

Appendix 12B-3 LD-293 Hydraulic Analysis Report

HYDROLOGIC AND HYDRAULIC ANALYSIS REPORT

LOCATION

Project :
 Route :
 County/City :
 Waterway :

PREPARED BY

Name :
 Organization :
 Date :

STRUCTURE DESCRIPTION

Abutment A Station: Finished Grade Elevation _____ ft. (m)
 Abutment B Station: Finished Grade Elevation _____ ft. (m)
 Minimum Low Chord Elevation _____ ft. (m)
 Skew _____ to centerline _____ to flood flow
 Span Length
 Abutment Type
 Number/Type Piers

HYDROLOGIC/HYDRAULIC DATA

Drainage Area _____ Sq. Mi. (km²)

HISTORICAL DATA

High Water Elevation _____ ft. (m) Date of Occurrence
 Estimated Discharge _____ cfs. (m³/s)
 Estimated Exceedence Probability _____ %

HYDRAULIC PERFORMANCE

The data presented herein is the result of statistical analysis and indicates an approximate estimate of the performance of this facility.

Discharge (cfs)(m ³ /s)	Estimated Exceedence Probability (%)	Change in existing flood levels (ft.)(m)	Flood stage upstream of bridge (ft.)(m)	Velocity thru Bridge Structure (ft/s)(m/s)
	50%			
	20%			
	10%			
	4%			
	2%			
	1% Natural			
	1% Floodway			
	0.2%			

DESIGN SUMMARY

	Exceedence Probability (%)	Stage Elevation (ft.)(m)	
Design Flood			
Overtopping Flood			
Base Flood			
Ordinary High Water			

DEBRIS POTENTIAL

ABUTMENT SLOPE PROTECTION RECOMMENDATIONS

26" Class I Dry Riprap over 4" no. 25 or 26 aggregate over filter cloth will be hydraulically satisfactory.
650 mm Class I Dry Riprap over 100 mm no. 25 or 26 aggregate over filter cloth will be hydraulically satisfactory.
950 mm Class II Dry Riprap over 150 mm no. 25 or 26 aggregate over filter cloth will be hydraulically satisfactory.
38" Class II Dry Riprap over 6" no. 25 or 26 aggregate over filter cloth will be hydraulically satisfactory.

SCOUR PLOTS

A sketch of the final scoured bed profile and the check scoured bed profile is attached. If scour countermeasures are required, a request must be submitted to the Hydraulics Unit for their design and documentation.

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.

STREAM BANK STABILIZATION

The banks should reestablish themselves to the natural conditions.

The Riprap should be placed on all areas that will not support vegetation.

Disturbed areas outside the bridge should be seeded.

COMMENTS

Note any channel modifications, flood plain impacts and impact mitigation measures as well as other data pertinent to the design. Also comment on the feasibility of using a smaller structure.

This analysis is only applicable to the structures(s) and approaches described. Any changes in these conditions may invalidate this analysis and should be reviewed by this office.

This design represents the smallest structure practicable for use at this site.

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The existing structure and the existing approach roadways from station: to station: are to be removed and the land is to be regraded to its natural contour.

If this project is an interstate or other **NHS** project and is expected to be in excess of \$1,000,000.00, please notify the **FHWA** that (1) no hydraulic impacts are anticipated or (2) the following hydraulic impacts are anticipated:

If you have any questions or need additional information, please contact _____ at _____ or via electronic mail at _____. The completed "**CONFIRMATION OF DESIGN**" should also be sent to _____.

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HYDROLOGIC DATA SHEET

The information presented hereon is to be transcribed to the Hydrologic Data sheet contained in the plan assembly.

LOCATION

Project :
Route :
County/City :
Waterway :

DESCRIPTION

Sheet No Station

Drainage Area _____ sq. mi (km²)

Structure Size

BASE FLOOD

Discharge _____ cfs (m³/s)

Stage Elevation _____ ft. (m)

DESIGN FLOOD

Discharge _____ cfs (m³/s)

Estimated Exceedence Probability _____ %

Stage Elevation _____ ft. (m)

OVERTOPPING FLOOD

Stage Elevation _____ ft. (m)

Estimated Exceedence Probability _____ %

HISTORICAL DATA

Date

Stage Elevation _____ ft. (m)

Estimated Exceedence Probability _____ %

REMARKS

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CONFIRMATION OF DESIGN

The bridge designer will complete this form and forward it to the Hydraulics Unit confirming that the design that was analyzed is being used.

LOCATION

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Route :
County/City :
Waterway :

STRUCTURE DESCRIPTION

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Abutment B Station: _____ Finished Grade Elevation _____ ft. (m)

Minimum Low Chord Elevation _____ ft. (m)

Skew _____ to centerline _____ to flood flow

Span Length

Abutment Type

Number/Type Piers