



Title: Flood Risk & Drainage Technical Note

Date: 6th September 2019

1.0 Introduction

- 1.1 Jubb have been appointed by Highclere Estate to identify potential constraints and provide advice in relation to flood risk and drainage matters for a proposed residential development on land at the junction of Harts Lane and Winchester Road, Burghclere.
- 1.2 This technical note provides a review of flood risk and drainage matters relating to the subject site, in support of the allocation of the proposed site in the emerging Burghclere Neighbourhood Plan.

2.0 Proposed Development

- 2.1 The proposed site is located on the south-western outskirts of the village of Burghclere in Hampshire. The subject site is approximately 0.8Ha in area with a National Grid Reference (NGR) of 446131E, 160711N.
- 2.2 The site is bound by Winchester Road to the west, Harts Lane to the south and east and neighbouring light industrial buildings to the north.
- 2.3 The site is currently a greenfield site which is used for agricultural purposes.
- 2.4 The proposals for the site consist of the construction of a new residential development which includes circa 18 dwellings and a community hub.

3.0 Existing Flood Risk & Proposed Mitigation Measures

- 3.1 The proposed site is identified as lying within Flood Zone 1, according to the Environment Agency's (EA) published floodplain map (refer to Figure 1).

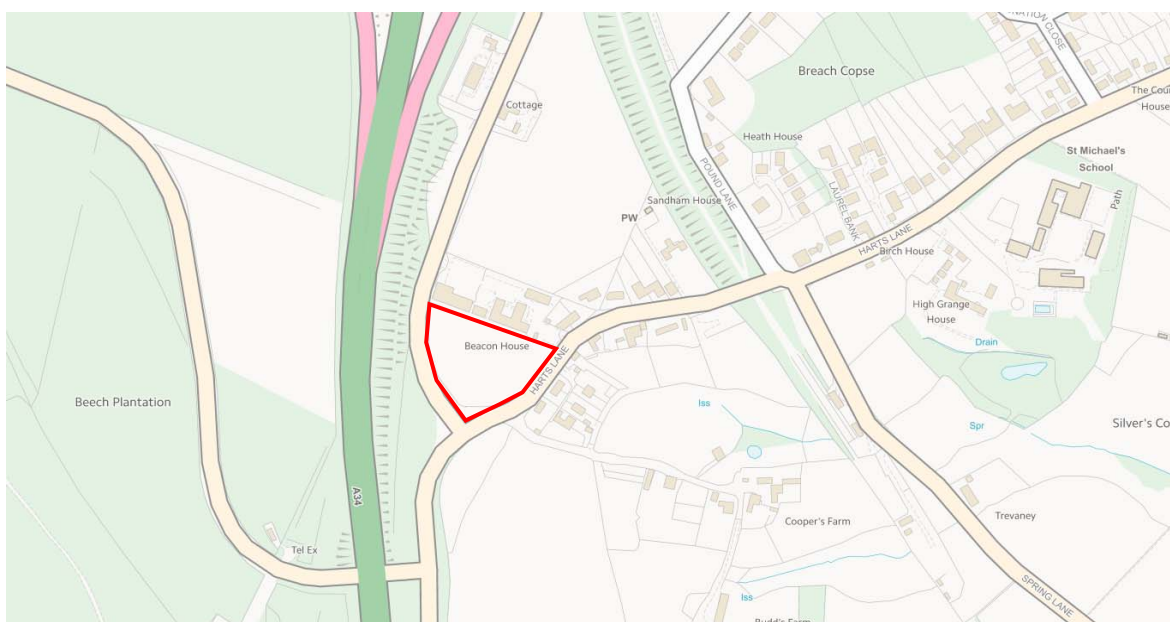


Figure 1 – Extract from Environment Agency Flood Map for Planning

- 3.2 The EA floodplain map indicates that the level of flood risk to the site corresponds to a Flood Zone 1 – Low Probability in Table 1 of the National Planning Practice Guidance.
- 3.3 This zone has a less than a 1 in 1000-year annual probability of flooding. The National Planning Policy Framework (NPPF) Planning Practice Guidance states that all types of development are suitable for this flood zone.
- 3.4 No other significant risks of flooding to the site have been identified, this includes flooding from surface water, groundwater, existing sewers and artificial sources.
- 3.5 The proposed development includes a site wide drainage system which will collect and discharge foul and surface water flows to the public sewer network and existing watercourse respectively. Both drainage networks will be designed to accommodate flows from the site for a range of storm events and peak flows without flooding.
- 3.6 Surface water flows will be attenuated onsite and discharged at a predevelopment rate, which will prevent the development from increasing the risk of flooding to the site or the surrounding area.

