

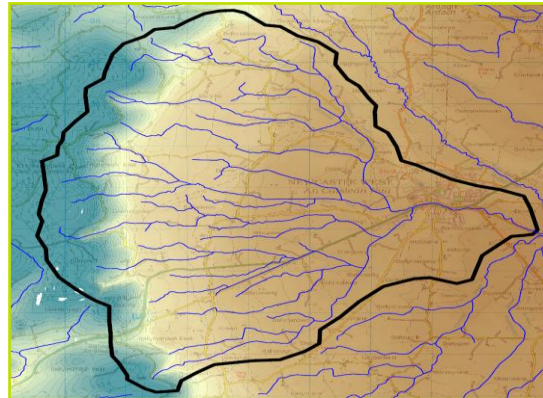
Newcastle West, Ireland

Flood Impact and Severity Report

Contract Brief

Following the devastating flooding in Newcastle West on the 1st August 2008, JBA Consulting was commissioned to compile a report to provide a basis for informed discussion and analysis between all stakeholders. The aim of the report was:

- to assess the severity of both the rainfall event in the upstream catchment and the resulting flood in the River Arra;
- to provide a factual record of the impact of the flood;
- to identify probable 'root causes' of the flooding, both natural and man-made, to allow further analysis of hydraulic performance in the future.



Above: The Arra catchment

Car being removed from the River Arra at Limerick Rd. Bridge



Description

Two walkover surveys were undertaken; the first immediately after the flood event, and the second once water levels had dropped and the clean up had begun. Data collected included river levels and rainfall totals, weather reports and radar images and photographs and video footage.

Interviews were conducted with eyewitnesses to the event, including local residents and emergency personnel, and local engineers.

Conclusions

- The Arra catchment is very steep with a dense river network upstream of the town. Newcastle West sits at the confluence of three main rivers; the Dooally, the Arra and the Mash;
- July was an exceptionally wet month which resulted in fully saturated ground conditions prior to the storm;
- During the storm, 10% of the expected annual rainfall fell in 5-6 hours giving a rainfall return period of up to 1 in 650 years;
- Water sheeted off the upper slopes, overwhelming field drains and ditches and forming overland flow routes upstream of Newcastle West town. Some properties were flooded as a result of water returning to the channel;
- In the town itself, the river channel and structures were also overwhelmed. In response to public concern, it is noted that Mill Falls Apartment and the new Bridge of Tears have greater capacity to pass flow than other structures on the channel.

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