S19-948

Folkingham Road, Vine Street, West Road, Billingborough

Section 19 Flood and Water Management Act 2010

Date Prepared – 27/06/2025

GeoSmart Information Ltd

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Executive summary

The purpose of this Section 19 (S19) Flood Investigation Report is to identify the cause of flooding which affected the property internally. The report will provide an overview of the problem, identify the flooding mechanisms, identify relevant Risk Management Authorities (RMAs) and stakeholders, and provide a list of recommendations. It is however important to note that this investigation report cannot provide designed or costed solutions and / or enforce those identified RMAs or persons to undertake any of the proposed recommendations.

This report was commissioned to consider internal flooding to Properties A – M which occurred as a result of substantial rainfall experienced during the early hours of 06 January 2025. The heavy rainfall event involved an area of low pressure crossing South and Central England, which resulted in heavy rainfall throughout the East Midlands. This resulted in several rain gauges across Lincolnshire recording their wettest January day on record (Met Office, 2025).

As a result of the extensive rainfall from the low-pressure system, overtopping of the Ousemere Lode (Main River) and frozen ground conditions, thirteen properties were reported to have experienced internal flooding within Billingborough. The evidence gathered within this report, including conversations held during walkover of the area on 12 and 13 February 2025, as well as information provided by the residents confirmed that twelve properties experienced internal flooding (one property could not be directly confirmed, but internal flooding was reported through an enquiry trace form). Photo evidence of the flood incident is provided within Section 7.3.

Flooding Mechanism

- **Properties A – K** flooded primarily due to overtopping of the Ousemere Lode upstream of Billingborough, with floodwaters flowing down the natural floodplain towards Folkingham Road before ponding against the old railway embankment. Overland flows from Birthorpe Road and issues with the surface water drainage further exacerbated the situation.
- **Property L** flooded as a result of surcharging within the surface water drainage network, likely a result of elevated water levels in the Ousemere Lode. A manhole in the rear garden surcharged, leading to internal flooding.
- **Property M** flooded due to overland flows from the adjacent car park, Station Road, and West Road. The backed-up surface water drainage network prevented adequate drainage of excess runoff.

Relevant RMA

Given that flooding originated from overtopping of the Ousemere Lode (Main River) and faults within surface water drainage network, the relevant RMAs are considered to be the Environment Agency (EA), Lincolnshire County Council (LCC) in its function as Lead Local Flood Authority (LLFA) and Highways Authority and Anglian Water.

Recommendations

The following actions should be considered to reduce the potential for flooding in Billingborough during future storm events:

- The EA and partners to consider investigating possible alleviation schemes that would provide village-wide protection.
- Following further investigation by the LCC or IDB, the drainage ditches along Folkingham Road should be cleared and an appropriate maintenance schedule should be implemented.
- The implementation of additional flood resistance and resilience measures should also be considered by the property owners.
- The residents of Folkingham Road should look to implement a flood action plan to enhance preparedness for future flood events.
- An investigation of the surface water drainage network within Billingborough should be undertaken by the LCC and Anglian Water, specifically under the old railway embankment to identify a potential blockage/unknown issue.
- The EA should consider reviewing the South Forty Foot Drain (SFFD) model to verify its accuracy in representing flooding that has occurred.

1. Introduction

1.1 Purpose and limitations of this flood investigation report

On Monday the 06 January 2025, Lincolnshire County Council (LCC), in its capacity as Lead Local Flood Authority (LLFA) was notified of flooding to:

Table 1 – Properties covered as part of this investigation

Address	Reference	Reported Extent	Confirmed Extent
[redacted] Folkingham Road, Billingborough, [redacted]	Property A	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property B	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property C	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property D	Internal	Internal*
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property E	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property F	N/A	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property G	N/A	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property H	N/A	Internal*
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property I	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property J	Internal	Internal
[redacted] Folkingham Road, Billingborough, Sleaford, [redacted]	Property K	Internal	Internal
[redacted] Vine Street, Billingborough, Sleaford, [redacted]	Property L	Internal	Internal
[redacted] West Road, Billingborough, Sleaford, [redacted]	Property M	Internal	N/A
Folkingham Road, Billingborough NG34 0NT	Folkingham Road	Road Closure	N/A
West Road, Billingborough Sleaford, NG34 0QU	West Road	Road Closure	N/A
High Street, Billingborough	High Street	Road Closure	N/A

Low Street, Billingborough, Sleaford, NG34 0QJ	Low Street	Road Closure	N/A

*Please note that the extent of internal flooding is based on observations made during the Site walkover, including visible water marks on building brickwork and skips in driveways containing internal furnishings and debris, both providing evidence of the flooding's impact. No extended conversation was held with residents and an LCC questionnaire was not completed within the timeframe of this report.

During a site visit of Billingborough, internal flooding to Property A – L was confirmed with reported internal flooding to Property M (Table 1). Four road closures were also reported.

Having regard to LCC's 'Guiding Principles' for Section 19 flood investigations, it was deemed necessary that a flood investigation report be undertaken pursuant to Section 19 of the Floods and Water Management Act 2010 (as amended).

The purpose of this Section 19 flood investigation report is to:

- Investigate reports of internal flooding to understand and determine the cause of flooding;
- Determine which Risk Management Authorities (RMAs) have relevant flood risk management functions;
- Propose recommendations that may alleviate potential future flooding events or if the affected properties or location should be considered as suitable for a capital project. It is however important to note that this investigation report cannot provide designed or costed solutions and / or enforce those identified RMAs or persons to undertake any of the proposed recommendations.

1.2 Sources of evidence

The information used to inform the conclusions of this S19 report is:

- Site visit, including conversations with residents at properties reported to have internally flooded, and observations of nearby watercourses and drainage assets;
- The results of a survey which LCC made available to residents affected by flooding;
- Review of the EA's national scale Flood Map for Planning and national scale Risk of Flooding from Surface Water mapping and GeoSmart FloodSmart Analytics mapping;
- Publicly available mapping, such as the EA's LiDAR elevation data and BGS geological data;
- River level and rainfall gauge data covering the storm event;
- Mapping of LCC's known drainage assets;
- Mapping of Anglian Water's surface and foul sewer network (where available); and
- Relevant information provided by RMAs (where available).

Following receipt and assessment of this information, the likely flood mechanism was determined. Where respondents have not provided information regarding the timing and source of flooding, this has been inferred from Site walkovers as well as the available flood mapping and publicly available records.

Given the source of flooding, issues have been identified within the Site area which contributed to the flooding, and recommendations have been made to resolve these issues.

In the case of some Sites, flood mitigation measures have already been implemented following the flood event. Where this has occurred, an indication of whether this would provide satisfactory resolution of the issues has been provided.

2. Background information

2.1 Site location

The properties are located within the village of Billingborough within the South Kesteven District area of Lincolnshire (Figure 1). The properties are located within the extended area of the internal drainage district of the Black Sluice Internal Drainage Board (IDB).

The majority of properties affected in Billingborough (Property A – K) are located along Folkingham Road, comprising of detached properties as well as farm house (Property D) with associated agricultural sheds. The Ousemere Lode is located c. 180 m to the north of Properties A - E at its closest point, flowing in easterly direction, eventually discharging into the South Forty Foot Drain (SFFD) 5 km east of Billingborough.

Numerous drainage ditches are present near Properties A–K, most notably an unnamed ditch that flows west of Blasson Way in the adjacent agricultural field before continuing eastward along the frontages of Properties F–K beneath a series of access bridges as well as a similar feature on the northern edge of Folkingham Road. This is understood to connect to a surface water drain, which is culverted beneath the railway embankment and discharges runoff into Ousemere Lode further downstream.

Additional isolated properties (Properties L and M) are also understood to have flooded internally, also within Billingborough, to the east of Folkingham Road.

As per the Black Sluice Catchment Works Modelling Study (Mott Macdonald, 2016), Billingborough is understood to be located on the boundary of the upper and lower catchments of the SFFD, situated along the spring line marking the historic boundary of the Fen, known as the “Fen Edge”.

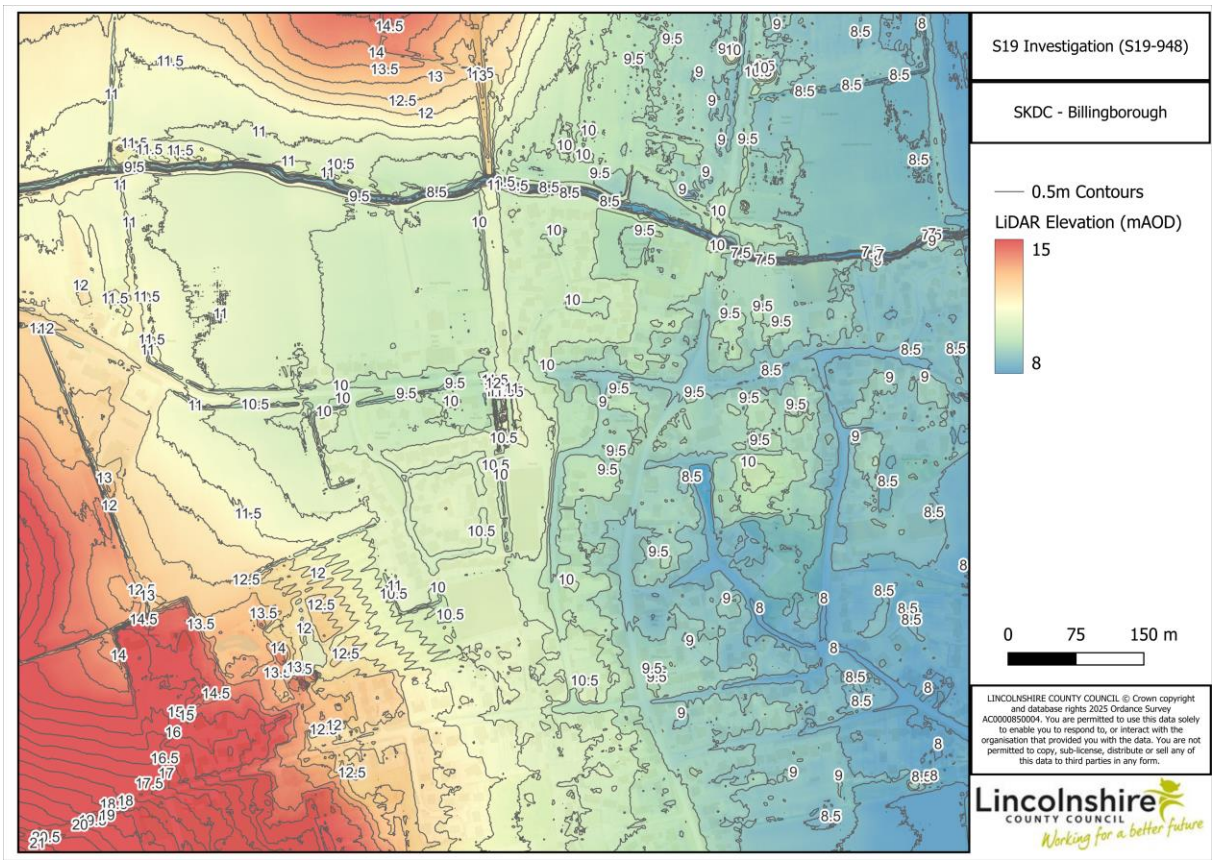
Ground levels within Billingborough generally fall to the east, following the direction of Ousemere Lode and the natural gradient of the Fens. More locally, Properties A–K are situated within a notable topographic low to the west of the railway embankment, which forms an area of higher ground. While the dwellings are modestly elevated above the adjacent highway, there is no significant rise to the entrances. Properties L and M are also slightly elevated above the adjacent highway level, with a modest raised threshold (c. 0.10 m) noted at each property.

According to BGS records, the underlying superficial geology of Billingborough consists of River Terrace Deposits (RTD1) (BGS, 2025) which is classified as a Secondary A Aquifer (EA, 2025).

