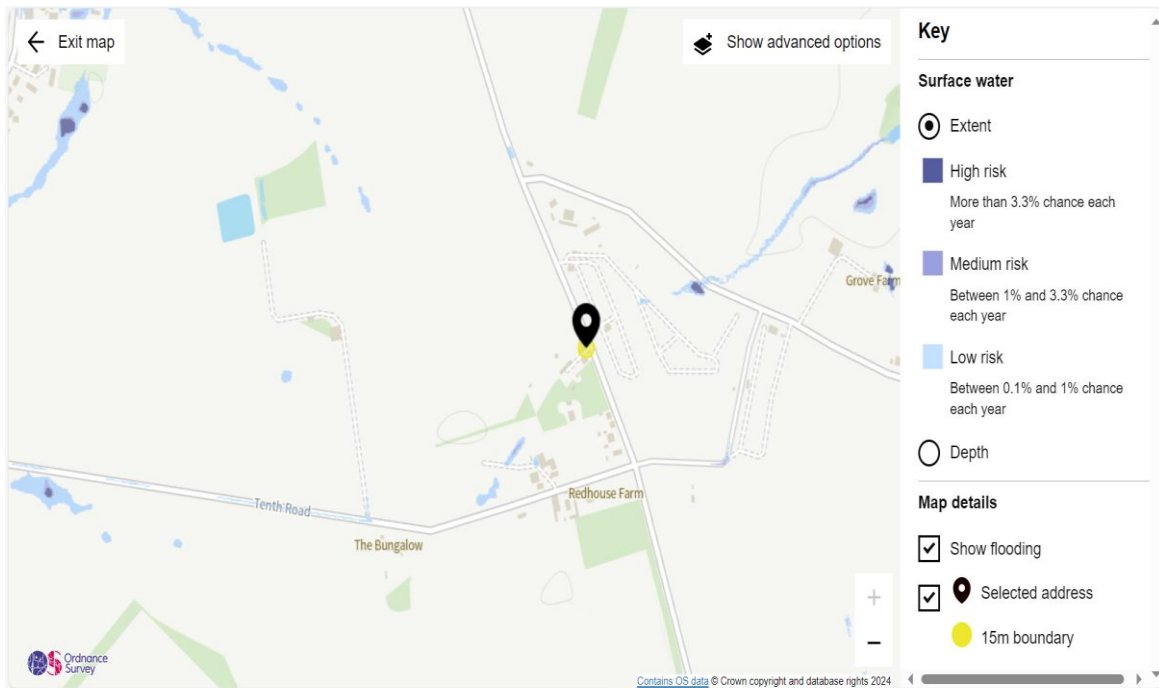


## Section 19 Flood and Water Management Act 2010

### Report Title: The Heath, Bucklesham

#### Report References:

CRNos 415332, 415335, 415791, and 468101.



	Name	Date
<b>Report Author</b>	<i>B Carvell</i>	<i>05/07/2024</i>
<b>Responsible Officer:</b>	<i>B Carvell</i>	
<b>Checked by:</b>	<i>M Orlopp</i>	<i>05/07/2024</i>
<b>RMA Review:</b>		
<b>Approved by:</b>	<i>M Hullis</i>	<i>27/08/2024</i>
<b>Date Published</b>		
<b>Date Report Closed</b>		

## Introduction

Suffolk County Council, Lead Local Flood Authority (LLFA) has determined that in accordance with our criteria, it is considered necessary and appropriate to carry out an investigation into this flood event.

This is in accordance with Sections 19 (1) & (2) of the Flood and Water Management Act 2010, to publish the results and notify the relevant risk management authorities (RMAs).

### *Section 19 Local authorities: investigations*

*(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*

<b>Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):</b>	
There was a risk to life because of flooding?	
Internal flooding of one property (domestic or business) has been experienced on more than one occasion?	✓
Internal flooding of five properties has been experienced during one single flood incident	
Where a major transport route was closed for more than 10 hours because of flooding	
Critical infrastructure was affected by flooding	
There is ambiguity surrounding the source or responsibility of a flood incident	

## 1. Location of flooding

The Heath, Bucklesham lies south of the Mill River. Given the main river is far from the afflicted area, this suggests the fluvial flood risk from main river is negligible. The area lies in a flood zone 1, which suggests the likelihood of flooding from surface water is very low risk. There are also no groundwater alerts or monitoring at this location which suggests groundwater poses a negligible risk. There are a series of ditch lines within the nearby area.

