Section 19

Flood and Water Management Act 2010

Ref S19-870 – Tallington

Number of properties covered in this document - 24

Date and version number – 15/07/2025

Version 11

Table of Contents

Abbreviations / Acronyms

- AW – Anglian Water
- EA – Environment Agency
- IDB – Internal Drainage Boards
- LCC – Lincolnshire County Council
- LLFA – Lead Local Flood Authority
- PFR – Property Flood Resilience
- RMA – Risk Management Authority
- S19 – Section 19 of the Flood and Water Management Act 2010
- SKDC – South Kesteven District Council

Property information

Address /Addresses:

[redacted]

Following the initial commissioning of this investigation (see above) it is also understood that the below properties flooded internally and / or externally as a result of Storm Henk-

- [redacted] Bainton Road, Tallington, Stamford, [redacted]
- [redacted] Bainton Road, Tallington, Stamford, [redacted]
- [redacted] Searson Close, Tallington, Stamford, [redacted]
- [redacted] Searson Close, Tallington, Stamford, [redacted]
- [redacted], Church Lane, Tallington, Stamford, [redacted]

- [redacted], Main Road, Tallington, Stamford, [redacted]
- [redacted], Main Road, Tallington, Stamford, [redacted]
- [redacted], Main Road, Tallington, Stamford, [redacted]
- [redacted], Main Road, Tallington, Stamford, [redacted]
- [redacted], Main Road, Tallington, Stamford, [redacted]
- [redacted], Main Road, Tallington, Stamford, [redacted]
- Mill Lane, Tallington, Stamford, [redacted]
- Mill Lane, Tallington, Stamford, [redacted]
- [redacted], Mill Lane, Tallington, Stamford, [redacted]

[redacted], Main Road, Tallington, Stamford, [redacted]– External flooding only

Copyright

Version History

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
1.0	Draft LCC Comment	VV	RH	RH	VV	10/05/24
2.0	Issue to LCC	VV	RH	RH	VV	20/05/24
3.0	Parish Council / Environment Agency Information Update	RD / AB (LCC)	AB	AB	AB	15/08/24
4.0	Update re Culvert Under East Coast mainline	RD (LCC)	AB (LCC)	AB (LCC)	-	25/09/24
5.0	Anglian Water Information Update	RD (LCC)	AB (LCC)	AB (LCC)	AB (LCC)	21/10/24
6.0	Updated in Light of RMA Comments	RD (LCC)	AB (LCC)	AB (LCC)	AB (LCC)	09/12/24
7.0	Minor Textual Amendments	RD (LCC)	RD (LCC)	MH (LCC)	MH (LCC)	02/01/25
8.0	Updated Following Receipt of Further Information	RD (LCC)	AB (LCC)	AB (LCC)	MH (LCC)	19/02/25
9.0	Final report: incorporating	RD (LCC)	AB (LCC)	AB (LCC)	MH (LCC)	06/06/25

	RMA and third party comments					
10.0	Revised final report factoring in further third party comments	RD (LCC)	AB (LCC) MH (LCC)	AM (LCC)	MH (LCC)	03/07/25
11	Minor textual amendments	RD (LCC)	AM (LCC)	AM (LCC)	MH (LCC)	15/07/25

Authorities with Flood Risk Management Functions

The following Risk Management Authorities have flood risk functions within Lincolnshire:

Lead Local Flood Authority - Are 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 their area and for maintaining a register of flood risk assets. LLFAs also have a statutory duty to investigate significant flood events to the extent they consider necessary.

Environment Agency - Is 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. There 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 Board - Are 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 their Drainage District. The IDB also plays an important role in the areas they cover (approximately 10% of England at present) in working in partnership with other authorities to actively manage and reduce the risk of flooding.

Highways Authority - Is responsible for maintaining the highway drainage system to an acceptable standard and ensuring that road projects do not increase flood risk.

Water & Sewage Company - Water and sewerage companies are 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, 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 - Should find out about any flood risk in the 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.

Executive Summary

The purpose of this Section 19 (S19) Flood Investigation Report is to identify the cause of flooding. 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.

Following Storm Henk (02/01/2024) residents were alerted to rising water levels in the adjacent River Welland and contacted the appropriate authorities for support.

Internal property flooding commenced at approximately midnight on 04/01/2024 with a total of 24 properties reporting flooding to LCC and other Risk Management Authorities.

It is recognised that like many areas, the numbers of properties reporting flooding to the Risk Management Authorities may differ to the number which experienced internal property flooding during this event.

The flooding in Tallington resulted from numerous mechanisms and factors interacting with one another to give cause to the flooding realised. Known flood mechanisms and potential exacerbating factors included:

- Antecedent catchment conditions and rainfall observed as a result of Storm Henk
- Condition of ordinary watercourses (including condition of the sewer running under the A1175 and East Coast mainline, and condition of culvert under Casewick Lane)
- Groundwater emergence and infiltration
- Performance of flap valve on the River Welland
- Seepage of flood water through or under a raised bank upstream of Tallington village
- Surcharging of drainage systems
- Surface water overland flows

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

- Anglian Water Services
- Environment Agency
- Lincolnshire County Council as Highways Authority
- Lincolnshire County Council as Lead Local Flood Authority
- South Kesteven District Council

Network Rail has also been identified as a relevant stakeholder in this instance.

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.

Following the flooding incident, the village has been pragmatic and established the Tallington rapid response flood team, local flood wardens and the Parish Council have also purchased two pumps to aid in future incidents.

The report details the responses of the RMAs during and directly after the event and concludes with a number of recommendations.

Eight recommendations are made:

- The relevant RMAs in collaboration with Network Rail should establish ownership of the surface water culvert under the A1175 / East Coast mainline crossing. It is also recommended that Network Rail, in collaboration with any relevant parties as required, considers completing the on-going project to remedy the last 10m section of blockage on the culverted watercourse.
- The Tallington rapid response flood team, local flood wardens and Parish Council should consider creating an emergency flood response plan supported by Lincolnshire County Council (LCC) (as required) to support residents and reduce the impact of any future flood events.
- A temporary pump has been provided by the Environment Agency (EA), which was seen on site stationed at NGR 509225E , 307802N. During the flood event various other pumps were also deployed to alleviate flood waters. The need for a permanent pump or alternative solution should be considered for investigation by the EA.
- LCC in collaboration with partner RMAs should consider the installation of telemetry at strategic locations in the catchment.
- Consideration should be given by the EA into exploring what, if any, feasible and effective options exist to minimise the risk of the potential seepage observed through and / or under the embankment of the River Welland to the west of Tallington village.
- It is recommended that all local land drains and culverts are maintained and / or reinstated to allow the free flow of water by their riparian owners and enforcement action is considered by LCC if necessary. In addition to the above, further engagement with regards maintenance best practice should be promoted to all relevant riparian owners and the allegations of potential infilling of open water features alongside compromised alignment of an ordinary watercourse should be considered for investigation by LCC in its capacity as Lead Local Flood Authority insofar as is required.
- It is recommended that Anglian Water, LCC, and SKDC consider supporting a partnership funded project to repair / refurbish the surface water sewer that runs along Main Road to Searsons Close and / or to explore what other opportunities may exist to reduce the risk of surface water flooding in Tallington.
- Consideration should be given to confirming the ownership of the flap valve asset by the EA, with the asset owner then considering investigating and ensuring the functionality of it. Furthermore, consideration should be given by the asset owner to the installation of a trash screen on the inlet of the outfall to minimise the risk of future blockage.

1.Introduction

1.1 The purpose of this S19

The purpose of this investigation is threefold-

1. To understand and determine the cause of flooding following a recent flood event that occurred between the dates 2nd of January to the 8th of January 2024, with further flooding occurring on the 18th – 22nd February 2024.
2. To suggest recommendations that may alleviate potential future flooding events or if the affected properties or location should be considered as suitable for a capital project.
3. To determine which Risk Management Authorities (RMAs) have relevant flood risk management functions.

Following the completion of the initial investigation, further information as to the causality of flooding was received from several sources by the Floods and Water team at Lincolnshire County Council. This information, supported by photographs, provided further information as to contributing factors of the flooding and has therefore been taken into consideration within this report to provide a full picture of the information and evidence received. Note that the validity of some of the additionally received information cannot be conclusively determined without the undertaking of further investigations which falls outside the scope of this document.

