Section 19 Flood Investigation

Flooding in Attleborough, Nuneaton
26 September 2024

Warwickshire County Council as Lead Local Flood Authority

Version	Date	Issued to
Draft 1	September 2025	FRM Team
Draft 2	November 2025	FRM Team
Draft 3	January 2026	Partners
Final Version		

CONTENTS

1 EXECUTIVE SUMMARY

Areas of Warwickshire experienced localised heavy rainfall on the evening of Thursday 26 September 2024. This resulted in the LLFA receiving 9 flood reports of internal flooding 9 in Attleborough, Nuneaton..

As required by Section 19 of the Flood & Water Management Act 2010, Warwickshire County Council (WCC) as Lead Local Flood Authority (LLFA) has a duty to investigate flooding where the appropriate thresholds have been met. Our thresholds for investigation are outlined in our Local Flood Risk Management Strategy (LFRMS). Threshold number 3 was achieved where two or more commercial properties internally flooded.

This investigation explores the causes of the flooding, the volume of rainfall received in the area and surrounding catchment, the condition of the existing drainage infrastructure, remedial works carried out and highlights recommendations such as maintenance practices required to help mitigate future flooding.

The impacts of the flooding in Attleborough were highly localised however, the LLFA also received reports of residential and commercial flooding across Warwickshire between the 23rd and 28th September 2024 due to prolonged rainfall over this period.

2 INTRODUCTION

2.1 The requirement to undertake this report

Section 19 of the Flood & Water Management Act 2010 (FWMA) requires that the Lead Local Flood Authority (LLFA) undertake an investigation (to the extent that it considers it necessary or appropriate) upon becoming aware of flooding in its area.

The role of the LLFA in Warwickshire is carried out by the Flood Risk Management team at Warwickshire County Council (WCC).

The flood investigation must also determine the risk management authorities (RMAs) that have relevant flood risk management functions and whether each of those authorities have exercised or is proposing to exercise those functions in response to the flood event. See Appendix B for the responsibilities of the various RMAs involved in this flood event.

Warwickshire County Council's Local Flood Risk Management Strategy (LFRMS) identifies the thresholds that will apply when determining whether an investigation under Section 19 of the FWMA is required. These thresholds are as follows:

1. Flooding that poses a threat to the safety of the public or may directly result in serious injury or death.
2. Five or more residential properties internally flooded.
3. Two or more commercial properties internally flooded.
4. One or more piece of critical infrastructure affected that impact on the wider area.
5. Flooding that places vulnerable individuals or vulnerable communities at risk live e.g. hospitals, care and nursing homes, schools, etc.
6. Where one or more residential properties have flooded internally from the same source on five or more occasions within the last five years.

In this instance threshold number 3 was met on the evening of Thursday 26th September 2024 where 9 commercial properties flooded internally, this number is believed to be greater however the LLFA were unable to confirm the if additional properties flooded internally.

Letters were sent out to residents by the LLFA on 7th October following phone calls to all businesses suspected of flooding the week following the event and members of the Flood Risk Management team attended the area on 26th November hand delivering questionnaires and speaking to business owners where premises were thought to have experienced water ingress.

2.2 Scope of this report

This report summarises the completed and ongoing investigations carried out by risk management authorities into the flooding which occurred in Attleborough, Nuneaton on 26th September 2024.

This report does not obligate the LLFA or other risk management authorities into resolving the flooding issues investigated herein, nor is it possible for the LLFA to impose others to undertake any of the recommended actions.

2.3 Disclaimer

This report has been prepared as part of WCC's responsibilities under the FWMA. The findings of the report are based on a subjective assessment of the information available by those undertaking the investigation and therefore may not include all relevant information. As such it should not be considered as a definitive assessment of all factors that may have triggered or contributed to the flood event.

The opinions, conclusions and any recommendations in this report are based on assumptions made by WCC when preparing this report including reliance on information provided by others.

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3 WEATHER AND FLOOD INFORMATION

3.1 Weather Conditions

Yellow and amber Flood Guidance Statements were issued by the Environment Agency for areas across the country for Thursday 26th September and Friday 27th September 2024. Attleborough, Nuneaton fell within Risk Area A, indicating there was a medium likelihood of significant impact. This can be seen below in figure 1.

