

<b>Location: Cloonlara, Co. Clare</b>		<b>Unique ID: 252918</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: 162,500</b>	<b>Northing: 163,650</b>	
<b>River / Catchment / Sub-catchment</b>	<b>Ardnacrusha Head Race</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>	
<b>1.1 Flood History (include review of Floodmaps.ie)</b>	<p><b>River Flow Path</b> The Ardnacrusha Head Race flows along the north-western boundary of the village. Large earth embankments are present along both banks of the Head Race throughout.</p> <p>The Head Race is crossed by Cloonomra Road and the tributary to the south of the village is crossed by an un-named road that leads to Cloonlara Village.</p> <p>A smaller canal also runs from north-east to south-west to the immediate east of the village, passing beneath Cloonomra Road.</p> <p><b>Flood Event Records</b> There are no flood event records on floodmaps.ie within or immediately adjacent to the village. There are records of flood events in 1954, 1990, 2004, 2006 and 2009 at Springfield, approximately 1.00 km south of the village, associated with flooding from the River Shannon.</p>
<b>1.2 Relevant information on flooding issues from OPW and LA staff</b>	<p><b>PFRA database comments (<i>in italics</i>):</b></p> <p><b>OPW comments</b> <i>High OPW severity - no supporting comment. No other evidence of risk. Not an APSR To be included as APSR post-contract award</i></p> <p><b>LA comments</b> <i>None.</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>• Similar flooding risks to those upstream at O'Brien's Bridge.</li> <li>• OPW are aware of more significant issues at Springfield, southeast of Cloonlara.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>• Waterways Ireland have commissioned an Inundation study for the area.</li> <li>• Mentioned Springfield as a potential area at risk, as this has flooded in the past affecting 40-50 properties.</li> <li>• Regarded as a potential APSR.</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>
	Receptors not considered as part of the PFRA process.  FRI score not calculated in PFRA.		
<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>X</b>
	<b>Level B Site Visit</b>		

<b>Stage 2: Site Inspection</b>		<b>Level A Assessment</b>		
<b>Date and Time of Inspection</b>		<b>Date: 08/06/11</b>		
		<b>Time: 12:30</b>		
<b>Names of inspection team (including OPW/LA staff if present)</b>		<b>Alan Dew</b>		
		<b>Peter Smyth</b>		
		<b>Clare Butler</b>		
		<b>Conor Galvin</b>		
		<b>Michael Conroy</b>		
<b>2.1 Ground-truthing of Hazard Mapping</b>	<b>Fluvial non-tidal</b> <input type="checkbox"/> <b>Fluvial tidal</b> <input type="checkbox"/> <b>Coastal</b> <input type="checkbox"/> <b>Not available</b> <input type="checkbox"/>			
	PFRA hazard mapping appears accurate in the vicinity of the village. Flood risk from the Head Race is constrained by embankments on both banks. Head Race levels are controlled by Parteen Weir, so overtopping of embankments not feasible. Flood risk limited to breach of embankments rather than overtopping.			
<b>2.2 Spot check ground-truthing of selected receptor vulnerability</b>  <b>(also note any key receptors noted during visit that are not identified by PFRA)</b>	<b>Receptor Type</b>	<b>Location description (if not obvious)</b>	<b>Exists?</b>	<b>Overall Vulnerability / Risk (L / M / H)</b>
	No receptors at risk from fluvial flooding.			
<b>2.3 Local knowledge - on-site comments</b>  <b>(OPW, LA and any info volunteered by local residents during visit)</b>	No flooding to Cloonlara village during November 2009. It would appear that the nearest flood risk was at Springfield, which is situated approximately 1km from Cloonlara.			
<b>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</b>	No constraint to flow is presented by Head Race bridge.			

## 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				200			
Property (small retail or business)	20				200				400			
Property (large retail or business)	50				500				1000			
Road or Rail Infrastructure	30				300				600			
Critical Infrastructure (local) [hospital, school, police/fire/ambulance station, substation, WTW/WWTW, gov bldg, other (specify)]	50				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			
<b>Total SVRS</b>									<b>0</b>			

## 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

	<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 type="checkbox"/> Sustainable Urban Drainage Systems <input type="checkbox"/> Flood forecasting / warning <input type="checkbox"/> Change in Operating Procedures for water level control: <input type="checkbox"/> Public awareness campaign <input type="checkbox"/> Individual property protection <input type="checkbox"/> Land use management <input type="checkbox"/>
<b>Structural measures</b>	<b>Strategic development management for floodplain development:</b> <input 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 checked="" 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 type="checkbox"/> Asset maintenance <input type="checkbox"/> <b>Relocation of properties:</b> <input type="checkbox"/> <b>Improve existing defences:</b> <input type="checkbox"/> (describe)  <b>Other (describe):</b>

<b>Outcomes</b>				
<b>PFRA Designation</b>	<b>APSR</b> <input checked="" type="checkbox"/> <b>not an APSR</b> <input type="checkbox"/> <b>IRR</b> <input type="checkbox"/>		<b>FRI Score:</b> Not scored	
<b>Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)</b>	<b>High Confidence (good)</b>	<b>Uncertain</b>	<b>Low Confidence (poor)</b>	<b>Not available</b>
	X			
<b>Site Visit Review Score</b>				
<b>Recommended Designation</b>	<b>APSR</b> <input type="checkbox"/> <b>not an APSR</b> <input checked="" type="checkbox"/> <b>IRR</b> <input type="checkbox"/>			
<b>Summary Comments (if required)</b>	There are no receptors at risk from fluvial flooding at Cloonlara and therefore it is not recommended for designation as an APSR.  The nearest area of significant flood risk is Springfield, situated approximately 1km from Cloonlara. Springfield was extensively flooded in the November 2009 event.			

