

Burton and Sopley Infiltration Reduction Plan Summary

This provides an update on the last year's groundwater situation, what mitigation actions, if any, were taken and a summary of our action plan to prevent flooding due to groundwater infiltration of our sewer network.

April 2023 – March 2024

Regional Summary

The Wessex region experienced incredibly wet weather across 2023-24, with higher-than-average rainfall in nine months during the period. February 2024 was both the warmest on record and the wettest in 30 years, with the 12-month sequence to the end of February being the wettest since our records began in 1911.

Groundwater levels rose rapidly during the autumn, and whilst drier weather in January 2024 provided a brief reprieve, levels remained high for the majority of the winter.

[*Warmest February on record for England and Wales - Met Office*](#)

Local Summary

Ringwood Road, Sopley Sewage Pumping Station (SPS ID 15216) catchment was inundated for most of winter 2023/24 and multiple incidents due to inadequate hydraulic capacity (IHC) were reported. The Operational Mitigation Action Plan (OMAP) was instigated from November 2023 to January 2024 and February to April 2024. Stoney Lane SPS (ID 15042) also struggled during the winter, but no mitigation was required.

Action Plan

Annual Activity

Review asset and operational data and update annual reports.

Continue monitoring system performance using telemetry, rainfall records and local groundwater levels to inform the operational response during high-groundwater periods, and to monitor changing infiltration levels in the catchment.

Undertake pro-active cleaning (jetting) of sewers to maximise capacity.

Proactive inspections and maintenance of sewerage assets.

Completed

Updated the catchment hydraulic model.

Undertaken pumping station or flow surveys to analyse flows in sewers.

Used machine learning to predict flows in sewers and proactively identify blockages and other issues.

Installed in-sewer monitors at key locations to better understand flows in the network.

Inspected public sewer network to identify points of infiltration.

Completed (cont.)

Sealed sewers and manholes to prevent groundwater infiltration.

Reviewed incidents of sewer flooding.

Implemented a scheme to address capacity issues in the sewer network.

Short Term

Analyse flows in sewers using pumping station surveys, flow surveys and/or hydraulic modelling.

Use machine learning to predict flows in sewers and proactively identify blockages and other issues.

Install in-sewer monitors at key locations to better understand flows in the network.

Upgrade pumping stations where appropriate, to improve the reliability and performance of the site.

Medium Term

Undertake pro-active inspection of public sewers and manholes using CCTV to identify points of infiltration.

Infiltration sealing of sewers and manholes, where deemed cost-effective, targeting work according to study findings.

Long Term

Identify road gullies and other impermeable areas that are connected into the foul sewers.

Inspect private gullies, drains, and manholes where applicable.

Install permanent flow meters at key pumping stations to continuously record pump performance.

Consider sustainable solutions to rainwater management, for example above-ground attenuation and property-level interventions.

When Necessary

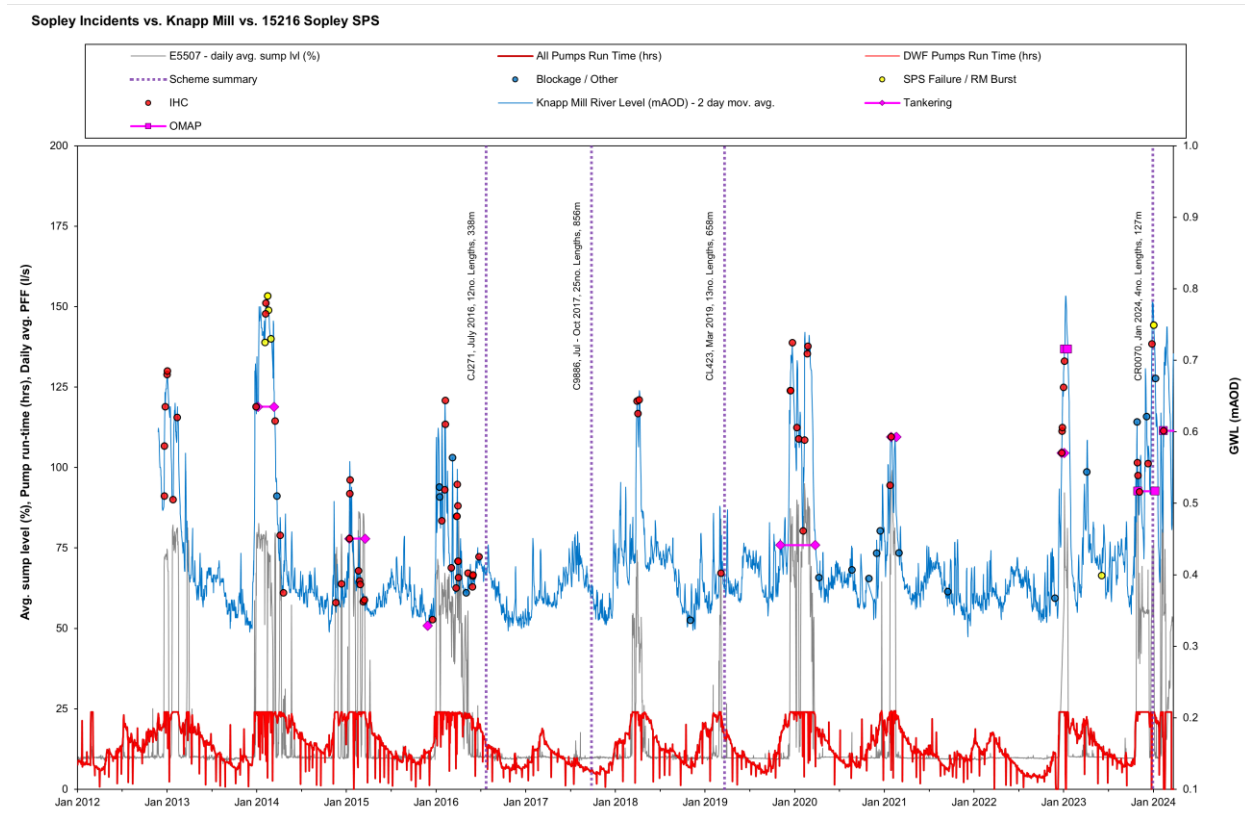
Implement emergency tankering procedure for preventing restricted toilet use and sewer flooding during high groundwater periods, in order to protect public health.

Implement Operational Mitigation Action Plan (OMAP) for discharging excess flows to the environment as a last resort, when tankering would not prevent restricted toilet use or sewer flooding, and public health is at risk.

Install sealed covers on manhole chambers vulnerable to overland flow or river water entering through the cover.

Current Performance

The graph below compares incidents attributed to Inadequate Hydraulic Capacity (IHC) and blockages against Knapp Mill River Level and Sopley Pump Station performance. The catchment is heavily affected by groundwater, which can be seen by long pump run periods during the winter months. Incidents due to IHC are regularly reported when the groundwater level is high. The number of incidents have reduced since 2016, however tankering and the Operational Mitigation Action Plan (OMAP) were implemented in the winters of 2019/20, 2020/21, 2022/23 and 2023/24 to mitigate the risk of flooding, loss of service and to protect public health.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	12,249	2,276	-	-	2,078
Length of sewer sealed (m)	1,909	13	-	2	127