

APPENDIX H

SECTION 19 REPORT – LOWDHAM – NOVEMBER 2019

Introduction

Section 19 of the Flood and Water Management Act 2010 states:

1. On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:
 - (a) Which Risk Management Authorities (RMAs) have relevant flood risk management functions.
 - (b) Whether each of those RMAs has exercised, or is proposing to exercise, those functions in response to the flood.
2. Where an authority carries out an investigation under subsection (1) of Section 19 it must:-
 - (a) Publish the results of its investigation.
 - (b) Notify any relevant RMAs.
3. The objective of this report is to investigate which RMAs had relevant flood risk management functions during the flooding in November 2019 and whether the relevant RMAs have exercised, or propose to exercise, their risk management functions (as per section 19(1) of the Flood and Water Management Act 2010).
4. The Risk Management Authorities with a duty to respond to this flooding incident are, Nottinghamshire County Council (NCC) as Lead Local Flood Authority (LLFA Nottinghamshire County Council as Highways Authority (Via East Midlands Ltd.), The Environment Agency (EA), Trent Valley Internal Drainage Board (TVIDB) and Newark and Sherwood District Council (NSDC).
5. It should be noted that this duty to investigate does not guarantee that flooding problems will be resolved and cannot force others into action.

Background

6. On the 14th of November 2019, Lowdham experienced a significant amount of rainfall with 26mm of rain recorded as falling at the nearby Lambley rain Gauge. This followed the extreme amount of rainfall falling across Nottinghamshire between the 7th and 14th of November. During that period Via East Midlands Ltd. on behalf of Nottinghamshire County Council facilitated 66 road closures across the county, placed over 750 flood signs on the network to warn motorists of issues and delivered over 5000 sandbags. It was reported by the Environment Agency that Nottinghamshire experienced 225% of its average monthly rainfall between the 7th and 14th November. A major incident was declared at 09:50 on Thursday 7th November by the Tactical Co-Ordinating Group.

With the ground already saturated following one of the wettest autumn's on record, further rain that fell on the 14th resulted in extensive flooding across the Nottinghamshire area including Lowdham. It is in the Newark and Sherwood district, and at the 2011 census had a population of 3,334. The village is served by the Cocker Beck which is classed as Main River, it has some agricultural land to the North of its catchment and the A6097 Epperstone By-Pass running along the Western Boundary.

