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|---|--|--|-------------------------------------|
| <b>Location: Kilbeggan, Co. Westmeath</b>                         |  | <b>Unique ID: 250426</b><br>(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: 233250</b>   | <b>Northing: 235500</b>                          |                                     |
| <b>River / Catchment / Sub-catchment</b>                          |  |  |                                     |
| <b>Type of Flooding / Flood Risk</b><br>(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></p> <p>The River Brosna flows through Kilbeggan and meanders south westerly to the river's confluence with the River Shannon at Shannon Harbour.</p> <p><b>Flood Event Records</b></p> <p>Two flood records are listed in floodmaps.ie. Specific information about the events is not available; however the Area Engineers report identifies 23 areas prone to flooding in and around Kilbeggan.</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><br/><i>Designated APSR on the basis of predictive analysis and historical extents. Agree with APSR but make point that lots of extractions Predictive and some history - No wedges</i></p> <p><b>LA comments</b><br/><i>New housing estate, but outside the extent. New mixed use development at PO.Coola bridge properties – most derelict WWTW right beside river and within extent. Just off R436 – Coola Bridge could cause a hydraulic block also. Not so much of risk. River is low. If water is abstracted – River Brosna water extraction at Kirpatrick. Lough Ennell pump water out, pipe to canal. WI project / Westmeath County Council 2011</i></p> <p><b>Meeting / discussion summary comments:</b></p> <p><b>OPW comments</b></p> <ul style="list-style-type: none"> <li>• The Brosna Drainage scheme runs through Kilbeggan. There are embankments upstream of Kilbeggan that provide flood protection. There is a mill race upstream of the town at Coola Bridge which floods into the river in heavy rainfall events.</li> <li>• There is an industrial estate which may be below the level of the embankments in the village centre on the right bank. Dun Bia development downstream of the village may be at risk of flooding.</li> <li>• The mill race in the centre of the village is a tourist attraction.</li> </ul> <p><b>LA comments</b></p> <ul style="list-style-type: none"> <li>• Westmeath County Council felt there was a significant flood risk at Kilbeggan, particularly at Coola Bridge.</li> <li>• A WWTP may also be at risk.</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>         |                             |
|   | UWWTP   | 2.5                                     |                             |
|   | Arch_Regional   | 53.2                                    |                             |
|   | Arch_National   | 0.25                                    |                             |
|   | <b>Total</b>  | <b>808.25</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><br>(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>                                |                             |

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| <b>Stage 2: Site Inspection</b>   |  | <b>Level B Assessment</b>   |   |
| <b>Date and Time of Inspection</b>  |  | <b>Date:14/04/11</b>  |   |
|   |  | <b>Time: 14:00</b>  |   |
| <b>Names of inspection team (including OPW/LA staff if present)</b>   |  | <b>Peter Smyth</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>  | The OPW maintained embankments were discussed with one local. He indicated that the embankments had not been breached in the last seven years, beyond which he had no knowledge of them. He also indicated that the drainage ditches have never risen significantly and do not pose a flood risk.  |   |   |
| <b>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</b>  | <p>The single span road bridge in the centre of Kilbeggan is a major constriction to flow, this is exacerbated at the mill race upstream. However, the road level is high through the town any would act as a natural barrier to flood flows, thus protecting properties downstream of the bridge.</p> <p>The weir arrangement (at the head of the mill race) significantly controls levels upstream on the Brosna. Parallel drainage ditches are running at approximately 1.5 m lower than the main Brosna. OPW maintain earth embankments to avoid flooding of agricultural land upstream of weir.</p> |   |   |
| <b>2.6 Defence Assets</b>   |  |   |   |
| <b>Formal and Informal Flood Defence Assets</b><br><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 checked="" type="checkbox"/>   | Flood relief channel <input type="checkbox"/>                       | Canal <input type="checkbox"/>                |
|   | Mill leat <input checked="" 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 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 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 type="checkbox"/>                            | Arch Culvert(s) <input type="checkbox"/>      |
|   |  |   | Irregular Culvert(s) <input type="checkbox"/> |
|   | <b>Walls and Embankments</b>   |   |   |
|   | Embankment(s) <input checked="" type="checkbox"/>  | Raised wall(s) <input checked="" type="checkbox"/>                  | Retaining wall(s) <input type="checkbox"/>    |
|   | <b>Control Structures – weirs, gates, dams</b>   |   |   |
| 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"/>                               |   |
| <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 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>  |  |   |   |

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

|                                       |   |
|---------------------------------------|---|
| <b>Outcomes</b>                       |   |
| <b>Recommended Designation</b>        | <p>APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/></p>   |
| <b>Summary Comments (if required)</b> | <p>Kilbeggan has a long history of flooding. The PFRA mapping predicts an ongoing significant flood risk with this conclusion supported by both Local Authorities and the OPW. Kilbeggan was confirmed as an APSR following a desk based assessment, with no on-site verification required.</p> |



**Photo1:** Coola Bridge at Kilbeggan, upstream face.



**Photo 2:** Weir downstream of Coola Bridge.



**Photo 3:** Mill downstream of weir.



**Photo 4:** Bridge downstream of weir, downstream face.