The underlying bedrock is variable but generally comprises the Cornbrash Limestone Formation (CB) (BGS, 2025), which is classified as a Secondary A Aquifer (EA, 2025) beneath the affected properties. Areas of the Kellaways Clay Member (KLC), classified as Unproductive

Strata (EA, 2025), are located approximately 65 m to the north and 175 m to the south of the nearest internally flooded properties.

(Figure 1 - Location of the known affected properties)



(Figure 2 - LiDAR elevation data for the area surrounding the affected properties in Billingborough)

2.2 Flood risk overview

According to the EA's Flood Map for Planning Purposes, the Properties are all located with Flood Zone 2, indicating they have a Medium probability of flooding from rivers (Figure 3).

According to the EA's Risk of Flooding from Rivers and the Sea (RoFRS) mapping, Properties K, L and M have a Low risk of fluvial flooding whilst the remaining properties have a Medium risk of fluvial flooding.

According to the EA's Surface Water Flood Risk mapping (Figure 4), Properties A – K are at a High risk of pluvial flooding. Property L is at a Medium risk of surface water flooding, while Property M is assessed as Very Low to Medium risk, with flooding modelled to affect the southern and western face of the dwelling.

Based on the EA's Overland Flow Pathway mapping, three overland flow routes are modelled in proximity to Properties A–K, including two that cross Folkingham Road. These flow routes generally follow a north-easterly direction before diverting northward upon reaching the railway embankment.

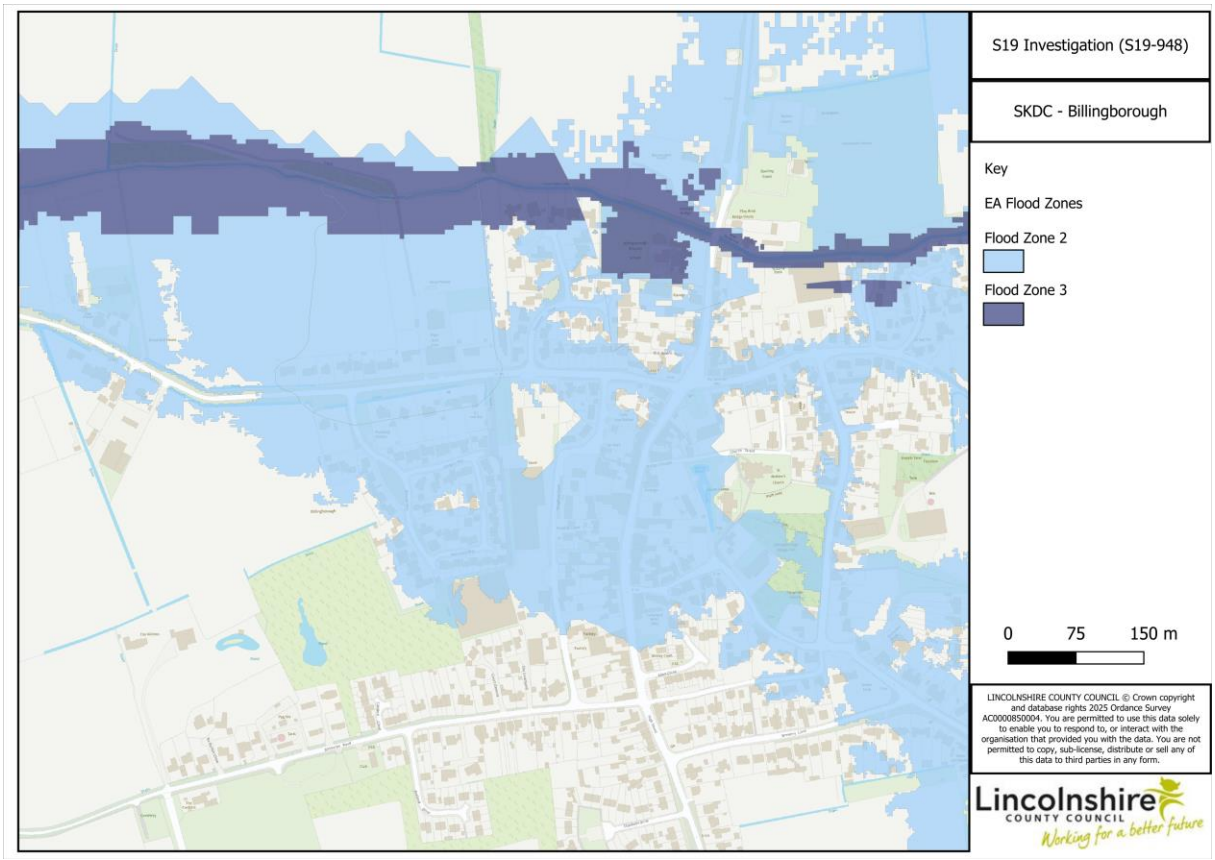
According to GeoSmart's FloodSmart Analytics mapping, the area surrounding the properties has a variable risk of flooding from groundwater, ranging from Very Low to High (Figure 5a to 5c).

The EA's RoFRS and Surface Water Flood Risk mapping uses the following classifications:

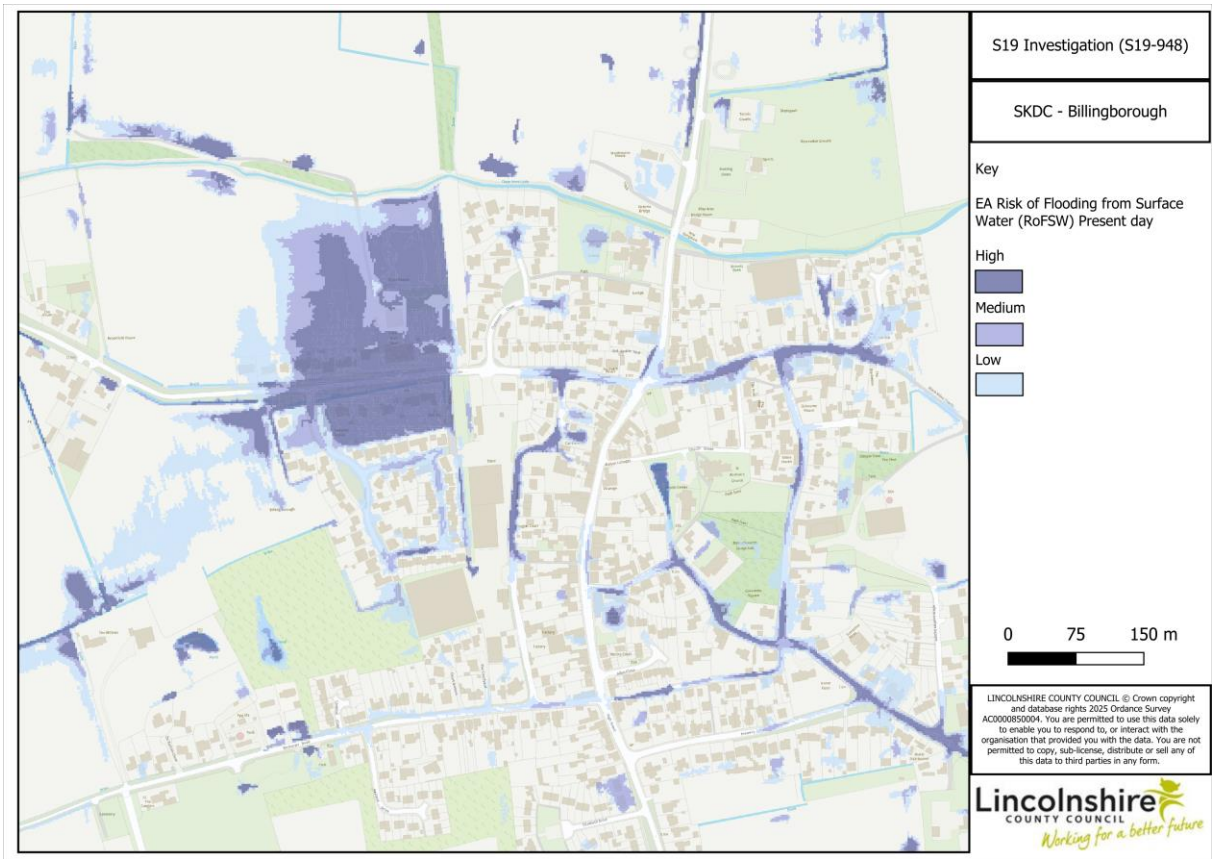
- High risk – an area has an annual chance of flooding greater than 3.3%;
- Medium risk – an area has an annual chance of flooding of between 1% and 3.3%;
- Low risk – an area has an annual chance of flooding of between 0.1% and 1%; and
- Very Low risk – an area has an annual chance of flooding less than 0.1%.

It should be noted that the above analysis carries the following disclaimer (EA, 2025):

> "*All information, particularly the likelihood of surface water flooding, is a general indicator of an area's flood risk. As such, it is not suitable for identifying whether an individual property will flood. This service uses computer models to assess an area's long-term flood risk from rivers, the sea, surface water and some groundwater. It does not include flood risk from sources such as blocked drains and burst pipes.*"



(Figure 3 - Flood zone mapping in the area surrounding the affected properties)



(Figure 4 - Surface water flood risk in the area surrounding the affected properties)

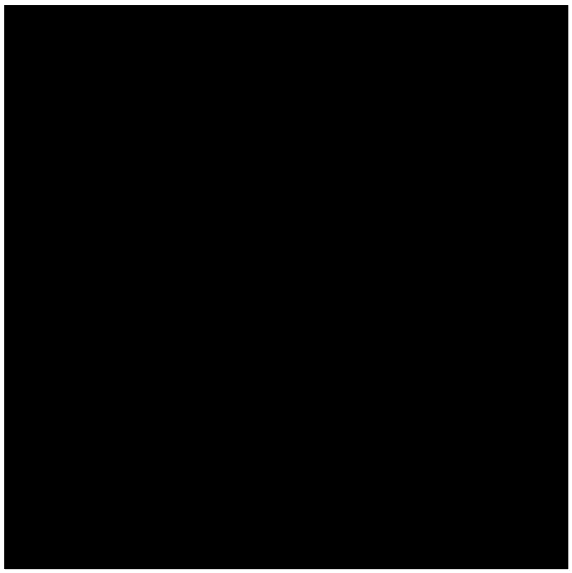


Figure 5a: Property A to K groundwater flood risk mapping according to GeoSmart's FloodSmart Analytics mapping)

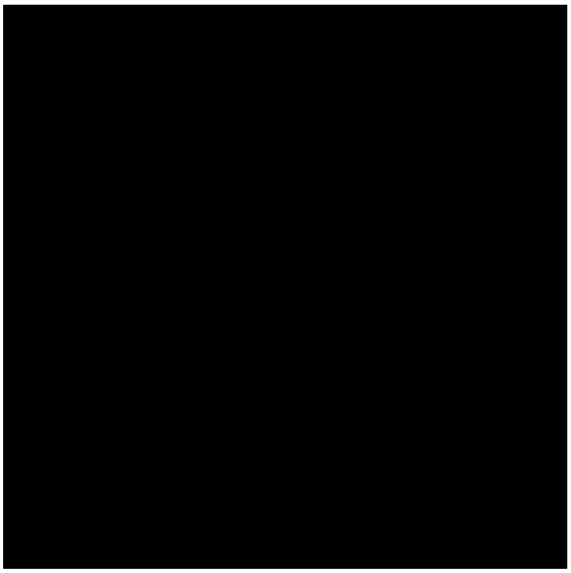


Figure 5b: Property L groundwater flood risk mapping according to GeoSmart's FloodSmart Analytics mapping)

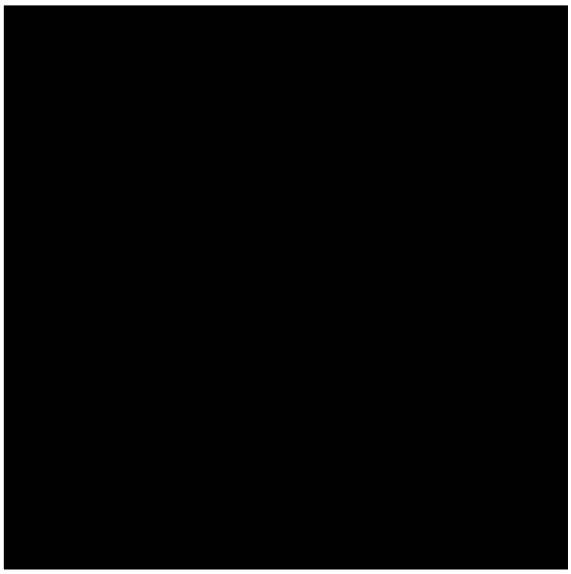


Figure 5c: Property M groundwater flood risk mapping according to GeoSmart's FloodSmart Analytics mapping)

2.3 Drainage arrangements

LCC drainage assets records at the time of publication Figures 6, 7 and 8. This indicates the presence of gullies and offlets throughout Billingborough in variable condition.

