

# FLOOD RISK REDUCTION

April 2017 | Supplement No. E1.4

SUPPLEMENT SERIES:

## Hazard Mitigation Assistance Environmental Planning and Historic Preservation

**PURPOSE:** Each Hazard Mitigation Assistance (HMA) application must comply with the requirements outlined in the HMA Guidance. According to the guidance, in addition to a general programmatic review, an Environmental Planning and Historic Preservation (EHP) review and a technical review must be performed by the Federal Emergency Management Agency (FEMA) for each proposed project. The EHP review will ensure that HMA grants use practical means and measures to protect, restore, and enhance the quality of the environment; avoid or minimize adverse environmental impacts; and preserve historic, cultural, and natural national heritage. Early submission of accurate and complete eligibility and pre-award information will facilitate FEMA's review process and the release of HMA funds. This Supplement augments the Flood Risk Reduction Job Aid No. 1.4 and provides additional information, examples, and potential sources of documentation for items listed in the Job Aid to help communities applying for HMA grants comply with application requirements.

### ADDITIONAL RESOURCES:

- ✓ Hazard Mitigation Assistance Guidance and Addendum (Part D)
- ✓ Flood Risk Reduction Job Aid No. 1.4
- ✓ FEMA's Environmental and Historical Preservation Resources At-A-Glance Guide

### IMPORTANT TERMS:

**Advisory Base Flood Elevation (ABFE):** An estimate for the Base Flood Elevation that is provided after a very significant flood event, but before a new Flood Insurance Rate Map (FIRM) has been developed. ABFEs are an interim product to assist communities in their rebuilding efforts.

**Coastal Zone Management Act (CZMA):** Encourages the management of coastal zone areas and provides grants to be used in maintaining coastal zone areas. It requires that federal agency actions be consistent with enforceable policies of state coastal zone management programs when conducting or supporting activities that affect a coastal zone. It is intended to ensure that federal activities are consistent with state programs for the protection and, where possible, enhancement of the nation's coastal zones (16 U.S.C. §1451 et seq.).

**Coastal Zone:** CZMA's definition of a coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines. A coastal zone includes islands, beaches, transitional and intertidal areas, and salt marshes.

**Endangered Species Act (ESA):** Provides guidance for the conservation of federally listed species and the ecosystems on which they depend. Section 7 of the ESA requires that federal agencies prevent or modify any projects authorized, funded or carried out by the agencies that are "likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species." The Interior Department's U.S. Fish and Wildlife Service (USFWS) and the Commerce Department's National Marine Fisheries Service (NMFS) administer the ESA (16 U.S.C. §1531 et seq.).

**Environmental Planning and Historic Preservation (EHP):** Refers to FEMA's review process for ensuring the protection and enhancement of environmental, historic, and cultural resources, as required by federal environmental and historic preservation laws and Executive Orders.

**Flood Insurance Rate Map (FIRM):** The official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community.

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**Hazard Mitigation Assistance (HMA):** Assistance provided by FEMA to reduce or eliminate long term risk to people and property from natural disasters. Hazard Mitigation planning is a process used by state, tribal, and local governments to identify risks. Examples funded by FEMA's HMA grant programs may include, but are not limited to, buy-outs, elevations, and safe rooms.

**National Environmental Policy Act (NEPA):** Requires all federal agencies to give proper consideration to the environment prior to undertaking any major federal action that could significantly affect the environment. NEPA is a procedural statute and requires that an agency assess the environmental consequences of an action and its alternatives (42 U.S.C. §4321 et seq.).

**National Historic Preservation Act (NHPA):** Directs federal agencies to take into account the effect of any undertaking (a federally funded or assisted project) on historic properties. "Historic property" is any district, building, structure, site or object that is eligible for listing in the National Register of Historic Places because the property is significant at the national, state or local level in American history, architecture, archeology, engineering or culture (54 U.S.C. §100101 et seq.).

**State Historic Preservation Office (SHPO):** Administers the national historic preservation program at the state level, reviews National Register of Historic Places nominations, maintains data on historic properties that have been identified but not yet nominated, and consults with federal agencies during Section 106 review. State Historic Preservation Officers are designated by the governor of their respective state.

**Special Flood hazard areas (SFHA):** The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. Also, an area having special flood, mudflow or flood-related erosion hazards and appearing on a Flood Hazard Boundary Map or a FIRM as Zone A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/ AE, AR/ AH, AR/AO, AR/A1-A30, V1-V30, VE or V.

**Tribal Historic Preservation Officer (THPO):** An individual assuming the responsibilities and functions of a SHPO, who was designated by a federally-recognized Indian tribe to direct a program approved by the National Park Service on tribal lands.

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### Developing a Flood Risk Reduction Project Application for EHP Review

The following provides details on the information that should be provided with the flood risk reduction project application, and recommended documentation and supplemental information for FEMA to conduct an EHP review. Additional resources are identified throughout this Supplement to provide further information on specific components, and the final section provides a comprehensive list of resources identified throughout this Supplement.

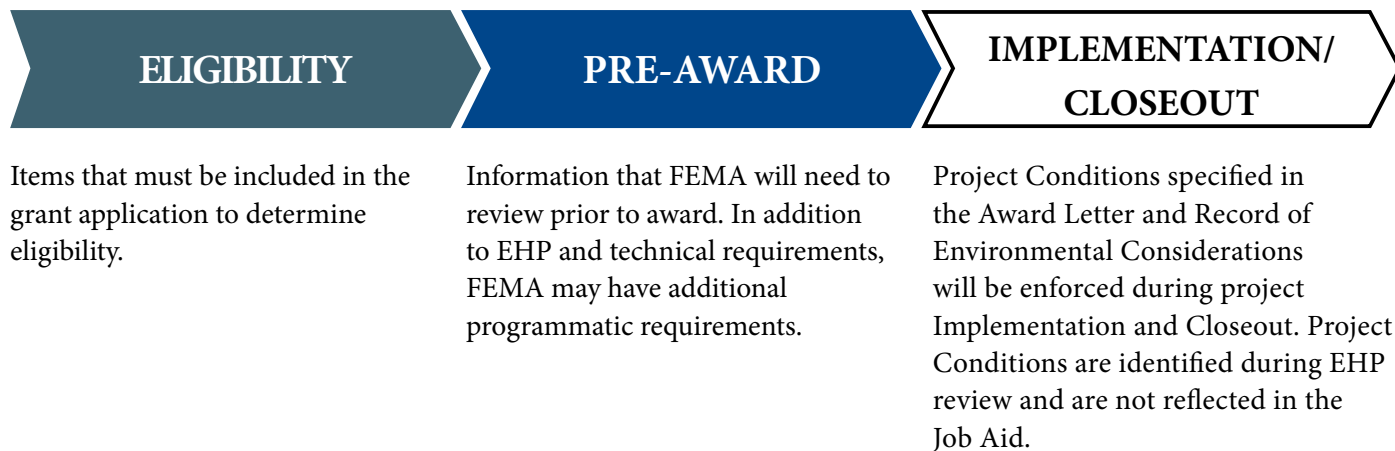
It should be noted that the information provided in this guide is intended to focus on federal laws, regulations, and Executive Orders that are generally applicable to FEMA's EHP review of a flood risk reduction project application. For each resource topic discussed, there are a variety of local, state, and tribal laws and permits that may also apply. Please contact your local planning and permitting departments; and applicable local, state, and tribal environmental agencies for more information about these requirements. State, tribal, and FEMA regional environmental staff are excellent sources of information, and we encourage you to collaborate with these professionals during flood risk reduction project development.

