Intended for
Wates Developments Limited

Document type
Report

Date
February 2026

LAND WEST OF TURNERS HILL ROAD AND NORTH OF HUNTSLAND, INCLUDING LAND AT HURST FARM, TURNERS HILL ROAD, CRAWLEY DOWN, WEST SUSSEX

DRAINAGE STRATEGY

LAND WEST OF TURNERS HILL ROAD AND NORTH OF HUNTSLAND, INCLUDING LAND AT HURST FARM, TURNERS HILL ROAD, CRAWLEY DOWN, WEST SUSSEX DRAINAGE STRATEGY

Project name	**Land West of Crawley Down**
Project no.	**1620011691-014**
Recipient	**Wates Developments Limited**
Document type	**Report**
Version	**3.0**
Date	**27/02/2026**
Prepared by	**David Major**
Checked by	**Anthony Guay**
Approved by	**Anthony Guay**
Description	**Surface Water and Foul Water Drainage Strategy Report**

Ramboll
Twenty3 Brunswick Place
Southampton
SO15 2AQ
United Kingdom

T +44 23 8081 7500
https://uk/ramboll.com

CONTENTS

EXECUTIVE SUMMARY

Ramboll UK Limited (Ramboll) has been appointed by Wates Developments Limited (Wates) to develop both surface water and foul water drainage strategies for the Proposed Development at 'Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm', at Turners Hill Road, Crawley Down, Crawley, West Sussex. The site is located at approximate coordinates 533517E, 137794N, at postcode RH10 4HB.

The Proposed Development is for a mixed residential scheme of up to 230 dwellings and a 70 bed care home. As part of the development, the site has been divided up into Fields 1, 2, and Field 8/Hurst Farm.

The proposed surface water drainage strategy consists of a series of swales and surface water attenuation basins that have been strategically located across the site.

A connecting network of swales, surface water attenuation areas, and gravity driven surface water sewers where necessary, have been located adjacent to the northern, eastern, and western boundaries of Fields 1 and 2, and along the north and northwest parts of Field 8/Hurst Farm. Runoff from Field 1 is proposed to discharge to an existing watercourse that was observed flowing away toward the west in the northwest corner of Field 1. Runoff from Field 2 is proposed to discharge to an existing watercourse located on the boundary between Fields 1 and 2. It was also observed to be flowing away toward the west. Runoff from Field 8/Hurst Farm is proposed to discharge to an existing watercourse that was observed flowing approximately east to west adjacent to the northern boundary of the site.

Surface water features have been sized appropriately to accommodate the additional runoff expected from the Proposed Development.

Discharge rates out of the attenuation features will be limited to the appropriate greenfield runoff rate, thereby considerably reducing the peak flows presently emanating from the site area. The strategy will therefore improve upon the current situation with regard to surface water management and flood risk.

Specific mitigation and maintenance works have been recommended at the site including the regular inspection of previously undertaken maintenance works in Field 1.

The proposed foul strategy is for connection into an existing foul sewer approximately 50 – 100 m south of the site.

The Drainage Layout Plans visualise the proposed drainage strategy and are presented in Figure 5 at the rear of the report.

1. INTRODUCTION

1.1 Background

1.1.1 Ramboll UK Limited (Ramboll) has been appointed by Wates Developments Limited (Wates) to develop both surface water and foul water drainage strategies for the Proposed Development at 'Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm', at Turners Hill Road, Crawley Down, Crawley, West Sussex. The site is located at approximate coordinates 533517E, 137794N, at postcode RH10 4HB.

1.1.2 The Proposed Development is for a mixed residential scheme of up to 230 dwellings and a 70 bed care home.

1.1.3 The latest Site Illustrative Masterplan is presented in Appendix A at the rear of the report.

1.2 Scope and Objectives

1.2.1 The aim of this report is to provide a detailed overview of the surface water and foul water drainage strategies for the Proposed Development. This includes the proposed management and disposal of surface water, and how calculated surface discharge rates are to be controlled and discharged. This report includes the following:

- Review of existing drainage conditions at the site;
- Review of site topography;
- Determination of existing surface water runoff rates at the site and required storage volumes;
- High level calculation of anticipated foul water generation from the Proposed Development;
- Review of existing sewer records for the site and its surrounds;
- Options appraisal of Sustainable Urban Drainage Systems (SuDS) and their suitability for the Proposed Development; and
- Proposals for measures to mitigate the generation of surface water runoff from the Proposed Development.

1.3 Ramboll and Climate Change

1.3.1 Ramboll UK Ltd is a Partner for Sustainable Change, and as such sustainability is central to our assessments and reporting. We have made specific considerations for climate change throughout this report, to ensure that our planning and design advice is supportive of an approach to ensure robust and sustainable societies.

1.4 Consultation

1.4.1 A foul water enquiry relating to an earlier iteration of the Proposed Development was issued to Thames Water in March 2024. The enquiry was for a total of 400 dwellings both to the north and south of Huntsland, with approximately 200 dwellings within Fields 1 and 2 proposed to discharge to an existing foul water sewer located approximately 50 - 100 m south of the site. The enquiry was approved.

1.4.2 West Sussex County Council, the Lead Local Flood Authority (LLFA), were engaged in November 2024 regarding pre-application discussions relating to this earlier iteration of the Proposed Development (400 dwellings both north and south of Huntsland). The LLFA were content overall with the drainage proposals, subject to a number of recommendations that were addressed as part of the formal outline planning submission (DM/25/0016) submitted in January 2025, and subsequent follow-up submissions. It is noted that following the initial formal submission of the previously consented scheme (DM/25/0016), the LLFA made a series of comments requesting further information, which was provided in subsequent Technical Addendum reports, submitted in the following months. The information provided in those Technical Addendum reports has been incorporated where necessary into both this report and the latest Flood Risk Assessment (RUK2021N00014-RAM-RP-00287) for the current proposed scheme.

