Flood Investigation Report

Storm Henk

2nd January 2024

Sharnford

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17 SHARNFORD

Sharnford is a village in the Blaby District of Leicestershire, located approximately 6km to the east of Hinckley.

A formal investigation was not triggered for Sharnford because the source of the flooding is known. At the time of the flooding experienced as a result of Storm Henk, actions were already being progressed by RMAs seeking to alleviate future flood risk. For more information see the main Storm Henk report.

17.1 LOCAL DRAINAGE CONTEXT

The Soar Brook (an Environment Agency (EA) designated Main River) flows from west to east through the centre of the village (see Figure 17-1) and converges with the River Soar at Ordnance Survey National Grid Reference (OSNGR) SP 48783 91959, immediately to the east of the village. The responsible agency for managing the risk from Main Rivers is the EA. Details relating to RMA responsibilities can be found in Section 21 of the main Storm Henk report.

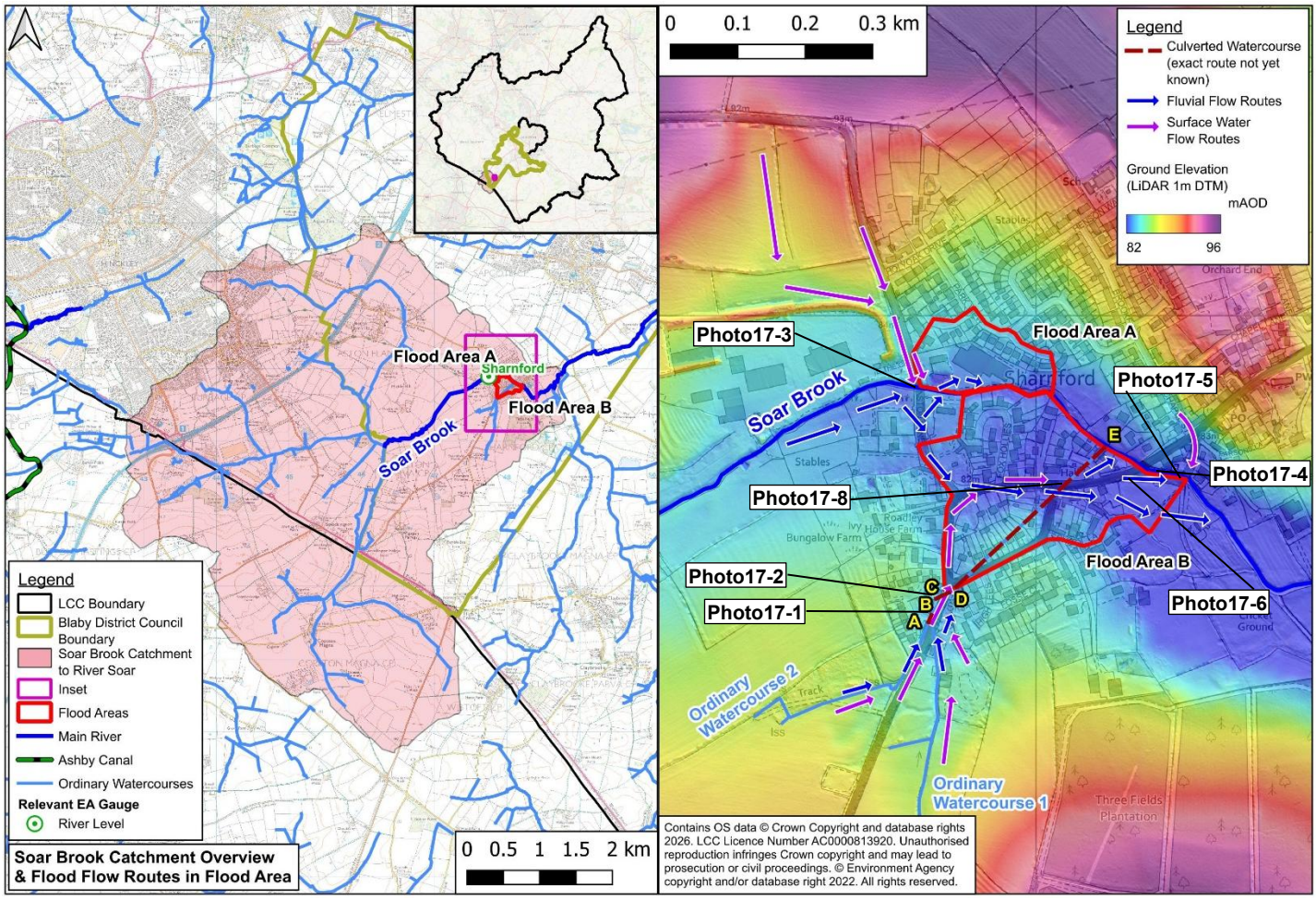


Figure 17-1: Sharnford Location Plan, relevant Watercourse Catchment and Flow Routes through Flood Areas (INSET 16)

An un-named Ordinary Watercourse 1 enters Sharnford from the south, draining rural land, flowing adjacent to the eastern side of the B4114 Leicester Road as illustrated in Figure 17-1 towards Coventry Road.

A second un-named Ordinary Watercourse 2 enters Sharnford from the south-west draining a smaller rural catchment, running adjacent to the western side of the B4114 Leicester Road. This is known to enter a 450mm diameter circular concrete highway culvert on the western side of Leicester Road and southern side of Butler Close at OSNGR SP 47840 91544 illustrated as Location A in Figure 17-1. It reappears as an open channel on the northern side of Butler Close (illustrated as Location B in Figure 17-1 and depicted in Photograph 17-1). This continues as an open channel for approximately 30m then falls into a 450mm dia culvert inlet (illustrated as Location C in Figure 17-1 and depicted in Photograph 17-2) and is conveyed under the B4114 highway at OSNGR SP 47848 91565. The watercourse remerges as an open channel discharging into Ordinary Watercourse 1 on the eastern side of the B4114, south of the Coventry Road junction. Ordinary Watercourse 1 then sinks into what is understood to be a 600mm dia culvert inlet illustrated as Location D in Figure 17-1.