The specific guidance in this Supplement does not provide all of the information necessary to apply for funding through an HMA program or prepare all aspects of a flood risk reduction project application. Therefore, it must read in conjunction with all other relevant guidance documents (e.g., Flood Risk Reduction Technical Review Supplement No. T1.4).

### EHP Review Components

In order to aid FEMA in successfully completing their EHP review, a minimum amount of information is required for review. If the project impacts multiple structures, information must be provided for each structure. The following is a step-by-step approach to address the major components of FEMA's HMA EHP Process. **Identifying available information and documentation at the earliest stages of project development and throughout the grant process will facilitate FEMA's EHP review and result in successful HMA projects.**

*The three steps of FEMA's HMA EHP Process:*



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EHP Review Components *(continued)*

## SITE INFORMATION

### STEP 1: Eligibility

#### STEP 1A: Site address(es)

**Description:** Address(es) of the current or proposed flood risk reduction project, if the project is located on a site(s) with an address. This includes street name and number, city, county or parish, state, and zip code for the site. A post office box number is not an acceptable address.

**Potential Sources:** Obtain the information from the site owner, local building inspector, tax assessor records, deed to the site or engineering plans.

**Example:** 123 Main Street, Anytown, Local County, NY 12345.

#### STEP 1B: Latitude and longitude coordinates for the project area

**Description:** Latitude and longitude, or geospatial coordinates for the project area. Make sure to provide multiple coordinates to cover the entire project area. Include coordinates for any sites that are affected by the flood risk reduction project (other sites may be affected by the flood risk reduction project, if grading is done near the site). If the flood risk reduction project involves multiple discontinuous areas, provide the center point latitude and longitude for each area.

**Potential Sources:** There are several ways to obtain the latitude and longitude of a site.

- Use a Global Positioning System (GPS) device.
- Enter the site address into a mapping application to find the coordinates. Several free tools are available that generate the latitude and longitude coordinates when you type in an address. Enter “how to find GPS coordinates” into an Internet search engine to find a mapping application.

**Note:** Latitude and longitude can be shown in either decimal degrees (e.g., 38.470126, -123.005798) or degrees, minutes, and seconds (e.g., 38° 28’ 12.4” N, 123° 00’ 20.9” W). If your GPS or tool provides degrees, minutes, and seconds, you may need to convert this into decimal degrees in order to enter it into the eGrants field for latitude and longitude. There are several free tools available on the Internet for this conversion. Use a search engine to search “coordinate converter” to find one of these tools.

**Example:** The flood risk reduction project will extend along Lido Boulevard from its extreme east end to the intersection with the western entrance road for Malibu Town Park. The coordinates of the end points are 40.591920, -73.596747 and 40.592148, -73.577264 (in decimal degrees). See Figures 1-2.

#### STEP 1C: Latitude and longitude coordinates for any affected building(s) and/or structure(s)

**Description:** Latitude and longitude, or geospatial coordinates for any properties that are affected by the flood risk reduction project. Properties may be affected by the flood risk reduction project if grading is done near the property.

**Potential Sources:** See Step 1B.

**Example:** 39.470126, -123.005798

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## EHP Review Components (continued)

