Norfolk County Council

# Flood Investigation Report

## Report Title:

## South Norfolk

## Little Melton

## Mill Road

## Report Reference: 000089

July 2013

Report Status: Approved Report

| | **Name** | **Date** |
|---|---|---|
| **Prepared by:** | Mark Henderson | 24 / 06 / 2013 |
| **Checked by:** | Graeme Taylor | 24 / 06 / 2013 |
| **Approved by:** | Graham Brown | 05 / 07 / 2013 |

Prepared by Flood and Water Management Team

# Contents

# Flood Investigation Report

## Mill Road, Little Melton, South Norfolk

---

### 1. Location of flooding incident

1.1 Little Melton is located approximately 8 km West of Norwich. Mill Road is situated on 0.5 km from the Centre of Little Melton. The area of reported flooding is on Mill Road.

### 2 Flood Incident as reported

2.1 The office of MP Richard Bacon was provided with several reports of flooding to the highway by a resident on Mill Road, Little Melton. The resident provided evidence of historic flooding over a period of 40 years in addition to recent flood events over the previous 6 months, which culminated in the most recent flood event occurring on 14 February 2013.

2.2 Norfolk County Council's Flood and Water Management Team were first alerted to the flooding issues on Mill Road, Little Melton by the MP's office on 14 February 2013. The contact in the MP's office requested a response from Norfolk County Council to the issues listed above and identification of the possible causes of the flooding which has occurred on Mill Road.

### 3 Desk Study

3.1 The location of the flooding:

- Lies within a small localised catchment that forms part of the wide River Yare Catchment.
- Is sited within an area of geology likely to have low rates of infiltration.
- Is located within South Norfolk District Council's administrative boundary.
- Is located within the Environment Agency (EA) Eastern Admin and Water Management areas.
- Does not lie within any predicted significant surface water overland flow paths but the topography of the land dictates that water naturally pools within the area of reported flooding on Mill Road.
- Does not lie within Flood Zone 2 or Flood Zone 3.
- Is approx. 2 km from an EA rain gauge.
- Has not been mentioned within existing flood risk management publications (i.e. Strategic Flood Risk

Assessments).

3.2 From the desk study it is indicated that the management of local drainage is primarily the responsibility of Norfolk County Council Highways for the highway drainage system and where appropriate riparian owners for the drainage ditch.

## 4 Summary of site investigation and information received

4.1 Please see annotated Map attached to this report summarising the information received by third parties and through on-site investigations.

## 5 Summary of impacts

5.1 Information relating to the impacts experienced at the flood location are detailed below; *(Please see Annex 6 within the PFRA Annexes to the final guidance for the classification of property types to be used in filling in the section below).*

**Risk to life:** None

**Internal Flooding:** None

**External Flooding:** None

**Critical services:** No

**Priority Gritting Routes:** Yes/ P1/P2 gritting route

**Obstruction of Access:** Yes 2/3 days at any one time.

5.2 Several flood reports relating to flooding or drainage issues associated with the flood site have been identified in Norfolk Coutny Council and other Rick Management Authority's records. All of which were found to relate to surface water flooding of the highway.

## 6 Investigation findings

### 6.1 What caused the flooding?

6.1.1 The flooding at this location was experienced due to a number of factors. These are set out below. It should be noted that the order in which these are listed does not reflect the significance of the issue and that a number of factors require more detailed analysis or surveying to ascertain their level of influence over the incidents experienced at this location.

- An above average rainfall event which was greater than the surface water drainage system could cope with, and the natural fall of the land creates ponding at the lowest point within the highway on Mill Road.
- The highways drainage system was put under pressure as it did not have capacity to deal with the rainfall event.
- The drainage ditch that the highways system outfalls into has inadequate levels and limits the capability of the highways system to drain effectively.
- Within the drainage system within the allotments there is an interruption to the flow
- The different maintenance regimes for the private drainage systems along Mill Road and Great Melton Road have an effect on the flow.

