



APPENDIX M

SECTION 19 REPORT – HUCKNALL – 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), Ashfield District Council (ADC), Nottinghamshire County Council (NCC) as Lead Local Flood Authority (LLFA), VIA East Midlands Ltd as Highways Authority on behalf of NCC and Severn Trent Water Ltd. (STW).
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. Hucknall is market town located approximately 13km to the north of Nottingham. Hucknall is surrounded on the north, east and west by rural / agricultural land. A number of watercourses run from west to east through the town discharging into the River Leen.
7. The watercourses are a mix of riparian owned and main river (EA managed) Figure 2 shows how the watercourses pass through the town.
8. Between 12:00 noon on 18 and 23:00 on 20 October, 125.8mm of rainfall was recorded at the Sutton in Ashfield rain gauge, which is approximately 9km from Hucknall (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, 92 residential properties and businesses in Hucknall were subject to internal flooding with more suffering flooding to gardens and outbuildings.

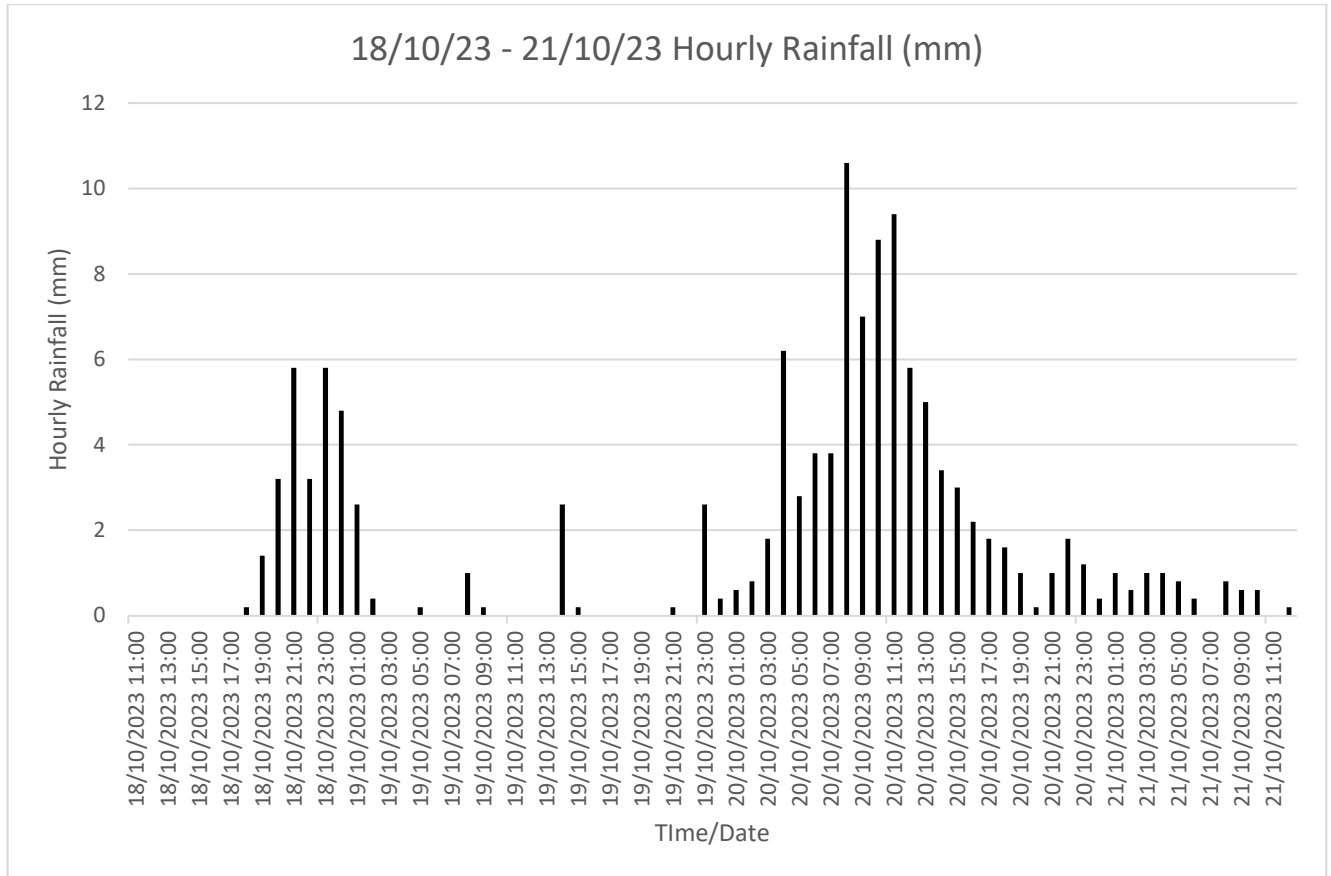


Figure 1. Sutton in Ashfield Hourly Rainfall from 12:00 18 to 23:00 20 October 2023. Data supplied by the Environment Agency.

