# Neuse River Basin Flood Risk Management Integrated Feasibility Study and Environmental Assessment

# Appendix I. Nonstructural Implementation Plan

US Army Corps of Engineers

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# 1. Definitions

| Term | Definition |
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| Base Flood | Defined by the National Flood Insurance Program (NFIP) as the "flood having a 1 percent chance of being exceeded in any given year and is also called the 100-year flood." |
| Base Flood Elevation (BFE) | The computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is shown on community's Flood Insurance Rate Map (FIRM). |
| Dry Floodproofing | Dry floodproofing makes the structure watertight below the level for which coastal storm risk management is provided by preventing flood waters that derive from storm surge from entering the structure. Dry floodproofing may include one or more of the following methods: using waterproof membranes or sealants to reduce seepage of floodwater through walls and wall penetrations; use of watertight shields for doors and windows; and/or installing measures to prevent sewer backup. |
| Economically Justified | The cost to elevate the structure does not exceed the total monetary cost of the coastal storm damages that are anticipated to be avoided over the 50-year period of economic analysis. |
| Eligible structures | Structures that are determined by the United States Army Corps of Engineers (USACE) to be eligible for floodproofing after the completion of the investigations and analyses as described herein. |
| Floodplain | A floodplain is an area of land adjacent to a coast, stream, or river that experiences flooding during periods of elevated water surface elevations due to storms or high discharge. |
| Floodproofing | Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce the risk of coastal storm damage to improved real property, water and sanitary facilities, structures and their contents. Measures include structure elevation, dry floodproofing and wet floodproofing. |
| Historic Structure | As defined in 44 CFR Part 59, a historic structure is any structure that is (1) listed individually in the National Register of Historic Places (maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (2) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (3) individually listed on a state |

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| | inventory of historic places with historic preservation programs which have been approved by the Secretary of the Interior; and (4) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by (a) an approved state program as determined by the Secretary of the Interior or; (b) directly by the Secretary of the Interior in states without approved programs. |
| Hazardous, Toxic, or Radioactive Waste (HTRW) | Hazardous, toxic and radioactive waste as more specifically defined in Engineer Regulation (ER) 1165-2-132, "Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects." |
| Main Floor Elevation (MFE) | Also known as the Lowest Flood Elevation or First Flood Elevation. The bottom of the lowest horizontal structural member or habitable floor of a building. |
| Non-Federal Sponsor (NFS) | The cost-sharing partner for the study, design, construction of the project, as well as for the Operation, Maintenance, Repair, Rehabilitation and Replacement (OMRR&R) of the project. The NFS is the state of North Carolina Department of Environmental Quality (NCDEQ) |
| Nonstructural Measures | Permanent or contingent measures applied to a structure and/or its contents that reduces the risk of damages that could result from coastal storms. Nonstructural measures differ from structural measures (i.e., levees, floodwalls, etc.) in that they focus on reducing the consequences of damages from coastal storm surge instead of focusing on reducing the probability of damages from coastal storm surge. |
| PED | The Preconstruction Engineering and Design phase. This phase is normally conducted after a federal water resources project has been authorized in a Water Development Resources Act (WRDA). Detailed design is conducted at this time and includes any technical analyses necessary to develop plans and specifications for construction of the project by a contractor. |
| USACE | The United States Army Corps of Engineers, a government agency that includes National, Division/Region, and District headquarter organizations. The lead District organization for this project is the Wilmington District in Wilmington, North Carolina. USACE and the term government are used interchangeably in this document. |
| Wet Floodproofing | Wet floodproofing is a design method that allows water to move in the enclosed parts of a home's lower area, such as the crawlspace or an unoccupied area, and then out when water recedes. |

# 2. Introduction

This Nonstructural Implementation Plan describes the general process for the implementation of nonstructural measures designed to reduce the risk of damages caused by riverine flooding in the study area. The primary goal of the Recommended Plan is to reduce the risk of flood risk damage through the implementation of nonstructural measures as described in this document.

## 2.1. Leveraging National Assets for Success

The U.S. Army Corps of Engineers (USACE) recognizes that there are unique challenges related to implementing a relatively large nonstructural plan. Because of this, USACE has proactively leveraged national experts in the planning, design, and construction of nonstructural measures. Within the enterprise, these groups include the USACE National Nonstructural Committee, Flood Risk Management Center of Expertise, as well as project teams that are currently working to implement similar projects (e.g., Fire Island Inlet to Montauk Point General Reevaluation Study, authorized in the Water Resources Development Act of 2020). The non-Federal (NFS), the North Carolina Department of Environmental Quality (NCDEQ), have also provided valuable information pertinent to the project. The USACE places a priority on continuing this coordination during Preconstruction Engineering and Design (PED) and construction, and sharing lessons learned with other USACE teams.