**6.2 Who has responsibilities to manage the cause(s) of the flood?**

6.2.1 With reference to the above factors, responsibility to manage the causes of the flood are listed below;

- Norfolk County Council Highways.
- Riparian owners.

**6.3 What was their response in relation to the cause of the flood?**

6.3.1 Norfolk County Council Highways stated position to date is based upon correspondence between Norfolk County Council Highways and local residents, and is as follows:

- "Norfolk County Council Highways have stated that the piped system that runs under the road is clear and the problem lies with the lack of fall when the piped system feeds into the open ditch system within the allotments. Norfolk County Council Highways have stated that the responsibility for resolving the flooding issues lies with the landowners of the allotments."

6.3.2 In addition, Norfolk county Council Highways have also carried out the following works in the past to improve and/or repair the drainage connected to Mill Road as a good-will guesture although it is not deemed to be their responsibility;

- Re-lining and deepening of the ditch running parralel to Mill Road within the allotments boundary.
- Survey of the downstream system in 2010 resulting in works beng carried out to resolve a collapsed pipe in Great Melton Road.
- Tankering of standing water from Mill Road.

- In response to a request for the allotments to be surveyed to assess whether there was an appropriate fall for surface water to drain from Mill Road - and if not whether any improvement could be made:
  - Norfolk County Council Highways subsequently surveyed the allotments in April 2013.
  - Norfolk County Council Highways found that some improvement to the fall could be made by deepening the ditch within the allotments.
  - Norfolk County Council Highways have stated that the effect of these works will ultimately be limited by the existing levels which they found to be approx. 40cm below the level of the outfall in the south-west corner of the allotments.
  - As Norfolk County Council Highways funding is limited and drainage improvements are therefore based on a risk based approach, although potentially feasible (as it could be linked to a positive drainage system), Norfolk County Council Highways have stated that any such scheme would need to be prioritised against other potential drainage schemes in areas of flood risk.

## 7 Recommendations

7.1 The recommendations highlighted below are referenced against the factors detailed above.

7.2 Landowner/ riparian owners to look to:

- Improve levels within the private system to ensure the drainage system operates effectively.
- Clean out the existing ditch and widen / deepen this to maximise storage capacity.

7.3 Norfolk County Council Highways could investigate and assess the current capacity of the highways drainage system to indicate how the system accomodates rainfall in normal events and whether there is a need to increase this capacity to accommodate normal rainfall events.

7.4 Based on investigations into the capacity of the highways drainage system, Norfolk County Council Highways could consider the feasibility for a capital drainage scheme in the medium to long term in order to improve and/or link the Mill Road surface water drainage system into an alternative positive drainage system.

7.5 Future improvements of drainage systems on any new developments adjacent to the flood site could be sought through

developer funded/Norfolk County Council capital programmes in order to provide mitigation for the existing piped system on Mill Road. This would rely on the developer securing a drainage route and outfall for the drainage system. It would be beneficial for any developer to work closely with Norfolk County Council Highways with regards to the adoption of any mitigation measures provided by the development.

7.6 Where structure or features are associated with significant flood risk these will be included on a public register. This will provide transparency for residents as to ownership and condition.

7.7 Norfolk County Council Highways and Flood and Water Management departments could develop appropriate guidance to clarify the roles and responsibilities of highways and riparian owners with regards to water management systems and their future maintenance.

## 8 Disclaimer

Although every effort as been taken to ensure the accuracy of the information contained within the pages of the report, we cannot guarantee that the contents will always be current, accurate or complete.

This report has been prepared as part of Norfolk 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.

