Nottingham City Council

Flood Investigation Report:

23rd July 2013 Flood Event

Bestwood Road, Bulwell, Nottingham

December 2015 - Report prepared under Section 19 of the Water Management Act 2010

Safer, cleaner, ambitious Nottingham
A city we're all proud of

Nottingham City Council

CONTENTS

FLOOD INVESTIGATION REPORT SUMMARY

Nottingham City Council is a Lead Local Flood Authority (LLFA) under the Flood and Water Management Act (2010).

Section 19 of the Act states that on becoming aware of a flood the LLFA must, where appropriate, investigate which Risk Management Authorities have relevant flood risk management functions and whether they have exercised, or are proposing to exercise, those functions in response to the flood.

A number of thunderstorms passed over the City on 22nd and 23rd July 2013. On the evening of 23rd July 2013 an intense storm passed over the north of Nottingham causing over 100 residential properties to flood across the City. A total of 6 properties suffered internal flooding on Bestwood Road, Bulwell.

This Flood Investigation Report has been completed by the City Council in consultation with relevant Risk Management Authorities. The report summarises the formal investigation that has been undertaken, including any factors that contributed to the causes and impacts of the flood event and describes all roles and responsibilities and future actions.

1 INTRODUCTION

1.1 What is a Formal Flood Investigation?

Flooding has a devastating impact that affects people, property, businesses, the environment and transport. There are many different sources of flooding including rivers, sewers, surface water and groundwater and there are a number of Authorities and organisations involved in managing the risk of flooding from these different sources. Flooding can be caused by a complex interaction of different sources that can be difficult to resolve, particularly in urban areas.

Nottingham City Council is a Lead Local Flood Authority (LLFA) under the Flood and Water Management Act (2010). In recognition of the complex nature of flooding and the number of different Authorities that can be involved, Section 19 of the Act places a duty on the City Council to investigate the causes of flood events in their area, as appropriate. The legislative requirements of Section 19 are included below.

Flood and Water Management Act (2010) – Section 19

(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 have relevant flood risk management functions, and

(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) it must—

(a) publish the results of its investigation, and

(b) notify any relevant risk management authorities.

This report has been prepared in response to this legislative requirement.

1.2 Which Authorities are involved?

The Flood and Water Management Act (2010) identifies organisations that have flood risk management responsibilities as 'Risk Management Authorities'. Table 1 shows the key responsibilities of Risk Management Authorities that operate in the Nottingham City area.

Due to the number of different organisations involved, the City Council is responsible for leading on flood investigations and works in partnership with relevant Risk Management Authorities. Through leading the investigation, the City Council will identify which Risk

Management Authorities have flood risk management functions in relation to the flood event and what actions they propose to take, if any, to reduce flood risk in the future.

Table 1: Risk Management Authorities in Nottingham City Council's administrative area.

Risk Management Authority	Flood Risk Management Functions
Lead Local Flood Authority & Highway Authority: Nottingham City Council	• River (fluvial) flooding from minor watercourses ('Ordinary Watercourses') • Surface water (pluvial) flooding • Groundwater flooding • Provision and maintenance of highway drains and road gullies
Water and Sewerage Company: Severn Trent Water	• Providing effectual drainage • Maintaining adopted public sewerage network
Environment Agency	• River (fluvial) flooding from large watercourses ('Main Rivers') • Flooding from the Sea and estuaries • Reservoir flooding

1.3 When are Formal Flood Investigations undertaken?

The City Council has developed thresholds and triggers for when a formal investigation will be undertaken following a flood event. The thresholds relevant to this Flood Investigation Report are summarised below:

Nottingham City Council Thresholds for Initiating Flood Investigations

For a residential dwelling such as houses or flats including Nottingham City Homes properties a Section 19 flood investigation shall be carried out where:

- internal (over the doorstep) flooding affects five or more properties and the properties are either in close proximity or the flooding is hydraulically linked.

The flood event on 23rd July 2013 caused the internal flooding of 6 properties on Bestwood Road. This Flood Investigation Report has been compiled because the number of properties that experienced internal flooding exceeds the thresholds that have been set by the City Council.

2 DESCRIPTION OF THE LOCAL AREA

2.1 Location of the flooding incident and the local area

Bestwood Road is located approximately 7.5km north west of Nottingham City centre in the area of Bulwell close to the City border. This is predominately a residential area; the west side of Bestwood Road is bounded by the Nottingham – Mansfield railway line and the east side is bounded by Bulwell Forest and golf course (Figure 1).

The surrounding land is sloping down from Rise Park in the east to the River Leen on the west side of the railway line from an elevation of approximately 105mAOD to 48mAOD.