Photograph 17-1: Culverted Ordinary Watercourse 2 Outfall on northerns side of Butler Close (Location B)

Photograph 17-2: Culverted Ordinary Watercourse 2 Inlet west of B4114 Leicester Road (Location C)

Originally, Ordinary Watercourse 1 comprised an open watercourse that flowed along the length of Leicester Road before entering the Soar Brook adjacent to the Leicester Road ford, its length has been culverted and straightened over the years as properties were built on the former Sharnford 'green' and the road network was widened and upgraded. The historic route of Ordinary watercourse 1 is shown in Figure 17-2.

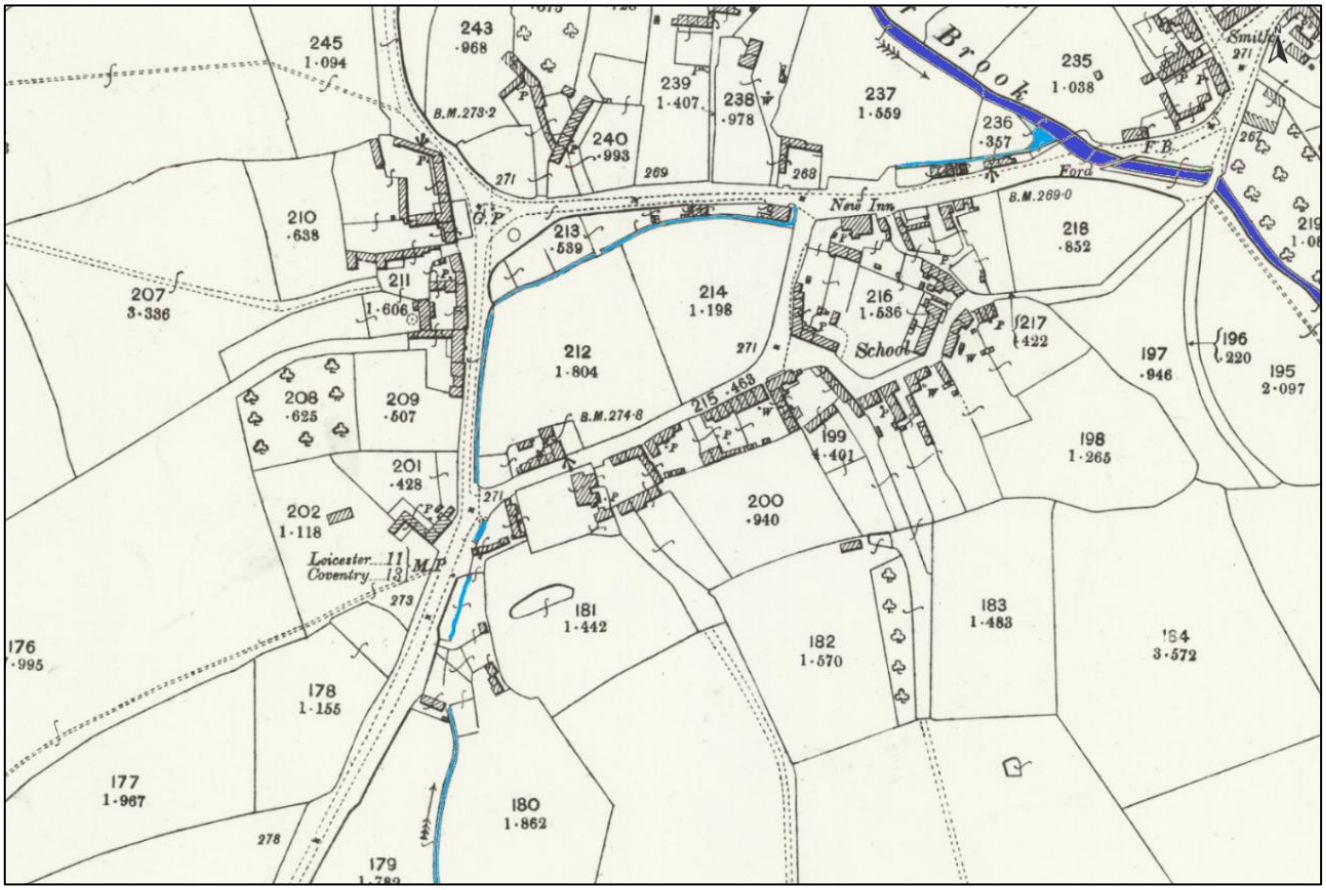


Figure 17-2: Known historic un-named Ordinary Watercourse 1 route - 1886 OS Survey Map (1:2 5inch)

Note that the route between Locations D and E presented in Figure 17-1 is assumed/straight-lined between the two points in the current OS MasterMap watercourse mapping. It is more likely, based upon this historic mapping and investigations to date, that if follows the route northwards from Location D beneath Coventry Road, then through private land south of Leicester Road and outfalls into Soar Brook between the Leicester Road bridge and Sharnbrook Gardens at Location E, as indicated in Figure 17-3. But the exact route along the whole length of the culvert has not been confirmed.

