

By Email Only

15th February 2022

Our Ref: SW22-123-L01

Dear Emma,

RE: SW 22-123 – NEW DWELLING, ADJ 22 STATION ROAD, GEDNEY HILL (Ref H07-0089-22)

Further to your correspondence dated 04th February 2022, your ref 22_06054_P, please see our responses to your queries below.

As we are sure you are aware, infiltration testing in flat low-lying fenland areas very often takes a considerable amount of time to complete. Therefore, it is rarely possible to expect test fills to empty during the course of a single day and unrealistic to expect 3 test fills to be completed. This being the case test fills would need to be undertaken on 3 consecutive days.

Infiltration testing was undertaken generally in accordance with the guidance set out with BRE 365.

Test pits were refilled, and two tests were obtained from the same pit.

For a small single plot development site such as this, it is unfeasible/uneconomical for field testing to be carried out over a 3 day period of time. We would note that historically the practice of completing one test fill measured over the whole day, or two test fills measured for half a day each has always been accepted in this area as appropriate.

It should also be noted that the soakaway design offered has incorporated a significant factor of safety offering a storage volume with 75% additional volume free.

The soakaway designs have been kept to 1 layer deep, as such this will keep their depths to 1m below finished ground level, which is at the same level as the testing was undertaken.

The depth of unsaturated strata below the treatment plant soakaway is considered appropriate again as the soakaway has been oversized. The soakaway has been sized using the infiltration rate to infiltrate the 24 hours flow output within a 12 hour period, as such of factor of safety of over 2 has been provided.

It is also significant that the proposal is for a modern treatment plant and not a septic tank and this outputs generally clean water at a slow and steady rate.

We would also note that there is no public surface water sewer system in this area and as such the existing local properties are all very likely served by "old fashioned" rubble filled soakaways which have had no reported issues of performing inadequately.

With reference your query as to the outfall of the treatment plant, our drawing SW22-123/SK01 illustrates the proposed outfall and arrangements on the architects' drawings are merely indicative.

As it was demonstrated that infiltration techniques are viable it was therefore deemed that the treatment plant should outfall to soakaway.

We trust that the above commentary provides sufficient background to the test results and designs presented and will hopefully enable application to progress without further delay.

Should you have any queries or wish to discuss anything please do not hesitate to get in touch.

Yours sincerely

A.P. WILSON CEng MStructE

Director, Chartered Structural Engineer

For and on behalf of **SHIELDS WILSON LTD**

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