Nottinghamshire County Council

APPENDIX J

SECTION 19 REPORT – WORKSOP – 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 Risk Management Authorities 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 Risk Management Authorities.

3. The objective of this report is to investigate which Risk Management Authority 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), Nottinghamshire Police, Nottinghamshire Fire and Rescue, Severn Trent Water (STW) and Bassetlaw District Council (BDC).

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 7th November 2019, parts of the East Midlands experienced a month's worth of rainfall in just 24 hours. 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, this resulted in extensive flooding across the Nottinghamshire area including Worksop is the largest town in the Bassetlaw district of Nottinghamshire sitting closely to the borders with

South Yorkshire, and Derbyshire. The population was 41,820 at the 2011 census. Worksop has been built and grown adjacent the River Ryton which is a main river that flows through the centre of the town.

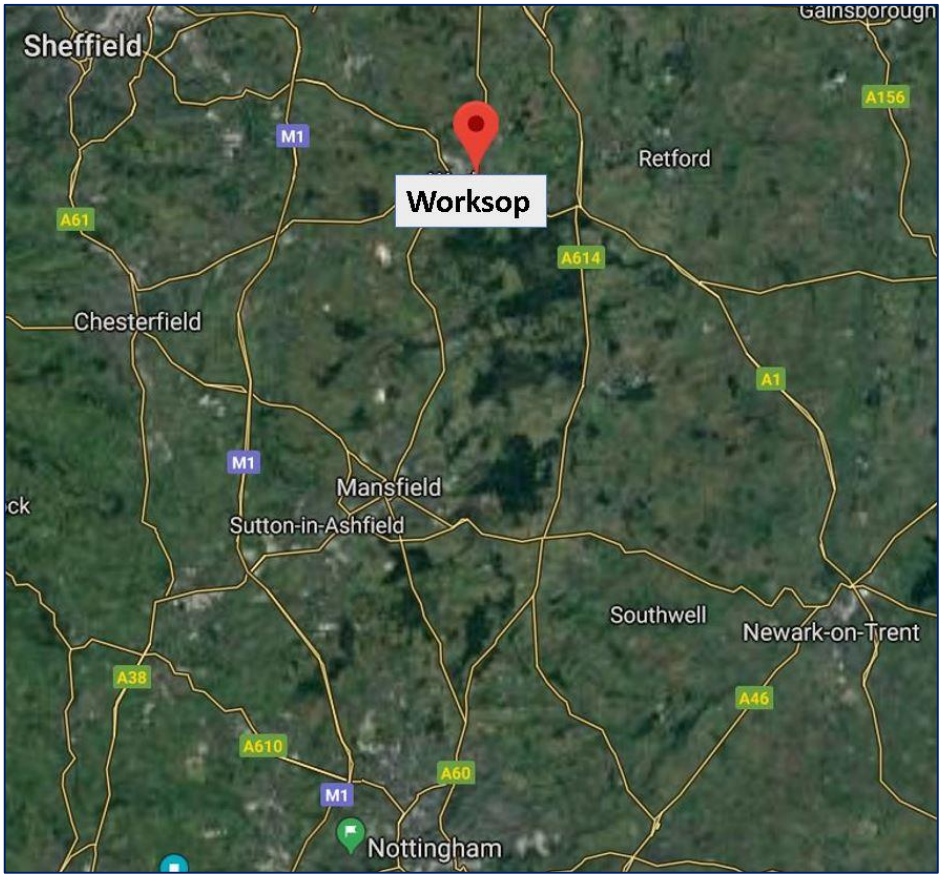

Figure 1. Location Plan

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 as shown in Figure 2 below.