As a result of the above sections 2.4, 3.3, 4.2, 4.3, 4.6, 6.6, and 6.8 have been revised, with section 4.2 and 6.5 being new additions to the report. Minor textual amendments and additions have also been made throughout the report.

For the avoidance of doubt, it is understood that the status of recommendations have progressed since the initial finalisation of this report. Having regard to existing internal procedure the status of said recommendations have not be updated as part of this revised report. Instead changes to the status of recommendations have and shall continue to be made publicly available via the Lincolnshire County Council website.

1.2 Previous S19 investigations

A Section 19, reference S19-129, was previously undertaken following a flood on 04/07/2015 when a single dwelling reported internal flooding due to issues within the local surface water drainage system.

To reduce the risk of future flooding it was recommended that:

a) AW consider carrying out investigations into their system and programming remedial works in order to minimise the risk of flooding;
b) AW consider investigating the whole length of the system;
c) AW consider ensuring that the system is clear and running freely;
d) AW consider investigating whether the capacity of the system is sufficient for the catchment area and investigate to ensure the outfall is sufficient for the volumes of water expected;
e) AW consider inspecting and servicing the flood gates installed at the property.

In response to this flood Anglian Water (AW) undertook a review of their assets including a capacity assessment using a hydraulic model and additional surveys to determine local connectivity. No PFR measures were visible when FPS Environmental Ltd visited site on the 09/04/2024

2. Background Information

2.1 Site location

The Properties are located in the village of Tallington within the South Kesteven District Council area of Lincolnshire (Figure 1). The properties are also situated within the internal drainage district of Welland and Deeping Internal Drainage Board ("the Board").

The properties are situated on the Kellaways Clay Member bedrock overlain by superficial deposits of alluvium and river terrace deposits. Both of these superficial deposits are classified as secondary A aquifers, i.e., aquifers that are comprised of permeable layers which can support local water supplies, and may form an important source of base flow to rivers.

While the area is relatively flat and low lying, the properties impacted are situated in topographic low spots with 1m DTM Lidar data suggesting that the open spaces and properties with the highest impact are situated at approximately 14.2m AOD lower than the adjacent highway, other internally flooded properties are situated at approximately 14.7 – 15m AOD with lower areas allowing flow paths via gardens / open spaces.

Figure 1 – Location of known affected properties

2.2 Flood risk overview

The properties are within Flood Zone level 1, which indicates they have a low probability (less than a 0.1% chance of flooding in any given year) of flooding from rivers and the sea. It is important to note that this data is "*based on present day flood risk*, [i.e., it does] *not show how it may change in* [the] *future because of climate change*", and it "*ignores the effect any flood defences shown could have*".

The Properties are situated in an area where the risk of surface water flooding is identified as being very low to medium (Figure 2).

Medium risk of surface water flooding means an area has an annual chance of flooding of between 1% and 3.3%. Low risk means an area has an annual chance of flooding of between 0.1% and 1%, with very low risk meaning an area has an annual chance of flooding of less than 0.1%.

It should however be noted that the above analysis carries the following disclaimer-

"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".

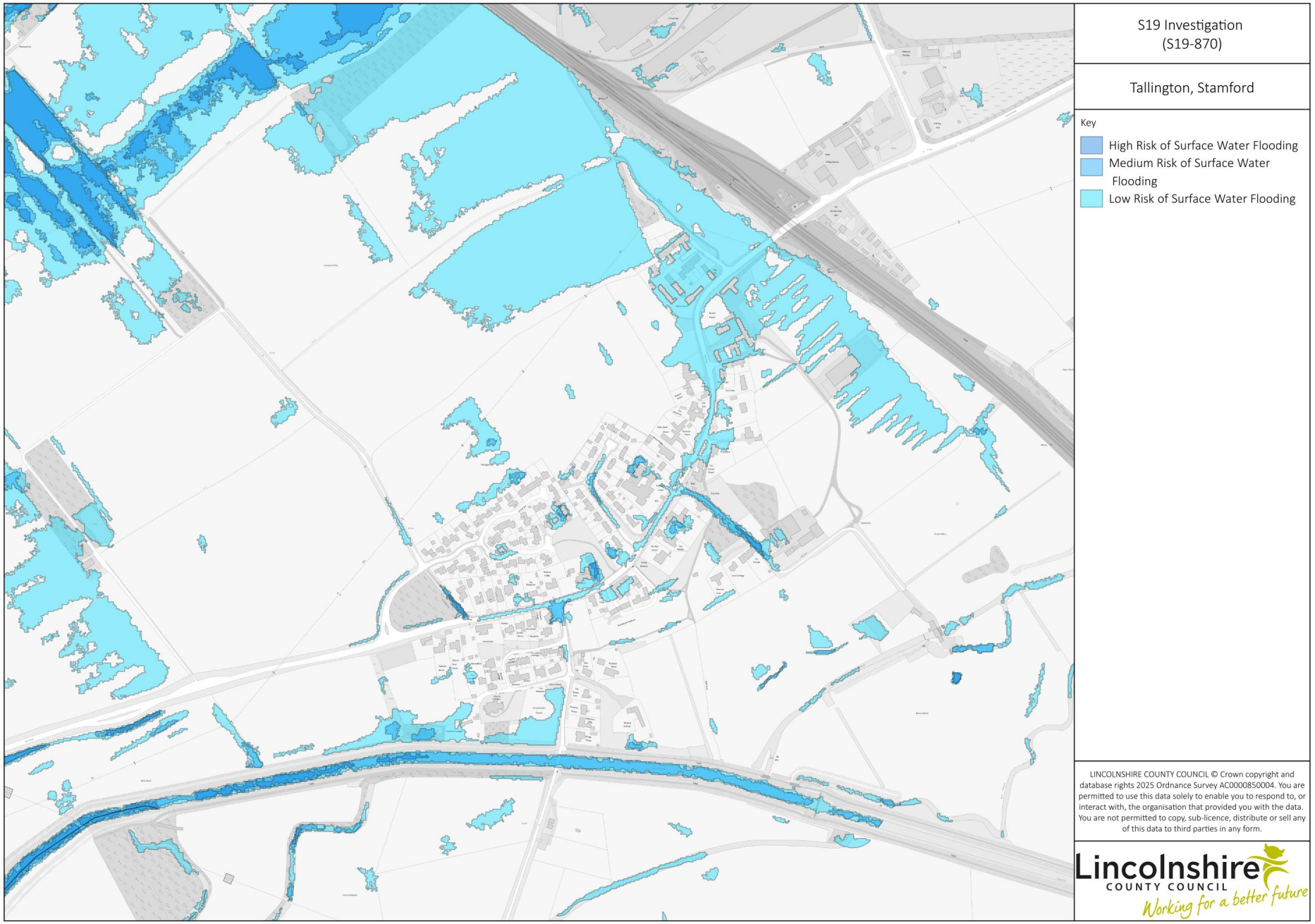


Figure 2 – Risk of flooding from surface water for land in and around Tallington

2.3 Drainage arrangement

The village of Tallington, south of the Main Road (A1175) lies within the Maxey unpumped catchment, which is the operational boundary of the Welland & Deepings IDB. The Maxey unpumped catchment covers an area 37,862,011m^2 including parts of Tallington, Bainton and Glinton but not Tallington Lakes, Uffington or Stamford. IDB assets south of Tallington include the Beldham Dyke.

There are known EA managed / installed flood management assets on the nearby open watercourse. Natural high ground (139312) ties into raised embankments which are visible along both sides of the River Welland watercourse (Open Channel: 377422) with the raised embankments running along both banks north and south and upstream and downstream of the road bridge (Embankment: 136549 & Embankment D/S Lolham Cut Sluice L). A flap valve of unknown ownership is situated on the northern bank of the river, directly upstream (west) of the bridge.

