

SOURCE OF FLOODING: Main River / Watercourse

FLOOD EVENT & CAUSE

Four residential properties reported internal flooding between the evening of December 23rd and December 25th. The affected residents reported flood depths between 150mm and 600mm with damage throughout the properties, as well as loss of electricity within a garage. One resident used compost bags and a pump to try to protect against water ingress. Carlton Road and the bridge across the River Great Ouse in Harrold were reported to be impassable due to the floodwater. The Environment Agency Flood Warning was not issued at Harrold.

One of the affected properties is located adjacent to The Green watercourse (see map annotation). The watercourse is culverted to the north of the property, and it was reported that water encroached the building from water overtopping at the culvert. Another affected property is located in the floodplain associated with the Church Walk watercourse (see map annotation). The property is located in Environment Agency Flood Zone 2¹, which means the chance of river flooding is between 0.1% and 1% in any given year. The high water levels in the River Great Ouse would have prevented the watercourses from discharging freely, pushing water upstream in the network and contributing to the flooding experienced. Two of the affected properties located near the Green are located directly in the River Great Ouse floodplain, in Environment Agency Flood Zone 2 and 3 respectively. Flood Zone 3 are areas where the chance of river flooding is greater than 1% in any given year.

December 2020 was a very wet month with an average rainfall of 108mm across East Anglia, which is 95% higher than the December average². The three months leading up to December also saw higher than average rainfall such that by December 23rd the ground was already saturated. This, combined with the rainfall recorded during the dates in question, meant that surface water was less able to infiltrate into the ground and more likely to run off into watercourses and form overland flood flow routes. In conclusion, it is thought that the prolonged period of heavy rainfall and saturated ground conditions contributed to the River Great Ouse overtopping its banks. In addition, the high river levels in the River Great Ouse would have prevented the watercourses and drainage systems within Harrold from discharging freely, exacerbating the flooding experienced. Any highway drainage maintenance issues would have further worsened the flooding.

FLOOD WARNINGS & INITIAL RESPONSE

- **22/12/2020 08:57:** Environment Agency Flood Alert Middle River Great Ouse in Milton Keynes, Bedford Borough and Central Bedfordshire issued.
- **Not issued:** Environment Agency Flood Warning River Great Ouse at Harrold.
- **23/12/2021 16:20 – 21:00:** Fire service inspected properties and provided flooding advice to residents in the area.
- **24/12/2021 daytime:** Lead Local Flood Authority (LLFA) visited those who flooded on December 23rd to gain information on the damage caused and offer assistance.
- **25/12/2021 02:05 – 05:10:** Fire service provided flood preparation guidance and responded to request for sandbags.
- **25/12/2021 08:21:** Fire service rescued affected persons from flooded property.
- **25/12/2020 14:30:** Flooding experienced in the wider area declared a major incident by Bedford Borough Council.
- **26/12/2020 10:28:** Fire service provided flooding advice to resident.
- **28/12/2020:** LLFA, Bedford Flood Response Team, and volunteers from the Council visited to carry out impact assessment to help with recovery and clean up.

ACTIONS

Timescale	Action	Responsible Party
Complete	Investigate highway drainage in the area and clear any blockages. This was completed around Odell Road/Carlton Road in February 2021 and around Dove Lane in June 2021.	Bedford Highways
Complete	Set up a community flood group. A flood kit has now been issued and a flood plan has been written.	Lead Local Flood Authority
Ongoing	Continued engagement with and support of the community flood group. The flood group should enable access to the flood kits, flood action plans, and information about flood warnings/alerts and Property Flood Resilience (PFR).	Lead Local Flood Authority
Inspections short term (1-6 months) Remedial works as required	Inspect Main River assets (sluices, weirs, gates, locks and river banks) and identify the requirement for remedial works. Over 5,000 checks are already complete across East Anglia (95% of relevant assets), with 22 assets identified as being in need of remedial works in the wider area ³ .	Environment Agency
Medium term (6-12 months)	Undertake a capacity assessment of the culvert at The Green watercourse to identify the requirement for improvement works.	Lead Local Flood Authority
Medium term (6-12 months)	Investigate the suitability of flood protection measures for the affected properties (e.g. flood barriers, waterproof wall sealant, non-return valves, etc.). Specialist advice should be sought from a Property Flood Resilience (PFR) surveyor.	Homeowner
Medium term (6-12 months)	Investigate improvements to the Flood Warning system as no flood warning was issued. This warning is already included as high priority in the Environment Agency's Flood Warning Improvement Plan.	Environment Agency

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¹ Environment Agency Flood Map for Planning, <https://flood-map-for-planning.service.gov.uk/>. [accessed June 2021].

² Environment Agency, December 2020 Flooding Great Ouse Catchment Summary.

³ Environment Agency, May 2021. Harrold Winter Flooding Briefing.