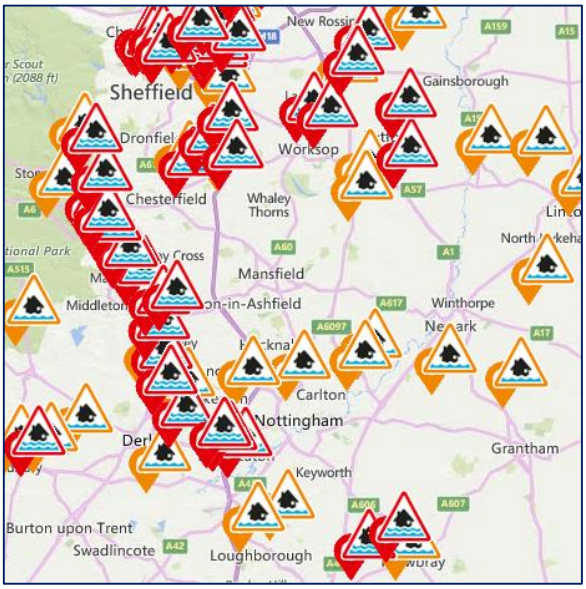

Figure 2. Flood Warnings and Alerts Issued during November 2019

Starting in the morning of the 7th of November 2019 and increasing in intensity and geographical impact through the day, Worksop suffered a significant flood event with 308 reported incidents of internal flooding, 128 properties and 180 businesses. The flooding also affected the public highways in the town and many gardens and curtilages.

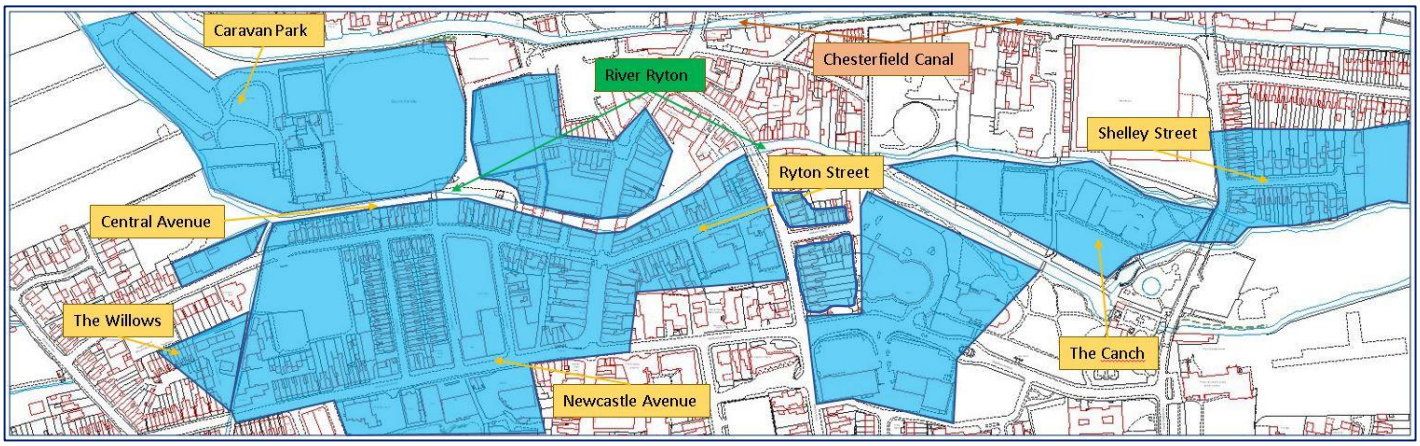

Figure 3. Plan highlighting areas affected by flooding.

Summary of flooding and its causes

7. Worksop has a history of flood issues with previous incidents recorded from as early as 1922 and repeated in 1932, 1958, 1964. The most recent historical event was in 2007 where 284 properties were recorded as flooded internally. Major historical flooding incidents in Worksop have predominantly been attributed to the River Ryton overtopping its banks and water flowing through the heavily urbanised centre of the town, with some exceedance of the drainage infrastructure contributing to pluvial flooding.

As previously evidenced the weather leading up to the flooding was extreme in nature and Figure 4 below provides further detail to support this. An increase in river levels can be clearly seen starting in October and with significant peaks in November.

The nearby Manton rain gauge recorded 50.6mm of rain falling on Worksop on the 7th which followed 22mm of rainfall on the previous day the 6th. The peak of 2.16m is the second highest level on record after 2.189m which was recorded in June 2007. The significant amount of rain explains the near record high peak levels recorded at the River Ryton's monitoring gauge shown below.