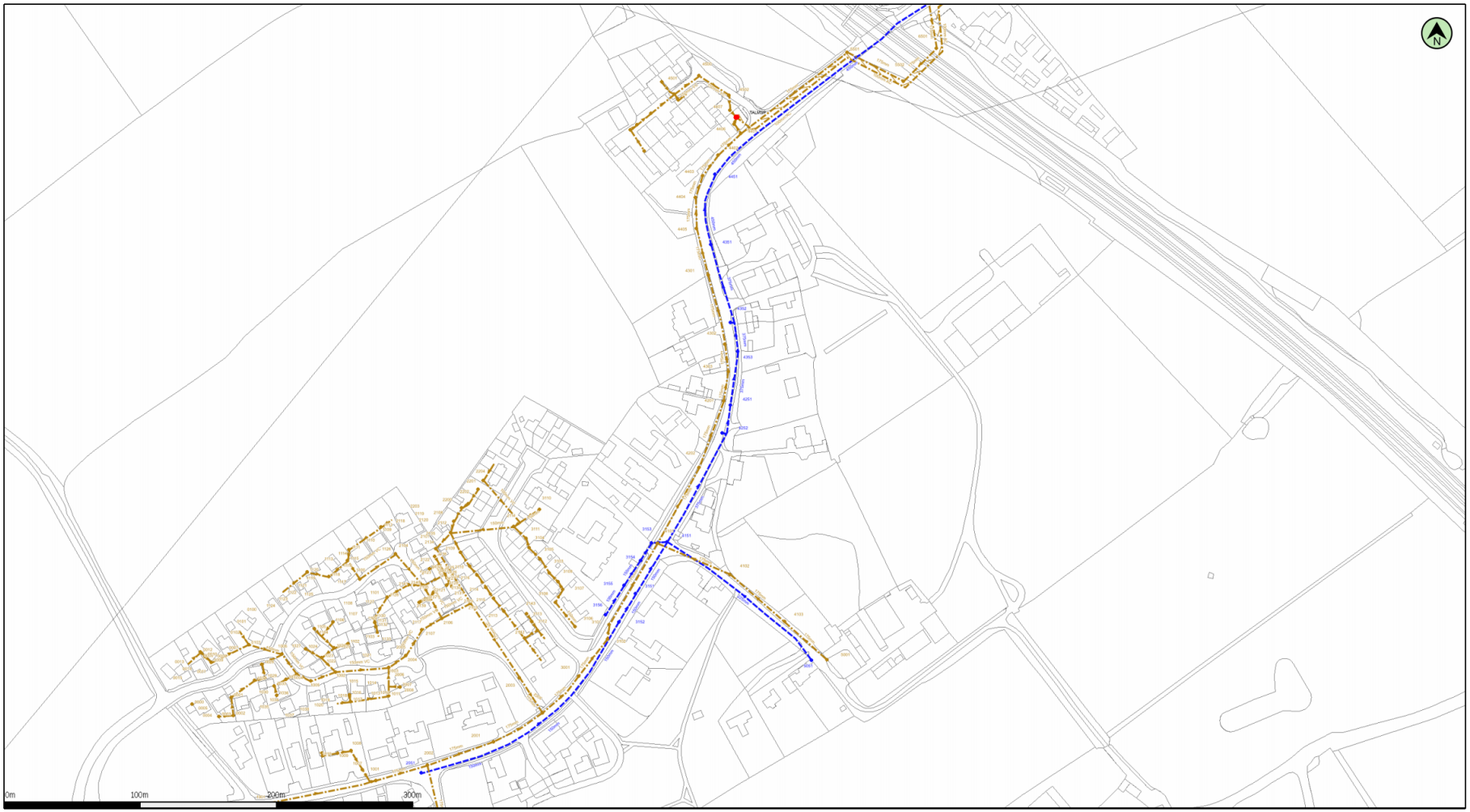
Based on available records, the drainage connectivity of the local area is outlined in Figures 3 and 4 below. Notwithstanding the current asset records shown in Figure 3, it is understood by LCC through correspondence with Anglian Water that they are looking to de-vest the surface water sewer (which flows under the East Coast mainline) as it does not serve any of their statutory duties under the Water Industry Act 1991.

Following the 2015 flood event (refence S19-129) Anglian Water undertook a review of their assets including a capacity assessment using a hydraulic model and additional surveys to determine local connectivity.

The foul network is gravity drained to a foul water pumping station near Searson Close, where the foul is pumped east under the railway line.

Surface water is also gravity drained towards Searson Close. The AW survey found that most properties drain directly to soakaways with only 8 properties draining roof water into the foul sewer.

LCC does not have a continuous coverage of recorded highway drainage assets in this area, with some highway gulleys connected to local surface water sewers and AW sewers. The highway gullies at the junction of Tallington Road and Main Road connect to a highway drain, and a highway drain is noted along the junction will Mill Lane and Main Road, which extends north east along the Main Road and under the railway lines.



(c) Crown copyright and database rights 2024 Ordnance Survey 100022432 | Date: 15/05/24 | Scale: 1:2681 | Map Centre: 509452,308277 | Data updated: 30/04/24 | Wastewater Plan A3

This plan is provided by Anglian Water pursuant its obligations under the Water Industry Act 1991 sections 198 or 199. It must be used in conjunction with any search results attached. The information on this plan is based on data currently recorded but position must be regarded as approximate. Service pipes, private sewers and drains are generally not shown. Users of this map are strongly advised to commission their own survey of the area shown on the plan before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Anglian Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe, sewer or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Anglian Water Services Limited (c) Crown copyright and database rights 2024 Ordnance Survey 100022432.This map is to be used for the purposes of viewing the location of Anglian Water plant only. Any other uses of the map data or further copies is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

Foul Sewer
Surface Sewer
Combined Sewer
Final Effluent
Rising Main*
Private Sewer*
Decommissioned Sewer*
Outfall*
Inlet*
Manhole*
Sewage Treatment Works
Public Pumping Station
Decommissioned Pumping Station
*(Colour denotes effluent type)