This investigation focuses on the flood events that occurred at two properties on The Heath. The location is shown in context on the map extract below, with the affected properties circled in black.

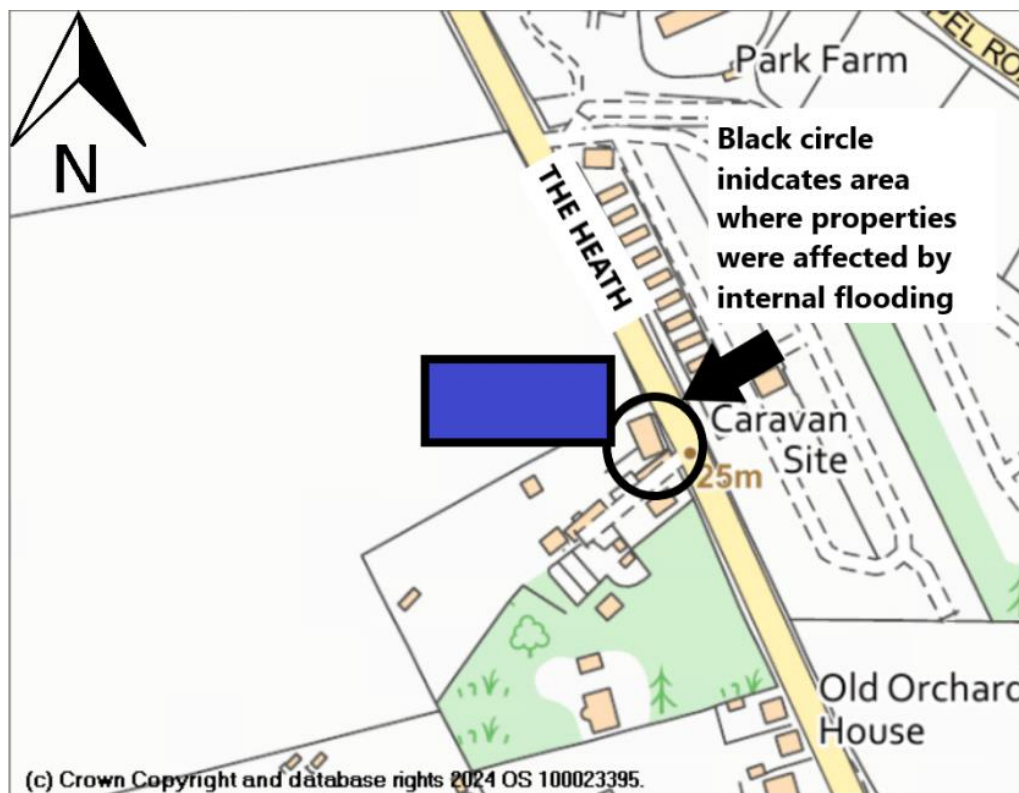


Figure 1 - Investigation Area Map  
©Crown copyright and database rights, Suffolk County Council Licence No. 100023395 2024

## 2. Records of any historical flooding

Anecdotal evidence states the issue has been ongoing since 2014 with one property submitting insurance claims. The first internal flooding confirmed event was reported on 04/08/2023. Internal flooding was then reported by the

neighbouring property on 08/08/2023 and internal flooding was then reported during Storm Babet in October 2023.

Following a site visit by a member of the Suffolk County Council Flood and Water Management Team on 17/08/2023 it was determined that the overwhelmed ditch line north of the properties was the source of flooding. Private drainage assets and highway gullies linked to the watercourse were also overwhelmed as a result.

Since the occurrence, planned works were raised in April 2024 for the installation of a 300mm pipe and ditching work. This has since been completed as shown by photograph 1.

Following a second site visit the private ditch line was recognised which continues for approximately 30m. This is the same section of ditch highlighted to Suffolk County Council Enforcement Team in April 2024. Some of the watercourse has been cleared of vegetation.

A ditch plan is shown indicatively below.

