

08 February 2018

Agenda Item:

REPORT OF CORPORATE DIRECTOR, PLACE

SECTION 19 REPORT – FLOODING IN NEWTHORPE – JULY 2013

Purpose of the Report

1. This report sets out the County Council's duties as the Lead Local Flood Authority to report on flooding incidents under Section 19 of the Flood and Water Management Act 2010 and to present its report in relation to the flooding in Newthorpe on 23 July 2013

Information

2. Following the severe flooding in many parts of the country during the summer of 2007, the Government commissioned an independent review (the 'Pitt Review') which in 2008 recommended that local authorities should lead on the management of local flood risk, working in partnership with other organisations. Two key pieces of legislation have brought this forward; the Flood Risk Regulations 2009 which transpose the EU Floods Directive into UK Law and the Flood and Water Management Act 2010 (FWMA).
3. The Council is a Lead Local Flood Authority (LLFA) and has powers and statutory duties to manage and co-ordinate local flood risk management activities. The County Council **does** this by working together with other organisations including the Environment Agency, who manage flooding from generally larger rivers known as Main Rivers, such as the River Trent; Internal Drainage Boards managing low lying areas; District, Borough, Parish and Town Councils; and infrastructure/ utility providers, such as Severn Trent Water and the Highways Agency. Partnership work is overseen by Strategic Flood Risk Management Board, jointly chaired by Nottinghamshire County Council (NCC) and Nottingham City Council (NCiC) and attended by all Risk Management Authorities (RMAs).
4. Section 19 of the FWMA gives NCC, as LLFA, the following duties:
 1. On becoming aware of a flood in its area, a LLFA must, to the extent that it considers it necessary or appropriate, investigate:
 - (a) which RMAs have relevant flood risk management functions, and
 - (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 the above investigation it must—
 - (a) publish the results of its investigation, and

(b) notify any relevant RMAs.

5. It should be noted that the purpose of a Section 19 Report is to outline what happened during a flooding incident and whether the relevant RMAs have exercised or will exercise their responsibilities but it does not identify specific measures to prevent future flooding. It is up to the LLFA if it wishes to then carry out further investigation into possible flood prevention and protection measures that could be implemented.
6. At Transport and Highways Committee on 31 October 2013 it was approved that Section 19 Reports should be undertaken where the County Council is aware that five or more properties in a locality have been affected by internal flooding (over the threshold [doorstep level] of the property).
7. As a result of the flooding in Newthorpe on the 23 July 2013 the LLFA carried out investigations and a feasibility study and is now able to present its Section 19 Report as contained in Appendix A.
8. The report identifies that the flooding experienced was as a result of two main mechanisms, one being from the front of the properties, the other from the rear. Each mechanism has its own characteristics but is made up of three main sources:
 1. Surface water runoff
 2. Sewer pipe surcharge
 3. Highway runoff
9. It also identifies that all relevant RMAs carried, and continue to carry, out their respective duties.
10. The report concludes that there are three main sources of flooding. These sources interact so flooding to the properties in Newthorpe is complex. Further work is needed to verify the sources of flooding and the mechanisms as part of the feasibility, options appraisal and design. It is proposed that this next stage is led by Severn Trent Water Ltd. (STW) supported by the County Council (NCC). This will allow us to understand the various sources and mechanisms of the flooding and facilitate the development of an integrated flood risk reduction scheme which considers all the issues. STW are to address the issues associated with their assets and flood risk duties; whilst also identifying any deficiencies associated with NCC's flood risk responsibilities. This partnership approach also helps to avoid duplication of efforts, disruption to the residents and supports clarity of responsibilities in taking the project forward. This conclusion is supported by STW and a project has been promoted in STW's investment plan. This project will however be subject to investment rules, cost benefit analysis and the outcomes of the feasibility work.

