

<b>Location: Carrick on Shannon, Co. Leitrim / Cortober Co. Roscommon</b>		<b>Unique ID: 260455</b> (from PFRA database)	
<b>Initial OPW Designation</b>	<b>APSR</b> <input checked="" type="checkbox"/>	<b>AFRR</b> <input type="checkbox"/>	<b>IRR</b> <input type="checkbox"/>
<b>Co-ordinates</b>	<b>Easting: 193796</b>	<b>Northing: 299561</b>	
<b>River / Catchment / Sub-catchment</b>	<b>River Shannon / Shannon</b>		
<b>Type of Flooding / Flood Risk</b> (identify all that apply)	<b>Fluvial non-tidal</b> <input checked="" type="checkbox"/> <b>Fluvial tidal</b> <input type="checkbox"/> <b>Coastal</b> <input type="checkbox"/>		

<b>Stage 1: Desktop Review</b>	
<p><b>1.1 Flood History (include review of Floodmaps.ie)</b></p>	<p><b>River Flow Path</b></p> <p>The River Shannon flows through Carrick on Shannon on the left bank and Cortober on the right bank. Many small tributaries to the River Shannon are located within the Carrick on Shannon / Cortober town boundary.</p> <p>The River Shannon is crossed by the N4 Sligo Road just south of the town centre. Several tributaries to the River Shannon are located within the Carrick on Shannon/Cortober town boundaries, which are crossed at various locations.</p> <p>Cortober in County Roscommon is considered as part of the Carrick on Shannon study area.</p> <p><b>Flood Event Records</b></p> <p>Seven flood records are listed in floodmaps.ie. These events include events in 1954 and 1999 detailing flooding from the Shannon.</p>
<p><b>1.2 Relevant information on flooding issues from OPW and LA staff</b></p>	<p><b>PFRA database comments (<i>in italics</i>):</b></p> <p><b>OPW comments</b> <i>Designated APSR on the basis of predictive analysis and LA comments. Combine with Cortober. Approved – APSR</i></p> <p><b>LA comments</b> <i>Flooding here affects commercial properties, limited residential properties as the residential properties affected here tend to be built in past 10 years and the finished floor level was thus specified to be above the 0.1% AEP flood level. Parts of Flood risk mapping, strategic drainage areas &amp; blocked roads provided by LA. Foul sewer pumping stations &amp; water treatment plant under threat, R280 closed (20/11/09), N4 flooded and kept open by pumping. Cortober (Roscommon) worst affected area.</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>• Not all Shannon floodplain-related flooding; e.g. Park Lane where water passing along a former river channel didn't reach the Shannon.</li> <li>• Cortober is severely affected by flooding. Newer buildings don't flood, but their access roads do. SuperValu is known to have flooded.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>• Water intake for public water supply to 18-20,000 people in South Leitrim (9000m<sup>3</sup> per day). Wasn't flooded in 2009, but was only "2</li> </ul>

	<p>inches (50mm) off". Had to provide alternative intake.</p> <ul style="list-style-type: none"> <li>• Doctors surgery was cut off</li> <li>• Cryan's hotel was flooded. The hotel was built to a lower Final Floor Level, contrary to planning recommendations. These were adopted just prior to Nov 09 event.</li> <li>• Cinema, medical centre and SuperValu affected.</li> <li>• Roads to north of town centre cut off.</li> <li>• Tesco planning application included Flood Risk Assessment. Tesco was constructed on stilts and did not flood in the 2009 event.</li> </ul>		
<b>1.4 PFRA Data</b>			
<b>1.4.1 PFRA hazard mapping</b>	<b>PFRA mapping available in GIS layer:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	<b>PFRA mapping included on FRR map:</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>1.4.2 Summary of Principal Receptors</b>	<b>Type</b>	<b>FRI score (if available)</b>	
	Fire Station	250	
	Civil Defence	25	
	Arch_Local_	10	
	Arch_Regional_	31.1	
	Monument_LV	20	
	<b>Total</b>	<b>1434.55</b>	
<b>1.7 Stage 1 Evaluation</b>	<b>Aspect</b>	<b>Clearly APSR</b>	<b>Uncertain</b>
	<b>Flood History (1.1)</b>	<b>X</b>	
	<b>OPW / LA Information (1.2)</b>	<b>X</b>	
	<b>PFRA Evaluation (1.4)</b>	<b>X</b>	
	<b>Overall Desktop Evaluation</b> (if any above aspect is uncertain then overall designation is uncertain)	<b>X</b>	
<b>1.8 Proposed level of assessment for Stage 2 site visits</b>	<b>Level A Site Visit</b>		
	<b>Level B Site Visit</b>	<b>X</b>	