1.4.3 A subsequent foul water enquiry with the same proposed connection into the existing foul water sewer located approximately 50 – 100 m south of the site was submitted to Thames Water in May 2025 and approved in June 2025. This enquiry was for a total of 424 dwellings to the north and south of Huntsland, and a 65 bed care home, including 224 dwellings to the north of Huntsland.

1.5 General Limitations and Reliance

1.5.1 This report has been prepared by Ramboll exclusively for the intended use by the Client in accordance with the agreement between Ramboll and the Client defining, among others, the purpose, the scope and the terms and conditions for the services. No other warranty, expressed or implied, is made as to the professional advice included in this report or in respect of any matters outside the agreed scope of the services or the purpose for which the report and the associated agreed scope were intended, or any other services provided by Ramboll.

1.5.2 In preparation of the report and performance of any other services, Ramboll has relied upon publicly available information, information provided by the Client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate, complete, and available to Ramboll within the reporting schedule.

1.5.3 Ramboll's services are not intended as legal advice, nor an exhaustive review of site conditions and/or compliance. This report and accompanying documents are intended solely for the use and benefit of the Client for this purpose only and may not be used by or disclosed to, in whole or in part, any other person without the express written consent of Ramboll. Ramboll neither owes nor accepts any duty to any third party, unless formally agreed by Ramboll through that party entering into, at Ramboll's sole discretion, a written reliance agreement.

1.5.4 Unless otherwise stated in this report, the scope of services, assessment and conclusions made assume that the site will continue to be used for its proposed end-use without further significant changes onsite. Unless stated otherwise, the geological information provided is for general environmental interpretation and should not be used for geotechnical and/or design purposes.

2. SITE DETAILS

2.1 Site Location and Description

2.1.1 The site is located on land to the west of Crawley Down, a village in the Mid Sussex district of West Sussex, England. The site is located at approximate coordinates 533517E, 137794N, at postcode RH10 4HB. The Proposed Development is for up to 230 dwellings and a 70 bed care home.

2.1.2 The site currently consists of undeveloped greenfield land in the case of Fields 1 and 2, and existing farmland with associated farm buildings, residential dwellings, and access in the case of Field 8/Hurst Farm, with adjacent and surrounding land uses as follows:

- North: Mature woodland, including Pescotts Wood and Wins Wood. Approximately 150 m further north is Westlands Wood. Woodland is denser to the northwest, with areas of greenspace more common to the north and northeast, on either side of Turners Hill Road (B2028);
- East: The existing estate on Wychwood Place, Turners Hill Road and immediately beyond the wider residential area of Crawley Down;
- South: Intermittent woodland and greenspace, and Huntsland (private road); and
- West: Intermittent woodland and a series of farms/smallholdings and cottages.

2.1.3 The wider residential area of Crawley is located approximately 3.1 km west of the site. The Site Location Plan is presented in Figure 1 at the rear of the report. The Plan includes labels of Fields 1 and 2, and Field 8/Hurst Farm.

2.2 Site Topography

2.2.1 A site topographical survey[1] was previously undertaken at the site. A description of the topography is summarised as follows:

Field 1

2.2.2 Field 1, as indicated in Figure 1, is shown to fall from approximately 118.4 m Above Ordnance Datum (AOD) in the southeast to approximately 111.5 m AOD in the northwest. The survey indicates steadily falling levels from east to west along both the northern and southern boundaries of the field, and from south to north along both the western and eastern boundaries of the field. Levels in the central part of the field are typically between 115 and 116 m AOD.

[1] CD Surveys Ltd, Topographical Survey Overall, W/2401010, February 2024.

Field 2

2.2.3 Field 2 is located to the immediate south of Field 1 and is separated from Field 1 by an existing ditch/hedgerow/wire fence. The levels within Field 2 are shown to fall in all directions from an approximately central point within the southern half of the field, shown to be at approximately 126.1 m AOD. The steepest falls are indicated to be toward the north and south, with minimum levels of approximately 115.4 m AOD and 118 m AOD indicated by the survey in the northwest and southwest corners of the field respectively. Levels are also indicated to fall from east to west across the northern part of the field.

Field 8/Hurst Farm

2.2.4 A separate topographical survey[2] was undertaken for Hurst Farm. A description of the topography is summarised as follows:

2.2.5 Field 8/Hurst Farm is located immediately to the northeast of Field 1 and is indicated to fall from approximately 118.3 m AOD in the east of the field adjacent to Turners Hill Road, to approximately 112.1 m AOD in the northwest. The survey indicates steadily falling levels from east to west and south to north. Levels in the central part of the field typically range between 114 and 116 m AOD. An existing pond, at approximate levels of between 112 and 113 m AOD, and a discharging ditch at approximately 111.7 m AOD at its lowest point, are indicated to be present in the northwest of the field.

Summary and Surrounding Area

2.2.6 The site topographical surveys are presented in Appendix B at the rear of the report.

2.2.7 A site visit was undertaken in March 2024 for Fields 1 and 2 by representatives from both Ramboll and Wates. The topography was observed to be in line with that shown by the topographical survey. This is also true for Field 8/Hurst Farm, which was visited during a separate site visit. A series of photographs taken while onsite are presented in Appendix C at the rear of the report.