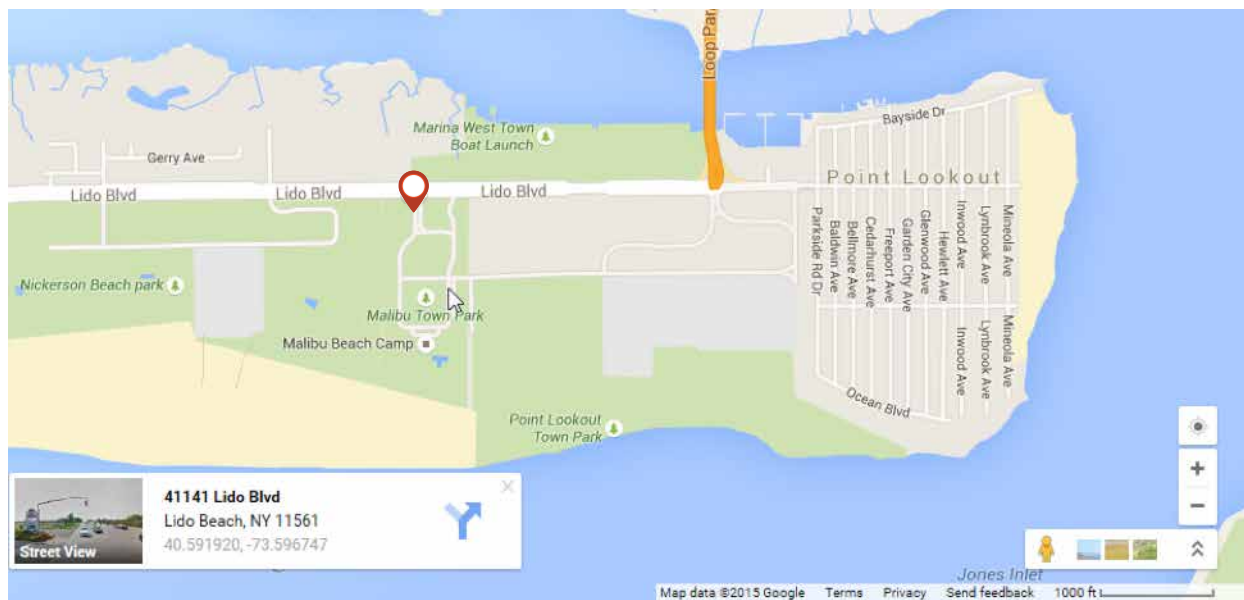


Figure 1: End Point 1 of the Flood Risk Reduction Project Area

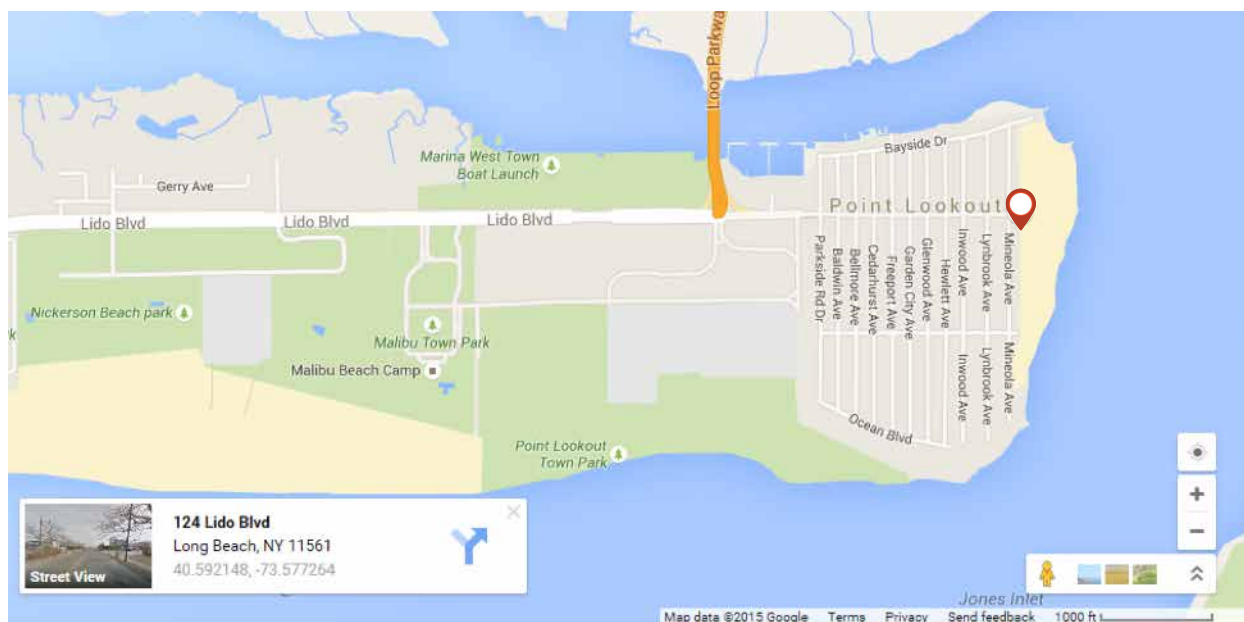


Figure 2: End Point 2 of the Flood Risk Reduction Project Area

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## EHP Review Components *(continued)*

### STEP 1D: Site map showing project location with boundaries (e.g., parcel maps, U.S. Geological Survey [USGS] topographic map)

**Description:** Provide an assessor's map or site survey showing location and flood risk reduction project boundaries. Include GIS or computer-aided design (CAD) data, if available. Also, include a 1:24,000-scale USGS map showing the flood risk reduction project boundaries.

**Potential Sources:** Site survey conducted by a surveyor, assessor maps, and topographic maps. This information can be obtained internally from the project engineer or planner. Topographic maps can be ordered from USGS directly through the USGS online store or can be obtained free of charge online from the U.S. Department of Agriculture's Geospatial Data Gateway.

**Example:** A site survey was conducted by a licensed surveyor to clearly establish site boundaries. The attached mapping shows the location of the flood risk reduction project {INCLUDE ADDRESS OR PARCEL NUMBERS}.

### STEP 1E: Photographs of all sides of the structure(s) (showing foundation, walls, entrances, and roof) and surrounding area from all directions

**Description:** Show each side of the structure affected by the flood risk reduction project. In addition, provide photographs taken while standing at the existing structure showing the surrounding area in all directions. Provide photographs with sufficient detail to explain the proposed flood risk reduction project. Label the photos to explain exactly what they show and include directions.

**Potential Sources:** Use a phone, tablet or camera to take clear, good quality photos for inclusion in the application.

**Examples:** See Figures 3-7.



Figure 3: Front and east side of the building



Figure 4: Back and west side of the house



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EHP Review Components *(continued)*



**Figure 5:** House at 291 Kasota Drive, looking north. STP 9 Location shows location of proposed new channel that will run parallel to the street.



**Figure 6:** View looking west toward adjacent properties on the bay



**Figure 7:** View looking east toward properties across the channel



**Figure 8:** Outbuilding constructed in 1975 is located 55 feet west of the back of the house. This structure will be removed as part of the Flood Risk Reduction project.

## STEP 2: Pre-Award

### STEP 2A: List of outbuildings on the site, a photograph of each, and dates of construction

**Description:** List and photograph any barns, sheds or other outbuildings on the site that will be affected by the flood risk reduction project. Provide the year each structure was built. Label the photos to explain exactly what they show.

**Potential Sources:** Use a camera, phone or tablet to take clear, good quality photos for inclusion in the application. Talk to structure owner about the date of construction or consult tax records, as appropriate.

**Example:** See Figure 8.

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### EHP Review Components *(continued)*

#### **STEP 2B: Is the site listed, or has it been determined eligible for listing, in any local, state or National Historic Register(s)? Please describe**

**Description:** Please describe and indicate if any structures or sites affected by the flood risk reduction project are listed in any local or state registry or in the National Historic Register.

**Potential Sources:** Contact the local community planning office and the SHPO.

**Example:** Site is 0.2 miles from the Old State House, the oldest surviving state capital building west of the Mississippi River.

#### **STEP 2C: Is the project located within a 0.5 mile radius of a local, state or National Historic District(s)? Please describe**

**Description:** Please describe and indicate if the flood risk reduction project is within 0.5 mile radius of a local, state or National Historic District.

**Potential Sources:** Contact the local community planning office and SHPO.

**Example:** The site is a contributing resource to the Mayfield Historic District. The District is located 0.5 miles from the project area.

#### **STEP 2D: Proposed engineering drawings**

**Description:** The original engineering drawings show the original flood risk reduction project, if applicable. The proposed engineering drawings show the flood risk reduction project after it has been mitigated or the newly proposed flood risk reduction project.

**Potential Sources:** Obtain from the engineer.

**Example:** The original engineering drawings of the original flood risk reduction project were obtained from the {ENGINEER} and are attached. In addition, attached are the proposed engineering drawings depicting what the modified flood risk reduction project will look like when complete.

OR

Engineering drawings of the original and proposed flood risk reduction project could not be obtained.

OR

The engineering drawings of the proposed flood risk reduction project were obtained from the {ENGINEER} and are attached.

### SCOPE OF WORK

#### **STEP 3: Eligibility**

##### **STEP 3A: Flood Insurance Rate Map (FIRM) showing project location**

**Description:** Provide a map showing the FEMA flood zone designations and project location(s). In addition, describe the flood zone within which the flood risk reduction project is located and whether the flood risk reduction project is located in a regulatory floodway.



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### EHP Review Components *(continued)*

**Potential Sources:** FEMA FIRMs and Letters of Map Revisions can be found on FEMA's Map Center website or through the local floodplain regulatory agency. Google Maps also has a FIRM layer.

