the EHP review process when the project application is submitted. It is your responsibility as the subapplicant to provide documentation that accurately describes the project, its purpose, location, existing environmental conditions in the project area, potential project impacts, best management practices (BMPs), different alternatives considered for the project and mitigation strategies to address environmental impacts of the project.

FEMA will assess the potential impacts of the project. The applicant must wait until the EHP review has been completed by FEMA before starting work on the project. FEMA will also conduct a technical review to verify your project's technical feasibility and cost-effectiveness. Refer to the Flood Risk Reduction Technical Review Job Aid.

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What is the EHP Review?

During the EHP review, FEMA assesses the potential impacts of your project on nearby physical, cultural (historic and archeological), biological and social resources. The National Environmental Policy Act (NEPA) requires FEMA and other federal agencies to assess the environmental impacts of proposed federal actions prior to making decisions. FEMA must also ensure your project is compliant with various federal laws and presidential EOs, such as the Clean Water Act (CWA), the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA), EO 11988 on floodplains and EO 11990 on wetlands. The EHP review may include consultation with other federal and state agencies, which may add time to the review process.

Projects with less potential for impacts may be covered by a Categorical Exclusion (CATEX) under NEPA. Complex projects may need more extensive review through the preparation of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). For your project, FEMA will prepare or provide support for the development of the NEPA-required documentation, and you can help by providing the information discussed in this Job Aid.

FEMA has predetermined that projects complying with certain criteria do not have significant environmental impacts and may be covered by a CATEX for NEPA compliance. Flood risk reduction projects cover a variety of flood control measures, which are implemented to address both localized and non-localized flooding. CATEXs that could potentially cover your flood risk reduction project include CATEX N4 *Federal Assistance for Actions Involving Stream Work and Modification and Floodways*, CATEX N5 *Federal Assistance for Actions in Coastal Areas Subject to Moderate Wave Action or V Zone*, CATEX N6 *Federal Assistance for Relocation/Realignment of Structures and Facilities*, and CATEX N9 *Federal Assistance for Flood Hazard Reduction Actions*. Any projects that involve armoring of streambanks must use stream or streambank bioengineering methods to meet the CATEX criteria.

What Information is Required for the EHP Review of Flood Risk Reduction Projects?

This section outlines information that should be included in your application so that FEMA can review your project for EHP compliance. FEMA HMA program staff will conduct a review to make sure the project complies with HMA program eligibility. For each item, there is an explanation as to why it is needed, where you can find this information

and an example of how the information should be provided to FEMA. Each piece of information requested is needed to develop a comprehensive project description to be included with your application.

1. SCOPE OF WORK

1A: What are you proposing to do?

- What type of flood risk reduction project are you proposing?
 - Localized (e.g., stormwater management projects, flood protection measures for water and sanitary sewers, slope stabilization to direct flood waters away from structures, shoreline stabilization, flood protection measures for infrastructure)
 - Non-localized (e.g., construction, demolition, or rehabilitation of dams, levees, floodwalls, or other flood control infrastructure)
- Describe your flood risk reduction project's scope of work – clearly explain the project components and how they relate or connect to existing flood control or drainage components.
- Describe any current or proposed bank stabilization measures. FEMA recommends incorporating bioengineering techniques (e.g., use of vegetation or a combination of vegetation and construction materials; the use of living and non-living plant materials in combination with natural and synthetic support materials).
- Describe how the project will reduce flood risks and the area that would benefit from flood risk reduction.
- If the project would disturb the ground for any reason (e.g., clearing a staging area), describe the activities (both temporary and permanent) that would require ground disturbance and show locations on a map or plan view; include the length, width and depth of the ground disturbance.
- Describe the existing condition of the ground surface (e.g., pavement, landscape shrubs and trees, previously undisturbed soils with vegetation) that would be disturbed.

Why It's Needed: Flood risk reduction projects are intended to reduce flood damage and loss of life through a wide variety of potential project activities. A complete project description is essential for FEMA to understand how the project may impact human, environmental and cultural resources. The methods used to construct a flood risk reduction project may temporarily increase erosion and sedimentation, impact species or affect human communities. Ground disturbance could affect archaeological resources, soils or utilities. FEMA will use this information to evaluate impacts and it may affect the complexity of the EHP review.