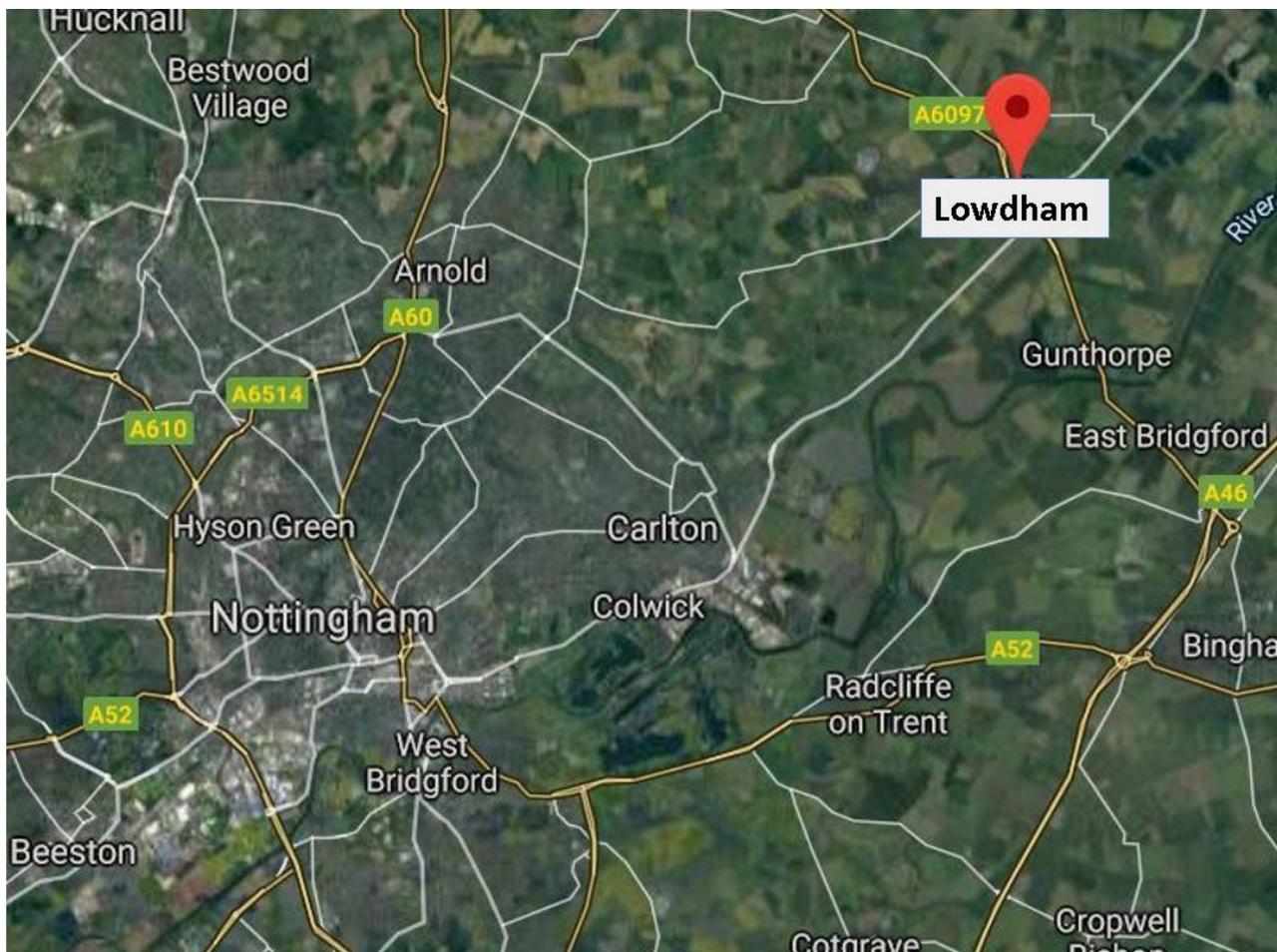
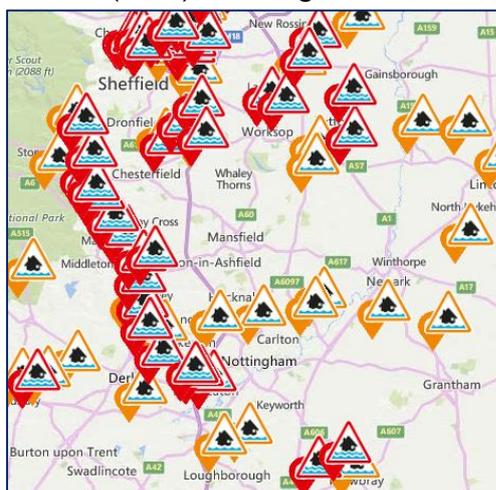


Figure 1. Location Plan

The severe weather led to Nottinghamshire Local Resilience Forum declaring a major incident. In the following days, further intense rainfall caused additional surface water and fluvial (river) flooding.



During this period the Environment Agency monitored water levels constantly and issued 38 flood warnings and 16 flood alerts across Nottinghamshire in November.

Figure 2. Flood Warnings and Alerts Issued during November 2019

During the afternoon of the 14th of November 2019 and following a prolonged period of heavy rainfall, parts of Lowdham suffered a significant flood event with 12 reported incidents of internal property flooding. The flooding also affected the public highways in the village and several gardens and curtilages.

