FLOOD INVESTIGATION REPORT

CHURCH LANE, HELLIDON

2nd JANUARY 2014

Client: Flood & Water Management Team Planning Services Northamptonshire County Council County Hall, Room 271, Northampton NN1 1DN

Prepared by: Richard Jones

Date: 1st October 2014

Reference: 13/17524

Revision: 03
# REVISION SCHEDULE

Northamptonshire County Council  
Flood Investigation Report  
Church Lane, Hellidon  

David Smith Associates Reference : 14/17524

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<th>Date</th>
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<th>Author</th>
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<td>01</td>
<td>05/06/14</td>
<td>Draft Report</td>
<td>Richard Jones (David Smith Associates)</td>
<td>Josie Bateman (Senior Project Manager F&amp;WM)</td>
<td>Josie Bateman (Senior Project Manager F&amp;WM)</td>
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<td>02</td>
<td>18/07/14</td>
<td>Draft Report for Stakeholder Consultation</td>
<td>Richard Jones (David Smith Associates)</td>
<td>Josie Bateman (Senior Project Manager F&amp;WM)</td>
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<td>03</td>
<td>01/10/14</td>
<td>Revision following additional information/consultation</td>
<td>Richard Jones (David Smith Associates)</td>
<td>Josie Bateman (Senior Project Manager F&amp;WM)</td>
<td>Josie Bateman (Senior Project Manager F&amp;WM)</td>
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FOREWORD

One of the roles of Northamptonshire County Council as the Lead Local Flood Authority (LLFA) is to carry out investigations into flooding incidents if they meet the set thresholds.

The LFFA will:

- Identify and explain the likely cause/s of flooding;
- Identify which authorities, communities and individuals have relevant flood risk management powers and responsibilities;
- Provide recommendations for each of those authorities, communities and individuals;
- Outline whether those authorities, communities or individuals have or will exercise their powers or responsibilities in response to the flooding incident.

The LLFA cannot:

- Resolve the flooding issues or provide designed solutions;
- Force Authorities to undertake any of the recommended actions.

Flood Incident Reports are intended to present facts on the ground recorded by the Investigating Officer, only at the particular point in time of the investigation. This report will not be updated to reflect any developments following publication.

It is the responsibility of affected authorities, communities and individuals highlighted in this report to update Northamptonshire County Council on any such developments.

Please refer to the disclaimers in this report which describe other limitations in its preparation and use.
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EXECUTIVE SUMMARY

This Flood Investigation Report (FIR) has been completed by David Smith Associates on behalf of Northamptonshire County Council under its duties as the Lead Local Flood Authority (LLFA) in accordance with Section 19 of the Flood and Water Management Act 2010 (F&WMA).

Statutory Context

Section 19 of the F&WMA states that on becoming aware of a flood which meets certain pre-determined criteria, the LLFA must undertake a formal flood investigation in order to determine the relevant flood risk management authorities involved and which flood risk management functions have been, or should be taken to mitigate future flood risk. Where an authority carries out an investigation it must publish the results.

Within the Northamptonshire Local Flood Risk Management Strategy the thresholds for undertaking a FIR are:

Northamptonshire LLFA thresholds for formal investigation:

A formal flood investigation will be carried out if one or more of the following occurs:

- Flooding has affected critical infrastructure for a period in excess of 3 hours from the onset of flooding;
- Internal flooding of one property has been experienced on more than one occasion in the last 5 years;
- Internal flooding of five properties in close proximity has been experienced during one single flood incident.

Definition of close proximity: Where it is reasonable to assume that the affected properties were flooded from the same source or interaction of sources.

Definition of internal flooding: Where water crosses the threshold of a commercial or residential building.

Flooding Incident

It was deemed necessary to complete a formal investigation into flood incidents at Hellidon on 2nd January 2014. Internal flooding of one property has been experienced on more than one occasion in the last 5 years. This meets the threshold for investigation as set out above.
Cause of Flooding

The flooding that occurred in Hellidon is a reflection of the intense rainfall that fell over a short period of time. The inability of existing land drainage systems and watercourses to collect and carry rainwater effectively meant excess surface water flowed over ground following natural contours to low points in the village.