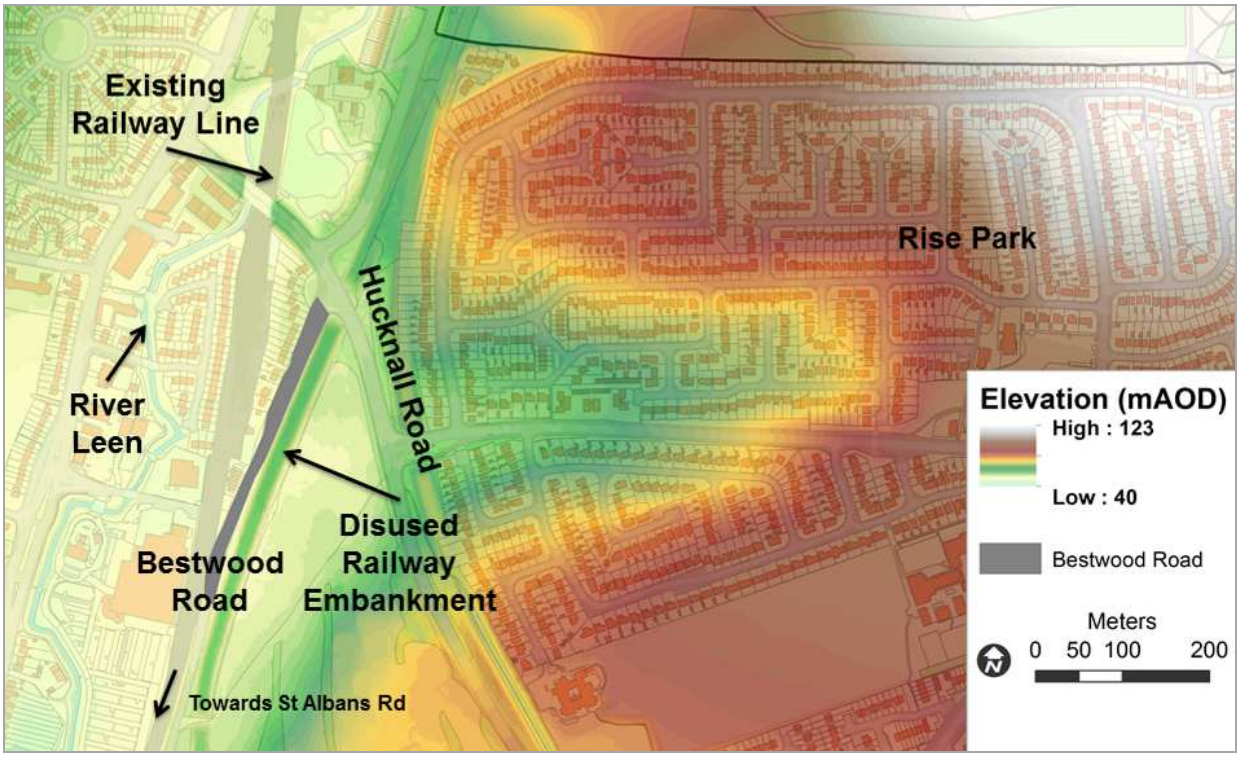

Figure 1: Site Location and Topography.

The elevation on Bestwood Road falls by approximately 3m from the junction with Hucknall Road in the north to the lowest point and rises again by 1m towards the junction with St. Albans Rd in the south.

Some of the residential buildings are over 150 years old and became enclosed between the Nottingham-Mansfield railway line and the Bestwood Branch around 1885. The now disused Bestwood Branch forms an approximate 6m high artificial bund on the east side of Bestwood Road whilst the Nottingham – Mansfield railway is still in use.

The area was further developed in the 1960's with additional residential properties and presumably the creation of a modern sewerage system (see Section 2.2).

2.2 Local river and drainage systems

The River Leen drains approximately 60km^2 of rural and urban land at Bulwell, Nottingham and flows from the north to south approximately 90m to the west of the flooded properties on Bestwood Road.

Bestwood Road is served by separate surface water sewers and a combined foul water and surface water sewer network. Severn Trent Water's public sewer records show that two surface water sewers outfall through flap valves into the River Leen to the west of the flooded properties and the combined sewer follows the north-south line of Bestwood Road.

Bestwood Road is at the bottom of the drainage catchment meaning that all the surface water from the surrounding area will be collected in the surface water public sewer and discharged into the River Leen. The public surface water sewer drains an urban area of approximately 0.8 km^2 at the flooded properties on Bestwood Road.

Severn Trent Water's public sewer records show that two surface water sewers which drain the wider Rise Park and Bestwood area combine in Bestwood road. These feed the two surface water sewers that discharge in to the River Leen north and south of the flooded properties and are 900mm and 750mm in diameter respectively. The flooded properties are served by a separate surface water sewer that connects to the main surface water sewer on Bestwood Road.

Surface water would naturally drain towards the River Leen due to the west sloping topography of the surrounding area. The existing railway embankment, approximately 1-1.5m above the natural ground level, to the west and the disused railway embankment to the east of Bestwood Road forms artificial barriers to this overland flow route.

It is important to note the close proximity of the River Leen to Bestwood because in flood events the river levels may rise. It is unlikely that this would cause fluvial flooding on Bestwood Road due to the artificial bund created by the existing railway track. However, raised river levels may have the potential to influence the ability of the drainage network to outfall freely into the River Leen. The flooded properties are approximately 90m east of the outfalls of the public sewer network on the River Leen.

