

Extract from AMP7 Evidence pack:

Groundwater Infiltration Reduction

Three areas within the Exmouth catchment were identified as being most at risk of groundwater infiltration and CCTV surveys undertaken to scope a schedule of groundwater reduction works. The locations on the Withycombe Brook, its northern tributary and the Littleham Brook are indicated in Figure 18 below.

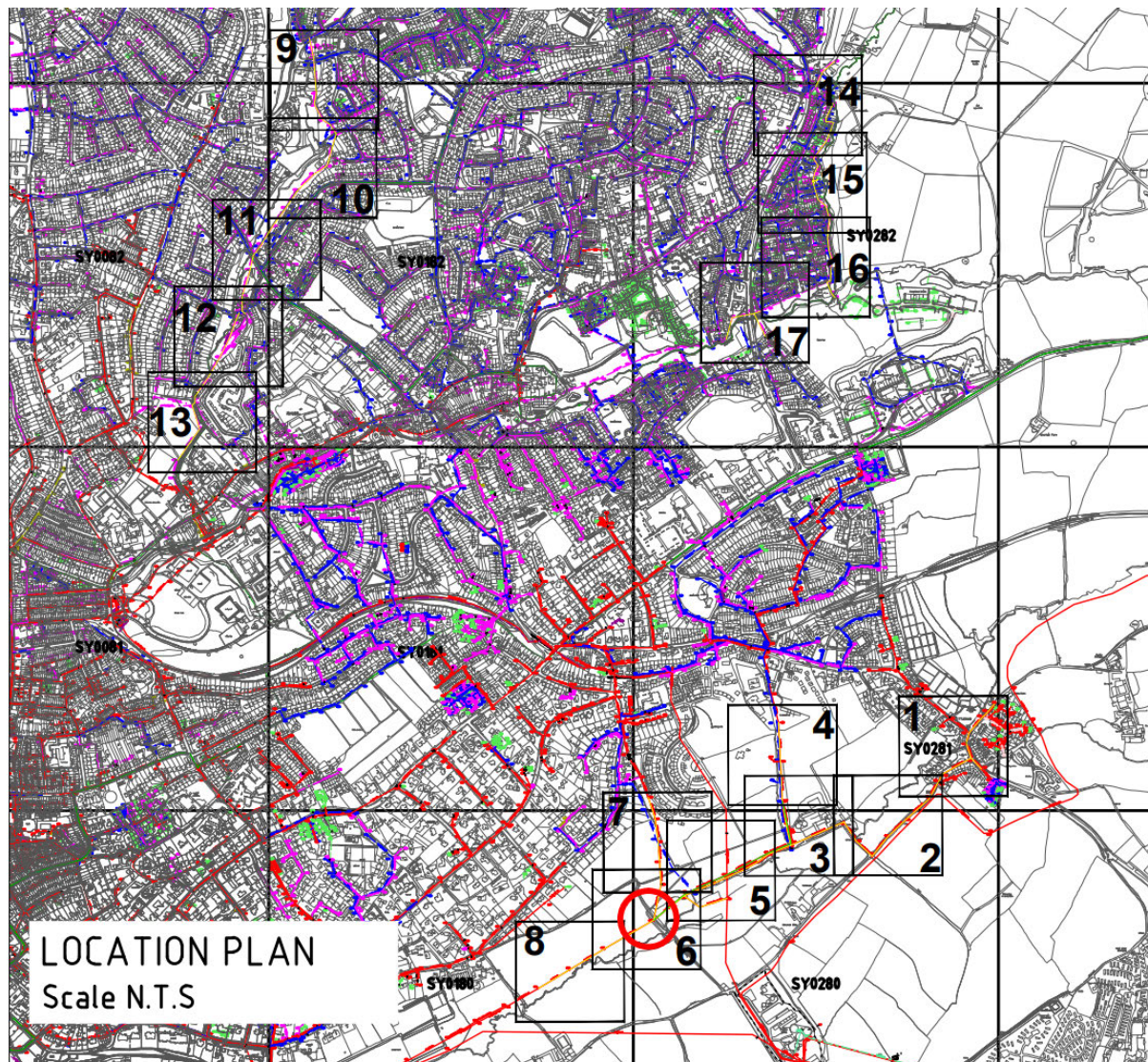


Figure.7④_Location.of.Groundwater.Infiltration.Priority.Areas

44 separate locations were identified as sources or potential sources of groundwater infiltration with the following works completed:

Remedial Works Type	Nr	Total
Clean, resurvey and check	5	
Root cut and line	13	227m
MH cover replacement / raise	8	
Excavate and replace sewer	3	9m
Patch Lining	23	55m
MH Sealing	8	

Table.0._Summary.of.Catchment.Works

Extract from emails between [REDACTED]

Query.7.-.SWW.to.demonstrate.that.the.86% infiltration.reduction.generated.by.the.infiltration.measures.have.been.achieved;

The 2025 IMAX was higher than the 2023 IMAX for February, March, June, November and December therefore the infiltration reduction is not consistent across the full calendar year, and it doesn't appear to support this statement 'During wetter antecedent conditions the benefits are expected to be greater than during summer.' We wouldn't normally accept averaged IMAX figures because an averaged value could be well short of the maximum. Is it possible to provide rainfall and peak daily flow data for Exmouth WwTW? Please can you provide further explanation regarding the scale on the graphs.

The query was around demonstrating the 20% infiltration reduction rather than I_{MAX} and therefore assessment needs to consider data during periods when conditions are similar from year to year. Winter data can't be used reliably due to the extreme variability in rainfall from one year to the next but summer periods of no / little rainfall or high soil moisture deficit provide far more consistent conditions to measure any reduction in infiltration due to the sewer rehabilitation works completed. It's not an exact science given that all flows at the STW are pumped and the storm tanks at the works are large. We have used the best information that we have. The data used is from the back end MCERTs TDV and therefore will include storm tank returns which, during very long wet periods (winter 2025) will be continually filling and emptying and therefore skewing the I_{MAX} calculation artificially upwards. This is why we have analysed periods where the storm tanks are not or rarely used and also why longer term data is more reliable in determining more accurate I_{MAX} as it will reduce the influence of specific yearly anomaly conditions in the calculation.

For the previously supplied analysis we have used a direct export of rainfall data from the EA 'Exmouth Maer Lane' 15 minute gauge ref. 45164.

For the scale of the graphs it is agreed that the units used are slightly inconsistent. The graph y-axis is in m^3/day as extracted directly from our telemetry system, whereas the summarised flow data at the bottom has converted these figures into l/s for the monthly assessment to make the figures more meaningful / easily quantifiable.