Other Options Considered

11. The County Council's role as LLFA is restricted to oversight of the actions of RMAs. County Council officers could, however, take a more active role in exploring solutions to the problems caused by the public sewers but this is thought to result in duplication of efforts and to not be cost-effective given that that STW are already aware of the issue and are looking towards a solution. In light of this, it is considered that STW's specialist knowledge and planning investment to address the issue represents the swiftest and most cost effective method for identifying (and then implementing) a solution.

Reason/s for Recommendation/s

12. The recommendations are designed to ensure the most effective route towards identification of a cost effective flood mitigation proposal is followed.

Statutory and Policy Implications

13. The County Council has a number of new statutory duties and powers under the Flood and Water Management Act 2010 and the Flood Risk Regulations 2009 including preparation of Section 19 Reports.

14. This report has been compiled after consideration of implications in respect of crime and disorder, data protection and information governance, finance, human resources, human rights, the NHS Constitution (public health services), the public sector equality duty, safeguarding of children and adults at risk, service users, smarter working, sustainability and the environment and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

Financial Implications

15. The costs of the Section 19 report will be contained within existing budgets.

Implications for Sustainability and the Environment

16. It is anticipated that the recommendations will ultimately result in delivery of a sustainable project that reduces flood risk to 20 properties whilst also reducing the negative impacts the flooding has on the environment.

RECOMMENDATION/S

That the Committee approves the report for publishing and resolves that officers:

- 1) Continue to work with Severn Trent Water as they progress the joint investigations to verify all sources and mechanisms of flooding in this location in order to facilitate the delivery of a holistic flood alleviation scheme;
- 2) Bring a further report back to committee should any difficulties or significant delays with implementation of a suitable solution become apparent.
- 3) The Committee ratify the findings of the Section 19 report.

Adrian Smith
Corporate Director, Place

For any enquiries about this report please contact:
Gary Wood – Group Manager 0115 9774270
Sue Jaques – Flood Risk Manager 0115 9774368

Constitutional Comments [SJE 14/12/2017]

17. This decision falls within the Terms of Reference of the Communities & Place Committee to whom responsibility for the exercise of the Authority's functions relating to flood risk management scrutiny has been delegated.

Financial Comments [RWK 14/12/2107]

18. The financial implications are set out in the report.

Background Papers and Published Documents

Except for previously published documents, which will be available elsewhere, the documents listed here will be available for inspection in accordance with Section 100D of the Local Government Act 1972.

- 'None'

Electoral Division(s) and Member(s) Affected

- Greasley and Brinsley – Cllr John Handley

Appendix A.**Newthorpe Section 19 Report****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, 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.

The objective of this report is to investigate which RMAs had relevant flood risk management functions during the flooding in July 2013 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).

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

On the afternoon of the 23rd July 2013 parts of Nottinghamshire were subjected to intense rainfall. The Met Office at Watnall recorded 35.6mm of rain in a 25 minute period up to 16.28hrs with the rainfall event having a return period of 1:74 years (1.33% AEP). As a result of this, parts of the county including Newthorpe experienced major flooding with some 600 properties as well as roads and carparks affected across the county.

The Met Office issued an Amber Warning at 1503hrs on the 23rd July highlighting that there was a possibility of up to 60mm of rain fall within a 3 hour period. Whilst the warning was issued the short period between its release and the rainfall did not allow any of the RMAs to fully instigate any pre-planned responses. As a result much of the activity by the Agencies was reactive rather than pro-active but given the short time span between warning and event this is understandable. It should be noted that no criticism is made of the Met Office. The weather conditions on the day were both very unusual in nature as well as quickly developing making forecasting difficult.

Summary of flooding

Twenty properties were affected by the flooding and these are shown on Plan 1.



Plan 1 – Properties affected by the flooding.