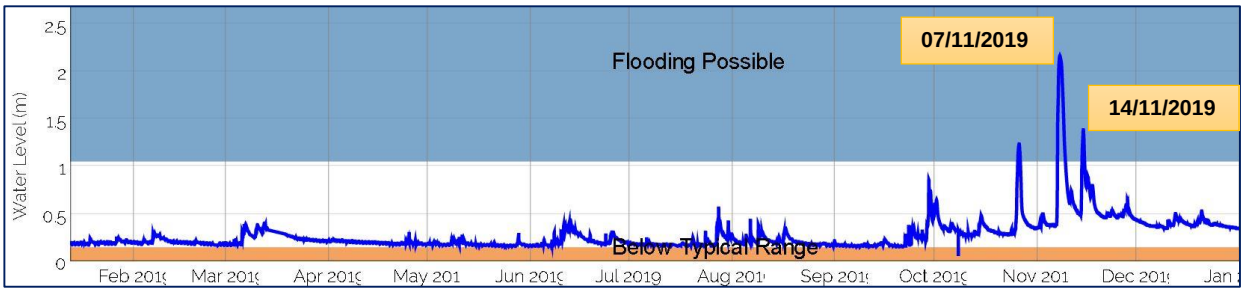

Figure 4. River Ryton levels highlighting peak river levels at time of flooding

It should be noted that the information contained within this report is a summary of many pieces of information provided by residents and witness statements, all of which will be considered and subjected to verification in future hydraulic studies by the Environment

Agency. The River catchment is very large and contains some complex control arrangements whose interaction must be fully understood before detailed conclusions can be met

Flooding Timeline

The following plans figure 5 and figure 6 are taken from the Environment Agency's online Flood Risk Maps. They show the predicted flood extents for when the River Ryton overtops. Dark shading shows the flood extent caused by less extreme (high risk) rainfall events which have a higher probability of occurring and lighter shading shows the flood extents following a very extreme rainfall event (low risk) which has a very low probability of occurring.

If you consider the actual flooded areas shown in figure 3 above, together with the predicted flood extents shown in figures 5 and 6 and how closely they align it is evident that the flooding occurred as is predicted therefore indicating no unusual or mitigating circumstances.

This information also supports early indications that the flooding on 7th November was a result of low probability, extreme weather.