2.3.1 Properties A – K (Folkingham Road)

The drainage assets along Folkingham Road consist of a series of gullies and offlets, which are reported to be in variable condition. These features are subject to a biennial cleansing cycle, with the most recent inspection carried out on 12 October 2024. Prior to that cleanse, the silt level in the majority of gullies was recorded as 'red', indicating significant accumulation, while one gully was classified as 'amber'. In addition, three offlets were noted as having defects, although the specific nature of these defects was not recorded.

Drainage ditches, classified as Ordinary Watercourses, run parallel to Folkingham Road. These ditches are intermittently culverted, passing beneath a series of access bridges that provide entry to the adjacent dwellings. The watercourses generally flow in an easterly direction before connecting into LCC surface water drainage infrastructure. Whilst the exact routing of the drainage ditch running along the north of Folkingham Road could not be ascertained, it can be reasonably assumed to connect into the broader drainage network.

An embankment is located on the southern bank of the Ousemere Lode and is classified as an EA managed flood management asset. According to the EA's Asset Information Management System (AIMS), the embankment has an effective crest level of 11.49 mAOD, stated as providing a 1 in 200 year standard of protection (SOP). However, the EA's evidence based review of the flooding event, understood to reflect the most up-to-date information, has reclassified this to a 1 in 100 year SOP. As of the most recent inspection (18/03/2023), the embankment was assigned a condition grade of "Very Poor" (Condition Grade: 5).

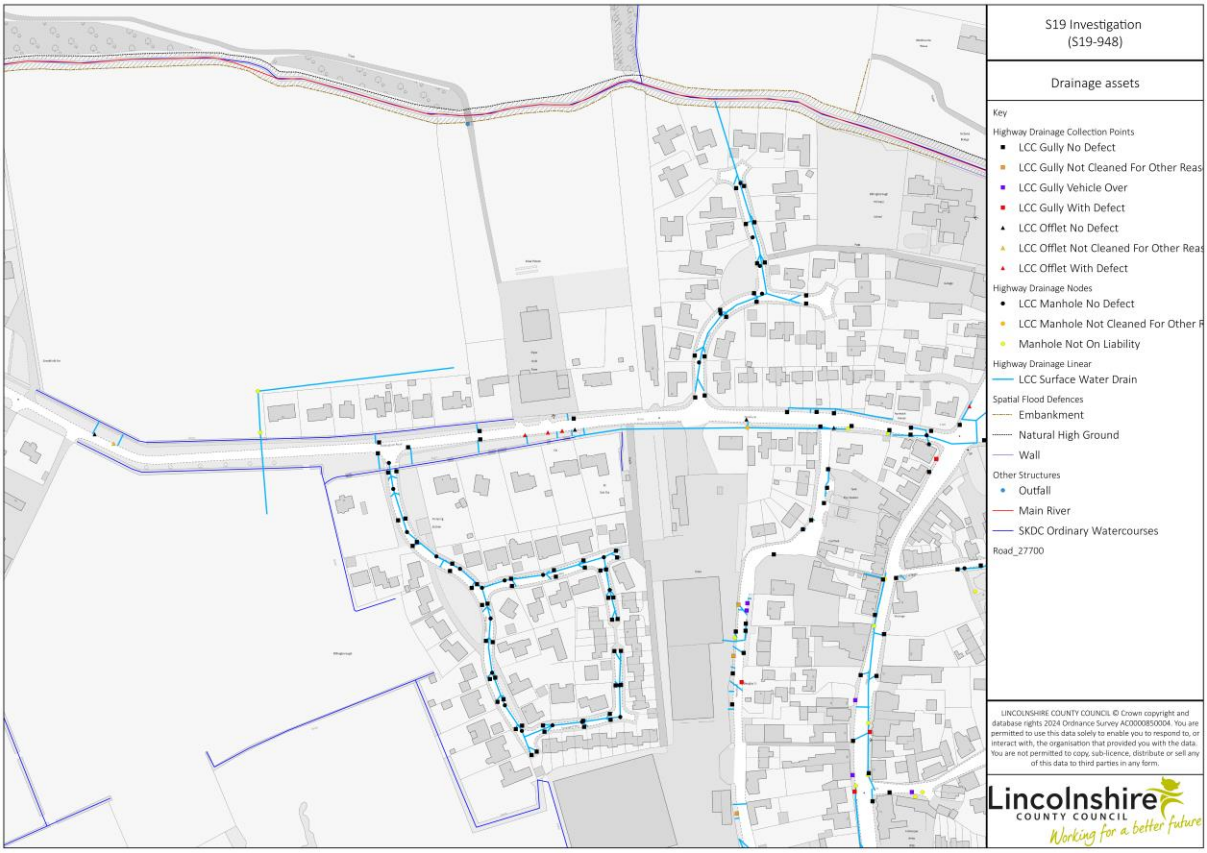
The nearest upstream asset, located at Piperdam Bridge, where overtopping is understood to have first occurred, is recorded as providing a 1 in 1 year SOP.

2.3.2 Properties L and M

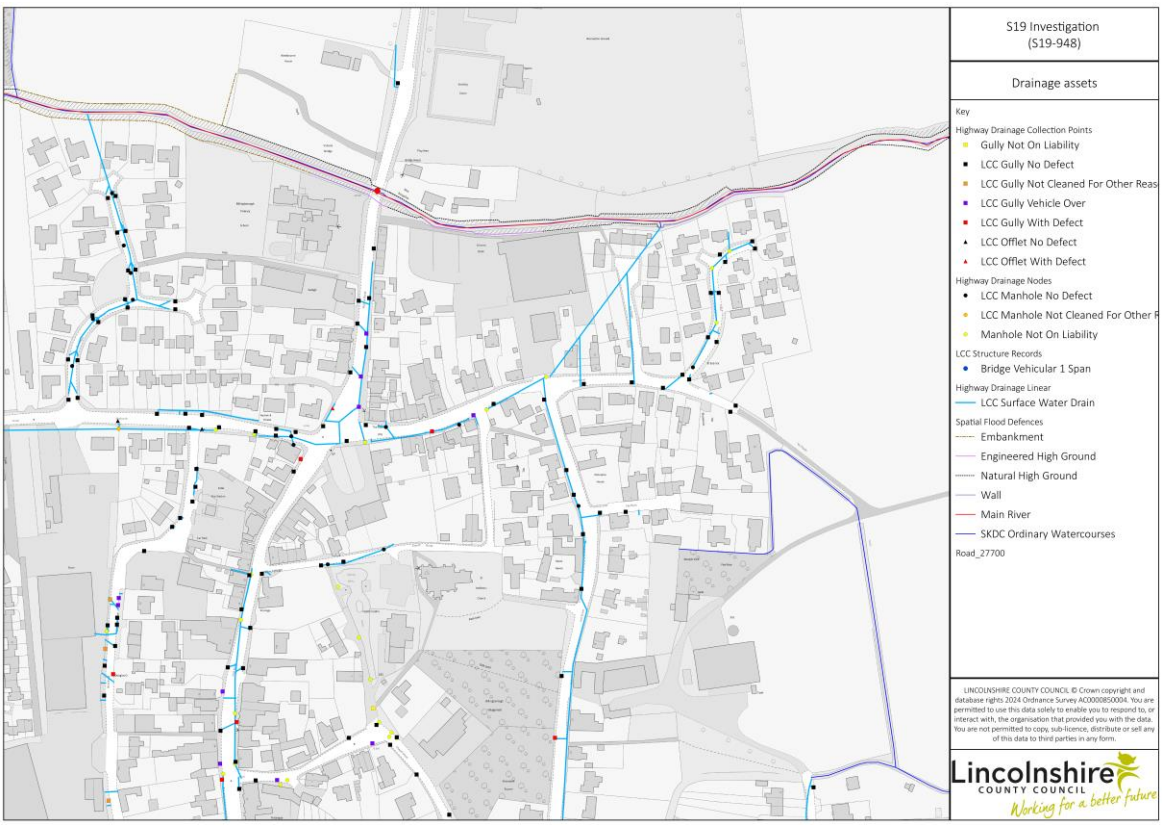
At Vine Street, a gully is mapped immediately adjacent to Property L. The gully was last inspected on 16 October 2024 with no defects noted. Silt levels were not recorded as part of the inspection. Other gullies along Vine Street were last inspected on 12 October 2024, with silt levels recorded as 'Red' prior to the last cleanse and no defects noted.

For West Road, a series of gullies are situated near Property M. These are understood to be cleansed on an annual basis, with the most recent inspection undertaken on 04 October 2024. Prior to that cleanse, silt levels were recorded as 'Amber', and no defects were reported.

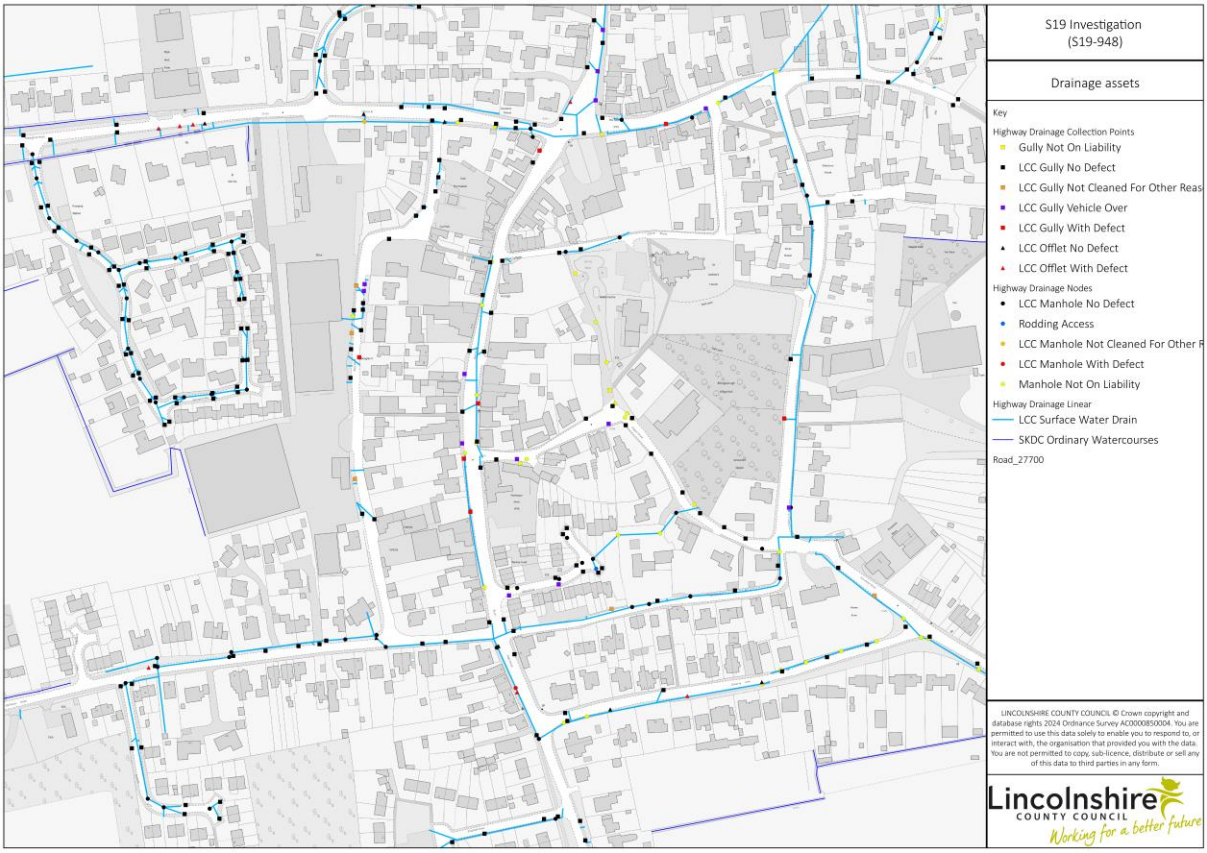
Anglian Water records at the time of publication are shown in Figure 9. The village is served by both a public foul sewer network and a public surface water network. It is thought that the public surface water network discharges into the Ousemere Lode.



