

Location: Mullingar, Co. Westmeath		Unique ID: 250431 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
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 <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/>		

Stage 1: Desktop Review	
1.1 Flood History (include review of Floodmaps.ie)	River Flow Path <p>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.</p> <p>The Brosna flows south from Mullingar into Lough Ennel.</p> Flood Event Records <p>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.</p>
1.2 Relevant information on flooding issues from OPW and LA staff	PFRA database comments (<i>in italics</i>): OPW comments <i>Flood Relief works currently in progress Designated APSR on the basis of predictive analysis. FRS</i> LA comments <i>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, Commercial/Residential Dublin/Sligo Local Area Offices Also stormwater/pluvial issues Feed f</i> Meeting / discussion summary comments: OPW comments <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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.

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

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	<p>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.</p> <p>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.</p>		
2.6 Defence Assets			
Formal and Informal Flood Defence Assets <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	Open Channel Watercourses		
	Man-made river channel <input checked="" type="checkbox"/>	Flood relief channel <input type="checkbox"/>	Canal <input checked="" type="checkbox"/>
	Mill leat <input type="checkbox"/>	Drainage channels / back drains <input checked="" type="checkbox"/>	
	Bridges and Culvert crossings		
	Single Arch bridge <input checked="" type="checkbox"/>	Multi-Arch bridge <input type="checkbox"/>	
	Single Span bridge <input checked="" type="checkbox"/>	Multi-Span bridge <input type="checkbox"/>	
	Box culvert(s) <input checked="" type="checkbox"/>	Pipe culvert(s) <input type="checkbox"/>	Arch Culvert(s) <input type="checkbox"/>
	Culverted Watercourses (culvert length is greater than just a crossing)		
	Box culvert(s) <input checked="" type="checkbox"/>	Pipe culvert(s) <input type="checkbox"/>	Arch Culvert(s) <input type="checkbox"/> Irregular Culvert(s) <input type="checkbox"/>
	Walls and Embankments		
	Embankment(s) <input type="checkbox"/>	Raised wall(s) <input checked="" type="checkbox"/>	Retaining wall(s) <input type="checkbox"/>
	Control Structures – weirs, gates, dams		
Fixed crest weir <input type="checkbox"/>	Adjustable weir <input type="checkbox"/>	Dam / Barrage <input type="checkbox"/>	
Sluice gates <input type="checkbox"/>	Lock gates <input type="checkbox"/>	Radial gates <input type="checkbox"/>	
Storage			
On-line storage (natural) <input type="checkbox"/>	On-line storage (artificial) <input type="checkbox"/>	Off-line storage <input type="checkbox"/>	
Outfalls			
Flapped outfall(s) into watercourse <input type="checkbox"/> Unflapped outfall(s) into watercourse <input type="checkbox"/> <i>i.e. from smaller watercourses, drains etc. into river / estuary / sea</i>			
Tidal flap(s) <input type="checkbox"/> Tidal sluice(s) <input type="checkbox"/>			

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

Outcomes	
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>
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.



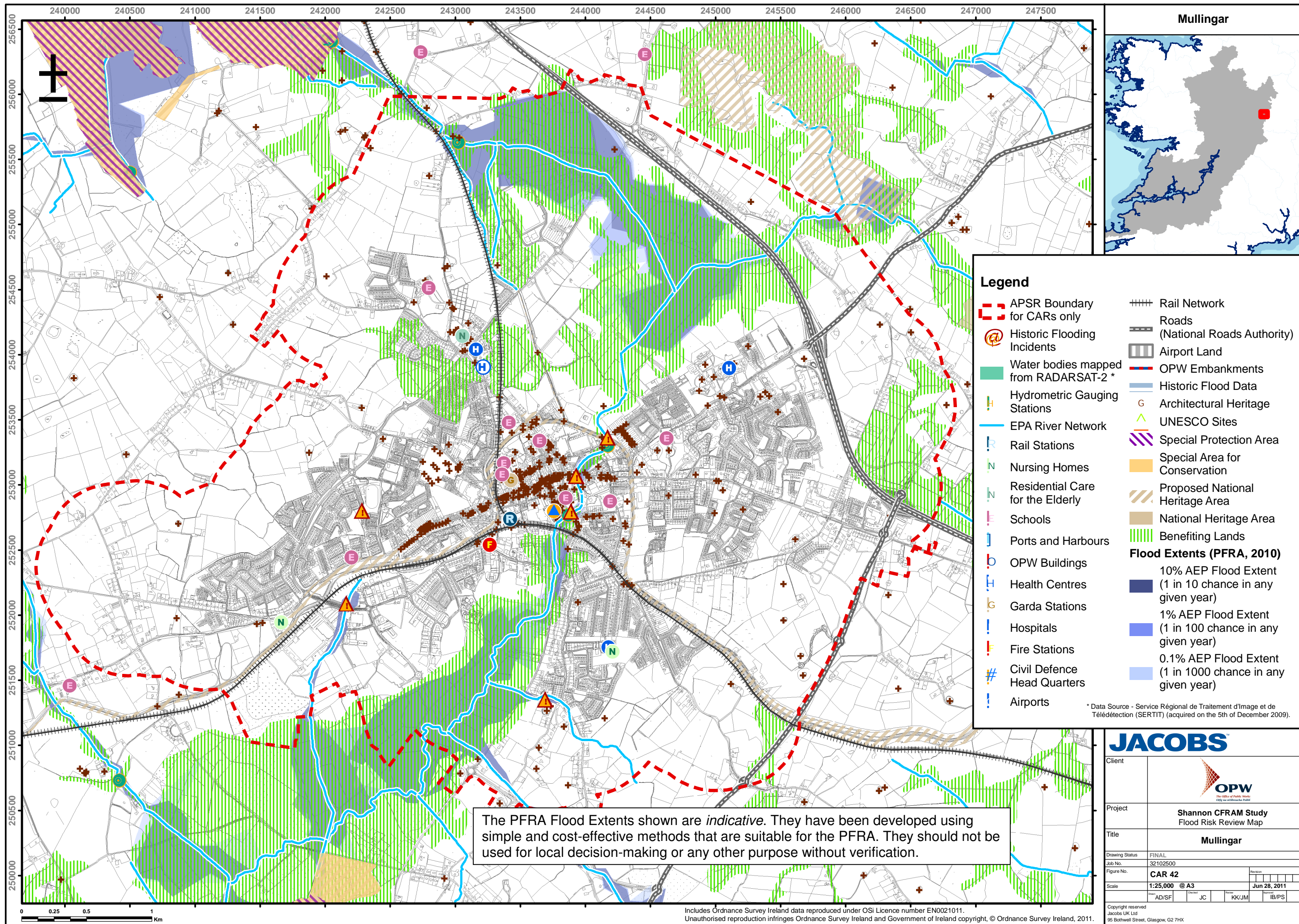
Photo 2: River Brosna downstream of Mullingar town centre, looking upstream.




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.



JACOBS	
Client	
Project	Shannon CFRAM Study Flood Risk Review Map
Title	Mullingar
Drawing Status	FINAL
Job No.	32102500
Figure No.	CAR 42
Scale	1:25,000 @ A3
Drawn	AD/SF
Checked	JC
Reviewed	KK/JM
Approved	IB/PS
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