Lower Stanton St Quintin 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

No incidents due to inadequate capacity were reported during this period however, there remains a correlation between pump actvity at Lower Stanton St. Quintin and local river levels. The operational mitigation action plan (OMAP) was not in required during the winter.

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.
Use machine learning to predict flows in sewers and proactively identify blockages and other issues.
Use specialist cameras to visually monitor critical assets.
Proactive inspections and maintenance of sewerage assets.

Completed
Installed in-sewer monitors at key locations to better understand flows in the network.
Updated the catchment hydraulic model.
Implemented a scheme to address capacity issues in the sewer network.
Undertaken pumping station or flow surveys to analyse flows in sewers.
Reviewed incidents of sewer flooding.

Completed (cont.)
Sealed sewers and manholes to prevent groundwater infiltration.
Inspected public sewer network to identify points of infiltration.
Installed permanent flow meters at key pumping stations to continuously record pump performance.
Undertaken pro-active cleaning (jetting) of sewers to maximise capacity.

Short Term
Implement a scheme to address capacity issues in the sewer network.

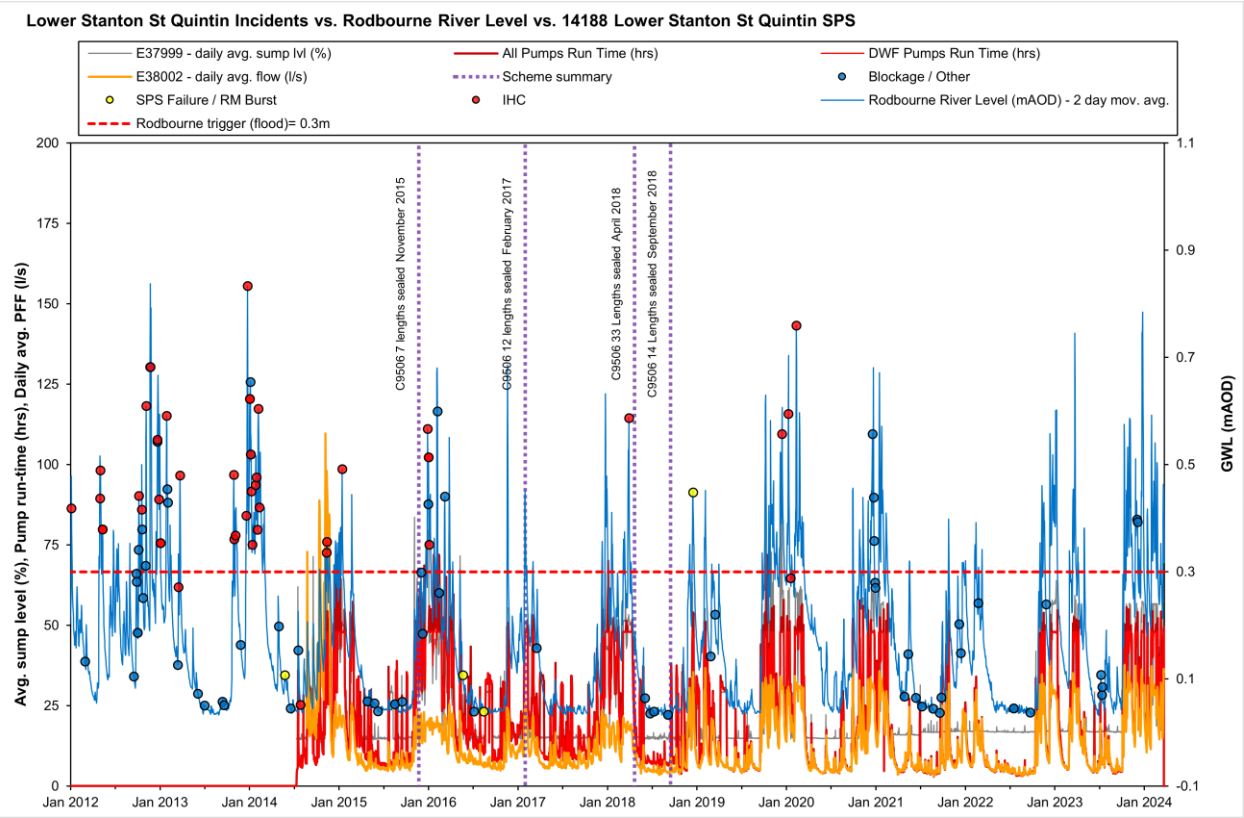
Medium Term
Analyse flows in sewers using pumping station surveys, flow surveys and/or hydraulic modelling.
Undertake review of incidents of sewer flooding suspected to be affected by groundwater infiltration.
Infiltration sealing of sewers and manholes, where deemed cost-effective, targeting work according to study findings.

Long Term
Undertake pro-active inspection of public sewers and manholes using CCTV to identify points of infiltration.
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.
Upgrade pumping stations where appropriate, to improve the reliability and performance of the site.
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.

Current Performance

This graph shows incidents against Rodbourne River level and the telemetry at Lower Stanton St Quintin Sewage Pumping Station (SPS). The number of reported incidents has reduced significantly since 2014, with extensive infiltration sealing undertaken between 2016 and 2019. However, there remains a clear correlation between river levels and pump activity, showing that infiltration is still an issue in the catchment.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	9,748	-	212	-	465
Length of sewer sealed (m)	2,301	-	-	-	374