

**LOCATION**

Project :  
Route :  
County/City :  
Waterway :

**PREPARED BY**

Name :  
Organization :  
Date :

**ENVIRONMENTAL DATA**

1. Identify involvement within the base flood plain:

- This is a skewed crossing of <<stream name >>.
- This is a perpendicular crossing of <<stream name >>
- The existing bridge will be removed.
- The existing bridge will remain in place.

2. Traffic service: ADT

- Detours available \_\_\_\_\_ Length \_\_\_\_\_ Miles. (km)
- Frequency of overtopping Flood
- Potential damage to the highway facility

3. Applicable flood plain management criteria:

Note: Use **ONLY the one statement that is applicable and erase all the rest**, including this instruction and the FEMA delineation description information.

For project within a FEMA **delineated floodplain**:

FEMA regulates flood level, flood velocity, and flow distribution and this project is within FEMA community panel number: \_\_\_\_\_ and Zone \_\_\_\_\_. This project complies with FEMA requirements because there will be no increase in flood levels, velocities or flow distribution.

FEMA regulates flood level, flood velocity, and flow distribution and this project is within FEMA community panel number: \_\_\_\_\_ and Zone \_\_\_\_\_. This project complies with FEMA requirements because a bridge/culvert will be replaced with a hydraulically equivalent replacement structure.

For project permits in a FEMA floodplain carrying a **Zone A** designation that does not have base flood elevations. In such instances, an increase in 100-year flood level not exceeding one foot is acceptable.

FEMA regulates flood level, flood velocity, and flow distribution and this project is within FEMA community panel number: \_\_\_\_\_ and Zone A. This project complies with FEMA requirements because there will be no more than a one foot increase in flood levels, velocities and flow distribution will not be changed significantly.

For projects not within a FEMA floodplain, include the following statement:

FEMA regulates flood level, flood velocity and flood distributions and this project is not within a designated or delineated FEMA floodplain. The project complies because there are no FEMA requirements applicable within the project area.

4. Note social, economic, ecological and human use of the flood plain:

5. Drainage area \_\_\_\_\_sq. mi. (km<sup>2</sup>)

6. Overtopping flood

Discharge = \_\_\_\_\_ cfs (m<sup>3</sup>/s)

Exceedence Probability \_\_\_\_\_ %

Stage \_\_\_\_\_ ft. (m)

7. Compare the hydraulic performance of the proposed action to the hydraulic performance of the existing conditions in terms of:

There will be no change in the flood levels or velocities.

The flood flow characteristics will not change.

This proposed bridge will replace an existing bridge.

There will be no increase in the level of the 1% flood.

There will be an increase of one foot or less for the 1% flood.

This is a proposed bridge in a new location.



**HYDRAULIC COMMENTARY FOR PERMIT**

**HYDROLOGY**

The hydrologic analysis for this project was predicated on Flood Insurance Data for <<county/city name>> county.

The hydrologic analysis for this project was predicated on data obtained by VDOT personnel.

Design Discharge \_\_\_\_\_ cfs (m<sup>3</sup>/s) 1% Discharge \_\_\_\_\_ cfs (m<sup>3</sup>/s)

**HISTORICAL DATA**

Highwater elevations were obtained by field reconnaissance and were correlated with the hydraulic data.

Highwater Elevation \_\_\_\_\_ ft (m) \_\_\_\_\_ Date

**HYDRAULIC**

The hydraulic analysis was performed using FHWA water surface profile computer model WSPRO.

The hydraulic analysis was performed using USACE water surface profile computer model (HEC-2/HEC-RAS).

The hydraulic analysis was performed using accepted principals and techniques of river mechanics applicable to this site.

The proposed facility will not increase the 1% Flood Stage.

The proposed facility will not increase the 1% Flood Stage by more than 1.0 foot.

Design Flood Stage Elevation \_\_\_\_\_ ft. (m)

1% Flood Stage Elevation \_\_\_\_\_ ft. (m)

**CAUSEWAYS**

The use of causeways for temporary construction access was not considered in this analysis. If it is subsequently found necessary to use causeways, they must be submitted to the Hydraulics Unit for analysis and documentation.

Temporary construction access causeways for this project should be composed of <<specify>>.

The ordinary highwater will be increased by \_\_\_\_\_ ft. (m)

The high flow profiles will not be affected.

The causeway will not affect the water surface profile.

The maximum causeway elevation is \_\_\_\_\_ ft. (m)

From abutment A to station

From station \_\_\_\_\_ to abutment B.

Only one will be in place at a time.

**EROSION AND SEDIMENT CONTROL**

An erosion and sediment control plan will be prepared and implemented in compliance with the Erosion and Sediment Control Law, the Erosion and sediment control Regulations, and the annual erosion and sediment control Standards and Specifications approved by the Department of Conservation and Recreation.

**STORMWATER MANAGEMENT**

Design of this project will be in compliance with the Stormwater Management Act, the Stormwater Management Regulations, and the annual stormwater management Standards and Specifications approved by the Department of Conservation and Recreation.