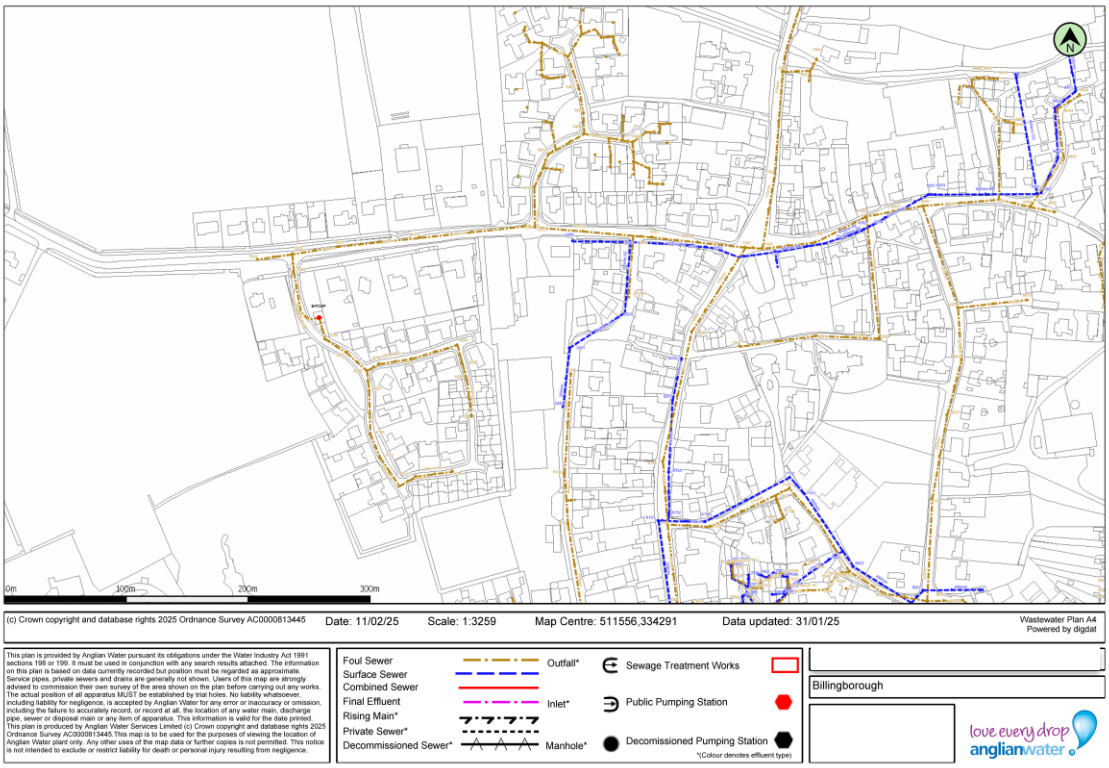
(Figure 6 - Known drainage assets included within LCC records along Folkingham Road at the time of publication).



(Figure 7 - Known drainage assets included within LCC records along Vine Street at the time of publication).



(Figure 8 - Known drainage assets included within LCC records along West Road and High Street at the time of publication).



(Figure 9 - Anglian water asset location plan in Billingborough).

Consultants from GeoSmart Information Ltd visited the properties and surrounding area on 12 and 13 February 2025. As part of the visit, the drainage assets were inspected to confirm the presence and condition of the gullies and offlets.

2.3.3 Site visit observations: Properties A – K

The site visit confirmed that gullies and offlets are present along Folkingham Road in the same arrangement as included within LCC records. They generally appeared to be in reasonable condition. Where defects were previously recorded on LCC mapping, it was not possible to verify whether these remain, based solely on visual inspection

The roadside drainage ditches along Folkingham Road were found to be in variable condition. Sections along the northern edge, in particular, exhibited significant accumulations of silt, leaf litter, and vegetation, resulting in the obstruction of much of the associated culvert pipework (Photograph 4 in Appendix 7.3). In contrast, ditches to the south were generally clearer, though localised silt accumulation was still present which may reduce operational capacity (Photograph 5 in Appendix 7.3).

It should be noted that excavation works had been carried out by residents following the January 2025 flood event along the southern edge. As such, the conditions observed during the site visit may not accurately reflect those present at the time of flooding.

In addition to the ditches along Folkingham Road, a network of field drainage ditches to the west of the affected properties was observed. These were generally in good condition, although debris, primarily straw, was still present at several inlets and outfalls, assumed to have been deposited during the January 2025 flood.

During the walkover, consultation with an EA representative indicated that a drainage ditch is located along the northern boundary of the fields to the east of Piperdam Bridge. However, its presence or condition was not confirmed during the Site visit.

Furthermore, as part of the walkover, a visual inspection of the Ousemere Lode and its associated embankment was made. Whilst there were noted areas of subsidence (Photograph 7 in Appendix 7.3) flooding is understood not to have overtopped the southern bank and therefore shall not be commented upon further.

2.3.4 Site visit observations: Properties L and M

The condition of the gullies on Vine Street could not be assessed as they were obstructed by parked vehicles. Conversations with the resident of Property L indicated that flooding originated from private drainage within the rear garden, rather than from the LCC drainage network (Photograph 6 in Appendix 7.3).

Gullies at West Road, near to Property M, were observed to reflect the same arrangement as shown in the LCC mapping and noted to be in a reasonable condition, with no obvious obstructions or blockages.

2.4 Previous flood incidents

Numerous reports of blocked drains and previous flooding across Billingborough have been made. The following relevant reports have been identified; it should be noted that this list is not exhaustive, with only relevant reports included:

- Blockage of a drain and flooding of the road on Vine Street in January 2016 and December 2018, (ref: 211053 and 4116095).
- Blocked drains along West Road that results in standing water in May 2014, December 2017, May 2019, November 2020, December 2020 and June 2021 (ref: 1803920, 301021, 351377, 380031, 381235 and 399065).
- Reports of West Road car park flooding due to blocked drains/inadequate drainage in July 2021, May 2022, September 2022 and August 2023 (ref: 4164986, 424788, 431542 and 467399).

A previous S19 report (S19-864) was completed for Property A in Billingborough, following Storm Henk in January 2024. The primary mechanism of the flooding was identified to be surface water exceeding the capacity of the local drainage network. Recommendations included investigating drainage assets, raising kerb heights outside Property A, and implementing property flood resilience measures. Based on observations made during the walkover and a review of information available on the LCC website, it appears that these recommendations have not yet been fully implemented.

According to the EA, flooding previously occurred in April 1998 (Figure 10). This occurred due to the channel capacity of the Ousemere Lode being exceeded further upstream of Billingborough. Table 5.3.2 of the South Kesteven SFRA (AECOM, 2017) confirms this extent and makes mention of Billingborough having previously flooded.

Figure 10 - Historical flood extents within Billingborough, as indicated by the EA

2.5 Additional reporting

Following the 06 January 2025 flood event, the EA have conducted their own review of the flood event.

The EA's review confirms that the Ousemere Lode reached a maximum water level of 9.79 mAOD at the Billingborough Gauging Station (Victoria Street bridge) at 09:00 on 06 January 2025. The recorded level is understood to be greater than the 1 in 1000 year (0.1% AEP) flood level identified during the earlier SFFD modelling, including an allowance for climate change.

Details of their investigation have been shared with the LCC and has been used to inform the conclusions of this S19 report.

The investigation highlighted the presence of two out of channel flows through Billingborough during the flooding event on 06 January 2025.

- Flows originating between Mareham and Oseby Lane due to the Ousemere Lode exceeding its capacity upstream.
- Surface water flows originating from Birthorpe Road exacerbated by saturated and frozen grounds allowing for little infiltration to occur.

The investigation also provides further clarification regarding the decommissioning of the Black Sluice Pumping Station, stating that it does not influence flows or contribute to flooding in Billingborough. This will be explored in more detail in Section 3.3.2 of the report.

Several independent reports have also been produced by residents of Billingborough, raising concerns about the capacity of the existing surface water drainage network to effectively convey flows, specially highlighting the sleeving of pipework reducing its cross-sectional area. These reports also explore a range of potential flood alleviation options. Photographs included within these documents will be used to help inform the conclusions of this Section 19 report.

3. Flood event

3.1 Conditions prior to the flooding

Prior to the flooding event, rainfall conditions were normal across the wider Lincolnshire area.

During November 2024, the Lincolnshire and Northamptonshire area received an average rainfall of 58 mm (equivalent to 103% of the long-term average) which was classified within normal range.

Normal conditions continued through December 2024. During this month, the Lincolnshire and Northamptonshire area recorded an average rainfall of 67 mm (equivalent to 120% of the long-term average). Groundwater levels remained normal or higher following the normal levels of rainfall the Lincolnshire and Northamptonshire area had received. During the month, soil moisture deficits had also decreased, meaning the wider Lincolnshire area was slightly wetter than normal for the time of year (EA, 2025).

Following on from this, an Atlantic low-pressure system brought significant rainfall and snowfall across Lincolnshire on 05 and 06 January 2025 (Met Office, 2025). Some locations within Lincolnshire received over 50 mm of rain, equivalent to a whole-month's average rainfall over a two-day period. On 05 January, several weather stations recorded their wettest January day on record including Cranwell, (30.8mm, 111 years of recorded data) and Coningsby (33.2mm, 60 years of recorded data).

Temperatures overnight on 05 and 06 January 2025 were around 0°C, which meant that in many cases the surface of the ground was frozen and covered with a layer of snow. These factors likely resulted in an increase in runoff rates as rainfall was less able to infiltrate into the ground, causing increased overland flow and subsequent rapid rising of river levels.

The EA and Anglian Water were contacted to provide further information on the antecedent conditions at the property. No response was received from Anglian Water within the timeframe of this investigation.

3.2 Rainfall and telemetry analysis

3.2.1 Rainfall analysis

The closest available rainfall gauge is the Manthorpe Gauge (ref: E1606), c. 5.5 km south east of the properties. Whilst rainfall data from this gauge for 05 to 08 January 2025 has been considered as part of this investigation, due to the significant distance (> 5km) between the gauge and properties, this analysis has been based on cell rainfall data, which is considered to be the more relevant source of information (Figure 11)

The rainfall data was captured by the Met Office's Radar technology and made available from the Meniscus Analytics Platform. Annual chance events were assessed using the FEH2013 DDF model (c). The result of these calculations is summarised within Table 2.