## 2.2. Recommended Plan

The Recommended Plan for the Neuse River Basin Flood Risk Management Study, as shown in Figure 5-1, Chapter 5 of the integrated feasibility report/EA, includes the following:

a. Structure Elevation – 419 structures

b. Structure Dry Floodproofing – 127 structures

c. Structure Wet floodproofing – 222 structures

Per USACE Planning Bulletin (PB) 2016-01 “Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures,” dated 22 December 2015, and PB 2019-03 “Further Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures,” dated13 December 2018, structure elevation and floodproofing will be implemented on a voluntary basis allowing property owners to choose to participate in this plan.

The specific nonstructural measures to be implemented at each structure/property will be reviewed and refined in the PED phase to ensure that the proposed measures, and the applicable population is appropriately identified. Property owners located in the project area will be informed of the details of project implementation, including eligibility criteria, the eligibility process, and the related duties and obligations of USACE, the NFS and the property owner. Based upon present information, the anticipated duties and obligations are generally outlined below; however, some of this information may be modified as the Nonstructural Implementation Plan is finalized as part of PED.

If the structure owner does not want to participate in this plan, USACE and the NFS would defer any further action on that structure until such time as the structure owner elects to participate or until the period of construction ends. However, the Government reserves, at its sole discretion, the right to determine whether or not a structure may be included in the Recommended Plan after a structure owner has declined participation, and if allowed to participate, the timing and scheduling of such participation in the plan.

Each of the nonstructural measures has the potential to cause adverse effects to historic properties. A Section 106 Programmatic Agreement will be executed for this plan and identify the process by which USACE will determine which of the participating owner's structures are historic properties (see Appendix G). This process also includes conducting archaeological investigations associated with structures determined to be historic properties. The investigations, coordination and consultation required by the Section 106 Programmatic Agreement and any resulting mitigation will be conducted after participating structures are identified but before any of the nonstructural measures identified below are carried out. Where possible, the Secretary of the Interior's Guidelines on Flood Adaptation for Rehabilitating Historic Buildings, Standards for Rehabilitation, and other appropriate historic resources guidelines or standards will be taken into consideration.

# 3. Structure Elevation

Owners of eligible structures may voluntarily participate in having their habitable structure elevated.

## 3.1. Determining Eligibility: Two Step Eligibility Process

Step 1- Preliminary eligibility: Structures that are included in the Recommended Plan meet the preliminary eligibility criteria. As of the date of this Implementation Plan, an initial inventory has been compiled which identifies up to 419 structures for elevation in the study area that, based on present information, have been deemed to be preliminarily eligible. The USACE and NFS will require additional structure-specific analysis during PED to determine final eligibility.

Step 2 - Eligibility Determination – Investigations: The following is a general overview of Step 2 in the eligibility process for those structures meeting the Step 1 preliminary eligibility requirement. Additional details concerning the process, what makes up the eligibility criteria and related requirements will be developed during PED and provided prior to project implementation.

- Once preliminary eligibility is determined, property owners will be asked to grant a temporary right-of-entry to USACE and the NFS to enter upon the property to conduct such structural investigations deemed necessary to determine final eligibility for participation. These investigations may include structural inspections, surveys, limited environmental testing and site assessments, verifying current structure elevation and determining elevation requirements, and conducting such other activities deemed necessary by USACE and the NFS to make a final determination of eligibility. A property owner may elect to not participate at any time prior to execution of an agreement for the performance of the nonstructural measure upon their property. Refusal to grant temporary right-of-entry will constitute an election not to participate.

- The property owner shall submit satisfactory documentation to the NFS as deemed necessary by USACE (to be detailed during the PED phase) which may include, but will not be limited to:

    - Proof of Ownership deemed necessary by USACE (including but not limited to a legal description of the property, deed, or a tax assessor's receipt) to identify the names of all of the owners of the property and provide information regarding the names and addresses of all third-party interest holders and any holders of a lien or encumbrance against the property.

    - In instances involving the representation of a person or persons whose signature is required for any document, subordination, or release which may be required to be executed, either through a trust, agency, succession, partnership, business, or corporation or any other form of representation under law or contract, documentation will be provided along with the title evidence that documents the identity, powers, and authorities of the person or persons authorized to act on behalf of the required signatory.

