



## **APPENDIX R**

### **SECTION 19 REPORT – LOWDHAM – STORM BABET, OCTOBER 2023**

#### **Introduction**

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

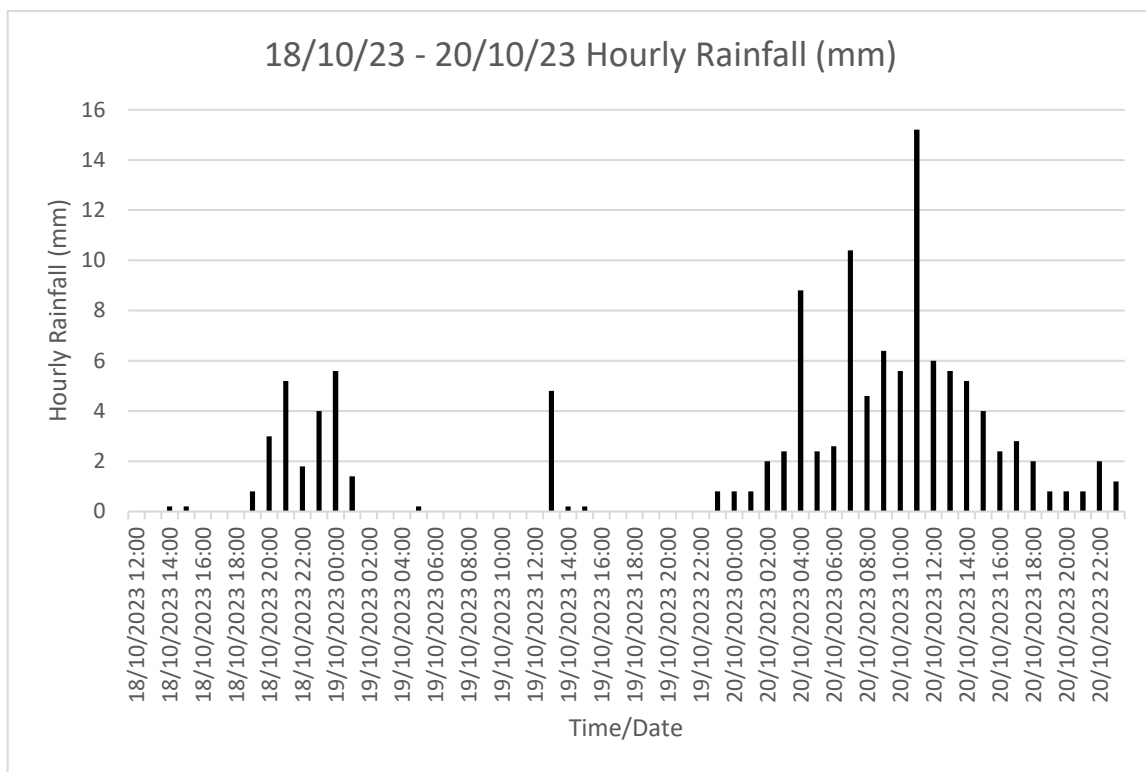
1. On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:
  - (a) Which Risk Management Authorities (RMAs) have relevant flood risk management functions.
  - (b) Whether each of those RMAs has exercised, or 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 October 2023 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 for this area of Nottinghamshire are The Environment Agency (EA), Newark & Sherwood District Council (NSDC), Nottinghamshire County Council (NCC) as Lead Local Flood Authority (LLFA), VIA East Midlands Ltd as Highways Authority on behalf of NCC, Severn Trent Water Ltd. (STW) and Trent Valley Internal Drainage Board (TVIDB).
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. Lowdham is a village in the Newark and Sherwood District of Nottinghamshire and has a population of approximately 2832 at the 2011 census. The village sits in the Trent valley and its centre is approximately 3km from the River Trent. The village is served by a number of watercourses including the Cocker Beck and Dover Beck, both classed as main rivers. The Dover Beck runs to the north of the village whilst the Cocker Beck runs through the village, taking water from the north west to the river Trent in the south east. Figure 3 shows how the watercourses pass through the village.
7. Lowdham has a significant history of flooding with recently recorded events as follows; 1999 where 300 properties were flooded, 2007, 2012, 2013, 2019 and 2020, a number