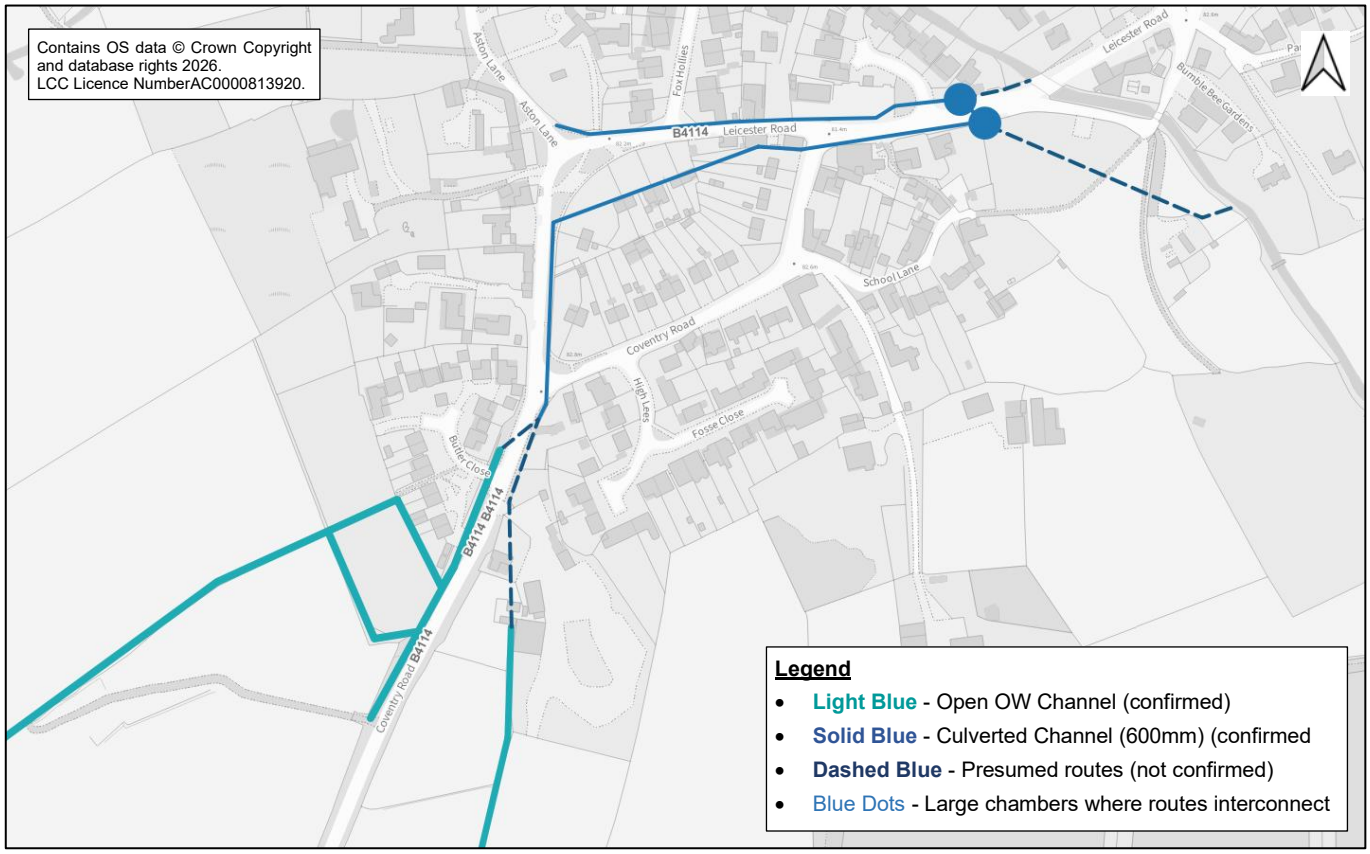


Figure 17-3: Assumed un-named Ordinary Watercourse open channels and culvert route to Soar Brook

A hydraulically significant structure which crosses Soar Brook is the Aston Lane bridge as depicted in Photograph 17-3. This comprises a concrete rectangular bridge opening with brick parapet walls.

Photograph 17-3: Soar Brook in Sharnford looking downstream towards the parapet wall of the Aston Lane bridge

Another significant structure which crosses the Soar Brook is the Leicester Road (B4114) bridge, constructed circa 1910 and illustrated in Photograph 17-4. It is a twin arch bridge structure that replaced the ford, from which Sharnford is believed to have derived its name. Anecdotally, the relatively shallow (albeit large) arches of the bridge are historically believed to have worsened flooding within Sharnford, by restricting the conveyance of flows in Soar Brook and causing water to back up and rise out of the channel onto adjacent land.

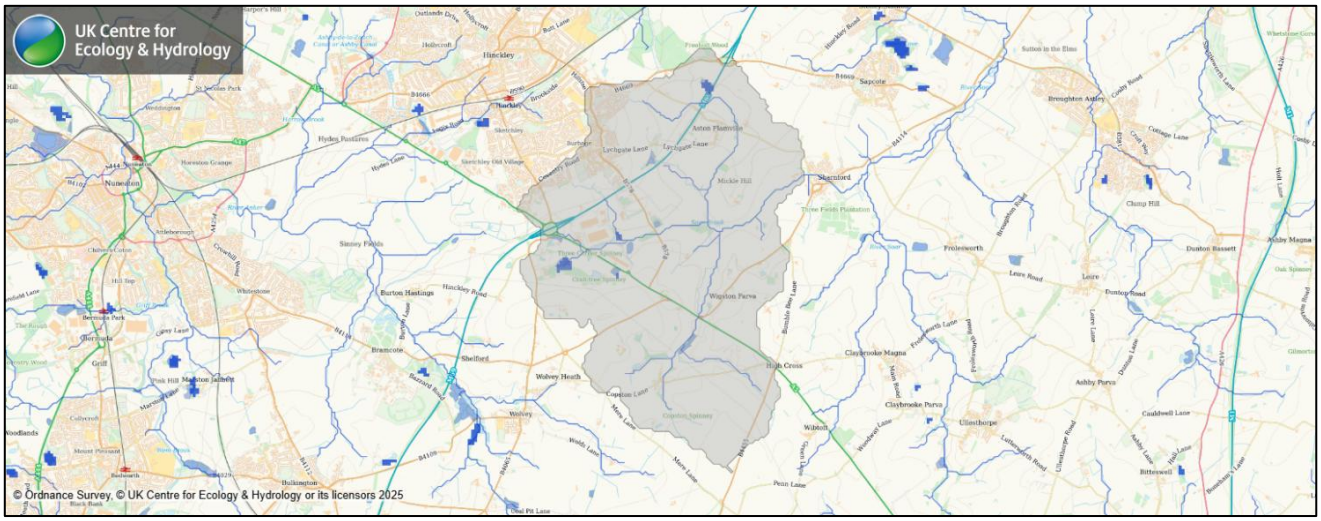
Photograph 17-4: Soar Brook in Sharnford looking upstream towards the downstream parapet wall of the B4114 Leicester Road bridge

Photograph 17-5: Soar Brook in Sharnford looking downstream towards the upstream parapet wall of the Chapel Street bridge and STW CSO outfall

The UKCEH FEH Web Service[1] provides strategic level catchment mapping for the area as illustrated in Figure 17-4. This identifies that Soar Brook drains a sub-catchment area of approximately 22.8km^2 to Aston Lane. The catchment includes Hinckley Park, the edge of Burbage and the rural catchment around Wigston Parva and Copston Magna. The catchment area further downstream at the River Soar increases to 23.7km^2.