2.2.8 Light Detection and Ranging (LiDAR) data[3], is shown to broadly agree with the findings of the two topographical surveys, and the site visit. Outside the site boundary, the topography is as follows:

- North: Land is shown to fall steadily toward the north and northwest, with levels falling approximately 4 to 5 m AOD over approximately 200 m;
- East: Land is shown to rise steadily within residential areas of Crawley Down to the east of Field 5 (see Appendix A). Levels are indicated to rise approximately 3 m AOD over approximately 200 m;
- South: Land is shown to fall approximately 18 to 20 m AOD toward an existing watercourse over approximately 150 to 170 m; and

[2] CD Surveys Ltd, Topographical Survey, WD/2503001, March 2025.

[3] Department for Environment Food & Rural Affairs, Data Services Platform, LIDAR Composite Digital Terrain Model (DTM) – 1m [online]. Available at: https://environment.data.gov.uk/dataset/13787b9a-26a4-4775-8523-806d13af58fc. Accessed January 2026.

- West: Land is typically shown to fall toward the west, with falls of approximately 10 to 15 m AOD over approximately 200 m.

2.2.9 LiDAR Topography is presented in Figure 2 at the rear of the report.

2.3 Hydrological Setting

2.3.1 A review of the EA Statutory Main River Map[4] indicates there are no EA Main Rivers located within the boundary of the site. The nearest is located approximately 2.1 km northwest of the site.

2.3.2 The site drains toward existing OS Watercourses[5] located approximately 150 to 200 m west of the site. These watercourses ultimately drain northwards and become tributaries of the River Mole. The Mole then flows northwest through Surrey for approximately 80 km (approximately 50 miles) to the River Thames at Hampton Court Palace.

2.3.3 The Hydrological Setting, and the wider watercourse network, is presented in Figure 3 at the rear of the report.

March 2024 Site Visit - Observations

2.3.4 The headwaters of two watercourses that discharge from the site toward the west were observed to be present. These watercourses are identified in Appendix C at the rear of the report (Photos 1 and 7). When combined with the Photograph Location Plan (also found in Appendix C), the presence of watercourses in these locations can be confirmed. One is located in the northwest of Field 1, whereas the other is located along the boundary of Fields 1 and 2. It is considered that these two watercourses join one of the existing watercourses located within Wins Wood, as identified in Figure 3.

2.3.5 For the watercourse leaving Field 2 located along the boundary of Fields 1 and 2, the photographs shown in Table 2.1, presented in Appendix C at the rear of the report, which were taken from the northwest corner of Field 2/southwest corner of Field 1, confirm the presence of this watercourse.

2.3.6 Along the northern boundary of Field 1 and to the immediate northeast, large areas of surface water flooding were observed to be present, with water flowing approximately east to west. This extended into the wooded areas to the north of Field 1.

2.3.7 Saturated ground and standing water were observed in lower lying areas in the east of Field 2, adjacent to the site boundary.

[4] Department for Environment Food & Rural Affiars, Data Services Platform, Statutory Main River Map [online]. Available at: https://environment.data.gov.uk/dataset/25dde009-ba7d-40de-8380-c5c3bb32ccdc. Accessed January 2026.

[5] OS Ordnance Survey, Data Hub, OS OpenMap – Local [online]. Available at: https://osdatahub.os.uk/data/downloads/open/OpenMapLocal. Accessed January 2026.

2.3.8 Within Field 8/Hurst Farm, surface water was observed during a separate site visit to drain toward an existing watercourse flowing approximately east to west, adjacent to the northern boundary of the site. This watercourse was observed to continue westward into Wins Wood. It is considered that this watercourse joins one of the existing watercourses located within Wins Wood, as identified in Figure 3. The discharge of surface water from Field 8/Hurst Farm is visualised in the photographs shown in Table 2.2, presented in Appendix C at the rear of the report, which were taken from the northwest corner of Field 8/Hurst Farm.

2.3.9 EA surface water mapping, from the EA's Check Your Long Term Flood Risk mapping service[6], further substantiates the presence of the existing watercourses leaving the site.

2.4 Geological and Hydrogeological Setting

2.4.1 Geology and ground conditions at Fields 1 and 2 were investigated by Geo-Environmental[7] in November 2023. The ground conditions typically encountered across the boreholes comprised a mantle of Topsoil overlying Made Ground and the Upper Tunbridge Wells Sand Formation.

2.4.2 Groundwater monitoring investigations were previously undertaken at Fields 1 and 2 by Geo-Environmental[8] between November 2023 and April 2024. They indicate a groundwater level typically shallower than 2 m Below Ground Level (BGL). In many areas of Fields 1 and 2, the level was observed to be shallower than 1 m BGL. In parts of Field 1, groundwater levels were recorded at less than 0.1 m BGL.

2.4.3 Geology and ground conditions at Field 8/Hurst Farm were investigated by Geo-Environmental[9][10] in January 2026. Underlying geology at Field 8/Hurst Farm was observed to be similar to that in Fields 1 and 2, with Topsoil overlying Made Ground and the Upper Tunbridge Wells Sand Formation. It is understood that winter groundwater monitoring is currently ongoing at Hurst Farm, with the last visit planned for March 2026. It is noted that during an initial visit dated to August 2025, groundwater was recorded at depths of between 1.26 and 1.8 m BGL. The results of monitoring to the end of January[11] indicate a groundwater level consistently shallower than 2 m BGL, and often shallower than 1 m BGL. Furthermore, in parts of the field, groundwater levels were recorded at less than 0.1 m BGL.

