



## **APPENDIX A**

### **SECTION 19 REPORT – CROPWELL BUTLER 6 JULY 2012**

#### **Introduction**

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

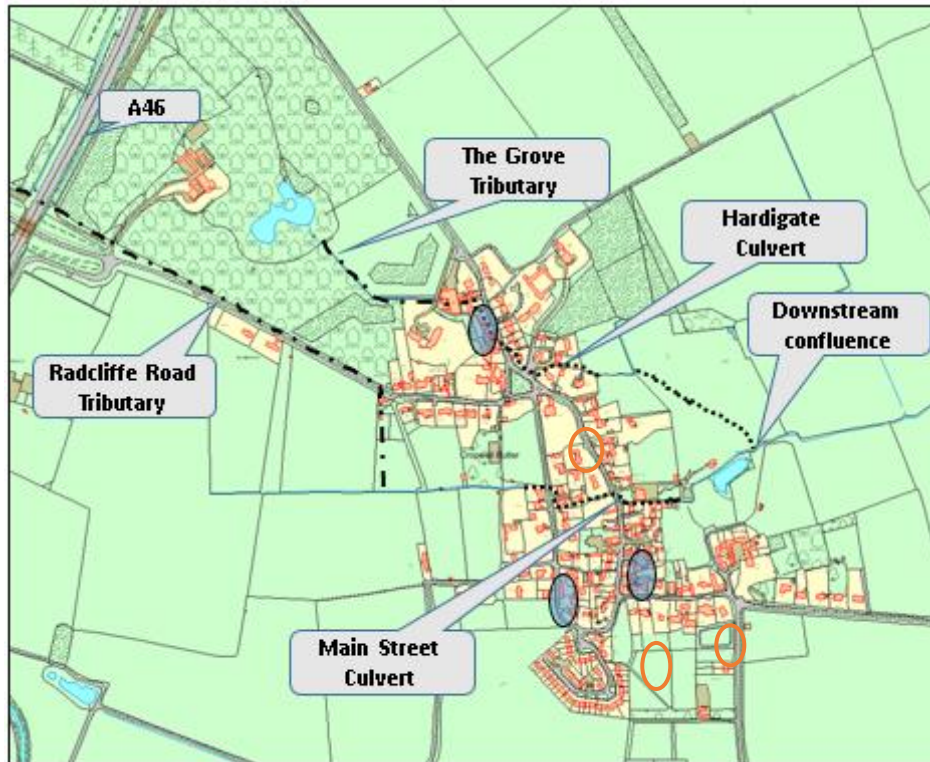
1. On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate:
  - (a) Which Risk Management Authorities (RMAs) have relevant flood risk management functions.
  - (b) Whether each of those risk management authorities 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) 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 RMAs had relevant flood risk management functions during the flooding in July 2012 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 (Derbyshire, Nottinghamshire and Leicestershire), Rushcliffe Borough Council, Nottinghamshire County Council as Lead Local Flood Authority and Highways Authority and Severn Trent Water Ltd. (there is no Internal Drainage Board here).
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 afternoon of the 6th July 2012 parts of Nottinghamshire were subjected to intense rainfall. As a result of this part of the County, including Cropwell Butler, experienced major flooding with some 26 properties reporting flooding to NCC and some 200 reports across the County to Severn Trent Water. The Met Office has since recorded the period between April and June 2012 as the wettest on record with the East Midlands receiving almost twice its average rainfall for the period. The Met Office also issued 'an extraordinary 52 (rainfall) warnings issued from 1 April to 20 July.

## Summary of flooding and its causes

7. Cropwell Butler is a small rural village surrounded by agricultural land and served by a network of unnamed watercourses that collect surface and highway water from the catchment, converge in the centre of the village and ultimately discharge to the west of the village via a culvert that runs under the Town Hall on Main Street as shown on Map 1. There were three key areas of flooding in the village, Main Street, Hardigate Lane and Back Lane, these are circled on Map 1.



Map 1 – Catchment Details

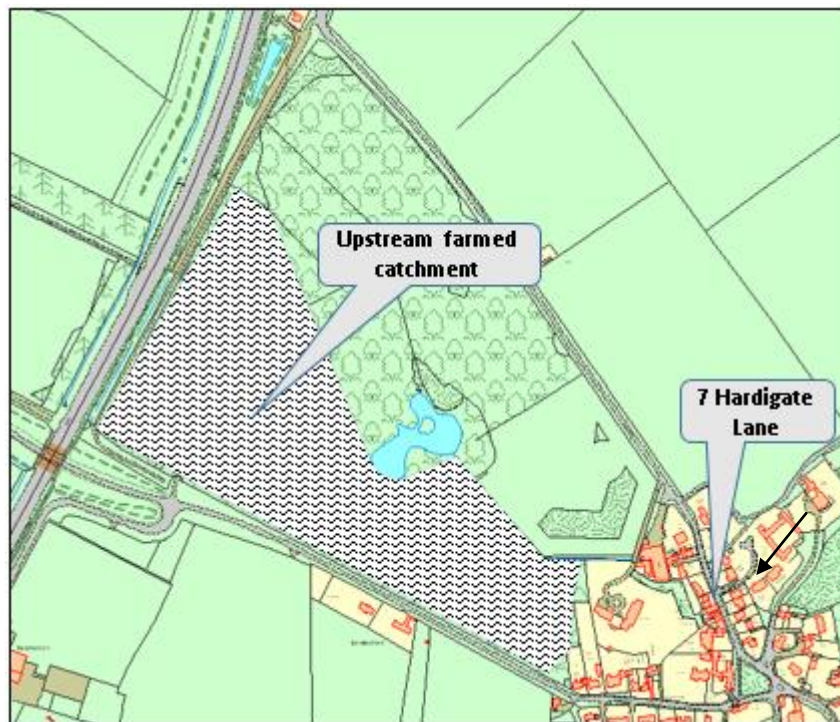
8. A number of these watercourses were inundated during the storm and this was a key contributing factor of the flooding. Investigations showed that some of the watercourses were clearly operating at a reduced hydraulic capacity due to a lack of maintenance with anecdotal evidence suggesting further restrictions may have influenced flooding on the day of the storm.