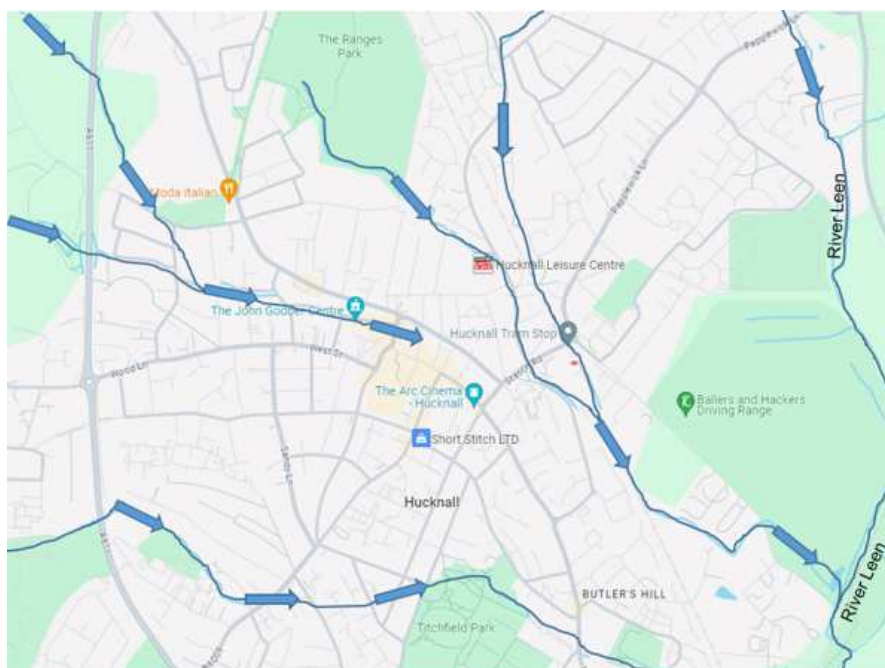


Figure 2. Map of Hucknall showing watercourses running through the town.

11. The flooding in Hucknall was widespread and affected a number of different areas across the town. Figure 3 highlights the areas where internal flooding was recorded.



Figure 3. View of Hucknall highlighting areas affected by internal flooding (number of affected properties shown in brackets).

Summary of flooding and its causes

12. The watercourses and topography of the town combine to create a natural risk of flooding to the area. Figures 4 and 5 overleaf 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>).