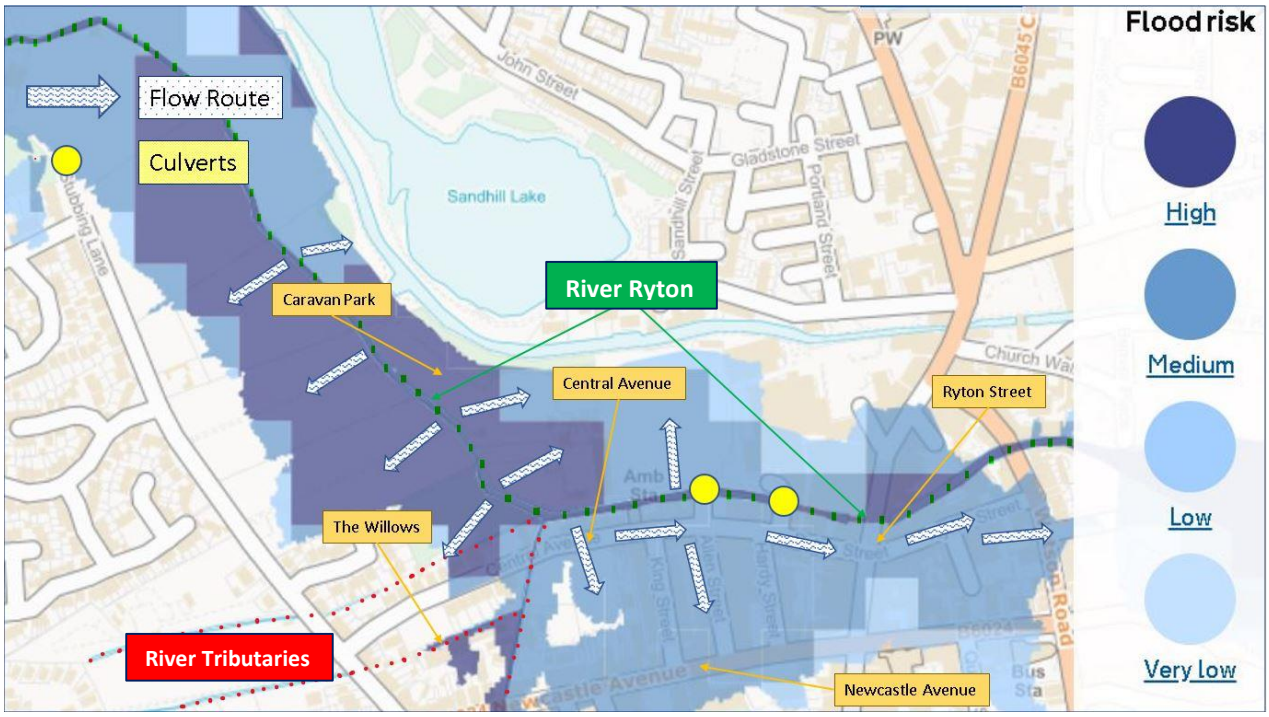

Figure 5. Caravan Park and Culvert Location showing flow paths from overtopped River.

At around mid morning of the 7th the River Ryton started to overtop its left bank adjacent the Riverside Caravan Park and Sports Pavillion. Residents and witness reports suggest the River backed up from the point where it is culverted under the access to the sports pavillion and town centre buildings just down stream. This information will be one of many pieces of witness information that will be subjected to hydraulic verification by the Environment Agency (discussed in Future Actions later in the report). Figure 5 shows the Caravan Park and location of culverts.

The Caravan Park was the first area of Worksop to flood with those present helping to move caravans and valuables out of the rising flood water where possible. At the same time the sports pavillion and cricket pitches were also now flooding and it would appear that the flood water was confined to these locations for a short while.

Towards early evening reports suggest the river levels and amount of stored water had increased to sufficient depth for it to now overtop the right bank spilling out onto and along the highway network and flooding properties along and around the Central Avenue area including Hardy Street, Allen Street, King Street, Newcastle Avenue and Ryton Street.

Evidence also shows that, due to the River Ryton being surcharged, its tributaries began to back up as they could not flow into the Ryton. These tributaries then started to overtop and cause flooding issues for properties in their catchment. There were also reports of water rising up from the ground along the route of an historic watercourse something that, whilst still to be verified, supports the almost unprecedented conditions at the time of the floods.