Potential Sources: Project architects, engineers, design plans or drawings, contractors

EXAMPLE:

River City is proposing to increase the capacity of the city's stormwater infrastructure to reduce flooding in the downtown area. The proposed mitigation activity includes the construction of a 20-foot by 30-foot detention basin along Lost Creek. The detention basin would provide five acre-feet of storage and mitigate peaks of high-intensity, short-duration storms. The basin would be 20 feet below the existing ground surface with an additional foot of excavation for the sediment retention area. The outlet structure would be an underdrain system six feet deep, three feet wide, and twenty-three feet long. The outlet structure would allow

for a slow release of floodwater to reduce peak flows. An overtopping component would be installed to allow excess flows to safely exit the detention basin. See attached map for project impact location. The basin would be connected to the existing stormwater collection network and would intercept flows before they reach Lost Creek. Peak flows would be detained in the basin and then routed back into the stormwater system for discharge to Lost Creek. In addition to the basin excavation, the stormwater collection pipes would be connected to the basin with new piping placed in trenches. The existing stormwater collection system is located under paved streets, but the detention basin would be in a vacant unpaved lot. No other utilities would need to be moved to construct the basin and the connecting pipelines.

1B: How would the project area be accessed and where would the staging areas be located?

- Describe how the project area would be accessed. Show the boundaries of the access routes or points on a map or plan view of the project area and describe the surface type (e.g., asphalt, dirt, gravel).
- If any new access routes would need to be created for the work to be completed, show where the routes would be located on a map or plan view of the project area.
- Describe where materials and equipment would be stored and staged during construction. Show the boundaries of the staging area(s) on a map or plan view of the project area and describe the surface type (e.g., asphalt, dirt, gravel).
- If the creation of new access routes or staging areas would require ground disturbance or vegetation removal, describe the extent of the ground disturbance (see Item 1A) and vegetation removal (see Item 3H).
- Describe the vehicles and equipment that would be used to implement the project.
- Describe any local restrictions on equipment use (e.g., seasonal or daily restrictions, work hours, local noise ordinances).

Why It's Needed: Your project may require a new access point to a property or leveling a staging area for construction. FEMA will evaluate the potential for impacts from activities that disturb the ground or remove vegetation. Some types of equipment may result in impacts related to erosion, noise, air pollution or accidental releases of fuel and lubricants. Vehicles and equipment use may cause ground disturbance that could impact archaeological resources.

Potential Sources: Project planners, construction contractors, engineers

EXAMPLE:

The equipment used for the installation of the detention pond would include an excavator, dump truck, grader, jack hammers and bypass pump. The equipment would be staged on a gravel parking lot near the project site. A temporary access road would be cleared through the vacant lot to connect the staging area with the work area where the basin will be located.



Figure 2. Example of a project site map. Map clearly shows the project area in blue and two staging areas in red. The site features are overlaid on an aerial photo.

1C: What are alternatives to the project?

- Describe what would happen if the project were not implemented.
- If any other alternatives were developed, describe how they would have achieved the same goal and explain why those options were dismissed. If the public (including groups and agencies) provided input on the alternative(s), include the feedback you received.

Why It's Needed: FEMA may need to compare the impacts of the project with the impacts of alternatives (including any alternatives that were dismissed).

Potential Sources: Project planners, public outreach meetings, board meeting notes, preliminary designs

EXAMPLE:

River City developed two alternatives to the proposed detention pond installation. The first alternative would be to widen the stormwater channels and upsize culverts located in the downtown area to reduce flooding. The second alternative would elevate all structures in the downtown area to reduce flood damage. The first alternative was dismissed because the hydrology and hydraulic study showed there would be negative impacts (increased flooding) downstream. The second alternative was dismissed because of high costs of elevating all structures in the downtown area. The no-action alternative was also dismissed because the downtown area would continue to experience structural flooding.

1D: What is the project schedule?

