Location: Mullingar, Co. Westmeath		Unique ID: 250431 (from PFRA database)	
Initial OPW Designation	**APSR** ☒	**AFRR** ☐	**IRR** ☐
Co-ordinates	**Easting: 243908**	**Northing: 252942**	
River / Catchment / Sub-catchment	**River Brosna / Brosna / Shannon**		
Type of Flooding / Flood Risk (identify all that apply)	**Fluvial non-tidal** ☒ **Fluvial tidal** ☐ **Coastal** ☐		

Stage 1: Desktop Review

1.1 Flood History (include review of Floodmaps.ie)

River Flow Path

The River Brosna flows south through Mullingar. Its source is Lough Owel, just upstream of Mullingar. Land upstream of Mullingar is low lying and there are a significant number of drainage ditches collecting surface water which all flow into the Brosna upstream of Mullingar.

The Brosna flows south from Mullingar into Lough Ennel.

Flood Event Records

Nine flood records are listed in floodmaps.ie. The only dated events were in November of 1965. The Mullingar sewerage improvement scheme was implemented after this flooding in an effort to alleviate future flood risk.

1.2 Relevant information on flooding issues from OPW and LA staff

PFRA database comments *(in italics)*:

OPW comments
Flood Relief works currently in progress Designated APSR on the basis of predictive analysis. FRS

LA comments
Brosna not posing a massive risk, but elevated Royal Canal to the South of the low lying town. (150 years old).Lough Owel is the supply of the Canal.Cusack Park, CommercialResidential Dublin/SligoLocal Area OfficesAlso stormwater/pluvial issuesFeed f

Meeting / discussion summary comments:

OPW comments

- The scheme in Mullingar was completed in 2010 and alleviates flood risk to the 100 year level.
- Tony Cawley has a hydro model for Mullingar.
- There is a risk of flooding from the canal – not historic.
- In 1967 there was a flood from the royal canal when there may have been excessive flow from the supply canal.

LA comments

- Westmeath CC is looking at issues relating to potential breaches in the canal embankment.
- Westmeath CC considers there to be a flood risk from the Brosna in Mullingar.
- Previous scheme completed due to historical flood risk. Westmeath CC is not convinced that the scheme has fully alleviated the flood risk in Mullingar.

<table>
<tr><td colspan="4">1.4 PFRA Data</td></tr>
<tr><td>1.4.1 PFRA hazard mapping</td><td colspan="3">PFRA mapping available in GIS layer: Yes ☒ No ☐
PFRA mapping included on FRR map: Yes ☒ No ☐</td></tr>
<tr><td rowspan="5">1.4.2 Summary of Principal Receptors</td><td colspan="2">Type</td><td>FRI score (if available)</td></tr>
<tr><td colspan="2">Monument_LV</td><td>22.1</td></tr>
<tr><td colspan="2">Arch_Regional</td><td>20</td></tr>
<tr><td colspan="2">Arch_Local</td><td>0.1</td></tr>
<tr><td colspan="2">Total</td><td>590.3</td></tr>
<tr><td rowspan="5">1.7 Stage 1 Evaluation</td><td>Aspect</td><td>Clearly APSR</td><td>Uncertain</td></tr>
<tr><td>Flood History (1.1)</td><td>X</td><td></td></tr>
<tr><td>OPW / LA Information (1.2)</td><td>X</td><td></td></tr>
<tr><td>PFRA Evaluation (1.4)</td><td>X</td><td></td></tr>
<tr><td>Overall Desktop Evaluation
(if any above aspect is uncertain then overall designation is uncertain)</td><td>X</td><td></td></tr>
<tr><td rowspan="2">1.8 Proposed level of assessment for Stage 2 site visits</td><td colspan="2">Level A Site Visit</td><td></td></tr>
<tr><td colspan="2">Level B Site Visit</td><td>X</td></tr>
</table>

Stage 2: Site Inspection	Level B Assessment
Date and Time of Inspection	**Date:13/04/11** **Time:09:00**
Names of inspection team (including OPW/LA staff if present)	**Peter Smyth** **James Murray**