2.4.4 According to the Cranfield University LandIS soils map[12], the soil at the site is described as 'slightly acid loamy and clayey soils with impeded drainage'.

[6] GOV.UK, Check the long term flood risk for an area in England [online]. Available at: https://check-long-term-flood-risk.service.gov.uk. Accessed January 2026.

[7] Geo-Environmental, Ground Appraisal Report, Land Off Turners Hill Road, Crawley Down, West Sussex, RH10 4HB, January 2024, GE21953-GAR-JAN24.

[8] Geo-Environmental, Land off Turners Hill Road, Crawley Down, West Sussex, RH10 4HB – Ground Gas Assessment & Winter Groundwater Monitoring, May 2024, GE21953 – LRv1AP240203.

[9] Geo-Environmental, Desk Study Report, Hurst Farm, Turners Hill Road, Crawley Down, West Sussex, RH10 4HN, January 2026, GE23261 – DSRv2AP260130.

[10] Geo-Environmental, Ground Appraisal Report, Hurst Farm, Turners Hill Road, Crawley Down, West Sussex, RH10 4HN, January 2026, GE23261 – GARv2AP260130.

[11] Geo-Environmental, Hurst Farm, Crawley Down, GE23261 Groundwater Monitoring to End of Jan.

[12] LandIS, Soilscapes Viewer [online]. Available at: https://www.landis.org.uk/soilscapes/. Accessed January 2026.

2.4.5 According to British Geological Survey (BGS) GeoIndex Onshore data[13], the underlying rock unit beneath the site is defined as a moderately productive aquifer and is summarised as sandstones of the Ashdown Formation yielding up to 60 L/s and Tunbridge Wells Sand yielding up to 10 L/s; separated by Wadhurst Clay.

2.4.6 According to the BGS Geology Viewer[14], the underlying geology beneath the site is defined as the Upper Tunbridge Wells Sand. This is typically described as interbedded sandstone and siltstone. No superficial geology layers are recorded.

2.4.7 During the March 2024 site visit, surface water flooding was observed along the northern and western boundaries of Field 1, with adjacent woodland areas also seeing some flooding. In central areas of the field, the ground was observed to be saturated, but surface water remained in the lower lying areas adjacent to the northern and western site boundaries, suggesting poor infiltration rates onsite.

2.5 Existing Drainage

2.5.1 At present, Fields 1 and 2 comprise undeveloped, greenfield land with no impermeable surfaces. Field 8/Hurst Farm comprises existing farmland and includes impermeable surfaces in the central and eastern parts of the field associated with existing farm buildings, residential dwellings, and the access from Turners Hill Road.

Surface Water

2.5.2 According to the LandIS soils map (Section 2.4.4), the site is stated to drain to the 'stream network'. This statement is backed up by observations made during the site visit undertaken in March 2024, where saturated ground and pooling of water were observed in many places across the site, as well as the drainage of surface water to existing watercourses both on and offsite.

2.5.3 During the March 2024 site visit, surface water at the site was observed to be draining toward the west. In Field 1, surface water was observed to flow toward the northwest of the field where it pooled and then flowed away in a ditch into the woods to the west. A similar watercourse was observed to be flowing west into the woods in the northwest corner of Field 2 along the hedgerow that marked the boundary between Fields 1 and 2.

2.5.4 In Field 8/Hurst Farm, surface water was observed during a separate site visit to be directed via a private surface water drain into an existing ditch/watercourse flowing approximately east to west adjacent to the site's northern boundary. This ditch/watercourse was observed to lead into the wooded area to the west. Furthermore, the ditch/watercourse was additionally observed to pass beneath the access road off Turners Hill Road, and was observed flowing approximately south to north, before flowing west along the site's northern boundary.

2.5.5 Thames Water sewer records are presented in Appendix D at the rear of the report.

[13] BGS British Geological Survey, GeoIndex Onshore [online]. Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html. Accessed January 2026.

[14] BGS Geology Viewer [online]. Available at: https://geologyviewer.bgs.ac.uk. Accessed January 2026.

Foul Water

2.5.6 The Thames Water sewer records indicate the presence of a 225 mm diameter foul (wastewater) sewer approximately 50 - 100 m south of the site. The sewer is gravity driven and is joined by a smaller 100 mm diameter connection flowing north to south from Huntsland House.

2.6 Surface Water Flood Risk

2.6.1 The EA's Check Your Long Term Flood Risk mapping service (Section 2.3.9) presents two scenarios for the yearly chance of flooding from surface water. The first is a present-day scenario and the second is a future scenario that presents a yearly chance of flooding between 2040 and 2060 including allowance for the impacts of climate change. According to the mapping, under both scenarios, over 95% of the site is located in an area considered to be at a Very Low yearly chance of surface water flooding. Areas at a High yearly chance are present in isolated areas in Field 8/Hurst Farm and are surrounded by areas at a Medium and Low yearly chance. These areas are typically associated with the existing farm buildings and ditches within the area. The different surface water flooding categories are defined below:

- High chance – Greater than a 1 in 30 (3.3%) annual probability;
- Medium chance – Between a 1 in 30 and 1 in 100 (3.3% to 1%) annual probability;
- Low chance – Between a 1 in 100 and a 1 in 1,000 (1% to 0.1%) annual probability; and
- Very Low chance – Less than a 1 in 1,000 (0.1%) annual probability.