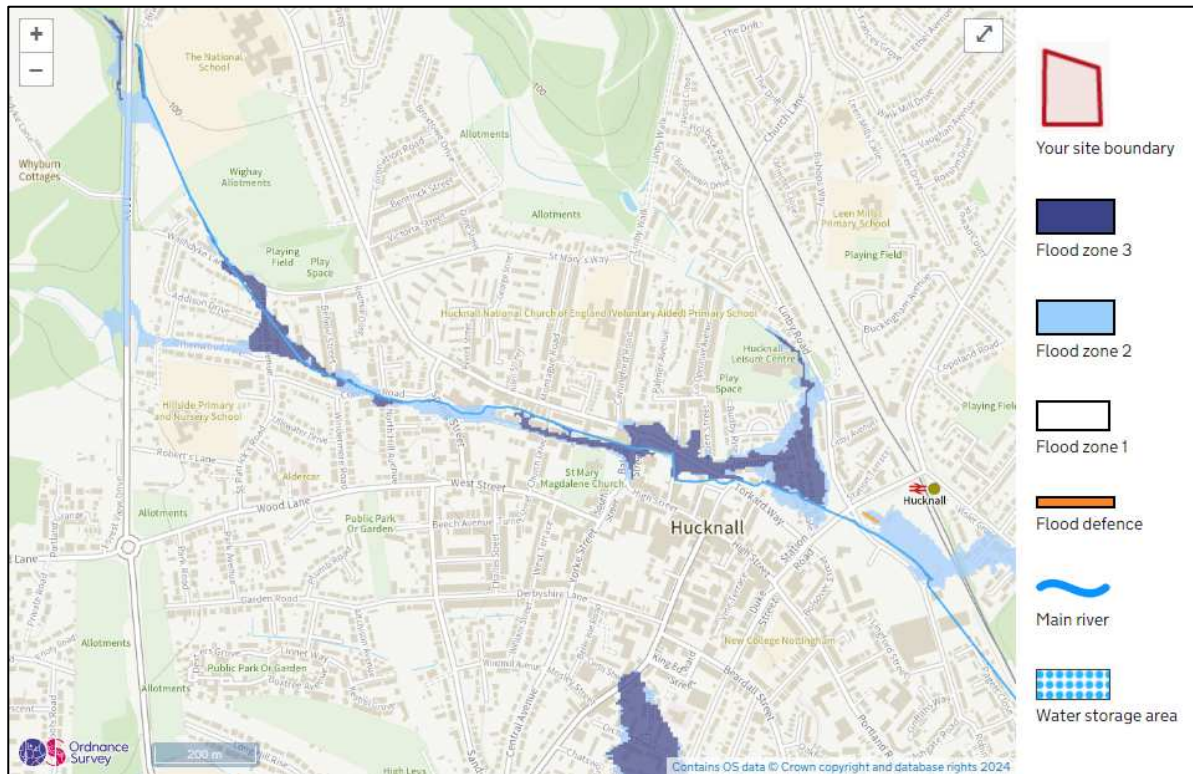


Figure 4. Predicted Flood Zone Extents

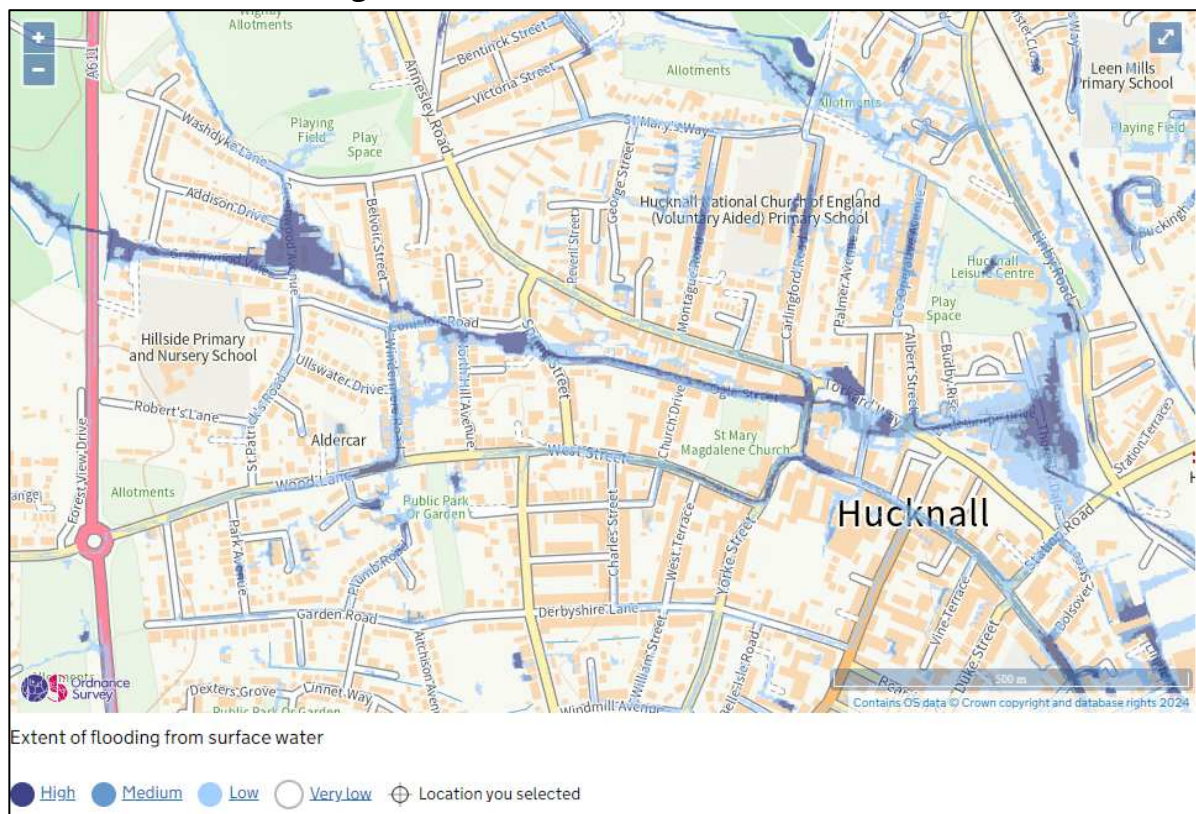


Figure 5. Predicted Surface Water Flood Extents

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.