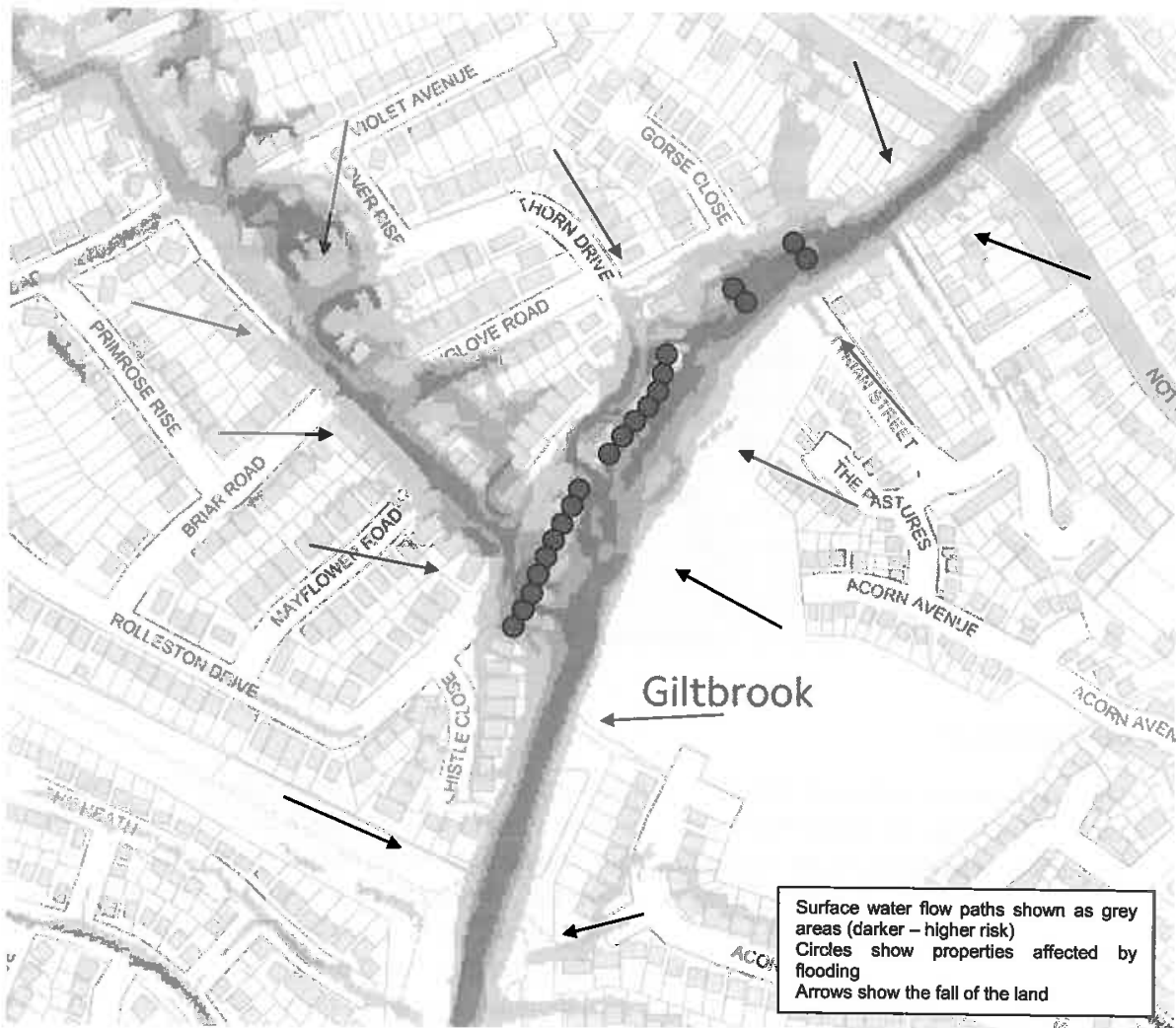
As part of the work carried out by the Authority it secured £250k of Local Levy towards a flood mitigation scheme and drew down £50k of this allocation for feasibility works. This work supported the information and recommendations contained within this report.