2.3 Historical flood events

Nottingham City Council and Severn Trent Water hold no records of internal or external flooding as a result of rainfall on Bestwood Road prior to the flood event on 23rd July 2013.

Following the flooding of 23rd July one resident has reported that properties on Bestwood Road have flooded externally in 2011 but no other events have been recorded.

2.4 Areas predicted to flood

The Environment Agency's Flood Map for Surface Water is a national dataset which shows areas that are predicted to be at risk of flooding from surface water. The Map was made publically available on the Environment Agency's website[1] in December 2013.

The Flood Map for Surface Water shows that the flooded properties on Bestwood Road lie within a primary flow path and are at a high risk of surface water flooding. High risk means that each year, there is a chance of flooding of greater than 1 in 30 (3.3%). Areas at Medium risk (chance of flooding between the 1 in 30 and 1 in 100), Low risk (chance of flooding between the 1 in 100 and 1 in 1000) and Very Low risk (chance of flooding of less than 1 in 1000) are also indicted on the Map. The Map shows that surface water flooding is consistent with a low point in the topography as identified in Section 2.1 and the existing and old railway embankments form barriers to surface water flow. Anecdotal evidence of flooding from 23 July suggests that the flooding experienced is more widespread than is predicted by the Flood Map for Surface Water.

An extract from the Flood Map for Surface Water is included in Appendix A.

The Environment Agency's Flood Map is a national dataset which shows the areas in England and Wales predicted to flood from the river and sea. The dataset was made publicly available and is published on the Environment Agency website[2].

The Flood Map shows that a small part of Bestwood Road lies within Flood Zone 2 which means the area is at risk of flooding from the River Leen between a 1 in 100 and 1 in 1000 year annual probability event. It is likely that the railway embankment on the west side of Bestwood road would reduce the risk of flooding from the River Leen.

An extract from the Flood Map for Planning is included in Appendix A.

[1] Environment Agency Flood Map for Surface Water, available online at maps.environment-agency.gov.uk, select 'Risk of Flooding from Surface Water'

[2] Environment Agency Flood Map for Planning (River & Sea), available online at maps.environment-agency.gov.uk, select 'Flood Map for Planning'.

3 CAUSES AND IMPACTS OF FLOODING

3.1 Weather conditions before and during the event

General conditions in the weeks leading up to the 23rd July 2013 were dry. Rainfall data from the City Council's rain gauge network shows that between 21:00 on 22nd July and 12:30 on 23rd July 2013 three rainfall events occurred. The Bulwell Riverside rain gauge, which is located 1.5km south west of the flooded properties of Bestwood Road, recorded a total of 24mm of rain during this time (Figure 2, Events 1, 2 & 3).

At 17:00 on 23rd July 2013 an intense storm moved south west to north east across the north of Nottingham City, including the Strelley area (Figure 2, Event 4). Rainfall data from the Bulwell Riverside rain gauge recorded 25.8mm of rain in 29 minutes, though affected residents on Bestwood Road recall the rain lasting for up to two hours. At the peak of the storm 17mm of rain was recorded in 10 minutes. It is important to note that rainfall can vary greatly over short distances and that the rainfall data reported here was recorded 1.5km away from the flooded properties. The flood event started during the intense rainfall event at 17:00 on 23rd July 2013.

The City Council commissioned a report to undertake detailed analysis of the rainfall data from the Bulwell rain gauge. This concluded that the main storm at 1700 was a 1 in 36 annual probability event.

The intensity of the rainfall event is important because the current industry standard for design of sewers is to accommodate flows for up to the 1 in 30 year annual probability rainfall event. More severe storm events are therefore more likely to exceed this design capacity and possibly overwhelm the public sewer network. Sewerage systems are designed to the modern water industry standard and are ordinarily expected to accommodate the 1 in 30 year event. The rainfall event exceeded the design standard and Severn Trent Water therefore class the event as 'extreme'.

