PHIL HEATON ASSOCIATES LIMITED

Consulting Civil and Structural Engineers

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CIVIL ENGINEERING REPORT – 01 May 2024

Ref. Surface Water and Foul Drainage Design at Hillside, Moor Lane, Wiswell BB7 9DG

1.0 Introduction

The surface water (SW) and foul water (FW) drainage systems have been designed to current standards and this Report is presented on behalf of the Owners to discharge Conditions 25 and 26 on Planning Approval 3/2023/0223, which states,

"*25. No development shall commence until a surface water drainage scheme has been submitted to and approved in writing by the Local Planning Authority. The drainage scheme must include:*

(i) An investigation of the hierarchy of drainage options in the National Planning Practice Guidance (or any subsequent amendment thereof). This investigation shall include evidence of an assessment of ground conditions and the potential for infiltration of surface water;

(ii) A restricted rate of discharge of surface water agreed with the local planning authority (if it is agreed that infiltration is discounted by the investigations); and

(iii) A timetable for its implementation.

The approved scheme shall also be in accordance with the Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacement national standards. The development hereby permitted shall be carried out only in accordance with the approved drainage scheme. Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution.

26. The site shall be drained via separate systems for the disposal of foul and surface water. Reason: To secure a satisfactory system of drainage and to prevent pollution of the water environment."

2.0 Existing Site and Use

Hillside is a detached dwelling on elevated ground utilising an existing septic tank located immediately adjacent to the watercourse on the property and is due to be demolished to make way for a new dwelling and driveway.

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Surface water drainage is presently discharged directly into the existing watercourse on the property with no silt interceptor.

No Mains sewer systems are in the immediate vicinity and thus not relied on for disposal of foul water, storm water and surface water runoff.

3.0 Site Geology

The sub surface ground consists of Made Ground overlying dark brown sandy silty clay overlying coarse gravel sized stone fragments as identified in Sub Surface Ground Investigation Report dated December 2023.

This ground is highly permeable and combined with rapid change in levels across the site ground water flows will quickly pass through the site to the watercourse unimpeded.

4.0 Surface Water Drainage

The SuDS design Manual (CIRIA publication C753) has been followed to calculate the SW attenuation volume.

The entire site area has been used for both impermeable and permeable surfaces for a 100-year storm. The permitted discharge runoff rate for the site area is 2.2 l/s controlled by a Hydrobrake.

The SW storage volume is 35.08 m3 based on this method.

Using the Allowable Discharge Method the storage volume is reduced to 22.5 m3 and this is the figure proposed for the development.

5.0 Foul Water Drainage

The foul drainage is treated using a Klargester BioDisc BA-X Package Plant designed for up to 9 persons that treats the effluent before releasing discharge into the ground and this treated water will find its way into the existing watercourse through ground water movements. This type of plant is designed for final discharge close to a watercourse.

6.0 Condition 25

(i) The provision is satisfied using The SuDS Manual.

(ii) The restricted flowrate for surface water runoff is derived from permitted green field run off rates and reduced accordingly to 2.2 l/s by way of control through a Hydrobrake.

(iii) The existing drainage systems are due to be stopped off in June 2024 prior to demolition of the existing property. The construction period is estimated as 12 months thereafter the two separate drainage systems will be commissioned and operated.

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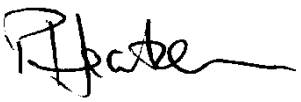
7.0 Condition 26

The Condition is satisfied by virtue of the two separate drainage systems for Surface Water and Foul Water identified on our drawing 3804-03 ‘Drainage Plan’.

8.0 Summary

The provisions for separate surface water and foul drainage are designed to current Technical Standards and meet the requirements of the Planning Conditions for the approved proposals.

Signed by



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