### Main Street

9. Main Street is where the watercourses serving the village converge before heading west underneath the Village Hall and out to join the River Smite.
10. Investigations identified sections of this watercourse to be heavily silted with areas where the natural flow of water would be impeded due to overgrown vegetation. This watercourse is classed an ordinary watercourse hence the maintenance responsibilities lie with Riparian owners i.e. those who own the land adjacent to either side of the watercourse.
11. As part of the investigations the Authority arranged to clear out a section of the culvert with assistance from the Parish Council (as Riparian owners). This helped facilitate a better understanding of the system and also provided the opportunity for the Parish Council to better understand maintenance requirements.

## Hardigate Lane

12. A number of properties on Hardigate Lane were flooded with reports that water entered the properties from the rear. The Grove tributary (shown on Map 1) passes through the estate to the rear of the affected properties, this tributary take some of the flows from the surface water balancing ponds that are part of the A46 drainage system. There is also quite a significant farmed catchment to the rear of the properties (shown on Map 2). Investigations included referencing the drainage strategy for the A46 and a number of site visits including a meeting with Highways England and Parish Council representatives to inspect an understand the operation of the balancing ponds.
13. All investigations into the flooding proved inconclusive as to exactly what caused the flow of water through the rear of the properties. There have been no repeat incidents since this date.



Map 2 – Hardigate Lane - Upstream catchment

## Back Lane

14. Flooding on Back Lane is triggered due to restrictions on the watercourse created by private residential driveway crossings. The pipe diameters under the crossings vary from 300mm to 600mm and the hydraulic simulation showed this would cause surcharging in 1:5 year return period rainfall event.

## Summary of causes of the flood

15. Cropwell Butler is a small rural catchment whose drainage systems will have been modified and evolved over many years. Under normal weather and rainfall conditions, i.e. those that do not exceed the various drainage design standards, and if all are operating efficiently, the majority of the overall surface water drainage system in Cropwell Butler has the capacity to cope, ensuring water is drained without causing significant flooding. However the event of the 6<sup>th</sup> July 2012 led to surface water runoff that exceeded the capacity of the various systems.

16. It is evident from investigating the flooding that there were a number of issues other than the volume of rain that contributed to the severity of the flooding, primarily the condition of the watercourse serving Main Street, a collapse of a culvert on Radcliffe Road and private residential driveway crossings. Some maintenance has been carried out however it is important that Riparian owners understand and carry out their responsibilities. The collapsed culvert has been repaired and it is not proposed to pursue any modifications to the private residential driveway accesses.

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

17. 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.
  - c) Severn Trent Water Ltd.
    - i. Maintenance of the public sewerage system.
  - d) Highways England (formerly The Highways Agency)
    - i. Maintenance of Trunk Roads (A46)

### **Risk Management Authority Responses to Flood**

18. 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:
- a) Nottinghamshire County Council:
    - i. Initiated and co-ordinated Emergency Planning procedures.
    - ii. Provided emergency response crews to assist in management of flooding event.
    - iii. Initiated and led the S19 Flood Investigation.
    - iv. Commissioned and funded a feasibility study into the hydraulic performance of key assets in the catchment and possible flood mitigation options.
    - v. Funded and facilitated initial clearance of watercourse on Main Street.

b) Severn Trent Water Ltd:

- i. Provided emergency response crews to assist in management of flooding event.
- ii. Actively engaged in S19 Flood Investigation.
- iii. Assisted in the repair of the collapsed culvert.

c) Highways England (formerly Highways Agency):

- i. Assisted in the emergency response due to close proximity of recently completed A46 improvements and associated drainage works.
- ii. Actively engaged in S19 Flood Investigation.

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

**Additional information.**

20. During the investigations NCC officers liaised closely with Cropwell Butler Parish Council and County Councillor Richard Butler in an endeavour to clarify responsibilities and ensure the community had as much support and understanding as possible to aid future flood resilience.

**Future Actions**

21. NCC have offered to present to the Parish Council both the findings of the report and to discuss and clarify the various responsibilities for drainage assets serving the catchment including riparian responsibilities. This information should assist in the prioritisation and efficiency of response and actions to alleviate any future flooding issues in the catchment.