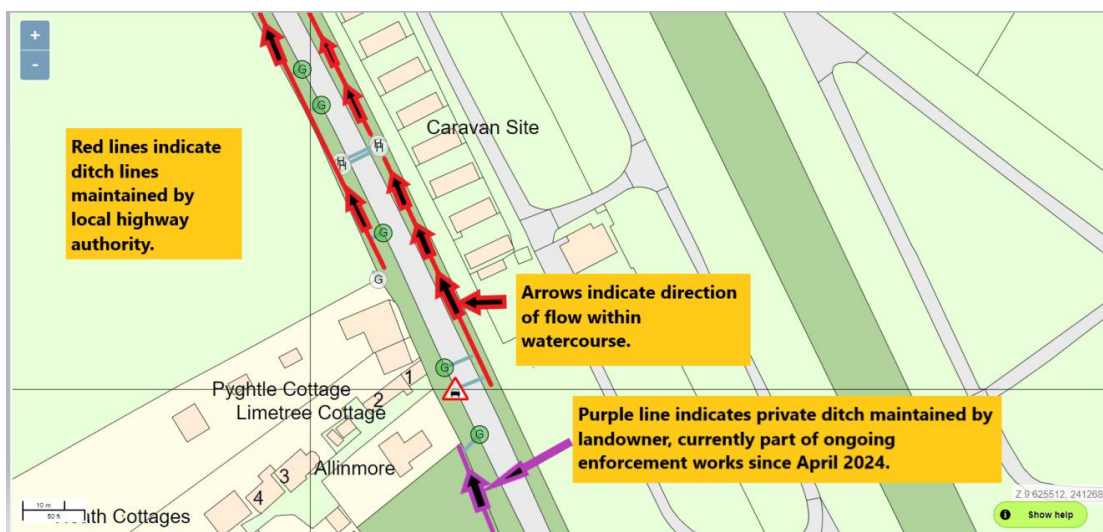


Figure 2 – Surface water asset plan ©Crown copyright and database rights, Kaarbontech Gully Smart

The private ditch line stops approximately 30m in where it connects to an ancient brick structure – possible culvert under private land. The Highways ditch and private ditch line do not seem to have any connectivity.

SCC does not hold any records regarding the exact nature of the impacts on these properties from Storm Babet (October 2023).

There is no rain gauge in Bucklesham. The nearest rain gauge is in Levington, so the rainfall data may not be specific to the area. In 2014 the peak rainfall event was on 20/07/2014 with 43.6mm of rainfall throughout the day. The next nearest rain gauge is in Felixstowe. On 04/08/2023 the rain gauge recorded 17.2mm. And finally, on 08/08/2023 the Felixstowe rain gauge recorded 6.0mm of rainfall.

There is a potable water main opposite the properties, however there are no known foul water assets recorded in the area, which would suggest that flooding from public sewers did not occur at this location.

Shown in Figure 3 below is a map extract of the recorded historical pluvial flood events as held by Suffolk County Council (SCC). Please note that as not all the above events were formally reported to SCC and this extract does not note any events which may have occurred during and after Storm Babet.

