Charlton Adam 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 levels in 2017/2018, were relatively low in comparison to previous winters but experienced a very wet period at the end of March and into April 2018 causing groundwater levels to rise. The groundwater did not reach critical levels and the sewerage system was not overloaded, so no mitigation works were carried out.

Action Plan

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

Completed to date
- Put in place a procedure for recording, investigating and resolving incidents.
- Undertake pro-active inspection using CCTV of vulnerable public sewers.
- Analysis of inspection data to identify infiltration.
- Cost effective sewer and manhole sealing.
- Pump station survey and asset update where necessary.
- Review historic telemetry and rainfall records.
- Removal of road gullies and other impermeable area connected into the foul sewers, as necessary.
- Educated some residents on mechanisms of sewer overloading.
- Reviewed existing boreholes in the area.
- Routine review of telemetry, compared with a variety of hydraulic data to assess residual levels of infiltration.

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<th>2015-2016</th>
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<tbody>
<tr>
<td>Length of sewer inspected (m)</td>
<td>10,895</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Length of sewer sealed (m)</td>
<td>-</td>
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Short term
- Analyse sewer flows using flow survey and modelling.

Medium term
- Install long term depth monitoring at key “hot spot” locations, as necessary.
- Investigate watercourse monitoring in the local area as a possible indicator of groundwater levels.
Long term
- Liaise with the Environment Agency about their groundwater warning service.
- Inspection of private gullies drains and manholes.
- Remedial works of private assets.
- Monitor and regulate surface water disposal to prevent surface water to foul misconnections.

Current Performance

This graph shows incidents against groundwater level (as measured at Barcombe Farm borehole) and the telemetry at Charlton Adam Sewage Pumping Station. Prior to the sealing, there was a strong correlation between groundwater and pump run times at Charlton Adam. However, since sealing, to prevent infiltration, there have been no flooding incidents reported due to groundwater infiltration recorded as inadequate hydraulic capacity (IHC). As the sealing was very recent, it isn’t possible to confirm whether it has been successful. Groundwater levels have not reached the highs experienced in 2014 and so mitigations measures and this action plan remains in place.