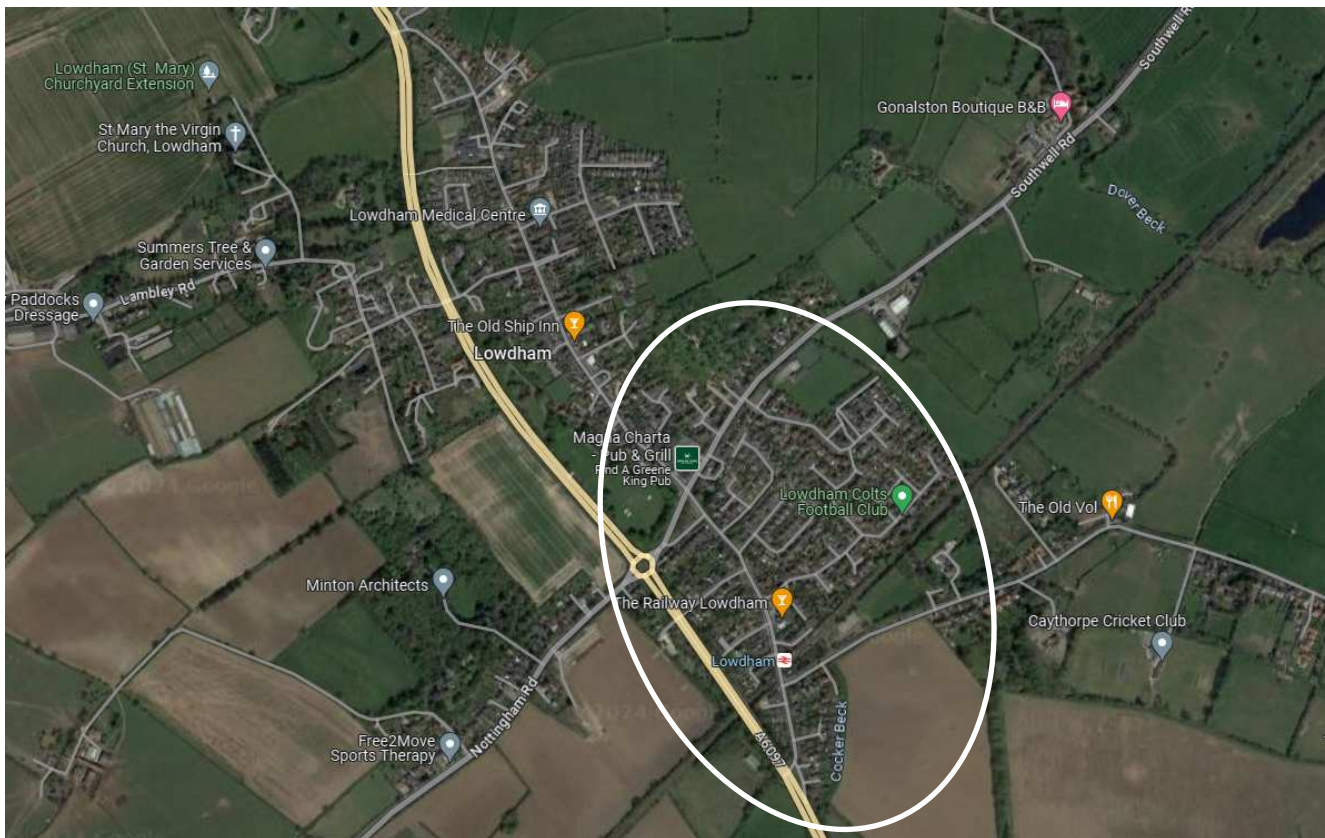
of which have been the subject of previous Section 19 reports. Triggered by this history of flooding The Environment Agency, as lead Risk Management Authority for Main Rivers have secured the necessary funding to construct a £25m flood alleviation project to protect the catchment and construction commenced late 2023. This project will reduce the risk and consequences of future flooding events. Following the significant flooding in 1999 the Environment Agency undertook flood storage works on the Cricket Pitch in 2000 to further reduce the risk in the catchment.