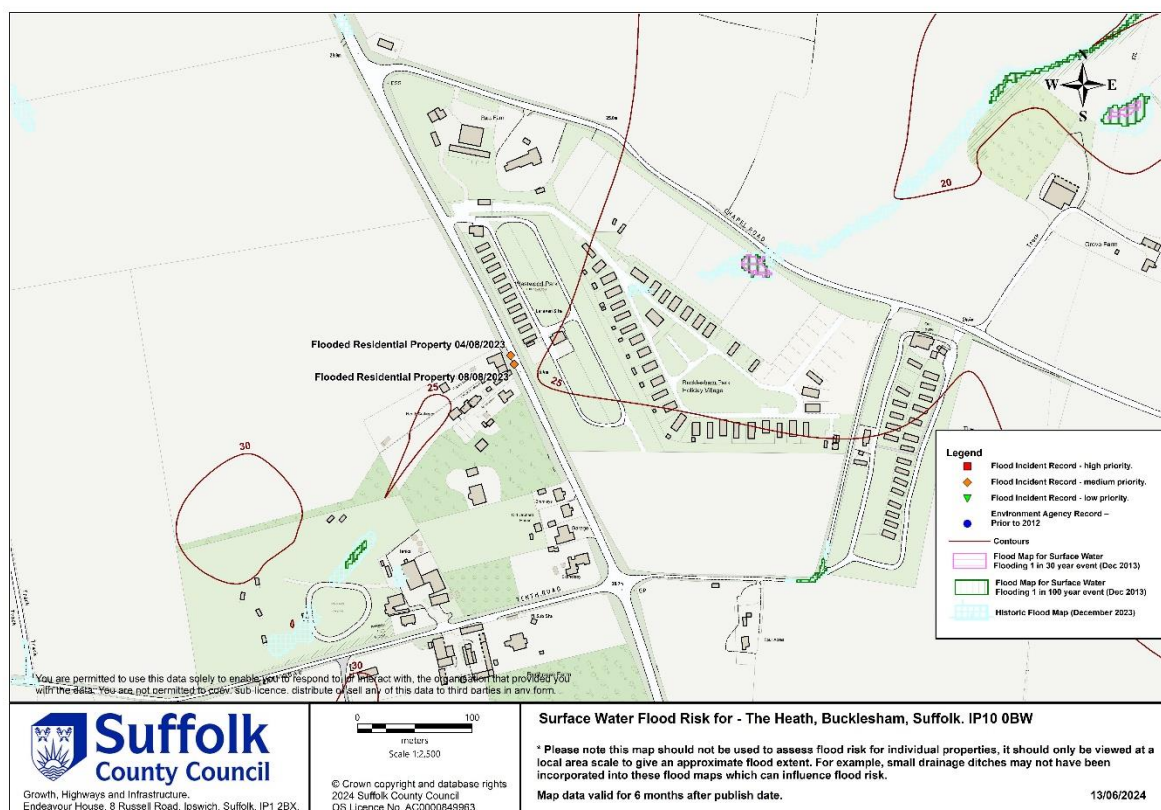


Figure 3 – Historical pluvial flood risk map ©Crown copyright and database rights, Suffolk County Council License No. 0000849963 2024

### 3. Effects of flood events (2014-October 2023)

In 2014, a moderate volume of rainfall was experienced which could have overwhelmed the ditch line north of the properties and other drainage assets in the nearby area.

In 2023 a minimal volume of rainfall was experienced, which suggests there may have been a blockage within the ditch line preventing surface water conveyance to the intended outfall.

The initial source of flooding was an overtopping ditch line adjacent to the affected properties. This ditch line has since been confirmed to be a highways asset; therefore, it is the Highways Drainage Asset Team's responsibility for maintenance and remediation.

There has also been some enforcement work raised on 26/04/2024 for a different ditch line south of the affected properties. The maintenance of this section of ditch is the responsibility of the adjacent landowner, not the local highway authority. The extent of works was deepening 85m of ditch to a new depth of 1.5m to improve the capacity of the ditch line. Evidence on site on 17/06/2024 suggests this is partially complete.

Storm Babet was an exceptional rainfall event which affected many parts of Suffolk which has exacerbated existing drainage issues.

#### **4. Predicted Flood Risk**

The national government indicative "flood risk for planning" map identifies that the fluvial flooding risk (river) is very low at this location (which means that this area has a lower than 0.1% each year of flooding from a watercourse). Both groundwater and tidal flooding are unlikely in this area. Pluvial (surface water) flooding however is recorded to represent a very low flood risk on The Heath (which means that each year this location has a lower than 0.1% chance of flood occurrence).

Extracts of the pluvial flood mapping are shown below. These demonstrate the velocity of flow during a low-risk surface water incident. The small black arrows denote direction of flow. See figure 4.