- The NFS shall conduct title research to confirm the property has clear title and appraisals that may be necessary.

- The NFS will conduct an ASTM Phase I Environmental Site Assessment (ESA) and asbestos investigation to confirm the absence of HTRW and damaged or

friable asbestos or asbestos-containing materials, and, if warranted, additional HTRW investigations and a Phase II ESA will be conducted at the structure. If the presence of HTRW, asbestos, or asbestos-containing materials in a damaged or friable form is confirmed on the property, the property owner shall be obligated, at his sole cost and expense, to conduct all necessary response and remedial activities in full compliance with applicable local, state, and federal laws and regulations and provide proof of same before the structre can be deemed to have met the eligibility requirements.

- The structure will be evaluated by USACE to ensure that ALL of the following eligibility requirements are satisfied:
    - The structure can be elevated to meet the target design elevation.
    - Based on a visual assessment, the structure is in a condition that is suitable for elevation without the need for repair or rehabilitation as determined by a professional registered structural engineer. Any repair or rehabilitation necessary to achieve that condition will be at the sole cost and expense of the property owner (see Section 3.5 “Eligible and Ineligible Improvement Costs” below).
    - Implementation of nonstructural measures will not impact threatened or endangered species.
    - Implementing nonstructural measures on the property does not require fill in the waters of the United States and would not result in any impact to wetlands.
    - The property has not previously received any disaster assistance for the elevation of the structure.

## 3.2. Execution and Recordation of Agreement

An agreement shall be executed between the NFS and the property owner. The agreement will be binding upon the owners, their heirs, assigns, transferees, and any other successors in interest. The provisions of this agreement will be developed during the PED phase; however, it is anticipated that it will include provisions such as those discussed below, including provisions to allow investigations to determine if a historic property is present, assessment of effect and mitigation of adverse effects in accordance with the Section 106 Programmatic Agreement. The agreement will obligate the structure owner to expend any and all costs that may be necessary in connection with the elevation of the structure which are not deemed “eligible costs” (as described in Section 3.5); the agreement releases and holds USACE and the NFS harmless for any and all loss, cost, damage, or expense arising out of any claims, including third party claims that arise directly or indirectly from any project-related activity. The agreement will include provisions that would prohibit both the conversion of any part of the structure located below the lowest habitable finished floor for purposes of

human habitation, the alteration of the structure in any way that would impede the movement of flood waters under the structure and would prohibit the construction of any new habitable structures on the property that do not meet the requirements of the project. Also, the agreement will contain restrictive covenants that run with the land in perpetuity. Among other rights, the agreement will include the right for the NFS and the Government to inspect the property during structure elevation.

The agreement, as well as any required curative documents, subordination or release agreement(s), shall be recorded by the NFS in the Clerk of Court in the county in which the property is located prior to commencement of the nonstructural improvements on the property.

## 3.3. Commencement of Structure Elevation

The entire foundation of the structure will be lifted and placed on a new foundation (i.e., columns, piers, posted or raised foundation walls) so that the lowest habitable finished floor is at or above the target design elevation. All utilities and mechanical equipment, including air conditioners and hot water heaters, will also be raised to the required elevation. Structure owners may choose to raise the structure, utilities, and/or mechanical equipment in excess of the target design elevation; however, costs attributable to elevation in excess of the minimum requirements set forth herein are not deemed eligible costs (described below in Section 3.5) and would be performed at the sole cost, risk and expense of the property owner. For applicable properties determined to be listed on the National Register of Historic Places, or eligible or listing, conditions described in the Section 106 Programmatic Agreement would be satisfied prior to commencement of nonstructural improvements.

## 3.4. Notice of Construction Complete (NCC)

Upon completion of the improvements, an inspection will be performed by USACE and upon final approval by the USACE District Engineer, or his designee, a notice of construction completion will be issued to the NFS and the individual structure elevation will be closed out as complete.