4.0 Existing Drainage & Proposed Drainage Strategy

- 4.1 The existing local public surface water and foul sewer networks are operated and managed by Thames Water. Thames Water asset plans confirm there is no existing public sewerage infrastructure located within the proposed site.
- 4.2 Existing asset plans show there is no existing surface water sewer infrastructure located within the nearby vicinity of the site. However, an existing foul sewer network runs within Harts Lane and the surrounding residential area of Burghclere.
- 4.3 A review of the existing drainage infrastructure and site constraints has been undertaken to identify potential options for the disposal of foul and surface water flows generated by the development proposals.

Surface Water

- 4.4 Current legislation and guidance require developers to manage surface water run-off from new development to mitigate flood risk to the site and the surrounding area and also provide a sustainable means of disposing of run-off from impermeable areas of the site.
- 4.5 The proposed drainage strategy aims to utilise sustainable drainage system to dispose of surface water run-off in a sustainable and effective manner. A preliminary drainage strategy layout is included in Appendix A.
- 4.6 In accordance with the latest industry standards and SuDS hierarchy, the preferred method of disposal is through the use of infiltration techniques.
- 4.7 However, the British Geological Survey (BGS) maps indicate that the site is underlain with London Clay Formation, which is anticipated to comprise of poor infiltration characteristics.
- 4.8 Consequently, it is anticipated that the use of infiltration techniques will be unsuitable for the discharge of flows from the site. Further onsite BRE365 compliant percolations tests should be undertaken to provide accurate infiltration rates across the site and determine the suitability of utilising infiltration.
- 4.9 It is therefore proposed that surface water will be discharged to an existing watercourse. An existing topographical survey has identified an existing drainage ditch running along the north-eastern and south-eastern site boundary. Due to the existing site levels and the proposed outfall levels, it is anticipated that some localised raising of levels may be required to accommodate the drainage proposals.


- 4.10 The proposed development will create areas prevented by impervious surfacing from draining to the ground by natural processes. Surface water run-off will be directed to an appropriately designed positive drainage system, which will utilise sustainable drainage features to attenuate flows and restrict offsite discharge to a predevelopment rate, while also ensuring that run-off receives the appropriate level of treatment to improve water quality.
- 4.11 The site is currently a greenfield site and it is therefore proposed to discharge site surface water flows at a rate that matches the annual average greenfield flow (Q_{bar}). Restricting discharge to the Q_{bar} rate, an estimated storage volume of approximately $270m^3$ is required to accommodate the 1 in 100-year plus 40% climate change event.
- 4.12 At this early stage it is proposed that the majority of the required storage will be provided by an attenuation basin, with additional SuDS features such as permeable paving utilised as secondary features which will also provide additional water quality benefits.


Foul Water

- 4.13 The proposed drainage strategy includes a new foul drainage network, that will collect and convey flows from the development to a proposed point of connection on the existing public sewer network.
- 4.14 Existing Thames Water asset plans show an existing public foul sewer network immediately to the north-east of the site within Harts Lane. This network collects and conveys flows from the existing nearby properties away to the north-east via an existing pumping station.
- 4.15 Thames Water have been instructed to undertake an assessment of the existing public foul network, to determine if sufficient capacity is available to accommodate the additional flows from the new development.
- 4.16 Thames Water have confirmed that a connection to the existing sewer in Harts Lane is acceptable and this existing network has sufficient capacity to accommodate the flows from the development.

Appendix A: Preliminary Drainage Strategy Layout

Legend

 Proposed Attenuation Basin

 Existing Public FW Sewer



P3	06.09.19	Updated Masterplan	LE	DG
P2	02.09.19	Latest masterplan added	LE	DG
P1	23.08.19	Preliminary issue	LE	DG
Rev	Date	Description	By Apvd	

PROJECT:
Land at the Junction of Harts Lane and Winchester Road, Burghclere

TITLE:
Preliminary Drainage Strategy

CLIENT:
Highclere Estate

SCALE@A1:
1:250

PROJECT REF:
19300

DRAWING No: SK001 **REV:** P3

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