ryan.davies@lincolnshire.gov.uk
Anglian Water Assets

love every drop anglianwater

Figure 3 – Anglian Water assets in the affected area

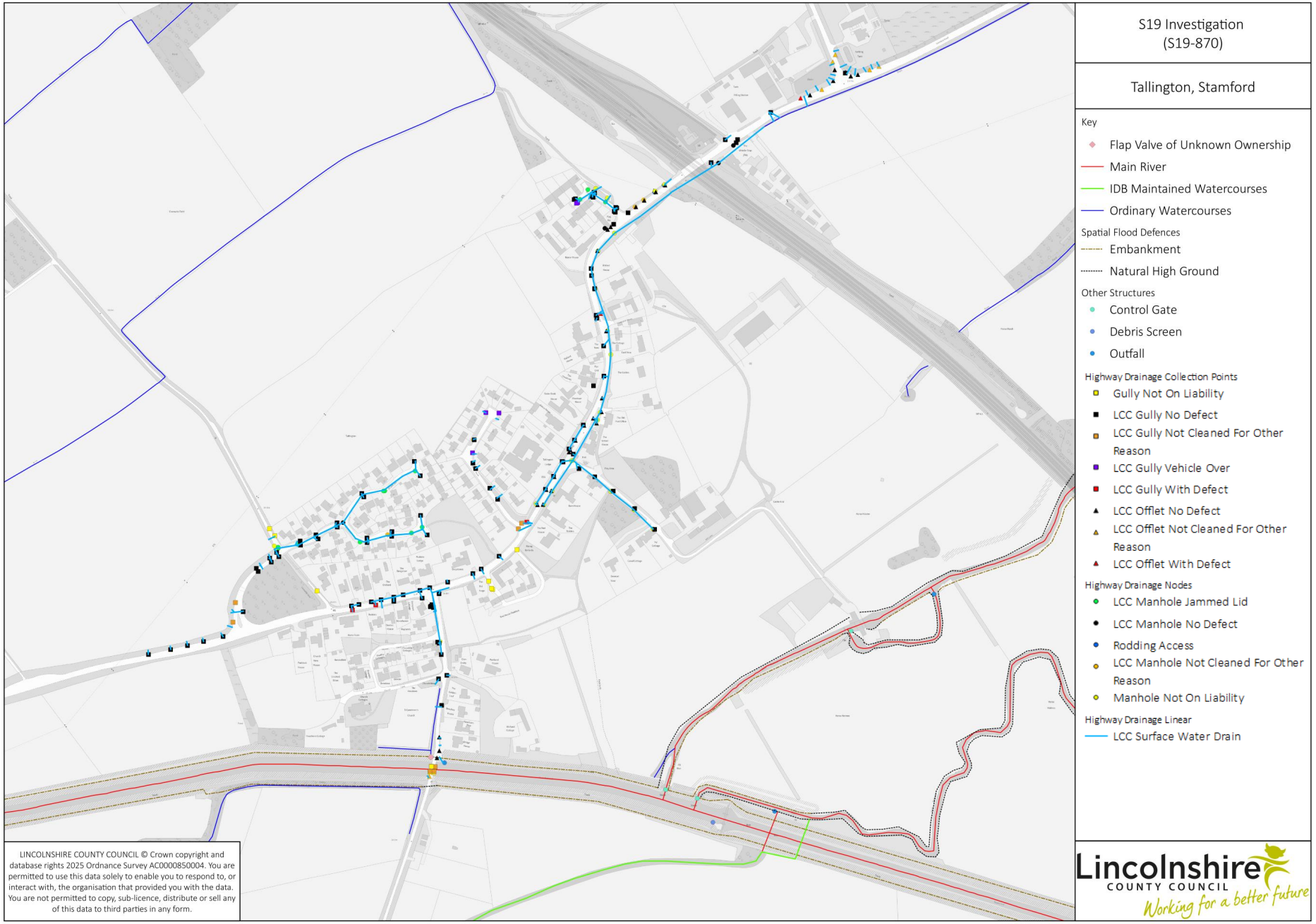


Figure 4 – Drainage connectivity in the affected area

It is understood that discussions are on-going with respect to determining ownership of the surface water sewer which flows under the A1175 / East Coast mainline. A review of historical maps does not show the presence of a natural watercourse along the route.

There is however mapped evidence of areas of marsh / ponding, and the former route of the River Welland and Stamford Canal, part of the Welland Navigation used (mid-17th century for 200 years) a section of which is still visible from Herons Close and along Millenium Green.

A presentation by Anglian Water to the Parish Council on 10/07/2018 identified that the condition of 482m of the sewer running down the Main Road from Bainton Road towards Searson Court was classified as grade 5 and as such was in need of refurbishment or replacement.

The presentation also raised concerns about the maintenance of local riparian owned watercourses and the need to clear debris and vegetation and in some instances possible regrading was recommended.

Partial clearance of the aforementioned sewer was undertaken in March 2022, being jointly funded by Anglian Water and LCC. The result of which removed a large amount of siltation from the system although it is understood that the works were not able to remove all of the debris from the system.

2.4 Previous flooding incidents – outline of historic flood events:

The summary table below highlights historic flood events that have been reported to LCC / recorded in the area since 1st of January 2019 to the 31st of December 2023.

Report No.	Enquiry number	Status	Enquiry Summary	Address
1	352419	Third Party Responsibility	*Flooding on A1175 onto shared drive and adjacent driveway.* *Dropped kerb allowing water flow path onto property.* *Is it possible to raise the kerb height?*	[redacted] Main Road, Tallington,
2	383259	Assessed – no action proposed	*Flooding on A1175 onto shared drive and adjacent driveway.* *Dropped kerb allowing water flow path onto property.* *Is it possible to raise the kerb height?*	[redacted] Main Road, Tallington,
3	402495	Job complete - Resolved	*Flooding on A1175 onto shared drive and adjacent driveway.* *Dropped kerb allowing water flow path onto property.* *Is it possible to raise the kerb height?* *Works undertaken to raise dropped kerbs*	[redacted] Main Road, Tallington,
4	405237	Job complete - Resolved	*Flooding on A1175 onto shared drive and adjacent driveway.* *Dropped kerb allowing water flow path onto property.* *Is it possible to raise the kerb height?* *Works undertaken to raise dropped kerbs*	[redacted] Main Road, Tallington,

5	1809404	Job complete - Resolved	*Flooding, gully tanker required*	[redacted] [redacted] Bainton Road, Tallington
6	4164774	Third Party Responsibility	**no current flooding**	Near [redacted]Season close, Tallington

Reports 1,2,3, and 4 are regarding an ongoing issue impacting properties reported at [redacted], where a dropped kerb is reported to allow water to flow from the A1175 onto private driveways impacting property and outbuildings.

Report 5 is from a property experiencing flooding and LCC is recorded as sending a tanker to resolve the issue.

Report 6 has limited details.

Through receipt of additional information, it is understood that flooding in Tallington also occurred in December 2020, although conflicting accounts were put forward regarding the extent of internal flooding, with one report stating the internal flooding of one property, with the other stating no internal flooding although detailing extensive external flooding and issues associated with loss of service of the foul public sewer. Various accounts were also offered as to the factors which brought about, and / or exacerbated the flooding. Factors reported and / or alleged include:

- Badger activity which resulted in damage to the banking of the River Welland, enabling the infiltration of water through the underlying gravel banks,
- Blockage at the pumping station of the foul public sewer due to incorrect disposal of fats, oils, and greases,
- Condition of the non-return valve (NRV) which discharges into the River Welland,
- Maintenance regime of hedges along a stretch of ordinary watercourse which subsequently blocked open the NRV into the River Welland due to debris,
- The infilling of sections of a watercourse and remnants of the former route of the River Welland

For the avoidance of doubt, the ordering of the above factors is alphabetical.

In response to the flooding incident it is understood that works to repair and reinforce over 700 metres of embankment were undertaken by the Environment Agency including the relocation of said badgers, with removal of the blockage from the foul public sewer system undertaken by Anglian Water, including the use of tankers and an emergency pump to help manage levels in the network insofar as possible.

3. Flood event

3.1 Conditions prior to the event

The EA Water situation report records that the week of 27th December 2023 to 2nd January 2024 was a very wet week. The total averaged rainfall of 114mm recorded in December was 206% of the Long-Term Average. That is just over double the rain that would normally be expected to fall in December. The months preceding were also wetter than average.

Storm Gerrit brought damaging winds and heavy rain to the UK from 27 to 28 December. Between 6 to 12mm of rain fell across the rain gauges serving the Welland catchment on 27 December with some further 10-12mm affecting the Stamford/Etton area on the 28 December.

Despite not being named storms, there were further bouts of heavy rain on 31 December (10 to 20mm) and 1 January 2024 (9 to 15mm).

3.2 Rainfall Analysis

Storm Henk arrived on 2 January, bringing rainfall totals of up to 33mm. The rainfall totals were higher towards the lower end of the catchment. For example, Stamford recorded 26.6mm and 29.4mm in a 24-hour period. The rainfall was intense with the majority of that rain falling between 10:00 and 15:30.

Rainfall totals for the seven days from 27 December to 2 January were between 56 to 90 mm across the Welland catchment.

The hyetograph below shows the two peaks of the storm event on the evening of the 01/01/2024 and the afternoon of the 02/02/2024.

High rainfall within the already saturated catchment caused levels in the River Welland to rise, with a new record high water level of 2.05m recorded on 03/01/2024 at the EA River Welland level at Tallington gauging station (Table 1).

Table 1 – River levels prior to, during, and after the flooding in Tallington. Source: River Levels UK. Data obtained on the 05/02/2025 (18:30).