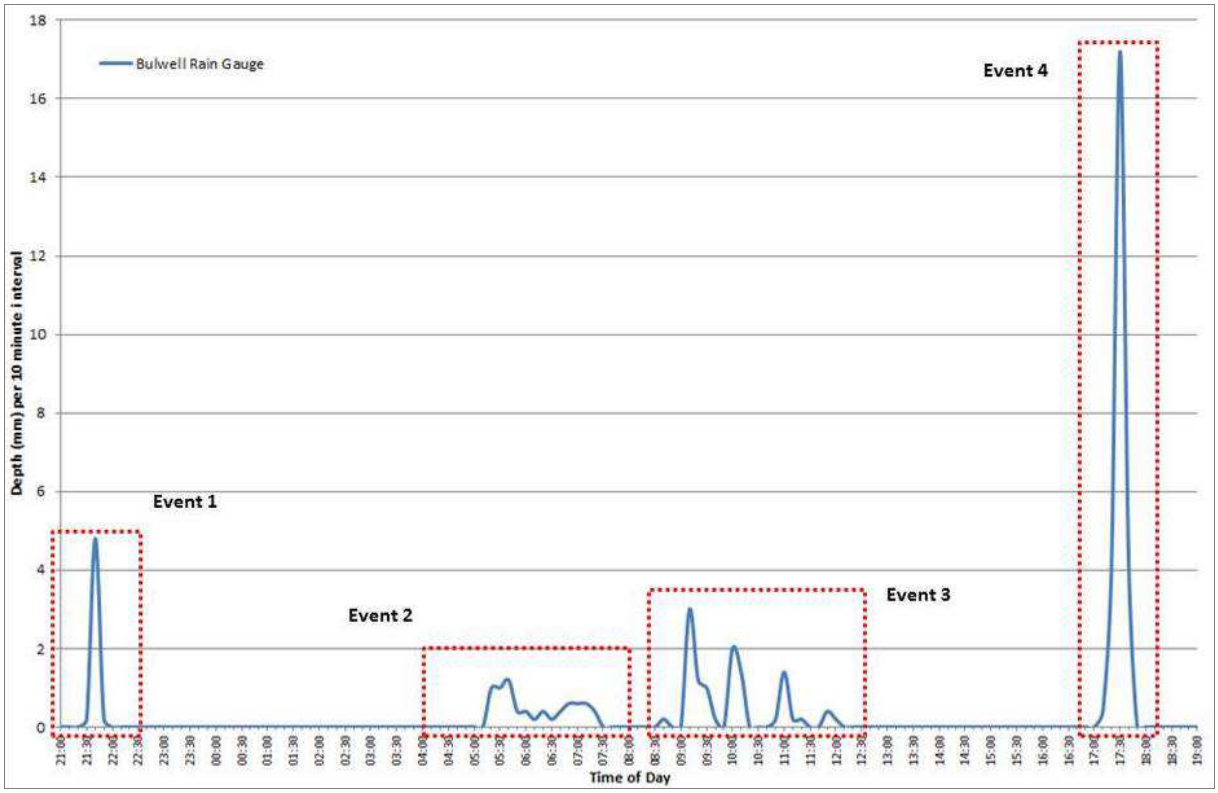

Figure 2: Rain gauge data from Bulwell for the evening of 22nd July 2013 and throughout 23rd July 2013

3.2 Flooding mechanisms and impacts

3.2.1 Observed flooding mechanism

The flooding of properties on Bestwood Road occurred during and after the intense rainfall event at 1700 on 23rd July 2013. It is likely that rainfall in the 24 hours before the main rainfall event (Figure 2, Events 1-3) had saturated areas of green open space both locally and within the wider Bulwell and Rise Park area. This, combined with the intensity of the main rainfall event, resulted in rapid overland flow and ponding of surface water in low lying areas.

Surface water flowed down towards Bestwood Road from the surrounding higher ground, with roadways acting as conduits (Figure 3). The surrounding road network in the Rise Park and Top Valley area falls towards Hucknall Road following the topography of the land west towards the River Leen. It is likely that surface water flowing down Hucknall Road was channelled into Bestwood Road where it flowed towards the low point in the landscape.

Residents report water flowing from the front and rear of properties on Bestwood Road. It was observed that the highway gullies and the private surface water drains at the rear of the flooded properties on Bestwood Road were not draining water away further contributing to surface water flood volumes.

It is likely that the water levels in the River Leen were raised during and after the storm due to the volume of water that had entered the river prior to the storm event at 1700. This may have affected the ability of surface water to freely outfall into the River Leen during and after the storm because the outfalls may have become tide locked. This is supported by highway gullies being unable to drain surface water away.

There is no further evidence of contributory factors that may have increased the flood impact across the area.