8. Between 12:00 noon on the 18 and 23:00 on the 20 October, 124mm of rainfall was recorded at the Staythorpe rain gauge, which is approximately 11km from Lowdham (Figure 1).
9. This storm came after a prolonged period of persistent rain which had saturated the ground resulting in flooding of roads and properties quicker than they would following a dry period.
10. During Storm Babet, 135 residential properties and businesses in Lowdham were subject to internal flooding with more suffering flooding to gardens and outbuildings.



**Figure 1.** Staythorpe Hourly Rainfall from 12:00 18<sup>th</sup> to 23:00 20<sup>th</sup> October 2023. Data supplied by the Environment Agency.

11. Figure 2 highlights the areas that were subjected to internal flooding.



**Figure 2.** View of Lowdham highlighting areas affected by internal flooding.

### Summary of flooding and its causes

12. During Storm Babet flood water came from a mixture of sources; river water from the Cocker Beck over-topping and flooding from surface water, the combination of these resulted in widespread flooding of properties, roads and open spaces across the catchment.
13. Lowdham has a significant history of flooding with recently recorded events in 1999, 2007, 2012, 2013, 2019 and 2020 some of which attributed flooding to similar causes as this event, including the over-topping of the Beck.
14. 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 feeds the Beck which runs in a southerly direction through Lowdham between the Epperstone By-Pass and Main Street.
15. Figures 6 & 7 below are extracts from the Environment Agency's flood risk mapping and clearly show how surface water flows and the over-topping of the Cocker Beck will impact on the catchment.
16. Surface water that fell on the fields in the upper catchment, already saturated following the extensive amounts of rainfall that had fallen in the period before the storm, flowed into the Cocker Beck overwhelming it causing over-topping and spilling out at points along its route. The sheer volume of water falling on the catchment resulted in significant overland flows with many of the roads including the Epperstone By-Pass and Main Street acting as channels for the water. The high levels of surface water and river water overwhelmed the existing surface water drainage system in the area resulting in the significant flooding that took place.

