



Robertshill, Kilkenny City Flood Risk Assessment & Management Study

AWN Consulting were appointed by Feron O Neill Consulting Engineers, on behalf of the client to prepare a flood impact study and risk assessment for a proposed mixed use development at Robertshill, Kilkenny City.

The proposed development is located along the boundary of the River Breagagh, a tributary to the River Nore. The proposed development includes plans for an access road and a bridge running from the proposed Kilkenny City Inner Relief Road.

AWN Consulting scope of works included the following:

- Desktop assessment of the historical flood data in relation to the site and the surrounding area was conducted.
- Consultation with Kilkenny County Council and Office of Public Works (OPW) with regard to data relating to past flooding of the river and recorded levels.
- A bathymetric and hydrometric survey of the stream, from upstream of the site to downstream of the site.
- Modelling of predicted flood event using MIKE FLOOD software (1D and 2D coupled Model)

4 no. scenarios were assessed with respect to potential flood impact and its potential impact on the proposed development (all scenarios were 1:100 year flood events). These were the following:

1. Predicted flood levels with no development or no road in place, taking climate change into account
2. Predicted flood levels with the road in place including new culvert sizings
3. Predicted flood levels with the clients proposed bridge and embankment built across the flood plain
4. Predicted flood levels with the clients mixed-use development in place to also include the bridge and embankment built across the flood plain

The key findings of the assessment were that the construction of the inner relief road and attenuation measures would reduce the risk of flooding and the 100 year flood level on the proposed development. The construction of the proposed bridge and embankment would have no effect on the 1:100 flood levels. Therefore construction is suitable at a level above this point in the area where the proposed access road and embankment will be located.