Long Preston

Infiltration Reduction Plan

Last Updated: October 2026



United Utilities

Water for the North West

Executive summary

Long Preston is currently in the monitoring stage (see Figure 1) to address infiltration and reduce spills at the Long Preston Wastewater Treatment Works Storm Overflow. An initial desktop assessment concluded that infiltration was possible. CCTV surveys confirmed the presence of infiltration in the network and interventions were completed in spring 2025. Additional CCTV surveys were completed in 2025 and found no further presence of infiltration.

As groundwater infiltration has been found but is yet to be confirmed as a leading cause of spills to environment, interventions have been completed to address the localised infiltration identified during the 2024 surveys. As more is known on the results of the interventions, this Infiltration Reduction Plan will be updated accordingly.

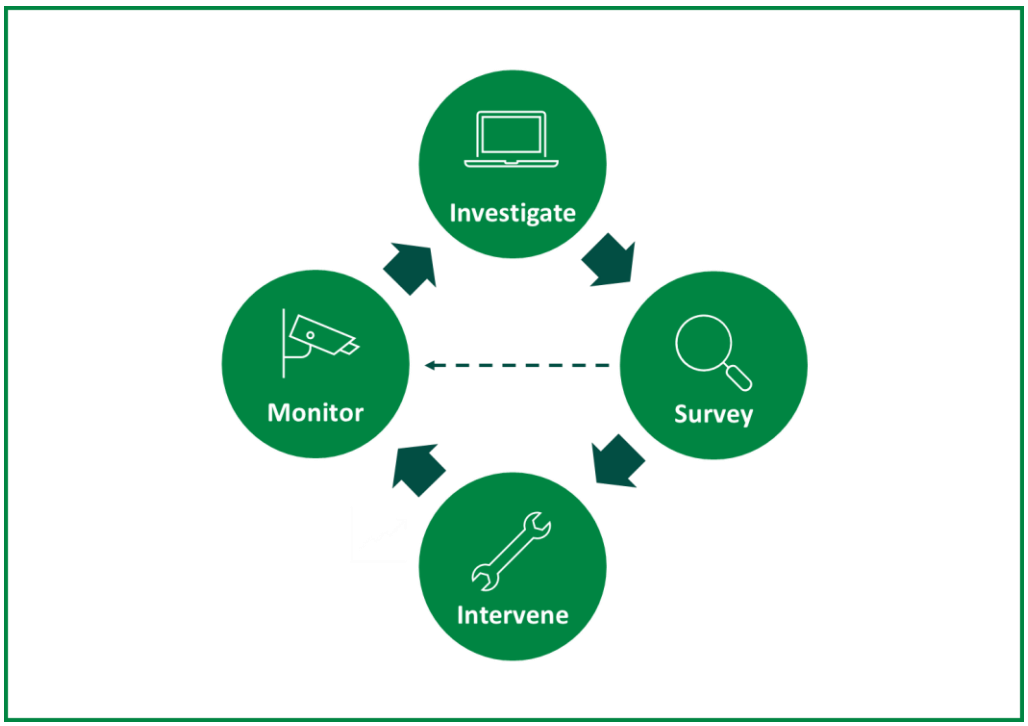


Figure 1: Iterative process to investigate, identify and address ground water infiltration

Context

Sometimes, water can enter our wastewater pipes, for which they were not designed to receive. One source of these additional flows can be groundwater infiltration which can occur through pipe defects, leaky joints, or issues with manholes. Extra water in the network can cause the sewer capacity to be exceeded, leading to sewer flooding or contributing to storm overflow activations.

As part of our ongoing work to maintain an effective network and achieve Better Rivers for the North West, our Infiltration Reduction Plans demonstrate our efforts to date and next steps to address infiltration and inflows in the catchment. This plan covers the Long Preston drainage area and its associated overflow, Long Preston Wastewater Treatment Works Storm Overflow. Infiltration has been identified as a potential leading cause of the storm overflow discharging. The purpose of this plan is to capture the process to investigate, identify, and address significant groundwater infiltration.

