

Location: Cloondara, Co. Longford		Unique ID: 263472 (from PFRA database)	
Initial OPW Designation	APSR <input type="checkbox"/>	AFRR <input checked="" type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 206,689	Northing: 276,781	
River / Catchment / Sub-catchment	Camlin River / 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	
<p>1.1 Flood History (include review of Floodmaps.ie)</p>	<p>River Flow Path The River Camlin flows through Cloondara which is located near to the river's confluence with the River Shannon. Cloondara is also the location where the Grand Canal terminates.</p> <p>Due to the convergence of numerous waterways and associated tributaries in a relatively localised area, there are a number of bridge crossing and under-road culverts present. The N5 is the major road infrastructure that passes near to the village centre.</p> <p>Flood Event Records Two flood events are recorded on floodmaps.ie in the vicinity of Cloondara village. These events occurred in 1954 and 1999/2000. In 1954, flooding was recorded both as a result of fluvial flooding from the River Camlin (immediately upstream, and possibly impacting on the village) and the River Shannon (to the west of the village). In 1999/2000, flooding was limited to an area to the west of the village, resulting from fluvial flooding from the River Shannon.</p>
<p>1.2 Relevant information on flooding issues from OPW and LA staff</p>	<p>PFRA database comments (<i>in italics</i>):</p> <p>OPW comments <i>Local knowledge indicates potentially significant risk, but this is not supported by the predictive or historic assessments. It is not deemed appropriate to define this area as being at potentially significant risk at this time</i></p> <p>LA comments <i>Flooded 2009 – Houses Flooded – Twelve houses evacuated Regular agricultural land flooded also. Want to ensure that this area is considered when Longford Town is looked at as complex flood issues in this area which could be affected by any works carried out to alleviate Longford.</i></p> <p>Meeting / discussion summary comments:</p> <p>OPW comments</p> <ul style="list-style-type: none"> • The apartments in the converted mill and the adjacent housing estate are at risk of flooding. • The Shannon is the main flood risk issue. <p>LA comments</p> <ul style="list-style-type: none"> • River Camlin bifurcates upstream, leading to 2 points of confluence with the River Shannon. • Longford CoCo have photos of the 2005 flood at the mill, will provide. • The weir is needed for Waterways Ireland to maintain navigation to the harbour.

	<ul style="list-style-type: none"> • IFA consider that the weir is not needed, and that its removal would solve any flooding issues here. They consider that any controls should be at the same level to maintain flow at low flows on both branches. • Flooding came up to main road bridge from the Shannon in November 2009 • Flood waters from upstream would be affected by Shannon flood levels, backing up along the Camlin past the N5 road bridge and along the River Fallin. • The main risk of flooding is from the Shannon • The property upstream of the N5 on right bank is potentially at risk. • The apartments downstream of the minor road bridge, on the former mill site (right bank) are at risk of flooding. 						
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	<table border="1"> <thead> <tr> <th data-bbox="502 887 1082 898">Type</th> <th data-bbox="1082 887 1450 898">FRI score (if available)</th> </tr> </thead> <tbody> <tr> <td data-bbox="502 898 1082 1357"> Receptors not considered as part of the PFRA process. FRI score not calculated in PFRA. </td> <td data-bbox="1082 898 1450 1357"></td> </tr> </tbody> </table>	Type	FRI score (if available)	Receptors not considered as part of the PFRA process. FRI score not calculated in PFRA.			
Type	FRI score (if available)						
Receptors not considered as part of the PFRA process. FRI score not calculated in PFRA.							
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	X					
	Level B Site Visit						

Stage 2: Site Inspection		Level A Assessment		
Date and Time of Inspection		Date: 18/05/11		
		Time: 09:00		
Names of inspection team (including OPW/LA staff if present)		Alan Dew		
		Peter Smyth		
		James Murray		
2.1 Ground-truthing of Hazard Mapping	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> Not available <input type="checkbox"/>			
	PFRA mapping underestimates flood risk from the River Camlin upstream of the N5 and also downstream of the village from the Shannon.			
2.2 Spot check ground-truthing of selected receptor vulnerability (also note any key receptors noted during visit that are not identified by PFRA)	Receptor Type	Location description (if not obvious)	Exists?	Overall Vulnerability / Risk (L / M / H)
	Residential properties	Mill development and adjacent housing estate	Yes	M
	WWTW	Downstream of mill development	Yes	M
	Road	Main road	Yes	L
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>N5 road bridge at raised embankment level providing a constraint to any out-of-bank flows upstream of the N5.</p> <p>Weir control structure between mill race and new cut river downstream of N5 bridge.</p> <p>Wall between mill race and new cut river at upstream side of bridge upstream of old mill allows some water through and may act as a weir at times of high flow</p> <p>Royal Canal basin at higher level than River Camlin and is considered, along with adjacent properties, not to be at risk.</p>			

