

# Crossmolina (River Deel) Flood Relief Scheme

## Scheme Objectives & Overview

- The purpose of the River Deel (Crossmolina) Flood Relief Scheme is to identify a preferred flood relief scheme to reduce the frequency and impact of flooding of the River Deel in the Crossmolina area and to bring the preferred scheme through the planning stage.
- The process of identifying the preferred scheme includes a detailed assessment of a range of flood risk management measures to determine their technical, economic and environmental viability.
- The Project Team includes the OPW, Mayo County Council, Engineering Consultants and Environmental Consultants.
- A broad study area was initially identified. The project has since progressed through a constraints study, AA Screening, hydrological and hydraulic analysis and is currently at the options assessment stage.



# Public Consultation

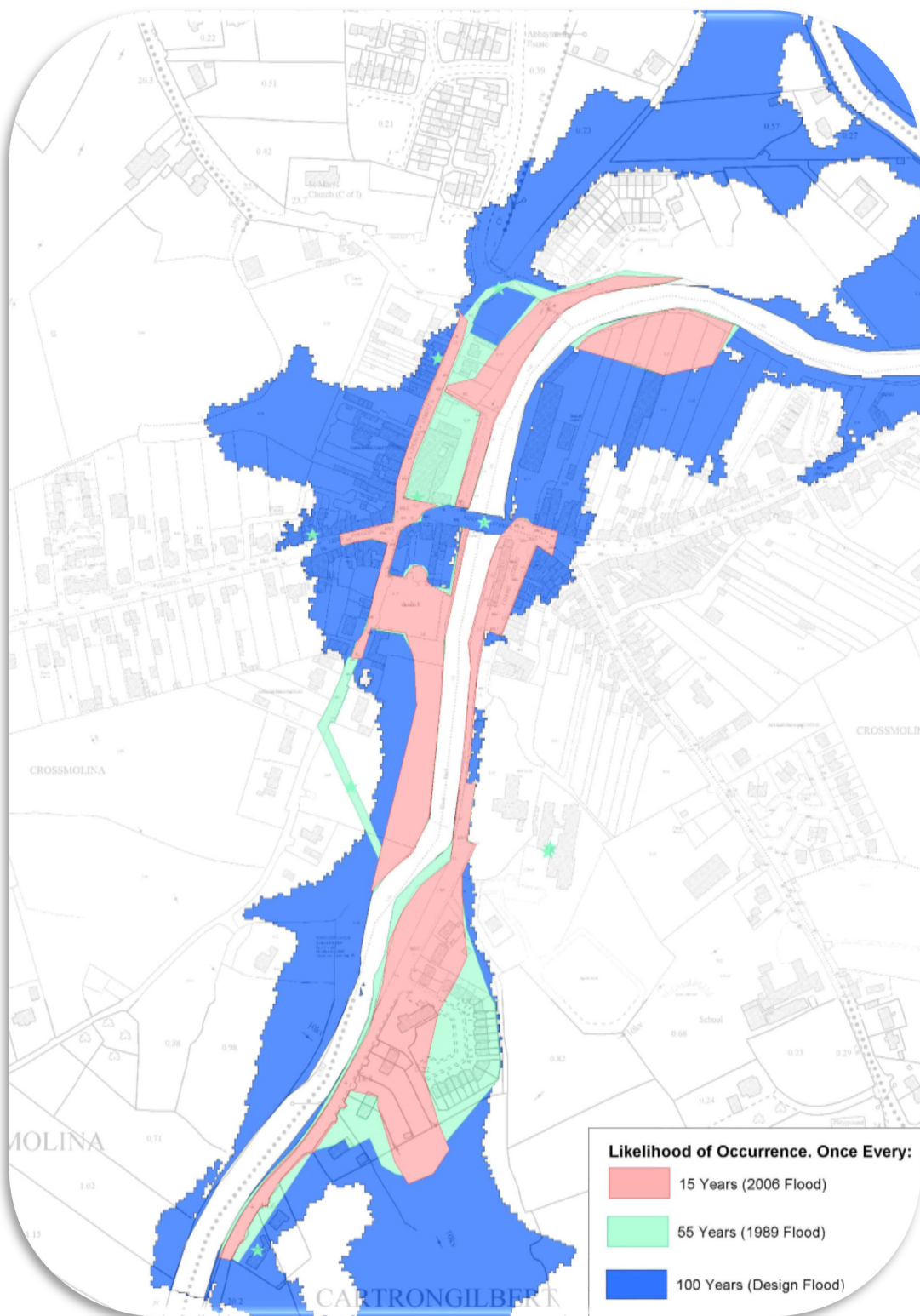


## Constraints Study

- The Constraints Study for the scheme was completed following the initial public consultation, taking into account your views.
- The purpose of a Constraints Study is to identify the key environmental issues in a study area which might be impacted by possible flood alleviation measures and/ or which may impose constraints on the viability and/ or design of these measures.
- The design constraints identified in the case of Crossmolina include the requirement to maintain traffic and pedestrian links across Jack Garrett Bridge, in addition to local amenity and angling areas. Ecological constraints include the importance of the River Deel as a Salmon fishery, the protection of the designated Special Area of Conservation (SAC) habitats and species and the population of protected Freshwater Pearl Mussel which are of high ecological importance. Other constraints include the protection of water quality and archaeological sites in the area.



# Flood Extents



# Option Development

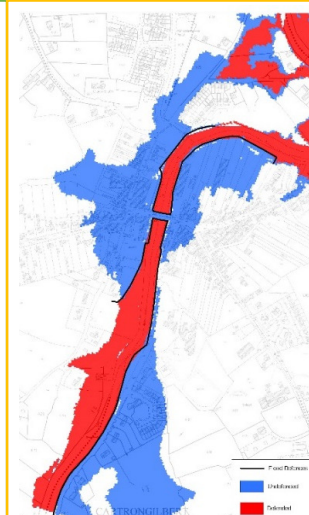
Flood Risk Management Options Considered at Preliminary Assessment

- Do Nothing
