



Proposed Residential
Development
Hurst Farm, off
Hurstwood Lane,
Haywards Heath

Drainage Technical Note

Prepared on behalf of Barratt
Redrow Southern Counties

July 2026

Hurst Farm, off Hurstwood Lane Residential Development

Project No: MTP Ref: 25-058

Document Reference No: 25-058_Hurst Farm_DTN_P04

Document Title: Drainage Technical Note

Date: July 2026

Client Name: Barratt Redrow Homes Southern Counties

Project Manager: Brett Morse

Author: Brett Morse

Produced By: **Milestone Transport Planning Limited**
7 Ancells Court, Rye Close, Fleet, Hampshire GU51 2UY - Tel: 01483 397888

Email: mail@milestonetp.co.uk
Web: www.milestonetp.co.uk

Document history and status

Revision	Date	Description	Prepared By	Checked By	Authorised By
P01	28/11/2025	First Issue	LP	BM	LP
P02	19/12/2025	Appendices Added	LP	BM	LP
P03	06/02/2026	Drawings updated	AM	BM	LP
P04	01/07/2026	Note updated following comments from LLFA	BM	BM	PK

CONTENTS

1. Introduction1

 Preamble 1

 Site Description 1

2. Drainage Strategy2

 Existing Drainage2

 Proposed Drainage3

3. Conclusion..... 7

Appendices

- Appendix 1 Drainage Strategy Plans
- Appendix 2 Causeway Drainage Calculations
- Appendix 3 Drainage Overland Flow Plans
- Appendix 4 Risk of Surface Water Flooding Plan
- Appendix 5 Existing Pipe Network Survey
- Appendix 6 Proposed SuDS Features Catchment Plan
- Appendix 7 Winter Groundwater monitoring
- Appendix 8 Southern Water Records

1. Introduction

Preamble

- 1.1. Milestone Transport Planning (MTP) have been commissioned by Barratt Redrow Southern Counties (BRSC) to prepare a Drainage Technical Note with regards to the site at Hurst Farm, off Hurstwood Lane to accompany to Reserved Matters Application (RMA).
- 1.2. The surface water drainage has been designed to utilise a gravity fed system with SuDS and attenuation features proposed to treat, control, and attenuate surface water runoff, prior to discharging to the existing watercourses. The foul water system has been designed to utilise a gravity fed system, ultimately discharging to the existing public sewer network:
 - Phases 1, 2, and 3 surface water drainage will discharge to the existing manhole located to the south east of Phase 3, which ultimately connects to the existing culverted watercourse on the western side of Hurstwood Lane.
 - Phases 1, 2, and 3 foul water drainage will discharge to the existing public foul network located within Hurstwood Lane. See Southern Water Records in [Appendix 8](#).
 - Phase 4 surface water drainage will discharge to the existing watercourse located east of Phase 4.
 - Phase 4 foul water drainage will discharge to the existing public foul water network within Hurstwood Lane.
- 1.3. This report aims to illustrate how the proposed RMA design accords with the Drainage Strategy and Flood Risk Assessment (FRA) prepared by WSP for the Outline Planning Submission, with regards to the 375 residential unit proposals only.

Site Description

- 1.4. The site is located along Hurstwood Lane, to the south of Haywards Heath. The local planning authority is Mid-Sussex, with West Sussex acting as the Lead Local Flood Authority (LLFA). The site is bounded by Rocky Lane (A272) to the north, Hurst Wood to the east, Hurstwood Lane to the south, and Fox Hill to the west.
- 1.5. The site is approximately 33.31 hectares of grazing land, with the current proposals for development consisting of 375 residential units, school provision, burial ground, open space, and all associated infrastructure.
- 1.6. Levels across the site vary greatly, with a high point of approximately 78m AOD to the northeast, and a low point of approximately 38m to the south.
- 1.7. The site is bisected by a series of existing ponds and watercourses, with the proposed residential development split into four phases. Phase 4 being located to the east of Hurstwood Lane, Phases 1 and 2 being located west of Hurstwood Lane and north of the existing ponds, and Phase 3 located to the south.