2.6.2 The EA state that the Risk of Flooding from Surface Water mapping is an assessment of where surface water flooding may occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead[15]. It is further stated that it includes information about flooding extents and depths and that it is produced using national scale modelling and enhanced with compatible, locally produced modelling from lead local flood authorities.

2.6.3 It is noted that the EA mapping indicates areas at risk of flooding from surface water in addition to flood risk from rivers or the sea. It does not however account for building removal, ground raising, or site levelling.

2.6.4 Whilst the surface water mapping indicates where there could be heightened surface water flood risks in some surrounding areas, this does not account for existing surface water drainage measures which would be expected to significantly reduce surface water flood risks from that assumed and presented by the mapping. The EA's data confirms that the mapping at this location is based on national scale modelling[16], and therefore it should not be used for site-specific assessment of risk.

2.6.5 The EA state that the risk scenarios shown on the mapping may help to inform risk assessments, but that further assessment is likely to be needed to assess planned development[17].

[15] Department for Environment Food & Rural Affairs, Data Services Platform, Risk of Flooding from Surface Water, January 2025 [online]. Available at: https://environment.data.gov.uk/dataset/b5aaa28d-6eb9-460e-8d6f-43caa71fbe0e. Accessed January 2026.

[16] Department for Environment Food & Rural Affairs, Data Services Platform, Risk of Flooding from Surface Water – Model Origin [online]. Available at: https://environment.data.gov.uk/dataset/3e299e0a-786c-4c34-836d-1dfe97ee9edf. Accessed January 2026.

[17] GOV.UK, Check your long term flood risk, Are you looking for information to support a planning application? [online]. Available at: https://check-long-term-flood-risk.service.gov.uk/information-for-planning. Accessed January 2026.

2.6.6 It is noted that surface water emanating from the Proposed Development at the site will be managed by the proposed surface water drainage strategy, described in Section 3 below.

2.6.7 EA Surface Water Flood Risk is presented in Figures 4a and 4b at the rear of the report.

2.7 Sewer Flood Risk

2.7.1 It is noted that no potential overland flow paths are shown in the EA Long Term Flood Risk mapping service (Section 2.6.1) to be leading onto the site. The site is not therefore considered to be at risk from sewer flooding originating outside the site.

2.7.2 Furthermore, Fields 1 and 2 are presently comprised of undeveloped, greenfield land, with no existing sewer network. The risk to these areas from sewer flooding is therefore considered to be negligible.

2.7.3 Whilst an existing surface water drain was observed in Field 8/Hurst Farm to be directing surface water into the existing watercourse flowing approximately east to west adjacent to the site's northern boundary, this alone is not considered to pose a significant flood risk to the site, as any flows in excess of the existing capacity would be expected to follow the existing exceedance flow route, which would follow the route of the existing watercourse adjacent to the site's northern boundary, as described in Section 2.5 above, directing flows away from the site.

2.7.4 It is noted that surface water emanating from the proposed drainage network at the site will be controlled by the proposed surface water drainage strategy, described in Section 3 below.

3. SURFACE WATER DRAINAGE STRATEGY

3.1 Overview

3.1.1 The following section sets out a high-level strategy for the management of surface water emanating from the new development. The strategy has been developed through use of the sustainable drainage guidance for the South East of England[18], along with the guidance outlined in the Non-Statutory National Standards for Sustainable Drainage Systems[19].

3.1.2 The Drainage Layout Plans are presented in Figure 5 at the rear of the report and should be read in conjunction with this section.

3.1.3 The previous outline planning submission (DM/25/0016) for Fields 1 and 2, was approved by Mid Sussex District Council in September 2025. It is noted therefore that the LLFA (West Sussex County Council) have already accepted the principles of the former drainage strategy, which provides the basis for this updated strategy.

3.2 Surface Water Catchments

3.2.1 In order to retain the existing hydrological characteristics of the site, it is proposed to manage surface water based on existing catchments and their associated drainage routes.

3.3 Disposal of Surface Water

3.3.1 Standard 1 of the National Standards for Sustainable Drainage Systems (Section 3.1.1) establishes a hierarchy for surface water disposal, which encourages a SuDS approach. The Standard states that runoff from the development not collected for non-potable use, shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the following hierarchy:

1. Infiltration to ground; or where that is not reasonably practicable,
2. Discharge to an above ground surface water body; or where that is not reasonably practicable,
3. Discharge to a surface water sewer, or another piped surface water drainage system; or where that is not reasonably practicable,
4. Discharge to a combined sewer.

[18] AECOM, Water. People. Places. A guide for master planning sustainable drainage into developments. Prepared by the Lead Local Flood Authorities of the South East of England, September 2013 [online]. Available at: https://www.midsussex.gov.uk/media/2909/water-people-places-a-guide-for-master-planning-sustainable-drainage-into-developments.pdf. Accessed February 2026.

[19] GOV.UK, Guidance, National standards for sustainable drainage systems [online]. Available at: https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems. Accessed February 2026.

3.3.2 A review of the existing drainage, hydrology, and underlying ground conditions at the site (as described in Section 2), indicates that permeability is likely to be low across the site, and as such infiltration is unlikely to be a feasible option for the disposal of surface water.

3.3.3 On the assumption that infiltration would not be viable, the most convenient points of connection for surface water to a watercourse would be as follows:

- Discharge from the development to be split between three observed watercourses, the first leaving the site in the northwest corner of Field 1, the second leaving the site in the northwest corner of Field 2, and the final watercourse leaving the site in the northwest corner of Field 8/Hurst Farm.