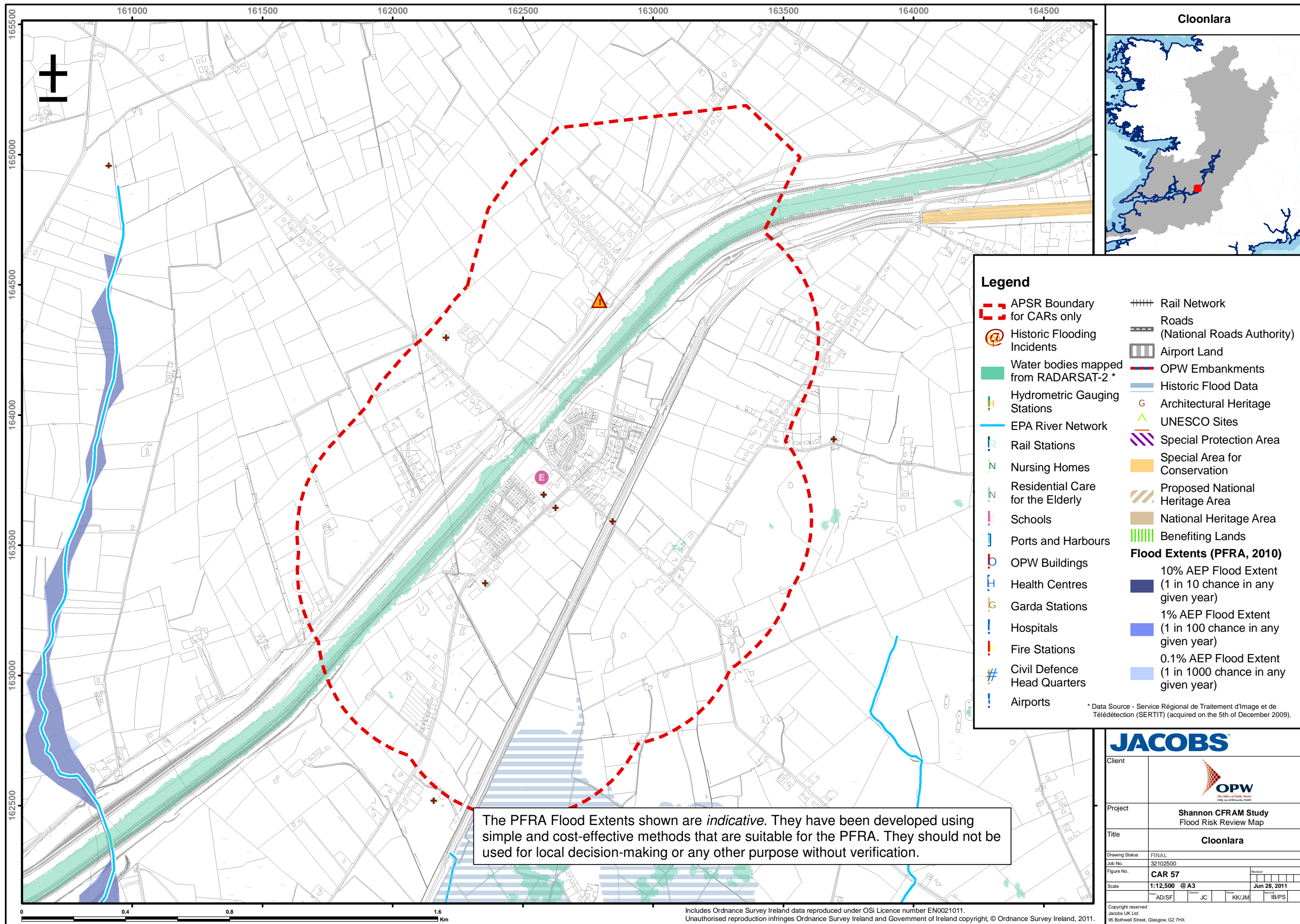


**Photo1:** Ardnacrusha Head Race looking downstream from the Cloonomra Road bridge.




**Photo 2:** Disused canal to the east of the village, looking north from the Cloonomra Road bridge.





**JACOBS**

Client			
Project	Shannon CFRAM Study Flood Risk Review Map		
Title	Cloonlara		
Drawing Status	FINAL		
Job No.	32102500		
Figure No.	CAR 57		
Scale	1:12,500 @ A3		
Drawn	AD/SF	Checked	JC
Drawn	KK/JM	Checked	IB/PS
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