2.5 SVRS Assessment Matrix												
Weightings: A - x1 - reasonable expectation of flooding B - x2 - high expectation of flooding C - x5 - risk to life												
Approx. Number	1 to 4			5 to 20			>20					
Weighting	A	B	C	A	B	C	A	B	C			
Property (domestic)	10				100	X			200			
Property (small retail or business)	20				200				400			
Property (large retail or business)	50				500				1000			
Road or Rail Infrastructure	30	X			300				600			
Critical Infrastructure (local) [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50	X			500				1000			
Critical Infrastructure (national importance)	250				1000				2000			
Cultural Heritage Site	20				200				400			
Environmental Designated Site	20				200				400			
Hazardous Substances Site	50				500				1000			
Total SVRS								180				
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 checked="" type="checkbox"/> Drainage channels / back drains <input type="checkbox"/>											
	Bridges and Culvert crossings Single Arch bridge <input type="checkbox"/> Multi-Arch bridge <input checked="" type="checkbox"/> Single Span bridge <input checked="" type="checkbox"/> Multi-Span bridge <input type="checkbox"/> Box culvert(s) <input 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 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 checked="" type="checkbox"/> Raised wall(s) <input type="checkbox"/> Retaining wall(s) <input type="checkbox"/>											
	Control Structures – weirs, gates, dams Fixed crest weir <input checked="" 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 checked="" 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>											

	<p>Other</p> <p>Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/></p> <p>Additional notes (if required):</p>
2.8 Initial Potential Mitigation Measures	
Non-structural measures	<p>Planning and Development control <input checked="" type="checkbox"/></p> <p>Sustainable Urban Drainage Systems <input type="checkbox"/></p> <p>Flood forecasting / warning <input type="checkbox"/></p> <p>Change in Operating Procedures for water level control: <input checked="" type="checkbox"/></p> <p>Public awareness campaign <input checked="" type="checkbox"/></p> <p>Individual property protection <input type="checkbox"/></p> <p>Land use management <input type="checkbox"/></p>
Structural measures	<p>Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i></p> <p>Storage: On-line <input checked="" type="checkbox"/> Off-line <input type="checkbox"/></p> <p>Flow diversion: Flood relief channel <input type="checkbox"/> Flood relief culvert <input type="checkbox"/></p> <p>Increase conveyance: Bridge works <input type="checkbox"/> Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/></p> <p>Flood defences: Walls <input checked="" type="checkbox"/> Embankments <input checked="" type="checkbox"/></p> <p>Localised works: Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/></p> <p>Maintenance works: Culvert / channel clearance <input type="checkbox"/> Asset maintenance <input type="checkbox"/></p> <p>Relocation of properties: <input type="checkbox"/></p> <p>Improve existing defences: <input type="checkbox"/> (describe)</p> <p>Other (describe): Works to weir control structure to alter levels. Also amendments to control structures on Shannon, in particular at Termonbarry, could prevent flood waters from Shannon threatening Cloondara.</p>

Outcomes				
PFRA Designation	APSR <input type="checkbox"/> not an APSR <input checked="" type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: Not scored	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
			X	
Site Visit Review Score	180			
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	<p>It is noted that Cloondara did not flood during the November 2009 event. However there is significant flood risk from both the Shannon and Camlin Rivers, in particular to the recent development and WWTW downstream of the main road bridge through the village.</p> <p>The reasons for the recommendation of Cloondara as an APSR are as follows:</p> <ul style="list-style-type: none"> • Cloondara has a history of flooding; • The Local Authority and OPW have evidence that a recently constructed development is at risk of flooding; and • There are sufficient critical receptors at significant risk of fluvial flooding. 			



Photo 1: N5 road bridge over River Camlin upstream of village viewed from upstream right bank.



Photo 2: River Camlin / Mill Race weir upstream of old mill.



Photo 3: Former mill buildings and minor road bridge, viewed from the upstream left bank.



Photo 4: Recent development downstream of the former mill buildings, viewed from a bridge over the Mill Race, looking upstream.