The combined tributary catchment area of Ordinary Watercourses 1 and 2 is defined as joining the channel of Soar Brook at Aston Lane and has an area of 0.86km^2. However, the FEH Web Service is based upon a terrain model that does not account for modified channels resulting from culverting or integration into drainage networks. Interrogation of ground elevation data identified that the boundary between these two catchments west of Coventry Road is likely to reflect the actual routing mechanisms towards the culvert inlet at the southern side Coventry Road, with the north western region of the tributary catchment (circled in red) actually being part of the intervening lateral catchment of Soar Brook to the north.

1.



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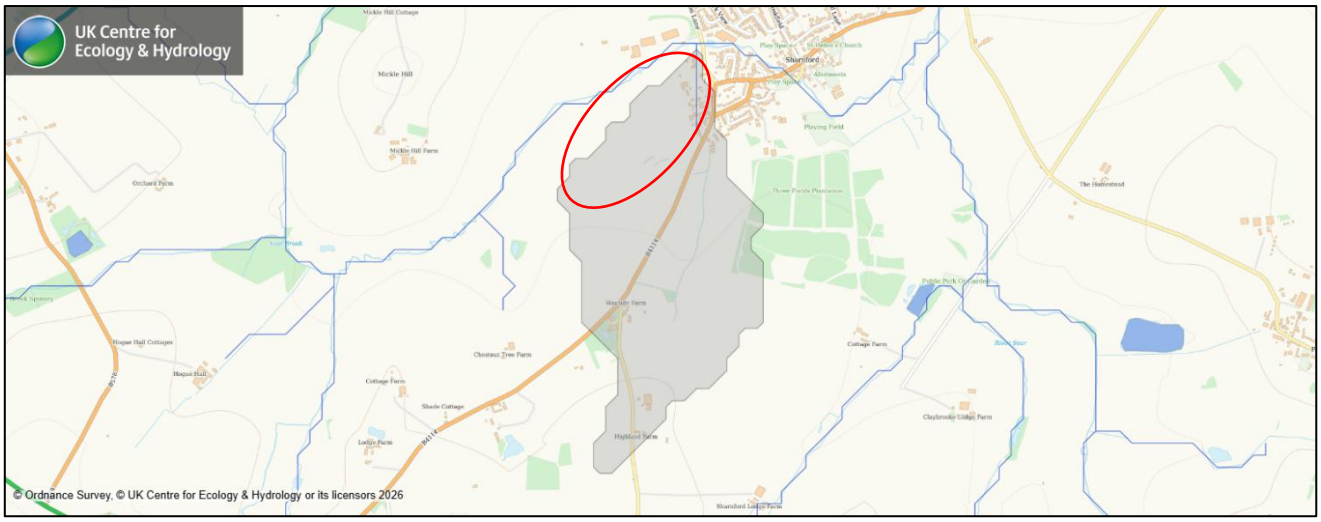


Figure 17-4: FEH Web Service Catchment Extents of Soar Brook at Aston Lane (1.) and combined un-named Tributary catchments (Ordinary Watercourses 1 and 2) (2.)

[1] Centre for Ecology & Hydrology (2026) FEH Web Service. https://fehweb.ceh.ac.uk/Map

17.1.1 GEOLOGY

The BGS online mapping system[2] indicates a mixed catchment draining to Sharnford. Bosworth Clay Member and Oadby Till Member dominate the immediate catchment, but a large area of sands and gravels dominate the head of the catchment around Wigston Parva and Copston Magna. Sharnford itself consists predominantly of Oadby Till Member, but with alluvium following the course of Soar Brook. Till is commonly known as boulder clay and is associated with poor permeability and low infiltration rates consequently resulting in moderate to high runoff rates.

17.1.2 NATIONAL SCALE PREDICTIVE FLOOD MAPPING

The EA provides flood risk mapping nationally for both rivers and surface water as detailed within Section 2.7.6 of the main Storm Henk report. The extents of EA Flood Map for Planning Flood Zones 2 and 3 (NaFRA2) associated with Soar Brook within the village (medium and high risk of river flooding respectively) are illustrated in Figure 17-5.