3.4 Runoff Rates and Storage

3.4.1 The site is almost entirely greenfield in its current state, and as such runoff from the site post-development will need to be controlled to the equivalent greenfield QMED rate. Surface water attenuation and flow control will need to be of sufficient design and capacity to ensure the 1 in 100 plus 40% climate change event can be attenuated within the site, restricting onward flow to the QMED greenfield rate.

3.4.2 The existing site runoff was calculated using the Rural Runoff calculator within InfoDrainage 2024.5. QMED rates of 19.8 L/s, 41.6 L/s, and 19.3 L/s, were calculated for Fields 1, 2 and 8/Hurst Farm respectively.

3.4.3 Based on the requirement for attenuating to the above stated runoff rates, storage volumes of 1,298 – 1,992 m^3, 3,793 – 5,660 m^3, and 965 – 1,494 m^3, were calculated for Fields 1, 2, and 8/Hurst Farm respectively. The arrangement of all the proposed storage is indicated in Figure 5 (Drainage Layout Plans). Impermeable areas have been estimated based on the site masterplan. An allowance of 10% for urban creep has been incorporated into the storage calculations. This is shown in the Drainage Layout Plans in Figure 5 at the rear of the report.

3.4.4 Please see Appendix E for further information, and copies of the InfoDrainage Calculations.

3.5 SuDS Options

3.5.1 Table 3.1 below provides an overview of potentially suitable SuDS options available for attenuating surface water runoff.

3.5.2 It is noted that within the Drainage Layout Plans, as presented in Figure 5 at the rear of the report, the larger surface water storage areas proposed at the site are collectively referred to as Swales/Attenuation Basins. At detailed design, these areas could alternately form balancing ponds, detention basins, or wetlands, depending on which is most appropriate to each individual location.

Table 3.1: Sustainable Drainage Options

SUDS Group	Technique	Image	Description	Advantages	Disadvantages	Suitable for Use at Site?
Retention	Balancing pond		Provides both storm water attenuation and treatment. Runoff from each rain event is detained and treated in the pool. The retention time promotes pollutant removal through sedimentation.	Good removal of pollutants, can be used where groundwater is vulnerable, good community acceptability, high ecological, and amenity benefits.	No reduction in runoff volume, land take may limit use in high density sites.	✓ Potential for inclusion in lower-lying areas before discharge from the site.
	Sub-surface storage		Oversized pipes, tank systems and modular geocellular systems that can be used to create a below ground storage structure.	Modular and flexible, dual usage (infiltration/storage, high void ratios), can be installed beneath trafficked and soft landscaped areas.	No water quality treatment.	✗✓ Better options available considering nature and character of development, though potential for use where considered necessary.
Wetland	Shallow wetland Extended detention wetland Pond wetland Pocket wetland Submerged gravel wetland Wetland channel		Wetlands provide stormwater attenuation and treatment. They comprise shallow ponds and marshy areas, covered in aquatic vegetation. Wetlands detain flows for an extended period to allow sediments to settle and to remove contaminants. They can provide significant ecological benefits.	Good pollutant removal and if lined can be used where groundwater is vulnerable. Good community acceptability, ecological and amenity benefits.	Land take is high, requires baseflow, little reduction in runoff volume, not suitable for steep sites.	✓ Potential for inclusion in lower-lying areas before discharge from the site. Poorly draining ground would be well suited to wetlands.
Infiltration	Infiltration trench Infiltration basin		Surface water runoff can be discharged directly to ground for infiltration by soakaways, basins, or trenches. A	Reduces the volume of runoff, effective at pollutant removal, contributes to groundwater	Requires appropriate pre-treatment, basins require	✗ Unlikely to be viable due to underlying ground.

SUDS Group	Technique	Image	Description	Advantages	Disadvantages	Suitable for Use at Site?
	Soakaway		prerequisite is that both groundwater and ground conditions are appropriate to receive the quality and quantity of water generated.	recharge, simple and cost-effective, easy performance observation.	a large flat area, offset from foundations.	
	Porous paving Permeable paving		Block or porous paving allows runoff to infiltrate through to sub-base layer. Water can then be infiltrated into ground or conveyed into storage or drainage systems.	Reduces the volume of runoff and if designed for infiltration contributes towards groundwater recharge. Easy to install and retrofit. Simple to manage. If lined can be used where groundwater is sensitive.	Not suitable for heavily trafficked areas or adoptable roads. Requires regular sweeping to prevent clogging with dirt.	✓ Should be incorporated for parking areas and access roads where appropriate.
Filtration	Surface sand filter Sub-surface sand filter Perimeter sand filter		Structures designed to treat surface water runoff through filtration using a sand bed filter medium. The filters can be designed with or without infiltration. Temporary storage of runoff is achieved through ponding above the filter layer. They are used where particularly high pollutant removal is required.	Flexibility of design, efficient in removing pollutants, suitable for retrofits and in tightly constrained urban locations.	Not for high sediment content, detention times can support algae growth, minimum hydraulic head of 1.2 m required, possible odour problems, high capital, and maintenance cost.	✗ Unlikely to be viable due to poorly draining nature of the site. Better options available considering nature and character of development.
	Bioretention/filter swale		Vegetated strips of land designed to accept runoff as overland sheet flow between a hard-surfaced area and a receiving system.	Landscaping features, effective in removing pollutants, flexible layout to fit into landscape, suited for highly impervious areas, good retrofit capability, effective pre-treatment option.	Requires landscaping and management, large land requirement, not suitable for steep sites; no significant attenuation or reduction of flows.	✓ Could be used alongside highway areas for treatment of highway runoff.
	Filter trench/drain		Shallow excavations filled with rubble or stone that create temporary subsurface storage for filtration of storm water runoff.	Hydraulic benefits achieved with filter trenches, trenches can be incorporated into site landscaping	High clogging potential without effective pre-treatment, limited to small	✗ Better options available considering nature and character of development.