- Provide a schedule that includes construction, operation and maintenance activities, including the months or seasons when work would occur.

Why It's Needed: FEMA will use information on the timing and duration of different activities to evaluate the significance of impacts on people and the environment.

Potential Sources: Project engineer

EXAMPLE:

The project is expected to take nine months to construct. The installation of the detention pond and drainage components would take six months, regrading would take one month, and inspection and closeout activities would take two months. The project would follow local noise and time-of-day restrictions for construction activities. The detention pond would require maintenance every three years or following 25-year flood events to remove sediment and debris that accumulates in the bottom of the pond.

2. PROJECT AREA AND STRUCTURE INFORMATION

2A: Where is the project proposed to be constructed and/or affected structures and infrastructure located?

- Provide the geographic coordinates (latitude and longitude) and the physical site address of the project area.
- Provide a geographic information system (GIS), computer-aided design (CAD), Google Earth files (.kmz), or map or image that clearly shows the boundaries of the project area. If your project area has a complex boundary, a GIS or .kmz file is preferred. The information provided should show the boundaries of all temporary and permanent project activities including staging areas, access routes, vegetation removal and the affected structure(s) or infrastructure.
- Provide an estimate of the size of the area that would benefit from the flood risk reduction.
- Provide an estimate of the area of ground disturbance in acres or square feet.
- Provide a few representative photographs of the surrounding area to the north, south, east and west of the project area.
- Provide engineering drawings, if available.

Why It's Needed: FEMA needs the project location and boundaries to evaluate existing conditions in the project area and potential project impacts. The size of the project area and the area that would benefit may determine whether a CATEX would apply to the project.

Potential Sources: Municipal GIS or CAD data or Google Earth files developed for the project design, local building inspectors, tax assessor records, property deeds and engineering plans. The geographic coordinates of your project area can be obtained using software such as GIS or Google Earth,

websites such as Google Maps, Bing Maps or latlong.net, smartphone mapping apps or with a Global Positioning System (GPS) device.

EXAMPLE:

The non-localized flood risk reduction project area encompasses 3,000 linear feet of sand dune restoration and stabilization at Ocean City Beach. The project area is located southward of Plover Road adjacent to residential and commercial properties. The dune would start at latitude/longitude: 40.81634, -67.95860 to the west and end at latitude/longitude: 40.81156, -67.94971 to the east. The map and GIS shapefile included with the application show the project area boundary, access routes, equipment staging locations, and the proposed dune footprint. Engineering drawings are also included in the application.

2B: Describe the structures in the project area.

- Provide a description of the type, number, size and dimensions of the structure(s) in the project area, including photographs of all sides and the year they were originally constructed.
- Describe adjacent structures, including photographs and the year they were originally constructed.
- Describe any prior improvements or additions that have been made to the structure(s) or infrastructure in the project area (e.g., stone replaced with concrete, new windows, change in roofing material from the original construction), changes to the original location (i.e., relocation) of the structure(s) or other changes to the original design of the structure(s).
- If the structure(s) is designated as historic or is in a designated historic district, provide information on the known historic property/district, as applicable.

Why It's Needed: FEMA will use the date of construction to screen whether affected structure(s) might be historic and to help determine the effect that the project may have on historic properties. Structures that are 45 years or older at the time of application may be eligible for listing in the National Register of Historic Places. Older structures may require additional EHP review. Photographs of the structure(s) may allow FEMA to make a determination without needing to visit the site. Actions that change the character or setting of structures and buildings may also change the cultural value of a building. This could have a negative impact on structures, buildings, sites, objects or historic districts that may be eligible for listing or be listed in the National Register of Historic Places.

Potential Sources: Tax assessor data (provide the URL for the tax assessor if possible), GIS-based tax assessor database

EXAMPLE:

The proposed floodwall project area includes the town's wastewater treatment plant complex (see attached map). The plant was built in 1948 and encompasses eight buildings, two settling tanks, an aeration tank complex and two clarifiers. The clarifiers and aeration tanks were upgraded during a complex-wide upgrade to

current codes and standards in 1997. See attached photos that show all buildings at all angles and images of the road going south and north from the plant's entrance.