## 3.5. Eligible and Ineligible Project Costs

Eligible Project Costs: All structure elevations will require local permits prior to any onsite construction. Only the costs of elevation and foundation retrofitting are eligible costs. No Federal funds will be used to restore, replace, or repair the structure. No additions to the habitable spaces of the structure will be permitted in the performance of the elevation work. Elements of structure elevation work that are deemed to be potentially eligible project costs include: historic property investigations, including mitigation in accordance with the Section 106 Programmatic Agreement, design costs;

costs of obtaining all required permits (i.e., zoning or land use approvals, environmental permits or required certifications, historic preservation approvals, and building permits), except as identified to be an ineligible item of project cost; costs of title searches (in review of title information submitted by the property owner), surveys, and costs for the following tasks:

- elevating the structure;
- raising the roof and extending the walls of a side structure attached to the main structure (i.e., garage);
- raising mechanical equipment (i.e., air conditioner, furnace, water heater, electrical panel, fuel storage, valves, or meters);
- connecting, disconnecting, and extending utility connections for electrical power, fuel, incoming potable water, wastewater discharge;
- meeting access requirements of applicable building codes (i.e., stairs with landings, guardrails);
- creating large vent openings in the foundation and walls to meet requirements for flood water entry and exit;
- in instances where special access improvements (i.e., elevators, lifts, ramps, etc.) may be required (i.e., in the case of physically handicapped or elderly homeowners or occupants) special handicapped access can be considered an eligible improvement cost when documented by the medical certificate of a licensed physician. Multiple special access points may also be eligible for funding where necessary to meet state or local building code compliance;
- removal of any trees which restrict the elevation of a structure;
- site grading and site restoration including restoring landscaping to its preconstruction condition;
- for historic properties, costs associated with the investigations, coordination, consultation and mitigation undertaken in accordance with the Section 106 Programmatic Agreement (including such costs to complete associated archaeological investigations, if warranted, preserve the historic façade and character of the building whether through exterior structural modifications, landscaping, lighting, paint, disguising and/or blending of the nonstructural measure with the building, etc.);
- temporary site protection measures during site work; and
- allowable relocation assistance funds for displaced tenants in accordance with Uniform Relocation Assistance (URA) and Real Property Acquisition Policies for Federal and Federally Assisted Programs of 1970, Public Law 91-646, 84 Stat. 1894 (42 U.S.C. 4601), as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987, Title IV of Public Law 100-17, 101 Stat. 246-256. Relocation assistance for tenants may include, among other things, advisory services, differential housing payments, and reimbursement of costs of

moving personal property, rental assistance to supplement the costs of leasing a comparable replacement dwelling, or down payment assistance to purchase a replacement dwelling (See Appendix D, Real Estate Plan for more detailed information). Property owners whose properties are voluntarily elevated will not be eligible for benefits in accordance with URA.

Ineligible Project Costs: The costs that exceed that which is necessary to safely elevate an eligible structure are deemed ineligible costs and any such costs remain the sole responsibility of the property owner. These costs may include, among others, costs associated with:

- any structural and system repair due to existing deficiencies;
- modifications or improvements to a septic system except for extension of lines from the raised structure to the existing system;
- cost for elevation above the identified target design elevation;
- modifications to structures that are NOT attached to the eligible structure;
- modifications to tubs, pools, spas, hot tubs, and related structures or accessories;
- modifications to decks and patios not connected to or immediately adjacent to the structure except for modifications that are expressly required by building codes (i.e., stairways and landing modifications);
- the proper remediation, removal and disposal of environmental contaminants including but not limited to HTRW, asbestos, and asbestos-containing materials in damaged or friable form;
- costs associated with bringing a non-conforming structure into compliance with current building code, housing code, and/or other applicable codes;
- costs associated with special access improvements (i.e., elevators, lifts, ramps, etc.) that are not deemed eligible; and
- improvements to structures not considered the primary residence (i.e., detached garage, shed and/or barns).

## 3.6. Target Design Elevation

Target Design Elevation: The target design elevation is the final elevation of the lowest floor of the structure to be elevated equal to the base flood elevation (BFE) plus two feet. The base flood has a one percent chance of occurrence in any given year and is commonly known as a 100-year flood event. North Carolina Building Codes require that all new or retrofitted construction in flood prone areas have a target design elevation of two feet above the BFE.

## 4. Structure Floodproofing

Owners of eligible structures may voluntarily participate in having their habitable structure floodproofed.

The Recommended Plan includes two methods of floodproofing – dry and wet. In general, floodproofing is any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce the risk of flood damage to improved real property, water and sanitary facilities, structures and their contents while the elevation of the floodwaters remain unchanged.

Dry floodproofing makes the structure watertight by sealing all areas from the ground level up to approximately 3 feet of a structure by making walls, doors, windows and other openings resistant to penetration to reduce the flood risk damage caused by rising floodwaters. This method may include one or more of the following methods: using waterproof membranes or sealants to reduce seepage of floodwater through walls; use of watertight shields for doors and windows; and/or installing measures to prevent sewer backup.