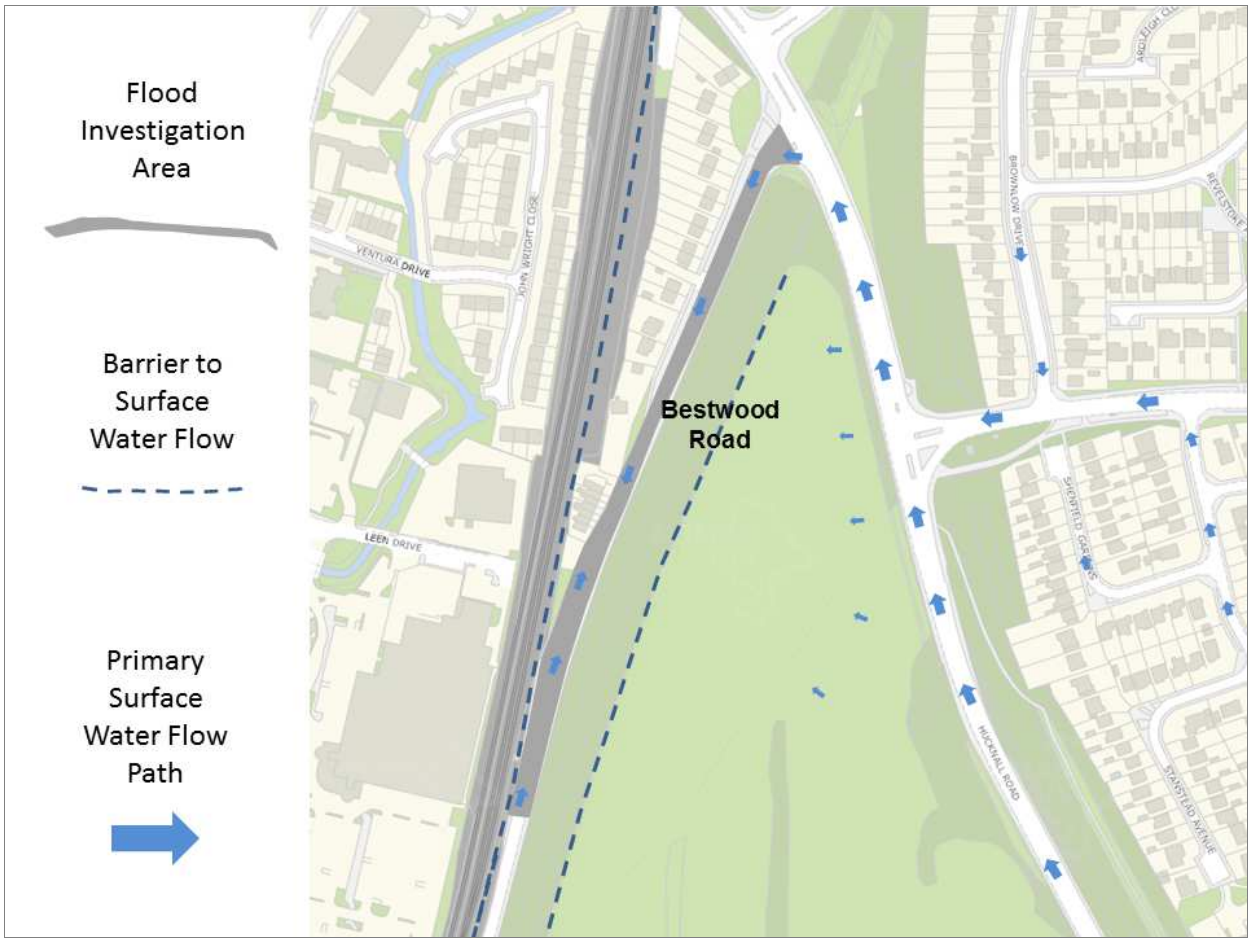

Figure 3: Primary flow routes of surface water during the flood event (based on observed topography).
© Crown copyright and database right 2012. Ordnance Survey Licence number 100019317.

3.2.2 Bestwood Road

During the storm, surface water flowed rapidly along the road surfaces surrounding Bestwood Road. Due the topography of the area water was conveyed along the main trunk of Hucknall Road and was able to be channelled into Bestwood Road at the junction at the north end. Once on Bestwood Road water could pool at the lowest point and was unable to continue the natural passage to the River Leen because of the existing railway embankment on the west side of Bestwood Road (Figure 4).

Figure 4: Existing railway embankment on the west side of Bestwood Road showing the height of the artificial barrier to surface water flow (Facing East)

Whilst it is likely that much of the green open space of Bulwell Forest and golf course to the north of Bestwood Road was saturated from the previous storms and created excess surface water runoff volume it is unlikely that is could have reached Bestwood Road because the artificial bund created by the old railway track to the east.

Residents report the highway gullies were overwhelmed during the storm and were not able to function properly. This allowed for water to pool in low lying areas and finally breach the kerb. Observations made during a site inspection after the flood event show that the threshold levels are not much higher than the surrounding ground level (Figure 5). Once flood water had breached the kerb it was able to enter the properties through front and back doors. This was further exascerbated by vehicles driving through the flood waters and creating bow waves that pushed water towards the flooded properties.

Figure 5: Low threshold of flooded properties on Bestwood Road allowing water to enter the properties.

This excessive surface water flow led to the internal flooding of 6 properties on Bestwood Road with internal flood depths reported of up to 250mm and external flood depths reported up to 900mm. Water was able to pool due to a combination of the topography and the existing railway embankment and cause the internal flooding from the front and rear of the properties.

One resident reported that the flood water was contaminated by sewerage suggesting that the public foul water sewer network was at capacity during the storm.

Table 2: Flooding impact on properties during the flood event.

Location	Number of Properties	Flooding Source	Impact
Bestwood Road	6 (of which 6 are private)	• Surface Water	• Downstairs internal and external damage to stairs, floorboards, doors, walls & furniture.