Photo of south and east side of building



Photo of north and west side of building

Figure 3. Photos showing the structure in the project area. Photos include all sides of the building from different cardinal directions.

3. POTENTIAL IMPACTS ON PEOPLE, THE ENVIRONMENT AND CULTURAL RESOURCES

3A: Has the public been notified or provided input?

- Explain any controversy that exists or could exist related to the project.
- Describe any existing or planned public engagement activities for the project.

Why It's Needed: If there is or could be controversy around a project, FEMA may need to use a higher level of NEPA documentation. Public input can help identify potential impacts on environmental and cultural resources or low-income and minority communities. You may also be involved in the publication of public notices for the project, in accordance with FEMA procedures.

Potential Sources: Notices in the local newspapers, public outreach meetings, website postings, project planners

EXAMPLE:

The County conducted two community meetings to solicit public input on the construction of the floodwall along Main Street. Signage and informational boards were placed around the project area to alert community members about the proposed project. One public meeting is planned to solicit public input following award of the grant to provide information on the traffic control plan while the berm is being constructed.

3B: Did you coordinate with or consult regulatory agencies?

- Describe any agency coordination and permits you obtained from federal, state or local agencies to implement the project. Provide copies of any coordination materials, permit applications or approvals.

Why It's Needed: If you have already coordinated with an agency, FEMA may be able to avoid duplication of effort. FEMA also may coordinate with state or federal agencies that have issued permits and approvals to confirm findings, identify BMPs or determine mitigation measures for project impacts. Many agencies, including the U.S. Army Corps of Engineers, offer a pre-application process where you can learn more about the permits and conditions that may be required for your project.

Potential Sources: Project planners

EXAMPLE:

The project would occur in the state's coastal zone. In compliance with the Coastal Zone Management Act, the City obtained a Coastal Development permit for this project in March. Please see the attached permit approval and conditions of approval, which the project would satisfy.

3C: Were environmental or cultural studies conducted?

- If any environmental or cultural studies were completed either for this project or for other projects in the same area by local, state or federal entities, please provide copies. Studies could include evaluations of cultural resources (e.g., historic, archaeological) or environmental resources (e.g., threatened and endangered species, wetlands, hydrology).

Why It's Needed: FEMA may use the findings during the EHP review to avoid duplicating efforts.

Potential Sources: Project contractor or engineer, EHP studies required by state law or local ordinances, environmental studies completed within or near the project area

EXAMPLE:

In 1998, the County conducted a hydrology and hydraulic analysis and archaeological resource study as part of the construction of the original wastewater facility. The reports from those studies are attached. Those prior studies overlap almost entirely with the current project area.

3D: Would your project encroach on floodplains?

- Describe the proposed project activities in the floodplain.
- A hydrologic and hydraulic (H&H) study is necessary for flood risk reduction projects. Provide a copy of the H&H study that was prepared for your project.
- If improving the capacity of a floodplain, describe the capacity of any existing system and what will be the capacity of the proposed new system. Describe where the water will ultimately discharge (e.g., an existing water main, a channel, a detention pond) and explain if the receiving system will have enough capacity to handle the new increase in flow.

Why It's Needed: FEMA needs to understand whether the project would change flood elevations or extent, both upstream and downstream from the project. Generally, an H&H study is needed to make this determination. FEMA needs to evaluate whether the project will physically impact a floodplain or whether the project could be impacted by flooding during and after construction pursuant to EO 11988 – Floodplain Management. If the project has the potential to impact floodplains, you may be involved in the publication of public notices required by FEMA procedures.

Potential Sources: Local floodplain agency/administrator, history of flooding/flood claims, [FEMA Flood Map Service Center](#)

EXAMPLE:

Construction of the levee, including excavation for the levee foundation, removal of all vegetation within the area (primarily shrubs and small trees), and construction of the levee embankment would occur entirely within the floodplain based on a review of FIRM Map #29113C0430D effective 9/29/2010. The staging area to the west of the project site would also be partially located within the floodplain. Because this project would alter the existing floodplain, we coordinated with the local floodplain administrator about floodplain development permit requirements. See attached correspondence with the floodplain administrator and the floodplain development permit application. An H&H study for the project is also attached to the application.