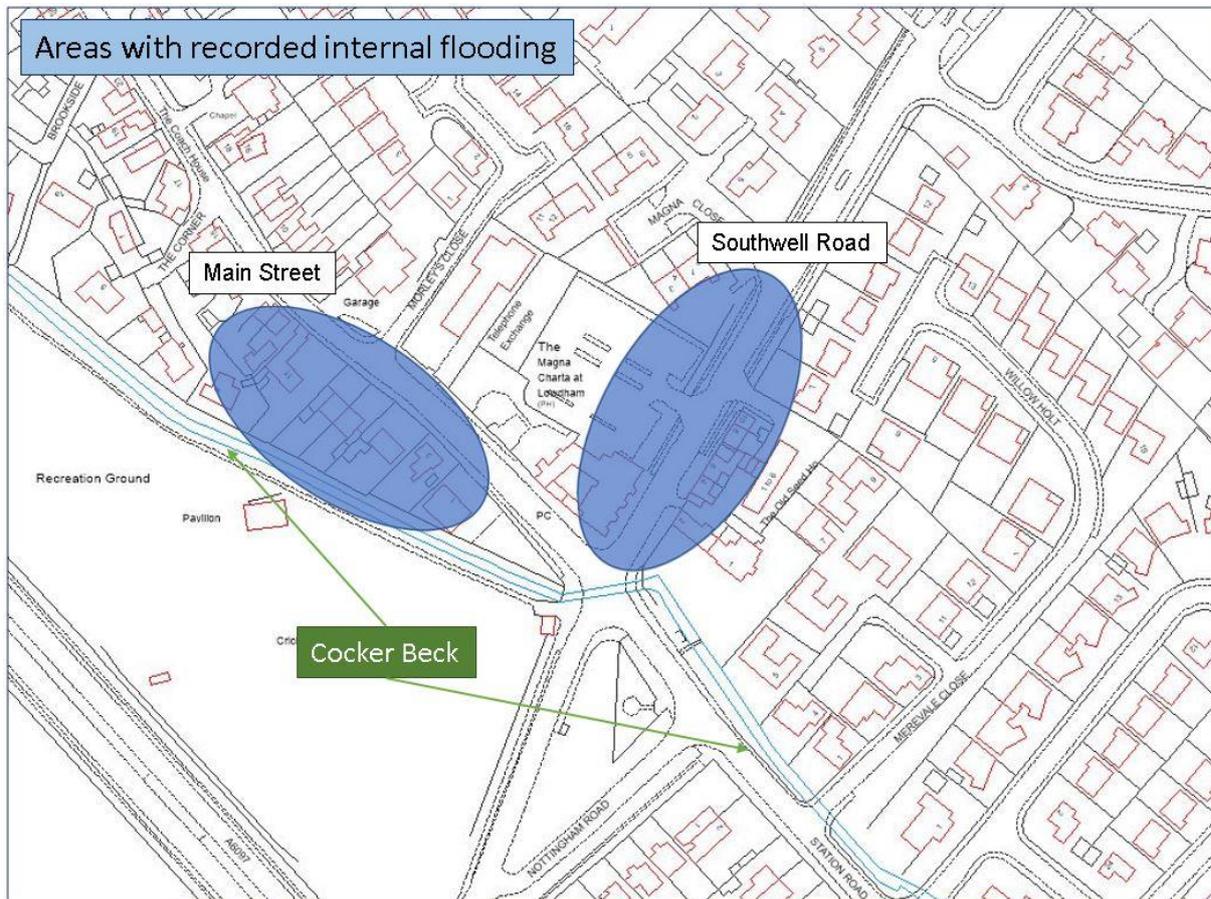
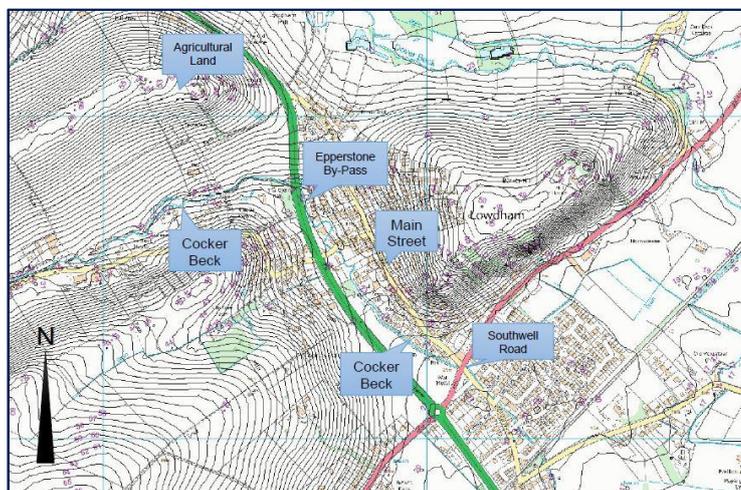


Figure 3. Plan highlighting area affected by internal flooding

Summary of flooding and its causes

7. Lowdham has a steep surrounding topography with hills to the north west and east falling to create a valley which has the Cocker Beck flowing along the bottom of it. Water running off those fields feed the Beck which runs south through Lowdham running parallel between the Epperstone By-Pass and the Main Street.