Wet floodproofing involves the use of flood-damage-resistant materials and construction techniques to minimize flood damage to a structure which is intentionally allowed to flood but with modifications which minimize flood damage. "Floodvent" is a form of wet floodproofing whereby floodwaters are intentionally allowed to enter a structure. This requires that all construction materials are water resistant, and all utilities must be elevated. Flood vents are installed in the walls to allow floodwaters into the building to equalize the hydrostatic forces.

Some common floodproofing measures include:

- Backflow valves;
- Closures on doors, windows, stairwells, and vents--they may be temporary or permanent;
- Rearranging or protecting damageable property--e.g., relocate or raise utilities;
- Sump pumps and sub-drains;
- Water resistant material; metal windows, doors and jambs; waterproof adhesives; sealants and floor drains; and
- Installation of flood vents to allow floodwaters to safely pass through a structure.

While each eligible structures will be evaluated for the most cost-effective nonstructural measure, the federal government reserves the right to determine which measure shall be implemented for each structure.

## 4.1. Determining Eligibility: Two Step Eligibility Process

The process of determining eligibility would be substantially like the process followed above for structure elevation. Identification of eligibility criteria and details concerning the process will be developed during PED and provided prior to project implementation. As of the date of this Implementation Plan, a structure inventory has been initially compiled that identifies that up to 349 structures for floodproofing in the study area, based on present information, have been deemed to be preliminarily eligible to participate. Eligible property owners who request application of floodproofing measures to their structures must provide temporary right-of-entry, undergo similar site and structural assessments, present the requisite documentation, and undergo a structure-specific analysis performed during PED phase that is substantially like that which is described above in connection with structure elevation.

## 4.2. Execution and Recordation of Agreement

An agreement shall be executed between the NFS and the property owner. The agreement will be binding upon the owners, their heirs, assigns, transferees, and any other successors in interest. The provisions of this agreement will be developed during the PED phase; however, it is anticipated that it will include provisions such as those discussed below, including provisions to allow investigations to determine if a historic property is present, assessment of effect and mitigation of adverse effects in accordance with the Section 106 Programmatic Agreement. The agreement will obligate the structure owner to expend any and all costs that may be necessary in connection with the elevation of the structure which are not deemed “eligible costs” (as described in Section 3.5); the agreement releases and holds USACE and the NFS harmless for any and all loss, cost, damage, or expense arising out of any claims, including third party claims that arise directly or indirectly from any project-related activity. The agreement will include provisions that would prohibit both the conversion of any part of the structure located below the lowest habitable finished floor for purposes of human habitation, the alteration of the structure in any way that would impede the movement of floodwaters under the structure and would prohibit the construction of any new habitable structures on the property that do not meet the requirements of the project. Also, the agreement will contain restrictive covenants that run with the land in perpetuity. Among other rights, the agreement will include the right for the NFS and the Government to inspect the property during structure elevation.

The agreement, as well as any required curative documents, subordination or release agreement(s), shall be recorded by the NFS in the Clerk of Court in the county in which the property is located prior to commencement of the nonstructural improvements on the property.

### 4.3. Commencement of Structure Floodproofing

Each structure that is floodproofed must have an approved sanitary disposal system and be in compliance with local and state health and building codes. The owners of the structure must agree to hold the Government and the NFS harmless for the floodproofing work to be performed on the structure and must allow both entities the right to inspect the properties during floodproofing. For applicable properties determined to be listed on the National Register of Historic Places, or eligible or listing, conditions described in the Section 106 Programmatic Agreement would be satisfied prior to commencement of nonstructural improvements.

### 4.4. Notice of Construction Complete (NCC)

Upon completion of the improvements, an inspection will be performed by USACE and upon final approval by the USACE District Engineer, or his designee, a notice of construction completion will be issued to the NFS and the individual structure floodproofing will be closed out as complete.

## 5. Federal Procurement Implementation Method

The traditional method of implementation is generally described in publications of the USACE National Nonstructural Committee and Flood Risk Management Planning Center of Expertise. This method of implementation utilizes a Federal procurement to obtain design and construction contractors for the various structure elevation and floodproofing measures. The Government will procure contracts that will allow a contractor to perform floodproofing work on multiple structures through a series of one or more task orders. The contractor will also be responsible for all work associated with the structure elevation or floodproofing action for each structure to final inspection.