3E: Are there surface waters or wetlands in the project area?

- Describe any surface waters in or near the project area (e.g., ponds, lakes, rivers, streams, wetlands, other waterbodies).
- If a delineation of surface waters (including wetlands) was completed for the project area, please provide a copy of the report.
- Describe any measures that would be used to avoid waterbodies or avoid impacting water (e.g., setbacks, cofferdams, silt fence).
- Provide any permits or applications that were developed related to project impacts on surface waters.
- If stream work is involved, describe the current conditions of the stream. Describe whether the stream is natural or has been altered by manmade structures (e.g., dams, weirs, concrete lining, culverts, riprap). Provide the length of stream channel to be modified (in feet) and describe the proposed modifications. If the current channel is already modified, describe the proposed additional improvements. If any streams are proposed to be rerouted, describe the proposed work and outcomes.

Why It's Needed: FEMA needs to evaluate existing conditions and potential impacts on water resources of any work external to an existing structure, as regulated by the CWA, the Coastal Zone Management Act and EO 11990 – Protection of Wetlands. If the project has the potential to impact wetlands, you may be involved in the publication of public notices required by FEMA procedures. Temporary construction measures, such as silt fencing, and their manner of

placement, may cause ground disturbance and could affect archaeological resources or Waters of the U.S.

Potential Sources: CWA permits and approvals, wetland delineation of the site, [National Wetlands Inventory \(NWI\) Mapper](#)

EXAMPLE:

The stormwater pumping station improvement project would occur adjacent to estuarine/marine wetlands that were identified through a wetland delineation completed in February. The project is designed to avoid fill or excavation in or near these wetlands. Additionally, the project area perimeter would be replanted with native plants to avoid any indirect effects on adjacent wetlands, such as pollutants in the stormwater runoff from the increased impervious surfaces around the pumping station.

3F: Would your project have an impact on hazardous or contaminated materials?

- Describe any known hazardous or contaminated materials that may be present in the project area or that are needed to implement the project.
- If your project would use any hazardous materials, describe the BMPs that would be used to minimize exposure of people and the environment to those materials and how the materials would be discarded.

Why It's Needed: The presence, management, use or generation of hazardous materials can impact the natural and human environment. FEMA needs to evaluate potential project impacts from (or use of) hazardous and contaminated materials regulated by federal and state law including the Comprehensive Environmental Response, Compensation, and Liability Act, and the Resource Conservation and Recovery Act. Any site that has or has had recorded hazardous water issues will require a Clean Site Certification prior to grant approval.

Potential Sources: Environmental site assessments, site visits, state environmental agency/databases, [EPA Envirofacts](#)

EXAMPLE:

A Phase 1 Environmental Site Assessment (ESA) for a property located directly north of the project area found evidence of soil contamination from a leaking underground storage tank from a former gas station. No project activities would occur along the northern border of the project area. Soils in the project area would be tested by a licensed professional before project implementation to ensure there is no contamination present in the project area. If contaminated soil is found within the project site, it would be removed and disposed of at a certified disposal facility. See the attached Phase 1 ESA completed for the nearby property.

3G: Would your project use imported fill?

- If your project involves the use of fill, describe the type and source of the fill material.

Why It's Needed: FEMA needs to confirm that the fill used is free from contaminants and is compliant with federal and state hazardous and contaminated materials laws. FEMA also needs to evaluate the source of fill for potential effects to historic properties. If a borrow site is being used, it is also important to ensure that the area is not archaeologically sensitive.

Potential Sources: Project planner or engineer, and similar completed projects

EXAMPLE:

The levee foundation work would require excavation along approximately one mile of the river side of the levee. On-site fill would be used to backfill the excavation with additional imported fill sourced from the Jackson County Backfill Lot. This fill is clean and certified (see attached certification).

3H: Is vegetation removal required?