There are known historical flooding issues in Lowdham with recently recorded events in the years 2000, 2007, 2012 and 2013. These previous events have recorded some flooding caused by the Cocker Beck over topping. On the 14th the beck did overtop in places Figure 5 adjacent shows the high river level at Lowdham Grange gauge, the second highest recorded at this gauge.

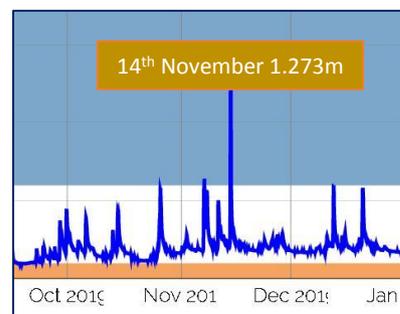


Figure 5. River levels Cocker Beck

Figure 6 below, which is a plan showing predicted surface water flows accurately explains what happened on the 14th of November. Surface water ran from the fields in the upper

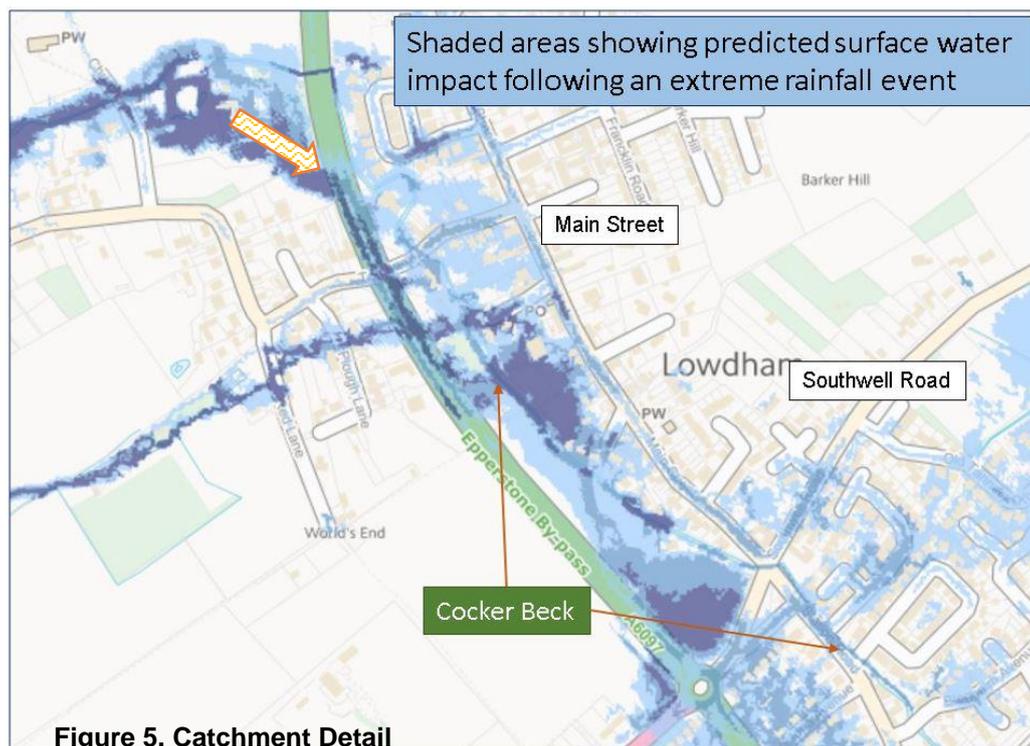


Figure 5. Catchment Detail

catchment which were already saturated following the extensive amounts of rainfall that had fallen over the previous weeks.

The Cocker Beck was at near record levels conveying that water from the hills and it did overtop and spill out onto the Main street affecting some properties. Some of the water from the hills did not reach the Cocker Beck and it instead used the Epperstone By-Pass and the Main Street as channels, where they run parallel to it. Unfortunately properties along its path on the Main Street and Southwell Road were then flooded. The high levels of surface water overwhelmed the existing highway drainage network; it appears the standard design capacity was simply not sufficient to cope.