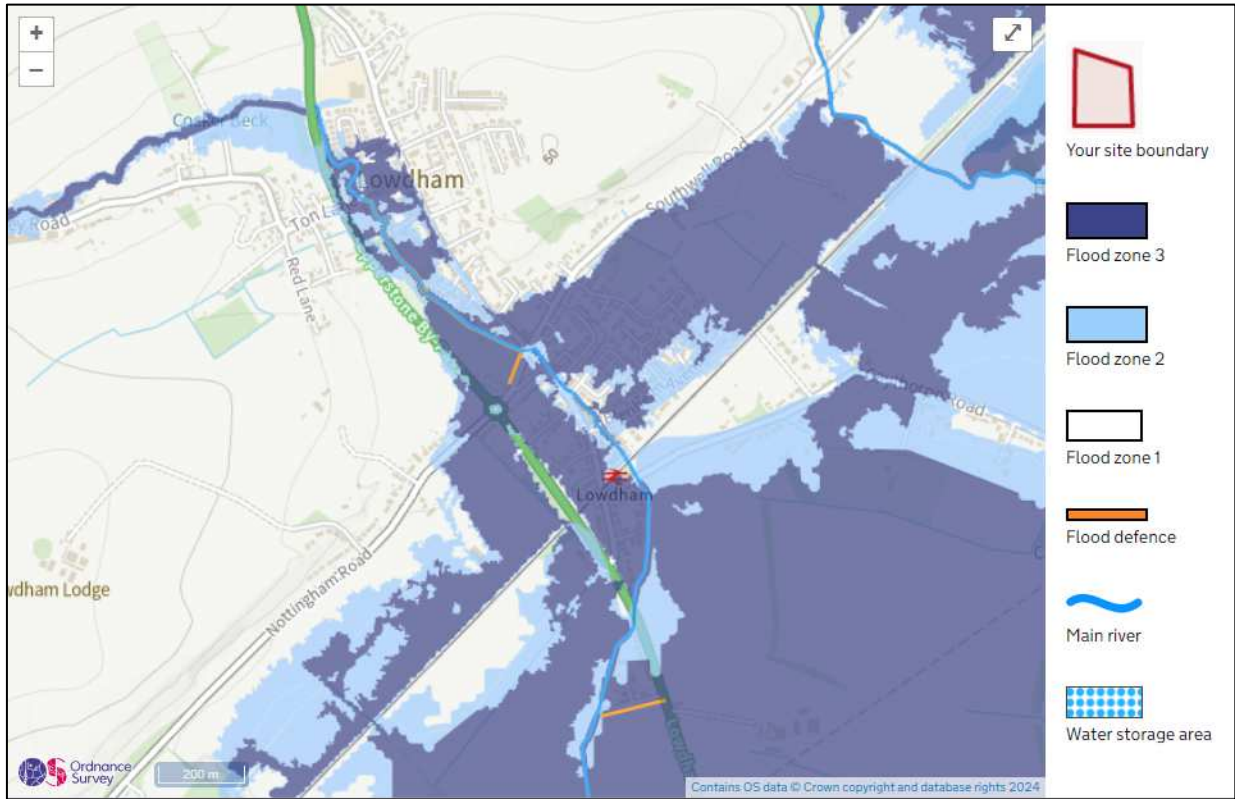
17. Witness statements supplied by Lowdham Flood Action Group have provided further detail on the flooding and the key points are stated below. Where applicable these statements will be used to assist in any further investigations in the catchment:
- i. The repaired left bank piling worked as it should and held the water back in the cricket/football pitch lagoon. There was then so much water that flowed down the Beck that the lagoon completely filled and then over topped in all directions. The wall from the roundabout to the Magna was leaking slightly and we have a video of that that we sent to the Environment Agency.
  - ii. The first flood in the village though was at 9am and was not caused by the lagoon over topping (circa 2pm) as there was water coming through the Magna car park and flowing towards the cottages on Southwell Road. We're not sure where this water was coming from but are investigating.
  - iii. Prior to the beck overtopping significant road surface water was evident on Ton Lane West and Ton Lane East due to foul water rising from the Severn Trent system, the flooding on Ton Lane East required a road closure. This indicates that both pluvial and fluvial factors contributed to the flood and again it appears the Severn Trent sewers lacked capacity to accommodate the rainfall.
  - iv. There were also flooding events that occurred after the beck had started to recede. This caused water sewage water to come up through the drains in Blenheim. While the new reservoir may solve some of the Fluvial problems the drainage system in Lowdham needs looking at by Severn Trent.
  - v. The water was slow in getting away down Old Tannery Dyke primarily because of the double culvert after Harrison's garage which is too high and too small.
18. Work has begun on an Environment Agency led £25m flood alleviation scheme that will see a storage reservoir built upstream of the village. This reservoir will hold water from the Cocker Beck reducing the likelihood of flooding to the village.