The flooding experienced comes from two main mechanisms, one being from the front of the properties, the other from the rear. Each mechanism has its own characteristics but is made up of three main sources:

1. Surface Water Runoff.
2. Sewer pipe surcharge.
3. Highway runoff.

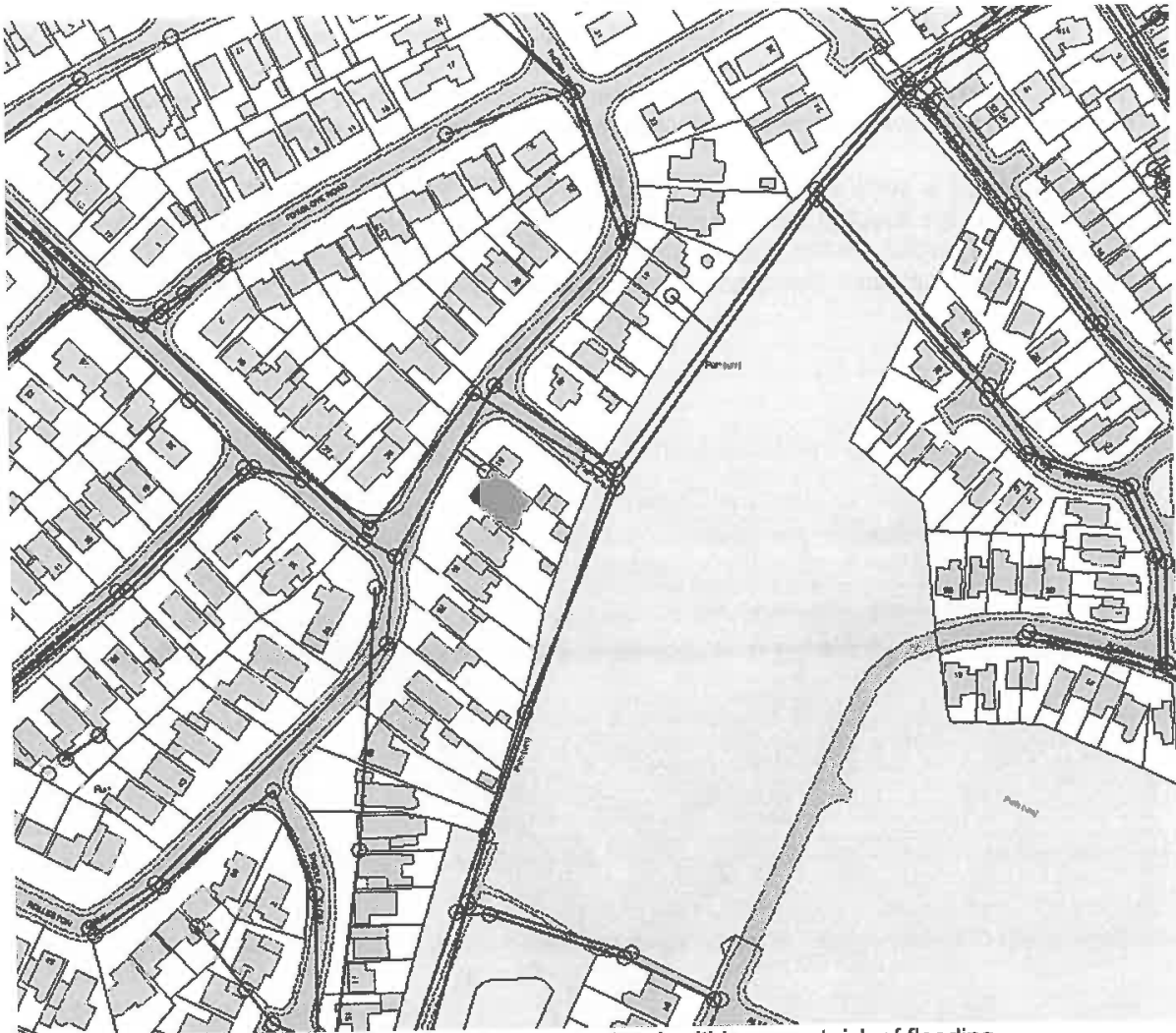
The properties affected sit at the bottom of a valley and are adjacent to the natural flow path of the old Daisy Brook (currently identified as a public surface water sewer on STW's record maps). During the flooding the surface water assets in the vicinity of the properties were unable to cope with the flows and this contributed to the flooding of properties.