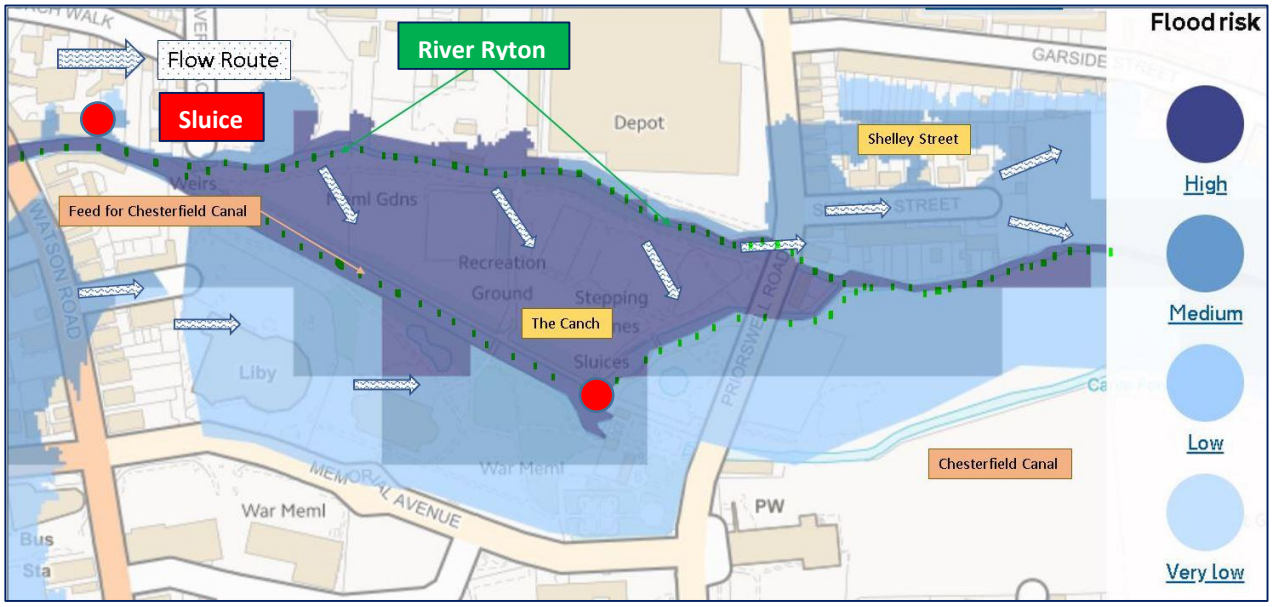

Figure 6. Flood Extents and Flow Routes in The Canch area

The surcharged river was also preventing the surface water drainage network having a free discharge into it so flood levels were increasing alarmingly. Roads in the centre of the town became inpassable and the Police began to request that some of the roads be closed for safety, this was actioned by Via East Midlands Ltd, on behalf of Nottinghamshire County Council.

As the river levels increased downstream to the eastern side of Worksop, the right bank of the river Ryton adjacent to The Canch spilled over. This water combined with water flowing from the central town and flooded the area around memorial park and the library.

From here it flowed out onto Priorswell Road and onto Shelley Street flooding properties in its path. It has been reported that the water backed up against a wall at the end of

Shelley Street, local residents smashed holes in the wall to allow the water to flow through it in an endeavour to reduce the impact of the flooding.

At The Canch there are several river level and flow control structures including sluices and a weir that serve the River Ryton and the Chesterfield Canal. The Environment Agency, Bassetlaw District Council and the Canal and Rivers Trust will work together to clarify the hydraulic interaction of these structures and how they operated during this event. The Canal and Rivers Trust own one of the sluice gates that serves the area near The Canch.

At approximately 11pm on the evening of the 7th the Nottinghamshire Fire and Rescue Service acting in an emergency response capacity were forced to break open one of these sluices. It has been widely discussed and generally acknowledged that this sluice could have been unlocked and opened sooner and that this may well have lessened the depth of flood water in the area. This information though unverified is incredibly useful and will be used to support the future investigations into the hydraulic performance and operation of the structures led by the Environment Agency and supported by Bassetlaw District Council.

At 21:05 this flood event was declared a Major Incident by the Tactical Coordinating Group (TCG) and the Nottinghamshire Fire and Rescue Service and Police were starting to evacuate people from properties in the central area of Worksop. A rest centre was set up at the local sports centre to assist those who had been evacuated.

In total 128 residential properties and 180 businesses a mix of small to large, including the Bus Depot and Main Post Office experienced internal flooding. Many more people's lives were impacted by large parts of Worksop losing power and several roads in and out of the Town being closed.

The emergency response including the efforts of Western Power, and all follow up actions drew on the expertise and support of many organisations and the community, their ability to work together and resilience to incredibly difficult circumstances should be acknowledged.

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.
iii. Close roads where a need is identified.

9. Bassetlaw 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. 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. Maintenance and Management of the River Ryton

11. Nottinghamshire Police

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.

12. Nottinghamshire Fire and Rescue Service

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.

13. Severn Trent Water

i. Maintenance of the public sewage system.