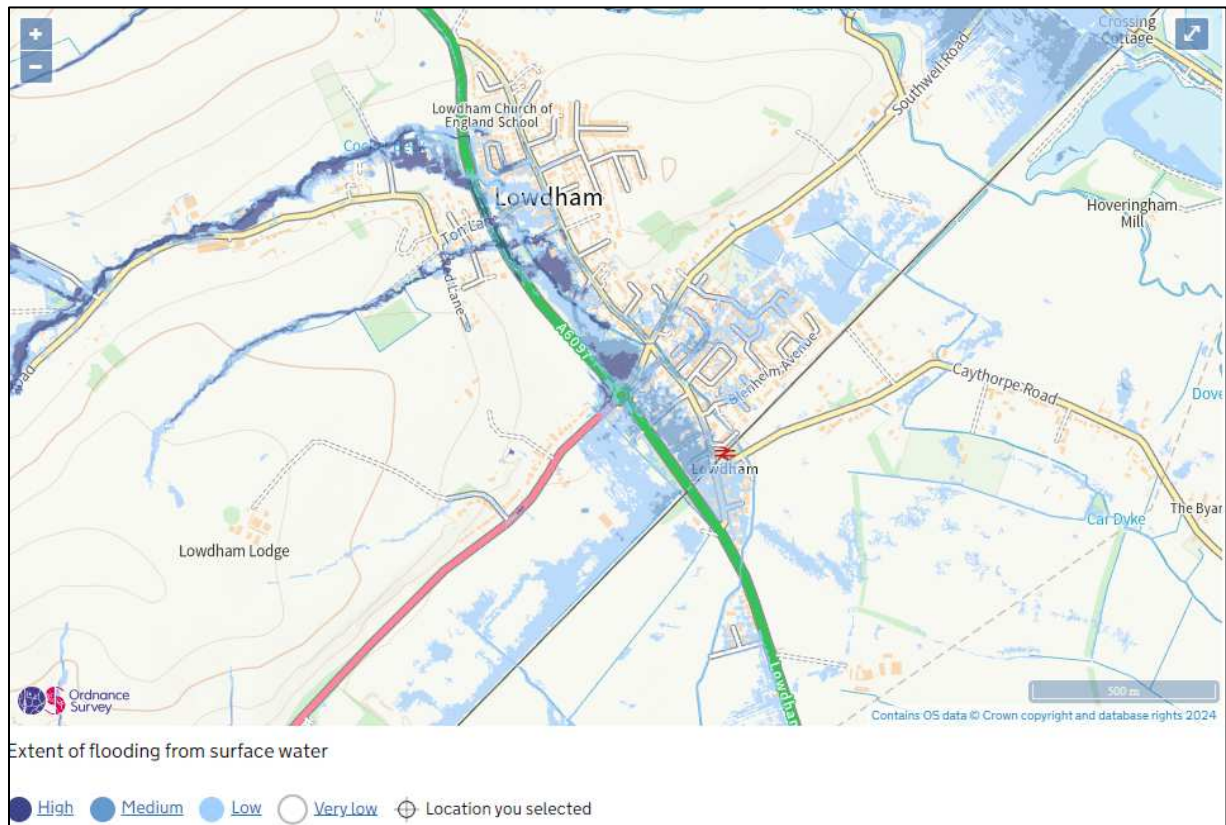
**Figure 3.** View of Lowdham showing approximate routes of The Cocker Beck and other watercourses through the village. (Watercourses shown as white lines with arrows showing direction of flow).



19. These watercourses and the topography of the village combine to create a natural risk of flooding to the area. Figures 4 and 5 show the predicted risk of flooding as published by the Environment Agency's Flood Map for Planning (<https://flood-map-for-planning.service.gov.uk>).



**Figure 4. Predicted Flood Zone Extents (FZ3 is darkest area)**



**Figure 5. Predicted Surface Water Flood Extents**

20. Figures 4 and 5 help to confirm the areas naturally occurring risk of flooding and correlate with the majority of flooding experienced during Storm Babet.
21. In addition to the flooding already identified there is an isolated area of flooding to the north of the catchment shown on Figure 6 overleaf. This flooding occurs as surface water runoff from the catchment flows along the highway, into and across a residential property then cumulates in a discrete area causing flooding to one property. The cause of this flooding is independent to the flooding in the main village and will not benefit from any increased levels of protection provided by the flood alleviation reservoir.



**Figure 6.** Isolated area of flooding to the north of Lowdham

22. The village benefits from an established and proactive community group that operates under the Lowdham Flood Action Group banner ([Flooding – Lowdham Volunteers](#)). During the flooding the resilience and community spirit shown within the village was exceptional and without it the consequences may well have been worse. The group provided valuable first-hand information on the flooding which has been used to help compile this report. The community adopts a very positive and proactive approach to flood resilience and we will continue to work with and support them.