Main Findings

Our main conclusion is that risk management authorities, the local community, and other groups, must continue to work together, sharing information and reports. Property owners should be made aware of the flood resistance and resilience measures available, and this information is provided by both the Environment Agency and the National Flood Forum Blue Pages.


- Flood Forum Blue Pages – http://www.floodforum.org.uk/
1. INTRODUCTION

1.1 Lead Local Flood Authority Investigation

1.1.1 Section 19 of the Flood and Water Management Act (F&WMA) 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 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.

1.1.2 Within the Northamptonshire Local Flood Risk Management Strategy the thresholds for undertaking a Formal Investigation Report in the County have been determined as:

<table>
<thead>
<tr>
<th>Northamptonshire LLFA thresholds for formal investigation:</th>
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<tr>
<td>A formal flood investigation will be carried out if one or more of the following occurs:</td>
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<tr>
<td>• Internal flooding of five properties in close proximity has been experienced during one single flood incident.</td>
</tr>
</tbody>
</table>

Definition of close proximity: Where it is reasonable to assume that the affected properties were flooded from the same source or interaction of sources.

Definition of internal flooding: Where water crosses the threshold of a commercial or residential building.
1.2 Flooding Incident

1.2.1 It was deemed necessary to complete a formal investigation into a flood incidents at Hellidon on 2\textsuperscript{nd} January 2014. Internal flooding of one property has been experienced on more than one occasion in the last 5 years. This meets the threshold for investigation as set out above.

1.2.2 Numerous heavy rainfall events are recorded at the Preston Capes rain gauge over a two week period from 23/12/13 to 04/01/14. The average daily rainfall was 7mm. Rainfall on 01/01/14 was recorded as 16mm (source: Environment Agency). Therefore, significant rainfall fell on already saturated ground.

1.2.3 David Smith Associates undertook a Flood Incident Investigation on the 24\textsuperscript{th} February 2014. A Parish Council representative and affected residents were spoken to regarding the flooding incident on 2\textsuperscript{nd} January 2014, and other flooding incidents.

1.3 Site Location

1.3.1 Hellidon is situated in the west of Northamptonshire approximately four miles southwest of Daventry town centre.

1.3.2 The village forms part of the catchment of the River Leam which is north of Hellidon.
1.4 Drainage Systems

1.4.1 There are three main surface water catchment areas in the village. Surface water flows from south to north and is collected drainage systems which ultimately discharge to Ordinary Watercourses.

1.4.2 The majority of the catchment areas are agricultural land which drain to field boundary ditches, these discharge into pipe/culvert systems through the village which then flow into open riparian owned watercourses at the north of Hellidon.

1.4.3 In the west of the village there is little evidence of surface water drainage systems except for historic ditches, road gullies and a main drain point into the ordinary watercourse system on Cox’s Lane.

1.4.4 The historic ditches that would serve the fields south of Church Lane were completely filled with a fine grained sandy soil, rendering them inoperable. A field access exists at the low point of the field immediately south of Church Lane, with no means to prevent surface water flowing onto the public highway at this point.

1.4.5 In the central area of the village, there are historic ditches, road gullies and a surface water drainage system. The surface water drainage system originates in Back Lane and passes through private property to discharge to a riparian owned watercourse near Stockwell Lane.

1.4.6 The historic ditches that would serve the fields south and west of Back Lane are almost non-existent but a pipe outfall exists at one location immediately south of Ambleside.

1.4.7 In the east of the village there is little evidence of surface water drainage systems except for historic ditches and road gullies. It is likely that these eventually discharge to the riparian owned watercourses associated with Leam Pool at the east of the Hellidon.

