

Spring Gardens Frome 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

The groundwater levels in Spring Gardens, Frome were exceptionally high in winter 2023/24 however, only one incident attributed to Inadequate Hydraulic Capacity (IHC) was 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.

Proactive inspections and maintenance of sewerage assets.

Completed

Reviewed incidents of sewer flooding.

Updated the catchment hydraulic model.

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.

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

Short Term

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

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.

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.

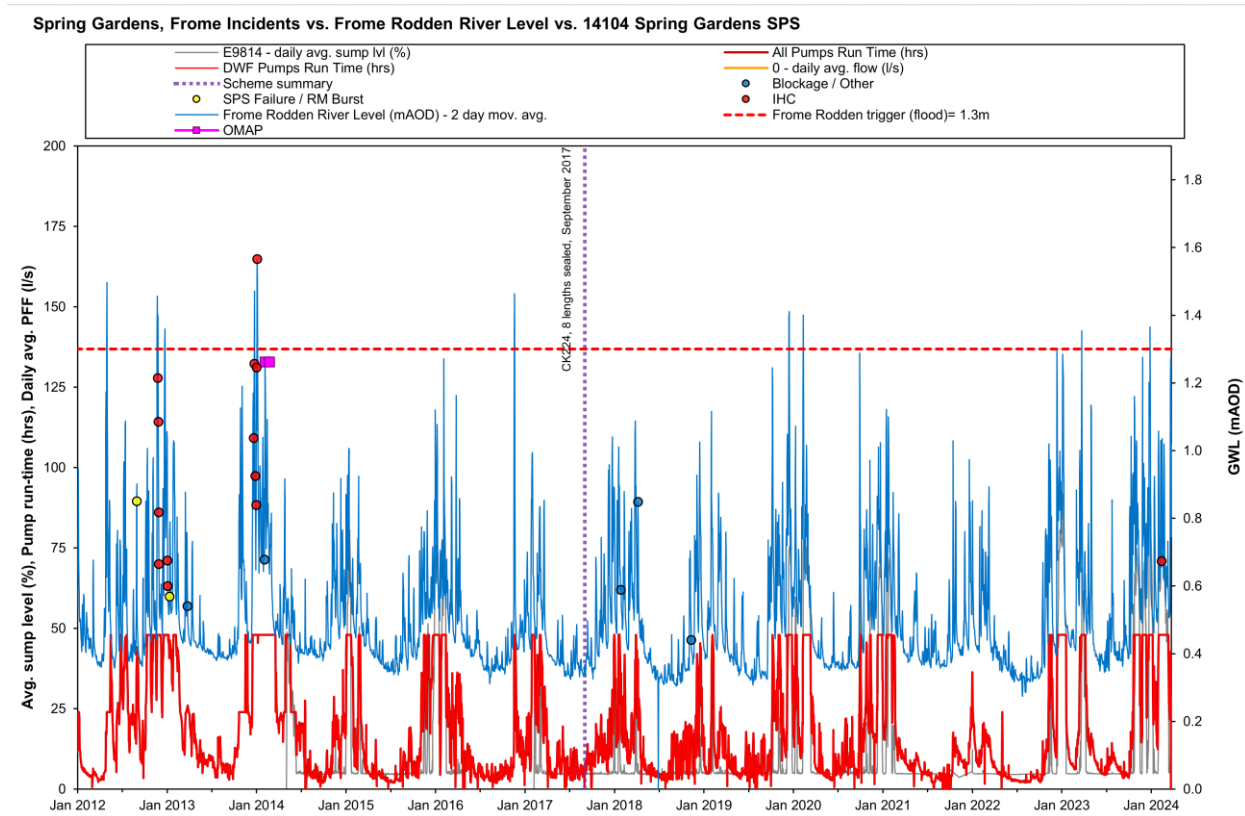
When Necessary

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.

Current Performance

The graph below shows incidents against river level (as measured at Frome Rodden river gauge), and the level at Spring Gardens Sewage Pumping Station (SPS). Post 2014, there has been a dramatic reduction in incidents reported in the Spring Gardens SPS catchment. The levels during high groundwater periods suggest continued infiltration despite the sealing in 2017. Further investigations have been undertaken in 2023/24 which found points of infiltration in the catchment.



Inspection and sealing since 2011

	2011-20	2020-21	2021-22	2022-23	2023-24
Length of sewer inspected (m)	3,620	-	700	-	1,902
Length of sewer sealed (m)	570	-	-	-	-