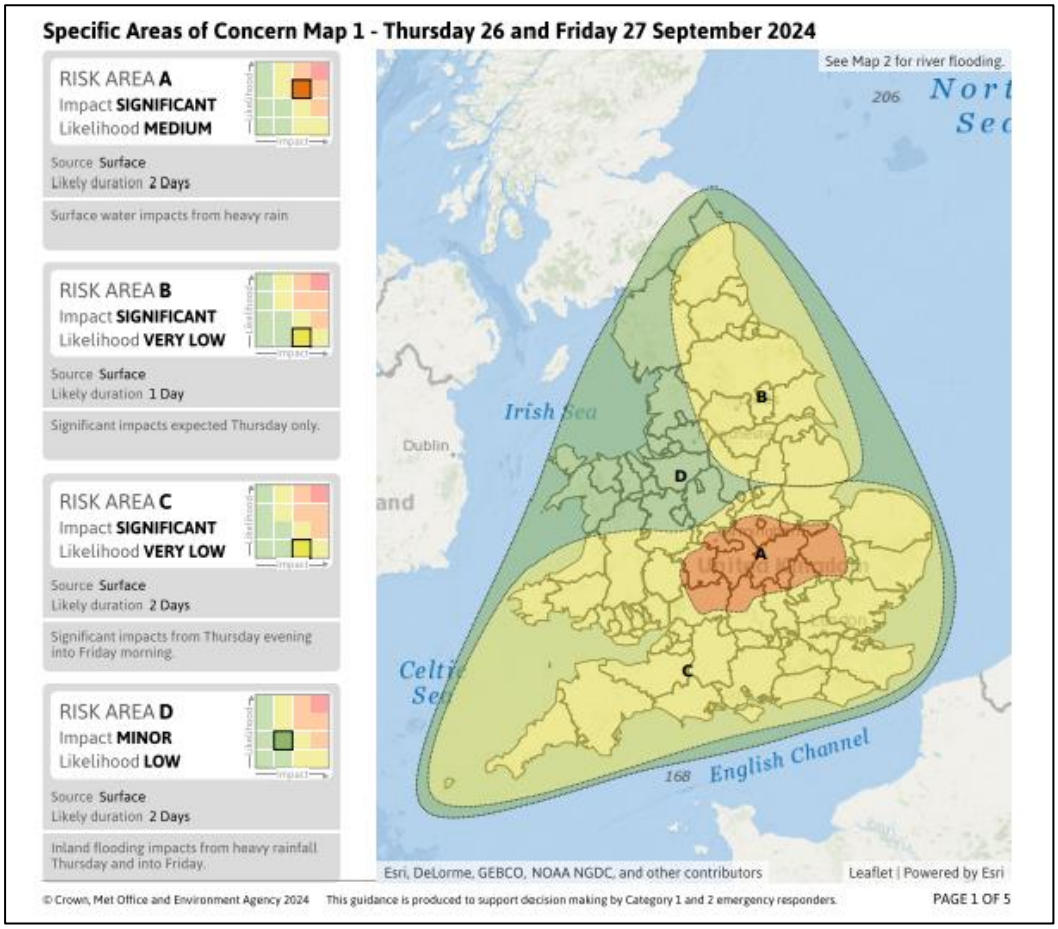


Figure 1: Section of the Flood Guidance Statement from the Flood Forecasting Centre for Sunday 24th November 2024

The Met Office also issued an Amber weather warning for heavy rain across central parts of England from 18:00 on Thursday 26th to 06:00 on Friday 27th September.

3.2 Rainfall Data

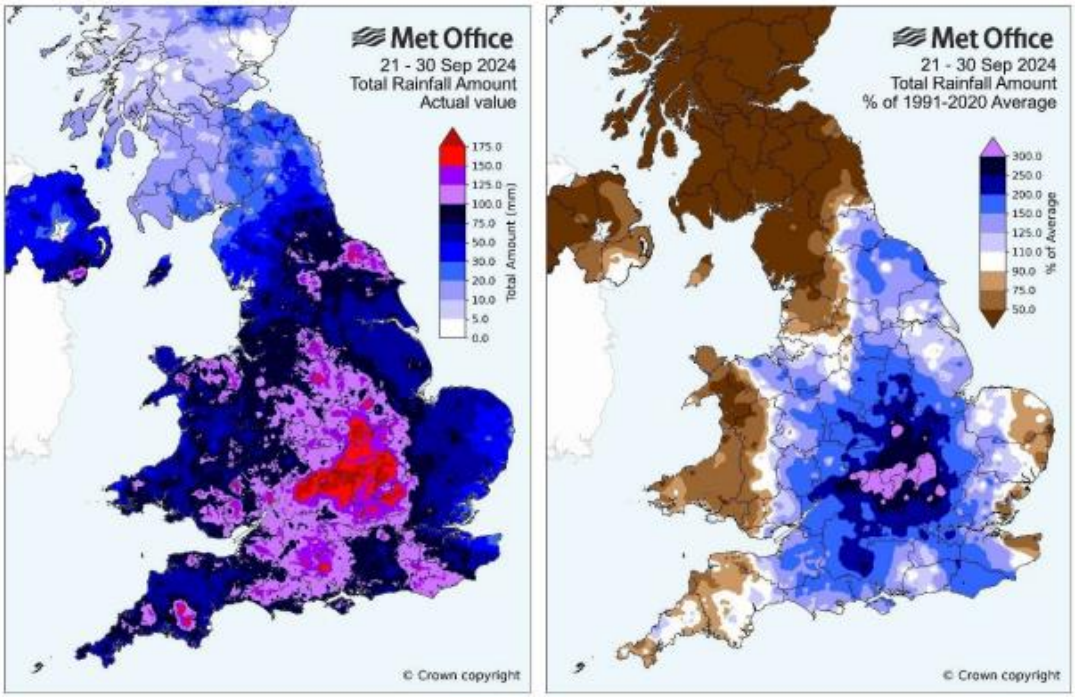


Figure 2 and 3: Total rainfall accumulation between 21 and 30 September 2024 across the United Kingdom compared with the total rainfall amount % compared with the 1991-2020 average.