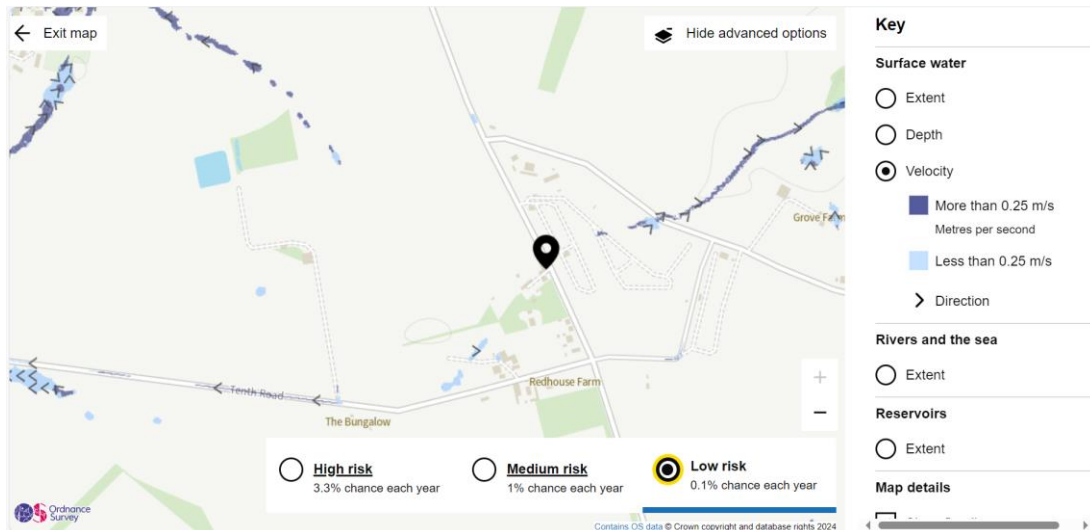


Figure 4 – Pluvial flood risk map with water velocity.

## 5. Flooding Sources & Likely causes:

- **Blocked watercourse/low watercourse capacity:** the watercourses north of the properties and south of the properties were both vegetated before works which likely affected surface water retention in the area.
- **Undersized pipe/culverted watercourse connecting the two sections of open watercourse:** ensuring this pipe is clear of silt and free flowing will help to mitigate surface water from accumulating and overtopping from the ditch and resulting in flooded property.
- **Lack of water storage assets on site:** currently there are no surface water retention ponds or attenuation features in the area. An option proposed to the nearby landowner of the land adjacent to the ditch line was to create a depression or retention pond to store water upstream. This will be dependent on the performance of recently installed highway drainage assets.

**No property flood resilience measures:** due to the low level of the properties compared to surround ground levels and the highway, property flood level resilience measures may have mitigated the impacts of the flooding.