SUDS Group	Technique	Image	Description	Advantages	Disadvantages	Suitable for Use at Site?
			Receive lateral inflow from an adjacent impermeable surface.	and fit well beside roads and car parks.	catchments, high cost of replacing filter material.	
Detention	Detention basin		Surface storage basins that provide flow control through attenuation. Normally dry and in certain situations the land may also function as a recreational facility.	Cater for a wide range of rainfall events, can be used where groundwater is vulnerable, potential for dual land use, easy to maintain.	Land take, little reduction in runoff volume, detention depths constrained by levels.	✓ Potential for inclusion in lower-lying areas before discharge from the site.
	Enhanced dry swale Enhanced wet swale		Swales are linear vegetated drainage features in which surface water can be stored or conveyed. They can be designed to allow infiltration, where appropriate.	Incorporate into landscaping, good removal of pollutants, reduces runoff rates and volumes, low cost.	Not suitable for steep areas, significant land take, not suitable in areas with roadside parking.	✓ Should be used to form the spine of the blue-green network throughout the site. Can be designed to cascade through site where falls are steep.
Conveyance	Conveyance swales Rills		Formal linear drainage features in which surface water can be stored or conveyed. They can be incorporated with water features such as ponds or waterfalls where appropriate.	Negate the need for underground pipework. Can provide some attenuation. Possible reduction in runoff volume via plant uptake and infiltration.	Potential trip/wheel hazard, disabled access issues.	✗ Better options available considering nature and character of development.
Source control	Green/blue roof		Multi-layered system that covers the roof of a building with vegetation cover/landscaping over a drainage layer. Designed to intercept and retain precipitation, reducing the volume of runoff and attenuating peak flows.	Mimics greenfield state of building footprint for high density developments, good removal of pollutants, ecological benefits, insulates buildings, sound absorption.	Additional weight, not appropriate for steep roofs, maintenance of roof vegetation.	✗ Not suitable for private dwellings.

SUDS Group	Technique	Image	Description	Advantages	Disadvantages	Suitable for Use at Site?
	Rainwater harvesting		Uses rainwater coming from roofs to supply toilets, washing machines and irrigation systems. Harvested rainwater is stored underground and is substituted for potable water mains supply, reducing both site discharge and water consumption.	Can provide source control of storm water runoff, reduces demand on mains water.	Use is dependent on demand requirements, contributing surface area, and seasonal rainfall characteristics.	✓ Should be incorporated where suitable as part of a 'SuDS approach', as described in the National Standards for Sustainable Drainage Systems (Section 3.1.1).

3.6 Preferred SuDS Options

3.6.1 Table 3.2 outlines briefly the suitability of each of the SuDS options in consideration of the site conditions. The following section provides more detail on the preferred SuDS options, and how these will combine to form the overall strategy for managing surface water.

3.6.2 The most effective approach to incorporating SuDS into the development is to plan for and include them from the outset, and ensure SuDS and blue-green corridors for the transfer of surface water are represented in the masterplan development. This has been the approach for the Proposed Development, which due to the relatively low-density of housing proposed, the large amount of amenity and open-space (which is highly suitable for 'doubling up' as SuDS storage), and the good drainage falls across the various development areas, has proved highly suitable for the incorporation of SuDS.

3.6.3 The most value can be added by SuDS through adoption of a hierarchical model, whereby measures are incorporated at each level of the development, forming a tiered approach to managing surface water. Table 3.2[20] below summarises how this approach could work at the site.

Table 3.2: Proposed SuDS Hierarchy

Hierarchy	Measures	Flow Control Detail	Design Considerations
Street Level	Permeable paving for all driveways. Permeable tarmac for all internal roads. Rain gardens, serving 2-6 properties as a destination for roof water.	Check dams, small diameter pipes, low gradients, flow baffles. Hydrobrakes should be avoided for street level flow control.	Street level SuDS could be highly effective in managing the flow of surface water through the development, ensuring runoff is diverted away from dwellings. Parking areas and driveways are particularly suitable for permeable paving. Rain gardens can be easily incorporated into grass verges and provide enhancement to green open space.
Neighbourhood Level	Swales to form the basis of connectivity for blue-green corridors. Small storage ponds.	Flow to be controlled through a system of regular check dams, orifices, natural weirs/informal overflows, and engineered levels. Formal/engineered flow control should be avoided at this stage.	Swales would be especially suitable for the controlled transmission of surface water through the site. Drop kerbs can be used to facilitate movement of surface water off highway areas towards SuDS/blue-green infrastructure. Blue-green corridor routes should be used in parallel as overland flow routes for extreme surface water events. Given the identified flood risk, opportunities for storing/slowing the rate of runoff should be adopted.
Catchment Level	Wetlands, larger storage ponds. Swales.	Controlled via formal flow control, either hydrobrake or overflow weir.	The low lying areas of the site should be retained as more formal areas for surface water storage.

[20] The proposals presented in Table 3.2 present both outline measures as indicated in the Drainage Layout Plans presented in Figure 5, and more detailed measures which may or may not be taken forward at detailed design stage.