**Example:** Based on FEMA Flood Map {IDENTIFY FEMA MAP PANEL NO. #}, the flood risk reduction project will be located in the flood zone designation of {IDENTIFY FLOOD ZONE DESIGNATION (e.g., AE)}, which are areas {DESCRIPTION OF THE FLOOD ZONE DESIGNATION (e.g., subject to inundation by the 1-percent-annual-chance flood event)}.

#### **STEP 3B: Proposed conceptual designs, project plans, and specifications, scaled and dated**

**Description:** Provide a site plan, location map, engineering and/or construction drawings, and flood risk reduction project specifications showing all project improvements in detail. Based on the type of project, the drawings should be prepared by a design professional licensed in the state in which the flood risk reduction project is to be constructed or by a contractor. All project plans should comply with the applicable codes, standards, and minimum construction requirements.

**Potential Sources:** This information will be obtained internally from the project engineer/planner or from any partnering agency/organization.

**Example:** The flood risk reduction project will {DESCRIBE PROJECT PLANS (e.g., construct three steel-and-concrete debris barriers, regrade a swale, replace culverts to prevent backwater and overtopping, install concrete stormwater aprons, raise the downslope bank of laterals to increase capacity and prevent overflow, and install energy dissipating devices at the points where stormwater from the streets and swale enters the laterals)}. The attached site plan shows the flood risk reduction plan.

#### **STEP 3C: Amount and depth of ground disturbance associated with this project (e.g., grading; digging for buried lines; new, temporary, and permanent access roads; staging areas)**

**Description:** Provide the total amount of ground disturbance including amount of cut and fill, areas and location of temporary and permanent encroachment, depth of trenches, undergrounding of utility lines, etc. Provide a map or GIS or CAD files, when possible.

**Potential Sources:** This information will be obtained internally from the project engineer or planner.

**Example:** The proposed flood risk reduction project will result in {INSERT AREA OF GROUND DISTURBANCE} of ground disturbance. Approximately {INSERT AREA} will be temporarily disturbed and {INSERT AREA} will result in permanent disturbance. Temporary disturbance will include areas for construction vehicle access and staging. Existing power lines will be placed underground in trenches {INSERT TRENCH DEPTH} feet deep.

#### **STEP 3D: Identify all known contaminated materials located on-site (e.g., asbestos, lead-based paint, underground storage tanks [USTs], chemical storage containers)**

**Description:** Describe all known site contamination, including data source, contaminants, and existing or planned remediation efforts.

**Potential Sources:** Obtain information from the site owner, local building inspector, local enforcement agency, site environmental assessments, and visual inspections. Alternatively, the U.S. Environmental Protection Agency (EPA) has a variety of

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### EHP Review Components *(continued)*

websites that provide environmental information on sites with potential hazardous materials or cleanup issues. The EPA provides details on potential hazardous materials and superfund sites at the following websites:

- EPA's EnviroMapper - <https://www.epa.gov/emefdata/em4ef.home>.
- EPA's NEPAassist - <https://www.epa.gov/nepa/nepassist>.
- EPA's Superfund website - <https://www.epa.gov/superfund>.

**Example:** Based on the review of the {LIST AVAILABLE RECORDS SUCH AS PHASE I SITE ASSESSMENT}, the following contaminants {IDENTIFY CONTAMINANTS} were found on the site. Clean-up actions will require {LIST ACTIONS TO BE TAKEN (e.g., removal of USTs)}.

#### STEP 4: Pre-Award

##### STEP 4A: Describe other alternatives that were considered and why they were dismissed from further consideration

**Description:** Describe other feasible alternatives that would address the purpose of the flood risk reduction project. Include a description regarding why these alternatives have been dismissed and not pursued for FEMA funding as well as a statement supporting the reason why the proposed flood risk reduction project is the most practical, cost effective, and environmentally sound alternative. Include information on the No Action Alternative as it reflects conditions expected to exist if the flood risk reduction project is not completed. For projects that could affect wetlands or the floodplain, include a description of alternatives that would meet the purpose of the project, but would not affect wetlands or the floodplain. For flood risk reduction projects that will inherently occur in wetlands or the floodplain, because of the nature of the project, include a clear statement that this is the case.

**Potential Sources:** This information will be obtained internally from the project engineer or planner.

**Example:** The following alternatives were considered in the grant application: {LIST ALL ALTERNATIVES CONSIDERED}. Alternative {IDENTIFY ALTERNATIVE} was not considered practicable because of the increased costs resulting from the inability of the Public Works Department to provide the labor and equipment necessary for construction. The No Action Alternative was not considered as it does not meet the {STATE PROJECT OBJECTIVE (e.g., increase flood protection)}. The proposed flood risk reduction project was considered the only practicable alternative, as it provides {IDENTIFY PROJECT OBJECTIVE (e.g., increase flood protection)} and was found to be the most cost-effective and environmentally sound {PROVIDE REASONING}.

##### STEP 4B: Description of best management practices (BMPs) for erosion control to prevent sedimentation and turbidity issues in adjacent streams

**Description:** Provide a list of BMPs that will be used and include a diagram or figure for locations, if applicable. Structural BMPs reduce or prevent sediment loss from disturbed areas on a construction site. There are three general types of structural BMPs that should be used on the site and listed in the document:

- Runoff control – diversions, check dams, grade control structures, velocity dissipaters.
- Erosion control – surface roughening, soil stabilizers, straw mats.
- Sediment control – silt fences, filter socks, earthen berms, sediment basins and traps.

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### EHP Review Components *(continued)*

In addition, to minimize stormwater pollutants from the construction activities under the proposed flood risk reduction project, a National Pollutant Discharge Elimination System (NPDES) permit, or a waiver of the permit, may need to be obtained from the state environmental agency or EPA. The NPDES permit is obtained by developing a Stormwater Pollution Prevention Plan (SWPPP) that implements a series of BMPs. If a NPDES permit is required, please state that.

**Potential Sources:** The contractor should develop the BMPs. The following resources provide information on erosion control BMPs:

- EPA's NPDES Program website provides a National Menu of BMPs with fact sheets on construction site BMPs.
- EPA's "Maintain your BMPs" Stormwater and Construction Industry poster.
- EPA's "Managing Your Environmental Responsibilities: A Planning Guide for Construction and Development" provides guidance for complying with a variety of environmental regulations at every stage of your construction project .
- The International Stormwater BMP Database project website features more than 530 BMP studies, performance analysis results, tools for use in BMP performance studies, monitoring guidance and other study-related publications.

**Example:** There are {NUMBER} adjacent streams within {NUMBER OF FEET} from the proposed draining project. To prevent sedimentation in adjacent streams, the {CONTRACTOR NAME} for the proposed flood risk reduction project will be required to implement {NUMBER} of the BMPs. These BMPs include {TYPE OF BMPs} which will be beneficial because {DESCRIBE HOW BMP WORKS}.