4 RESPONSIBILITIES, AGREED ACTIONS & RECOMMENDATIONS

4.1 Which Risk Management Authorities have flood risk management functions in relation to the flood event

The flooding that occurred on Bestwood was as a result of intense rainfall that generated large volumes of surface water runoff and likely overwhelmed drainage systems causing water to pond in low lying areas. The following authorities therefore have flood risk management functions in relation to the flood event:

- **Nottingham City Council** is responsible for managing flood risk from surface water and for providing and maintaining highway drainage systems.
- **Severn Trent Water** is responsible for providing effectual drainage on the public sewer network.

4.2 Actions taken by Authorities and the Community before the event

The City Council has an annual, cyclical maintenance regime of road gullies within the City Council area. As a minimum, each road gully is cleansed annually and requests for maintenance are responded to within three working days. The road gullies in the Bulwell area are subject to this annual maintenance regime. It is likely that the road gullies and highway drains in the flooded area and the wider catchment were overwhelmed by the volume, flow and depth of surface water flowing down Bestwood Road. The highway drainage connects into the public sewer network and evidence observed during the event suggests surface water would have been unable to drain away because the public sewer network was at capacity.

Severn Trent Water has a programme of serviceability inspections on the public sewer network to inspect the condition of sewers and remove blockages. It is expected that the sewerage system is designed to modern water industry standards and can ordinarily accommodate up to the 1 in 30 year storm event.

Interviews with affected residents have indicated that external flooding to the properties and flooding to the road has occurred before, though this was not reported to the City Council at the time. Due to the time of day when many residents were out and the flashy nature of the storm, residents did not take any preventative measures before the event on 23rd July 2013.

4.3 Agreed future action plan

Surface water, highway drains and public sewers are closely linked. During this flood there is evidence of surface water being unable to drain into the highway drainage system contributing towards surface water volumes. Any future solution to reduce the risk of flooding to the

affected area would need to be undertaken in partnership between Severn Trent Water and Nottingham City Council.

Nationally, the modern public sewer network is designed to accommodate the 1 in 30 annual probability rainfall event. The rainfall event exceeded the modern design standard and Severn Trent Water therefore class the event as 'extreme'. Severn Trent Water prioritise investment in capacity improvements to the sewerage system based on risk, with the priority given to the most frequent and severe internal flooding. Currently, flooding in an extreme weather event beyond the design standards of the sewerage system does not meet criteria for a capacity improvement scheme at this time. As such, future actions are focused around improving community preparedness and resilience and investigative network analysis, rather than large-scale capital schemes.

Severn Trent Water has identified the public sewer network near Bestwood Road for further investigation. At this point in the network the interaction between the River Leen and the public surface water sewer outfalls is complex and may influence the capacity within the system. CCTV investigative work will be carried out on the network to look for any blockages, restrictions or damage that may be affecting the free flow of water through the public sewer network and there will be an analysis of the outfalls into the River Leen

Nottingham City Council shall continue to maintain the road gullies on Bestwood Road as part of the annual maintenance program. The road gullies have been placed on the Targeted Gully Cleansing Regime which means they shall be cleaned at a greater frequency than road gullies in lower flood risk areas.

Central Government has made available grant funding of up to £5000 for homes and businesses affected by severe flooding in 2013/2014 under the Repair & Renew Grant. Applications for the funding will be made available to residents by Nottingham City Council. Funding will be for the installation of flood resilience or resistant measures to improve the risk of flooding to properties that suffered internal flooding.

The Action Plan below summarises the actions that have been agreed between Nottingham City Council and Severn Trent Water.

Nottingham City Council Actions	Status
Continue to maintain road gullies on a regular basis to ensure that the maximum volume of surface water is transferred to the public sewer network. Gullies on Bestwood Road are to be placed on the Targeted Gully Cleansing Regime for more regular maintenance.	Ongoing maintenance activity. Gullies have been placed on Targeted Gully Cleansing Regime.
Make available and distribute application forms for the Repair & Renew Grant to properties affected by internal flooding between 1st April 2013 and 31st March 2014.	Completed May 2015
Severn Trent Water Actions	**Status**
Ensure flooding of the 23rd July 2013 is included on Severn Trent's records.	Completed
Investigative public sewer network analysis at Bestwood Road to identify any factors affecting the free flow of water into the River Leen.	To be completed in 2015
Maintain serviceability of public sewer system by inspecting and undertaking necessary remedial action (blockage removal etc).	Ongoing
Monitor any future reported internal or external flooding incidents and the nature of the storm that causes flooding to identify any triggers for capital investment.	Ongoing

4.4 Recommendations for affected residents and/or landlords

The table below contains recommendations for individual residents and/or landlords to improve resilience and preparedness of properties on Bestwood Road:

Recommendations for Residents and/or Landlords	Further Advice*
Residents should recognise that their property is vulnerable to future flooding in extreme rainfall events and make a **Flood Plan**, which involves ensuring that you have all of the information available that you may need in a flood event and helps you to consider what actions you will take if another flood occurs.	Environment Agency Personal Flood Plan Guidance: https://www.gov.uk/government/publications/personal-flood-plan
Residents should consider installing appropriate property level flood protection measures such as flood resistant doors and smart airbricks on their properties to prevent water entering the property and reduce the impact of future intense rainfall events.	Environment Agency 'What to do before, during & after a flood': https://www.gov.uk/government/publications/flooding-what-to-do-before-during-and-after-a-flood
Residents should maintain adequate flood insurance cover for the property. The National Flood Forum provides advice on flood insurance cover.	National Flood Forum website: nationalfloodforum.org.uk
Residents should report any blocked road gullies to Nottingham City Council so that the City Council can act quickly to resolve the issue.	See 'Contacts' on Page 20
Residents should report any future external or internal flooding to both Nottingham City Council and Severn Trent Water. If this information is reported it will support evidence for future capital investment to reduce flood risk.	See 'Contacts' on Page 20

** Most documents referred to are available on the internet. These can be provided by Nottingham City Council in hard copy format upon request. See 'Contacts' section on page 19*

5 CONCLUSIONS

A series of three heavy rainfall events passed over the City on 22nd and 23rd July 2013 that saturated the ground and filled available storage in underground drainage networks. A fourth rainfall event passed over Nottingham at 17:00 on 23rd July 2013 resulting in the internal flooding of 6 properties on Bestwood Road, the properties that were affected are predominately in low lying areas.

Nottingham City Council and Severn Trent Water are the Risk Management Authorities that have flood risk management functions in relation to the flood event. Nottingham City Council is responsible for managing the risk of flooding from surface water and highway drainage and Severn Trent Water is responsible for providing effectual drainage and public sewers (surface water sewers and foul sewers). Due to the complex nature of the interactions between surface water, public sewers and highway drainage the City Council and Severn Trent Water have worked in partnership to investigate the flooding and agree an action plan.

Nottingham City Council has place the road gullies on Bestwood Road on the Targeted Gully Cleansing Regime where they shall be cleaned at a higher frequency than areas at lower risk of flooding.

Central Government has made available funding, under the Repair & Renew Grant, for the installation of flood resistant and resilience measures to properties that were internally flooded between 1st April 2013 and 31st March 2014[3]. Nottingham City Council has made application forms available to residents of flooded properties.

Due to the extreme nature of the rainfall event the flooding incident does not meet Severn Trent Water's criteria for capacity improvements at this time. The City Council and Severn Trent Water will continue to undertake maintenance of the existing drainage systems so that they operate at maximum efficiency during rainfall events.

A number of recommendations have been made for residents and/or landlords to improve the level of preparedness and resilience of their properties. It is also important for residents to report any future flooding issues to Nottingham City Council and Severn Trent Water.

[3] Properties must meet the specified criteria set out in the Repair & Renew Grant application form.

6 DISCLAIMER

This report has been prepared as part of Nottingham City Council's responsibilities under the Flood and Water Management Act 2010. It is intended to provide context and information to support the delivery of the local flood risk management strategy and should not be used for any other purpose.

The findings of the report are based on a subjective assessment of the information available by those undertaking the investigation and therefore may not include all relevant information. As such it should not be considered as a definitive assessment of all factors that may have triggered or contributed to the flood event. Nottingham City Council expressly disclaim responsibility for any error in, or omission from, this report and the supporting technical assessment Report arising from or in connection with any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the time of preparation and Nottingham City Council expressly disclaim responsibility for any error in, or omission from, this report arising from or in connection with those opinions, conclusions and any recommendations.

The implications for producing Flood Investigation Reports and any consequences of blight have been considered. The process of gaining insurance for a property and/or purchasing/selling a property and any flooding issues identified are considered a separate and legally binding process placed upon property owners and this is independent of and does not relate to the City Council highlighting flooding to properties at a street level.

Nottingham City Council does not accept any liability for the use of this report or its contents by any third party.

7 CONTACTS & USEFUL LINKS

Nottingham City Council Contacts & Links		
Drainage Team	0115 8765275 or 01158765279 *Monday to Friday 9:00-17:00*	*For advice on improving the level of protection to your property*
Highway Services Team	0115 9152000 *Monday to Friday 9:00-17:00* Online reporting: www.nottinghamcity.gov.uk/article/26940/Report-a-fault	*To report problems with blocked road gullies or flooding incidents during office hours*
Emergency Contact	0115 9152222 *Out of office hours*	*To report emergency flooding incidents out of office hours*
Useful Web Pages	http://www.nottinghamcity.gov.uk/article/25423/Flooding	
Severn Trent Water Contacts		
Emergency contact	0800 783 4444 *24 hours*	*To report flooding incidents or blockages on sewers*
Environment Agency		
Floodline	0345 988 1188 *24 hours*	*For advice on current flood warnings*
Useful web pages	https://www.gov.uk/government/publications/flooding-what-to-do-before-during-and-after-a-flood	
Emergency Services		
Non Emergency Contact	101	

8 APPENDIX A: MAPS AND POLICY

Table A1: Nottingham City Council Thresholds for Initiating Flood Investigations on residential properties. (Section 19 Flood Investigation Policy)