Figures 2 and 3 show rainfall totals and accumulations from 21st to 30th September 2024. In excess of 100mm of rain fell very widely across a large area of the Midlands, well over 150% of average rainfall, with the wettest areas receiving 150 to 200mm (shown in red) including parts of Warwickshire. This was as a result of three consecutive low pressure systems travelling across the UK on the 23rd, 26th and 30th September.

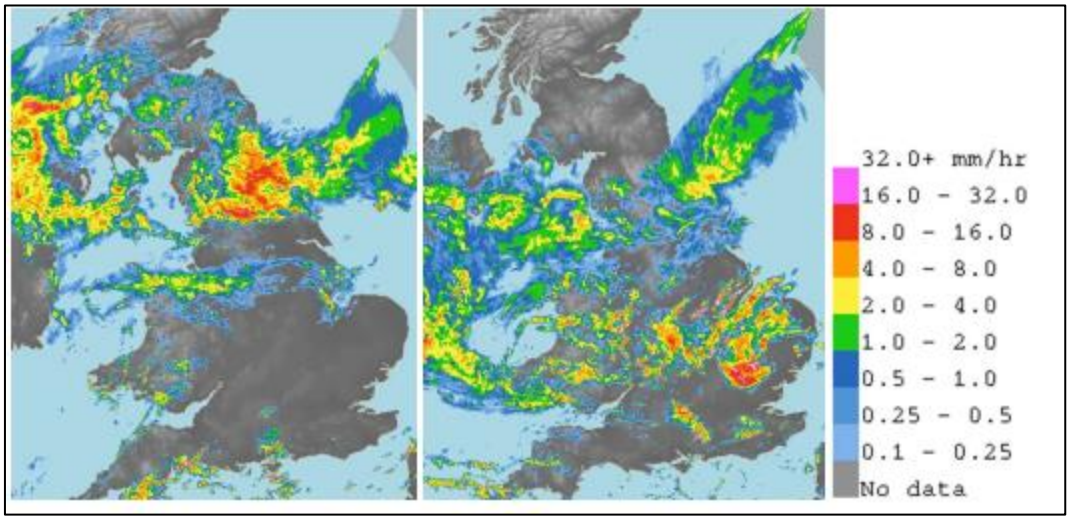


Figure 4: The rain-radar images at 0900 and 1630 on Thursday 26 September showing the heavy rainfall associated with a low pressure system moving across north-east England, with bands of torrential downpours spreading across of central England and Wales.

The Met Office reported that on the 25th and 26th September, when Attleborough experienced flooding, widespread rainfall and some thunderstorms affected England, Wales and Northern Ireland. The West Midlands saw various impacts including surface water flooding closing major roads as well as reports internal property flooding.

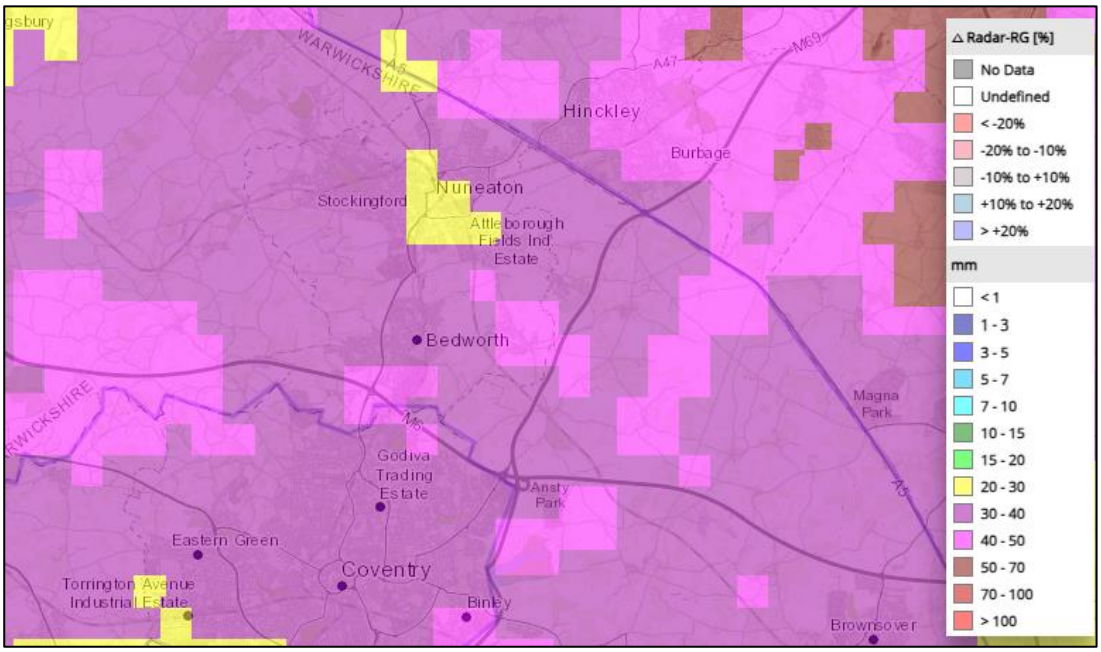


Figure 5: Rainfall accumulation radar taken from HydroMaster for a 24 hourly period from 19:00 on Thursday 26th September 2024.