#### **STEP 4C: Description of the expected effects of the proposed flood risk reduction project (e.g., increased flow to downstream structures, outflow characteristics in the floodplain), based on current and historical flooding data or hydrologic and hydraulic studies**

**Description:** Provide a list of expected effects from the flood risk reduction project. The list should include information about effects to downstream areas as well as within the immediate project area. Effects are based on capacity of the existing and proposed flood risk reduction system, BFE or ABFE, amount of impervious surfaces in the area, soil properties, storage coefficients, and average rainfall per year in the watershed. Include a copy of any hydrologic or hydraulics studies, watershed studies or floodplain reports. Coordinate with the local floodplain manager as well as comply with local floodplain ordinances.

If more than one acre of land will be disturbed, the flood risk reduction project might be subject to a state or EPA NPDES Construction Storm Water General Permit. Then the flood risk reduction project will require a SWPPP and a Notice of Intent (NOI) with the state or EPA at least 48 hours prior to start of construction. For help developing SWPPPs, visit EPA's SWPPP website.

**Potential Sources:** This information will be obtained internally from the project engineer/planner or from any agency/organization that may be partnering for the flood risk reduction project. The information will match the results section of the hydrologic and hydraulics study, watershed study or floodplain report. To estimate the information, EPA has several tools:

- Rainfall Erosivity Factor Calculator for Small Construction Sites assists operators of small construction sites in estimating the rainfall erosivity factor (R-factor) to determine eligibility for a Low Erosivity Waiver.
- Construction Rainfall Erosivity Waiver Fact Sheet provides information on how to calculate the R-factor by hand.
- Discharge Mapping Tool helps users determine the receiving waters to which your facility discharges, and whether they are considered "impaired" under section 303(d) of the Clean Water Act.

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### EHP Review Components *(continued)*

- eNOI Search Tool allows users to search for electronic NOIs submitted under EPA's NPDES and other permit programs.

**Example:** The proposed flood risk reduction improvements will {REDUCE OR ENLARGE} the hydraulic capacity of the area. Therefore, implementation of this alternative will {REDUCE OR INCREASE} the potential for flooding, provide {LESS OR ADDITIONAL} flood protection for structures in the project area, and reduce flooding of structures, roadways, and farmland within the watershed. This will {INCREASE OR REDUCE} interruption to businesses and traffic because of road closures.

#### **STEP 4D: If in-water work will occur, describe what work will occur on the water side of the ordinary high water mark, at what time of year, and what measures will be taken to protect fish and fish habitat**

**Description:** Describe all proposed work (including temporary work) that would occur at or below the ordinary high water mark of all waterbodies. Include planned construction timing and any measures to protect, minimize effects, or avoid fish and fish habitat, including any federally designated essential fish habitat (EFH). If the flood risk reduction project occurs in EFH or will affect the quality or quantity of EFH and is authorized/funded/undertaken as part or all of a federally proposed activity, consultation under with NMFS may be required.

**Potential Sources:** U.S. Army Corps of Engineers (USACE), USFWS, local land use agency, field surveys, state-level wildlife, environmental protection or water quality agency, EPA, and NMFS's Habitat Conservation/Protection website.

**Example:** The proposed flood risk reduction project would replace the existing bridge and culvert in the {NAME WATERBODY HERE} with a single span bridge. Based on the field survey and project design, approximately 0.1 acre of excavation would occur below the ordinary high water of the creek, as confirmed by the USACE, for removal of the existing structures. There is {NO} federally designated essential fish habitat present. {IF THERE IS EFH PRESENT AND THE PROJECT WILL AFFECT THE QUALITY OR QUANTITY OF THAT HABITAT, STATE THAT CONSULTATION IS OCCURRING WITH NMFS}. This effect would be temporary. The proposed flood risk reduction project would implement BMPs to minimize flood risk reduction and erosion impacts in the creek, which are listed in {INSERT SUPPLEMENTAL REPORT HERE}.

#### **STEP 4E: If any geotechnical borings have been excavated or soil studies were conducted, please provide a copy of the results**

**Description:** If available, provide a copy of the geotechnical report that was completed or the boring logs if no report was completed. The report can also be an early or partial draft document.

**Potential Sources:** The engineering team that is designing the flood risk reduction project.

**Example:** The geotechnical engineering consultants evaluated the project site to assess current geological and soil conditions. Geotechnical borings were completed and a report was prepared to support the conceptual project design. This report is included in the application supplemental material.

#### **STEP 4F: List of construction equipment that will be used for the project**

**Description:** Describe any construction equipment that will be used for the flood risk reduction project. Include the likely maximum usage of construction equipment, if available, at least on an annual basis. Include any details about known or planned restrictions to the construction equipment, such as seasonal or daily restrictions.

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## EHP Review Components *(continued)*

**Potential Sources:** This information will be obtained internally from the project engineer or planner.

**Example:** The following construction equipment will be used during the flood risk reduction project construction {LIST EQUIPMENT, INCLUDING MAXIMUM HOURS OF ANNUAL USAGE}. The use of the following heavy machinery will be restricted to occur only during the dry season {LIST LOCALLY-BASED DRY SEASON} due to the standard regulatory environment to minimize potential effects to water quality from sedimentation and sensitive wildlife species who may be found in the project area during the wet season. Additionally, equipment usage will be limited daily from {INSERT DAILY AND WEEKLY EQUIPMENT RESTRICTIONS} to comply with local noise ordinances.

### **STEP 4G: Description of construction activities and all debris/infrastructure/utility removal activities**

**Description:** Provide a description of construction activities, including details on site preparation, the sequence of construction activities, equipment used, and the handling requirements for materials and debris to be generated during the construction activities. Also describe any required notifications and permits, and utility identification and decommissioning.

**Potential Sources:** Project engineer or planner and the disposal facility.

**Example:** The work that will be performed consists of {DESCRIBE CONSTRUCTION ACTIVITIES}. Site preparation activities include {DESCRIBE ACTIVITIES (e.g., securing permits, health and safety activities, construction equipment, establishing work zones, utility identification, etc.)}.

### **STEP 4H: Map showing the type and location of any vegetation that will be affected (e.g., removed, cut, pruned, replanted)**

**Description:** Describe the treatment or landscaping plan for all vegetation that will be removed or affected (e.g., trimmed) by the flood risk reduction project. Include a description of the types of vegetation that will be removed; the method of removal (e.g., herbicide, hand tools, bulldozer); and the overall goal of the vegetation removal (e.g., decrease vegetation density, removal of ladder fuels, create a level and vegetation free site). If vegetation will be planted, include details about the types of vegetation that will be planted and the general method of planting. For multiple project areas, include this information in similar detail for each project area.

**Potential Sources:** Consult the project engineer, landscape architect, restoration ecologist or forester assisting in project design and implementation.

