

Location: Charleville, Co. Cork		Unique ID: 240375 (from PFRA database)	
Initial OPW Designation	APSR <input checked="" type="checkbox"/>	AFRR <input type="checkbox"/>	IRR <input type="checkbox"/>
Co-ordinates	Easting: 152250	Northing: 122500	
River / Catchment / Sub-catchment	Glen River / Maigne Catchment		
Type of Flooding / Flood Risk (identify all that apply)	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/>		

Stage 1: Desktop Review	
1.1 Flood History (include review of Floodmaps.ie)	River Flow Path The Glen River, a tributary of the River Maigne, runs between the Old Cork road and Bakers Lane through the centre of Charleville. There are a number of bridges crossing the Glen River with the largest bridge crossing located on Main Street, Charleville. Flood event records There are no OPW flood event records for this area.
1.2 Relevant information on flooding issues from OPW and LA staff	PFRA database comments (<i>in italics</i>): OPW comments <i>Minor flooding of residents on golf links road</i> LA comments <i>643 (Properties) – Padraig Moore not aware of Charleville ever causing problems. Wedges in Eastern amalgamation. No knowledge of flooding.</i> Meeting / discussion summary comments: OPW comments <ul style="list-style-type: none"> • No OPW assets or information held. • No maintenance of any channel by OPW. • Flooding problem believed to be at u/s end (along Golf links road to the west) and at d/s end near the school. • Problem at u/s end believed to be due to insufficient capacity of a twin culvert on the watercourse. LA comments

1.4 PFRA Data			
1.4.1 PFRA hazard mapping	PFRA mapping available in GIS layer:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	PFRA mapping included on FRR map:		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1.4.2 Summary of Principal Receptors	Type		FRI score (if available)
	Arch Regional		10
	Gas		10
	Total:		643
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: 30/03/11		
		Time: 13:45		
Names of inspection team (including OPW/LA staff if present)		Iain Blackwell		
		Kelly Kasperczyk		
2.1 Ground-truthing of Hazard Mapping	Fluvial non-tidal <input checked="" type="checkbox"/> Fluvial tidal <input type="checkbox"/> Coastal <input type="checkbox"/> Not available <input type="checkbox"/>			
	Insufficient clarity of mapping to determine reliability at a detailed level. General principle of u/s and d/s ends of Charleville having greatest flood risk appears correct, with lower hazard in the town centre.			
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)
	School		Yes	High - No flood in 11 years, new culverted system
	Health Care		Yes	Medium – Very small building, looked not currently well used.
	Gas	Not seen	Not certain	Not clear what the Gas receptors are or where located.
2.3 Local knowledge - on-site comments (OPW, LA and any info volunteered by local residents during visit)	Local Residents Houses between the Meadow Vale and King's Fort housing estates have flooded 4-5 times since 1947. In 1947 flood waters reached 3ft inside the houses closest to the river. Last flood was 2 years ago (2009) and reached approx 6-7 inches in these houses. The houses in King's Fort were not flooded (on higher ground). Flood waters flowed from the farmlands west of King's Fort estate over the road and as the river was at capacity, these waters flowed past and into the houses (north and south of this road; west of Smith's Lane).			

<p>2.4 Comments on hydraulic constrictions (bridges, etc.) and conveyance routes</p>	<p>From u/s to d/s</p> <p>Culverts and Bridges</p> <ul style="list-style-type: none"> • Small culvert crossing at far west end of town crossing the main road (heading west from town). • Large single culvert at u/s end of town. • Twin culverts – likely cause of previous flooding – close to King’s Fort estate. • Small masonry bridge in centre of estate south of Smith’s Lane (Glen Haven estate). • Large culvert (approx 2.1m diameter) immediately u/s of pitch and putt (Glen Haven estate). • Main Street – culvert under street approximately 15m long. • Culvert under Baker’s Street beside Dunnes with significant blockage (barrel and general rubbish). • Triple culvert in school grounds, under new playground area. 90 degree bend in 3 culverts under playground. • Culvert entrance very low soffit by Health Centre. Flow under road and 90 degree bend to right before flowing adjacent to Kerry Foods. • Numerous crossings, small culverts and pipe crossings along reach by Kerry Foods. • 90 degree bend to left at end of Kerry Foods land before channel heads north towards agricultural land out of town. <p>Conveyance</p> <p>Bikes, general rubbish, branches/trees present in channel to give potential blockage in multiple locations. School caretaker has reported major clearance of rubbish to help prevent flooding. (No memory of flooding here in 11 years).</p>
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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	X		
Property (small retail or business)	20	X			200				400			
Property (large retail or business)	50	X			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									520			

