

INTEROFFICE MEMORANDUM

DATE: October 15, 1997

TO: Staff Design Engineers, Roadway Design Division

FROM: Brooks Booher, Staff Hydraulic Engineer

SUBJECT: Special Provisions for Construction in Special Flood Hazard Areas

When a proposed highway construction project crosses an area designated a "Special Flood Hazard Area" (SFHA) as indicated on the local communities National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM), floodway Map, or Flood Hazard Boundary Map (FHBM), the design and construction of the project must comply with the communities Flood Damage Prevention Ordinance.

If the Hydraulic Section has completed a hydraulic review or analysis of a project, and any portion of the project is located in any type of SFHA, the Hydraulics IOM will include a note about the SFHA and state which type of NFIP Permit will be required. A list of the permit requirements for the applicable permit will also be attached. There are six types of permits:

TYPE I - Regulatory Floodway with Insurable Building(s)

TYPE II - Regulatory Floodway without Insurable Building(s)

TYPE III - Regulatory Floodplain with Insurable Building(s)

TYPE IV - Regulatory Floodplain without Insurable Building(s)

TYPE V - Special Flood Hazard Area, No Detailed Study, With Insurable Buildings

TYPE VI - Special Flood Hazard Area, No Detailed Study, Without Insurable Buildings

Each of the permit requirement lists contains a sentence that states that a Special Provision (SP), "Construction in Special Flood Hazard Areas", should be included in the job specifications. There are two SP's; one for Permit Types I, III and V (all involving insurable buildings that may be affected by the construction), and another for Permit Types II, IV and VI (no insurable buildings involved). Normally, the Bridge Division will be responsible for writing or modifying the SP's and developing the Conceptual Work Plans (CWP) for projects involving bridges, and the Roadway Design or State Aid Divisions will develop them for all other stream crossings, including bridge length culverts.

The Conceptual Work Plan referred to in the Type I, III, and V permit SP (NOTE: A CWP is only required for those projects covered by Type I, III or V permits) is a plan for any temporary structures, such as haul roads, work pads or platforms, cofferdams, sheet

piling, etc., that may be required to be placed within the regulated floodway, floodplain, or SFHA during project construction. The CWP is a plan that would allow the construction project to comply with the backwater restrictions of the local Flood Damage Prevention Ordinance if a 100-year storm event were to occur during construction. The CWP should be tailored to the specific requirements of each crossing and it is recommended that it be coordinated with the Construction and Environmental Divisions. The Contractor may propose a modification to the CWP, but the modifications should be approved as set forth in that portion of the SP titled "Modifications of Conceptual Work Plan".

Although detour roads are covered by the Special Provisions and must also comply with the local Flood Damage Prevention Ordinance, they are not included in the CWP. The design details of the detour roads are normally shown on the bridge and roadway design plans.

Copies of the two examples SP's are attached and are also available on the AHTD network drive [\\CSD6\Public](#) in the directory named SFHASP with the filenames TYPE1 AND TYPEII. **These SP's are only examples and should be modified as necessary to fit the special construction requirements for each project.** Such modifications may include, but are not limited to the following: Specifications for the Sequence of Stage Construction to limit floodplain impacts; Special requirements or addendum's to the Conceptual Work Plan (CWP); other special requirements as needed to comply with the local Flood Damage Prevention Ordinance.

If you have any questions about the permit requirements of a particular project, need assistance in determining what type of permit would be required for a job, or any other questions concerning NFIP regulations, contact the Hydraulics Section at 569-2586.

BB

cc: State Aid Division
Bridge Division

EXAMPLE FOR TYPE I, III, OR V PERMIT

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO.

CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS

GENERAL: This special provision limits the temporary construction operations in Special Flood Hazard Areas (SFHA) as required by the National Flood Insurance Program (NFIP).

Temporary construction operations include all work and material necessary to access and construct the permanent bridge(s) and roadway embankment within the SFHA. These operations may include work ramps, haul roads, temporary crossings, detour roads, levees, diversion channels, retaining walls, cofferdams, forms, storage of materials, storage of large equipment, and other related work.

This project crosses a SFHA with a regulatory floodway, regulatory floodplain, or SFHA published by the NFIP. The regulatory floodway, regulatory floodplain, or SFHA limits are shown on the plan and profile sheet(s).

The project is permitted under a "Floodplain Development Permit" issued by the local community. The requirements of the "Floodplain Development Permit" and related regulations for construction within SFHA's are in the local community's "Flood Damage Prevention Ordinance." The NFIP's regulations are set forth at Title 44, Chapter 1, Parts 59-77, Code of Federal Regulations (CFR).