1.4.8 A public foul water sewerage system is recorded throughout Hellidon, which flows to a pumping station near Stockwell Lane. Effluent is then pumped north towards Lower Catesby.
2. DRAINAGE HISTORY

2.1 Previous Flood Incidents

2.1.1 The following table lists flooding incidents that have been recorded:

<table>
<thead>
<tr>
<th>Year</th>
<th>Impact</th>
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<tbody>
<tr>
<td>80's/early 90's</td>
<td>Residential properties on Stockwell Lane affected by surface water from south.</td>
</tr>
<tr>
<td>24/12/13</td>
<td>Residential properties on Stockwell Lane affected by surface water from south. At one residential property, preventative measures were taken to stop internal flooding. Internal flooding to kitchen experienced at one residential property. Similar incidents 3/4 times through Jan &amp; Feb 2014.</td>
</tr>
<tr>
<td>02/01/14</td>
<td>Property on Church Lane, garage internally flooded.</td>
</tr>
<tr>
<td>14/02/14</td>
<td>Property on Church Lane, garage internally flooded.</td>
</tr>
<tr>
<td>February 2014</td>
<td>Highway flooded on Stockwell Lane. One residential property at risk. Road gullies blocked.</td>
</tr>
</tbody>
</table>

2.2 Rainfall Analysis

2.2.1 Numerous heavy rainfall events are recorded at the Preston Capes rain gauge over a two week period from 23/12/13 to 04/01/14. The average daily rainfall was 7mm. Rainfall on 01/01/14 was recorded as 16mm (source: Environment Agency). Therefore, significant rainfall fell on already saturated ground.
3. SUMMARY OF IMPACTS AND FINDINGS

3.1 Areas of Flooding and Impacts

3.1.1 At the west of the village, surface water flowed off agricultural land onto Church Lane, mainly at the access point to the field. This ponded locally around the highway facing retaining wall of a residential garage building.

3.1.2 Surface water entered the residential garage building on Church Lane causing damage to stored items, and requiring significant cleaning of deposited soil and standing water. Surface water was held at high ground against a retaining wall section of the garage and seeped through the wall, applying water pressure to the wall and potentially causing structural damage.

3.1.3 At the central area of the village surface water flowed off agricultural land across Back Lane to the Village Hall, and then through private property to Stockwell Lane.

3.1.4 Surface water flowed with significant velocity and volume through gardens on Stockwell Lane causing damage to paving and items in the garden.

3.1.5 Surface water entered the kitchen of a residential property on Stockwell Lane with unknown impacts.

3.1.6 In a separate incident on Stockwell Lane, it is understood that a concrete mixture caused blockages in the road gully and surface water drainage system. Surface water ponded on Stockwell Road causing difficulties to motorists and placing one residential property at risk of internal flooding.

3.1.7 The Incident Plans in Appendix C indicate reported routes of surface water during the event.
4. **RIGHTS AND RESPONSIBILITIES**

4.1 **Lead Local Flood Authority (LLFA)**

4.1.1 As stated within the introduction section, NCC as the LLFA has a responsibility to investigate flood incidents under Section 19 of the F&WMA.

4.1.2 The LLFA also has a responsibility to maintain a register of assets which have a significant effect on flooding from surface runoff, groundwater or ordinary watercourses (non-Main River) as detailed within Section 21 of the F&WMA. The register must contain a record about each structure or feature, including the ownership and state of repair. NCC is also required to keep a record of flooding hotspots across the county.

4.1.3 NCC’s practices relating to third party assets is to notify third party owners of their asset forming part of a flood risk system, and assist by advising third party owners on their condition and their responsibility to maintain the assets.

4.1.4 As Lead Local Flood Authority, NCC will therefore be looking for support from other authorities, communities and individual home owners to ensure flood incidents are reported, and any assets which have a significant effect on flood risk are recorded on the asset register.

4.1.5 While NCC can suggest possible causes of flooding in Hellidon and make recommendations to ensure flood risk is mitigated as far as possible, the F&WMA does not provide NCC with the mandate or funding to tackle all identified causes of flooding or force Authorities to undertake any recommended actions.

4.2 **Daventry District Council (DDC)**

4.2.1 DDC have powers under Section 14 of the Land Drainage Act 1991 (LDA) to undertake flood risk management works on ordinary watercourses (non-Main River) where deemed necessary.

4.2.2 Under Section 20 of the LDA, DDC have the powers to (by agreement of any person and at their expense) undertake drainage work which that person is entitled to carry out and maintain.

