



## **Application of MikeFlood Model for Dam-Break Scenario: A Case Study for the Norton Fitzwarren Flood Alleviation Dam**

Mohammed Mamun  
Senior Modeller, Hyder Consulting (UK) Limited

### **Abstract:**

In Norton Fitzwarren a flood alleviation dam has been proposed as a solution for downstream flooding. As part of the project an impact assessment has been undertaken. The impact assessment comprises of an assessment of potential consequences which could occur in the event of dam failure. The impact assessment is based on the critical flow route resulting from the failure of dam or impounding structures during a 1 in 10,000 year flood, accurate estimations of potential flood depths, flow velocities and timing of the flood arrival and recession are key pieces of information. The dam break and hydrodynamic overland flow has been undertaken using MikeFlood, 1-D and 2-D coupled modelling software to assess the impact of the dam-break scenario, with sufficient detail to capture both spatial and temporal evolution of the flood event. The 1-D component provides the hydraulic equations necessary to define flow through structures, including the dam breach, whilst the 2-D domain provides the capability to model complex overland flow paths.