13. The flooding in Hucknall was widespread and affected a number of different areas across the town. Each of the areas affected sits either adjacent or very near to existing

watercourses (open or culverted) or large open spaces. It is assumed that the flooding across the catchment was a direct result of the saturated ground conditions and sheer volume of rain that Storm Babet delivered. Witness reports acknowledged watercourses spilling over onto roads in numerous areas and this correlates with the assumptions made.

14. One of the worst affected areas of Hucknall in terms of number of properties affected is the Greenwood Vale / Avenue area with 39 properties reported as internally flooded.

The Greenwood Vale / Avenue area is built over a riparian owned culverted watercourse that takes water from a large upstream catchment and flows through the centre of the town. This catchment also includes the Dob Park Balancing Reservoir that was constructed in the early 1990s as part of the A611 Hucknall Bypass Phase 2.

The reservoir was designed to hold 24000m³ of water during storm conditions, holding the water on the western side of the A611 and reducing the risk of flooding to Hucknall.

15. Figure 6 shows the upstream catchment that feeds into Dob Park reservoir.

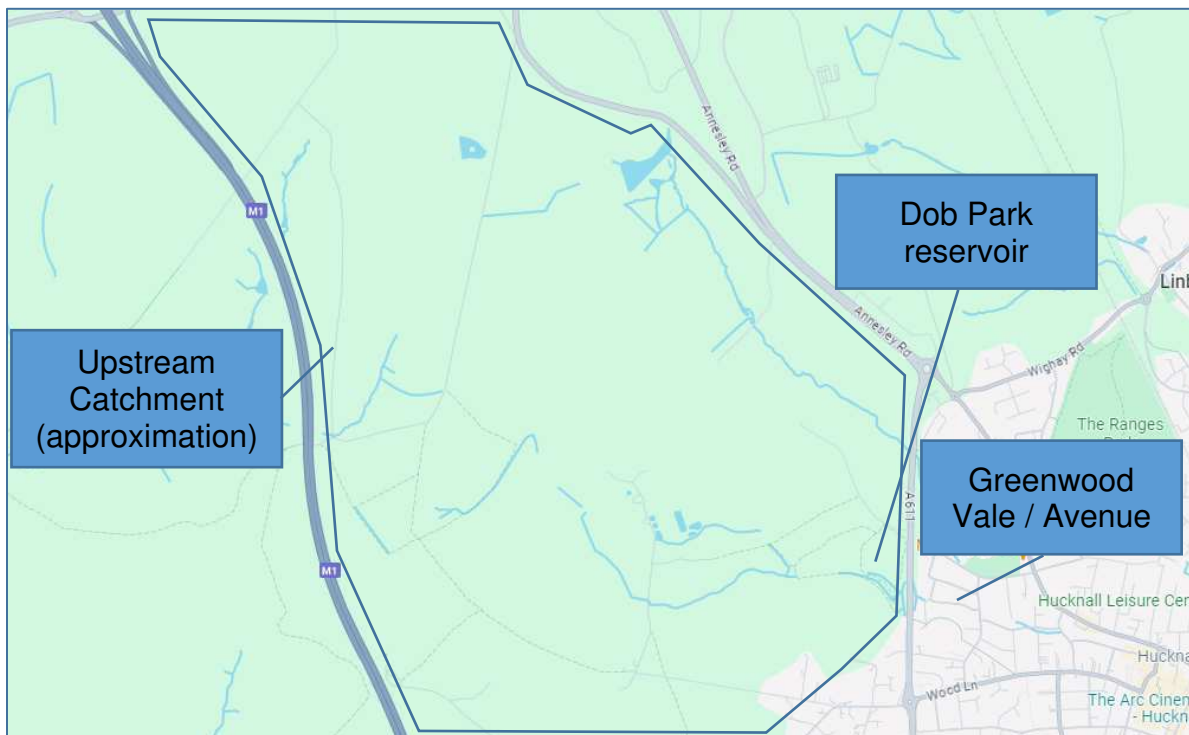


Figure 6 Upstream catchment serving Dob Park reservoir.