<b>Stage 2: Site Inspection</b>		<b>Level B Assessment</b>	
<b>Date and Time of Inspection</b>		<b>Date: 27/04/11</b>	
		<b>Time: 10:00</b>	
<b>Names of inspection team (including OPW/LA staff if present)</b>		<b>Mathieu Valois</b>	
		<b>James Murray</b>	
<b>2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)</b>	No on-site comments		
<b>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</b>	<p>The N4 crossing of the Shannon is a brick arch bridge comprised of five arches in bank and one additional relief arch. The bridge has a high spring and soffit level with good conveyance capacity. When considering the magnitude of flooding from the Shannon it is likely that the bridge acts as a constriction to flow in extreme events.</p> <p>There are several other bridges and culverts on the tributaries to the Shannon on both left and right banks. The tributary on the right bank near the fire station is culverted for a long distance under a rugby pitch. The inlet to the culvert is within 200m of the fire station.</p>		
<b>2.6 Defence Assets</b>			
<b>Formal and Informal Flood Defence Assets</b> <i>(include effective and ineffective assets to inform asset survey and potential mitigation measures)</i>	<b>Open Channel Watercourses</b>		
	Man-made river channel <input type="checkbox"/>	Flood relief channel <input type="checkbox"/>	Canal <input type="checkbox"/>
	Mill leat <input type="checkbox"/>	Drainage channels / back drains <input checked="" type="checkbox"/>	
	<b>Bridges and Culvert crossings</b>		
	Single Arch bridge <input type="checkbox"/>	Multi-Arch bridge <input checked="" type="checkbox"/>	
	Single Span bridge <input type="checkbox"/>	Multi-Span bridge <input type="checkbox"/>	
	Box culvert(s) <input checked="" type="checkbox"/>	Pipe culvert(s) <input checked="" type="checkbox"/>	Arch Culvert(s) <input type="checkbox"/>
	<b>Culverted Watercourses</b> (culvert length is greater than just a crossing)		
	Box culvert(s) <input type="checkbox"/>	Pipe culvert(s) <input checked="" type="checkbox"/>	Arch Culvert(s) <input type="checkbox"/>
			Irregular Culvert(s) <input type="checkbox"/>
	<b>Walls and Embankments</b>		
	Embankment(s) <input type="checkbox"/>	Raised wall(s) <input type="checkbox"/>	Retaining wall(s) <input type="checkbox"/>
	<b>Control Structures – weirs, gates, dams</b>		
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"/>	
<b>Storage</b>			
On-line storage (natural) <input type="checkbox"/>	On-line storage (artificial) <input type="checkbox"/>	Off-line storage <input type="checkbox"/>	
<b>Outfalls</b>			
Flapped outfall(s) into watercourse <input type="checkbox"/>		Unflapped outfall(s) into watercourse <input checked="" 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>	
	<b>Other</b>	
	Pumping Station <input type="checkbox"/>	Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/>
	<b>Additional notes (if required):</b>	
<b>2.8 Initial Potential Mitigation Measures</b>		
<b>Non-structural measures</b>	Planning and Development control	<input checked="" type="checkbox"/>
	Sustainable Urban Drainage Systems	<input type="checkbox"/>
	Flood forecasting / warning	<input checked="" type="checkbox"/>
	Change in Operating Procedures for water level control:	<input checked="" type="checkbox"/>
	Public awareness campaign	<input checked="" type="checkbox"/>
	Individual property protection	<input checked="" type="checkbox"/>
	Land use management	<input checked="" type="checkbox"/>
<b>Structural measures</b>	<b>Strategic development management for floodplain development:</b> <input checked="" type="checkbox"/> <i>(integration of measures into strategic development proposals)</i>	
	<b>Storage:</b> On-line <input checked="" type="checkbox"/>	Off-line <input type="checkbox"/>
	<b>Flow diversion:</b> Flood relief channel <input type="checkbox"/>	Flood relief culvert <input type="checkbox"/>
	<b>Increase conveyance:</b> Bridge works <input type="checkbox"/>	Channel works <input type="checkbox"/> Floodplain <input type="checkbox"/>
	<b>Flood defences:</b> Walls <input type="checkbox"/>	Embankments <input type="checkbox"/>
	<b>Localised works:</b> Defence raising <input type="checkbox"/>	In-fill gaps <input type="checkbox"/> Trash screen <input type="checkbox"/>
	<b>Maintenance works:</b> Culvert / channel clearance <input checked="" type="checkbox"/>	Asset maintenance <input checked="" type="checkbox"/>
	<b>Relocation of properties:</b>	<input checked="" type="checkbox"/>
	<b>Improve existing defences:</b>	<input type="checkbox"/> (describe)
	<b>Other (describe):</b>	

<b>Outcomes</b>		
<b>Recommended Designation</b>	APSR <input checked="" type="checkbox"/>	not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>
<b>Summary Comments (if required)</b>	Carrick on Shannon / Cortober 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. Carrick on Shannon / Cortober was confirmed as an APSR following a desk based assessment with no on-site verification required.	



**Photo1:** Shannon at Carrick on Shannon, looking upstream



**Photo 2:** Upstream face of bridge over the Shannon at Carrick on Shannon



**Photo 3:** Downstream face of bridge over the Shannon at Carrick on Shannon



**Photo 4:** Tributary to the Shannon at Carrick on Shannon

