

Patrickswell Rehabilitation Hospital Flood Risk Assessment

Objectives

- To carry out a hydrological analysis of the Barnakyle River catchment and estimate river flows.
- To construct a one-dimensional hydraulic river model using HEC-RAS.
- To carry out a steady state analysis of river flow and simulate water levels for various flood events.
- To complete a flood risk assessment to assess the impact, if any, of the proposed development on the existing flood environment.

A Flood Risk Assessment was completed to support a planning application for a proposed rehabilitation hospital adjacent to the Barnakyle River, in Patrickswell, Co.Limerick.

River flows were estimated using methods detailed in the Flood Studies Report, Flood Studies Supplementary Reports and Institute of Hydrology Report 124. The design flows were factored to allow for the effect of the climate change.

A river survey was commissioned and the cross sections were used to construct a HEC-RAS hydraulic river model.

A steady state analysis was performed and flood levels in the river for the 1% annual exceedance probability (AEP) and 0.1% AEP flood event were estimated.

Analysis of the model results and interrogation of level data for the area concluded that there is no flooding of the proposed site in a 1% AEP or 0.1% AEP event.

Full planning permission for the proposed development was granted by Limerick County Council in June 2009.



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