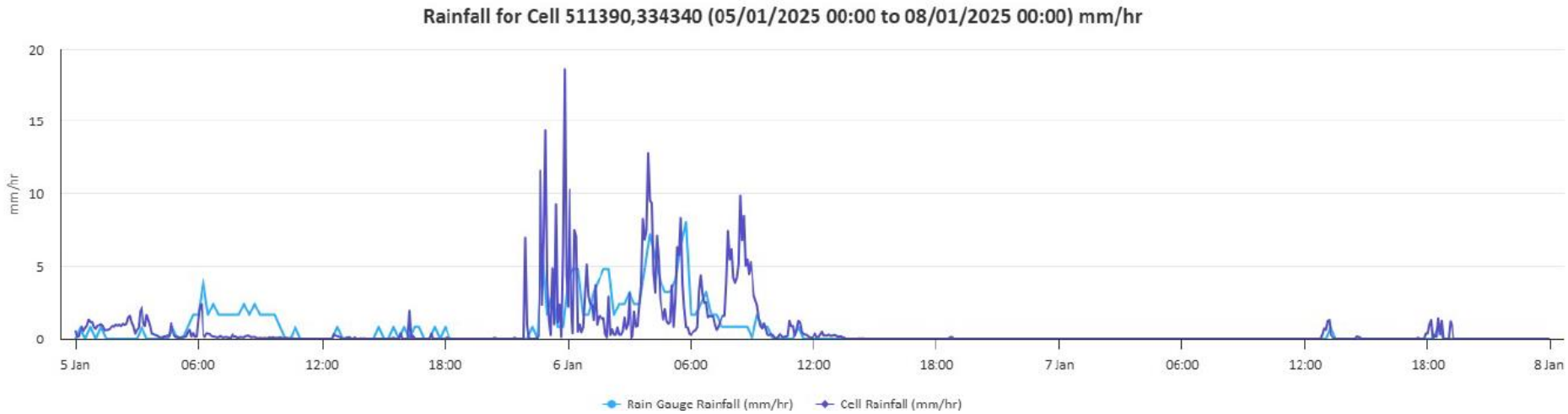
This rainfall data indicates that periodic low intensity rainfall occurred throughout 05 January 2025. Intense rainfall then began at approximately 22:00 on 05 January 2025 (7 mm/hr), reaching a peak intensity of 18 mm/hr at 00:00 on 06 January 2025 and with further subsequent bursts at 04:00 (13mm/hr) and again at 08:00 (10mm/hr). Rainfall continued until approximately 14:00 where the storm event largely ceased. The result of these calculations is summarised within Table 2.

An analysis of this rainfall data indicates that the storm was equivalent to a 1 in 3 annual chance rainfall event (33.3% Annual Exceedance Probability).

Note that rainfall intensities and depths vary across an area, and therefore the rainfall data included should be used as an indicative guide only. Additionally, the rainfall data does not fully account for the snowfall and snowmelt experienced across high ground in Lincolnshire.

Table 2 – Summary of available cell rainfall data for Billingborough; *Calculated via FEH13 Annual Maximum and Peaks Over Threshold methods

Rainfall duration (hours)	Rainfall depth (mm)	AEP*
28.50	42.20	1 in 2.6 Year (38.5%)



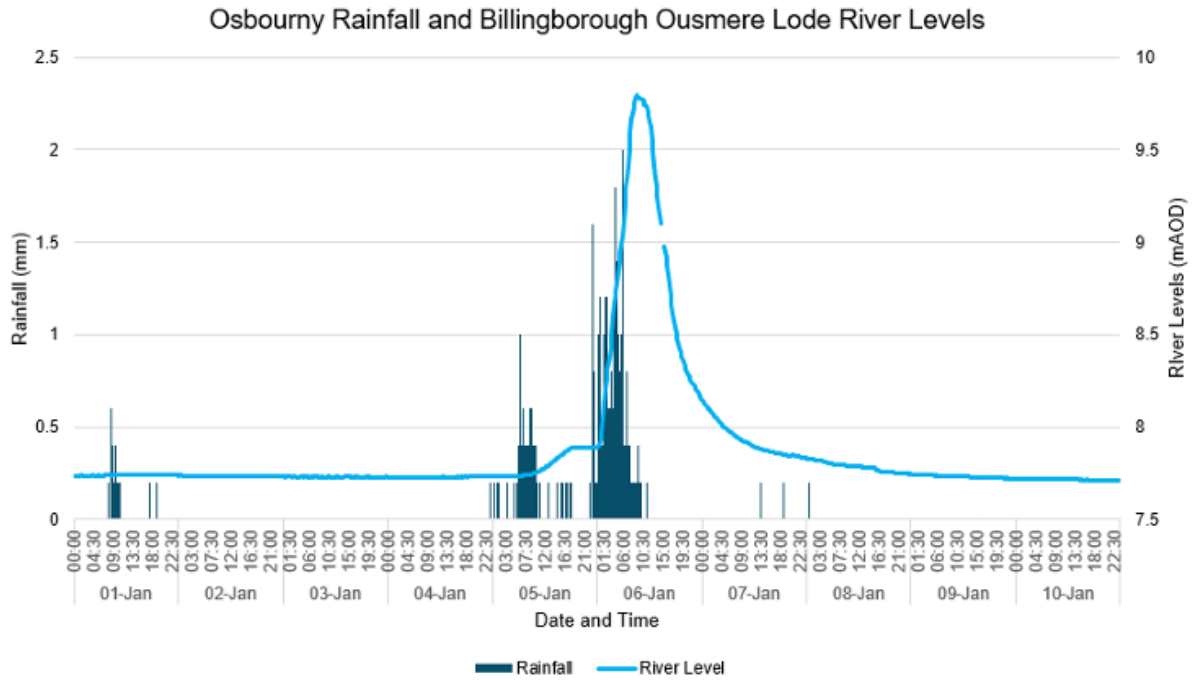
(Figure 11 - Rainfall intensities for Cell 511390, 334340, between 05 and 08 January 2025.)

3.2.2 River level analysis

Whilst gauge information could not be accessed directly at the time of writing, it is noted that the EA's Evidence Based Review (2025) includes river level data for the Ousemere Lode relevant to the flooding event (Figure 12).

The Billingborough gauging station is located at Victoria Street Bridge, approximately 300 m northeast of Folkingham Road.

Based on the available data, typical river levels within the channel are around 7.75 mAOD. During the January 2025 flood event, levels began to rise following a brief period of intense rainfall on the morning of 05 January, reaching 7.90 mAOD at 12:00. At c. 01:30 on 06 January river levels within the Ousemere Lode rose rapidly to a peak level of 9.79 mAOD at 09:00 following the prolonged, intense rainfall described within Section 3.2.2. Subsequently, water levels gradually declined, returning to typical levels by approximately 15:00 on 09 January 2025.



(Figure 12 – Rainfall (mm) and river levels (mAOD) between 01 and 10 January 2025 at the Billingborough Gauging Station (NGR TF1173434506)- taken from the EA Evidence Based Review (May 2025)).

3.3 Flooding mechanism(s) and causation

3.3.1 Reported flooding

Consultants from GeoSmart Information Ltd visited the properties and surrounding area on 12 and 13 February 2025. During the visit, conversations were held with the local residents to determine the extent, timing and source of flooding. A LCC questionnaire was completed with each property resident, or a copy left in those properties where no one was available at the time of the site visit.

No responses were received from the residents of Properties D, H and M within the timeframe of this report. Although no occupants were present during the site walkover, neighbours confirmed internal flooding at Properties D and H, while internal flooding at Property M was verified through Enquiry Trace Form ETF_2828772. While no direct information was obtained on the specific mechanisms of flooding at Properties D and H, it is likely that they flooded in a similar manner to adjacent properties.

The residents generally had similar accounts of flooding, with the properties internal flooding occurring at 09:30 – 13:00 on 06 January 2025. Flood waters remained within the majority of properties for 2 days before the fire brigade pumped the remaining flood water away.

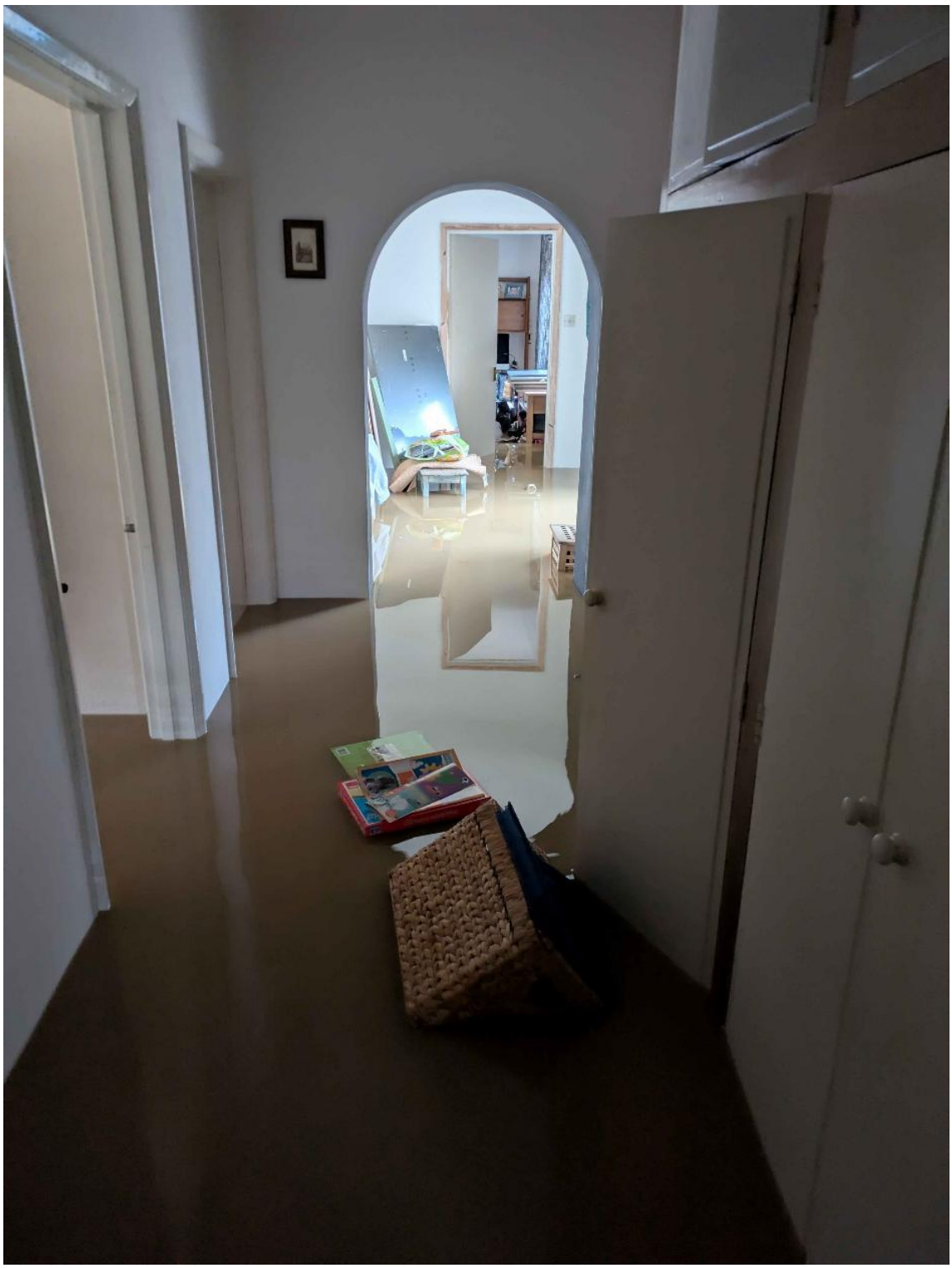
Flood water entered the properties through various entry points; including doors, air bricks and floors. The most common method of entry for Properties A – J was described as through the front door, with flood waters reported to have originally accumulated within Folkingham Road before then flowing towards the properties. Several residents also reported impact to utilities, including power cuts and surcharging of toilets.

Variable internal flooding depths were reported, with maximum depths between 0.3 m and 0.6 m. Higher flood depths were reported externally, with gardens areas, sheds and outbuildings of properties also impacted. External flooding depths along Folkingham Road were reported to be between 0.6 to 1.0 m. No external flooding depths were reported for Vine Street and West Road.

From the available responses, 46% of internally flooded properties experienced a power cut, with 31% reporting issues with toilets or drainage. 23% of responses reported no issues with utilities during the flooding event. The majority of residents either reported that they could only leave their properties by wading through flood water or they could not leave their property at all. Conversations with property owners revealed that the majority of residents evacuated their properties before flooding occurred, only returning once flood waters had cleared.

