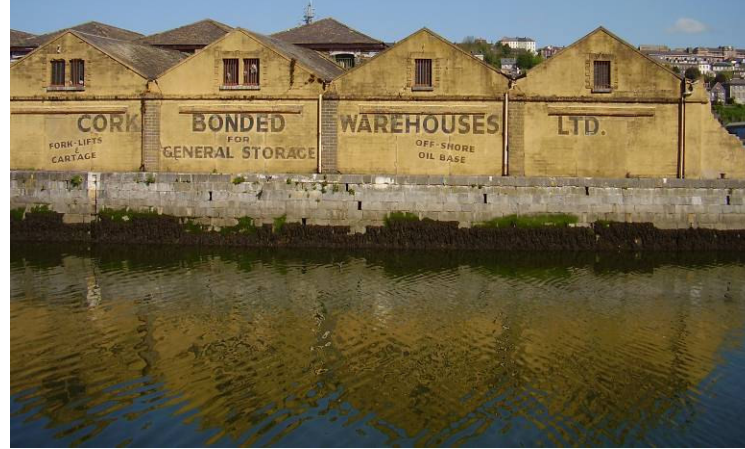


Modelling of options

Using the hydraulic computer models of the rivers and the harbour, the flood risk management measures and options will be modelled to determine their impact on reducing flood risk in the catchment. By modelling the options on a catchment scale we will be able to determine the benefits and impacts of a particular option throughout the catchment. For example, constructing flood defences alongside a river channel to keep the flow within bank in one area may pass the flood problem downstream. By using the hydraulic computer models we will be able to determine if a particular option has a benefit or impact both locally and at a catchment scale.

Warehousing on the River Lee in Cork City



Aerial photo of Crosshaven in Cork Harbour



Contact details and project website

If you have any questions or require any further information relating to this study or if you would like to be included on a distribution list for future issues of this newsletter please email LeeCFRAMStudy@opw.ie

Further information is also available on our project website at www.leecframs.ie



Daly Bridge in Cork City

Next issue

In next month's issue we will continue with our series of **Focus On** series looking at a number of other flood risk management measures for the Lee CFRAMS. The next issue of the newsletter will be available at the end of October.

LEE CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

Newsletter - 25
September 2008

Halcrow



Introduction

Hello and welcome to the September 2008 edition of the Lee CFRAMS newsletter. The project team is progressing with work on assessing flood risk management options for the Lee catchment. Following on from the August newsletter, in this month's **Focus On** section we provide additional information on a number of potential flood risk management measures for the Lee catchment.

Focus On

Flood risk management measures

This month's **Focus On** provides additional information on some of the measures discussed in the August edition of the newsletter.

Flood forecasting and warning

Flood forecasting uses real-time data to predict water levels and allows flood warnings to be issued to the public in areas potentially at risk of flooding. Using hydraulic computer models, a flood forecasting system could potentially be developed for the river catchment and the harbour area. A flood forecasting system for the harbour and rivers would rely on different real-time data to predict water levels. For river catchment, real-time rainfall data and river flow data would be used to predict river water levels and flows. The ability to provide accurate and timely warnings will depend on a number of factors including the size of the catchment and the availability of accurate data.

For the harbour area, the interaction of real-time water level data from tide gauges and storm surge forecasts would be used to predict water levels in the harbour and issue advance flood warnings.

Demountable flood defences

Demountable flood defences are defences which are put in place in advance of a flood event and removed once the flood risk has abated. Demountable flood defences are used where permanent flood defences (i.e. flood walls and embankments) are not environmentally and locally acceptable, e.g. where permanent defences limit access to a locally important water amenity.

Flooding prior to flood defences



Demountable flood defences in place

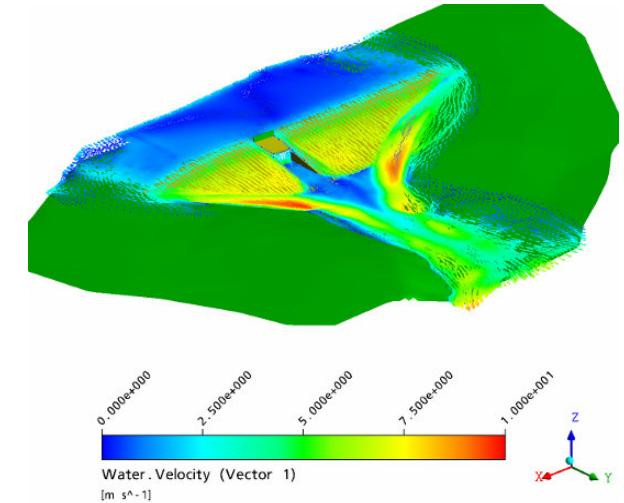
Demountable flood defences as part of the Bewdley Flood Alleviation scheme in the UK

The use of demountable flood defences depends on the time available to install them which in turn is dependant on advance flood warning. The time taken to install demountable defences depends on a number of factors including type and size of defences and number of people available to install defences.

Flood storage reservoirs

Flood storage reservoirs provide a flood risk management measure through the provision of storage and controlled discharge of flood inflows. This provides a significant degree of

flood protection to areas downstream of the reservoir. When not being used for storing floodwaters, the storage area can be used for agricultural production or as amenity space. Storage reservoirs can also offer opportunities for environmental enhancement.



Hydraulic computer modelling of flood storage reservoirs on the White Cart Water Flood Alleviation Scheme in Scotland

The ability of the storage reservoir to accommodate flood storage is limited by the area of the storage reservoir, the size of the catchment upstream of the storage reservoir and the discharge rate from the reservoir.

As discussed in last month's newsletter, each of the measures will be considered on the following core criteria: technical, economic, social, and environmental. A measure can be ruled out on the basis of one of the core criteria, or could be ruled out due to a combination of different criteria. The list of measures identified from this process is then subject to a detailed analysis against the flood risk management objectives.