Iowa’s Floods of 2008 and the Iowa DOT’s use of BridgeWatch to Monitor Scour Critical Bridges

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ABSTRACT

The Iowa Department of Transportation (Iowa DOT) has taken a proactive approach towards implementing the FHWA-mandated action plans for scour critical bridges. The Iowa DOT has approximately 180 scour critical bridges that must have an action plan (monitoring plan) that will reduce the risk to the public during a flood.

The Iowa DOT has contracted with a firm that provides a web-based software program (BridgeWatch) that will predict, identify, record, and monitor flood events that may impact scour-susceptible structures. BridgeWatch identifies the occurrence of flood events that affect our scour-critical bridges by acquiring real-time flood (USGS gages) and rainfall data (NWS Doppler Radar).

The floods of 2008 were significant in the state of Iowa, and the BridgeWatch program provided a real-time alert system so that the Iowa DOT could allocate its resources to inspect the most vulnerable structures during the floods.

The program will automatically notify Iowa DOT maintenance personnel (by cell phone) of possible flooding at scour critical bridge sites. The BridgeWatch program provided an invaluable tool during the flooding, which enabled the Iowa DOT to make prioritized decisions regarding inspection efforts and bridge closures, which will save time, resources, and needless inspection of bridges that did not experience significant flooding.

Key words: BridgeWatch—floods—scour critical bridges