- If the project would remove vegetation for any reason, describe the type and amount or area of vegetation (e.g., two oak trees, one-quarter acre of turf grass, 300 linear feet of native riparian vegetation).
- Describe how vegetation would be removed, if applicable (e.g., root ball removal, flush cut, dug up, chemical weed killer).
- Provide photographs of the vegetation to be removed in the project area.
- Would you restore vegetation after the project is complete or does the project include planting or seeding of vegetation? If so, describe where and how it will be planted (e.g., by hand, with machinery, broadcast seeding) and the types (e.g., grasses, trees, shrubs) and species of vegetation that would be planted.
- Would any special techniques be used to ensure survival of the plants/seeds (e.g., mulch, irrigation, protective fencing)?

Why It's Needed: Vegetation removal could cause the loss of habitat for wildlife species including an endangered or threatened species. Root ball removal could also impact archaeological resources that may be present within the root system. FEMA will evaluate the impact vegetation removal has on environmental resources.

Potential Sources: Project planner or engineer, landscape architects, and similar completed projects

EXAMPLE:

Approximately 41,000 square feet of undisturbed land would require clearing to implement the dam rehabilitation project. Vegetation removed within the area would include ponderosa pine and Douglas fir trees, shrubs, and native grasses. Large trees would be cut using a feller buncher and smaller trees and shrubs would be cut using a chainsaw. Shrubs and grasses would be dug up when excavation occurs. Woody material would either be chipped on-site or disposed of at the local transfer station.

3I: What Best Management Practices would the project use?

- List all BMPs to be implemented, as part of the project, to reduce potential impacts.

Why It's Needed: Most projects require BMPs to limit noise, dust and erosion while the project is being implemented. FEMA needs to document BMPs that will be used to ensure the project's environmental impacts will be avoided and minimized, where possible, in compliance with federal and state environmental laws.

Potential Sources: Project engineers, BMP guidance provided by federal, state or local environmental agencies, BMPs specified in permit approvals issued by federal, state, or local agencies

EXAMPLE:

The city would implement the following BMPs during project implementation:

Air Quality: The selected contractor would keep vehicle and mechanical equipment running times to a minimum and all engines would be properly maintained.

Water Quality: A silt fence would be installed prior to excavation to minimize the potential for soil erosion while the project is being implemented.

Coastal Zone: All construction equipment would stay within the property line and always work 3 feet away from the dune system beyond the project property.

Hazardous Materials: Equipment and vehicles would be inspected daily for fuel and fluid leaks. Any spills or leaks would promptly be contained and cleaned up and the equipment would be repaired. A spill prevention plan would be developed for hazardous materials to be used during project implementation. Storage and handling of hazardous and toxic materials would occur at least 150 feet from streams and waterbodies.

Floodplain: No hazardous materials or floatable items would be stored within the floodplain. Only clean, certified imported fill would be used to implement the project.

Noise: No project activities would occur between the hours of 10:00 p.m. and 7:00 a.m. in compliance with the town's noise ordinance.

What Happens Next?

The EHP review process occurs throughout the life cycle of the HMA project and has three specific steps where different aspects of the review process occur. The three steps are detailed below.

- Pre-Award:** This is the information and documentation gathering stage of the EHP grant review process. Following the directions provided in this Job Aid will help you create a comprehensive application that includes all foreseeable required information needed for the EHP review. Providing this information as quickly and as accurately as possible will help expedite the next steps and reduce the need for FEMA to request additional information. The need for additional information may significantly impact the length of time for the EHP review by up to 60 days, if not more, for every request for information sent.

- **Formal EHP Review:** Once the required information and documentation is gathered, FEMA will review the project to ensure it is compliant with all EHP-related laws, EOs and regulations. The level of EHP review necessary for a particular project will depend on the type of project, its complexity and the potential impacts it may have on the human and natural environment. Less complex projects with no potential impacts may undergo a short EHP review, while more complex projects with several potential impacts may take longer to review and may require consultation with other federal/state agencies and/or the creation of an EA or EIS. At the end of this process, a Record of Environmental Consideration (REC) will be completed, itemizing the project conditions that will be included with your award packet. These conditions could include measures such as reaching out to other federal agencies for potential permits, ensuring proper documentation is followed during waste disposal and stopping work if a sensitive historic resource is discovered. You will want to carefully review all the conditions in your award packet during project implementation to remain compliant with the grant.
- **Closeout:** Once the project is complete, the applicant (State/Tribe) will request project closeout from FEMA. FEMA will begin closing out the project and, during this time, will follow up on all the conditions stipulated in the REC. If any condition required you to document activities or outcomes, FEMA will request that documentation during closeout. If FEMA discovers that any of the conditions were not met, the project could be found non-compliant, and FEMA may seek to recover the grant money.