Several residents attributed the source of flooding to the decommissioning of the Black Sluice Pumping Station, questioning that the area had not experienced such a volume of flooding since its closure. Residents also attributed flooding to fluvial and surface water flows generally deriving from the west and also reported issues with the drainage system further contributing to flooding.

Photographs during the flooding event on 06 January have been provided by several of the residents and are included within this section of this report (Figure 13 to 23).

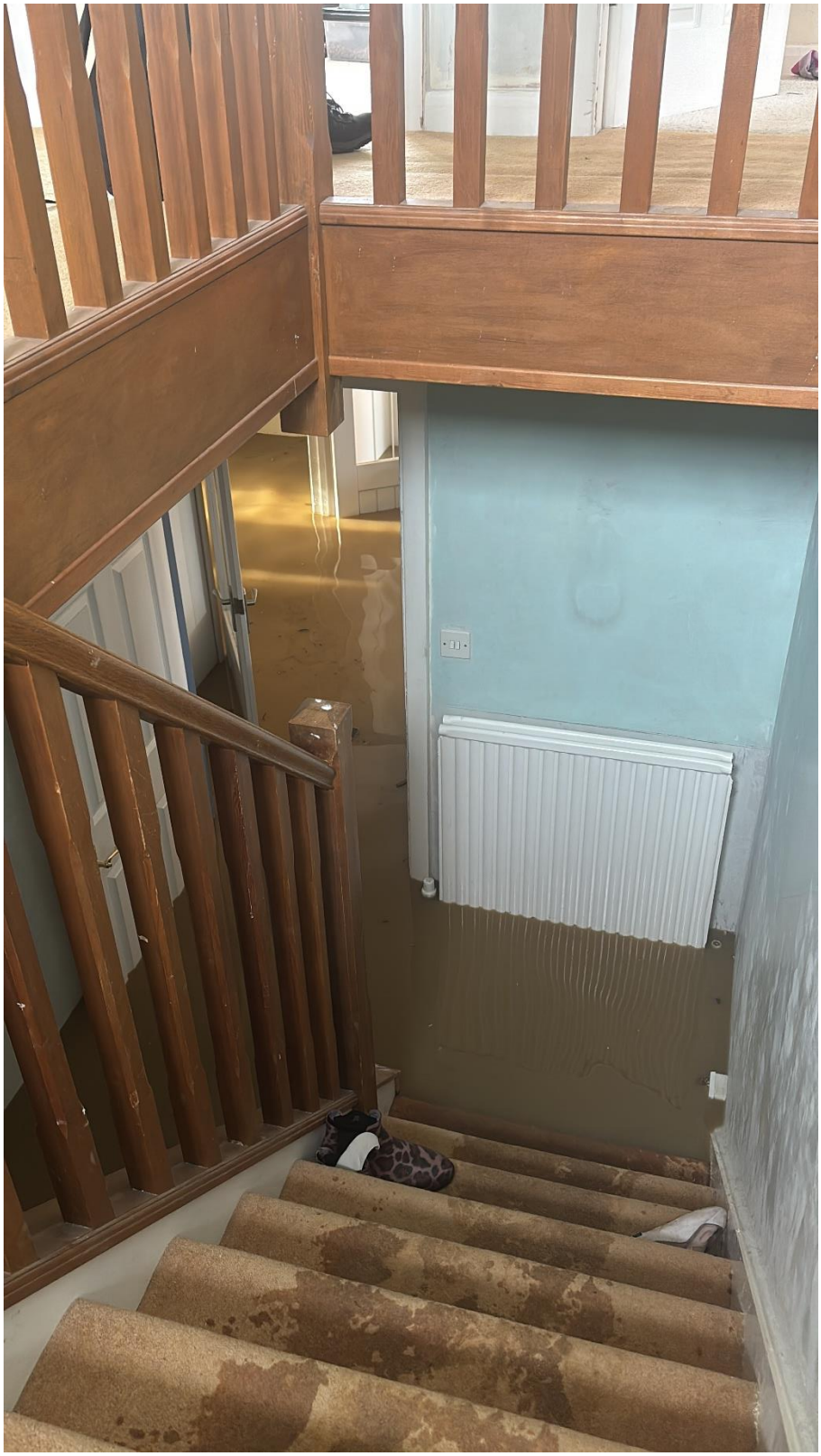


(Figure 13 - Flooding of the ground floor within Property A) (Taken by resident of Property A, 06 January 2025)

(Figure 14 - Flooding of the kitchen within Property A) (Taken by resident of Property A, 06 January 2025)

(Figure 15 - Flooding of the kitchen within Property G) (Taken by resident of Property G, 06 January 2025)

(Figure 16 - Flooding of ground floor within Property G) (Taken by resident of Property G, 06 January 2025)



(Figure 17 - Flooding of the ground floor within Property I) (Taken by resident of Property I, 06 January 2025)

(Figure 18 - Overtopping of the Ousemere Lode making Oseby Lane impassable) (Taken by resident of Billingborough who sent video footage to LCC, 06 January 2025).

(Figure 19- Overland flows accumulating within Folkingham Road) (Taken by resident of Billingborough who sent video footage to LCC, 06 January 2025).

(Figure 20 - Ponded water within Folkingham Road on 07 January) (Taken by resident of Folkingham Road, 07 January 2025).

(Figure 21 - Surface water drainage discharge outlet into Ousemere Lode) (Taken by Billingborough resident, date unknown).

(Figure 22 - Surcharging manhole cover within Vine Court) (Taken by Billingborough resident, 06 January, 2025).

(Figure 23 - Drone photo of Billingborough on 06 January 2025) (Taken by Billingborough resident, 06 January 2025).

3.3.2 Investigation findings and conclusions

From observations made during the walkover and information gained through conversations held with / LCC questionnaires provided by the residents and the investigation reports provided by the EA and residents of Billingborough, several contributions have been identified for the flooding of Billingborough.

- Insufficient capacity of the Ousemere Lode upstream
- Overland flows
- Issues with surface water drainage network

Conversations with / LCC questionnaire responses obtained from the residents mention the decommissioning of the Black Sluice Pumping Station as a potential mechanism for the flooding of Billingborough. However, according to the EA's reporting the decommissioning of the Black Sluice Pumping Station has no impact on flooding in Billingborough. This will be discussed in more detail later in this section.

Insufficient capacity of the Ousemere Lode upstream

From the available evidence, it is understood that the primary mechanism of flooding at Properties A–K was a result of out of bank flows from the Ousemere Lode, driven by insufficient channel capacity to convey the volume of water generated during the event.

The EA's review confirms that the Ousemere Lode reached a maximum water level of 9.79 mAOD at the Billingborough Gauging Station (Victoria Street Bridge) at 09:00 on 06 January 2025. This recorded level exceeds the 1 in 1000 year (0.1% AEP) flood level identified in the SFFD model, including an allowance for climate change.

Initial overtopping is understood to have occurred between Mareham and Oseby Lane (Figure 18) on the morning of 06 January 2025, followed by further overtopping before the Piperdam Road Bridge, due to the absence of raised defences. While anecdotal evidence suggests the bridge itself did not act as a hydraulic constraint to flows, overtopping had already occurred upstream across low lying land.

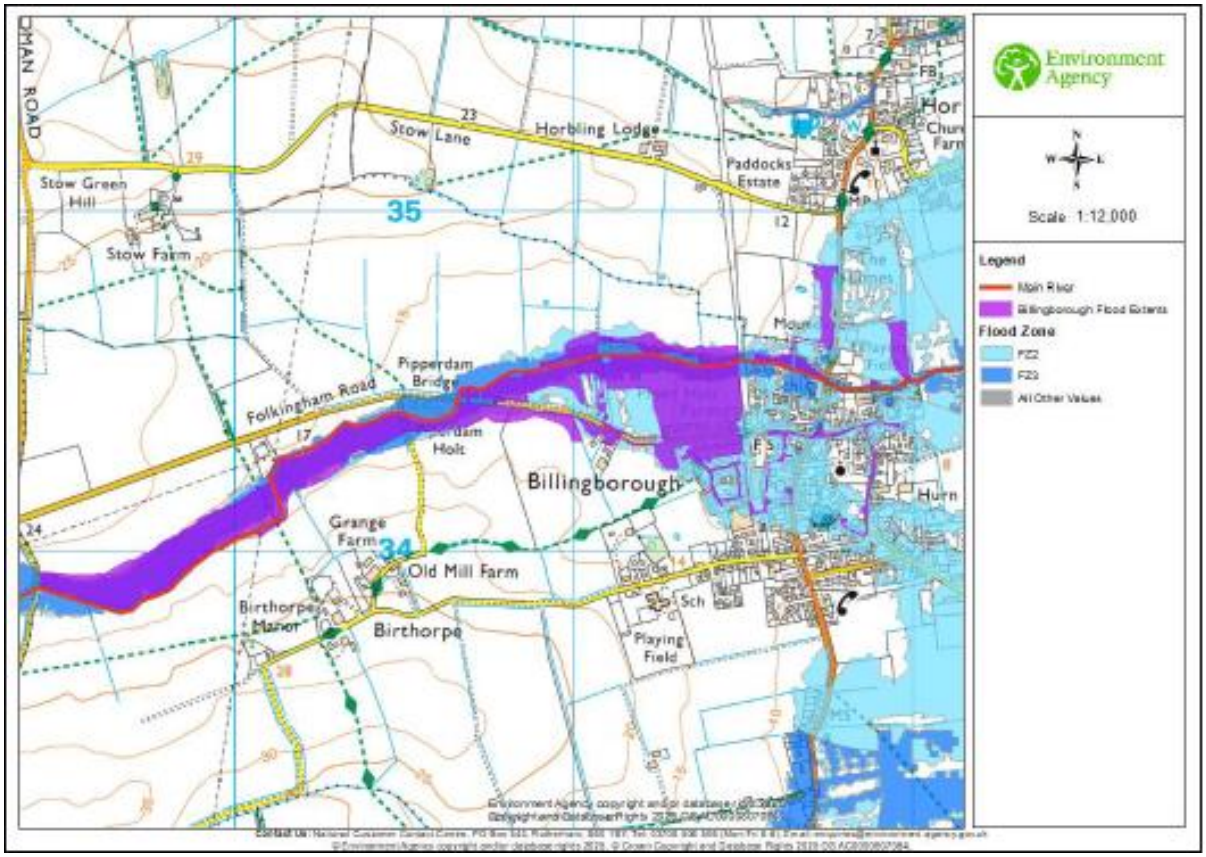
Once flows spilled from the channel, floodwaters travelled eastward along the natural topographic gradient towards Folkingham Road, eventually ponding to the west of the old railway embankment, which restricted further eastward movement. The presence of debris (straw) during the walkover survey confirmed this overland flow path (Photographs 1 and 2 in Appendix 7.3).

Overtopping of the embankment immediately to the north of the affected properties is understood to have not occurred during the flooding event. Whilst the embankment to the north prevented flood water from re-entering the channel, had it not been present the extents and depth of flooding would likely have been worse than that observed as the Ousemere Lode would have likely overtopped without the embankment in place.

While the rainfall totals were only equivalent to a 1 in 2.6 year event (considered a fairly typical event) the combination of high rainfall intensity, snow melt, frozen ground conditions from near-freezing overnight temperatures, and already saturated soils significantly reduced infiltration and increased surface runoff. This contributed to rapid increases in channel water levels and highlights the sensitivity of the system to antecedent conditions. These factors, in

combination with the limited capacity of the Ousemere Lode, resulted in exceedance and overtopping.

The EA's evidence based review (EA, 2025) displays the flood extents that occurred during the 6 January flood (Figure 24).



(Figure 24 - Reported Billingborough Flood Extents, as included within the Ousemere Lode, Billingborough, Flooding 06 January 2025 – Evidence Based Review (EA, 2025).

