Tidal Bridge

Memorandum to:

Submittal Date: _____

Supersedes Submittal Date: _____

RPG Road Design Engineer: _____

RPG Structural Design Engineer: _____

RPG Geotechnical Design Engineer: _____

From: RPG Hydraulic Design Engineer: _____

Subject: Hydrology Data for Bridge over: _____

County: _____ **Road/Route:** _____ **Project ID:** _____

Structure No.: _____ **Asset ID:** _____

Bridge Information

Bridge Length: _____ ft. Bridge Roadway Width: _____ ft.

Beg. Station: _____ End Station: _____ Skew Angle: _____ °

Bridge Span Configuration: _____

Bridge Span Type: _____

Pier/Pile Type & Size: _____

Min. F.G. Elev.: _____ ft. Min. Low Chord: _____ ft.

End Fill Slope: _____ Riprap Required: _____ To Elevation: _____ ft.

Comments: _____

Required Hydrology Information for Bridge Plans

HYDROLOGY DATA:

Mean Higher High Water Elev. = _____ ft. Mean Lower Low Water Elev. = _____ ft.

Max. Wave plus Surge Height $_{AEP\text{-}1\%}$ = _____ ft.

Stillwater Height $_{AEP\text{-}1\%}$ = _____ ft. Stillwater Height $_{AEP\text{-}0.2\%}$ = _____ ft.

Vel. $_{AEP\text{-}1\%}$ = _____ ft/sec Vel. $_{AEP\text{-}0.2\%}$ = _____ ft/sec

Min. Bottom Interior Bent Cap Elev. = _____ ft. Historical Highwater Elev. = _____ ft

Maximum Wave Height $_{1\%}$ = _____ ft Maximum Wave Crest Elev.$_{1\%}$ = _____ ft

BACKWATER ELEVATION UPSTREAM OF THE BRIDGE

_____ H.W. Elev. = _____ including _____ ft. Backwater

1% AEP (100-Year) H.W. Elev. = _____ including _____ ft. Backwater

Drift Clearance above H.W. = _____ ft

Clearance above Max. Wave Crest $_{1\%}$ = _____ ft

STRUCTURE OVERTOPPING FLOOD

0.2% AEP (500-Year) flow = _____ cfs Overtopping flow: _____

WAVE LOADING (as required)

1% AEP (100-Year) Maximum Vertical Force = _____ kips

Associated Horizontal Force$_{maxFv}$ = _____ kips

Associated Moment about Trailing Edge$_{maxFv}$ = _____ ft-kips

1% AEP (100-Year) Maximum Horizontal Force = _____ kips

Associated Vertical Force$_{maxFh}$ = _____ kips

Associated Moment about Trailing Edge$_{maxFh}$ = _____ ft-kips

Direction of Downstream Flow on Plans: _____

Hydraulic Engineer in HDSO: _____

Date Modified: 1/8/2026