16. The reservoir works by catching flows from the upstream catchment and discharging them at a controlled rate into the downstream catchment (east of the A611). The flows come from two watercourses in the catchment. In certain conditions excess flows from the northern watercourse are diverted into the reservoir. This arrangement is controlled by a bifurcation manhole structure located adjacent to the A611 north of Dob Park.
17. The reservoir design includes a spillway which allows excess flows to discharge from the reservoir, bypassing the flow control structure, and preventing water flowing over the A611. This spillway is constructed at approximately 320mm lower than the A611. Figure 7 shows an extract from the original design drawings and the two levels are highlighted.

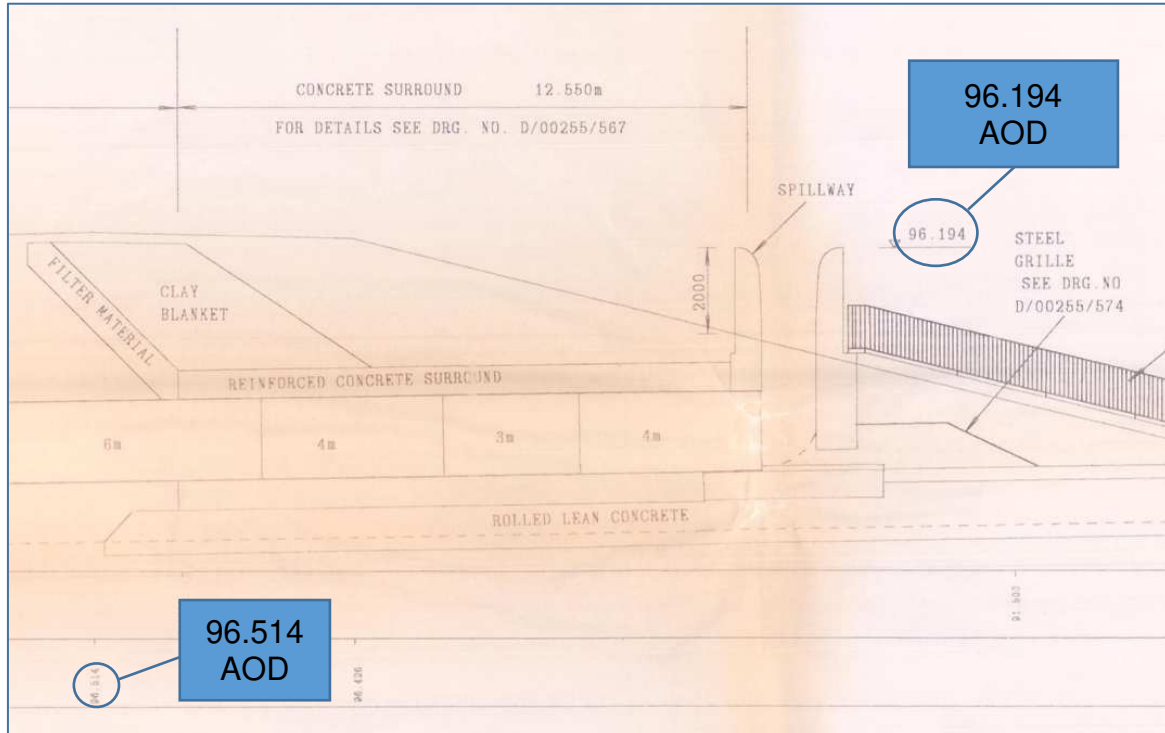


Figure 7. Excerpt from original A611 Phase 2 design drawings showing level differences between A611 and Dob Park spillway (AOD is height above ordnance data).

18. Dob Park reservoir discharge rate is hydraulically controlled by the diameter of the outgoing pipe. This pipe is protected from blocking by a steel grille / trash screen. There are no sluices on this structure. Following the flood event this trash screen was checked and debris that had accumulated was cleared. There was no evidence of any blockages and the trash screen was working effectively.
19. Drone footage of the flooding was provided by a resident local to the flooding and Figure 8 is a still taken from this footage. Stag Communications have given permission for the use of their images in this report. The still shows Dob Park reservoir storing water and surface water pooling in the low point of the A611 Hucknall Bypass.



Figure 8. Drone footage of Dob Park Reservoir and A611 after the flooding (picture courtesy of Stag Communications)

20. Witnesses report significant volumes of water flowing down Greenwood Vale towards Greenwood Avenue resulting in devastating flooding to many properties. Figure 9 shows the impacts of the flooding.