Date	Minimum Depth (m)	Average Depth (m)	Max Depth (m)
27/12/2023	0.81	0.838	0.91
28/12/2023	0.92	0.973	1.05
29/12/2023	1.1	1.138	1.15
30/12/2023	1.15	1.177	1.2

31/12/2023	1.21	1.234	1.26
01/01/2024	1.22	1.243	1.27
02/01/2024	1.28	1.423	1.51
03/01/2024	1.51	1.675	2.02
04/01/2024	1.52	1.845	2.04
05/01/2024	1.411	1.457	1.501
06/01/2024	1.26	1.293	1.34
07/01/2024	1.22	1.22	1.22
08/01/2024	1.04	1.087	1.12
09/01/2024	0.97	0.97	0.97
10/01/2024	0.902	0.909	0.915

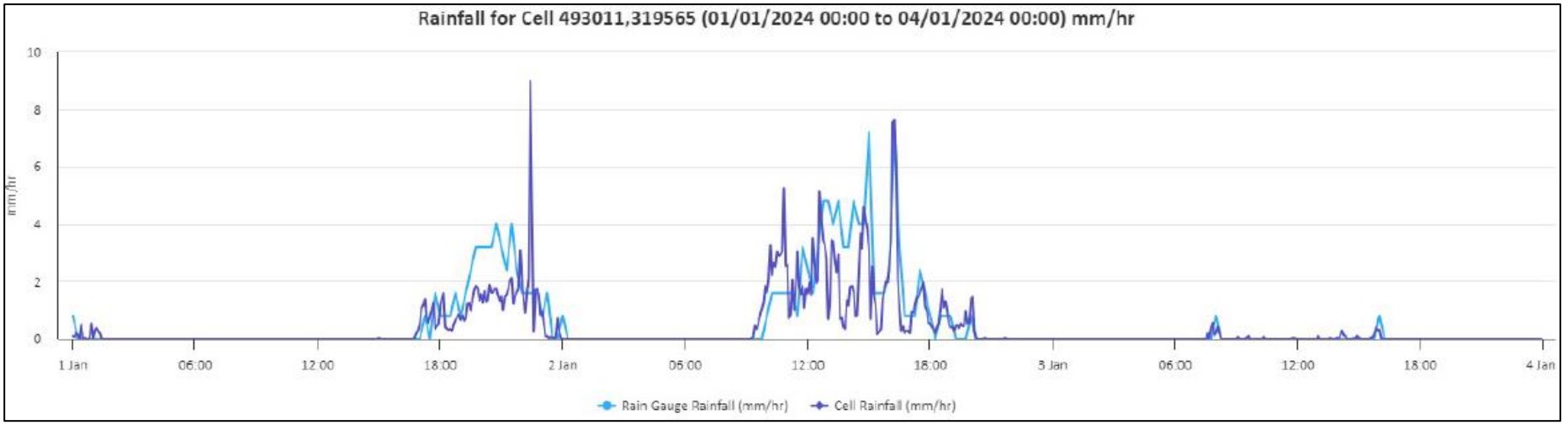


Figure 5 Rainfall Hyetograph from gauge E7155

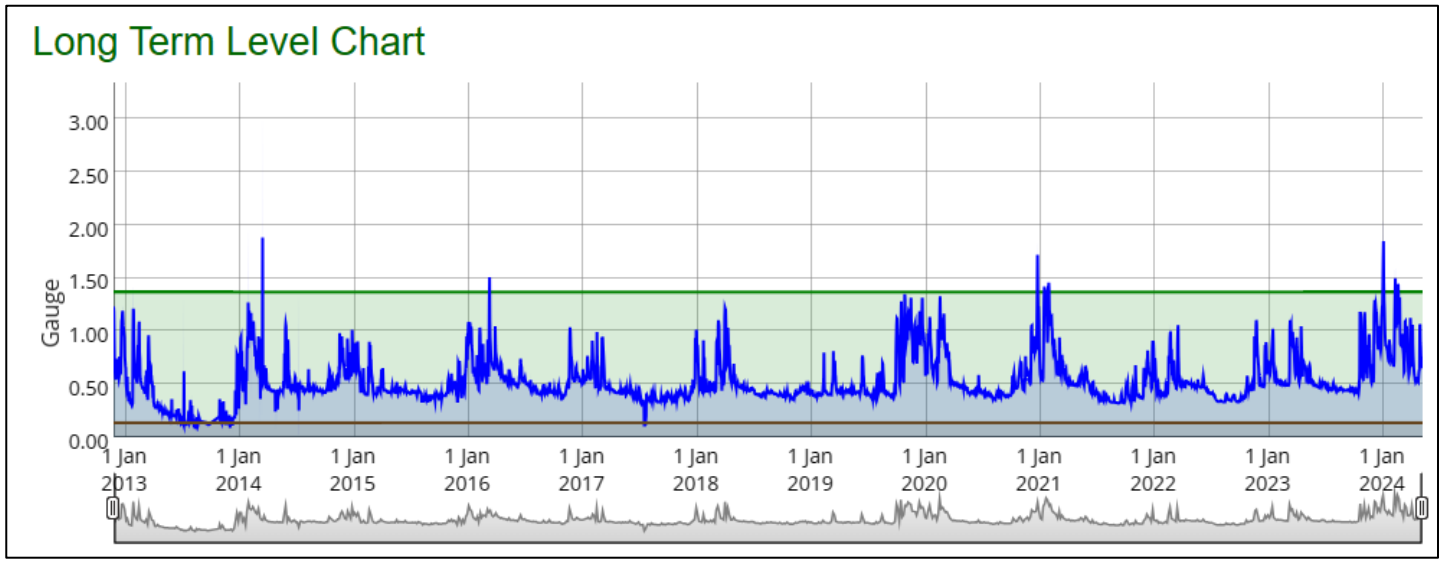


Figure 6 River Welland Level at Tallington gauging station

3.3 Flooding Mechanism / Causation

The flooding in Tallington (Photo 1) resulted from numerous mechanisms and factors interacting with one another to give cause to the flooding realised. Known flood mechanisms and potential exacerbating factors (Figure 7) included:

- **Antecedent catchment conditions and rainfall observed as a result of Storm Henk**
- **Condition of ordinary watercourses (including condition of the sewer running under the A1175 and East Coast mainline, and condition of culvert under Casewick Lane)**
- **Groundwater emergence and infiltration**
- **Performance of flap valve on the River Welland**
- **Seepage of flood water through or under a raised bank upstream of Tallington village**
- **Surcharging of drainage systems**
- **Surface water overland flows**

For the avoidance of doubt, the above factors are listed in alphabetical order.