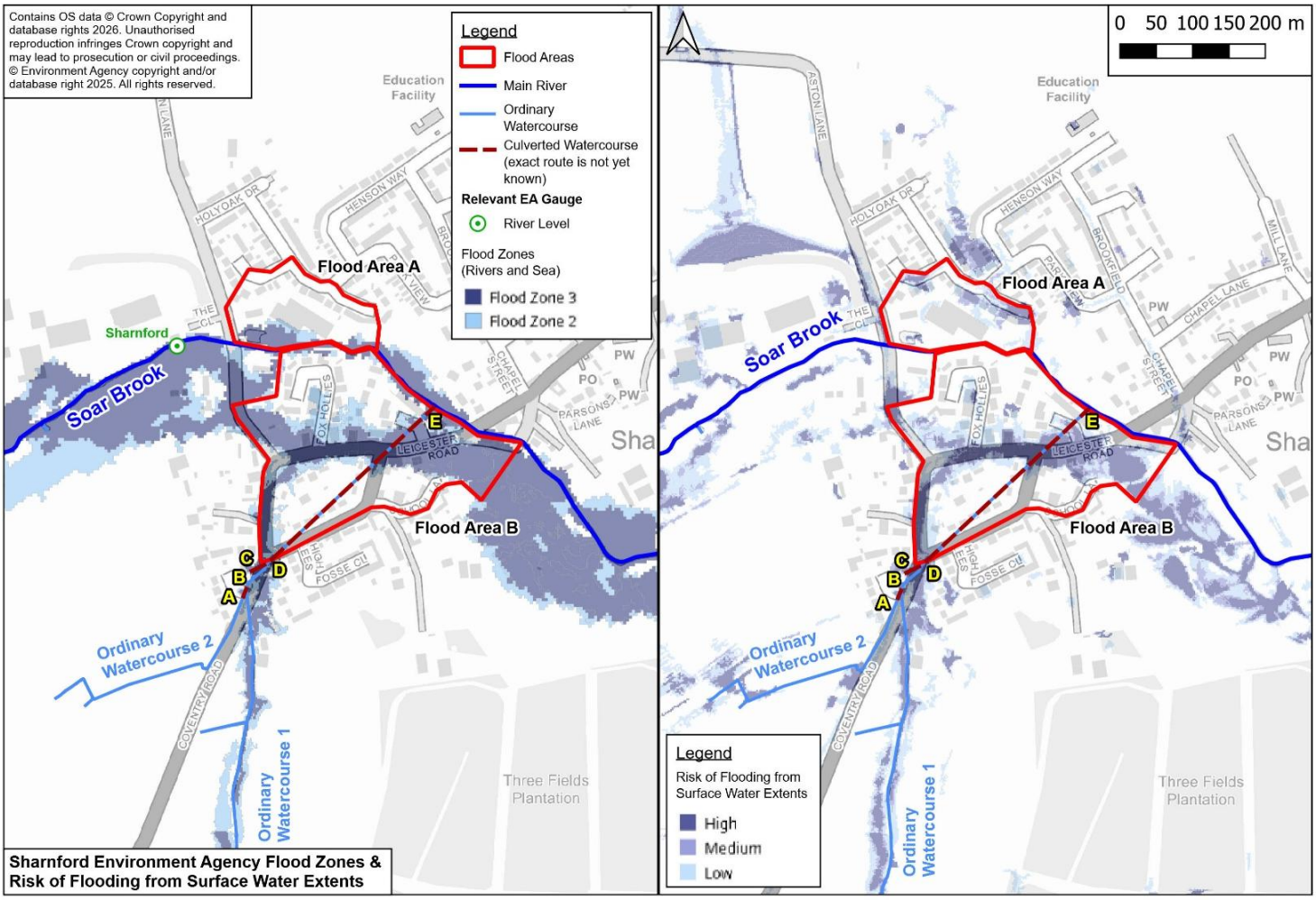


Figure 17-5: Sharnford EA Flood Map for Planning Flood Zones[3] and Risk of Flooding from Surface Water Extents[4] in Flood Areas (INSET 16)

[2] British Geological Survey (2026) BGS Geology Viewer. https://geologyviewer.bgs.ac.uk/
[3] Environment Agency (2026) EA Flood Map for Planning Flood Zones.. https://check-long-term-flood-risk.service.gov.uk/map
[4] Environment Agency (2026) Risk of Flooding from Surface Water map.. https://check-long-term-flood-risk.service.gov.uk/map

There are also areas of the village shown as having a high and medium and low risk of flooding on the strategic level Risk of Flooding from Surface Water (RoFSW) (NaFRA2) mapping as illustrated in Figure 17-5.

The key fluvial flow route identified from the Flood Zone map originates to the west of Sharnford following the Soar Brook corridor. Aston Lane and Leicester Road are the most heavily affected by this flow path, with properties around Sharnbrook Gardens identified as being at highest risk.

The RoFSW map illustrates similar flow routes at high and medium risk along Leicester Road through the centre of the village, at a low point along Aston Lane and along the B4114 in the southwest corner of the village along the line of the historical ordinary watercourse. This risk however can be exacerbated by localised ground elevation detail or drainage infrastructure limitations, which are not always represented within the high-level mapping.

17.1.3 FLOOD HISTORY

Sharnford has a long-recorded history of flooding deriving its name from *'Scerneford'* meaning 'muddy ford', due to the natural ford on the Soar Brook. Major local flood events are recorded in 1900, during the 22nd May 1932 'Great Flood', and through the 1950's to 1980's. Most of these events reported flooding around the Soar Brook.

The most recent notable flood event was in November 2012 when the Soar Brook reportedly caused internal flooding during intense rainfall. Properties were flooded along Leicester Road including the pub and a number of residential dwellings. The flooding extended to Sharnbrook Gardens and Aston Lane. Sharnford is also known to have flooded twice, but less extensively, in 2018.

17.1.4 EXISTING FLOOD RISK MANAGEMENT

There are several EA maintained flood risk management assets within Sharnford along the banks of Soar Brook, providing varying levels of protection to the community. These include:

- Immediately downstream of Aston Lane – engineered high ground.
- Downstream of Leicester Road - engineered high ground followed by natural high ground.

The EA maintain the Soar Brook from Aston Lane to the footbridge downstream of Bumble Bee Gardens and undertake the majority of the maintenance work occurring within the Soar Brook channel between Leicester Road and the Soar Brook Recreational Ground. Maintenance work includes:

- Annual maintenance check to walk the length of the Brook looked after by the EA and review what is required.
- Ad hoc removal of obstructions to the flow of water as they occur.
- Monthly check of a single surface water outfall behind the Leicester Road garage.

- Desilting as required. Prior to Storm Henk this was last performed in April 2022, which also removed some of the in-channel vegetation. It is programmed to happen 5-yearly subject to available resources.
- Spraying of the watercress in the channel occurs up to three times during the summer months from Leicester Road to just below Bumble Bee Gardens.
- Grass cuts of the banks from Leicester Road to Bumble Bee Gardens three times a year, with a further cut to downstream of Bumble Bee gardens if required.
- The section downstream of the Soar Brook Recreation Ground had vegetation and trees cut back September 2023 to assist with the conveyance of flows away from the village.

Following the November 2012 flood event, several flood mitigation options were considered by the EA (in addition to the existing flood risk management assets and Flood Warnings), but the only ones considered viable when considering costs and benefits were to manage the free passage of flow in the channel and to offer Property Flood Resilience (PFR) measures as protection to property owners. The EA delivered property level resilience measures to the highest risk properties in the village in 2015/2016.

Prior to Storm Henk, various investigations and works were carried out by Leicestershire County Council (LCC), as the Local Highways Authority (LHA), within Sharnford. Those of note include:

- In November 2018, cleansing and a survey of the culverted watercourse under the highway was undertaken;
- Multiple jobs responding to reports of blocked gullies and undertaking repairs where necessary;
- Engagement with landowners and STW on Park View due to property flooding.

17.1.5 HYDROMETRY

The EA monitors river levels along Soar Brook at a hydrometry gauge (Station Reference 4145 and named 'River Soar') located upstream of Aston Lane (OSNGR SP 47750 91890), as illustrated in Figure 17-5. Observed river levels (water level in metres above the gauge station datum (mASD)) from 12:00hrs on 1st January 2024 to 00:00hrs on 5th January 2024 are illustrated in Figure 17-6.