Figure 9. Flooding to Greenwood Vale / Greenwood Avenue

21. Management of surface water flows in the catchment is quite complex and, whilst there is no evidence of operational failure, it is acknowledged that the capacity of the various existing assets must have been exceeded in places. This exceedance may well be due to the unprecedented amounts of rain delivered during Storm Babet however as part of our response to the flooding we are commissioning a detailed investigation into the current hydraulic performance and interaction of the surface water assets in the area including Dob Park Reservoir. This investigation will help to understand whether the existing assets perform to the required design standards and whether there are any improvements necessary to the system.

Risk Management Authorities and their responsibilities

22. The 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.

23. Ashfield 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.

24. 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;

- i. Surface water sewers – these carry rainfall and surface water away from properties to watercourses;
- ii. Foul water sewers – these carry wastewater away from properties to be treated;
- iii. Combined water sewers – these drain both wastewater and surface water from properties along with run off from highways.
- iv. Managing the impact of flooding to their networks by ensuring their systems have the appropriate level of resilience to flooding.
- v. Engage with RMAs on how water and sewerage company assets impact on local flood risk.
- vi. 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

25. 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:

26. 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) Commissioned investigation into various surface water assets serving the Dob Park catchment with a view to ensuring a clear understanding of condition, performance and ownership.
- q) Liaised with residents and landowner regarding Polperro Way flooding and improvements to be made in the area.

27. Ashfield District Council

- a) From a pro-active aspect, ADC carried out inspections of the watercourses and drainage assets we are responsible for in Hucknall on the 19th October 2023 to ensure grids etc. were clear and water was flowing.
- b) Senior Officers from ADC attended all Nottingham & Nottinghamshire LRF Strategic, Tactical, and Recovery Co-ordinating Group Meetings and the LRF Communication Cell which had also been stood up.
- c) Stood up ADC Internal Incident Management Team in response to the situation.
- d) Made reference to the LRF's Local Flood Plans for guidance (covering Hucknall & Jacksdale areas).
- e) Operationally, provided emergency response support in management of the flood event, working with colleagues from the LLFA prioritising attendance to affected properties, deploying sandbags to prevent internal flooding of domestic premises.
- f) Opened a Rest Centre at Hucknall Leisure Centre for evacuees from severely flooded domestic properties in Hucknall.
- g) Made offer of assistance/mutual aid to Newark & Sherwood District Council in terms of making the Rest Centre available for use for evacuees from Newark & Sherwood.

- h) Scaled back the Rest Centre to a temporary place of safety when considered appropriate to do so once reasonably accurate numbers of evacuees requiring assistance had been established.
- i) Provided flood advice communications to members and other stakeholders through the various social media channels and platforms available to the Authority including a new Flood Advice page on the ADC website with links to well established flood advice resource such as NCC and Environment Agency web pages.
- j) Held an internal Storm Babet debrief identifying several learning outcomes and actions.
- k) Attended the Nottingham & Nottinghamshire LRF Storm Babet debrief meeting at the Environment Agency's Trentside offices – awaiting report and recommendations / learning outcomes.
- l) Actively engaged in the Section 19 Flood Investigation and provided support to the Lead Local Flood Authority.

28. Severn Trent Water Ltd.

- a) Mobilised operational crews to areas that were reported as sewer flooding.
- b) Liaised with LLFA on Section 19 report.

Additional Information and Future Actions

- 29. 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.
- 30. Previous significant capital investment into Flood Risk in Hucknall reduced the impacts of Storm Babet. Dob Park reservoir held 24000m³ of water away from the residential areas of Hucknall. The areas downstream of Titchfield Park reported only one internally flooded property as did the Thoresby Dale area. Both these areas have suffered much wider spread devastation of flooding in previous storm events.
- 31. The following are actions proposed by Ashfield District Council:
 - a) Implementation of learning outcomes/recommendations from ADC's internal Storm Babet debrief including new Flood Advice page on website, Rest Centre review with NCC colleagues, production of Flood Action Card for the ADC Major Emergency Plan, undertake business continuity test/exercise(s), roll out of the LRF's 'Concept of Operations' training course for all ADC Executive and Assistant Directors.
 - b) Implementation of any additional learning outcomes/recommendations from the LRF's Storm Babet debrief applicable to ADC when these are made available.
 - c) Review need to increase internal stock of sandbags.
 - d) Work with LLFA partners in any flood attenuation/prevention works in future.
- 32. 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.

33. 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.
34. NCC will work with its partners to look at ways of strengthening the enforcement of riparian responsibilities alongside developing our asset inspection process.