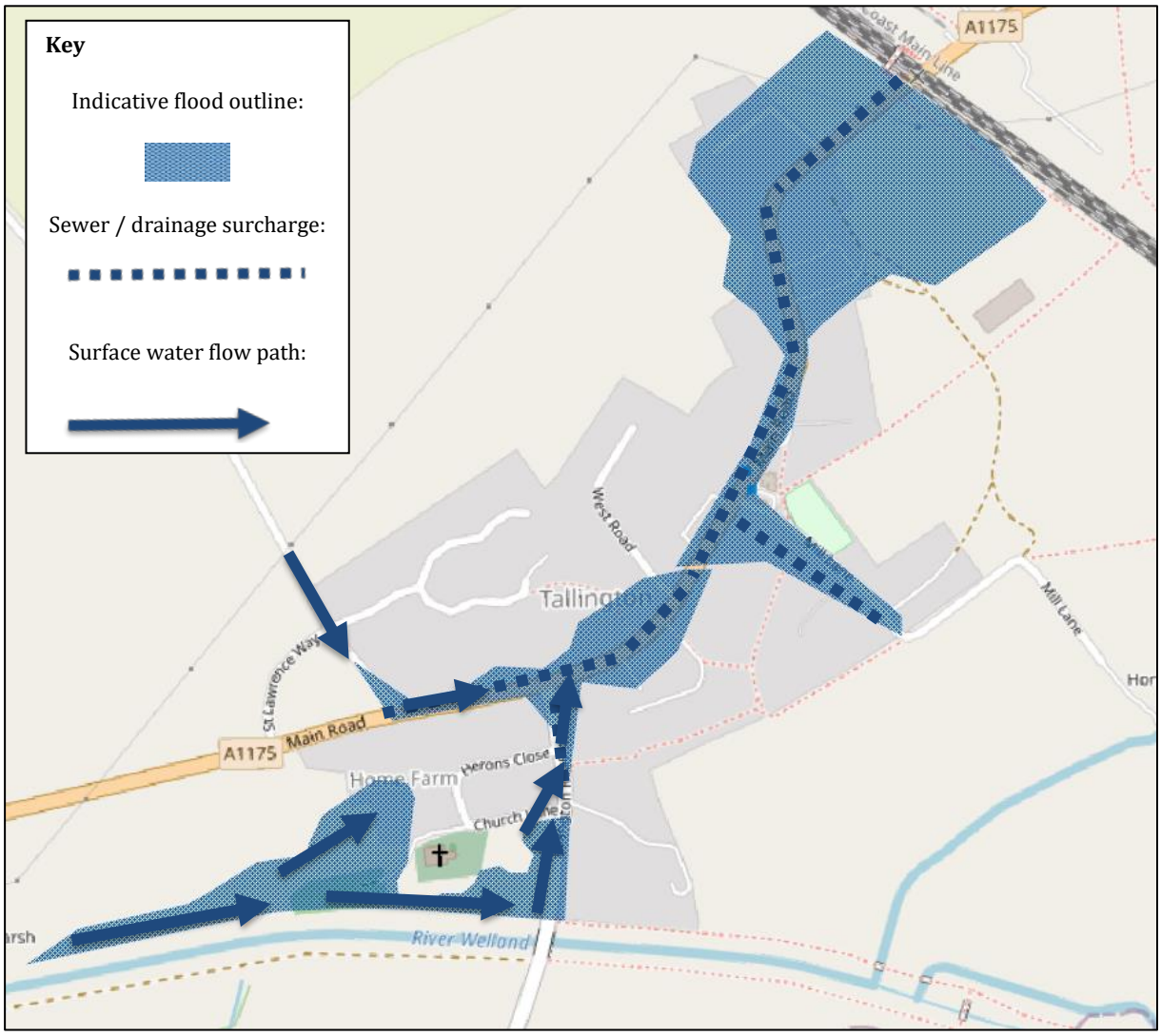


Figure 7 Indicative flood event outline as reported by residents

Information provided by residents to the Parish Council suggests that a total of 24 properties were internally flooded throughout the village on Tallington Road, Church Lane, Main Road, Mill Lane and Searson Close. Most properties impacted were located directly adjacent to a highway / surface water sewer.

Photo 1 – Aerial view of flooding in Tallington at approximately 15:30 on the 04th of January 2024. Source: Environment Agency

Storm Henk Event Dates: 02/01/24 - 04/01/2024

01/01/2024 – 02/01/2024: In response to prior rainfall and based on a resident's account that is supported by photographic evidence, the 2 No. ordinary watercourses within the immediate vicinity of the non-return valve were noted to contain water, and in both instances, the outfalling pipework into the River Welland was submerged. Throughout this timeframe river levels were observed to rise in response to this rainfall (Table 1). Flooding of agricultural land to the west of the village (Photo 2) was also noted to be present due to prior rainfall alongside allegations of infilling of sections of watercourse and remnants of the former route of the River Welland although no definitive evidence has been put forward to support these claims and as such feature within the recommendations proposed herein. For reference, a photo of the remnants of the former River Welland is shown in Photograph 3 and demonstrates that, based on the localised topography, capacity to attenuate and retain a proportion of overland flows exists therein.

Photo 2 – Flooding of agricultural land to the west of Tallington dated the 04th of January 2024 at approximately 12:30. Source: resident

Photo 3 – Remnant of the former River Welland. Source: Lincolnshire County Council dated 20/06/2025

03/01/2024: Residents reported noticing a rise in the river level down at the River Welland bridge. With the river levels rising throughout 03/01/2024 and the nearby village of Greatford already underwater. Tallington Parish Council attempted to contact a local Environment Agency officer to request support in the form of a pump at the Tallington Bridge. When contact could not be established, they contacted the EA's national incident hotline. It is reported by Tallington Parish Council that an EA employee had visited the village in response to this call and identified that, at time of inspection, the flooding was thought not likely to be from main river assets. Accounts of residents suggest that the rate of backflow through the non-return valve was more subdued than that experienced in 2020, with flooding of the land to the immediate east of the Church occurring throughout the morning and evening on the 03rd (Photo 4). Residents are of the opinion that the reduced rate of backflow was due to the presence of sandbags which were deployed by the EA on the 16th of November 2023 in an attempt to prevent backflow from the River Welland into Tallington.

04/01/2024: SKDC and LCC delivered sandbags which resulted in the distribution and deployment of over 1000 sandbags throughout 04/01/2024 by volunteers.

Based on discussions with the EA, residents, and the Parish it was stated that the River Welland banks did not breach or overtop. Evidence suggests that surface water collected in the saturated fields to the west of the affected properties, with the source of this water thought to be threefold: direct rainfall falling onto already saturated ground, potential emergence of groundwater due to rainfall and antecedent conditions combined with the potential seepage through and / or under the embankments of the River Welland resulting in water seen to be 'bubbling up' within a field to the west of Tallington on higher ground. This water then, based on existing topographies, likely flowed downgradient towards Tallington village contributing to the flooding experienced although the exact mechanism of this is, based on available information, uncertain. It is worth noting that an allegation has been raised regarding the breach of a 'dam type construction' within the grounds of Hawthorne Cottage (caused by blackflow from the River Welland) resulting in said water flowing into Tallington village proper, however, at the time of revising this report, no tangible evidence has been put forward with respect the alleged 'dam type construction'.

In addition to this it is likely that, due to the condition of ordinary watercourses to the north and east of Tallington, including the condition of the culverted watercourse and non-return valve under / on Casewick Lane and further culverts under the East Coast Mainline, overland flows would also have been realised flowing in a southernly direction towards the village due to capacity exceedance thought to be predominately a result of the impedance of the onward flow of water.

Flooding to properties first occurred just after midnight on 04/01/2024, in the south adjacent to the river then pushing up Tallington Road, towards the A1175 Main Road and Mill Lane flooding homes and businesses as artificial drainage systems became hydraulically locked and reached capacity and / or surcharged reflecting, in part, the condition of the surface water

drainage assets, in particular, the surface water sewer located along the A1175 and under the East Coast mainline.

4 large pumps were deployed by Lincolnshire Fire and Rescue in the hours after 5pm on the 04/01/2024 which provided some relief and is credited with preventing further property flooding. Through received accounts it is understood that the effectiveness of the Lincolnshire Fire and Rescues High Volume Pump (HVP) situated at the outfall into the River Welland was impeded by the presence of sandbags which hindered the submersion of the pump alongside regular blockage due to debris within the ordinary watercourses.

Photo 4 03/01/2024 Just north of the River Bridge looking west

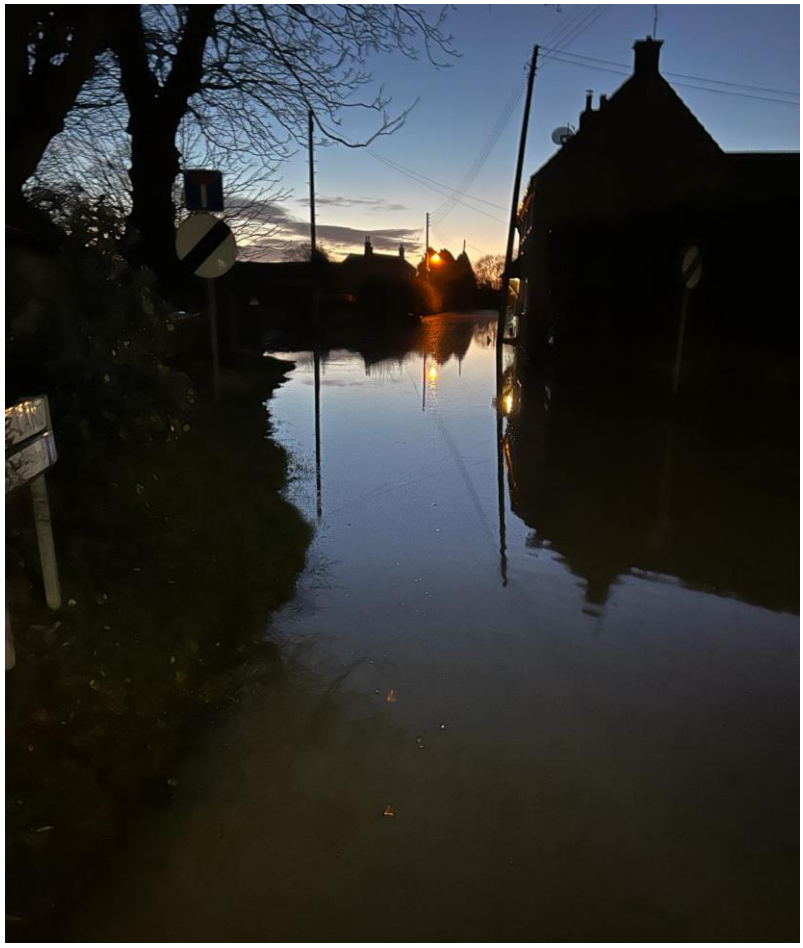


Photo 5 07:20 04.01.2024 Mill Lane

Photo 6 08:28 04/01/2024 Junction of Main Road and Bainton Road

08/01/2024: Lincolnshire Fire and Rescue pumps were removed from the village by 1pm and replaced by an EA pump.