During Storm Henk, this gauge recorded its highest ever level. The peak river level in the brook, recorded as 1.79mASD, occurred at 19:15hrs on 2nd January 2024. The previous highest recorded river level was 1.75mASD which occurred in November 2012.

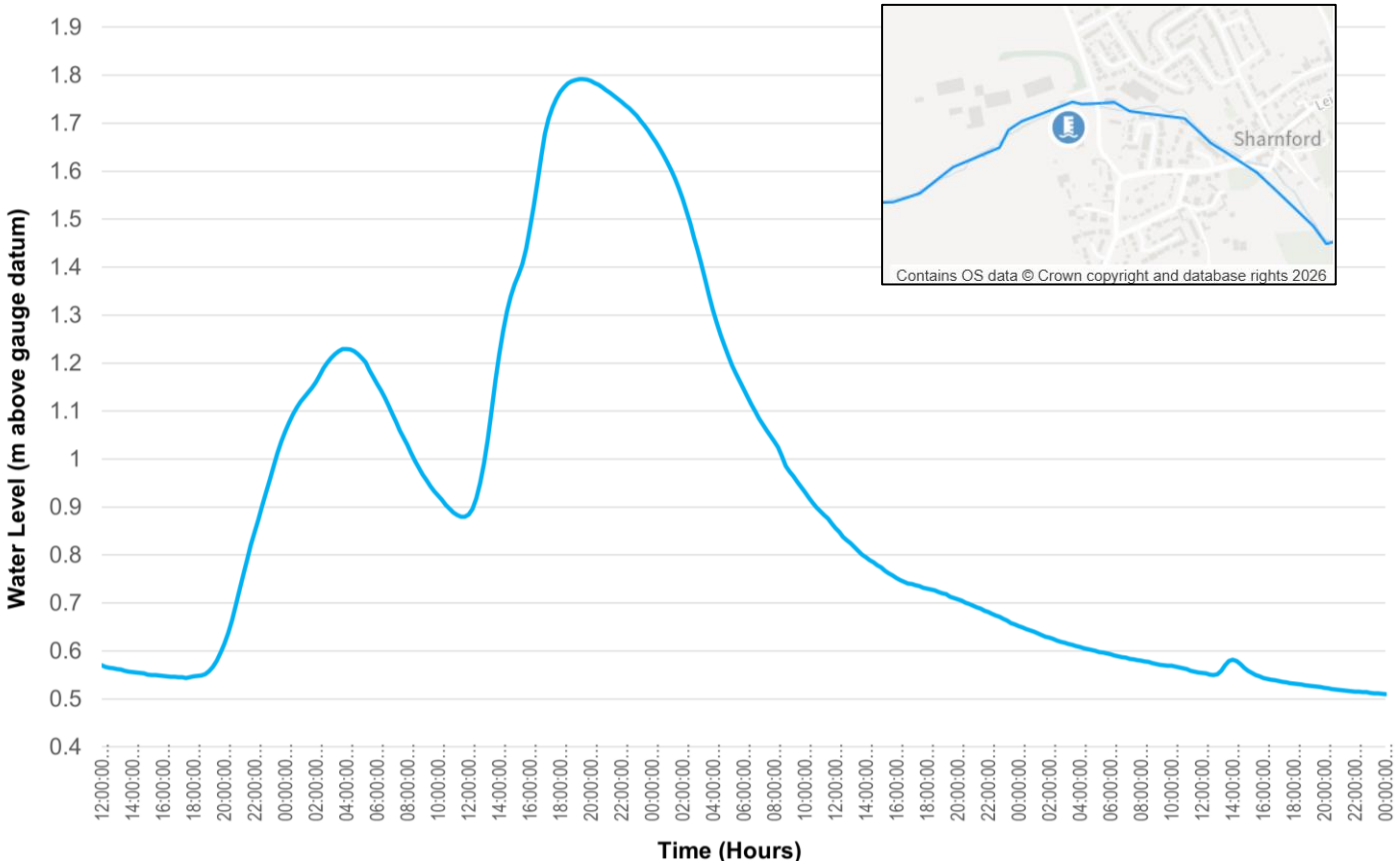


Figure 17-6: River Soar (Soar Brook) Sharnford Gauge (Station ID 4145[5]) Water Level from 12:00 hours on 01/01/2024 to 00:00 hours on 05/01/2024

17.1.6 FLOOD WARNINGS

There is a Flood Warning service in place for Sharnford covering the focus Flood Areas. According to the EA the take up rate for this service prior to Storm Henk was around 76%. A Flood Warning was issued to the community for the River Soar at Sharnford including Croft Mill (EA Code: 034FWFSOSHRNFRD)[6] on 2nd January 2024 at 16:54hrs.

[5] Defra (2026) Hydrology Data Explorer – River Soar at Sharnford river level gauge https://environment.data.gov.uk/hydrology/station/9bf22eaf-cf37-4630-97fd-c932234cbacf

[6] Environment Agency (2026) River Soar at Sharnford including Croft Mill flood warning area. https://check-for-flooding.service.gov.uk/target-area/034FWFSOSHRNFRD

17.2 WHAT HAPPENED AND WHY?

WHO OR WHAT WAS AFFECTED?

17 properties reported as internally flooded

At least 5 properties reported as externally flooded

The main source of flooding affecting Sharnford was from the Soar Brook which overspilled its banks during the hours of 18:00 on 2nd January 2024 and 10:00 on 3rd January 2024 as the channel capacity was exceeded, particularly at the two key bridges; one located along Aston Lane (Photograph 17-3), and one along Leicester Road (Photograph 17-4). Water flowed across adjacent land into the industrial estate north of the river, and primarily to the south of the river (Flood Area A and Flood Area B respectively as illustrated in Figure 17-1).

There were also some issues caused by overland flow of surface water onto the highways generated from higher elevated land within the upper regions of the lateral catchment to the north and south. The Parish Council reported this as being caused by run-off from the already sodden fields, which were saturated from previous heavy winter rainfall. However, this flow mechanism is considered much less significant in scale relative to the river flooding mechanism affecting the village.