**Example:** Kudzu will be removed at the flood risk reduction project site using herbicide. All vegetation will be removed in areas with large colonies of invasive plants and will be replanted with {INSERT PLANTS TYPES}.

### **STEP 4I: Description of debris or other materials that will be removed and hauled off-site, and information on where it will be disposed (including temporary staging areas), in accordance with local and state requirements**

**Description:** Indicate all potential construction debris, including vegetation, which could be generated by the flood risk reduction project. Provide details of its disposal, including potential locations and the legal status of disposal sites (e.g., a licensed landfill).

**Potential Sources:** Project engineer or planner and the disposal facility.



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**Example:** Construction debris generated by the flood risk reduction project will include building materials from demolition, soil material from excavation, and vegetation debris that will be removed. A Phase 1 Environmental Site Assessment has been completed (attached) and the site has been determined to be clean and does not contain any potentially contaminated soils. Construction debris and vegetation debris will be disposed of at the local licensed transfer station {INSERT DETAILS OF FACILITY}, which has adequate capacity as described in the attached {INCLUDE LETTER}. All excavated soil has been determined through geotechnical testing to be suitable for use in the detention basin berms. No excavated soil will be disposed of off-site.

### **STEP 4J: Type and source of fill that will be imported to the project area from an off-site source (e.g., existing borrow pit)**

**Description:** Indicate type, amount, and source(s) (including location addresses) of fill that will be imported. Identify whether each quarry is currently licensed and permitted to operate for this intended use and whether the quarry's source(s) contain enough fill to complete the flood risk reduction project.

**Potential Sources:** Project engineer and various quarry companies.

**Example:** All fill material (e.g., concrete, aggregate rock, and rock riprap) will be provided by {NAME OF PROVIDER}, which stockpiles all the necessary materials at their processing plant located at {ADDRESS}. All materials will originate from one of three quarries operated by {NAME OF COMPANY}. These existing quarries operate under permits from {NAME PERMITTING AGENCY(IES)}, and {NAME OF PROVIDER} has indicated that providing the needed borrow materials for the flood risk reduction project will not exceed the overall availability capacity of the quarries.

## SCHEDULE, COST ESTIMATES, AND BENEFIT-COST ANALYSIS

### **STEP 5: Eligibility**

#### **STEP 5A: Work/construction schedule (schedule must be for 3 years or less)**

**Description:** Include a detailed project schedule for all phases of the flood risk reduction project (e.g., construction, vegetation clearing, etc.) with start and end dates for each phase. Also, include milestones and critical path activities. Consider delays due to tasks dependent on any required permits/consultations from any agency(ies).

**Potential Sources:** This information will be obtained internally from the project engineer or planner.

**Example:** Based on the attached schedule, Phase I {INCLUDE SPECIFIC PROJECT ACTIVITY} will commence in November 2015 and end in April 2016. Phase II includes {IDENTIFY PROJECT ACTIVITY} and will immediately follow Phase I provided we obtain the following permits {LIST PERMITS OR OTHER CONCERNS}.

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EHP Review Components *(continued)*

## ADDITIONAL INFORMATION

### STEP 6: Pre-Award

- STEP 6A: Enclose copies of any previous coordination, correspondence or consultation with federal, state, and local resource agencies (e.g., USFWS, SHPO, USACE)**

**Description:** Provide copies of any correspondence with any regulatory agency or tribe that has occurred for the proposed flood risk reduction project.

**Potential Sources:** This information will be obtained internally or from any agency/organization that may be partnering for the flood risk reduction project.

**Example:** We consulted with the {INSERT AGENCY}, and based on its feedback, evaluated other options to avoid direct fill and permanent loss of the wetlands in the project area. {INSERT AGENCY} was also contacted regarding impacts on {AREA OF CONCERN}. Communication and responses from these agencies are included as {INSERT ATTACHMENTS}.

- STEP 6B: Describe or provide any public outreach that has occurred (e.g., public notices issued, published newspaper notices, public meetings held, public comments solicited)**

**Description:** The description of public outreach related to the flood risk reduction project should include methods of outreach that have occurred, list of agency(ies) or organization(s) that performed the outreach, when the outreach occurred, and any public comments solicited. Any known potential for public controversy about the project should be provided.

**Potential Sources:** The public affairs office or public information office of your agency or of any partnering agencies/organizations.

**Example:** Public outreach was conducted on {INSERT DATE} to provide the information on {PROVIDE INFORMATION THAT WAS PROVIDED TO THE PUBLIC (e.g., the need for the flood risk reduction project; alleviation of any public concerns related to the flood risk reduction project or its impacts; explanation of the flood risk reduction project and impacts)} from {NAME OF PROJECT} to the public. Public outreach occurred by {INSERT METHOD (e.g., placing a notice in local paper; conducting public meetings; soliciting comments from the public)}. The public outreach resulted in {STATE RESULT (e.g., 4 public meetings; 32 comments received; no comments from the public)}. AND/OR {ATTACH DOCUMENT}.

- STEP 6C: Describe site history (e.g., commercial, residential) and provide details and/or copies of documents of any studies, investigations or enforcement actions related to the site**

**Description:** Include a detailed description of the site history and past land uses (e.g., name of tenants/subtenants, period of tenancy of each). Also, provide report copies or summary information about any environmental studies, investigations, surveys, etc. about the site and, if applicable, person(s) responsible for any environmental surveys, investigations or reports. Attach documentation of interviews conducted, copies of historical documentation regarding the site, photographs, diagrams or sketches that indicate the location of present, past or future hazardous materials use or storage at the site. Include a summary of the report(s)/investigation(s), issue(s) raised, reason(s) for the report(s)/investigation(s), date(s) of report(s)/investigation(s), and conclusion(s) of the report(s)/investigation(s).

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### EHP Review Components *(continued)*

**Potential Sources:** Obtain the information from a local enforcement agency, real estate company, local health, hazardous materials agency or planning department/agency. This information can be combined with direct visual observations and local histories to evaluate the potential presence of hazardous materials. Additionally, interviewing local people familiar with the history of the site (e.g., local government personnel, project site neighbors) may provide insight that might not otherwise be available.

**Example:** As a part of previous activities at the site, a Phase I Environmental Site Assessment had been prepared for the site in {YEAR} by {COMPANY NAME}. {PROVIDE SUMMARY OF REPORT}. The report and {OTHER RELATED DOCUMENTS} are included in this packet. Communication and responses from other agencies/individuals are included as {INSERT ATTACHMENTS}.

#### **STEP 6D: Describe any known archaeological artifacts, cultural resources or human remains on the site or within a 0.5-mile radius**

**Description:** Provide a list of known archaeological resources and sites with known human remains within 0.5 miles of the project area. This list should include the distance of these sites to the project area. If the flood risk reduction project could affect these sites, include planned efforts to minimize any effects as well as any coordination with Native American tribes/individuals, Native Hawaiian Organizations or historic societies regarding these resources. Please include a copy of any archaeological survey performed.