HydroMaster software allows rainfall data of both real time and historical events to be analysed at a localised catchment level or analysed within more precise 'hotspot' locations. Figure 5 shows that between 30-40mm of rainfall fell in a 24 hour period. The rainfall in the wider geographical area was also intense and will have resulted in water flowing through the catchment towards lower lying areas in Attleborough and potentially overwhelming the system downstream.

INVESTIGATION SUMMARY

3.3 Location of the investigation

The location of this investigation is shown spatially below in Figure's 6 and 7.

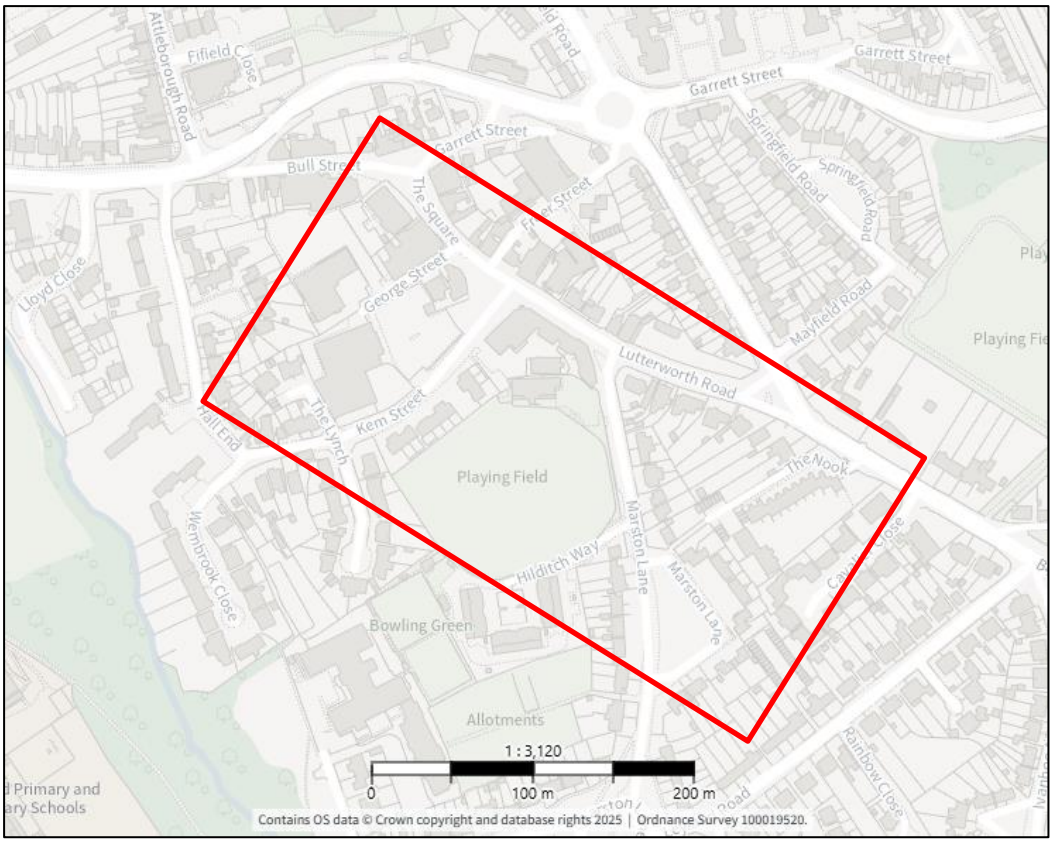


Figure 6 – The area of focus within the red box.

Figure 7 – Area of focus within the red box.

3.4 Wider impact summary

In total, 15 property(s) were internally flooded in Warwickshire during the event on the 26th September 2024. The impacts of the event on the 26th of September were mainly contained to North Warwickshire, although some reports of flooding were also received for areas of Warwick and Stratford.

The impacts of the flooding in Attleborough were highly localised however, the LLFA also received reports of internal and external residential flooding and highways flooding, leading to road closures across Warwickshire between the 23rd and 28th September 2024 due to the period of prolonged rainfall.

3.4.1 Highway flooding and drainage

This section details the flood reports received from the wider area by the LLFA regarding standing water on the highways.

Large volumes of surface water run off travelled down The Square and pooled on The Green at the junction of Kem Street and The Square and at the junction of Marston

Lane and Luttleworth Road, following the topography of the area. This is consistent with the Environment Agency surface water risk mapping in Figure 8.

As the event on the 26th September 2024, took place in the evening, many businesses had already closed for the day and were vacant at the time of the flooding, however those that were present in Attleborough during the event reported that the water was unable to drain away from the highway or from the large paved areas outside of the businesses such as The Green where the pavement slopes towards the shop fronts.

