

FLOOD RISK & DRAINAGE TECHNICAL NOTE

*PROPOSED RESIDENTIAL DEVELOPMENT
OLD SARUM
SAILSBURY
SP4 6FH*

PREPARED FOR: Persimmon Homes (Wessex) Ltd

JOB NO: P23-295

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DOCUMENT HISTORY

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1. INTRODUCTION

- 1.1 Simpson TWS has prepared this report on behalf of Persimmon Homes, in support of a full planning application for a proposed residential development at the land north of Bunting Lane, Old Sarum, Wiltshire, SP4 6FH.
- 1.2 This report serves as an addendum to a flood risk assessment (FRA) by Cole Easdon Consultants (CEC), dated April 2021. The principle of the development remains the same, with any changes addressed in this report.

2. SITE DESCRIPTION AND TOPOGRAPHY

- 2.1 The site is a 1.0 hectare greenfield site located off Roger Way, surrounded by recently built properties and a football stadium to the south. The local topography slopes westward toward a dry valley on the northwestern side. The land within the site also slopes southwest, with elevations ranging from 74.60m at Rogers Way in the north to 72.50m in the southwestern area, as noted in CEC's FRA.
- 2.2 The development produces greenfield runoff of 1.7 l/s in a 1 in 100 year flood event, as reported in CEC's FRA. The lower runoff rates are due to the site's chalk strata, which has good water infiltration properties.

3. FLOOD RISK

- 3.1 The flood risk assessment conducted by Cole Easdon Consultants (CEC) (April 2021) classifies the site as being in Flood Zone 1, this is still the case, therefore, making the proposed development deemed acceptable.
- 3.2 CEC's flood risk assessment indicates the site being susceptible to surface water flooding due to overland flow, hence, it is proposed to include appropriate overland flow routes via the proposed developments new carriageway.
- 3.3 There was no flood risk indicated in CEC's flood risk assessment report and this is still the case, hence, the proposed development is considered acceptable.

4. DRAINAGE STRATEGY

- 4.1 The site's previous layout featured 0.57 ha of impermeable surfaces, which included 0.39 ha of roofs, private parking/driveways, and 0.18 ha of road areas. To account for potential future extensions and development, a 10% urban creep factor was applied to the private areas, resulting in a total impermeable area of 0.61 ha.
- 4.2 In the latest site layout, there is 0.44 ha of impermeable area in total, comprising 0.33 ha of roof area and private parking/driveways, along with 0.113 hectares of road. Incorporating a 10% urban creep factor into this layout increases the total impermeable area to 0.48 ha.
- 4.3 The previous approach to managing surface water runoff from the development site was through infiltration methods. This involved a network of interconnected infiltration basins and swales located along the northwestern boundary, as well as

JOB NO:	P23-295	ISSUE NO:	1	ISSUE DATE:	13/10/23	Page 3
AUTHOR:	FA	OFFICE:	LONDON	CHECKED BY:	LJK	

the utilization of soakaways and permeable paving. To ensure the viability of this approach, infiltration tests were conducted across the site, confirming the suitability of the underlying Chalk strata for infiltration-based drainage.

- 4.4 The updated drainage strategy, as outlined in drawings P23-295-SK102 and P23-295-SK103, continues to incorporate infiltration techniques. Roof and impermeable driveway runoff are directed into an underground drainage system, which is then conveyed to an infiltration basin positioned along the western boundary of the site. This infiltration basin is designed to dispose of surface water runoff from all storm events, including the 1 in 100-year storm event, with a 45% allowance for climate change.
- 4.5 Similarly, the permeable driveways are designed to facilitate the infiltration of surface water into the ground, ensuring they can accommodate surface water runoff from all storm events, including a 1 in 100 year storm event, with 45% allowance for climate change.
- 4.6 The surface water strategy for the wider site allowed for 5380m³ roof runoff to drain to the site wide surface water network. However, in the updated proposal, roof runoff is conveyed to an infiltration basin. The only area discharging to the sewer in Rogers Way is 1134.3m², runoff from the developments proposed adoptable carriageway.
- 4.7 It is proposed to discharge foul water from the proposed development into the foul sewer situated at Roger Way, as indicated in drawings P23-295-SK102 and P23-295-SK103. According to the flood risk assessment report by CEC, this sewer eventually leads to a foul water pumping station positioned in the southwestern portion of the wider site, accessible from Castle Well Drive. This pumping station was engineered to handle foul water from the larger Old Sarum development.

5. CONCLUSION

- 5.1 There are no known historical records of flooding at the site. The site falls within Flood Zone 1, making the development compliant with both national and local flood risk planning policies.
- 5.2 In the current development plan, surface water runoff will be effectively managed on-site, with roofs and private driveways/parking utilizing infiltration basins and permeable paving. Only the adoptable highway areas will connect to the sewer system located in Rogers Way.
- 5.3 Additionally, foul water from the site will discharge into the strategic foul sewer situated at Roger Way. As a result, it is reasonable to conclude that the proposed development can proceed without increasing flood risk in the surrounding areas and as there are no major changes on proposed development, the FRA carried out by CEC is still valid.

JOB NO:	P23-295	ISSUE NO:	1	ISSUE DATE:	13/10/23	Page 4
AUTHOR:	FA	OFFICE:	LONDON	CHECKED BY:	LJK	