

Welborne Infrastructure Delivering Water Services

Date: August 2014
(preliminary infrastructure assessment)

Albion Water Limited

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1.0 Background

Albion Water operates regulated water and sewerage assets at various locations within England and Wales and is active in planning and installing water and sewerage networks serving a number of new development sites. Each newly appointed area is regulated within the same framework as that applying to the regional incumbents and must be covered by detailed emergency management procedures.

Albion has operated and upgraded the sewerage infrastructure serving Knowle Village for over 5 years and is proud of its achievements:

- Lower customer bills
- Very low carbon emissions from distribution and treatment systems
- Excellent compliance record
- Local employment
- Biodiversity improvements

Welborne, the proposed new development north of Fareham, borders Albion's appointed sewerage area just north of Knowle. Due to its proximity and the local topography Albion has sought to offer its sustainable water services to Welborne and has made a number of submissions to Fareham Borough Council (BC) during previous consultation phases, leading to Albion being considered as one option for wastewater disposal in the Welborne Plan.

By way of letter dated 6th August 2014, Fareham BC has requested that Albion address a number of questions in order that a Statement of Common Ground might be produced for the Inspector appointed to examine the Plan. These questions are reproduced and addressed below, to the best of our current knowledge. More detailed responses would be possible should the Council or land owners wish to commission an Initial Infrastructure Assessment.

It is noteworthy that whilst the Welborne Plan refers to two options (ref. paragraphs 9.17 to 9.19) the most sustainable and resilient approach might be achieved through an alternative option that involves Southern and Albion Water providing waste water services designed to maximise the carbon savings of gravity compared with pumped drainage. An initial discussion between Southern and Albion concluded that there was merit in considering the potential benefits of a collaborative approach.

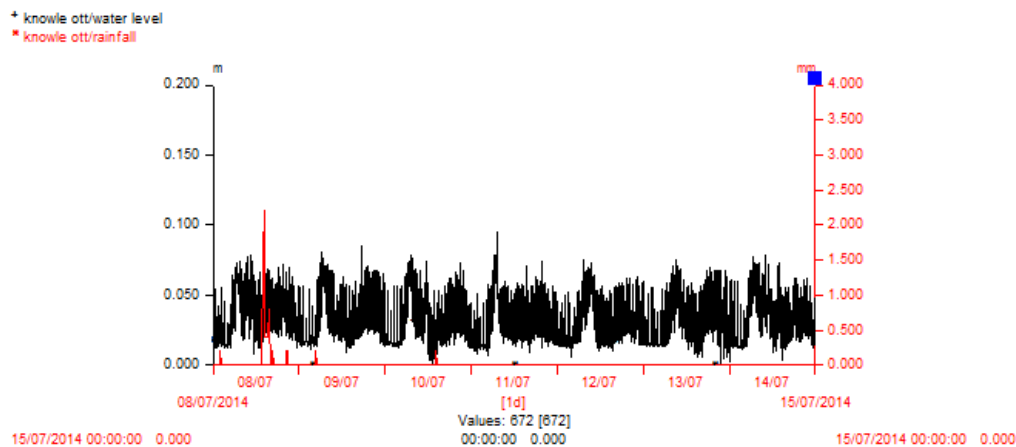
2.0 Preliminary responses to questions in 06/08/14 letter

1. Definitive confirmation on the number of new dwellings at Welborne that the existing Knowle waste water plant could support (assuming a pipe connection to your works is made from Welborne) in terms of the existing plant capacity and the existing limits of your discharge consent(s).

Providing a definitive number of additional properties that can be connected to Knowle is challenging without undertaking an infrastructure assessment study. Current estimates

suggest that a minimum of 500 new properties could be connected but that this may increase to 800 following a short programme of treatment works upgrading (e.g. bringing existing redundant capacity on-line). This assumes that there is no water recycling to the first phase properties.