4.2.3 DDC also have powers to serve notice on persons requiring them to carry out necessary works to maintain the flow of ordinary watercourses under Section 25 of the act.

4.2.4 The above powers are subject to consent from the Environment Agency (Main Rivers) or NCC (Ordinary Watercourses).
4.3 Environment Agency (EA)

4.3.1 The EA has a strategic overview responsibility under the F&WMA as well as permissive powers to carry out maintenance work on Main Rivers under Section 165 of the Water Resources Act 1991 (WRA). The River Leam becomes a Main River approximately 1.5km north of Helidon.

4.3.2 Main River means all watercourses shown as such on the statutory Main River maps held by the Environment Agency and the Department of Environment, Food and Rural Affairs, and can include any structure or appliance for controlling or regulating the flow of water into, or out of the channel. The Environment Agency has permissive powers to carry out works of maintenance and improvement on these rivers.

4.3.3 The EA will encourage third party asset owners affecting Main Rivers to maintain their property in appropriate condition and take enforcement action where it is appropriate. They may consider undertaking maintenance or repair of third party assets only where it can be justified in order to safeguard the public interest and where other options are not appropriate.

4.4 Highway Authority (HA)

4.4.1 NCC Highways have a duty to maintain the highway under Section 41 of the Highway Act 1980 but subject to the special defence in Section 58.

4.4.2 Highway drainage systems are designed to the Highways Agency Design Manual for Roads and Bridges (Volume 4, Section 2). They are only required to be constructed to drain surface water run-off from within the highway catchment rather than from the wider catchment.

4.5 Water Authority (Severn Trent Water) (STW)

4.5.1 Water and sewerage companies are responsible for managing the risks of flooding from surface water, foul water or combined sewer systems. Public sewers are designed to protect properties from the risk of flooding in normal wet weather conditions. However, in extreme weather conditions there is a risk that sewer systems can become overwhelmed and result in sewer flooding.

4.5.2 Since October 2011, under the ‘Private Sewer Transfer’, STW adopted piped systems on private land that serve more than one curtilage and were connected to a public sewer on 1st July 2011. Sewerage Undertakers have a duty under Section 94 of the Water Industry Act 1991, to provide sewers for the drainage of buildings and associated paved areas within property boundaries.

4.5.3 Sewerage Undertakers are responsible for public sewers and lateral drains. A public sewer is a conduit, normally a pipe that is vested in a Water and Sewerage Company, or predecessor, that drains two or more properties and conveys foul, surface water or combined sewage from one point to another point and discharges via a positive outfall.

4.5.4 There is no automatic right of connection for other sources of drainage to the public sewer network. Connection is therefore discretionary following an application to connect.
4.6 Riparian Landowners

4.6.1 As detailed within the EA document ‘Living on the Edge’, riparian landowners have certain rights and responsibilities, including the following:

- they must maintain the bed and banks of the watercourse, and also the trees and shrubs growing on the banks;
- they must clear any debris, even if it did not originate from their land. This debris may be natural or man-made;
- they must keep any structures that they own clear of debris. These structures include culverts, trash screens, weirs and mill gates;

4.6.2 If they do not carry out their responsibilities, they could face legal action. Riparian landowners must understand and act upon these responsibilities. NCC has proposed to write to certain landowners in the area highlighting the importance of this.

4.6.3 Riparian landowners must be aware that any works in, over, under or within 9 metres of a Main River, require formal consent from the EA under the WRA and associated Byelaws. Riparian landowners also require formal consent from NCC for any works over, under or within 9 metres of an Ordinary Watercourse (non-Main River).

4.7 Communities and Residents

4.7.1 Communities may consist of the Town or Parish Council, Flood Forum, Community Group and affected residents, amongst others.

4.7.2 Hellidon residents who are aware that they are at risk of flooding should take action to ensure that they and their properties are protected.

4.7.3 Community resilience is important in providing information and support to each other if flooding is anticipated. Actions taken can include signing up to Flood Warning Direct (if available), nominating a Community Flood Warden, producing a community flood plan, implementing property level protection and moving valuable items to higher ground.