Modern highway gullies, acting as inlets to the highway drainage system, are currently designed to accommodate a rainfall event with a 1 in 5 year return period as per CG 501 Design of highway drainage systems. However historic systems may not be designed to meet this specification.

The drainage capacity of the highway surface water drainage systems may have been exceeded during this flood event. Highway gullies are only small in surface area and indented to drain water that falls on the highways only, not surrounding land. As such high intensity rainfall cannot always drain to such a small surface area, even if they are running clear.

3.4.2 Severn Trent Water drainage

Immediately following on from the flood event, a business owner informed us of a surcharge to the foul sewer system. The LLFA informed Severn Trent Water (STW) of the potential issues to the surrounding drainage network. STW raised a job to have their foul and combined assets surveyed for any signs of blockages or damages, however the system was in good, working condition, free flowing without any defects and therefore no further action was required.

STW reviewed the surface water flood reports submitted and did not believe they had any issues linked to the flooding.

3.5 Historic Flooding

The LLFA have 1 record of previous flooding on Marston Lane of a single commercial property in June 2023. There are no other records of historic flooding in the surrounding area.

It should be noted that this may not be the full extent of historic flooding as not all flooding incidences are reported to the flood risk management team or may pre-date our role as the Lead Local Flood Authority.

4 KEY CONCLUSIONS OF THE INVESTIGATION

4.1 Source of flooding

4.1.1 Surface Water

Lutterworth Road, Marston Lane and The Green, Attleborough, Nuneaton are situated in an urban setting with a large percentage of impermeable areas and limited permeable surfacing, apart from small areas of public open space and individual gardens. Following intense rainfall, surface water drainage systems can become overwhelmed by high volumes of water which will follow surface water flow paths.

The affected locations are identified within areas of low to high risk from surface water flooding according to the Environment Agency Risk of Flooding from Surface Water map (see figure 8 below).

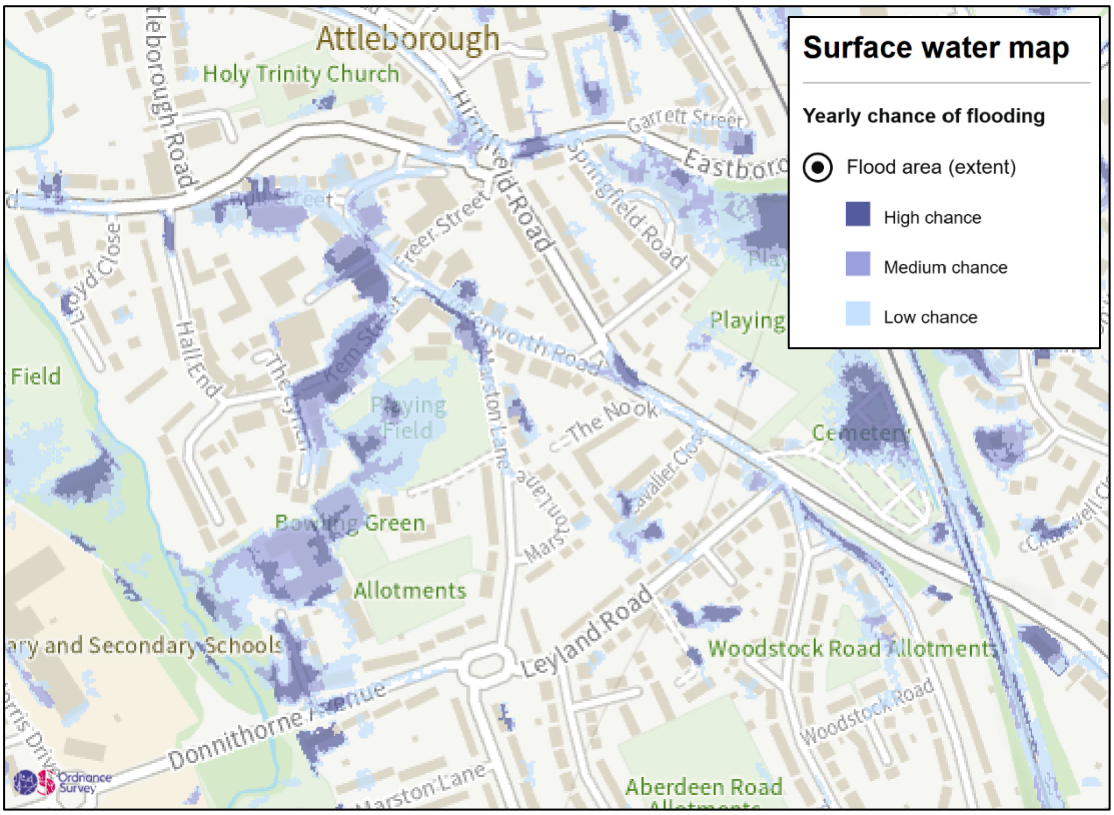


Figure 8: A map showing the extent of flood risk from surface water in the area of investigation, source: Environment Agency

A number of the commercial properties that experienced flooding have a minimal threshold, meaning the is no step up into the building from footway resulting in surface water exceeding the height of the kerb and subsequently allowing water to enter these properties internally. Several of these properties also sit at a lower elevation than the adjacent highways, meaning that rainfall falling on the site and surrounding area will flow and pool towards properties due to the topography of the land.

