Downton Infiltration Reduction Plan Summary

This provides an update on 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 2017 – March 2018

Regional groundwater in 2017/2018, was relatively low compared to previous winters but experienced a very wet period at the end of March 2018 and into April. This caused groundwater levels to rise and the catchment to suffer inundation. A major scheme had begun (due for completion in 2018) to make over 100m of the public and private sewers watertight in the future.

Action Plan

Annual activity
- Proactive maintenance of vulnerable sewers including 6 monthly routine jetting.
- Monitoring of system performance using telemetry.
- Review data, update reports and meet with stakeholders for annual update and share findings.
- Promotion of multiple agency approach during periods of high groundwater levels.

Completed to date
- Review existing asset and operational data, infiltration reduction report produced.
- Proactive inspection using CCTV of public sewers.
- Analysis of inspection data to identify infiltration.
- Analyse flows in sewers using flow survey and modelling.
- Commission pump station survey and asset update.
- Appraise incidents of sewer and surface water flooding.
- Review of historic telemetry and rainfall records.
- Carry out Infiltration sealing of sewer and manholes where deemed cost-effective, targeting work according to study findings.
- Raise awareness about mechanisms of sewer overloading and need for risk-based approach for improvements.
- Routine review of telemetry and compare with borehole, watercourse, rainfall data and customer incidents to assess infiltration levels.

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<th>2015-2016</th>
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<tbody>
<tr>
<td>Length of sewer inspected (m)</td>
<td>887</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Length of sewer sealed (m)</td>
<td>-</td>
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<td>1050</td>
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Medium term
- Targeted infiltration studies and CCTV informed by analysis of previous surveys.
- Identify road and gullies and other impermeable areas connected to the foul sewer and separate where appropriate.
Long term
- Liaise with the Environment Agency about groundwater warning service.
- Inspect and remediate where appropriate private drainage networks.
- Monitor and regulate surface water disposal to prevent misconnection of surface water and foul sewers.

Current Performance

This graph shows incidents against groundwater level (as measured at Barcombe Farm borehole) and the flow at Downton Sewage Treatment Works. There has been a significant reduction in the number of flooding incidents post pump replacement in July 2014 at Mesh Ponds SPS allowing for improved hydraulic capacity. Improved maintenance such as jetting has also reduced the number of incidents caused by blockages.

An incident of inadequate hydraulic capacity (IHC) did occur in this report year due to groundwater inundation. A major flooding scheme has been implemented due for completion in 2018. Infiltration is still an on-going problem; therefore, mitigations and this action plan are still in place.