Overland flows

In conjunction with flooding from the Ousemere Lode, surface water runoff from the surrounding catchment is considered to have been a primary contributor to the flooding observed at the Site. The EA's review of the event indicates that overland flow originated from Birthorpe Road (Figure 25) and the surrounding higher ground, which is consistent with available topographic mapping. The extent of observed flooding broadly aligns with the EA's modelled pluvial flood outlines, highlighting the inherent surface water flood risk at Properties A -K.

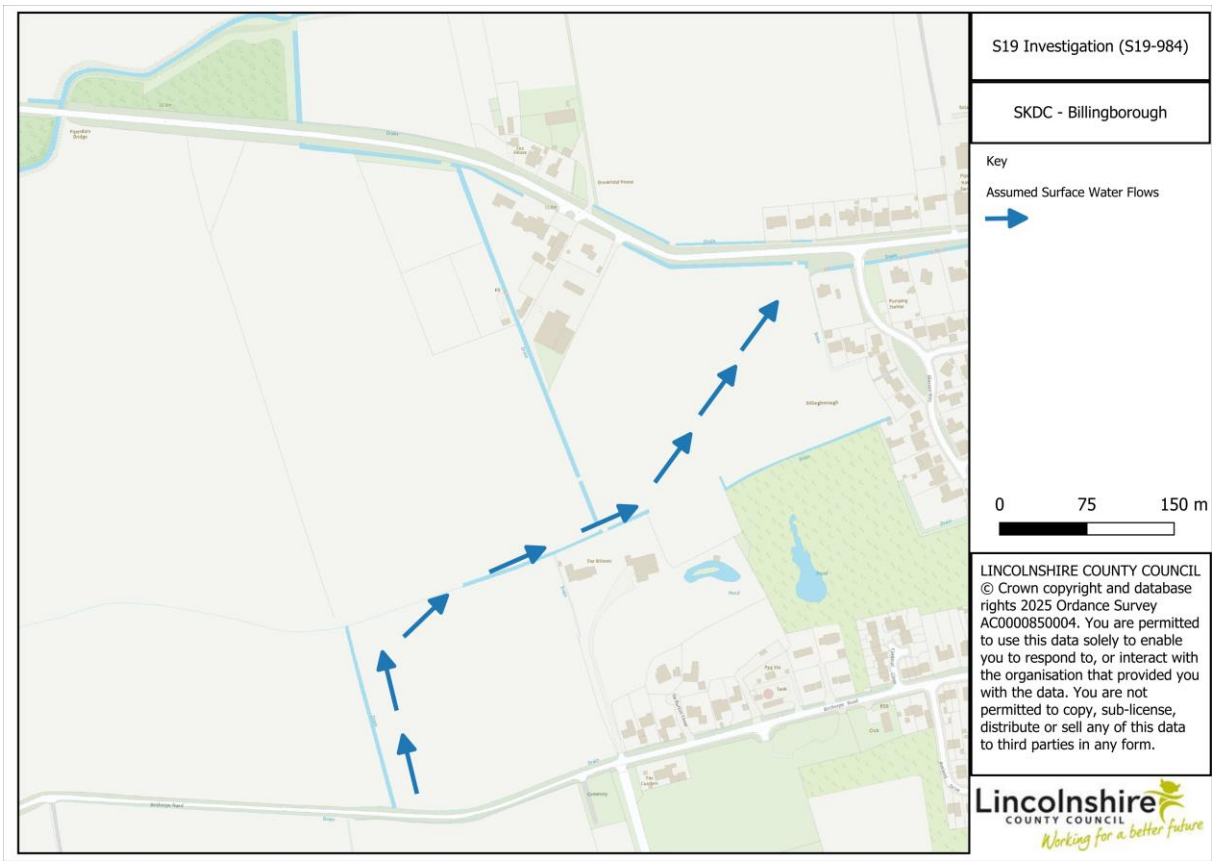
Although the total rainfall during the event can be considered relatively typical, equivalent to a 1 in 2.6 year return period, the high intensity of rainfall, combined with frozen and already saturated ground conditions, significantly reduced infiltration potential. These antecedent conditions would have promoted rapid surface runoff, leading to the generation of substantial overland flow across the catchment.

Once generated, the overland flow is understood to have followed a similar path to out of bank flows from the Ousemere Lode, following the topographic gradient in an easterly direction towards Folkingham Road, accumulating at the topographic low due to the embankment preventing onward flow.

This overland flow mechanism was further evidenced during the site walkover, where the presence of straw debris indicated flow paths from the southwest towards Folkingham Road (Photograph 3 in Appendix 7.3).

Given the topographic gradient of West Road, it is thought that overland flow would have contributed to the internal flooding of Property M, with flows accumulating within the topographic low adjacent to the property.

Furthermore, analysis of the timing of peak rainfall and river gauge data suggests that local drainage infrastructure was likely already at or near capacity prior to the Ousemere Lode overtopping. While the drainage systems were not the root cause, their limited capacity may have compounded the effects of the surface water runoff by restricting the removal of excess flows, contributing to the extent and severity of the flooding experienced.



(Figure 25 - Inferred surface water flows toward Folkingham Road).

Issues with surface water drainage network

While flooding from the Ousemere Lode and overland flows was likely sufficient to cause internal flooding due to the nature of the event and unfavourable antecedent conditions, it is reasonable to conclude that a surface water drainage system working optimally could have reduced the depth, extent, and duration of flooding.

During the Site walkover the absence of a sufficient maintenance schedule was evident with the ditch at the frontages of properties in the majority of cases showing reduced capacity due to sediment and vegetation accumulation or, in some cases, entirely filled in (Photograph 4 in Appendix 7.3). Although some remedial excavation had been carried out by residents following the January 2025 event (Photograph 5 in Appendix 7.3), the pre-event condition of

these ditches is understood to have been poor and likely impaired the drainage system's effectiveness.

According to LCC records as well as anecdotal evidence from the residents the drainage ditches connect into a culvert running beneath the old railway embankment. It is understood in conversations with residents as well as the EA representative that ownership and thereby maintenance responsibilities of the asset was largely unknown. As a result, the asset may not have received routine inspection or maintenance again effecting the operation of the drainage network.

Although the exact condition of the culvert prior to the event cannot be verified, multiple residents reported that flooding was exacerbated by a suspected blockage within the culvert, which prevented the effective conveyance of surface water from Folkingham Road.

It is understood that the culvert beneath the railway embankment ultimately discharges into the Ousemere Lode at Vine Street. EA gauging station data, located approximately 200 m upstream of the outfall, recorded river levels reaching 9.79 mAOD at the peak of the event. Given the local ground levels and depth of flooding, it is likely that the outfall was surcharged during the flood. In the absence of a non-return flap valve, there is potential that floodwater entered the drainage system from the river, further reducing its capacity to manage surface water flows. While this is unlikely to have been a direct cause of flooding at Properties A–K, it may have contributed to prolonging the duration of flooding in the area.

Backing up of flows within the surface water drainage network may have contributed to flooding at Property L, where the source of flooding was attributed to the surcharging of a private gully (Photograph 6 in Appendix 7.3), likely connected to the main drainage system described above.

Black Sluice Pumping Station decommission

Responses and conversations held with the residents of Billingborough also attributed much of the flooding to the decommissioning of the Black Sluice Pumping Station (BSPS) in Boston in 2018. .

The EA's Evidence Based Review (2025) concludes that the Black Sluice Pumping Station has no influence on flooding or flows in Billingborough for three main reasons:

1. **Timing-** Due to the time required for rainfall to move through the SFFD catchment, river levels at the BSPS are understood to have peaked in the early hours of 07 January 2025, 16 hours after the peak river level in Billingborough. As such water level from the Ousemere is expected to be able to drain into the SFFD without restriction.
2. **Elevation-** Water levels in the SFFD would need to rise by approximately 6 m (to ~9 mAOD) to back up into Billingborough. Flooding of this magnitude would result in the entire Fenland area and South Lincolnshire which did not occur.
3. **Distance-** The BSPS is located 27km downstream. According to the EA, the recognised impact of the pumping station becomes unnoticeable upstream of Donington Bridge, which is around 20km from the pumping station, well downstream of Billingborough.

Given the above reasons, the decommission of the Black Sluice Pumping Station can be discounted as a possible factor for the flooding experienced in Billingborough.

3.4 Road closures

3.4.1 Folkingham Road

During the flood event, Folkingham Road, adjacent to Properties A – K was closed at approximately 11:15 on 06 January 2025. The exact time of when Folkingham Road reopened is unknown. According to the enquiry trace form for the closure (ref: 4199834), the request was originally made by a resident due to property flooding concerns.

The flooding mechanisms affecting Folkingham Road were consistent with those experienced by the adjacent properties along the same highway (as discussed in Section 3.3.2). This included a combination of out of bank flows from the upstream Ousemere Lode, overland flow, and issues with the surface water drainage network, all of which contributed to the inundation of the carriageway before floodwaters entered Properties A -K.

Folkingham Road was likely impassable to most vehicles at the peak of the flooding. However, during the early stages of the event, a small number of residents reported vehicles driving through flood waters in the early hours of the morning, but this is not thought to have contributed to earlier ingress of flood waters to the impacted properties.

3.4.2 High Street

During the flood event, High Street was also closed. The enquiry trace form (ref: 1818571) indicates that the road closure was requested by the Fire Brigade. Although the exact time of the road closure is unknown, High Street had already been reported as closed by approximately 18:00 on 06 January 2025.

Although the exact reason for the road closure is unknown, the highway is likely to have been closed to prevent vehicles from accessing the flooded areas of Station Road and Vine Street.

3.4.3 West Road

An enquiry trace form (ref: 4199942) makes reference to flooding on West Road; however, there is no mention of a road closure.

The flooding mechanism affecting West Road can be considered the same with that which the affected Property M along the same highway (as discussed in Section 3.3.2). A combination of overland flows and inadequate highway drainage likely contributed to the flooding of West Road, subsequently impacting Property M.

Although a formal notice of a road closure cannot be confirmed, drone imagery (Figure 23) demonstrates significant flooding and therefore closure would have been likely.

3.4.4 Low Street

Enquiry Trace Form (ref: 4199871) relates to the flooding of Low Street. Whilst there is no confirmation of a road closure, flood signs were initially deployed at approximately 14:40 on 06 January 2025 indicating the closure of the road at this time. Flood water is understood to have receded by approximately 16:30 on 07 January 2025.

Whilst the exact reason for the road closure is unknown, a resident reported flood water of approximately 0.20m within the highway, with vehicles creating bow waves. It is therefore likely that its closure was to prevent floodwaters from entering properties along Low Street as well as preventing vehicles from accessing Vine Street where the highway was also flooded.

4. Risk management authorities

In relation to this flood event, the following RMAs have relevant flood risk management functions:

- Anglian Water
- Environment Agency
- Highways Authority (Lincolnshire County Council)
- Lead Local Flood Authority (Lincolnshire County Council)

A record as to whether the above RMAs have exercised or are proposing to exercise those functions in response to the flood shall be monitored through the existing Joint Lincolnshire Flood Risk and Water Management Partnership.

The property owners also have a responsibility with regards to the resilience and resistance measures implemented at their property.

For the avoidance of doubt, the ordering of the above relevant RMAs is alphabetical and as such is not necessarily reflective of the number of relevant flood risk management functions associated with each RMA in this instance.

5. Recommendation(s) for consideration

Based on the findings of this investigation, the following recommendations for consideration by the relevant parties have been made. For the avoidance of doubt, the order of these recommendations are listed alphabetically.

5.1 Appraisal of wider alleviation schemes

Following the predominantly fluvial flooding of Billingborough consideration should be given to carrying out an appraisal into possible alleviation options. By increasing the upstream standard of defence and increased interception of overland flows, the risk to Billingborough is likely to be reduced.

Due to the absence of any raised significant raised defences upstream of Piperdam Bridge, the area remains vulnerable to out-of-bank flows. Whilst the January 2025 reflects the maximum recorded water level, taking into the surrounding ground levels, overtopping is likely to occur even during moderate increases in river levels. It is noted that based on the available LiDAR data the adjacent bank to the Piperdam Holt woodland area is raised above the eastern bank, preferentially directing out of bank flows towards Billingborough in an extreme event such as that observed.