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 <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> Other Pumping Station <input type="checkbox"/> Erosion Protection <input type="checkbox"/> Sand Dunes <input type="checkbox"/> Additional notes (if required):
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2.8 Initial Potential Mitigation Measures

Non-structural measures	Planning and Development control <input checked="" type="checkbox"/> Sustainable Urban Drainage Systems <input checked="" 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"/>
Structural measures	Strategic development management for floodplain development: <input type="checkbox"/> <i>(integration of measures into strategic development proposals)</i> Storage: On-line <input checked="" type="checkbox"/> Off-line <input type="checkbox"/> Flow diversion: Flood relief channel <input type="checkbox"/> Flood relief culvert <input checked="" type="checkbox"/> Increase conveyance: Bridge works <input type="checkbox"/> Channel works <input checked="" type="checkbox"/> Floodplain <input type="checkbox"/> Flood defences: Walls <input checked="" type="checkbox"/> Embankments <input checked="" type="checkbox"/> Localised works: Defence raising <input type="checkbox"/> In-fill gaps <input type="checkbox"/> Trash screen <input checked="" type="checkbox"/> Maintenance works: Culvert / channel clearance <input checked="" type="checkbox"/> Asset maintenance <input type="checkbox"/> Relocation of properties: <input type="checkbox"/> Improve existing defences: <input type="checkbox"/> (describe) Other (describe):

Outcomes				
PFRA Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>		FRI Score: 643	
Site Ground-truthing of PFRA Assessment (hazard mapping and receptors)	High Confidence (good)	Uncertain	Low Confidence (poor)	Not available
		X		
Site Visit Review Score	520			
Recommended Designation	APSR <input checked="" type="checkbox"/> not an APSR <input type="checkbox"/> IRR <input type="checkbox"/>			
Summary Comments (if required)	There appear to be two main areas at risk in the town – one at the upstream end and one at the downstream end, with the middle of town relatively unaffected.			