## 6. Implementation Strategy for Nonstructural Measures

This plan recommends the formal agreement to be developed and coordinated through the NFS and the property owner as part of a strategy to implement nonstructural measures. Structures that have been identified as preliminarily eligible as part of the Recommended Plan are located across the study area. In order to effectively implement the Recommended Plan, clusters of eligible structures that represent the highest risk for riverine damages (i.e. those with a main floor elevation below the current ten percent water surface elevation) would be identified and prioritized for construction.

Individual structures would be addressed based on a ranking of risk from highest to lowest within the cluster. The ranking of individual structures would be revisited as elevation work is completed, as additional funding is distributed, and as new clusters are identified. Addressing groups of structures within a small geographic area would be more cost-effective, efficient, and would also allow for a more strategic methodology for applying nonstructural measures to at-risk structures. Additional work on this process would occur during the PED phase.

Any structure scheduling or prioritization will be subject to the availability of Federal and non-Federal funds. The locations for scheduling or prioritizing the implementation of nonstructural work will be determined during PED but will be fully assessed for implementing the Recommended Plan in an efficient and cost-effective manner. Some of the methods for scheduling or prioritizing nonstructural work that will be considered as part of the prioritization process are as follows; however, additional methods of scheduling or prioritizing such work will also be considered for the priority locations to implement the Recommended Plan

*Clustering*

The eligible property owners in a contiguous neighborhood or subdivision (i.e., small scale area) would be targeted for priority in nonstructural plan implementation. A focus on clustered properties would create a ranking hierarchy of which properties to address first. The size of a cluster would need to be defined but would consist of an area where multiple eligible structures would be constructed simultaneously. This approach would rank efficiency as the main factor in determining which eligible properties should be prioritized.

*Risk-Level*

Within the clustered area, structures of various risk levels would be identified. In such cases, the focus would be on willing property owners that exhibit the highest risk for flood damages. For example, if a number of property owners execute agreements with the NFS within the clustered area, the property owners who reside in the 10 percent (10-year) floodplain would be prioritized for construction over those located in the 4 percent (25-year) floodplain. Once these properties are elevated, the next highest-risk properties would be targeted. This approach couples risk exposure and clustering to determine the prioritization of eligible structures.

## 7. Operations, Maintenance, Repair, Rehabilitation and Replacement (OMRR&R)

For all structure types, OMRR&R costs are expected to be ‘de minimus’ and will be confined to regular, periodic surveys and site visits by the NFS of structures where

nonstructural measures have been applied in order to determine that the requirements of the OMRR&R Manual are being met. Costs for these efforts have not been calculated as part of NFS OMRR&R responsibilities. Once the nonstructural measures have been implemented and Notice of Construction Completion given, the owner of the property will be responsible for all cost and risk of maintaining, repairing, rehabilitating and replacement the floodproofing measures that were utilized for the subject property. A draft OMRR&R Manual shall be provided to the NFS as early as possible in the period of implementation because USACE will issue a NCC for each structure once elevation or floodproofing has been completed. At the time of the issuance of an NCC, the NFS's obligations for OMRR&R for the subject structure or lands commences. Structure elevation and floodproofing may be considered a separable element and functional portion of the Project. The NFS is responsible for the enforcement of the provisions of the agreement executed by the owners of property benefiting from the nonstructural measures and for enforcement of the requirements of the OMRR&R Manual, including by not limited to, compliance with the requirements of Section 402 of the Water Resources Development Act of 1986, as amended.

Upon NCC of the entire Recommended Plan, the USACE will furnish to the NFS a final OMRR&R manual addressing, among other things, the NFS responsibility for enforcement of terms of the floodproofing agreement, as well as other OMRR&R requirements. The NFS shall conduct periodic inspections at the intervals specified in the OMRR&R Manual to ensure that the owners, their heirs, and assigns, are in compliance with the terms and conditions of the executed agreements and shall provide written certifications to USACE that the structures and lands have been inspected and that no violations have been found. Regarding the elevated residential structures, the inspections will determine among other things, that no part of the structure located below the level of the lowest habitable finished floor has been converted to living area for human habitation, or otherwise altered in any manner which would impede the movement of waters beneath the structure; that the area below the BFE is being used solely for the parking of vehicles, limited storage, or access to the structure and not for human habitation; that mechanical, electrical or plumbing devices have not been installed below the BFE; that the property is in compliance with all applicable floodplain ordinances and regulations. USACE shall have the right, but not the obligation, to perform its own inspections of the completed elevation of floodproofing of structures.