09/01/2024: Sandbags that had been put in place by the EA were removed after a review the night before. It is reported that there was no visible back flow from the river despite the flap valve still being under water, indicating that the flap valve at that time appeared to be functional during this period of general high flows.

11/01/2024: The EA pump was removed on the morning of 11/01/2024. It is reported that the pump was not used and was removed to the Spalding depot with an assurance it could quickly be deployed again if needed.

16/01/2024: Groundwater levels throughout the village and in the surrounding fields was reported to be still at record levels, reflecting the rainfall experienced, antecedent conditions, and geology of the area surrounding Tallington. This continued to cause problems with toilets backing up on Searson Close and Main Road (after the Village Hall) to the Rail Crossing and even to some homes on St Lawrence Way. Owners on the [redacted] also having issues. Although the exact impact is unsubstantiated, given that the surface water culvert which flows under the East Coast mainline has a sand bottom, then it is likely that high groundwater levels would have elevated flows within the system, increasing the risk of overwhelming it and subsequent surcharge.

Anecdotal evidence suggests that there was potentially a pump failure with one of the two AW pumps at Searson Close pumping station. However, through further correspondence with AW it is understood that no malfunctions occurred, rather the system was overwhelmed. The overwhelming of the pumping station was likely, in part and based on observations of AW officers, as a result of actions taken by private residents to lift inspection covers, which subsequently allowed groundwater to flow into the foul network.

18/02/2024: Mill Lane flooded again with water coming up through the ground, sewer and surface water drains similar to events of early morning 04/01/2024, after only moderate to heavy rainfall.

In addition, rising water in front of the [redacted], at the [redacted] courtyard and at the end of Searson close with two homes affected. Many properties were left without use of their toilets.

Calls for assistance resulted in the LCC highways emergency team sending a tanker late afternoon and with the help of a highways team commenced taking the rising water from Mill Lane and later moved to the [redacted] chamber and then to road outside [redacted] from where it stayed till late after making numerous trips from village.

20/02/2024: The EA replaced the sandbags to block up the flap valve again due to the reported discovery of fish in the dyke parallel to the River Welland (509221E, 307797N), indicating a potential malfunction. Approximately, 45 sandbags were deployed to create a double skin barrier on the village side, and this appears to have substantially reduced backflow from the river. It is reported that the Parish Council have agreed with the EA Ops Manager Field Teams that this is only a temporary measure, pending a review and appropriate improvements.

22/02/2024: [redacted] and [redacted] [redacted] experienced further flooding with water reported to rise through the floors from the surface water drains.

The EA responded, returning with the trailer pump, and pumped from the dyke to the river for 3hrs.

LCC responded providing 2 gully tankers from Sleaford, working from 6pm and operating for 8 hours till 2 am and again throughout 23/02/2024 relocating water from the surface water drains into the river.

In addition to the above, the 2" Parish Council pump was deployed at the [redacted] [redacted] / Searson Close on and off until 25/02/2024 pumping water to the waste land next to the East Coast mainline. An additional 3 pumps were brought in by residents to tackle the rising water coming up through the surface water and foul drains throughout the week.

An 8" pump was also deployed by AW to drain Mill Lane and was in situ for 3 months.

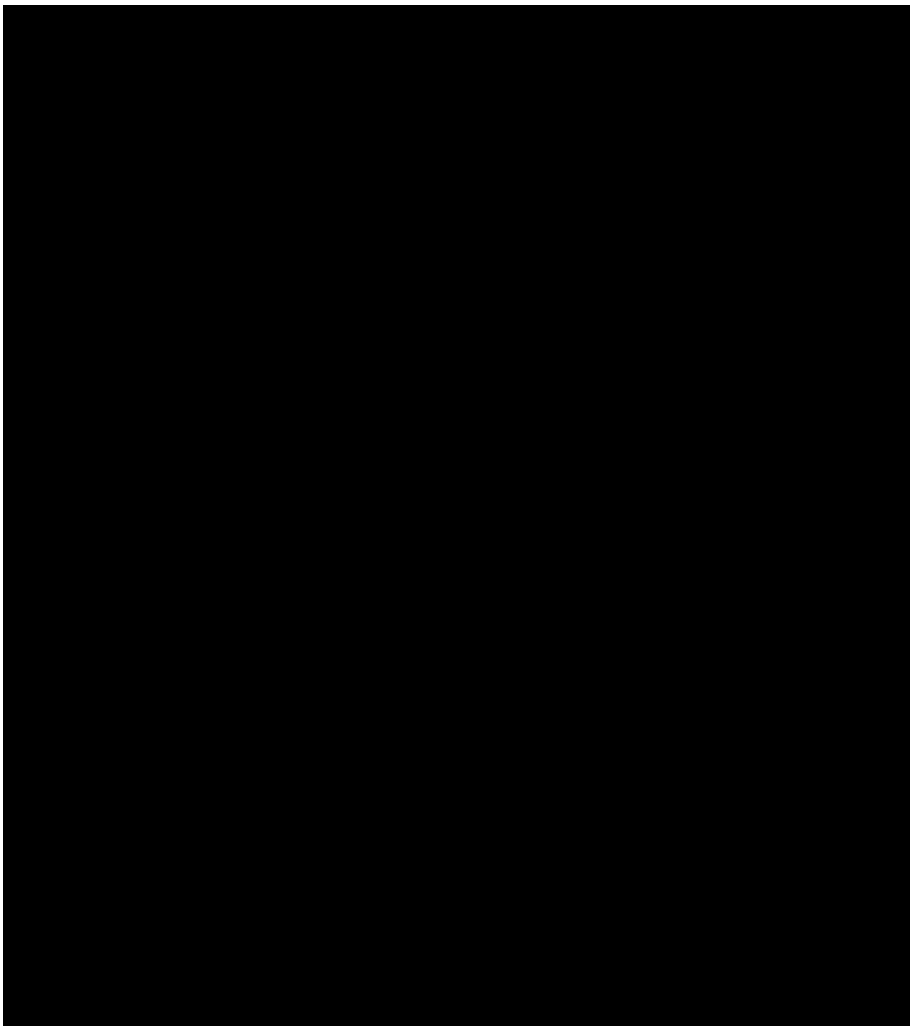


Photo 7 22/02/2024 Mill Lane

Photo 8 23/02/2024 Mill Lane

Photo 9 23/02/2024 [redacted]

27/02/2024: Following a detailed appraisal by Anglian Water of their assets from Mill Lane towards the East coast mainline it was reported that there was at least one blockage somewhere between the chamber opposite the [redacted] to the Chamber across the crossing to just in front of the [redacted].

It was also reported that the stone topped surface water culvert from the [redacted] chamber to the open ditches to the east of the crossing were 80% blocked. AW spent 3 days/nights clearing this culvert with specialist tankers.

Photo 10 Tallington Surface Water Drain after cleansing

It has been reported that there are also long-term standing water issues at Casewick Lane to the west of the village that have regularly marooned residents when the dykes through the fields to the north of the village that go under the East Coast mainline and through the cement works a quarter of a mile north of the crossing exceed capacity. The railway culvert is also reported to be overgrown and in need of clearance as are the dykes in the cement works which are reported to be full of polystyrene, weeds, debris and plastic containers. It is reported that this is also restricting the fields to the North of the village draining as they should. SKDC officers are following up on the Casewick Lane drainage issues.

09/04/2024: During a site visit on 09/04/2024 an EA pump was situated on the bank of the river and the sandbags were still in-situ on the dyke side face of the flap valve. The flap valve was not visible as it was under the water level.

Photo 11 EA Trailer pump and flap valve asset adjacent to the bridge and sandbags deployed dyke side of flap valve

4. Issues Identified

4.1 Anglian Water assets / pumping station

Connectivity between the surface water and foul sewers and a potential malfunction at the pumping station may have impacted a number of properties.