Plan 2 shows the surface water flow paths (taken from the EA's surface water flood maps) that contributed to the flooding with the red dots showing the approximate positions of the properties affected. The arrows on the plan show the direction in which the land falls. This clearly shows the relationship between the affected properties and the natural surface water flow paths in the area.



Plan 2 – surface water flow paths and the affected properties

Plan 3 shows the location of public sewers within the area affected. It shows some correlation with natural flow paths and contours as would be expected.



Plan 3 – Location of public sewer network within area at risk of flooding

Generic factors

The impermeable nature of the ground following a dry spell will always be a contributory factor but it should also be noted that there has been a trend over the past decade or so for the front gardens of properties to be converted from gardens to hard standing for cars which in itself adds to the overall level of surface water runoff. Evidence of this can be seen in the areas upstream of the flooded properties. Recent changes in planning legislation now requires planning permission be sought by residents for any future such action unless they are installing permeable surfacing. In addition historic development is likely to have contributed to the overall level of surface water runoff as well as interfering with the natural flow routes.

Summary of causes of the flood

Under normal weather and rainfall conditions, i.e. those that do not exceed the various drainage design standards, the majority of the overall surface water drainage system in Newthorpe has the capacity to cope, ensuring water is drained without causing flooding. However the extreme events of the 23rd July 2013 led to surface water runoff that was far in excess of what the systems have been designed to cope with. It is evident from investigating the flood that there is no single cause in terms of a failure of the established drainage systems other than those of a natural and uncontrollable nature namely the amount of rainfall and topography of the catchment.

Key issues for noting.

The investigations identified a number of issues that should be noted as part of this report. These issues are included to help with the context and complexity of the investigation and support the conclusions. The following three points should be read in conjunction with Plan 4. below.

1. Issues with the Daisy Brook / Surface Water Sewer led to it being moved and culverted by Broxtowe Borough Council in the late 1980s. Originally the Daisy Brook was an open watercourse at the bottom of residents' gardens as shown on Image 1 below. Its relocation moved the line of the pipe uphill into a culvert below ground, away from its natural flow route and the properties. This culvert is now shown as a public surface water sewer.