4.7.4 Permanent measures such as installing floodgates, raising electrical sockets and fitting non-return valves on pipes can also be considered. NCC and the EA can provide advice on these matters and more information can be found at:

- Flood Forum Blue Pages – http://www.floodforum.org.uk/
4.7.5 NCC and the EA hold standing advice in relation to sources of flooding as experienced during the Flood Incident. These are available at the following locations:

- NCC Advice on How to Resolve Nuisance Flooding from Runoff

- NCC Ditch Clearance Guidelines

- NCC Guidance for Riparian Owners in Northamptonshire – Roles and Responsibilities

- Environment Agency, practical advice to help you reduce the impact of flooding from groundwater

- Environment Agency advice on Riparian Responsibilities

4.7.6 Anyone affected by flooding should try to document as much information about the incident as possible using the Flood Incident Report Form, which can be found at:

[https://northamptonshire.firmstep.com/default.aspx/RenderForm/?F.Name=kJlREqsz](https://northamptonshire.firmstep.com/default.aspx/RenderForm/?F.Name=kJlREqsz)

4.8 Land Owners

4.8.1 Land owners are responsible for the drainage of their land. Legally, owners of lower-level ground have to accept natural land drainage from adjacent land at a higher level. The exception to this is where the owner of the higher level land has carried out “improvements” such that the run-off from the land cannot be considered “natural”.

4.8.2 Agricultural practices by land owners can be considered as “improvements” to the land, so that cultivation of crops or other land uses can take place. Works are required on improved land to account for the change in natural land drainage and changes to surface water run-off this can create.
5. CONCLUSION

5.1.1 The flooding that occurred in Hellidon is a reflection of the intense rainfall that fell onto a saturated catchment. Existing drainage systems, land drainage ditches and watercourses were unable to cope with the deluge of water, causing the water to flow to other areas and drainage systems that are not able to manage the additional quantity of water experienced.

5.1.2 Run-off from agricultural land was a significant factor in the flooding.

5.1.3 Field drainage systems and their outlets are in poor condition or non-existent. The means of routing surface water from agricultural land at the south, through the village and into the watercourses at the north of Hellidon is unclear and a full understanding of this is required so that maintenance and possible improvements can be made to reduce the risk of flooding to vulnerable properties.
6. **RECOMMENDATIONS**

6.1.1 Listed below are the recommended course of actions emanating from this formal Flood Investigation Report.

6.1.2 It is important to note that it is for the relevant responsible body or persons to assess each recommendation in terms of the legal obligation, resource implications, priority and cost/benefit analysis of undertaking such action.

6.1.3 The recommendations may be included within the Action Plan linked to the Local Flood Risk Management Strategy or in the relevant risk management authority’s future work programmes, as appropriate.

1) The Community (e.g. Town/Parish Council, Flood Forum, Community Group, Land owners and affected residents) to:

- Nominate a Community Flood Warden to help coordinate the following work:
  - Produce an overall plan of Hellidon, with the cooperation of all drainage system owners, which can be used to plan a community-wide strategy of ownership, maintenance and improvements of existing drainage systems. This should form the basis of the Community Flood Plan. This plan should include as a minimum:
    - Identification of any historic routes of drainage from the various catchment areas of the village, which could be reinstated or improved. Due to the type of soil in the area it is likely that some ditches have become completely filled with sand and silt. Clear existing historic ditches
    - Identification of riparian ownership and responsibilities for field drainage systems such as ditches, culverted watercourses, and open watercourse sections.
    - Identify any land uses within the catchment that may unduly affect the normal flow of surface water.

- Explore options for property level protection and implement any recommendations;

- Explore community wide solutions (e.g. attenuation areas, tree planting).


- Reinstating or providing new field boundary ditches in the catchment connected to a suitable drainage system ultimately discharging to a watercourse at the north of Hellidon.
2) Agricultural Land owners should carry out works to their land to reduce surface water run-off.


These works help to retain the natural land drainage regime and provide the best soil conditions for the continued agricultural use of the land.

Farmers in receipt of Common Agricultural Policy (CAP) payments are required to carry out a Soil Protection Review which should identify any problems with soil erosion and runoff and help identify solutions to the problem.