Photo 1: Culvert west of Charleville requiring maintenance



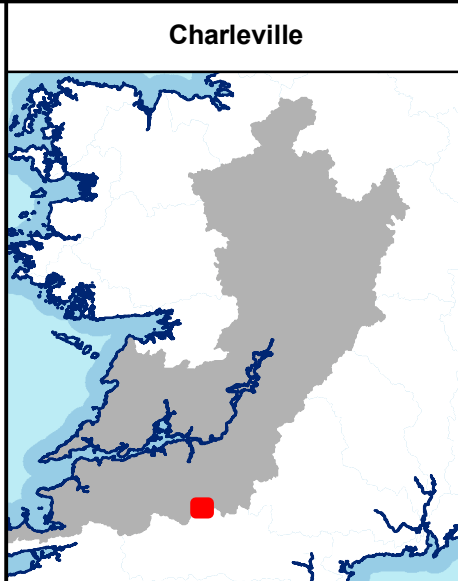
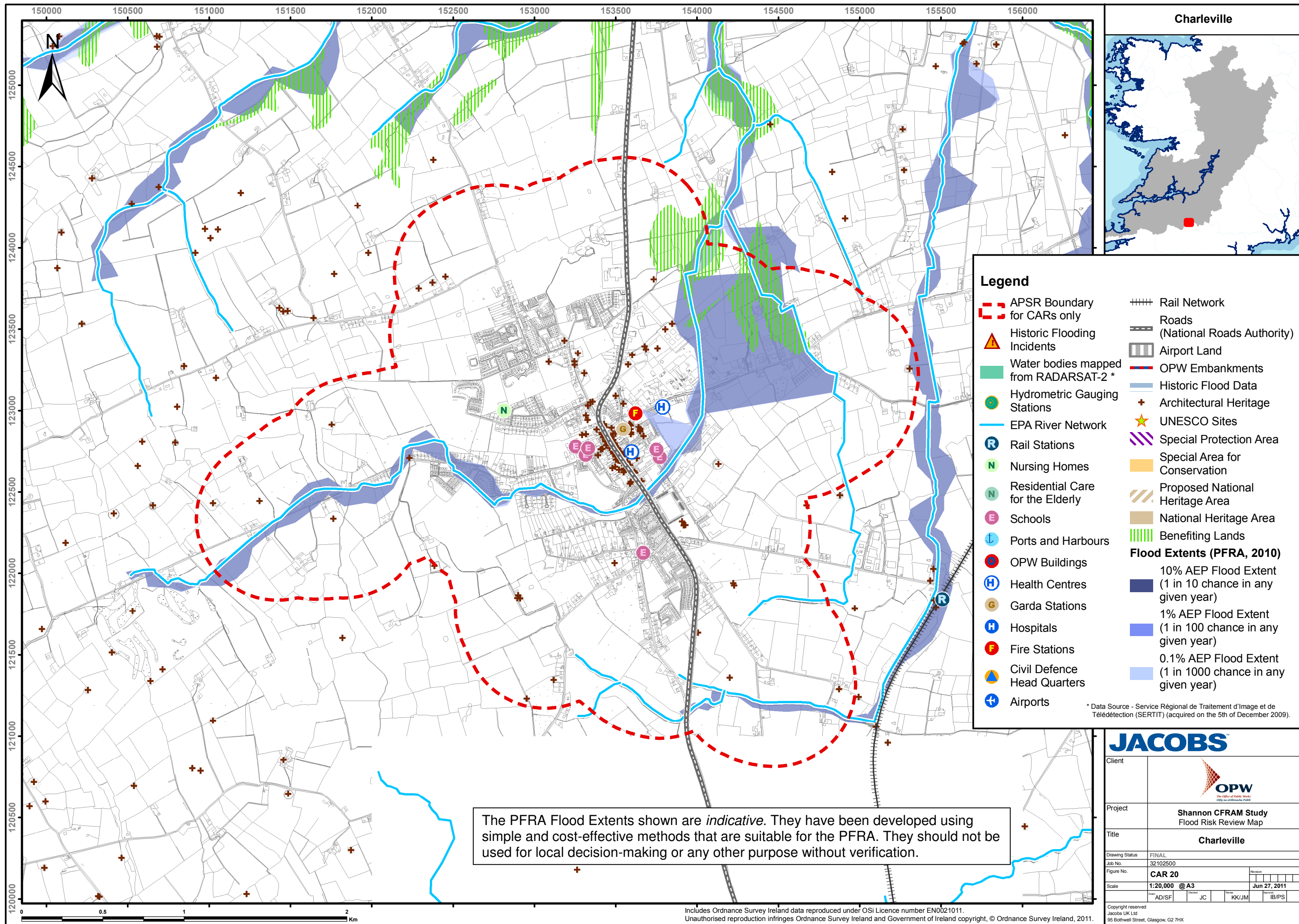
Photo 2: Channel along Chapel Street u/s at culvert exit with props for support




Photo 3: Charleville channel adjacent to the Health Centre on Chapel Street



Photo 4: Triple culvert in school grounds, under new playground area. 90 degree bend in 3 culverts under playground.



JACOBS	
Client	
Project	Shannon CFRAM Study Flood Risk Review Map
Title	Charleville
Drawing Status	FINAL
Job No.	32102500
Figure No.	CAR 20
Scale	1:20,000 @ A3
Date	Jun 27, 2011
Drawn	AD/SF
Checked	JC
Reviewed	KK/JM
Approved	IB/PS
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