- 1.8. As identified within the approved WSP Flood Risk Assessment (FRA) ref: 70081355-RP-001, the site is classed as a 'More Vulnerable' development, with the site being located within Flood Zone 1.
- 1.9. The site is predominantly underlain by Upper Tunbridge Wells Sand formation - an impermeable strata, accompanied by levels of relatively high groundwater levels, peaking at circa. 1m below ground level (BGL).

2. Drainage Strategy

Existing Drainage

- 2.1. The existing surface water regime is understood to utilise the existing watercourse which bound the site, as well as the existing pond network which bisects the western parcel of land. These existing ponds are linked via a pipe network, where they ultimately discharge to a gravity network within the southeast corner of Phase 3 of the proposed residential development. A survey of the existing pond network was undertaken by MK Surveys in June of this year and a copy of the survey is shown appended in **Appendix 5**. It is not proposed to alter the existing discharge regime of ponds, with the proposed discharge points instead being located downstream. 3.0m easements will be provided either side of all identified culverted watercourses crossing the site, ensuring appropriate access for maintenance and safeguarding the functionality of the existing drainage infrastructure.
- 2.2. The recent drainage investigation survey undertaken on site, has identified a culverted watercourse linking each of the existing ponds and extending off-site, as far as reasonably practicable, in an attempt to establish its final outfall. It is currently understood that the system discharges at or near to the head of the Pellingford Brook located south-west which is likely to be located within private land making it difficult to freely obtain any further information.
- 2.3. Existing public foul water sewers are present within Hurstwood Lane, which are understood to be owned and maintained by Southern Water.
- 2.4. There is an existing foul water rising main present within Phase 4 of the proposed residential development which is to remain in-situ, with appropriate easements allowed for within the site layout.
- 2.5. An existing pump station is present to the southeast of Phase 3, however it is understood that this is now abandoned and the incoming service connections are to be treated as no longer in use.
- 2.6. There is also an existing foul water sewer heading from the northwest of the site, towards Hurstwood Lane. It is proposed that this sewer be diverted through the development as part of the construction works.
- 2.7. The existing greenfield run-off rates of 5.85 l/s/hectare have been calculated by WSP as part of the approved FRA, and these rates have been used to inform the proposed surface water drainage strategy.
- 2.8. The existing culverted water course is currently accommodating the existing catchment and associated flows, and, based on site observations, appears to be operating effectively and running freely.

Proposed Drainage

- 2.9. The principles set out within the approved FRA provided by WSP have been carried forward into the reserved matters design. The two surface water discharge locations identified have been utilised, as well as maintaining discharge rates of 5.85 l/s/hectare, based on the proposed impermeable area. This is in line with policy and best practice, providing an overall betterment and cause no adverse impact on the existing system.
- 2.10. The foul water is proposed to discharge to the existing public foul water sewer within Hurstwood Lane, in accordance with the strategy agreed at the Outline planning stage.
- 2.11. The proposed drainage strategy is shown on the Drainage Strategy Plans appended in **Appendix 1** of this report.

Surface Water

- 2.12. Development Phases 1-3 are proposed to discharge via a gravity fed piped network, utilising a mixture of permeable paving, cellular crates, and vegetated basins as attenuation features to provide storage and treatment, and enable a restricted discharge to the existing surface water network. As the proposed system discharges into an existing surface water network, the outfall for Phase 1-3 has been modelled with a 600mm surcharged outfall to simulate the existing pipe flowing full.
- 2.13. Development Phase 4 is proposed to discharge to the existing watercourse to the east, via a series of piped network, permeable paving, and vegetated basin providing storage and treatment. Ongoing connectivity to Pellingford Brook is shown on the Overall Drainage plan appended in **Appendix 1**. The access road from Hurstwood Lane to Phase 4 is proposed to discharge to a roadside swale, utilising a series of cellular crates to provide the required storage volume prior to discharging to the existing gravity sewer within Phase 3.
- 2.14. The maximum allowable discharge rates have been calculated utilising the agreed rate of 5.85 l/s/hectare, however the exact rates differ slightly from the WSP FRA, due to more detailed impermeable areas being calculated. Tables detailing the cumulative impermeable areas and the calculated discharge rates are provided below. See Proposed SuDs Features Catchment Plans appended in **Appendix 6**:

