



U.S. Department
of Transportation

Federal Highway
Administration

Memorandum



U.S. Department of the Army
U.S. Army Corps of Engineers

Subject: ACTION: Agreement for the Implementation of
Scour Countermeasures to Protect Foundations
of Scour Critical Bridges

From: Executive Director
Chief, Operations, Construction and Readiness Division

To: Federal Highway Administration Regional Administrators
Federal Lands Highway Program Administrator
United States Army Corps of Engineers Division Offices
United States Army Corps of Engineers District Offices

Date: February 11, 1997

Reply to
Attn. of: HNG-31

The purpose of this memorandum is to establish an agreement between the Federal Highway Administration (FHWA) and the United States Army Corps of Engineers (USACE) to facilitate timely decisions on permit applications for work associated with measures to protect bridges determined to be at risk as the result of scouring around their foundations. This agreement is essential to assure the safety of the traveling public while protecting the environment.

Bridge owners (State highway agencies, local and Federal agencies) must evaluate the Nation's bridges over waterways for scour vulnerability and for potential stream instability problems. Bridge owners are guided in their evaluations of bridges by the FHWA Hydraulics Engineering Circulars 18, titled "Evaluating Scour at Bridges," and 20, titled "Stream Stability at Highway Structures," respectively. Item 113, Scour Critical Bridges, of the FHWA document "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges" (Coding Guide) is used by the bridge owner to categorize the scour vulnerability of these bridges. Codes 0 through 3 indicate that a bridge is scour critical (i.e., bridge foundations that have been determined to be unstable, by the bridge owner, for the calculated scour conditions; or a field review indicates that extensive scour has occurred at the bridge foundation; or a field review indicates that failure of piers/abutments is imminent; or that a bridge has failed and is closed to traffic). Code 4 indicates that, although the bridge foundations have been determined to be stable (i.e., not critical), a field review indicates that action is required to protect exposed foundations from the effects of additional erosion (scour).

Since the scour evaluation program was initiated by memorandum, dated February 5, 1990, bridge owners have identified over 10,000 scour critical bridges. For these bridges, a plan of action for installing scour countermeasures is required. The plan of action should include, among other instructions, a schedule for the timely design and construction of scour countermeasures, as determined by the bridge owner, to protect the bridge foundation during a flood event, or to correct an existing or potential scour problem, and an evaluation of environmental impacts and measures to avoid, minimize or mitigate such impacts. Because of the variability in a bridge type, size, location, and vulnerability, scour countermeasures can range from monitoring plans (i.e., scour instrumentation) to placing protective armoring (i.e., rock riprap) at abutments and/or piers.

Since installing protective armoring is usually determined to be the most feasible and economical method to protect bridge foundations, USACE Districts may experience a significant increase in requests, from bridge owners, for permits for the installation of this type of scour countermeasure.

Recognizing the importance of protecting the foundations of our Nation's scour critical bridges with properly designed scour countermeasures and the need for environmentally sound projects, the FHWA and the USACE will work together with the bridge owners, in a cooperative effort, to plan ahead for managing projects that will need a USACE permit. A strong cooperative effort will aid in advanced planning to avoid and minimize environmental impacts, and in identifying locations where mitigation may be appropriate. Therefore, we agree that, if the bridge foundation has been determined to be scour critical, codes 0 through 3 for Item 113, as part of the bridge owner's scour evaluation program, the USACE will give priority to the bridge owner's request for authorization for the installation of scour countermeasures. Priority will also be given to bridges coded 4 for Item 113. Bridge owners must provide the FHWA and USACE Districts advance notice of the proposed countermeasure design and construction schedule. The notice must include an evaluation of the environmental impacts of the proposed scour countermeasure and appropriate mitigation of unavoidable impacts to aquatic resources, including fisheries and wetlands. This will allow appropriate and timely cooperation on project reviews. Through such coordination the USACE will be able to make the maximum use possible of forms of expedited authorization, such as nationwide permits and regional permits, and Letters of Permission and the use of the FHWA's Categorical Exclusion when the condition of the bridge foundation meets the criteria for codes 0 through 4 for Item 113.

We are confident that through this agreement and with the cooperation of the bridge owners, the condition of our Nation's bridges, especially those that have been determined to be scour critical, can be improved in a timely and environmentally sound manner. The safety of the traveling public and protection of environmentally sensitive areas can best be served by this approach.

We request that this memorandum be appropriately disseminated through organizational channels to your field offices and bridge owners within your jurisdiction to effectively implement this agreement. Should you have any questions concerning the agreement, please do not hesitate to call Mr. Jorge E. Pagán-Ortiz of the FHWA Bridge Division at (202) 366-4604; Mr. Fred Bank of the FHWA Environmental Analysis Division at (202) 366-5004; or Mr. Jack Chowning of the USACE Regulatory Program at (202) 761-1781.



Anthony R. Kane
Executive Director
Federal Highway Administration

FOR THE COMMANDER



Charles M. Hess
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