2.3 Local knowledge - on-site comments **(OPW, LA and any info volunteered by local residents during visit)**	No on-site comments.
2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes	There are several hydraulic constrictions through Mullingar and the area will require significant investigation and ground proofing of hydraulic models to ensure these constraints are considered correctly. One significant area noted is in the centre of Mullingar where the Brosna is split. The main river channel is culverted through a park area near the school. The culvert has an overflow off it's right wall to allow water to flow through a man made channel which acts as a water feature for the adjacent hotel. The culvert discharges downstream of the hotel where the channel rejoins with the Brosna.

2.6 Defence Assets

Formal and Informal Flood Defence Assets
(include effective and ineffective assets to inform asset survey and potential mitigation measures)

Open Channel Watercourses
Man-made river channel ☒ Flood relief channel ☐ Canal ☒
Mill leat ☐ Drainage channels / back drains ☒

Bridges and Culvert crossings
Single Arch bridge ☒ Multi-Arch bridge ☐
Single Span bridge ☒ Multi-Span bridge ☐
Box culvert(s) ☒ Pipe culvert(s) ☐ Arch Culvert(s) ☐

Culverted Watercourses (culvert length is greater than just a crossing)
Box culvert(s) ☒ Pipe culvert(s) ☐ Arch Culvert(s) ☐ Irregular Culvert(s) ☐

Walls and Embankments
Embankment(s) ☐ Raised wall(s) ☒ Retaining wall(s) ☐

Control Structures – weirs, gates, dams
Fixed crest weir ☐ Adjustable weir ☐ Dam / Barrage ☐
Sluice gates ☐ Lock gates ☐ Radial gates ☐

Storage
On-line storage (natural) ☐ On-line storage (artificial) ☐ Off-line storage ☐

Outfalls
Flapped outfall(s) into watercourse ☐ Unflapped outfall(s) into watercourse ☐
i.e. from smaller watercourses, drains etc. into river / estuary / sea
Tidal flap(s) ☐ Tidal sluice(s) ☐

	i.e. from main watercourse into estuary / sea **Other** Pumping Station ☐ Erosion Protection ☐ Sand Dunes ☐ **Additional notes (if required):**
2.8 Initial Potential Mitigation Measures	
Non-structural measures	Planning and Development control ☒ Sustainable Urban Drainage Systems ☒ Flood forecasting / warning ☐ Change in Operating Procedures for water level control: ☐ Public awareness campaign ☒ Individual property protection ☒ Land use management ☒
Structural measures	**Strategic development management for floodplain development:** ☒ *(integration of measures into strategic development proposals)* **Storage:** On-line ☐ Off-line ☒ **Flow diversion:** Flood relief channel ☐ Flood relief culvert ☐ **Increase conveyance:** Bridge works ☐ Channel works ☐ Floodplain ☐ **Flood defences:** Walls ☒ Embankments ☒ **Localised works:** Defence raising ☐ In-fill gaps ☒ Trash screen ☐ **Maintenance works:** Culvert / channel clearance ☒ Asset maintenance ☒ **Relocation of properties:** ☐ **Improve existing defences:** ☐ **(describe)** **Other (describe):**

Outcomes	
Recommended Designation	**APSR** ☒ **not an APSR** ☐ **IRR** ☐
Summary Comments (if required)	Mullingar has a history of flooding. The PFRA mapping predicts an ongoing significant flood risk with this conclusion supported by both the Local Authority and the OPW. Mullingar was confirmed as an APSR following a desk based assessment, with no on-site verification required.

Photo1: Screen on the River Brosna upstream of Mullingar town centre, looking downstream.

Photo 2: River Brosna downstream of Mullingar town centre, looking upstream.

Photo 3: River Brosna upstream of Council office in Mullingar, looking downstream.

Photo 4: River Brosna downstream of Mullingar in area earmarked for industrial development, looking downstream.