- Non-Structural Measures (e.g. flood warning system or individual property protection)
- Relocation of Properties and/or infrastructure
- Reconstruction of Properties and/or infrastructure to a higher level
- Flow Diversion (e.g. river diversion or flood flow bypass channel)
- Flow Reduction (e.g. upstream catchment management or flood storage)
- Flood Containment through Construction of Flood Defences
- Increase Conveyance of Channel (upstream and/ or through and/or downstream of the town)

Four Options Brought Forward for Detailed Assessment

- Option A:  
Flood Defences
- Option B:  
Dredging combined with defences
- Option C:  
Bridge Replacement combined with defences
- Option D: Flow Diversion

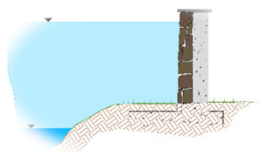
Emerging Preferred Option Identified: Option A



Options assessed using Technical, Social, Environmental & Economic Criteria



# Options Given Detailed Consideration



Option A  
Flood Defences

- Flood walls/ embankments only
- 1.47km of flood wall
- Average height 1.5m
- Raise existing bridge parapets
- Replace existing walkway
- Surface water pumping



Option B  
Dredging

- Effective only in combination with flood defences
- Removal of material from river bed (350m up to 750mm deep)
- 1.37km of flood walls
- Average height 1.2m
- Flood walls typically 400mm lower than with Option A upstream of bridge but higher downstream
- Environmental fall out
- Surface water pumping



Option C  
Bridge Replacement

- Effective only in combination with flood defences
- Replace Jack Garrett Bridge with a new single span structure
- 1.37km of flood walls
- Average height 1.3m
- Surface water pumping
- Flood walls typically 100mm - 400mm lower than with Option A upstream of bridge but higher downstream



Option D  
Diversion Channel

- Divert flow away from Crossmolina directly to Lough Conn during high flows
- 2km long channel
- Depths exceeding 10m
- Excavate > 300,000 m<sup>3</sup>
- Larger than existing river channel
- 2 new bridges and road diversions
- Similar in scale to excavation for a major road project



# Emerging Preferred Option

## Option A

450m long wall on left bank.