4.2 Gathering data for the investigation

Following on from the initial reports of flooding to 2 commercial properties, officers from the Warwickshire County Council Flood Risk Management team visited the location to gather information on the extent of flooding and to offer guidance to those affected. The FRM team also delivered flood information packs, questionaries, and details of how to report any flood incidents via email or the online reporting tool. Pictures and videos were also requested to help build a picture of the flood event.

Warwickshire County Council's Highways officers and members of Nuneaton and Bedworth Borough Council also visited the location following these incidents for further assessment.

The LLFA received 19 responses to the flood questionnaire which asked residents if their property or business has been flooded and to what extent during the event on 26th September 2024. In total 9 properties confirmed internal property flooding from a combination of face-to-face verbal confirmation on site, questionnaire responses and online reports.

4.3 Summary of investigations

Jetting of the drainage network was conducted by Warwickshire County Council County Highways team along The Square, Luttleworth Road, Kem Street and George Street to clear the system of any possible blockages. The County Highways team also cleared linear drainage channels along footpaths and paved areas

Surveying works on the foul and combined STW sewers were carried out to identify any signs of blockages or damages, however the system was in good, working condition, free flowing without any defects and therefore no further action was required.

No significant blockages or collapses were reported to the LLFA by the other authorities. It is the opinion of WCC and partners that all drainage systems were operating as intended at the time of the event and flooding would have still occurred due to the intensity of rainfall in the wider catchment, however, works to install new linear drainage channels, and gullies on the footway are proposed to mitigate against future events.

5 APPENDICES A AND B: LOCATION REPORTS

Appendix A: Attleborough Location
Appendix B: Attleborough Actions and Opportunities

Attleborough, Nuneaton

What was affected?

Properties internally flooded	9
Properties externally flooded	3
Critical Infrastructure flooded	0

Source of flooding

Surface water	✓
Sewers	✗
Main river	✗
Ordinary watercourse	✗
Other	✗

Source: Environment Agency (Risk of Flooding from Surface Water, Main River Mapping). Note this is modelled information indicative of the main risk areas. It does not indicate the areas that flooded in June 2023. Darker blue shades correlate with higher risk to surface water flooding.

How does the existing system operate?

Attleborough is a residential suburb located in the eastern part of Nuneaton, Warwickshire. It is situated approximately 2 miles southeast of Nuneaton town centre.

Attleborough has a variable surface water flood risk, depending on the location. The environment agency's surface water flood risk mapping, highlights parts of Attleborough are at a medium to high risk to surface water flooding, typically within the highway extent. Meaning surface water is likely, especially during periods of intense rainfall.

The natural flow paths in the area mean that surface water flows from The Square down Luttleworth Road and Marston Lane. Pooling also occurs on the footpaths and paved areas on the corners of Kem Street and Marston Lane as they slope towards shop fronts rather than the highway. A series of acco drains and gullies allow water to flow into the Highway system before discharging into the Severn Trent Water surface water sewer system.

During heavy storm events, the volume of water puts pressure on the existing highway drainage system into reaching capacity.

Is there a history of flooding in this location?

The LLFA have 1 record of previous flooding on Marston Lane of a single commercial property in June 2023. There are no other records of historic flooding in the surrounding area.

What happened here on 26 September 2024?

On the evening of Thursday 26th September 2024, 9 commercial properties internally flooded as a result of a a heavy rainfall event that was one of three consecutive low pressure systems that travelled across the UK on the 23rd, 26th and 30th September. In excess of 100mm of rain fell very widely across a large area of the Midlands, well over 150% of average rainfall, with the wettest areas receiving 150 to 200mm, which included North Warwickshire.