Albion has an existing discharge permit that limits the (dry weather) volume of effluent to 685 m³ in any period of 24 hours. These combined existing and additional flows would be well within this permitted volume. The graph below illustrates a snapshot relationship between rainfall and water level entering the works (peak water level representing pump station activity). Whilst there is no apparent impact between rainfall and incoming volumes this would be investigated over a longer period and in more detail should an infrastructure assessment study be commissioned.



2. An overview of the potential options for increasing treatment capacity at your Knowle waste water treatment works (and any associated pumping stations) in order to be able to serve Welborne, based on the housing and employment trajectories specified in the Welborne Plan (see Tables 1 & 2).

Albion is already in the process of optimising its current primary treatment assets and in the period to 2018, should Albion be successful in its bid to serve Welborne, would extend this programme to re-commission existing redundant secondary treatment assets. An upgraded gravity sewer would be installed to serve Welborne and additional pumping would be required to serve the southern part of the site (connected into the new gravity sewer serving the northern development).

A new parallel treatment works would be required from 2019 and this would be designed to cater for combined flows until the mid-2020's, during which period the existing works would be taken off-line to be completely upgraded. The final works would be designed to serve the whole community of Welborne, whether incorporating recycled water or not.

Sludge treatment facilities would be incorporated to, as a minimum, thicken the sludge that requires tankering off site. This would limit tanker movements with the aim of keeping to existing activity levels and would be further considered as part of an infrastructure assessment study.

3. An overview of the delivery timeframes and costs associated with the potential options identified in item 2.

Without more detailed studies the costs associated with the answer to item 2 cannot be accurately assessed. Estimates for guidance only are provided below:

Upgrade to gravity sewer connecting Knowle STW to Welborne c.£0.4-0.6m (complete end 2016)

Upgrade existing Knowle STW - phase 1 c.£0.15-0.25m (complete end 2015)

Upgrade existing Knowle STW – phase 2 c.£0.25-0.5m (complete end 2017)

Parallel STW c.£2.75-4.25m (complete mid 2019)

Upgrade existing Knowle STW – phase 3 c.£4-6m (complete during 2026)

4. Confirmation of any correspondence that has taken place to date with the Environment Agency regarding what additional permits or consents would be required for any of the options identified in item 2.

No detailed discussions have been held in relation to Knowle STW serving Welborne. However, this option has been mentioned during routine discussions and the value of keeping water in the local river, rather than discharging directly to sea, was recognised as a matter of principle (subject of course to stringent environmental studies on the receiving water quality, its biodiversity and hydrological characteristics).

It is understood that the EA will wish to discuss current quality limits as part of a general review of compliance with the Urban Wastewater Treatment Regulations.

An existing EA exemption covers discharge from current R&D activity on the site.

5. Confirmation of any correspondence that has taken place with Hampshire County Council, as the planning authority for waste water treatment works, regarding whether planning permission for an expansion to the existing works would be required, or whether expansion could take place within the permitted development rights for your existing plant, for any of the options identified in item 2.

Telephone or email discussions have taken place in relation to planning processes but meetings, originally arranged for earlier this year, were cancelled due to winter flooding events in Winchester and the surrounding area. Albion is in the process of preparing documents for pre-application advice and expects these to be submitted within the next month. Permitted development rights, to the extent they were needed, would cover all of the phase 1 & 2 Knowle STW upgrade works but it is anticipated that planning permission would be required for a parallel treatment stream.

6. Confirmation on Albion Water's current position with respect to grey water recycling at Welborne.

Albion can provide the infrastructure necessary to service the whole (or part of the) Welborne development in a conventional fashion but has expressed a view that it would prefer to deliver sustainability gains through water recycling. Whether such recycling is for the whole development or for a part or not at all would have no material impact on the

outturn of Albion's overall financial model. In terms of sustainability the greatest carbon saving would result from establishing a gravity sewerage network to serve the maximum area possible.

3.0 Initial Assessment of Infrastructure

Albion will be able to provide additional details, particularly regarding the period up to 2018 following an initial study of (e.g.) surface water ingress (if at all), sewer upgrades (compared with requisition), alternative routes and treatment capacity. Details of the costs to undertake this initial study have previously been circulated.