If deviations from the proposed scope of work result in design changes, the need for additional ground disturbance, additional removal of vegetation or result in any other unanticipated changes to the physical environment, you must contact FEMA, and a re-evaluation under NEPA and other applicable environmental laws would be conducted.

ADDITIONAL RESOURCES:

- Supplemental Job Aid – Flood Risk Reduction Technical Review
- Bioengineered Streambank Stabilization Job Aid
- Bioengineered Streambank Stabilization Fact Sheet
- FEMA’s Office of Environmental and Historic Preservation – Home page of FEMA’s EHP office
- HMA EHP At-a-Glance Guide – Provides a general overview of EHP review considerations
- FEMA Directive 108-1 – Legal document that directs how FEMA EHP reviews projects
- DHS Instruction Manual 023-01-001-01, Rev 01 – Appendix A lists CATEXs

Scope of Work Checklist

Below is a summary checklist of all the questions from the previous sections. Use this checklist to help you as you complete your information packet.

1. SCOPE OF WORK

- What type of flood risk reduction project are you proposing – localized (e.g., stormwater management projects, flood protection measures for water and sanitary sewers, slope stabilization to direct flood waters away from structures, shoreline stabilization, flood protection measures for infrastructure) or non-localized (e.g., construction, demolition or rehabilitation of dams, levees, floodwalls or other flood-control infrastructure)?
- Describe your flood risk reduction project's scope of work – clearly explain the project components and how they relate or connect to existing flood control or drainage components.
- Describe any current or proposed bank stabilization measures. FEMA recommends incorporating bioengineering techniques (e.g., use of vegetation or a combination of vegetation and construction materials, the use of living and non-living plant materials in combination with natural and synthetic support materials).
- Describe how the project will reduce flood risks and the area that would benefit from flood risk reduction.
- If the project would disturb the ground for any reason (e.g., clearing a staging area), describe the activities (both temporary and permanent) that would require ground disturbance and show locations on a map or plan view; include length, width and depth of the ground disturbance.
- Describe the existing condition of the ground surface (e.g., pavement, landscape shrubs and trees, previously undisturbed soils with vegetation) that would be disturbed.
- Describe how the project area would be accessed. Show the boundaries of the access routes or points on a map or plan view of the project area and describe the surface type (e.g., asphalt, dirt, gravel).
- If any new access routes would need to be created for the work to be completed, show where the routes would be located on a map or plan view of the project area.
- Describe where materials and equipment would be stored and staged during construction. Show the boundaries of the staging area(s) on a map or plan view of the project area and describe the surface type (e.g., asphalt, dirt, gravel).
- If the creation of new access routes or staging areas would require ground disturbance or vegetation removal, describe the extent of the ground disturbance (see Item 1A) and vegetation removal (see Item 3H).
- Describe the vehicles and equipment that would be used to implement the project.
- Describe any local restrictions on equipment use (e.g., seasonal or daily restrictions, work hours, local noise ordinances).
- Describe what would happen if the project were not implemented.
- If any other alternative were developed, describe how they would have achieved the same goal and explain why

those options were dismissed. If the public (including groups and agencies) provided input on the alternative(s), include the feedback you received.

- Provide a schedule that includes construction, operation and maintenance activities, including the months or seasons when work would occur.