### **Risk Management Authorities and their responsibilities**

23. 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. As the Lead Local Flood Authority, we have a new 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 (NCC/VIA East Midlands Ltd).

- i. Maintenance of the public highways including highway drainage assets.

24. The Environment Agency

- a) 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.
- b) Maintenance and management of main rivers and associated flood risk.

25. Newark and Sherwood District Council.

- a) 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.

26. Trent Valley Internal Drainage Board.

- a) Has a duty to manage flood risk and land drainage within areas of special drainage need in the Trent Valley.
- b) Has permissive powers to undertake work to provide water level management within their area
- c) Undertake works to reduce flood risk to people and property and manage water levels for local needs including the maintenance of rivers, drainage channels, outfalls and pumping stations.

27. Severn Trent Water Ltd. (STW).

- a) Maintenance of the public sewerage system.
- b) As a water and sewerage company, STW manage the risk of flooding from their water supply and sewerage facilities. This includes;

- Surface water sewers – these carry rainfall and surface water away from properties to watercourses;
- Foul water sewers – these carry wastewater away from properties to be treated;
- Combined water sewers – these drain both wastewater and surface water from properties along with run off from highways.
- Managing the impact of flooding to their networks by ensuring their systems have the appropriate level of resilience to flooding.
- Engage with RMAs on how water and sewerage company assets impact on local flood risk.
- STW are Category 2 responders under the Civil Contingencies act, providing emergency response and supporting the management of flooding events.

## Risk Management Authority Responses to Flooding

28. The following lists the actions taken by each RMA in response to the flooding both in the immediate aftermath as well as in the longer term:

29. Nottinghamshire County Council.

Officers from across the County Council played a key role in the response to the Major Incident that had significant impacts across the county. The following lists the key actions taken by Nottinghamshire County Council:

- a) Initiated its Community Flood Recovery Grant to support individuals affected by internal flooding as a short-term recovery aid.
- b) Attended site after flooding occurred to verify scale of internal flooding, offer support, guidance and advice to affected residents and businesses.
- c) Information gathered on site was fed back to relevant RMA's and partners.
- d) Collated flood impact data from other RMA's and partners and published verified data on Resilience Direct.
- e) Visited flood affected residents and businesses to establish sources and mechanisms of flooding and severity of flood impacts.
- f) Chaired and attended Strategic / Tactical / Recovery Coordination Group meetings initiated by the Local Resilience Forum.
- g) Provided 24-hour support through the Emergency Planning team.
- h) Carried out relevant actions requested by Strategic / Tactical / Recovery Coordination Groups.
- i) Initiated and led the Section 19 Flood Investigation, including liaison with relevant RMA's, parish councils, community groups, affected residents and businesses.
- j) Leading on procurement and delivery of DEFRA Property Flood Resilience Repair Grant Scheme.
- k) Liaised with and supported existing community flood signage schemes during the flooding.
- l) Delivered sandbags to affected areas and communities.
- m) Closed 77 roads across Nottinghamshire to promote road safety and avoid additional flood damage to at risk areas.
- n) Supported District and Borough partners by sharing resources during the emergency response.
- o) Utilised existing communication channels to update the public, partners and Elected Members with key messages during the event.
- p) Liaised with the Flood Action Group in the aftermath of the event.
- q) Responded to the isolated flooding on Old Epperstone Road and continue to consider options to reduce the risk of flooding to the area.

30. Newark & Sherwood District Council

- a) Played a full and intensive role alongside other agencies and community representatives.
- b) Worked to deliver whatever support was possible from the skills and resources available.
- c) Ahead of the storm the council stood up a team of managers to prepare for potential impacts across the district. A large team of staff was formed from across departments prioritising the flood response. Staff worked throughout the flood event, working beyond the normal working hours and days.
- d) Staff visited impacted communities and vulnerable individuals.