Risk Management Authorities and their responsibilities

8. Nottinghamshire County Council
 - a) Lead Local Flood Authority

- i. Investigate significant local flooding incidents and publish the results of such investigations.
- ii. Play a lead role in emergency planning and recovery after a flood event.
- iii. Lead Local Flood Authorities also have a duty to determine which risk management authorities have relevant powers to investigate flood incidents to help understand how they happened, and whether those authorities have or intend to exercise their powers.
- iv. By working in partnership with communities, Lead Local Flood Authorities can raise awareness of flood risks.
- v. Lead Local Flood Authorities should encourage local communities to participate in local flood risk management.

b) Emergency Planning

- i. If a flood happens, all local authorities are 'category one responders' under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

c) Highway Authority (Nottinghamshire County Council/Via East Midlands Ltd)

- i. Maintenance of the public highways including highway drainage assets.
- ii. Provided site-based presence and investigations immediately following the event.

9. Newark and Sherwood District Council

- i. Category one responder under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

10. The Environment Agency

- i. Maintenance and Management of the Cocker Beck
- ii. Category one responder under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.

11. Trent Valley Internal Drainage Board

- i. Maintenance of sections of the Cocker Beck

12. Severn Trent Water

- i. Maintenance of the public sewage system.

Risk Management Authority Responses to Flood

13. The following lists the actions taken by each Risk Management Authority in response to the flooding both in the immediate aftermath as well as in the longer term:

a) The Nottinghamshire County Council:

- i. Initiated and co-ordinated Emergency Planning procedures.
- ii. Delivered sandbags where a need was identified, over 5000 were delivered across the County.
- iii. Initiated and led the Section19 Flood Investigation.

14. Newark and Sherwood District Council

- i. Newark and Sherwood District Council Officers undertook a range of activities in support of the multi-agency response to, and recovery of this flood event.
- ii. Attended and maintained water courses and drainage assets based on the Councils riparian ownership in Lowdham.

15. The Environment Agency

- i. Category one responder under the Civil Contingencies Act. This means they must have plans in place to respond to emergencies and control or reduce the impact of an emergency.
- ii. Environment Agency staff deployed and operated a mobile pump on a 24/7 basis to pump flood water out of the flood storage area once the river level had reduced to create storage capacity for future rainfall events.

16. Trent Valley Internal Drainage Board

- i. Provided emergency response crews to assist in management of flooding event.

17. Severn Trent Water

- i. Provided emergency response crews to assist in management of flooding event.

Additional information and Future Actions.

18. Though the source of this flood event was principally surface water running over land, the Cocker Beck was close to overtopping its bank again. The Lowdham Grange river gauge peaked at 1.273m on 14 November 2019, which is the second highest peak recorded at this gauge.

In 2018 the EA working with the Trent Rivers Trust, Nottinghamshire County Council and local land owners began a project to install Natural Flood Management measures in the upper catchment of Lowdham. The project was funded by a £50k grant from the Department for Environment, Food and Rural Affairs, Natural Flood Management Project fund. Now nearing completion, these measures are designed to hold back and store surface water running off the hills slowing down the flow into Lowdham from the Cocker Beck and the highway. When comparing with similar previous events, early indications are that the impact of flooding has reduced since the Natural Flood Management measures have been installed.

In 2019 the EA commissioned a further feasibility study into a possible future flood alleviation scheme for Lowdham.

All the Risk Management Authorities involved in this event are committed to continuing the investigations into the causes of this incident. Those investigations may identify further actions not listed below.

Severn Trent Water in partnership with Nottinghamshire County Council will start work in January 2020 on a scheme to improve the Surface water drainage and the highway drainage on Southwell Road.

Following the 2019 event The Environment Agency have identified the actions below: Additional maintenance works are planned to start in 2020, including the installation of an enlarged pipe and flap valve with penstock control gate which will improve the drainage of the cricket pitch system, to increase resilience to repeated rainfall events. Additionally, vegetation clearance and repair work is taking place to ensure the wall around the storage area and on Station Street are in good condition.

Where appropriate Nottinghamshire County Council and the Environment Agency administer a Flood Warden scheme, including supporting the provision of local sandbag stores, and a Community Flood Signage Scheme in communities at risk of potential flooding. All equipment and training is provided for free should there be sufficient volunteer interest in the community. Further information on these services are available on Nottinghamshire County Council's website.

As the Lead Local Flood Authority we have witnessed and have experience of how flooding devastates communities. The most vulnerable in the community will be our priority. NCC will continue to work closely with partners and communities to identify ways of proactively reducing the risk, likelihood and consequences of future flooding events.