Examples of good practice for reducing surface water run-off from agricultural land are:

- Ploughing fields in a perpendicular direction to the slope of the land, reducing the effect of channelling of water over the land when it rains;
- Using techniques and machinery to limit compaction of soils;
- Growing crops that match the capability of the land, particularly in relation to the timings of activities and not overworking soils through the year;
- Providing new ditches, sub-soil drainage and outfalls, and re-instating and regularly maintaining existing. Old existing ditches may be completely filled and difficult to see. The type of soil make-up, type of flora and overall lie of the land can help to determine the routes of filled in historic ditches;
- Preventing changes to the levels of the land that would cause channelling of surface water to a single point where this would not naturally occur.

It should be noted that following good practice for managing surface water run-off cannot completely remove the risks of natural land drainage and the associated quantities and flow routes of run-off that can cause flooding.
3) The LLFA to:

• Work with NCC Emergency Planning and the Environment Agency to support the community in the instatement and training of a community based Flood Warden.

• Work with NCC Emergency Planning, the Environment Agency and other flood management authorities to support the community in the production of a village/community flood plan and provide advice to residents on how to explore options for property level protection.

• Inform owners of the drainage systems and watercourses within the overall surface water catchment area of their legal responsibilities, and provide details of a recommended maintenance regime. This to include a recommendation that owners of all ditch and watercourse systems in and around the village should assist in the village wide strategy of reinstatement of historic drainage.

This may require owners to:

- re-excavate ditches to a calculated cross sectional area;
- repair all piped/culvert sections or replace these with new pipework of calculated diameter;
- dredge and trim watercourses;
- replacement of structures and clearing of vegetation;
- All such works would require the appropriate Consent for Works on an Ordinary Watercourse in accordance with Section 23 of the Land Drainage Act 1991.

• Work with Flood Risk Management Authorities to ascertain ownership and maintenance responsibilities specifically for the surface water drainage system from Back Lane to Stockwell Lane.
4) NCC Highways to:

- Undertake regular highway drainage cleansing throughout the overall catchment area. Identify and develop a detailed plan of their assets to share with the LLFA and the Community;

- Assess the capacity of their assets and identify any areas with insufficient capacity for draining runoff from the highway. Where this leads to flood risk to properties improvement works should be considered. This might include additional road gullies in vulnerable areas.

- Liaise with other Flood Risk Management Authorities, particularly STW, to ascertain ownership and maintenance responsibilities specifically for the surface water drainage system from Back Lane to Stockwell Lane.

5) Severn Trent Water to:

- Assess the sources of water entering the public sewerage system;

- Assess the capacity of their assets and identify any areas of insufficient capacity. Where this leads to flood risk to properties improvement work should be considered;

- Develop a detailed plan of their assets to share with the LLFA and the Community.

- Liaise with other Flood Risk Management Authorities, particularly NCC Highways, to ascertain ownership and maintenance responsibilities specifically for the surface water drainage system from Back Lane to Stockwell Lane.

6) Daventry District Council to:

- Continue to consult with the Environment Agency as required in respect of planning applications for new developments to reduce flood risk;

- Undertake to utilise enforcement powers under Section 25 of the Land Drainage Act 1991 where it is considered that riparian owners are failing to maintain the watercourses in their ownership;

- Endeavour to assist other flood management authorities in the preparation of a detailed plan of assets relating to drainage and flood risk, to share with the LLFA and the Community.

7) The documents available from NCC and the EA detailed in 4.7.2 and 4.7.3 are recommended to all residents affected by surface water runoff from neighbouring land, or the emergence of groundwater.
7. DISCLAIMER

This report has been prepared as part of Northamptonshire County 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.

Any recommended actions outlined in this FIR will be for the relevant responsible body or persons to assess in terms of resource implications, priority and cost/benefit analysis of the proposal. Moving forward, these may be included in the Action Plan linked to the Local Flood Risk Management Strategy or in the relevant risk management authority’s future work programmes as appropriate.