Height (above existing ground):

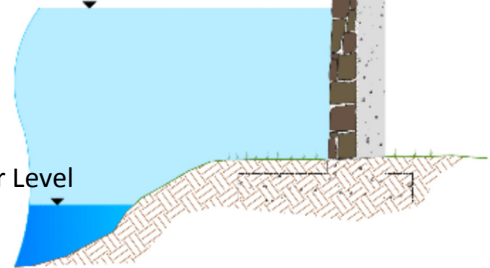
Average: 1.4m

Range: 0.5m to just over 3m

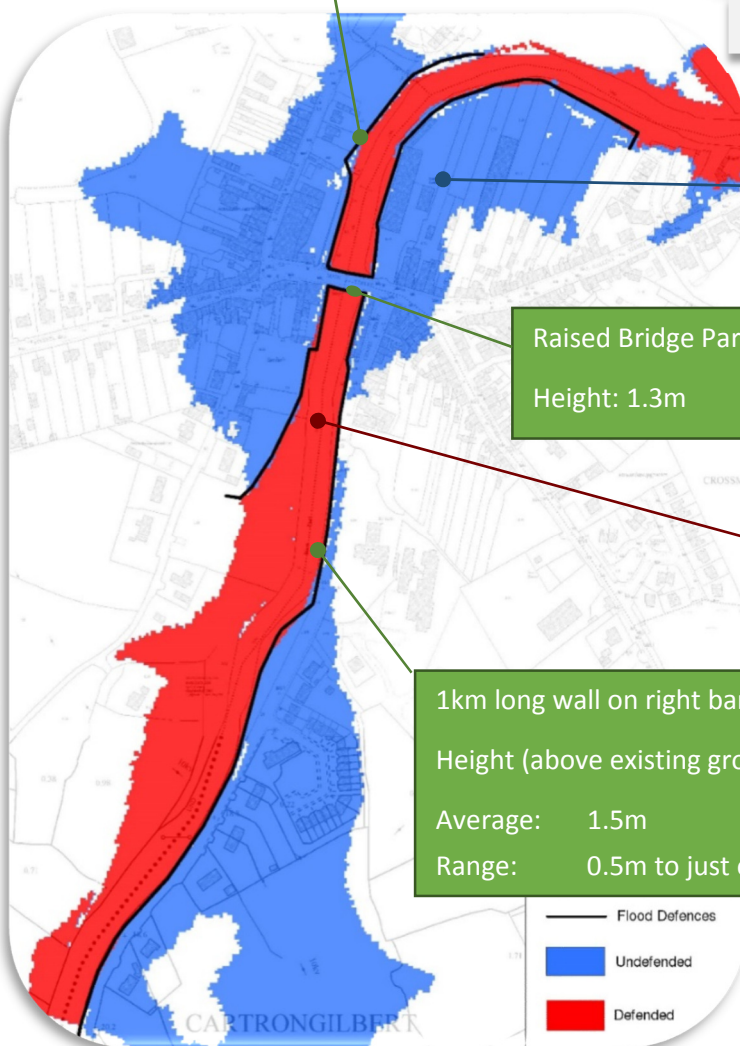
Flood Water Level

Flood Wall

Normal Water Level



Typical section through flood wall



Raised Bridge Parapets

Height: 1.3m

Area that would otherwise be inundated by flood water following a flood event that in probability would occur on average once every 100 years.

Area to which flood waters will be confined by defence walls in a flood event that in probability would occur on average once every 100 years.

1km long wall on right bank.

Height (above existing ground):

Average: 1.5m

Range: 0.5m to just over 3m

## Formal Public Exhibition Process

- Once a preferred Flood Relief Scheme has been determined and an outline design completed, the OPW will seek consent for the proposed scheme in accordance with the Arterial Drainage Act.
- This statutory process includes a four week Public Exhibition, during which the plans and particulars of the proposed scheme will be put on Public Display.
- Representatives of the Project Team will attend the Public Exhibition on various dates to explain the scheme to members of the public and to address queries.
- Copies of the EIS for the scheme will be available for sale to the public during this time.
- Members of the public will be invited to submit written observations which will be considered and responded to.
- An Exhibition Report, including all observations received will be sent to the Minister for Finance before formal approval of the Scheme.

