Oaksey and Eastcourt 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

River levels at Great Somerford were above the historic flood level for a significant period of the winter. However, no incidents of flooding due to inadequate hydraulic capacity (IHC) were reported in the area.

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

Completed
Installed permanent flow meters at key pumping stations to continuously record pump performance.
Reviewed incidents of sewer flooding.
Installed sealed covers on manhole chambers vulnerable to overland flow or river water entering through the cover.
Updated the catchment hydraulic model.

Completed (cont.)
Upgraded pumping stations where appropriate, to improve the reliability and performance of the site.
Inspected public sewer network to identify points of infiltration.
Undertaken pumping station or flow surveys to analyse flows in sewers.
Sealed sewers and manholes to prevent groundwater infiltration.

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

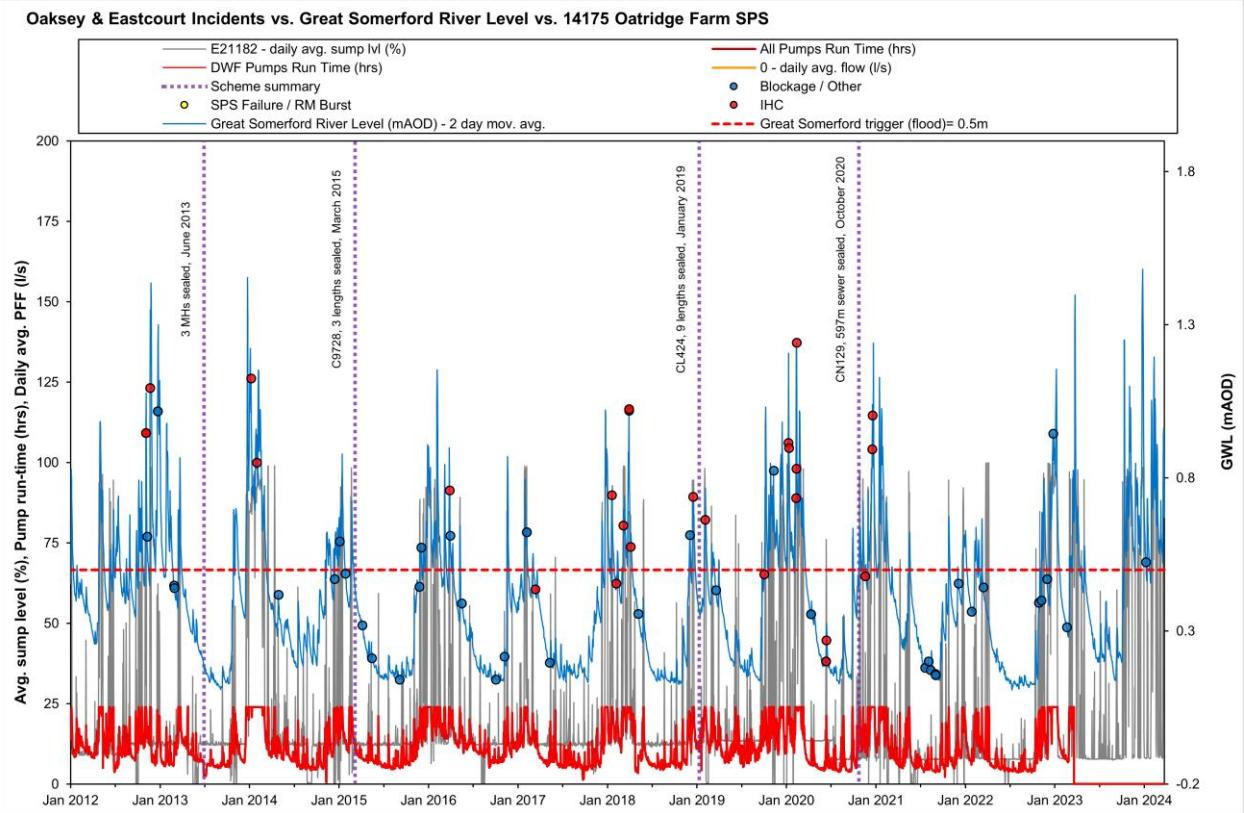
Medium Term
Undertake pro-active inspection of public sewers and manholes using CCTV to identify points of infiltration.
Analyse flows in sewers using pumping station surveys, flow surveys and/or hydraulic modelling.
Use machine learning to predict flows in sewers and proactively identify blockages and other issues.
Install in-sewer monitors at key locations to better understand flows in the network.
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.
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.

Current Performance

The graph below shows incidents against regional river level (as measured at Great Somerford river gauge) and Oatridge Farm Sewage Pumping Station (SPS) telemetry. Prior to the sewer sealing to prevent infiltration, there was a strong correlation between groundwater level and Oatridge Farm SPS performance. No incidents attributed to inadequate hydraulic capacity (IHC) were reported in 2022-2024 despite elevated river levels, particularly during the extremely wet winter in 2023/24. There remains a correlation between the rise in river level and telemetry at Oatridge Farm SPS potentially indicating further infiltration in the catchment, but the SPS was able to cope with inflows.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	6,314	1,319	1,029	123	1,845
Length of sewer sealed (m)	719	608	25	8	301