4.2 Condition of Open Water Features and Ordinary Watercourses

Concerns have been raised regarding the alleged infilling of open water features which serve the drainage of land surrounding Tallington coupled with the maintenance practices associated with hedges adjacent ordinary watercourses. The debris from which allegedly resulted in the blockage of the non-return valve, preventing its closure. Although due to the presence of sandbags since the 16th of November 2023 the exact impact of these maintenance practices cannot be definitively confirmed, similarly the presence of overhanging trees etc., needs be considered when assessing the extent of any impact such maintenance practices may have on the correct functioning of the non-return valve.

In addition, concerns have also been raised regarding the observed condition of watercourses to the north and east of Tallington (including the culvert under Casewick Lane) which likely increased the quantity of overland flows which contributed to the flooding experienced.

4.3 EA River Banks Asset Ref. 055305051070 8L53A

The Parish Council have raised concerns around the works to the river banks adjacent to the church. It is believed by the Parish Council that the works undertaken by the EA in December 2023 to the gravel banks has led to an increased rate of seepage through the banks. Although it is worth noting that, to date, no reports or tangible evidence of water coming through and / or breaching the banks of the River Welland adjacent to the church have been received.

Concerns have also been raised that, since the undertaking of works to strengthen the embankment along the northern stretch of the River Welland, the alignment of the ordinary watercourse immediately adjacent has been compromised. Although, it is worth noting that the extent and accuracy of this claim has not been confirmed as part of this revised investigation and is therefore to be considered as part of the recommendations.

Based on the findings of a site inspection on the 04th of January 2025 by EA staff, seepage was observed on ground adjacent to the embankments upstream of Tallington, following which the embankment has been “inspected and failed” thereby indicating the need for further investigation at this location.

4.4 LCC Highway Drainage Assets

Highway gullies are reported to drain predominantly to a large surface water sewer that flows down Main Road. Gullies should be cleaned and inspected on a regular basis. When the downstream surface water network reaches capacity, highway drainage assets surcharge and are unable to drain water way. Concerns have also been raised and noted regarding some of the highway drains lacking silt traps thereby increasing silt loading on the downstream network.

4.5 Network Rail Surface Water Drainage Assets

It has been reported that the surface water sewer which flows under the East Coast Main Line rail crossing at Tallington was not free flowing thereby hindering the evacuation of flood waters from Tallington proper. It is understood that between the 02/03/2024 - 03/03/2024 Network Rail's contractors CML carried out a scheduled 5-year culvert clean and condition survey (last inspected in 2018), identifying a surface water sewer collapse/blockage. It is also understood that works to reinstate the majority of the surface water sewer has now been completed (including installation of new access chambers) by AW in collaboration with Network Rail and partner RMAs, although it is noted that a 10m section still remains blocked with a project on-going by Network Rail to remedy the situation.

4.6 River Welland Flap Valve (509221E , 307797N)

A temporary sandbag barrier solution has been implemented to prevent backflow from the river into the local dyke network via a flap valve on the main river, directly upstream of the River Welland bridge. During the flood event however, and as depicted in Photo 1, backflow through this asset was evident regardless. Furthermore, the presence of these sandbags, whilst reducing the rate of inflow into Tallington, compromised the effectiveness of pumping apparatus alongside in channel debris.

4.7 Surface Water Drainage

During extreme events, surface water flows into open dykes and in some instances flow paths are restricted by either dyke capacity and/or culvert blockage.

Pumped solutions are utilised to currently deal with surface water from overland flow routes at the north of the river bank and from sewers in the Manor house / Searson Close area.

4.8 Surface Water Drainage Assets

The main surface water sewer that flows down Main Road in an easterly direction towards and under the East Coast Mainline is an old culvert, which reaches capacity and surcharges. Anglian water have cleansed and investigated this system (partially restoring its capacity) and have recommended investment to refurbish this sewer and restore its full capacity. Due to the condition of this asset (including the section under the East Coast mainline) during the flood event, it is, on the balance of probabilities, certain that this contributed to the extent and / or duration of the flooding realised by hindering the evacuation of flood waters, although it is worth noting that such a system is unlikely to have been designed to accommodate all of the sources of flood water realised and, therefore, flooding would likely still have occurred within Tallington regardless, especially when considering the antecedent conditions of the catchment combined with observed rainfall and positioning of some of the properties with respect to it. However, it is acknowledged that the extent and duration of such flooding would likely have been reduced should the system to outfall been functioning at its design standard.

5. Risk Management Authorities

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

- Anglian Water Services
- Environment Agency
- Lincolnshire County Council as Highways Authority
- Lincolnshire County Council as LLFA
- South Kesteven District Council

Network Rail has also been identified as a relevant stakeholder in this instance.

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.

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.

6. Recommendations for Consideration

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

6.1 Culvert under the A1175 / East Coast mainline

It is recommended that the relevant RMAs in collaboration with Network Rail should establish ownership of the surface water culvert under the A1175 / East Coast mainline crossing. It is also recommended that Network Rail, in collaboration with any relevant parties as required, considers completing the on-going project to remedy the last 10m section of blockage on the culverted watercourse.

6.2 Emergency Planning

It is recommended that the Tallington rapid response flood team, local flood wardens and Parish Council should consider creating an emergency flood response plan supported by LCC (as required) to support residents and reduce the impact of any future flood events.

6.3 Environment Agency Temporary Pump (NGR 509225E, 307802N)

A temporary pump has been provided by the Environment Agency, which was seen on site stationed at NGR 509225E , 307802N. During the flood event various other pumps were also deployed to alleviate flood waters.

The need for a permanent pump or alternative solution should be considered for investigation by the Environment Agency.

6.4 Installation of catchment telemetry

LCC in collaboration with partner RMAs should consider the installation of telemetry at strategic locations in the catchment. This telemetry could be used to inform future feasibility studies as well as aid in emergency preparedness.

6.5 Investigation into observed seepage adjacent River Welland embankment

It is recommended that consideration be given by the EA into exploring what, if any, feasible and effective options exist to minimise the risk of the potential seepage observed through and / or under the embankment of the River Welland to the west of Tallington village.

6.6 Land Drainage

It is recommended that all local land drains and culverts are maintained and / or reinstated to allow the free flow of water by their riparian owners and enforcement action is considered by LCC if necessary. It is understood that SKDC are already engaging with landowners to the northwest of Tallington. In addition to the above, further engagement with regards maintenance best practice should be promoted to all relevant riparian owners and the allegations of potential infilling of open water features alongside compromised alignment of an ordinary watercourse should be considered for investigation by LCC in its capacity as Lead Local Flood Authority insofar as is required.

6.7 Partnership funded project

It is recommended that AW, LCC, and SKDC consider supporting a partnership funded project to repair / refurbish the surface water sewer that runs along Main Road to Searsons Close and / or to explore what other opportunities may exist to reduce the risk of surface water flooding in Tallington.

6.8 River Welland Flap Valve (NGR 509221E , 307797N)

A flap valve is situated on the northern bank of the River Welland, directly upstream (west) of the bridge and NGR (509221E , 307797N). This asset is of unknown ownership and thus requires confirmation.

It is recommended that consideration be given to confirming the ownership of the flap valve asset by the EA, with the asset owner then considering investigating and ensuring the functionality of it. Furthermore, consideration should be given by the asset owner to the installation of a trash screen on the inlet of the outfall to minimise the risk of future blockage

Following a CCTV survey on the 14th of May 2024, it is understood that works to replace the existing flap valve with a more heavy duty variety are currently being considered by the EA.

7. References

Listed in alphabetical order.

7.1 Anglian Water

Anglian Water Presentation to Tallington Parish Council, 10/07/2018.

7.2 River Levels UK

https://riverlevels.uk/

7.3 S19-129

https://www.lincolnshire.gov.uk/flood-risk-management/flood-investigations

7.4 Tallington Floods

7.5 Tallington Multi Agency Group

Minutes from meeting of Tallington Multi-Agency Group meeting.

7.6 Tallington Parish Council

8. Appendices

8.1 Definitions

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

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.

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.

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)

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

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, in 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.

Ordinary Watercourse - A watercourse that does not form part of a main river.

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.

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.

8.2 Anglian Water Presentation to Tallington Parish Council, 10/07/2018