VERMONT
VTrans

Hydraulics Engineering Instructions (HEI)

Distribution: Structures, Bureau Chiefs, Chief of Contract Admin., Consultants

Approved: DocuSigned by: Kristin Higgins 941240F4CD... **Date:** 1/10/2022

Kristin M. Higgins,
Structures Program Manager

Subject: Abutment Scour - NCHRP 24-20

Administrative Information:

Effective Date: This HEI shall be considered effective for the Structures & Hydraulics Section from the date of approval.

Superseded HEI: None.

Exceptions: None.

Disposition of HEI Content: The technical information transmitted by this HEI will be incorporated into the next revision of the VTrans Hydraulics Manual.

Purpose:

The Froehlich and Highway in the River Environment (HIRE) abutment scour equations are no longer recommended for use by FHWA. VTrans will now only utilize the methods from National Cooperative Highway Research Program (NCHRP) 24-20 for abutment scour calculations.

Technical Information:

Section 7.4.4.4 of The VTrans Hydraulics Manual lists 3 methods for computing abutment scour. These are the Froehlich, HIRE and the NCHRP 24-20 methods.

FHWA recommends that VTrans no longer use the Froehlich and HIRE methods. Based on this feedback, VTrans will no longer utilize either of these methods. NCHRP 24-20 will be the only recognized method to calculate abutment scour.

Implementation:

The content of this HEI will implemented immediately on all projects.

Transmitted Materials:

No supplemental materials are transmitted with this HEI.