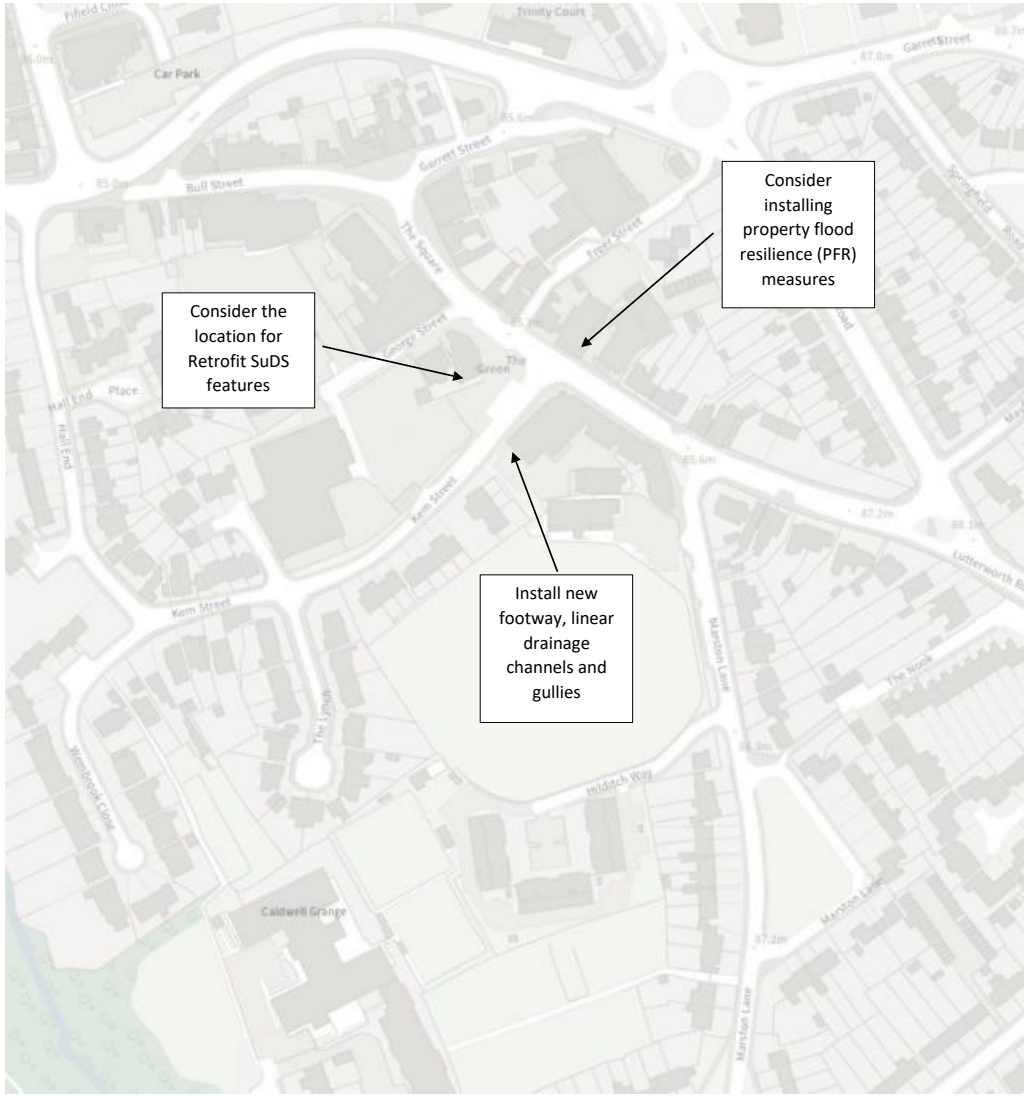
As the flooding occurred in the evening, many businesses had already closed for the day and were vacant at the time of the flooding, meaning they could not take any action to prevent water from entering their business., however those that were present in Attleborough during the event could deploy property flood resilience measures or make efforts to remove water that had already entered the building.

The surface water was unable to drain away from the highway or from the large, paved areas outside of the businesses such as 'The Green' where the pavements slopes towards the shop fronts. Many of the businesses effected had minimal to no thresholds meaning water was able to enter easily and quickly.

What actions have been/are being taken?

No.	Action	Responsible party	Progress
1	Undertake surveys of the existing drainage network to ensure no blockages or defects	WCC Highways	Complete
		STW	Complete
2	Offer advice to residents that have been internally flooded from this event	LLFA	Complete
3	Ensure that Highway gullies are maintained/cleansed at an appropriate cyclical interval	WCC Highways	Ongoing
4	Install new linear drainage channels, gullies and footway	WCC Highways	Ongoing
5	Consider putting together a funding bid for a capital scheme	LLFA	Ongoing
6	Consider the locations suitability for the installation of retrofit SuDS	LLFA / WCC Highways	Ongoing

What are the future opportunities that may reduce flood risk in this location?



5.1 Appendix C– Glossary of terms

Return Period	This is a technical measure used to indicate how rare and extreme a given rainfall event is. Generally light showers resulting in small water volumes are quite common whereas heavy or prolonged rainfall events resulting in very large volumes of water are rarer. On this basis, the return period quantifies this by giving the probability of a given rainfall event occurring in any given year. For instance, a 1 in 2year event has a 50% or 1 in 2 chance of occurring in any given year and is therefore quite common and unremarkable. A 1 in 100year return period has a 1% or 1in100 chance of occurring in any year and is therefore rarer and more impactful.
Environment Agency (EA)	See Appendix D.
External flooding	Flooding of areas of property that are not under the definition of internal flooding. Examples include gardens, driveways, parking areas and outbuildings such as sheds and garages.
Flood Risk Management (FRM)	FRM aims to reduce the likelihood and/or the impact of floods. This typically includes the following elements: prevention, protection, preparedness, response and recovery. In the context of this report, FRM also refers to the team at WCC which undertakes the LLFA role.
Exceedance flows	Excess surface water flow that occurs when the capacity of the drainage system is exceeded.
Flood and Water Management Act 2010 (FWMA)	Legislation which came into effect in April 2010. The Act takes forward a number of recommendations from the Pitt Review into the 2007 floods and placed new responsibilities on the Environment Agency, local authorities and property developers (amongst others) to manage the risk of flooding.
Internal flooding	Flooding of habitable living or business areas of a property. This does not include gardens and outbuildings such as sheds, garages etc. and not normally basements and porches.
Lead Local Flood Authority (LLFA)	See Appendix D.
Pluvial or surface water flooding	Caused by rainfall exceeding the capacity of the ground or drainage system and occurs due to water ponding on or flowing over the ground surface before it reaches a drain or watercourse.
Property Flood Resilience (PFR) measures	Measures that are designed to keep flood water out of properties and businesses, and could include flood barriers and doors, non-return valves and airbrick covers. Sometimes also known as Property Level Resilience (PLR).
Risk management authority (RMA)	An authority which is defined as such in the Flood & Water Management Act 2010. Such authorities have powers that they can use to carry out their flood and