Table 2.1 – Proposed Impermeable Areas and Discharge Rate (Phases 1-3)

Phase	Impermeable Area (ha)	Maximum Allowable Discharge Rate (l/s)
Phase 1	1.02	
Phase 2	1.69	
Phase 3	2.35	
Total	5.06	29.6

Table 2.2– Proposed Impermeable Areas and Discharge Rates (Phase 4)

Phase	Impermeable Area (ha)	Maximum Allowable Discharge Rate (l/s)
Phase 4	1.48	8.7
Phase 4 Access Road	0.44	2.6

- 2.15. These rates are therefore in accordance with the rates set out within the previously approved FRA, and provide a betterment to the existing greenfield run-off.
- 2.16. The surface water drainage modelling has been undertaken using the following criteria:
- FEH-22 Rainfall Data
 - Summer and Winter CV of 1
 - Additional storage value set to 0
 - Climate Change allowance of 40% for the 1 in 10 and 1 in 30 year storm events
 - Climate Change allowance of 45% for the 1 in 100 year storm event
 - Additional 10% area allowance for areas susceptible to urban creep (Plot roofs and private driveways)
 - No flooding for all events up to and including the 1 in 30 year plus climate change event
 - Minor flooding in limited areas during the 1 in 100 year plus climate change events, with overland flow routes provided to allow potential floodwaters to discharge to areas away from residential properties. See Drainage Overland Flow Paths appended in **Appendix 3**
- 2.17. The attenuation features have been sized to accommodate the above criteria and rainfall events, storage of a similar quantum to that identified within the approved FRA has been utilised within the RM design, in similar locations, subject to the detailed design constraints.
- 2.18. The attenuation basins have been designed with a maximum side slope of 1:3, and have a minimum freeboard of 0.3m as recommended within the CIRIA SuDS Manual. Additional free board and more relaxed side slopes have been provided for the basin within Phase 4, such that it can be used as an amenity feature by residents.
- 2.19. Due to the high groundwater encountered, it is likely that some of the basins may require anti-flotation measures such as under-dig or drainage mats. These would be designed by a specialist during the detailed design stage. See Winter groundwater monitoring report undertaken by RSK Geosciences appended in **Appendix 7**.

