

## **Comments on calculations**

The figures attached to Chichester District Council email 16/10/2013 seem to suggest that there is ample headroom for the Thornham WwTw. The figures as present do, however, need clarification in certain areas.

1) The traditional definition of dry weather flow (DWF) was the organic effluents effectively discharging from dwellings and industry. A suitable factor was then added to allow for rainfall seepage and ingress to determine overall hydraulic load. The method used in these revised calculations make no attempt to identify DWF separately from the hydraulic loads. The arbitrary figure of the 80%ile is assumed to represent of the reality of seepage and leakage. No justification for this chosen level is supplied. It might just as well be 60% or 90%.

2) The averaging over a 7-year period gives a distorted figure which includes many years of near drought. By averaging over such a period the result will significantly risk being inadequate in periods of prolonged rain. It also takes no account of changes to the network load or processing systems.

3) The calculation in CDC email 16/10/2013 and those in the Southern Water Position statement July 2009, predict large head-rooms for both Apuldram and Thornham for the period July 2012 to July 2013. The 76 storm discharges from these works and their associated feeder networks during this period show that there is a serious disjoint between these calculations and the real world.

4) It is noted that there is a significant discrepancy between the head-room calculations contained in the Southern Water position statement 2009 and the subsequent MWH strategic study dated 2010. The head-room figures detailed in this latter study by respected independent consultant are clearly closer to the real world than the 2009 position statement.

5) The annual 80/20 percentile figures would seem to be a signification under-estimate in so far as they do not include storm discharge from Thornham WwTw and the associated feeder network including Breakers Yard (Nutbourne) and the pumping stations at Chidham, Nutbourne and Kings Road (Emsworth).

### **Conclusion**

The figures and data as presented in the CDC email 16/10/2013 are at variance with those of the independent consultants MWH. These discrepancies together with past failures in the reporting procedures of storm discharges still demand an urgent meeting between Southbourne Parish Neighbourhood development committee, the Environment Agency and Southern Water to address these discrepancies and to allow the Parish to have confidence in the sewerage network in the future.