17.2.1 FLOOD AREA A

Flood Area A consists of some industrial units off Aston Lane, located immediate adjacent and to the north of the Soar Brook channel. It is reported that the industrial units were flooded from river water that had got onto Aston Lane. The flood water rejoined the Soar Brook channel adjacent to the industrial units.

Preliminary investigations indicate that the water left the Soar Brook channel at the Aston Lane bridge due to capacity constraints under this structure (i.e. the structure struggles to convey the flow in significant flood conditions). Anecdotal reports suggest the flood depths on Aston Lane reached approximately 1 metre and impacted three businesses internally.

The reports received also detailed that surface water flow was flowing downhill from the first bend north of the village along Aston Lane, and flowing southwards over fields to the west, which is similar to that illustrated in the EA's RoFSW map (Figure 17-5). Anecdotal reports were also made of cars and lorries from the industrial development in Brindleys Yard driving through knee-deep water which created bow waves and exacerbated internal flooding to the businesses. This flood water was conveyed south following the local ground levels along Aston Lane into Flood Area B.

Anecdotal reports were also received after Storm Henk of debris, including discarded waste materials, tyres etc in the Soar Brook between the Aston Lane and Leicester Road bridge potentially reducing flow rates and channel capacity.

No evidence has been received to suggest that there were any complete blockages of the channel which would have significantly impacted the flood extent. The EA has confirmed that access to this reach of the channel (which is privately owned) is extremely difficult and so can only be dealt with on an ad-hoc basis (and is not currently on a regular maintenance regime).

The EA confirmed that following an inspection in February 2024, while there was some silt along the open reach of the Soar Brook through the village, levels were insufficient to have had a significant impact on conveyance.

17.2.2 FLOOD AREA B

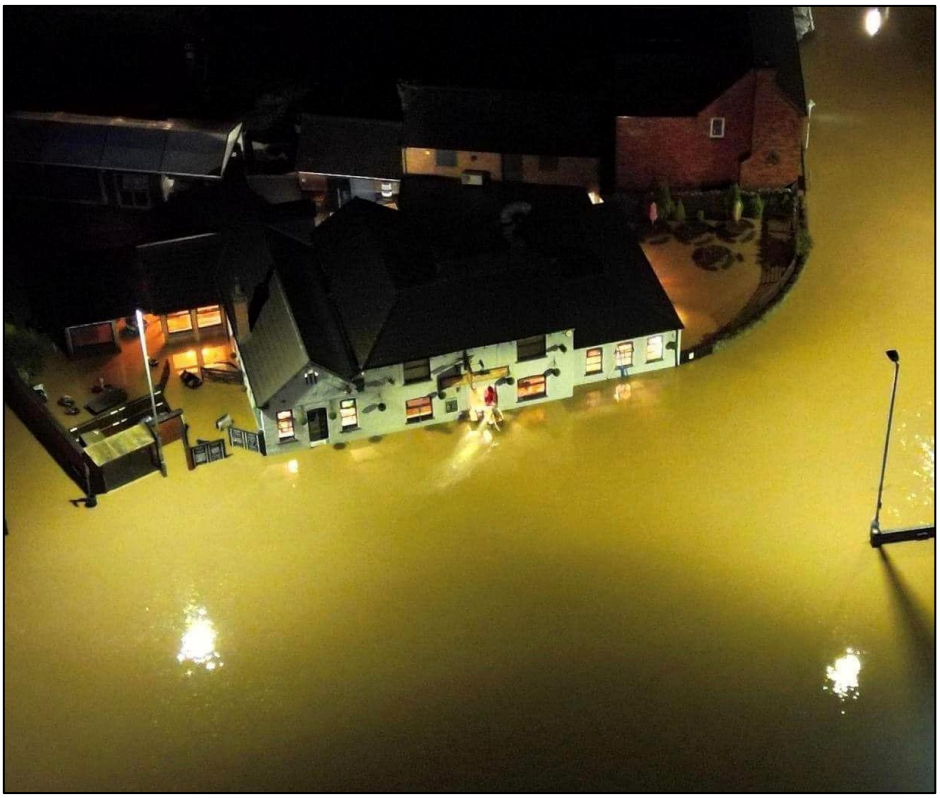
Flood Area B consists of the area to the south of the Soar Brook channel and includes the village centre; the most severely impacted part of Sharnford. Floodwater followed Aston Lane southwards, and proceeded along Leicester Road eastwards as depicted in Photograph 17-6, Photograph 17-7 and Photograph 17-8. Some of this water also flowed along Fox Hollies and Sharnbrook Gardens, and southwards along Coventry Road and School Lane.

Photograph 17-6: Highway flooding along Leicester Road looking westwards from north-eastern corner of Soar Brook Recreation Grounds[7]

[7] Sharnford Parish Council (2024) Facebook post. https://www.facebook.com/sharnfordparishcouncil/posts/please-avoid-sharnford-village-as-its-flooded-use-other-routes/768055202027607/

Credit: Fosse 107 Facebook page

Photograph 17-7: Drone Footage of Flooding in Sharnford Village Centre



Photograph 17-8: Aerial view of flooding in the vicinity of the Bricklayer Arms Public House, Leicester Road on 2nd January 2024[8]

[8] The Bricklayers (5th January 2024) Facebook post. https://www.facebook.com/thebricklayerspub/posts/thank-you-sharnford-we-are-so-grateful-for-the-support-and-help-we-have-received/878154660983234/

The culverted Ordinary Watercourse 1 (illustrated as between Locations D and E in Figure 17-1) was anecdotally reported as being overwhelmed as the capacity was exceeded, causing water to flood out at the inlet (Photograph 17-2). Floodwater from this culvert was reported to have followed the lowest ground levels along Leicester Road, matching its historical route shown in Figure 17-2 and coinciding with areas of high risk illustrated in the EA's modelled Flood Zones and flow routes on the EA's RoFSW map shown in Figure 17-5.

High water levels within Soar Brook would have restricted the discharge from the outfall of Ordinary Watercourse 1 culvert and any highway drains connecting into it or out-falling into Soar Brook directly. This drainage infrastructure would have quickly become overwhelmed as their capacity became exceeded by the floodwater and resulted in water surcharging (flooding out of) gullies. This prevented water on the surface from draining away, compounding the inundation of the highways including Leicester Road, Coventry Road and School Lane.