- 2.20. It has not been possible to provide a basin of suitable size within Phase 3 as illustrated on the WSP plans within the approved FRA, and this has been replaced with cellular attenuation. This is due to the original Flood Risk Assessment (FRA) not allowing for the overly steep nature of the site and the existing overland flow routes, the existing ground in the location of the pond shown in the (FRA) is up to 1 in 16 and sits within the existing overland flow route. See Risk of Flooding Plan appended in **Appendix 4** . An open SuDs basin in this location would compromise the proposed storage volume required and interfere with the existing overland flow route.
- 2.21. The roadside swale illustrated adjacent the Phase 4 access road, proposed by WSP has been accommodated, however due to the circa. 10m level difference between the start and finish it is not possible to provide sufficient storage within this. Therefore additional cellular attenuation has been proposed. The swale is intended to be offered to WSCC Highways for adoption and will be shown within the S38 agreement plans. All relevant WSCC guidance will be followed.
- 2.22. An Ordinary Watercourse Consent application would be undertaken during the detailed design stage for the connection to the existing watercourse east of Phase 4. Proposed drawings have been updated to show onward connectivity using a combination of OS and Lidar data (due to 3rd party land ownership) illustrating the wider ditch network, from which ultimately discharges to Pellingford Brook to the South. See Overall Drainage Plan appended in **Appendix 1** for ongoing connectivity to Pellingford Brook.
- 2.23. The existing Northern balancing pond adjacent to the A272 includes an overflow pipe which discharges into the existing southernmost pond, this will require a diversion which is shown on the proposed surface water drainage drawing in **Appendix 1**. The existing balancing pond has a spillway located on the crest in the south-west corner together with a cut off ditch located at the bottom of the embankment incorporated within its construction which directs water to the south-west to the existing pond / strategic overland flow network. Proposed / existing exceedance flow route plans appended to **Appendix 3**.
- 2.24. The existing Hurstwood Grange Pond includes 2 outfall pipes, a 900mm pipe which discharges into the southern most pond and a 600mm dia pipe which bypasses the southernmost pond and ultimately discharges into the existing surface water sewer located in Hurstwood Lane. Due to the proposed layout both outfall pipes will need to be diverted within the proposed Road network as shown on the proposed Drainage Strategy Plans appended within **Appendix 1**. Any Exceedance flow from Hurstwood Grange pond would be directed along the proposed road network and into the Public open space at a location that coincides with the existing flow route as shown on the Overland Flow Plan appended within **Appendix 3**.
- 2.25. With proposed road gradients of up to 1 in 12, this precludes the use of certain SuDs features i.e. swales and limits the ability to use open SuDS feature in certain locations (due to the impact on existing overland flow routes and the amenity value of any proposed public open space). The drainage design has given consideration to the increased use of permeable paving in areas where gradients permit, in line with the National Standards for Sustainable Drainage Systems and CIRIA C753 (SuDS Manual).
- 2.26. Causeway Flow calculations are provided within **Appendix 2** of this report
- [CIRIA Pollution Mitigation Indices](#)
- 2.27. The site is categorised as a 'Low' risk development and it is therefore proposed that the required pollution mitigation would be provided through both permeable paving and vegetated attenuation

basins. The table below sets out the mitigation performance of each component in relation to the required indices for the development.

Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Low (Residential parking and general access roads)	0.5	0.4	0.4

Pollution Mitigation Measure	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Permeable Pavement	0.6	0.7	0.6
Detention Basin	0.5	0.5	0.6

Overland Flow and Exceedance Routes

- 2.28. As illustrated within the Overland Flow Plan appended within **Appendix 3** of this report, there are a limited number of instances where flooding may occur during the most extreme storm event. It is proposed that these flows would be routed away from residential properties either within the carriageway, or through areas of open space.

Levels have been designed such that properties would sit above the proposed carriageway wherever possible, in order to minimise the risk of flooding.

Foul Water

- 2.29. The proposed residential parcels have been designed to complement the existing steep topography of the site, and as such gravity connections to the existing public sewers are possible as illustrated within the previously approved FRA.
- 2.30. It is proposed that the foul water flows would be conveyed via a gravity fed network to the existing Southern Water manholes ref: 9203 & 9102
- 2.31. A Section 106 application will be prepared and submitted to Southern Water during the detailed design stage.

3. Conclusion

- 3.1. This report has illustrated how the proposed RMA drainage design accords with the principles set out within the previously approved FRA produced by WSP.
- 3.2. Surface water run-off is proposed to be conveyed and attenuated through various SuDS features, before discharging to the two agreed outfall locations at rates in-line with the existing greenfield run-off rate of 5.85 l/s/hectare.
- 3.3. Additional allowances have been made for climate change and urban creep, in line with national guidance.
- 3.4. Pollution mitigation would be provided in accordance with the requirements set out within the CIRIA SuDS manual, appropriate for the nature of the development.
- 3.5. Foul water flows from the site would be conveyed to the public foul water sewer located within Hurstwood Lane. See Sothorn Water records in **Appendix 8**.
- 3.6. The relevant discharge approvals and consents will be sought from the approving bodies during the detailed design stage.