



PLANNING BULLETIN

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Subject: Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures

Applicability: Guidance

1. References:
 - a) ER 1105-2-100, Planning Guidance Notebook (2001)
 - b) ER 1105-2-101, Risk Analysis for Flood Damage Reduction Studies (2006)
 - c) ER 1165-2-26, Implementation of Executive Order 11988 on Flood Plain Management (1984)
 - d) ER 1110-2-8162, Incorporating Sea Level Change in Civil Works Programs (2013)
 - e) Engineering and Construction Bulletin 2014-10, Guidance for Incorporating Climate Change Impacts to Inland Hydrology in Civil Works Studies, Designs, and Programs (2014)
 - f) Implementation Guidance for Section 219 of the Water Resources Development Act of 1999, Nonstructural Flood Control Projects
2. Definitions. The following definitions are intended to help further clarify the existing definition of nonstructural in the Planning Guidance Notebook (reference 1a):
 - a) Nonstructural measures reduce human exposure or vulnerability to a flood hazard without altering the nature or extent of that hazard.
 - b) Hazard, in this case, refers to water associated with flooding in a coastal or riverine setting that can cause harm.
 - c) Exposure is defined as who or what would be impacted by a hazard.
 - d) Vulnerability is how susceptible exposed people and properties are to damage or harm from the hazard.
3. Purpose. The purpose of this planning bulletin is to clarify existing nonstructural policy for flood risk management and coastal storm damage reduction studies. Ongoing efforts will continue to evaluate existing and consider new policies and procedures for the purposes of improving planning for and implementation of nonstructural measures in addressing flood risk management and coastal storm damage reduction problems. However, this planning bulletin does not add new plan formulation or evaluation requirements to those already in policy and guidance.
4. It is the policy of USACE to formulate a full array of alternatives consisting of nonstructural and structural measures. Not all nonstructural measures meet USACE criteria for agency

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participation and cost share during implementation. For example, land use and evacuation planning should be a part of the planning process, but implementation of those measures remains a local responsibility. Care and consideration should be taken when considering whether nonstructural measures are appropriate for USACE participation.

5. Special considerations for nonstructural measures and plans:

- a) Berms and Floodwalls. Berms, floodwalls, and other similar flood risk reduction structures impact the hazard, and thus do not meet the USACE definition for nonstructural measures. From this point forward, berms, floodwalls, and other similar structures must be implemented as structural measures and cost shared as such.
- b) Plan Formulation.
 - i) While a minimum of one primarily nonstructural plan (Section 73 of the Water Resources Development Act of 1974) must be considered, the combination of structural and nonstructural measures should be utilized to formulate complete plans. These plans may or may not be eligible for USACE participation in implementation, but must be considered. Questions about USACE participation in nonstructural measures should be elevated to Headquarters, CECW-P through the appropriate Regional Integration Team (RIT).
 - ii) There is no minimum level of USACE participation in flood risk management (reference ER 1105-2-100 Paragraph 3-3.b.(2)(c)). Local flood ordinances and National Flood Insurance Program (NFIP) regulations alone are not sufficient criteria for screening nonstructural measures. These design constraints and criteria must be acknowledged and should be considered as part of a locally preferred plan (LPP).
 - iii) Residual Risk. Consistent with references a and b, departures from the NED plan are permissible to reduce residual risk for public health and safety, and explicit risk management alternatives may be formulated. This may include redundant features, such as flood warning systems, evacuation plans, and land use plans, used in concert with structural measures or as stand-alone alternatives.
- c) Climate and Sea Level Change. Consistent with references d and e, climate change and sea level change must be included in the evaluation of nonstructural measures.

6. Acquisitions/relocations/permanent evacuations.

- a) USACE Participation. In order to have a complete plan, the ability to use eminent domain must be retained and a condition of an implementable project. A 100-percent voluntary participation plan for acquisition, relocation, permanent evacuation is not considered a complete plan and is not acceptable for USACE participation. All future acquisition, relocation, and permanent evacuation recommendations for USACE participation must include the option to use eminent domain, where warranted. Costs for permanent relocation measures should include the provision of relocation assistance under P.L. 91-646. Questions about USACE participation in nonstructural measures should be elevated to Headquarters, CECW-P through the appropriate RIT.
- b) Evaluation.

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- i) Economics. In accordance with Section 219 of WRDA 1999 (reference 1f), economic evaluation of nonstructural alternatives should be conducted in a similar manner to structural alternatives. This includes incremental justification of separable elements.
 - ii) Other Social Effects. Consistent with Section 904 of WRDA 1986, USACE must formulate for and evaluate plans for their impact on the prevention of loss of life and display those benefits or costs for flood risk and coastal storm projects. This is especially important when considering the regulatory floodway. Both positive benefits and negative effects of nonstructural plans should be documented in the OSE account. The effects of permanent relocation measures could include community cohesion, the ability of remaining properties to support necessary infrastructure, impacts to vulnerable populations, etc.
 - c) Alternative Use of Land. Alternative use of land is an integral part in planning for permanent relocations/evacuations. Existing policy (reference ER 1105-2-100 Paragraph E-17.b.(1)) allows for inclusion of environmental restoration and recreation benefits when justifying permanent relocations/evacuations. Further, unlike structural alternatives, incrementally justified recreation use in conjunction with permanent relocations/evacuations may account for more than 50-percent of project justification. All permanent relocation/evacuation recommendations should give proper consideration and documentation to alternative use of land.
 - d) Residual Risk. Residual risks to human health and safety, as well as economic damages, must be evaluated and reported. The evaluation and reporting must include the risks posed should the alternatives be exceeded. The evaluation of residual risk informs whether or not additional measures should be considered in order to protect human health and safety, including redundant measures, or if a plan other than the NED plan should be recommended. (For more on plan formulation, see paragraph 5.b.iii.)
7. Questions regarding the implementation of this PB, including unique situations, should be directed to HQUSACE, through the appropriate RIT. The HQUSACE point of contact for this PB is Jeremy LaDart, 202-734-1861.



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