	coastal erosion risk management responsibilities. See Appendix I for a summary of these responsibilities.
Risk of Flooding from Surface Water map (RoFSW)	National-scale long-term risk mapping on gov.uk website showing the areas of England at risk of flooding from surface water. Extent, velocity and depth information is available for a range of flood probabilities.
Section 19 Flood Investigation	An investigation of a flood event by the Lead Local Flood Authority under Section 19 of the Flood and Water Management Act 2010.
Severn Trent Water (STW)	See Appendix D.
Warwickshire County Council (WCC)	See Appendix D.

5.2 Appendix D – Risk Management Authorities

Risk Management Authorities (RMAs) have defined roles and responsibilities with regards to flood risk management, as defined within the Flood and Water Management Act 2010.

All RMAs under the Flood and Water Management Act (2010) have a responsibility to cooperate and coordinate with regards to their flood risk management functions, including raising awareness of flood risk and the sharing of information.

The section below outlines the key roles and responsibilities of the RMAs relevant to this Section 19 flood investigation.

5.2.1 Environment Agency

The Environment Agency (EA) is responsible for taking a strategic overview of the management of all sources of flooding and coastal erosion in England and Wales. They have prepared strategic plans which set out how to manage risk, provide evidence (for example, their online flood maps), and provide advice to the Government.

They provide support to the other RMAs through the development of risk management skills and provide a framework to support local delivery. The EA also has operational responsibility for managing the risk of coastal erosion and flooding from main rivers, reservoirs and the sea. Main Rivers are defined through an agreed map which is updated annually. These tend to be the larger rivers in the country.

The EA are category 1 responders regarding flood risk (Civil Contingencies Act 2004). They are required to warn and inform of flood risk.

5.2.2 Water and sewerage companies

Severn Trent Water (STW) holds responsibility for managing risks of flooding from water supply and sewerage within the majority of Warwickshire. Thames Water have a small area of responsibility in the south of the county.

Water and sewerage companies (WaSCs) as category 2 responders to national emergencies placing on them duties to share information with other responders in an appropriate manner. They are also responsible for managing risks associated with assets or processes that may cause or be affected by flooding.

Relevant actions include the inspection, maintenance, repair and any works to their water and sewerage assets which typically includes pipes, manholes, attenuation tanks or other infrastructure such as pumping stations.

5.2.3 Warwickshire County Council as Lead Local Flood Authority

Lead Local Flood Authorities (LLFA) have the lead operational role in managing the risk of flooding from surface water and groundwater.

Flood risk management functions include (but are not limited to); the provision of a Local Flood Risk Management Strategy (LFRMS) and Surface Water Management Plan, designation and maintenance of a register of structures or features that have a significant effect on flood risk, consenting and enforcement works on Ordinary Watercourses, undertaking works to mitigate surface water and groundwater flooding and undertaking Section 19 investigations.

The LLFA are a statutory consultee on major planning applications for surface water drainage. By working with developers and local planning authorities, the LLFA role is to ensure that runoff arising from major development sites is appropriately managed to avoid increasing flood risk.

5.2.4 Warwickshire County Council as Highway Authority

WCC also has responsibilities as a Highways Authority which may relate to flooding. Highway authorities are responsible for providing and managing highway drainage which may include provision of roadside drains/ditches and must ensure that road projects do not increase flood risk.

The Highways Authority has a duty under the Highways Act 1980 to maintain existing highways drainage. They also have powers to improve drainage systems but no duty to do so.

Highway drainage systems are designed to take highway surface water. Highway drainage systems are not designed as “storm drains”, and do not have the capacity for the level of rainfall from an extreme flash flood.

5.2.5 District and Borough Councils

District and Borough Councils can carry out flood risk management works on ordinary watercourses. Through the planning processes, they control development in their area, ensuring that flood risks are effectively managed. This includes the development of plans and strategies to limit or mitigate development in flood risk areas.

Within Warwickshire there are 5 district/borough councils: Stratford-on-Avon District Council, Warwick District Council, Rugby Borough Council, Nuneaton and Bedworth Borough Council, North Warwickshire Borough Council.