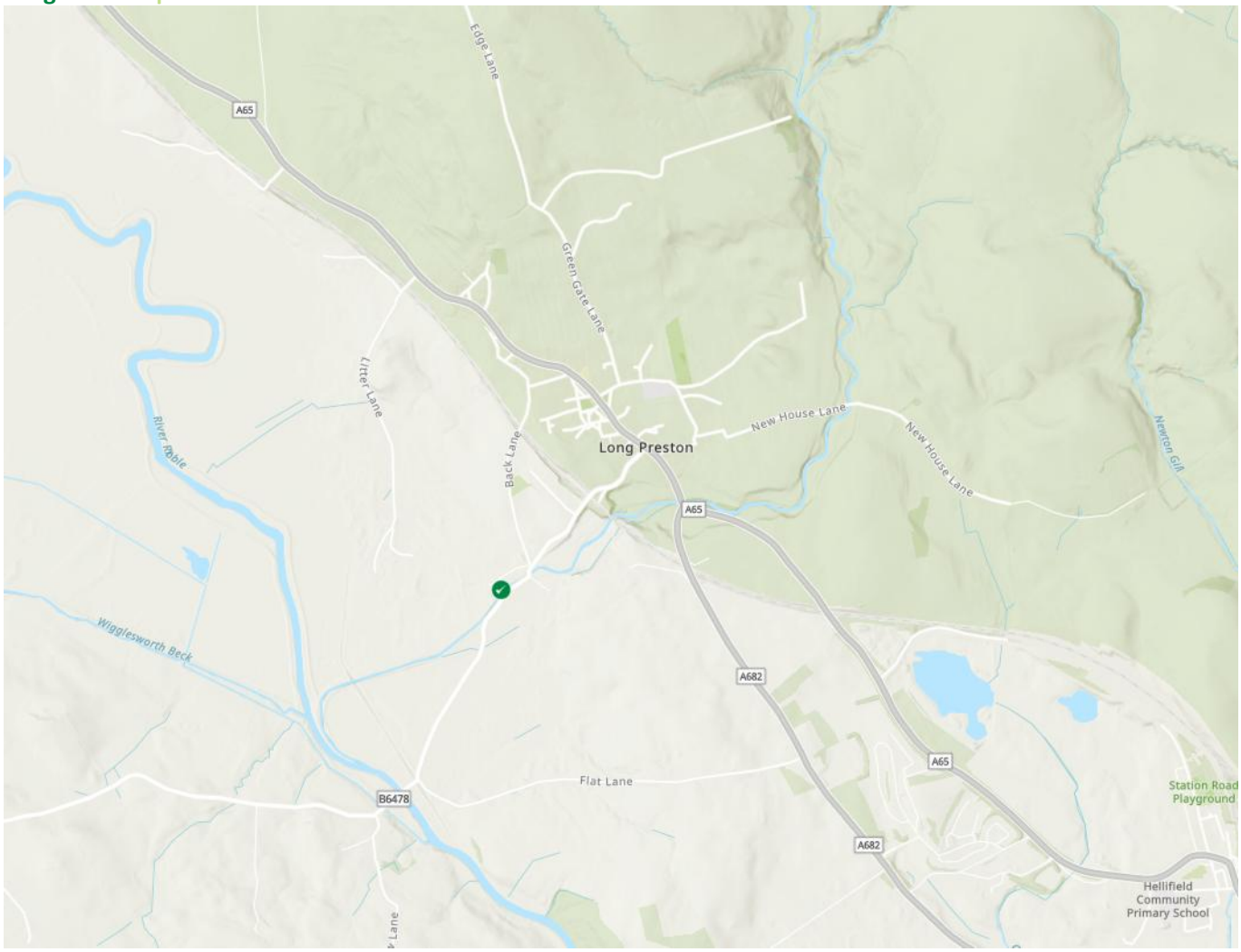


Figure 2: United Utilities – Better Rivers – Storm Overflow Map (October 2024). The green dot marks the Long Preston Wastewater Treatment Works Storm Overflow

Long Preston lies in the Ribble Valley, east of the Forest of Bowland. The Long Preston floodplain is situated just east of the River Ribble.

Investigation

An initial desktop study was undertaken using available data to understand the extent of infiltration in the sewer network of the drainage catchment. The following data (where available) was analysed to determine the scale and location of potential infiltration:

- Relevant flow and depth data
- Operational information
- MCERTS Data
- Hydraulic models of the catchment
- River Levels
- Groundwater (borehole) data
- Spill analysis
- Topographical and Sewer maps

The assessment found indication of seasonal baseflow; this could indicate rainfall-driven flow. The assessment also identified a sewer crossing Long Preston Beck. It is possible that flow from the watercourse could enter the sewer network through structural defects.

From these findings, it was recommended that CCTV surveys be completed to see if there was infiltration from the watercourse into the sewer network. The CCTV surveys could also identify if there was land drainage connected into the sewer, which would be assessed for removal.

Survey

342 metres of CCTV surveys were completed in autumn 2024. The CCTV surveys were assessed using artificial intelligence (AI) to rapidly identify and locate points of infiltration requiring remedial works. This was then reviewed by an engineer and assessed for any required remedial works. The presence of infiltration was found, as well as encrustation, indicating historical groundwater infiltration. Remedial works were recommended to seal the network from infiltration.

Checks were also carried out on all lateral connections; none are suspected of receiving flows not bound to receive.

Further CCTV surveys were completed in 2025. They found no presence of infiltration and, consequently, no additional remedial work was required.

Intervention

Following the 2024 surveys, remedial work was carried out in summer 2025 to reduce groundwater entering the sewer network. This involved installing a lining within 138 metres of sewer to improve its condition and help prevent infiltration.

Next steps

Long Preston is currently in the monitoring stage of our plan to identify and address infiltration (see Figure 1). We will continue to monitor the network to assess the effectiveness of the completed interventions and identify any new sources of infiltration should they arise.