Location: Abbeydorney, Co. Kerry		Unique ID: 230341 (from PFRA database)	
Initial OPW Designation	**APSR** ☒	**AFRR** ☐	**IRR** ☐
Co-ordinates	**Easting: 84750**	**Northing: 123250**	
River / Catchment / Sub-catchment	**Shanow River / River Brick / Feale Catchment**		
Type of Flooding / Flood Risk (identify all that apply)	**Fluvial non-tidal** ☒ **Fluvial tidal** ☐ **Coastal** ☐		

Stage 1: Desktop Review

1.1 Flood History (include review of Floodmaps.ie)	**River Flow Path** The village and surrounding land is flat and low lying. A tributary of the Shanow River flows north, north-west through the village, and is crossed by two stone bridges. **Flood event records** There are no flood events recorded.
1.2 Relevant information on flooding issues from OPW and LA staff	**PFRA database comments *(in italics)*:** ***OPW comments*** *Just at end of feale CDS a few reports* ***LA comments*** *LA are not aware of any reason why this location is included.* *Feale 10 miles away* *Embankments* *Query including this. Recommend risk review. Some recent development* **Meeting / discussion summary comments:** **OPW comments** • On a tributary to the Feale. • Little information from OPW. • Kerry CC may have more information **LA comments** • Event on 2nd Sept 2009. 1 house flooded. • Not generally a major flooding issue in terms of properties, but flooding of road by football field is an annual event.

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	**Type**	**FRI score (if available)**
	Garda_Stations_Weighted_F_S	25
	Nursing_H_Weighted_F_S	2500
	Arch_Regional_Weighted_F_E	10
	Total	**3426.1**

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: 13/05/11** **Time: 09:00**
Names of inspection team (including OPW/LA staff if present)	**Mathieu Valois** **Kelly Kasperczyk**

2.1 Ground-truthing of Hazard Mapping

Fluvial non-tidal ☒ **Fluvial tidal** ☐ **Coastal** ☐ **Not available** ☐

Appears to be a fairly good representation of conditions in the town. However, hazard extents north of the town centre and in the area of the Nursing Home appear to be slightly exaggerated.

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)
Nursing Home (Riverside)	West of town centre	Y	L
Garda Station	Adjacent to the church	Y	M
Commercial (Abbey Hair Studio)	Centre of town at bridge	Y	H

2.3 Local knowledge - on-site comments

(OPW, LA and any info volunteered by local residents during visit)

Riverside Nursing Home (Nurse: Chef –local resident for 40 years, Maintenance Man – local resident for 60 years):

- Nursing Home has not experienced any flood-related problems in its 28 years.
- Maintenance man lives on left bank for 60 years and has never experienced flooding from the river (or high waters).

Abbey Hair Studio:

- Flooded in 2009 – combination of overland surface water flow from the Community Centre and fluvial from the river. At the time of the flood, there was a wall on the left bank of the river d/s of the bridge (adjacent to the Hair Studio). This wall was not damaged at the time, but has since been removed. The wall was not a continuous defence and water backed up behind the wall into the hair studio.
- This river reaches a height of 'concern' most years, but 2009 was the only year water reached the property. During this event water reached higher than the black pipes attached to the d/s end of the bridge.
- Properties on either side of the main road on the left bank experienced some flooding from the overland surface water flowing from the Community Centre. Surface water reached over the first step of the beauty studio on the opposite side of the road from Abbey Hair Studio. The property next door to the Abbey Hair Studio was also flooded and this is thought to have been from the river as well as overland surface water flow from the Community Centre direction.

2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes	3-arch bridge next Abbey Hair Studio – only the central arch is operating, other two are partially blocked with gravel deposition. The owner of Studio has never seen these arches open. The open area of the bridge is considerably less than the channel cross-sectional area. A sheet of corrugated iron has been placed d/s of the 3-arch bridge (this was not here at the time of the flood in 2009). Fly-tipping between 3-arch and single-arch bridges. Single arch bridge d/s – soffit is near bank top level.

