Flood Risk Review Report – UoM 25 26 Athlone V0_A

Location: Athlone, Co. Westmeath (including townland in Roscommon)
Unique ID: 260448
(from PFRA database)

Initial OPW Designation

- APSR ☒
- AFRR ☐
- IRR ☐

Co-ordinates

Easting: 205000
Northing: 239999

River / Catchment / Sub-catchment

Shannon and tributaries / Shannon

Type of Flooding / Flood Risk

- Fluvial non-tidal ☒
- Fluvial tidal ☐
- Coastal ☐

Stage 1: Desktop Review

1.1 Flood History

(include review of Floodmaps.ie)

River Flow Path

The River Shannon runs through Athlone and flows southward towards Lough Derg.

There are two main tributaries to the Shannon in Athlone. The Al River flows westerly to its confluence with the Shannon near the weir. The Cross River flows easterly to its confluence with the Shannon downstream of the weir.

Flood Event Records

Thirty flood records are listed in floodmaps.ie. The main flooding is from the River Shannon but the Al river also the cause of flooding.

1.2 Relevant information on flooding issues from OPW and LA staff

PFRA database comments (in italics):

**OPW comments**

Designated APSR on the basis of predictive analysis and historical extents. Combine with Clonown and Creggan. Flooding from Shannon and Al rivers

**LA comments**

WWTW and Waterworks at risk – Waterworks within 600mm – Nov '09
WWTW – Golden Island, underwater Nov ’09,- Risk of power-loss due to substations at the lock

Meeting / discussion summary comments:

**OPW comments**

- Athlone floods from the Shannon and has a long history of flooding
- River Al south east of town is also a cause of flooding to parts of Athlone.

**LA comments**

- There is a planning application to the east at Creggane for a large development. This site is identified as being in the flood plain of the River Al within the PFRA. Levels in the vicinity of the site are controlled by sluice gates.
- Westmeath County Council suggested a range of potential flood risk management options that should be explored for Athlone, including removal of Parteen Weir and a better control of levels within Lough Derg and Lough Ree.
### 1.4 PFRA Data

#### 1.4.1 PFRA hazard mapping
- PFRA mapping available in GIS layer: Yes ☑️ No ☐
- PFRA mapping included on FRR map: Yes ☑️ No ☐

#### 1.4.2 Summary of Principal Receptors

<table>
<thead>
<tr>
<th>Type</th>
<th>FRI score (if available)</th>
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<tbody>
<tr>
<td>Primary_School</td>
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<tr>
<td>Nursing_Home</td>
<td>25</td>
</tr>
<tr>
<td>Hospital</td>
<td>250</td>
</tr>
<tr>
<td>WTP</td>
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<tr>
<td>UWWTP</td>
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<td>Arch_Local</td>
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<td>Arch_Regional</td>
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<td>Arch_National_</td>
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</tr>
<tr>
<td>Monument_LV</td>
<td>42.1</td>
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</table>

**Total** 8141.25

#### 1.7 Stage 1 Evaluation

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Clearly APSR</th>
<th>Uncertain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood History (1.1)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>OPW / LA Information (1.2)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PFRA Evaluation (1.4)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Overall Desktop Evaluation</td>
<td>X</td>
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</tr>
</tbody>
</table>

(if any above aspect is uncertain then overall designation is uncertain)

#### 1.8 Proposed level of assessment for Stage 2 site visits

<table>
<thead>
<tr>
<th>Level A Site Visit</th>
<th>Level B Site Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
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</table>
### Stage 2: Site Inspection

<table>
<thead>
<tr>
<th>Level B Assessment</th>
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</table>
| Date and Time of Inspection | Date: 26/05/11  
     Time: 18:00 |

| 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 | There are three bridge crossings within the town centre over the river Shannon; two road and one rail.  
     The Athlone weir is at the downstream end of the town. Its span is approximately 200m. The gates controlling the levels at the weir only span 30 to 40m of this length. The ability of the sluice gates to provide any meaningful control of levels upstream of Athlone during extreme flow conditions is questionable.  
     A large section of the Al River, on it’s approach to it’s confluence with the Shannon is culverted. There are several culverts upstream which could cause a constriction to flow. |

<table>
<thead>
<tr>
<th>2.6 Defence Assets</th>
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</thead>
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| 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 |
2.8 Initial Potential Mitigation Measures

**Non-structural measures**
- Planning and Development control
- Sustainable Urban Drainage Systems
- Flood forecasting / warning
- Change in Operating Procedures for water level control:
- Public awareness campaign
- Individual property protection
- Land use management

**Structural measures**
- Strategic development management for floodplain development: (integration of measures into strategic development proposals)
- Storage: On-line ☒ Off-line
- Flow diversion: Flood relief channel ☐ Flood relief culvert ☐
- Increase conveyance: Bridge works ☐ Channel works ☒ Floodplain
- Flood defences: Walls ☒ Embankments ☐
- Localised works: Defence raising ☐ In-fill gaps ☐ Trash screen ☐
- Maintenance works: Culvert / channel clearance ☒ Asset maintenance ☐
- Relocation of properties: ☒
- Improve existing defences: ☐ (describe)

**Other (describe):**

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**Outcomes**

<table>
<thead>
<tr>
<th>Recommended Designation</th>
<th>APSR ☒</th>
<th>not an APSR ☐</th>
<th>IRR ☐</th>
</tr>
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</table>

**Summary Comments (if required)**

There are two different sources of flooding within Athlone; the Shannon and the Al River. Both of these rivers have very different hydrological characteristics.

Athlone 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. Athlone was confirmed as an APSR following a desk based assessment, with no on-site verification of this conclusion required.
Photo 1: Sluices at weir in Athlone.

Photo 2: Weir and sluices in Athlone.

Photo 3: View of Railway Bridge in Athlone.

Photo 4: View of Road Bridge in Athlone.
The PFRA Flood Extents shown are indicative. They have been developed using simple and cost-effective methods that are suitable for the PFRA. They should not be used for local decision-making or any other purpose without verification.