- e) Many hundreds of aqua sacs were delivered and people were helped to evacuate their homes.
- f) The council prepared to support evacuated residents and provided emergency accommodation when necessary.
- g) The communications officers worked with other agencies to warn and inform the public of the risks and the support that was available. Daily briefings were also provided to councillors and community leaders.
- h) As the flood event changed from the surface water flooding to the continued risk of river flooding the council commenced actions to help clean up roads, paths and remove bulky waste from flooded homes.
- i) Staff contacted affected individuals to identify humanitarian needs and offer direct support or liaised with other agencies to find the appropriate assistance.
- j) Due to the predicted extreme levels for the River Trent, the council coordinated in person visits to communities at high risk of flooding to reinforce the need to take immediate action to prepare for potential flooding.
- k) Once the risk of further flooding had passed the council commenced its role in meeting the recovery needs of impacted communities and individuals. Grant funding is being delivered to those eligible.
- l) An internal and multi-agency debrief was conducted to identify any lessons learned.
- m) Since the flood the council has worked with parish and town councils to restock stores of aqua sacs.

### 31. The Environment Agency

- a) The Environment Agency warned and informed the community of Lowdham in a timely manner by issuing a Flood Alert for the River Trent Tributaries in Nottinghamshire on 19/10/2023 and Flood Warnings for the Cocker Beck at Lowdham on 20/10/2023.
- b) The Environment Agency also instigated flood patrols to operate their structures in accordance with their incident response procedures and cleared blockages in the area before and after the peak flows.
- c) The Environment Agency commissioned a structural survey of the flood storage area's walls after concerns were raised by residents. The outcome of the survey is that the wall is structurally sound however some minor remedial works have been planned for early 2024.
- d) The Environment Agency organised and attended a multi-agency community drop in event which was attended by Nottinghamshire County Council, Severn Trent Water, Jacksons Construction and members of the Lowdham Flood Action Group. The event was hosted at Lowdham Church of England Primary School and was well attended by the community.
- e) The Environment Agency coordinated community information officers and surveyors to gather information and visit affected communities to understand the impact of flooding on affected communities and collect data.

### 32. Trent Valley Internal Drainage Board

The IDB is working closely with lead partners to identify and deliver appropriate solutions, including supporting securing funding applications and with engineering and design expertise. In all parts of the IDB districts (both Trent Valley and Isle of Axholme and Northern Nottinghamshire) the regular annual maintenance regime has been and will continue to be delivered to reduce risk and identify potential risk areas.

## **Additional Information and Future Actions**

33. 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 contained within this report.
34. Lowdham Parish Council and its residents have a well- established working relationship with a number of the RMAs including NCCs Flood Risk Management Tea, the Trent Valley Internal Drainage Board and Via East Midlands and are committed to continue with that working relationship.
35. In 2021 Severn Trent Water in partnership with Nottinghamshire County Council completed a scheme to improve the surface water and highway drainage in Southwell Road and Willow Holt areas. NCC are currently pursuing a resolution to ownership concerns with some of the piped system in the Willow Holt area and are working with affected residents.
36. Construction has started on the Environment Agency's Lowdham Flood Alleviation Scheme and is due to be completed in late 2025 with final commission and operation in early 2026. This flood storage reservoir will have a storage capacity of 100,000m<sup>3</sup> and will provide enhanced flood protection to 191 properties.
37. 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. Nottinghamshire County Council will continue to work closely with partners and communities to identify ways of proactively reducing the risk, likelihood and consequences of future flooding events.
38. NCC will continue to support Lowdham's Flood Warden / Road Closure training programme and community volunteer groups to help ensure they operate as effectively and safely as possible.
39. The Flood Risk Management team will look at the suitability of its Property Flood Resilience Programme for communities affected by Storm Babet and will take recommendations through the Cabinet Member later this year for consideration.
40. NCC will work with its partners to look at ways of strengthening the enforcement of riparian responsibilities alongside developing our asset inspection process.