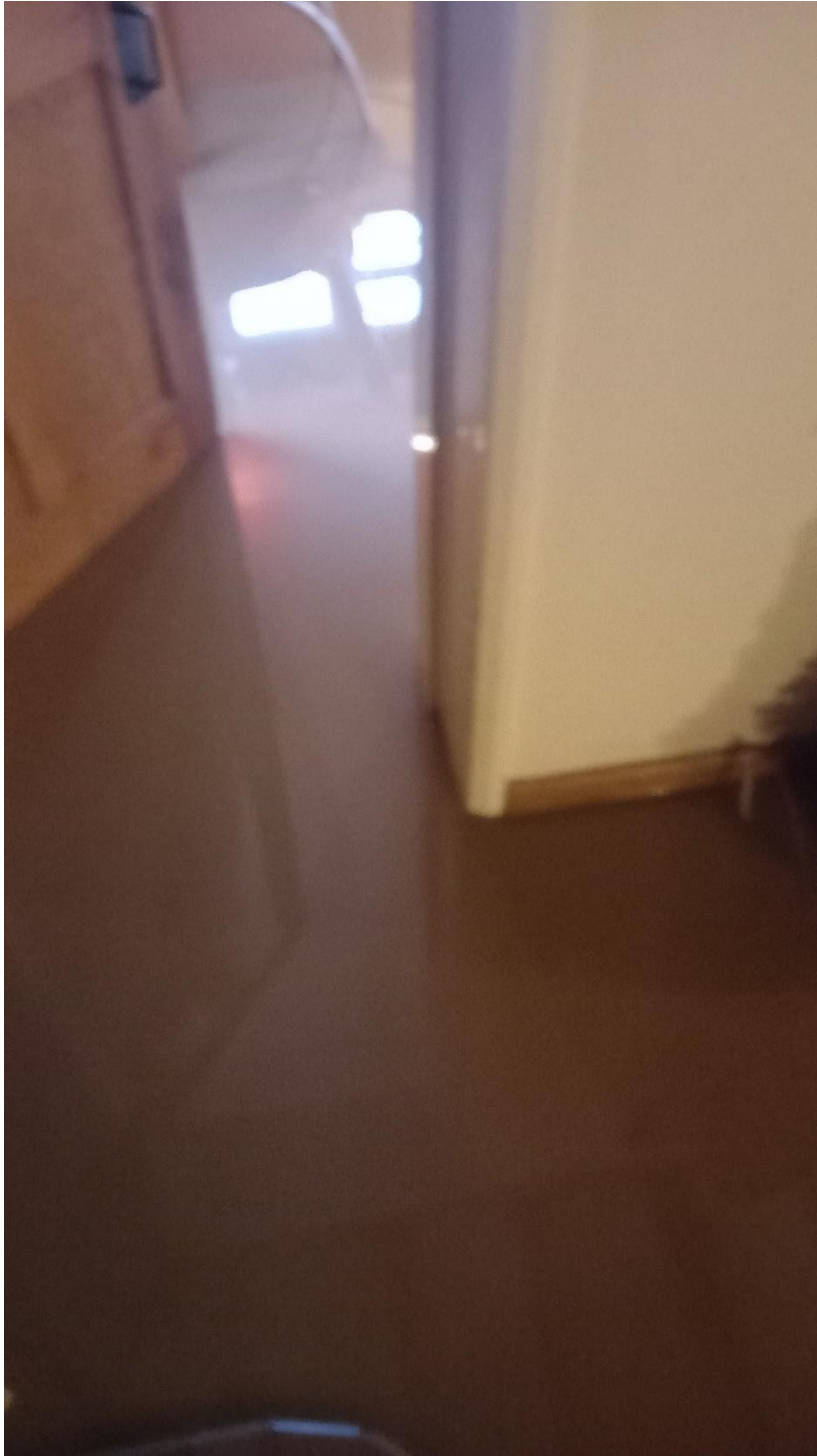
## 6. Photos of flooding

The following photographs show the internal flooding impact in August 2023:



**Photo 1 – Internal flooding photograph provided by resident in August 2023.**





**Photo 2 – Internal flooding photograph provided by resident in August 2023.**



**Photo 3 – Internal flooding photograph provided by resident in August 2023.**

The following photographs show the current condition of the highways maintained ditch lines and private ditch lines in the system:



**Photo 4 – Highways Ditch line**



**Photo 5 – Installed hessian sandbag headwall in highways ditch line.**



**Photo 6 – Access to private ditch line.**



**Photo 7 – Private ditch line.**

**7. Risk Management Authorities, Non-Risk Management Authority, and flood risk function(s)**

<b>Risk Management Authority</b>	<b>Relevant Flood Risk Function(s)</b>
Suffolk County Council SCC	Lead Local Flood Authority, Highways Authority, Highways Enforcement, & Asset Owner
<b>Non Risk Management Authority</b>	<b>Relevant Flood Risk Function(s)</b>
Property Owners/Occupants	N/A
Riparian landowners	Asset owner

**8. LLFA Recommended Actions:**

<b>Action</b>	<b>Risk Management Authority</b>	<b>Timescale for response</b>	<b>Latest Progress Update for Actions</b>
Advise upon suitable property flood resilience measures.	SCC LLFA	August 2024	Both properties surveyed as part of Phase 1 of PFR project.
Consider engaging with "Flood Re" scheme to access more affordable insurance premiums.	Property Owners	August 2024	Pending
Install property flood resilience measures to mitigate the impact of any potential future flooding.	Property Owners	September 2024	Specific PFR measures to be selected as PFR scheme progresses.
Review the inspection/maintenance schedule of surface water drainage assets in the area.	SCC HA	December 2024	Pending
Monitor the regraded ditch network and installed highway drainage assets to	SCC HA	December 2024	Pending

ensure they are performing efficiently.			
Investigate condition of culverted section of watercourse along site frontage and consider installation of a larger pipe if suitable to ensure flows can access downstream section of watercourse during storm events.	Property owner	September 2024	Pending
Investigate possibility of installing a retention feature in adjacent arable land or extension of the private ditch line to retain more water.	Riparian landowner	December 2024	Pending
Following enforcement work, monitor private ditch line to ensure surface water is directed away from adjacent highway.	Riparian landowner	December 2024	Pending

## 9. Reviews

This report will be reviewed and updated every 3 months until actions are marked as complete.

Reviewer	Date of Review
Bradley Carvell	02/09/2024.



## **10. Disclaimer**

This report has been prepared and published as part of Suffolk County Council's responsibilities under Section 19 of 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 while all reasonable efforts have been made to gather and verify such information 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 recommendations in this Report are based on assumptions made by Suffolk 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.

Suffolk 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 Suffolk 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.

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 Suffolk County Council highlighting flooding to properties at a street level. Property owners and prospective purchasers or occupiers of property are advised to seek and rely on their own surveys and reports regarding any specific risk to any identified area of land.

Suffolk County Council forbids the reproduction of this report or its contents by any third party without prior agreement.