The following special conditions must be complied with for the "Floodplain Development Permit" to be valid:

- Temporary operations are to be performed during the low flow season when possible.
- The conceptual work plan (CWP), included in this Special Provision, for temporary operations in a regulatory floodway provide for no increase in the NFIP's published flood levels within the community during the occurrence of the 100-year flood discharge.
- The conceptual work plan (CWP) for temporary operations in a regulatory floodplain provide for a one foot increase in the NFIP's published flood levels within the community during the occurrence of the 100-year flood discharge.
- The conceptual work plan (CWP) for temporary operations in a SFHA provide for a one foot increase in the designed flood levels within the community during the occurrence of the 100-year flood discharge.

- Temporary operations shall not obstruct an existing or proposed bridge(s) waterway opening more than what is shown on the CWP.
- Any changes in the CWP that will increase flood levels shall be approved in accordance with the “Modifications of Conceptual Plan” section of this Special Provision.
- All temporary operations shall meet the requirements of the Corps of Engineers’ Section 404 Permit issued for this project.
- All temporary fills and temporary obstructions to existing or proposed bridge(s) must be removed in their entirety and the affected areas returned to their preconstruction or designed elevation and condition.
- The contractor is responsible for preventing equipment and materials within the floodplain from becoming buoyant and floating downstream during a flood event. In the event this flood starts to occur, the contractor shall remove and/or anchor materials and equipment by means approved by the Engineer at the Preconstruction Conference.

MODIFICATIONS OF CONCEPTUAL WORK PLAN: If the Contractor prefers another work plan, a request shall be submitted to the Engineer outlining the specifics of the proposed modifications to the plan. Proposed modifications should consider the minimization of reduction of waterway opening in the floodway as a primary objective.

A determination will be made by the Engineer within ten (10) business days concerning the necessity or practicability of the request. If approved, the Department will then apply for permit modifications that it determines to be necessary or practical. These permit modifications will be reviewed by the Department’s Hydraulics Section. The Hydraulics Section will approve or deny the request within (10) business days after receiving the request. Any modification that requires a revision to the “Floodplain Development Permit” will require additional time for the local community to review and approve.

Modifications in the plan that also change the volume of temporary fill in place at any one time may require a modification in the Section 404 Permit which will require additional time for review by the Corps of Engineers. Refer to the 404 permit for these requirements.

The contract time will not be extended for the time required to consider or approve any modifications. Any additional work or expenses incurred in preparing, submitting, or completing an alternate work plan shall be at no additional cost the Department.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT: All work including labor, materials, tools, and equipment necessary to complete the requirements of this special provision shall not be paid for directly, but will be considered subsidiary to other items in the contract.

EXAMPLE FOR TYPE II, IV, OR VI PERMIT

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIAL PROVISION

JOB NO.

CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS

GENERAL: This special provision limits the temporary construction operations in Special Flood Hazard Areas (SFHA) as required by the National Flood Insurance Program (NFIP).

Temporary construction operations include all work and material necessary to access and construct the permanent bridge(s) and roadway embankment within the SFHA. These operations may include work ramps, haul roads, temporary crossings, detour roads, levees, diversion channels, retaining walls, cofferdams, forms, storage of materials, storage of large equipment, and other related work.

This project crosses a SFHA with a regulatory floodway, regulatory floodplain, or SFHA published by the NFIP. The regulatory floodway, regulatory floodplain, or SFHA limits are shown on the plan and profile sheets.

The project is permitted under a "Floodplain Development Permit" issued by the local community. The requirements of the "Floodplain Development Permit" and related regulations for construction within SFHA's are in the local community's "Flood Damage Prevention Ordinance." The NFIP's regulations are set forth at Title 44, Chapter 1, Parts 59-77, Code of Federal Regulations (CFR).

The following special conditions must be complied with for the "Floodplain Development Permit" to be valid:

- Temporary operations are to be performed during the low flow season when possible.
- Temporary operations shall not result in a significant increase in flood levels within the community during the occurrence of a major flood.
- Temporary operations shall not obstruct a significant portion of an existing or proposed bridge(s) waterway opening.
- All temporary operations shall meet the requirements of the Corps of Engineers' Section 404 Permit issued for this project.

- All temporary fills and temporary obstructions to existing or proposed bridge(s) must be removed in their entirety and the affected areas returned to their preconstruction or designed elevation and condition.
- The contractor is responsible for preventing equipment and materials within the floodplain from becoming buoyant and floating downstream during a significant flood event. In the event this flood starts to occur, the contractor shall remove and/or anchor materials and equipment by means approved by the Engineer at the Preconstruction Conference.