Cerne Abbas 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 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.
- Monitoring of system performance using telemetry and flows at Cerne Abbas Sewage Treatment Works.
- Review data, update reports and meet with stakeholders for an annual update and share findings.
- Promote a multiple agency approach to managing situations during high groundwater levels.

Completed to date
- Appraise incidents of sewer and surface water flooding.
- Review and analyse flows in the sewers, historic telemetry, rainfall and borehole data and use modelling where required.
- Review existing boreholes.
- Proactive inspection of vulnerable sewers and assessment of pumping stations and update records where necessary.
- Carry out manhole and sewer infiltration sealing of the public network where deemed cost-effective.
- Identify road gullies and other impermeable areas connected to the foul sewer and separate where appropriate.
- Raise awareness of sewer overloading and the need for a risk based approach to improvements.

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<tr>
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<th>2015-2016</th>
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<tbody>
<tr>
<td>Length of sewer inspected (m)</td>
<td>535</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Length of sewer sealed (m)</td>
<td>296</td>
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Medium term
- Targeted infiltration studies and CCTV informed by analysis of previous surveys.
- Where cost effective, install long term depth monitoring at key locations.
- Investigate local watercourse monitoring as an indicator of groundwater levels and trigger for mitigation actions.
**Long term**
- Inspect and remediate where appropriate private drainage networks.
- Investigate and monitor options for surface water separation.
- If sewer sealing for infiltration is unsuccessful, investigate options for improving hydraulic capacity at Cerne Abbas Sewage Treatment Works.
- If all other viable options have been explored and cost-effective measures implemented, investigate options for a pumped storm overflow.

**Current Performance**

This graph shows incidents against groundwater level (as measured at Barcombe Farm borehole) and the flow at Cerne Abbas Sewage Treatment Works. Prior to sewer sealing, to prevent infiltration, in March 2015 and March 2016, there is a strong trend between groundwater level and inflow to Cerne Abbas Sewage Treatment Works. However, post lining, this relationship reduced significantly, along with flooding incidents due to groundwater infiltration recorded as insufficient hydraulic capacity (IHC). However, groundwater levels have not reached the highs experienced in 2014 and so mitigations measures and this action plan remains in place.