The opinions, conclusions and any recommendations in this Report are based on assumptions made by David Smith Associates and Northamptonshire County Council when preparing this report, including, but not limited to those key assumptions noted in the Report, including reliance on information provided by others.

David Smith Associates and Northamptonshire County Council expressly disclaim responsibility for any error in, or omission from, this 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 David Smith Associates and Northamptonshire County 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 County Council highlighting flooding to properties at a street level.

David Smith Associates and Northamptonshire County Council do not accept any liability for the use of this report or its contents by any third party.
ACRONYMS

EA    Environment Agency
NCC   Northamptonshire County Council
DDC   Daventry District Council
FIR   Flood Investigation Report
F&WMA Flood and Water Management Act 2010
LDA   Land Drainage Act 1991
LLFA  Lead Local Flood Authority
WRA   Water Resources Act 1991
LIDAR Light Detection and Ranging

USEFUL LINKS

Highways Act 1980:

Water Resources Act 1991:

Land Drainage Act 1991:

EA - ‘Living on the Edge’ a guide to the rights and responsibilities of riverside occupation:

EA - Prepare your Property for Flooding:
How to reduce flood damage Flood protection products and services

Northamptonshire County Council Flood and Water Management Web Pages:
http://www.northamptonshire.gov.uk/en/councilservices/Flood/Pages/default.aspx

Northamptonshire County Council Local Flood Risk Management Strategy:
USEFUL CONTACTS

Northamptonshire County Council

Highways:
Tel: Street Doctor (Highways) 0300 126 1000 (24hrs)

Website: http://www.northamptonshire.gov.uk/en/councilservices/Transport/roads/streetdoctor/Pages/Step1.aspx

Email: highways@northamptonshire.gov.uk

Emergency Planning:
Tel: 0300 1261012

Email: emergencyplanning1@northamptonshire.gov.uk

Flood and Water Management Team:
Tel: 01604 366014 (Mon-Fri, 9am - 5pm)

Email: floodandwater@northamptonshire.gov.uk

Environment Agency

General Tel: 08708 506 506 (Mon-Fri 8-6) Call charges apply.

Incident Hotline: 0800 807060 (24 hrs)

Floodline: 0845 988 1188

Email: enquiries@environment-agency.gov.uk

Website: www.environment-agency.gov.uk
14/17524
Flood Incident Report
Church Lane, Hellidon

**Severn Trent Water**

24Hour Tel: 0800 783 4444

Website: [http://www.stwater.co.uk/help-and-contacts/](http://www.stwater.co.uk/help-and-contacts/)

**Daventry District Council**

Infrastructure & Buildings

Tel: 01327 302445 (office hours)

Email: SWhelton@daventrydc.gov.uk

**Hellidon Parish Council**

Email: PC_Hellidon@daventrydc.gov.uk
APPENDIX A

Site Location Plan
APPENDIX B

Catchment Plan
APPENDIX C

Incident Plan
APPENDIX D

EA Map of Watercourses
APPENDIX E

EA Flood Map for Surface Water
APPENDIX F

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Standard Notice [not for use with Special Data, Personal Data or unlicensed 3rd party rights]

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APPENDIX G

Residents photographs of flood incident on 2\textsuperscript{nd} January 2014 and 14\textsuperscript{th} February 2014
02/01/14 Church Lane, view southwest

14/02/14 Church Lane
APPENDIX H

Photographs from flood incident investigation 24th February 2014
Boundary ditch on fields south of Church Lane
Boundary ditch on fields south of Church Lane. Deposits of fine grained soil.

Route of surface water from fields onto Church Lane
Damage and soil deposits on Church Lane

Damage and soil deposits on Church Lane
Entry point to culverted watercourse on Cox’s Lane

Natural low point and possible route of culvert from Cox’s Lane to Stockwell Lane
Stockwell Lane

Stockwell Lane with higher ground behind to Village Hall
Open watercourse with deposits of concrete mixture north of Stockwell Lane.

Fields south of Back Lane
Fields south of Back Lane

Outlet pipe from historic field drainage system in fields south of Back Lane
Natural low point in land between Back Lane and Stockwell Lane.

Natural low point on Back Lane with evidence of standing water.