Threshold / Trigger	Included	Excluded
• All incidents where internal flooding affects five or more properties and the properties are either in close proximity or the flooding is hydraulically linked. • Where there is uncertainty around the cause of flooding or the responsible Risk Management Authority, regardless of the number of properties affected. • Where the frequency or impacts of flooding are particularly severe, regardless of the number of properties affected.	'Internal' flooding relates to: • Flooding of any area of a property that was originally intended to be habitable at ground floor level and above e.g. kitchen, reception rooms, sleeping accommodation. • Flooding of a sub-surface structure, such as a basement or cellar, where the floodwater contains sewage or other contaminants that cause concern for public health.	The following exclusions relate to the definition of 'internal' flooding: • External areas such as gardens, driveways and paths. • Structures that were not originally designed to be part of the habitable property such as sheds, summer houses, conservatories or garages. • Flooding of a sub-surface structure, such as a basement or cellar, where the floodwater does not cause concern for public health.

Figure A1: Environment Agency Flood Map for Surface Water at Bestwood Road.

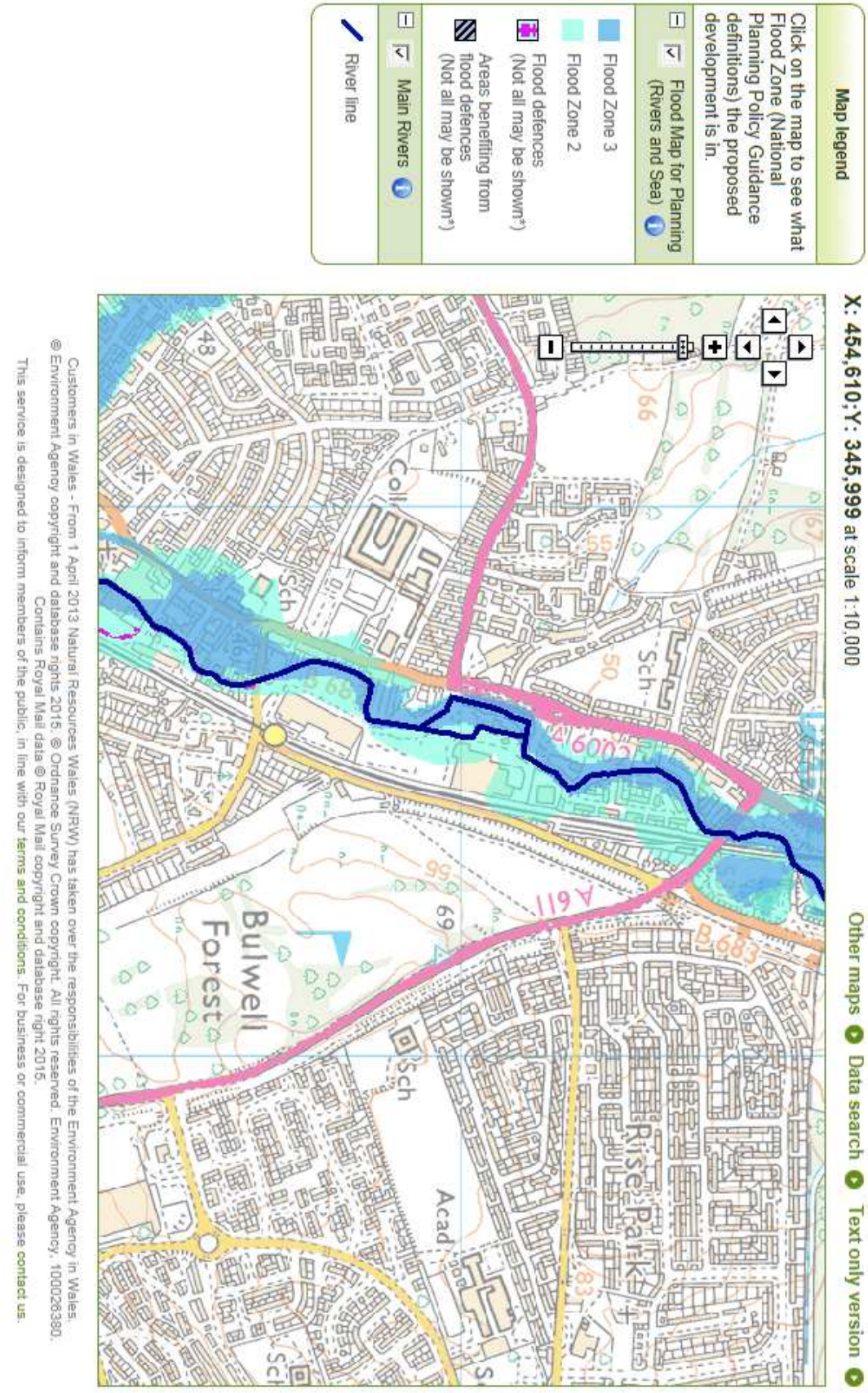

Figure A2: Environment Agency Flood Map for Planning (Rivers & Sea) at Bestwood Road.