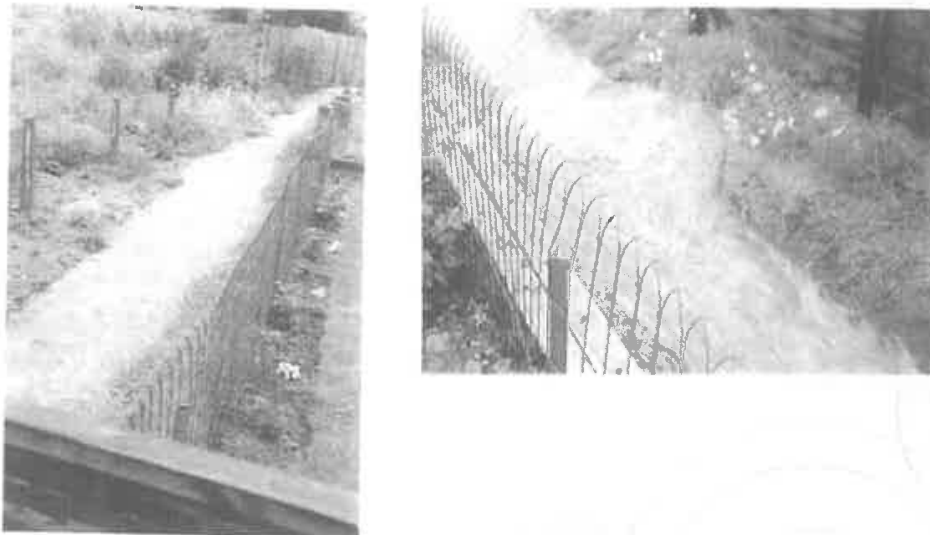
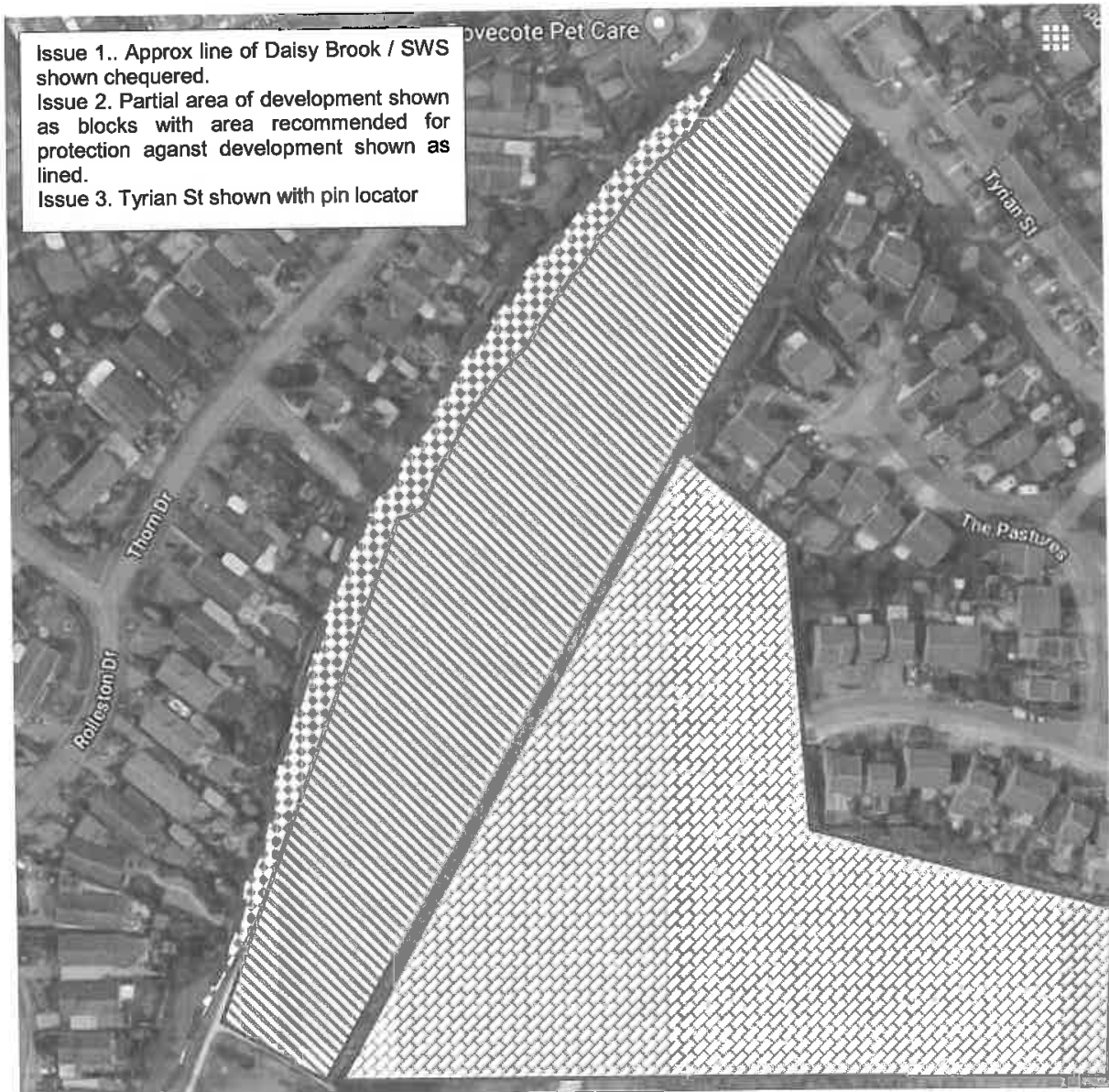