**Potential Sources:** Contact your SHPO/THPO, local planning department, local libraries, historical societies, university and college libraries, and state and local natural history museums for cultural resources surveys/reports within the project area. Note that some of these resources are considered sensitive, and information about some archaeological sites is confidential and only available to professionally qualified individuals, or at the discretion of a tribe. Online sources include:

- National Register of Historic Places Database, a near-complete list by state and county of sites, is available through the National Park Service's website.
- A list of SHPO websites can be found through the National Park Service's website.

**Example:** A cultural resources report was prepared for this flood risk reduction project and cultural resources were identified within 0.5-mile radius {LIST RESOURCES}. No archaeological resources are known to exist at the project area.

#### **STEP 6E: Is the site located on or adjacent to Native American tribal land, or are there any known Traditional Cultural Properties or other Native American resources (e.g., traditional fishing areas) on or adjacent to the site?**

**Description:** Provide a list of tribal lands and the appropriate tribal contacts if the flood risk reduction project is located on or adjacent to Native American tribal lands. Provide a list of Native American resources on or adjacent to the project area, if they are known to exist, and the appropriate tribal contacts. Provide as much information as is available for these resources and details about any coordination that has occurred with the appropriate tribes. Provide any project design details that will be incorporated and address any potential project-related effects to these resources. Note that some of these areas are considered sensitive, and information about some cultural/archaeological sites is confidential and only available to professionally qualified individuals or at the discretion of a tribe.

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### EHP Review Components *(continued)*

**Potential Sources:** Identify whether there are Native American tribal governments located in the project area or Native American tribal governments with a demonstrated interest. A complete list of all federally recognized Native American tribal governments and their contact information is available on the Tribal Historic Preservation Officers Program website through the National Park Service's website.

- An online directory of tribal leaders for all federally recognized Native American tribal governments is maintained by the Bureau of Indian Affairs.
- A map of all Indian Reservations in the continental United States is available on the National Park Service's Native American Graves Protection and Repatriation Act (NAGPRA) website.
- A complete list of all federally and state recognized Native American tribal governments is available through the National Conference of State Legislatures website.
- Contact the local SHPO office for a list of Native American tribal governments in the area. A list of SHPO websites can be found through the National Park Service's website.

**Example:** The project area is located near {STATE NAME OF RESERVATION AND TRIBE}. {NAME OF THE INDIVIDUAL AND TRIBAL ROLE} was contacted about the flood risk reduction project {INSERT COMMUNICATION METHOD} on {INSERT DATE(S)}. {NAME OF THE INDIVIDUAL} stated that there may be tribal resources near the project area and that the tribe would like to be officially contacted by a federal agency, if one intends to fund or permit the flood risk reduction project. No additional information was provided by the tribal representative.

### **STEP 6F: Describe any known federally or state listed threatened/endangered species or their critical habitat within the project area**

**Description:** Include a list of all potential federal and state listed species as well as critical habitat found in the project area. Describe each species present or believed to be present in the project area throughout the duration of the flood risk reduction project (e.g., resident species will remain in the area throughout the projects, migrant species will be present for certain times of the year).

**Potential Sources:** Lists of endangered and threatened species are maintained by USFWS and NMFS. Each Service has jurisdiction over different species. In general, USFWS manages land and freshwater species, while NMFS manages marine species.

- For species under the jurisdiction of USFWS, the USFWS Endangered Species website provides an overview of endangered and threatened species and provides links to multiple different reporting tools to obtain endangered and threatened species information. The USFWS Environmental Conservation System Online (ECOS) provides species specific information on listed species and their critical habitat, including range information. The USFWS Endangered Species Program website links to a map where you can locate and learn more about endangered and threatened species by state. To identify the location of critical habitat, the USFWS Critical Habitat Designations (GIS Mapping) website provides critical habitat locations and shape files to assist in mapping critical habitat.
- For species under the jurisdiction of NMFS, the NMFS Office of Protected Resources manages listed species and critical habitat. The NMFS Office of Protected Resources website provides an overview of endangered and threatened species and links to obtain listed species information. The NMFS Endangered and Threatened Marine Species website provides information on listed species and their critical habitat, including range and location information.

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### EHP Review Components *(continued)*

- For species listed at the state level, visit the state Department of Natural Resources or state Department of Environmental Protection or their respective websites to obtain a list of protected state species.

**Example:** A review of the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and state wildlife agencies' lists of endangered or threatened species identified {INSERT NUMBER OF SPECIES OR STATE NO SPECIES} endangered or threatened species located in the project area. Based on the review of the USFWS and the NMFS resources, critical habitat for {INSERT NUMBER} species maybe be found in the project area. {LIST THE ENDANGERED/THREATENED SPECIES BY NAME AND IDENTIFY IF THEY ARE FEDERAL OR STATE LISTED} and {LIST THE CRITICAL HABITAT} may be found in the project area and potentially may be impacted by the proposed ignition resistant construction project. {IF FEDERALLY LISTED SPECIES AND/OR CRITICAL HABITAT IS PRESENT INCLUDE THE FOLLOWING SENTENCE:} Since federally listed {STATE SPECIES/CRITICAL HABITAT} may be present in the project area and potentially affected by the flood risk reduction project, consultation with {USFWS AND/OR NMFS} will occur.

#### **STEP 6G: Is the project within 200 feet of a body of water (e.g., river, stream, wetland or pond)?**

**Description:** Describe whether any part of the flood risk reduction project is within 200 feet of a body of water (e.g., river, stream, wetland, pond), and provide details about the proximity of the project site to the waterbody(ies) and the type of waterbody(ies).

**Potential Sources:** Review topographic maps, available satellite images such as those available from Google Earth maps, EPA's NEPAassist, GIS data sources for the jurisdiction/agency or available field surveys. Then, review the local jurisdiction's and lead agency's ordinances and codes to determine any special requirements regarding setbacks or restrictions to development and/or permits.

**Example:** Based on the review of {IDENTIFY DATA SOURCE}, the proposed flood risk reduction project will be within {DISTANCE} of the {WATERBODY}.

#### **STEP 6H: Is the project in a designated Coastal Zone or Coastal Barrier Resource System under the state's coastal management program?**

**Description:** If the flood risk reduction project will occur in the coastal zone, the description should include the name of the agency with regulatory authority of the specific area of the coastal zone (sometimes it is delegated to a local agency), any design elements that have been or will be incorporated into the flood risk reduction project design because of the project's location within the coastal zone, and any communication that has occurred with the agency that regulates the affected coastal zone.