2.5 SVRS Assessment Matrix

Weightings:
A - x1 - reasonable expectation of flooding
B - x2 - high expectation of flooding or flooding is tidal (any risk)
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	X			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	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								**170**				

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 race ☐ 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* **Other** Pumping Station ☐ Erosion Protection ☒ Sand Dunes ☐ **Additional notes (if required):** ▪ Rock armour bank protection on right and left bank as watercourse is meandering behind properties u/s of the church. ▪ Potential informal defence on right bank of the river next to the Church. The church lands are approx 2m higher than bed level and the wall on the right bank is approx 0.5m above this. ▪ New wall under construction on left bank at this location. Construction workers confirmed the wall would be extended d/s to meet the bridge wall. However, the wall joins open railings at the u/s end and it is unclear if this will be closed off at this point.
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):** If required, a defence wall could be constructed on the left bank u/s of the R551 bridge to protect the single property.

<table>
<tr><th colspan="5">Outcomes</th></tr>
<tr><td>PFRA Designation</td><td colspan="2">APSR ☒ not an APSR ☐ IRR ☐</td><td colspan="2">FRI Score: 3426</td></tr>
<tr><td rowspan="2">Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)</td><td>High Confidence (good)</td><td>Uncertain</td><td>Low Confidence (poor)</td><td>Not available</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Site Visit Review Score</td><td colspan="4"></td></tr>
<tr><td>Recommended Designation</td><td colspan="4">APSR ☒ not an APSR ☐ IRR ☐</td></tr>
<tr><td>Summary Comments (if required)</td><td colspan="4">There is no fluvial flood history in this town or at the Nursing Home.
The town does experience surface water issues from the lands adjacent to the Community Centre.
There is potential for blockage at the 3-arch bridge (next to Abbey Hair Studio), and this bridge is already partially blocked. With existing walls on the u/s banks near the bridge, flooding could occur u/s where walls stop, with potential for flooding of several properties on right and left banks.
Whilst the nursing home may not be at at high risk of flooding, even without the nursing home included in the PFRA FRI score, the FRI score would still be around 900 points, well above the PFRA threshold for recommendation as a “Community at Risk”.
It is therefore recommended that Abbeydorney is designated as an APSR.</td></tr>
</table>

Photo 1: Local business (beauty salon) surface water from the community centre located to the west of this building reached 1st step

Photo 2: Watercourse (tributary of the Shanow River) adjacent to the Abbey Hair Studio d/s of the bridge

Photo 3: The Abbey Hair Studio west of watercourse

Photo 4: The 3 Arch Bridge next Abbey Hair Studio (d/s)

84500 85000 85500

123500 123000 122500

N

Abbeydorney

Legend

- APSR Boundary for CARs only
- Historic Flooding Incidents
- Water bodies mapped from RADARSAT-2 *
- Hydrometric Gauging Stations
- EPA River Network
- Rail Stations
- Nursing Homes
- Residential Care for the Elderly
- Schools
- Ports and Harbours
- OPW Buildings
- Health Centres
- Garda Stations
- Hospitals
- Fire Stations
- Civil Defence Head Quarters
- Airports
- Rail Network
- Roads (National Roads Authority)
- Airport Land
- OPW Embankments
- Historic Flood Data
- Architectural Heritage
- UNESCO Sites
- Special Protection Area
- Special Area for Conservation
- Proposed National Heritage Area
- National Heritage Area
- Benefiting Lands

Flood Extents (PFRA, 2010)

- 10% AEP Flood Extent (1 in 10 chance in any given year)
- 1% AEP Flood Extent (1 in 100 chance in any given year)
- 0.1% AEP Flood Extent (1 in 1000 chance in any given year)

* Data Source - Service Régional de Traitement d'Image et de Télédétection (SERTIT) (acquired on the 5th of December 2009).

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.

0 0.15 0.3 0.6 Km

JACOBS

Client	OPW The Office of Public Works Oifig na nOibreacha Poiblí
Project	**Shannon CFRAM Study** Flood Risk Review Map
Title	**Abbeydorney**
Drawing Status	FINAL
Job No.	32102500
Figure No.	**CAR 1**
Revision	
Scale	1:5,000 @ A3
	Jun 27, 2011
Drawn	AD/SF
Checked	JC
Review	KK/JM
Approved	IB/PS