2. PROJECT AREA AND STRUCTURE INFORMATION

- Provide the geographic coordinates (latitude and longitude) and the physical site address of the project.
- Provide a geographic information system (GIS), computer-aided design (CAD), Google Earth files (.kmz), or map or image that clearly shows the boundaries of the project area. If your project area has a complex boundary, a GIS or .kmz file is preferred. The information provided should show the boundaries of all temporary and permanent project activities including staging areas, access routes, any vegetation removal and the affected structure(s) or infrastructure.
- Provide an estimate of the size and the area that would benefit from the flood risk reduction.
- Provide an estimate of the area of ground disturbance in acres or square feet.
- Provide a few representative photographs of the surrounding area to the north, south, east and west of the project area.
- Provide engineering drawings, if available.
- Provide a description of the type, number, size and dimensions of structure(s) in the project area, including photographs of all sides and the year they were originally constructed.
- Describe adjacent structures, including photographs and the year they were originally constructed.
- Describe any prior improvements or additions that have been made to the structure(s) or infrastructure (e.g., stone replaced with concrete, new windows, change in roofing material from original construction), changes to the original location (i.e., relocation) of the structure(s) or other changes to the original design of the structure(s).
- If the structure(s) is designated as historic or is in a designated historic district, provide information on the known historic property/district, as applicable.

3. POTENTIAL IMPACTS ON PEOPLE, THE ENVIRONMENT AND CULTURAL RESOURCES

- Explain any controversy that exists or could exist related to the project.
- Describe any existing or planned public engagement activities for the project.
- Describe any agency coordination and permits you obtained from federal, state or local agencies to implement the project. Provide copies of any coordination materials, permit applications or approvals.
- If any environmental or cultural studies were completed, either for the project or for other projects in the same area, by local, state or federal entities, please provide copies. Studies could include evaluations of cultural resources (e.g., historic, archaeological) or environmental resources (e.g., threatened and endangered species, wetlands, hydrology).

- Describe the proposed project activities in the floodplain.
- A hydrologic and hydraulic (H&H) study is necessary for flood risk reduction projects. Provide a copy of the H&H study that was prepared for your project.
- If improving the capacity of a floodplain, describe the capacity of any existing system and what will be the capacity of the proposed new system. Describe where the water will ultimately discharge (e.g., an existing water main, a channel, a detention pond) and explain if the receiving system will have enough capacity to handle the new increase in flow.
- Describe any surface waters or wetlands in or near the project area (e.g., ponds, lakes, rivers, streams, wetlands, other waterbodies).
- If a delineation of surface waters (including wetlands) was completed for the project area, please provide a copy of the report.
- Describe any measures that would be used to avoid waterbodies or avoid impacting water (e.g., setbacks, cofferdams, silt fence).
- Provide any permits or applications that were developed related to project impacts on surface waters.
- If stream work is involved, describe the current conditions of the stream. Describe whether the stream is natural or has been altered by manmade structures (e.g., dams, weirs, concrete lining, culverts, riprap). Provide the length of stream channel to be modified (in feet) and describe the proposed modifications. If the current channel is already modified, describe the proposed additional improvements. If any streams are proposed to be rerouted describe the proposed work and outcomes.
- Describe any known hazardous or contaminated materials that may be present in the project area or that are needed to implement the project.
- If your project would use any hazardous materials, describe the BMPs that would be used to minimize exposure of people and the environment to those materials and how the materials would be discarded.
- If your project involves the use of fill, describe the type and source of the fill material.
- If the project would remove vegetation for any reason, describe the type and amount or area of vegetation (e.g., two oak trees, one-quarter acre of turf grass, 300 linear feet of native riparian vegetation).
- Describe how vegetation would be removed, if applicable (e.g., root ball removal, flush cut, dug up, chemical weed killer).
- Provide photographs of the vegetation to be removed in the project area.
- Would you restore vegetation after the project is complete or does the project include planting or seeding of vegetation? If so, describe where and how it will be planted (e.g., by hand, with machinery, broadcast seeding) and the types (e.g., grasses, trees, shrubs) and species of vegetation that would be planted.
- Would any special techniques be used to ensure survival of the plants/seeds (e.g., mulch, irrigation, protective fencing)?
- List all BMPs to be implemented, as part of the project, to reduce potential impacts.