Highway drainage networks are designed to accommodate limited rainfall events on the contributing area of highway itself, but not for any additional volumes of overland flow originating from land adjacent to the highways or overtopping onto them from watercourses, as appears to have occurred in Sharnford during Storm Henk.

The overland flow of water from Ordinary Watercourse 1, from adjacent land, from the highway itself and from the highway drainage network being unable to discharge, combined with the out-of-bank flows from the Soar Brook that proceeded south along Aston Lane then eastwards along Leicester Road. Highway drains were also anecdotally reported to have been blocked along School Lane. LCC LHA responded to reports of blocked gullies and promptly inspected and cleansed these.

The resultant flood depths exceeded the thresholds of at least fourteen properties across Fox Hollies, Leicester Road, Coventry Road, The Green, School Lane and Sharnbrook Gardens. Two of these properties on Fox Hollies reported flooding reaching skirting board height entering via doors, airbricks, floors, and drains backing up.

During the flood event the 'Sharnford Green Pumping Station' on Bumble Bee Gardens did not fail, but was overwhelmed when Soar Brook overspilled its banks onto Bumblebee Gardens due to overland surface water flows originating on Chapel Street/Bumblebee Gardens. A Combined Sewer Overflow (CSO) discharging from the pumping station into Soar Brook is present upstream of the Chapel Street bridge, illustrated in Photograph 17-5. STW has confirmed that when the pumping station is overwhelmed, it has separate storm tanks on the network to provide extra capacity.

Following Storm Henk, residents also raised concerns to the EA regarding flood/sluice gates nearby not being opened on time which they thought may have caused the flooding. However, the EA has confirmed that there are no known formal flood gates/sluices in the area which could cause this.

17.3 WHAT HAS BEEN DONE?

A summary table of the actions undertaken by the relevant RMAs across Leicestershire since Storm Henk is provided in Section 2.7 of the main Storm Henk report. A summary table of actions and any relevant next steps specific to Sharnford is provided in Section 17.4.

Whilst the actions from this investigation will help to reduce flood risk, communities should also take steps to be prepared for future flooding, especially with climate change increasing the risk of occurrence. More information about personal and community preparedness can be found in Section 21.8 of the main Storm Henk report.

Whilst the actions from this investigation will help to reduce flood risk, communities should also take steps to be prepared for future flooding, especially with climate change increasing the risk of occurrence. More information can be found in Section 21.8 of the main Storm Henk report

17.4 SHARNFORD ACTIONS

The following actions will be monitored by Leicestershire County Council (LCC) Lead Local Flood Authority (LLFA) through their local coordination role. This action plan is live and will be subject to change as actions are progressed.

Actions taken during and in the immediate aftermaths of the event, such as the closure of roads and set-up of rest centres are not detailed. Further details on RMAs and their roles, and how they work in partnership, can be found in the Leicestershire Local Flood Risk Management Strategy[9].

17.4.1 SHORT-TERM ACTIONS (0 - 6 MONTHS)

ACTION	ACTION DETAIL	LEAD RMA	CURRENT STATUS
Henk Flood Recovery Framework Support	Blaby District Council (BDC) administered the National Flood Recovery Grant tax relief, business rates relief and also one-off sums of funding to affected homeowners in the immediate aftermath of Storm Henk.	BDC	Complete
Community Drop-in Sessions	A number of public flood drop-in sessions were arranged and attended by all RMAs including EA, BDC, LCC Local Highway Authority (LHA), LCC LLFA and the Local Resilience Forum (LRF). The aim of these sessions was to better understand what happened after the flood events but also to promote flood resilience for future events.	EA, BDC, LCC LHA, LCC LLFA and LRF	Complete Following Storm Henk five drop in events were arranged in Loughborough, Blaby, Melton and Syston.
Henk Property Flood Resilience Repair Grants	LCC LLFA administered the National Flood Grant for Property Flood Resilience on behalf of DEFRA following Storm Henk. Two applications were received and processed.	LCC LLFA	Complete

[9] Leicestershire County Council (2024) Leicestershire Local Flood Risk Management Strategy - https://www.leicestershire.gov.uk/environment-and-planning/flooding-and-drainage/lead-local-flood-authority/flood-risk-management

<table>
<tr><th>ACTION</th><th>ACTION DETAIL</th><th>LEAD RMA</th><th>CURRENT STATUS</th></tr>
<tr><td>Highway Asset Maintenance</td><td>Completed targeted gully cleansing (in addition to routine maintenance) after Storm Henk across Sharnford (and many other affected parts of the County).

The data collected from this process was used to help reprioritise gully cleansing in flood affected areas. The specific roads pertaining to Sharnford as detailed in the table below were reviewed and the frequency of cleanse increased.

<table>
<tr><th>Street</th><th>Original Priority</th><th>Area</th><th>New Priority</th></tr>
<tr><td>Henson Way</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Buckinghams Way</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Fox Hollies</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Park View</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Sharnford Gardens</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Bumble Bee Gardens</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Willowbrook Close</td><td>P1</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>High Lees</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
<tr><td>Chapel Street</td><td>P2</td><td>Sharnford</td><td>P1</td></tr>
</table>
Priority (P) 1 – Cleansed every 10 months, P2 – Cleansed every 20 months

Investigate the gully in the bus stop at the eastern side of Sharnbrook Gardens.</td><td>LCC LHA</td><td>Complete</td></tr>
</table>

17.4.2 MEDIUM-TERM ACTIONS (6 - 12 MONTHS)

None.

17.4.3 LONG-TERM ACTIONS (12 MONTHS +)

ACTION	ACTION DETAIL	LEAD RMA	CURRENT STATUS
Henk Property Flood Resilience Repair Grants	LCC LLFA administered the National Flood Grant for Property Flood Resilience on behalf of DEFRA following Storm Henk. 9 applications were received and processed from 17 eligible properties.	LCC LLFA	Complete
Investigate Route and Condition of Ordinary Watercourse Culvert	LCC LLFA to consider completion of CCTV survey and tracing of the route of the Ordinary Watercourse culvert if appropriate.	LCC LLFA	Ongoing