To reduce this risk, consideration could be given to improving the upstream banks of the Ousemere Lode. Potential options include extending the existing embankment to provide additional protection or, alternatively, working with landowners to implement supplementary

drainage features such as bunds or drainage ditches. This could also involve widening or deepening existing channels to redirect flows towards designated flood storage areas.

Any such intervention would need to be supported by a hydraulic modelling study to assess potential impacts. Any measures proposed should avoid increasing the flood risk to neighbouring properties or adversely affecting flow conveyance and storage within the wider catchment.

The responsibility for investigating the flood defences and supporting modelling would lie with the EA, however this would likely require support from partners.

5.2 Excavation and continued maintenance of drainage ditches along Folkingham Road

Although some residents had begun excavating and maintaining the drainage ditches at the time of the site visit, it was evident that several ditches remained partially blocked or had been entirely infilled. It is therefore recommended that all ditches be fully cleared as part of future works.

Following clearance, a maintenance schedule should be implemented to prevent the build up of silt and plant debris. This should include regular channel inspection, clearance and cycling cleaning of the associated culverts to maintain operational capacity.

Consideration should be given to the adoption of these features by an appropriate RMA by either LCC, in its function as Highways Authority or the IDB to ensure appropriate maintenance works are carried out on a consistent basis.

5.3 Flood resistance and resilience measures

Property Flood resistance and resilience measures should be considered for all properties impacted by flooding in Billingborough (if not already implemented).

The resistance and resilience measures for each property should be chosen on a site-specific basis and take into account the method of flood water ingress and extent of flooding.

Possible resistance measures which could be considered include:

- Use of a demountable flood barrier against the doors of the property during periods of known heavy rainfall and high river levels;
- Implementation of airbrick covers against any airbricks at or close to ground level;
- Chemical waterproofing methods where flood waters entered via the walls;
- Implementation of solid flooring where flood waters entered via the floorboards; and/or
- Incorporation of an interceptor drain adjacent to the thresholds of each property.

Resilience measures which may also be considered include:

- Replacing ground floor carpets with hard flooring;
- Installing uPVC skirting boards;
- Raising furniture and appliance on plinths;
- Using internal lime plaster/render;

- Where plasterboards are used, fitting these horizontally instead of vertically, or using moisture resistance plasterboard at lower levels;
- Installing non-return valves on air bricks and utility pipework; and
- Avoiding storing valuable items within the property at ground level.

The responsibility for the implementation of flood resistance and resilience measures would fall to the residents and owners of each property, with support from the LLFA, where appropriate.

5.4 Implementation of flood action plan for Folkingham Road

Given the inherent flood risk along Folkingham Road due to its location in a topographic low and the constraint on onward flows caused by the railway embankment, it is recommended that residents develop and implement a local flood action plan to ensure appropriate preparation for future flood events.

The plan should outline clear actions to be taken in the event of a Flood Alert, identify safe evacuation routes, and include measures for securing properties to minimise damage. To ensure alignment with wider emergency planning, the plan should be supported by South Kesteven District Council and consistent with its local emergency response framework.

As identified in the EA's review and through GeoSmart's discussions with residents, it is understood that many occupants are not currently registered to receive EA flood alerts or warnings. The flood action plan should initially ensure that all residents are signed up to the appropriate EA flood warning services.

The responsibility for developing a flood action plan would fall to the residents of the properties, with support from South Kesteven District Council and Lincolnshire Resilience Forum as appropriate.

5.5 Investigation into surface water drainage network

Given the potential for a blockage or unidentified issue beneath the old railway embankment, it is recommended that further investigation be carried out to assess the condition of the surface water drainage pipe in this area. This should comprise of a CCTV survey to determine the cause of blockage, levels of siltation, or any structural defects, and confirm whether the drain can function effectively during future flood events to help alleviate surface water from Folkingham Road.

In addition, a wider review of the surface water drainage network across Billingborough should be considered, particularly in light of multiple reports of surcharging manholes. This would help assess whether the network has sufficient capacity under extreme conditions.

Investigations should also determine if the use of non-return flap valves along the Ousemere Lode could have prevented manholes from surcharging.

Responsibility for undertaking these investigations and implementing any necessary remedial works (or notifying the relevant asset owner) lies with LCC as the Lead Local Flood Authority and Highway Authority, and Anglian Water.

5.6 Review of EA modelling for South Forty Foot Drain (SFFD)

Given that the observed extent of flooding on 06 January 2025 did not fully align with the flood extents derived from the existing SFFD model, it is recommended that the model is reviewed and calibrated against the experienced flooding. (It is noted that the EA have proposed to create a new SFFD model within their review of the flood event).

Following the model review, it is recommended that the plan for mitigation within Billingborough and the Black Sluice Catchment is reviewed to ensure it remains consistent with the model results.

The permissive powers for commissioning a new or updated hydraulic model for the SFFD lie with the EA.

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7. Appendices

7.1 Definitions

Coastal / tidal flooding – Flooding which occurs due to extreme coastal conditions. May occur due to high tide levels, surges and wave action.

Culvert – Where a watercourse flows through a pipe, often underground.

External flooding – Flooding affecting spaces outdoors. Includes flooding in highways, open land, gardens and driveways.

Flap valve – Hinged valve placed on a pipe outlet into a river. Stays open during normal flow but closes when it is submerged, to prevent flow from backing up the pipe.

Foul sewer – Sewer which carries wastewater (e.g. from toilets, sinks, showers and kitchen appliances) to a sewage works for treatment.

Groundwater flooding – Flooding which occurs when sub-surface water emerges from the ground at the surface or into Made Ground and structures. Occurs due to persistent rainfall that recharges aquifers until they are full; or may be as a result of high river levels, or tides, driving water through near-surface deposits.

Gully – Drainage pit covered by an open metal grate, located at the edge of a road. Drains rainwater from the road into either the surface water sewer or into nearby watercourses.

HYRAD – Real-time radar display system for weather.

Internal Drainage Boards – A public authority that managed water levels within an Internal Drainage District.

Internal flooding – Flooding which affected the living/business space inside of a building.

Lead Local Flood Authority - County councils and unitary authorities which lead in managing local sources of flood risk (i.e. flooding from surface water, groundwater and ordinary watercourses)

LiDAR – A remote sensing technique that allows ground elevation to be determined over a regional area.

Main river - A watercourse shown as such on the main river map for England and includes any structure or appliance for controlling or regulating the flow of water into, or out of, the channel which –

a) Is a structure or appliance situated in the channel or in any part of the banks of the channel; and
b) Is not a structure or appliance vested in or controlled by an internal drainage board.

The Environment Agency has permissive powers to maintain and carry out improvements on main rivers, to manage flood risk.

Ordinary Watercourse - A watercourse that does not form part of a main river. Lead local flood authorities, district councils, and internal drainage boards can carry out flood risk management work on ordinary watercourses.

Public sewer – Sewers owned and maintained by a Sewerage Company (e.g. Anglian Water). Are usually located in roads or public open spaces by may run through private gardens.

Riparian owner – The owner of land that is next to a watercourse or has a watercourse running through or beneath it.

River (fluvial) flooding – Flooding that occurs during times of heavy rainfall or snow melt when watercourses' capacity can be exceeded, over topping the banks and flood defences.

Soil moisture deficit – The difference between the amount of water actually present in the soil and the amount of water which the soil can hold.

Surface water (pluvial) flooding – Flooding which occurs when intense rainfall exceeds the infiltration capacity of the ground and overwhelms the drainage systems.

Surface water sewer – Sewer which carries rainwater directly to a watercourse.

Telemetry – Instruments used to monitor the level of water in a watercourse.

Weir – A small dam structure built across a watercourse to raise the water level or to divert flow.

7.2 Authorities with flood risk management functions

The following Risk Management Authorities (RMA) have flood risk management functions within Lincolnshire:

- **Lead Local Flood Authority (LLFA): Lincolnshire County Council** - Responsible for coordinating the mitigation of risk of flooding from surface water, groundwater and ordinary watercourses (non-main rivers). The LLFA is also responsible for developing, maintaining and applying a strategy for local flood risk management in its area and for maintaining a register of flood risk assets. The LLFA also has a statutory duty to investigate significant flood events to the extent it considers necessary.
- **Environment Agency** - Tasked with the protection and conservation of the water environment in England, the natural beauty of rivers and wetlands and the wildlife that lives there. Its responsibilities include: water quality and resources; fisheries; conservation and ecology; and operational responsibility for managing the risk of flooding from main rivers (usually large streams and rivers), reservoirs, estuaries and the sea. Flood risk management work can include: constructing and maintaining 'assets' (such as flood banks or pumping stations) and works to main rivers to manage water levels and make sure flood water can flow freely; operating flood risk management assets during a flood; dredging the river; and issuing flood warnings. The Environment Agency can also do work to prevent environmental damage to watercourses, or to restore conditions where damage has already been done.
- **Internal Drainage Boards** (IDBs) - Independent public bodies, established in areas of special drainage need, known as drainage districts. The IDB is responsible for the supervision of land drainage, water level management and flood risk management works and regulation of ordinary watercourses within its Drainage District. IDBs play an important role in the areas they cover (approximately 10% of England at present), working in partnership with other authorities to actively manage and reduce the risk of flooding.
- **Highways Authority: Lincolnshire County Council** - Responsible for maintaining the highway drainage system to an acceptable standard and ensuring that road projects do not increase flood risk.
- **Water and Sewage Company: Anglian Water** - Responsible for the provision of wastewater collection and treatment systems, including for managing the risks of flooding from surface water and foul or combined public sewer systems providing drainage from buildings and yards.
- **District Councils** - including borough and city councils, have powers to carry out works to manage flood risk from ordinary watercourses (outside the internal drainage district of Internal Drainage Boards) and the sea. They are also planning authorities, responsible for developing a local plan, which must have regard to national planning policy and work with Lead Local Flood Authorities and others to ensure decisions on development in their area effectively manage the risks from flooding. Additionally, those District Councils that are next to the sea are also designated coast protection authorities. This role includes leading on coastal erosion risk management activities, leading and supporting coastal groups, and leading the production of shoreline management plans.

In addition to the above, the other parties that may have responsibilities include:

- **Riparian Landowners** - Riparian landowners who own land or property crossed by or next to a river, stream or ditch (including where this runs through a pipe or culvert) have rights and responsibilities over the management of the land including: a responsibility to let water flow through the land without any obstruction, pollution or diversion which affects the rights of others; keeping banks clear of anything that could cause an obstruction and increase flood risk; maintaining the bed and banks of the watercourse; and keeping structures clear of debris.
- **Residents, Businesses and Property Owners** - Should find out about any flood risk in their area, sign up for the Environment Agency's free flood warnings and make a written plan of how they will respond to a flood situation. Business owners should also make a flood plan for their business. There are measures that can be taken to reduce the amount of damage caused by flooding and properties at risk should be insured. Local residents can find out if their property is at risk, prepare for flooding, get help during a flood and get help after a flood.

7.3 Photographs from Site visit

(Photograph 1 - Straw trash lines visible along the Ousemere Lode during site visit) (Taken by GeoSmart Consultant, 12 February 2025).

(Photograph 2 - Straw debris outside of Piperdam Bridge facing BIllingborough) (Taken by GeoSmart Consultant, 12 February 2025).

(Photograph 3 - Straw accumulation in fields south west of Folkingham Road) (Taken by GeoSmart Consultant, 12 February 2025).

(Photograph 4 - Drainage ditch heavily accumulated with silt on Folkingham Road) (Taken by GeoSmart Consultant, 12 February 2025).

(Photograph 5 - Drainage ditch along Folkingham Road) (Taken by GeoSmart Consultant, 12 February 2025).

(Photograph 6 - Private drainage of Property L) (Taken by GeoSmart Consultant, 12 February 2025).

Photograph 7 – Subsidence of embankment) (Taken by GeoSmart Consultant, 12 February 2025).