Image 1 – former route of Daisy Brook at rear of properties on Thorn Drive

2. The investigations have been further extended by residents' concerns over proposed development adjacent to the area of flooding. During the investigations NCC secured (currently in principle and subject to final signing of a S106 agreement) a contribution of £100k from the developer towards a flood mitigation scheme. We also supported the proposal to protect an area of land immediately adjacent to the flooded area and rear

gardens of the affected properties from future development. The management of these issues sits with Broxtowe Borough Council as Local Planning Authority and we have worked with them throughout our investigations.

3. The effectiveness of the surface water drainage on a recent development (Tyrian Street) has been called into question. The gradient of this road will allow surface water to run off quickly and a detailed representation of the surface water drainage will be included in any future hydraulic modelling to ensure a robust understanding of flood mechanisms.



Plan 4. Key Issues location plan

Risk Management Authorities and their responsibilities

1. 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. 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. LLFAs also 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, LLFAs can raise awareness of flood risks.
- v. LLFAs should encourage local communities to participate in local flood risk management.

b. Highway Authority

- i. Maintenance of the public highways.

2. Severn Trent Water Ltd.

a. Maintenance of the public sewerage system

Risk Management Authority Responses to Flood

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:

1. Nottinghamshire County Council

- a. Initiated and led the S19 Flood Investigation.
- b. Commissioned and funded a feasibility study into the hydraulic performance of key assets in the catchment and possible flood alleviation schemes.
- c. Secured third party funding towards flood alleviation schemes.
- d. Investigated and cleaned highway drainage assets.

2. Broxtowe Borough Council

- a. Initiated Emergency Planning procedures.

3. Severn Trent Water Ltd.

- a. Provided emergency response crews to assist in management of flooding event.
- b. Led initial investigations following the flooding event.
- c. Actively engaged in S19 Flood Investigation.
- d. Investigating hydraulic operation and standards of public sewers known to have surcharged during the event.

4. Environment Agency

- a. Actively helped secure Local Levy funding for future flood risk improvements.

The investigation concludes that all risk management authorities have, and continue to, exercise their respective functions in response to the flood.

Additional information.

The County Council, working closely with Broxtowe Borough Council, has as a result of its investigatory works secured a contribution of £100k towards a flood alleviation scheme as part of the Section 106 agreement for the development adjacent to the area of flooding. This contribution can be used by NCC or our nominee for the construction of a flood alleviation scheme.

The Authority has also secured £250k of Local Levy towards a flood mitigation scheme. As of December 2017 we have drawn down £50k of this allocation for feasibility works.

Future Actions

The following actions are proposed and have been agreed in principle with the respective parties (subject to committee approval in the case of the County Council).

1. Severn Trent Water continue to progress the joint investigations to confirm all sources and mechanisms of flooding in this location. This is to enable the development of a holistic flood alleviation scheme which addresses all sources of flooding.
2. The County Council to continue to work with STW and support them where necessary in achieving point 1. above

Working with the communities at risk and educating them on resilience measures and emergency plans will help prepare them for future events.

Further partnership working between the RMAs will also help in being prepared for any future issues, with clarity of roles and responsibilities shared amongst all parties to ensure an effective response and preparedness for future events.