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

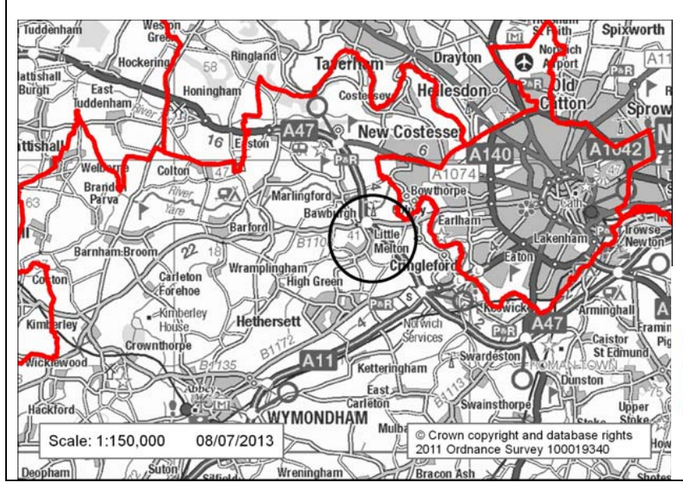
Norfolk County Council expressly disclaims responsibility for any error in, or omission from, this report arising from or in connection with any of the assumptions being incorrect.

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


Drainage system
Little Melton

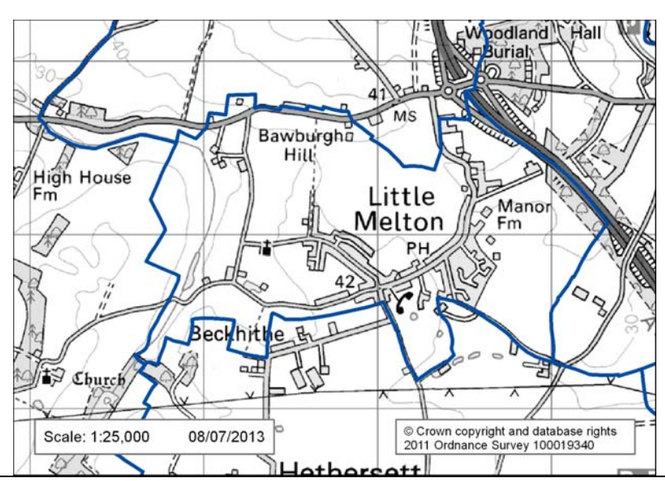
Norfolk County Council

Scale 1: 1500 Centred on 615771 306759




**Legend**

- Parish Boundaries
- District Boundaries




# Annotated Map

Flood Investigation Report: Little Melton

| | |
|---|---|
| A | There are a series of NCC Highways gullies along Mill Road that feed into a NCC Highways pipe. |
| B | This NCC Highways pipe outfalls to a ditch at the allotments on Mill Road.. |
| C | The ditch then runs through the allotments to the south west corner (within the allotment ditch there is a culvert, through the track, which is a restriction) |
| D | The ditch connects to an enclosed chamber at the south west corner of the allotments at which point the chamber connects two culverted systems. |
| E | The first culvert has been surveyed by a drainage contractor and was found to be blocked. The culvert is not adopted by Norfolk County Council Highways and is a privately owned culvert. |
| F | The second culvert runs along the northern side of Great Melton Road. There was evidence of a number of access chambers to the culverted watercourse that runs along Great Melton Road . |
| G | The culverted pipe along Great Melton Rd outfalls into an open ditch. |
| H | There is a proposed development site which has the potential to mitigate and potentially resolve some of the existing flooding issues on Mill Road. |
| I | The proposed development site will have an access point within Mill Road. |
| N.B. | South Norfolk District Council have been in discussions with the developers for the site adjacent to Mill Road to assess the potential to mitigate the flooding as part of the proposed development. An attenuation tank and swale adjacent to the junction of Mill Road and Gibbs Close has been incorporated into the designs for the outline application. NCC Developer Services have assessed the potential for the attenuation tank to mitigate the flooding on Mill Road and have confirmed that this feature will hold back any additional flows from the new development site on to Mill Road but will not mitigate the existing flooding problem on Mill Road. The drainage from the site of the proposed new development will outfall into the private drainage system. |
| | |