**Potential Sources:** Coastal zone management is administered at the state level. Coastal jurisdiction extent, requirements, and coastal zone management plans vary from state to state. Review this information from the National Oceanic and Atmospheric Administration (NOAA) to ascertain whether the flood risk reduction project is in a coastal zone, and determine the permitting



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### EHP Review Components *(continued)*

requirements imposed by the state and any applicable coastal zone management plans in the state. To determine if your state and/or project lies within coastal zone boundaries, visit the NOAA Office for Coastal Management website. In addition:

- NOAA Office for Coastal Management’s “State Coastal Zone Boundaries,” a downloadable PDF, describes each state’s coastal zone boundary - <https://coast.noaa.gov/czm/media/StateCZBoundaries.pdf>.
- The CZMA requires the review of the state coastal zone management plan (CZMP) and for the federal action proponent or federal funding candidate to determine that their actions are consistent with the state’s enforceable policies in their CZMP. If the federal action proponent or federal funding candidate deems their action is consistent with the state’s policies or will have no effect on the state’s coastal resources, they send a letter to the state stating their determination. The state then has a certain amount of time to issue a consistency determination/certification, negative determination/certification or object to the rationale provided.
- Information about the applicable CZMP(s) and regulatory agency should be obtained through the state regulatory agency of the coastal zone, either by phone or through the state agency’s website. Review of the applicable CZMP or direct communication with the agency regulating the coastal zone will need to occur to determine any project-specific restrictions related to the project’s occurrence within the coastal zone.

**Example:** The {INSERT STATE} coastal zone generally extends {INSERT DISTANCE} inland from the mean high tide line. The proposed flood risk reduction project lies within the designated coastal zone and will require review of the {NAME OF THE STATE CZMP OR PROGRAM}. The following activities {IDENTIFY ACTIVITIES} are enforceable under this plan/program. The project activities are addressed in the {NAME OF THE STATE CZMP OR PROGRAM} and may have reasonably foreseeable effects on coastal uses or resources. A complete application for determination of consistency including all required documentation should be submitted to {STATE REGULATORY AGENCY OF THE COASTAL ZONE} for consistency, determination, and certification.

### **STEP 6I: Describe if flood risk reduction activities will involve the use of hazardous or toxic materials**

**Description:** Provide a list of all hazardous and toxic chemicals that could be used to implement the flood risk reduction project including items such as gasoline and herbicides. Include a description of the intended use of these chemicals.

**Potential Sources:** Obtain the information from the project engineer/planner.

**Example:** The flood risk reduction project will involve the use of hazardous materials including, but not limited to {LIST MATERIALS}. Gasoline products will be used by construction equipment and herbicides will be used for the landscaping and the removal of existing invasive plants from the construction area. These chemicals will be used in compliance with {LIST REGULATIONS} pertaining to the safe handling, storage, and usage of hazardous materials. The following BMPs will be implemented: {LIST BMPs}.

## IMPLEMENTATION/CLOSEOUT

Project Conditions specified in the Pre-Award Letter and Record of Environmental Considerations will be enforced during project Implementation and Closeout. Project Conditions are identified during EHP review and are not reflected in the Supplement, but should be included in the application, where applicable.

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### Resources

Below is a comprehensive list of resources identified throughout this Supplement. Not all of these resources are necessary for every flood risk reduction project, but are provided to ease in identification of source material.

#### **PROGRAM GUIDANCE**

- HMA Guidance
- HMA Environmental and Historical Preservation Resources At-A-Glance Guide
- Addendum to the HMA Unified Guidance, Part B

#### **SUPPORTING JOB AIDS**

- Flood Risk Reduction Job Aid No. 1.4

#### **ADDITIONAL TOOLS AND RESOURCES**

- Bureau of Indian Affairs' Directory of Tribal Leaders
- EPA's NEPAAssist Tool
- EPA's Enviromapper
- EPA's Superfund Cleanup Sites
- EPA's SWPPP website
- FEMA's How to Find Your FIRM and Make a FIRMette
- FEMA's FIRM Tutorial
- FEMA's Map Service Center
- Local Community Planning Office
- National Conference of State Legislatures list of recognized Indian Tribal governments
- National Park Service National Graves Protection and Repatriation Act website
- National Park Service's Tribal Preservation Program website
- National Register of Historic Places
- National Wetlands Inventory
- NMFS Threatened or Endangered Species website
- NMFS Office of Protected Resources

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Resources *(continued)*

## **ADDITIONAL TOOLS AND RESOURCES, continued**

- NOAA's Office for Coastal Management
- State's Coastal Zone Boundary
- State Historic Preservation Office
- State NFIP Coordinator
- Topographic maps from USGS or Department of Agriculture
- Tribal Historic Preservation Office
- U.S. Army Corps of Engineers Floodplain assistance
- USFWS Critical Habitat Designations website
- USFWS Endangered Species website
- USFWS Endangered Species Program website
- USFWS Environmental Conservation System Online

## **LAWS, REGULATORY GUIDANCES, AND EXECUTIVE ORDERS**

- 40 CFR - Protection of Environment
- 44 CFR - Emergency Management and Assistance
- 50 CFR - Wildlife and Fisheries
- Antiquities Act of 1906, As Amended, 54 U.S.C. §320301-320303
- Archeological and Historic Preservation Act of 1974, as Amended, 54 U.S.C. §3125 et seq.
- Archaeological Resources Protection Act of 1979, as Amended, 16 U.S.C. §470aa-470mm et seq.
- Bald and Golden Eagle Protection Act of 1940, as Amended, 16 U.S.C. §668 et seq.
- Clean Air Act of 1970, as Amended, 42 U.S.C. §7401 et seq.
- Clean Water Act of 1972, 33 U.S.C. §1251 et seq.
- Coastal Barriers Resources Act of 1982, 16 U.S.C. §3501 et seq.
- Coastal Zone Management Act of 1972, 16 U.S.C. §1451 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §9601 et seq.
- Endangered Species Act of 1973, as Amended, 16 U.S.C. §1531et seq.
- Executive Order 11988 Floodplain Management (1977)
- Executive Order 11990 Protection of Wetlands (1977)
- Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994)

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## Resources *(continued)*

### **LAWS, REGULATORY GUIDANCES, AND EXECUTIVE ORDERS, continued**

- Executive Order 13007 Indian Sacred Properties (1996)
- Fish and Wildlife Conservation Act of 1980, 16 U.S.C. §2901 et seq.
- Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended and its Reauthorization, 16 U.S.C. §1801 et seq.
- Migratory Bird Treaty Act of 1918, as Amended, 16 U.S.C. §703 et seq.
- National Environmental Policy Act of 1969, as Amended, 42 U.S.C. §4321 et seq.
- National Flood Insurance Act of 1968, as Amended, 42 U.S.C. §4001 et seq.
- National Historic Preservation Act of 1966, as Amended, 54 U.S.C. §300101 et seq.
- Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. §3001 et seq.
- Resource Conservation and Recovery Act of 1976, as Amended, 42 U.S.C. §6901 et seq.
- Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended, 42 U.S.C. §5121 et seq.