Risk Management Authority Responses to Flood

14. 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) Nottinghamshire County Council:

i. Initiated and co-ordinated Emergency Planning procedures.

ii. Took an active role in the Tactical Coordination Group once a Major Incident was declared.
iii. Set up drop in points with partners in the town closely after the event, to offer advice and assistance to those directly affected by the flooding. The drop in points were available from Sunday 9th to Thursday 14th of November.
iv. Administered Nottinghamshire County Councils Flood Hardship Fund to affected residents.
v. Delivered sandbags where a need was identified, over 5000 were delivered across the County.
vi. Closed Roads where requested and needed.
vii. Via East Midlands Ltd. on behalf of Nottinghamshire County Council repaired damage to the highway on Central Avenue soon after the event.
viii. Initiated and led the Section19 Flood Investigation.

b) Bassetlaw District Council

i. Took an active role in the Tactical Coordination Group once a Major Incident was declared.
ii. Provided emergency response support in management of flooding event.
iii. Actively engaged in the Section 19 Flood Investigation.
iv. Administered Flood Hardship fund.

c) The Environment Agency

i. Provided emergency response crews to assist in management of flooding event.
ii. Anticipating the scale of the event and 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.

d) Nottinghamshire Police

i. Instigated and led the Tactical Coordination Group once a Major Incident was declared.
ii. Provided emergency response to assist in management of flooding event.
iii. Identified and enforced road closures where needed

e) Nottinghamshire Fire and Rescue Service

i. Took an active role in the Tactical Coordination Group once a Major Incident was declared.
ii. Provided and operated pumping equipment where required.
iii. Evacuated residents from homes by boat where a need was identified.
iv. Opened a sluice gate to lower flood levels when the need was identified.

f) Severn Trent Water

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

Additional information and Future Actions

8. The Canal and Rivers Trust own one of the sluice gates mentioned previously that serves the area near The Canch, the Environment Agency are responsible for the operation of the others. During the event there were some communication issues between the responsible parties that ultimately led to the delayed decision, at around 11pm to open the building that houses the sluice so that the fire service could open it. It is hoped that a review of emergency procedures will prevent this situation happening again and result in clear actions to be taken in any future emergencies.

The flood levels did not begin to drop until the early morning of the 8th of November. However, the flooding was severe enough that the Nottinghamshire Fire and Rescue Service were still evacuating people from properties in the Newcastle Avenue area until later that day.

The incident was resolved effectively, and special mention should be made of the incredible work carried out by the Emergency Services, The British Red Cross, Western Power, members of the local community and other volunteers throughout the night of the 7th and 8th of November. This incident could have been significantly worse had they not worked so tirelessly to help where needed.

All the Risk Management Authorities involved in this event are committed to continuing the investigations into the causes of this incident. The Environment Agency will lead the investigation, Nottinghamshire County Council and other Risk Management Authorities will assist in partnership. Funding is being sought to enable a full catchment study into the flood risk in Worksop, the outcome of this bid will be announced in the spring of 2020. Should the Environment Agency identify any potential future flood mitigation schemes following that study, Nottinghamshire County Council are commited to work with them to secure the Capital Funding required to deliver them.

The Environment Agency are leading the investigation into this incident and have identified the following actions to be developed into a cohesive plan:

- Review their Communications and Engagement plan, including more pro-active communications with the community to help them better understand risk management authority responsibilities, maintenance activities, and mitigation taking place in the area.
- Review whether temporary barriers can be deployed and if feasible, draft relevant deployment plans, identifying any potential road closure issues.
- Consider possible options for storage between River Ryton and the Canal feeder channel with Bassetlaw District Council.
- Work with partners to remove build-up of vegetation in and around the Canch area, also through town centre and surrounding areas.
- Review current maintenance schedules, including the frequency and chronology of certain activities.
- Install onsite cameras in key areas to aid response and direct resource accordingly.
- Work in partnership with other Risk Management Authorities to support community drop in sessions for those affected to share their experiences and seek advice and support.
- Carry out detailed hydraulic modelling of the River Ryton, including the impact of complex control structures, with a view to investigate various flood risk management alleviation options for Worksop.

Bassetlaw District Council will support future investigations and reviews into emergency procedures. They recentley led the organisation of public drop in sessions in Worksop and Retford on the 10th and 12th of February. These were atttended by officers from multiple agencies providing updates, advice and assistance where required. They will also be administering Government grants where applicable.

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.