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Planning Development Service
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PO9 2AX

MJA Ref: SS/19:0771/5992
HCC Ref: SWM/2019/0353
Email: stewarts@mjaconsulting.co.uk

19th December 2019

Dear Daphney,

Response 4: 50 new dwellings together with access, landscaping and open space at Land at Lower Road, Havant, Bedhampton. APP/19/00427

We refer to the LLFA's comments in regards to the planning application for the above scheme. This letter considers the drainage related comments made on the 5th December 2019. For convenience, the responses are set out below, in the same order as the comments were made, while the corresponding responses are shown in bold text.

• *Evidence that the applicant understands the sensitivity of discharge points relating to the receiving water body.*

- *The email communication with the EA is over one year old. We would recommend the EA is re-consulted based on the latest proposals submitted as the surface water will be discharged directly into the aquifer.*

Please see the minutes of a meeting dated 17.12.19, as well as the subsequent correspondence between Bargate Homes and Tom Wickens at the Environment Agency dated 18.12.19.

- *The 'Ground Appraisal Report Manor Farm' states within Section 10.6 "Given the presence of Chalk with a highly irregular upper surface, soakaways should be located no closer than 10m from any structure or the railway cutting." MJA's response states that the boreholes are 5m apart. This needs to be rectified. A minimum of 10m will need to be provided between each infiltration structure.*

The boreholes have now been moved 10m apart. Please refer to updated drawing 5992:P01G.

• *Provide unit type, and sizing for the Upflow unit and show it is sized adequately for the area it is draining. Please indicate type of unit (manhole or vault to be provided) and show this within the drawing.*

Please see attached sizing calculations. The technical information on Hydro-Internationals website shows that the standard manhole unit will be sufficient for the site. These units are not sized on area but flow rate into them. The Hydrobrake will limit flows to 1.5l/s (0.06cfs) before out-falling to the Upflo.



- Provide a long-section showing the levels through the ponds. – drawing 5992:P11A stated within the MJA response has not been received.

Please see the attached long section drawing.

The following information is still required but can be supplied at a later date and dealt with through a condition:

o Due to the sensitivity of discharging to a deep borehole soakaway, please provide details of what the procedure would be to ensure an oil/contamination spillage is promptly dealt and the penstock shut-down mechanism activated to prevent any contamination from reaching the borehole.

Please see the SUDS management and maintenance plan, which has details on the emergency procedure.

o Provide details of who will maintain the system once it is built and in operation and details of the maintenance/inspection regime for the proposed deep borehole soakaway and the "Multi-Stage Treatment Filter" from Hydro International.

A management company will be set up towards the end of construction and details will be provided. This can remain as a condition.

o Provide details of the treatment level using the CIRIA Simple Approach Index level provided by the Multi-Stage Treatment Filter" from Hydro International unit provided by the "Multi-Stage Treatment Filter" from Hydro International.

This can remain as a condition.

o Provide details on what flow restriction device is proposed at the outflow for the first pond to ensure adequate treatment time is achieved time at the pond prior to discharging to the reed bed system.

Hydrobrake® Optimum from Hydo-International. Control rate 1.5l/s.

Unit reference: MD-SHE-0052-1500-1500-1500.

o Provide details showing how the top layer of the infiltration borehole will be sealed details of what measures such as screening will be provided to prevent entry of debris into the borehole soakaways.

Borehole details to be provided at detailed design. All runoff will past through an Upflo filter which will screen and settle out any debris.

I trust that the above and enclosed provides you with sufficient information for your purposes. If you need any more details, please do not hesitate to contact us.

Yours sincerely,



**Stewart Smith
Drainage Engineer
FOR MJA CONSULTING**