	Large amenity areas would be suitable for storage ponds and could be used to provide biodiversity net gain. Overland flow routes for exceedance events should be engineered to naturally flow to these areas. Would take up typically 10% of the site area, although this can be reduced through effective use of street and neighbourhood level measures.

3.6.4 The preferred configuration of the SuDS/blue-green infrastructure design has been agreed as part of the detailed site masterplanning to be submitted as part of the planning application. The drainage strategy has been informed by the site masterplan and is illustrated in Figure 5. The strategy proposes the use of swales and larger storage or attenuation areas across the site, connected via surface water sewers where it is deemed necessary to do so. The intention is for ultimate disposal of surface water to the locations as stated in Section 3.3.

3.7 Biodiversity Net Gain

3.7.1 Biodiversity net gain (BNG) is an approach to development. It makes sure that habitats for wildlife are left in a measurably better state than they were prior to the development[21]. In England, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990[22], unless exempt.

3.7.2 The benefit of including SuDS measures across an effective hierarchy is that much of the BNG requirements can be fulfilled through the implementation of certain measures. The use of wetlands, rain gardens, swales, and blue-green corridors in particular, are beneficial in terms of BNG, and their inclusion can reduce the onus elsewhere in the site.

3.8 Treatment of Runoff

3.8.1 The proposed treatment of runoff and removal of contaminants is summarised in Table 3.3.

[21] GOV.UK, Guidance, Understanding biodiversity net gain, 2025 [online]. Available at: https://www.gov.uk/guidance/understanding-biodiversity-net-gain. Accessed February 2026.

[22] Legislation.gov.uk, Environment Act 2021, Schedule 14, Biodiversity Gain as Condition of Planning Permission [online]. Available at: https://www.legislation.gov.uk/ukpga/2021/30/schedule/14. Accessed February 2026.

Table 3.3: Treatment of Runoff

Development Component	Existing Contaminant Profile	Primary Treatment	Secondary Treatment
Low Traffic Roads/Individual Property Driveways	Runoff likely to have light hydrocarbon contamination. Using the CIRIA Report C753[23] indices, the pollutant loading profile will be as follows: • TSS = 0.5 • Metals = 0.4 • Hydrocarbons = 0.4	**Permeable Paving** Will treat surface water through filtration of silt and the attached pollutants; biodegradation of organic pollutants like petrol and diesel; adsorption of pollutants; and settlement and retention of solids. The CIRIA C753 mitigation indices for permeable paving are as follows: • TSS = 0.7 • Metals = 0.6 • Hydrocarbons = 0.7 **Smaller Storage Ponds/Swales** Will treat surface water runoff through pollutant retention. Will help to reduce the contaminant load discharged to surface waters. Coarse to medium sediments and associated pollutants can be removed by filtration through surface vegetation and groundcover. Fine particulates and associated contaminants can be removed by infiltration. The CIRIA C753 mitigation indices for swales are as follows: • TSS = 0.5 • Metals = 0.6 • Hydrocarbons = 0.6 The CIRIA C753 mitigation indices for ponds are as follows: • TSS = 0.7 • Metals = 0.7 • Hydrocarbons = 0.5	**Larger Storage Ponds/Wetlands** Will provide treatment of surface water runoff through settling and biological uptake. Dense stands of vegetation facilitate the adhesion of contaminants to vegetation, aerobic decomposition of pollutants and can help stabilise settled sediment and prevent resuspension. The CIRIA C753 mitigation indices for wetlands are as follows: • TSS = 0.8 • Metals = 0.8 • Hydrocarbons = 0.8 **Detention Basins** Vegetated detention basins will treat residual runoff primarily via the gravitational settling of particulate pollutants, as well as some filtration through the vegetation of the basin base and underlying soils, together with biodegradation and photolytic breakdown of hydrocarbons during the drying processes between runoff events. The CIRIA C753 mitigation indices for detention basins are as follows: • TSS = 0.5 • Metals = 0.5 • Hydrocarbons = 0.6
Residential Roof Areas	Using the CIRIA Report C753[23] indices, the pollutant loading profile will be as follows: • TSS = 0.2 • Metals = 0.2 • Hydrocarbons = 0.05		

3.9 Drainage System Performance

3.9.1 The storage values calculated at this stage are indicative and are intended to provide enough detail to inform the next stage of development. When the detailed layout of the site is being undertaken, the performance of the SuDS system should be modelled, with adequate storage within the system being provided to ensure flooding does not occur:

- On any part of the site for a 1 in 30 rainfall event.
- During a 1 in 100 rainfall event in any part of:
    - a building (including a basement); or
    - a utility plant susceptible to water (e.g., a pumping station or electricity sub-station).
- On neighbouring sites during a 1 in 100 rainfall event.

3.9.2 The performance of the system should also consider the occurrence of an extreme storm event over and above that for which the system was designed (i.e., the 1 in 100 plus climate change storm event).

3.10 Adoption and Maintenance

3.10.1 At this stage, no definitive plan or agreement has been entered into regarding the future adoption of surface water drainage. All SuDS features situated in private land (i.e., permeable paving, small rain gardens etc.) would be the responsibility of the homeowner. Surface water drainage in the form of sewers and SuDS features, located in public areas, are proposed to be placed under the responsibility of a private management company. Sufficient access space for maintenance has been provided in the design and this is indicated in the Drainage Layout Plans.

3.10.2 In order to support future adoption by West Sussex County Council, all drainage should be constructed in accordance with the following technical guidance:

- Sewers for Adoption 8th Edition[24]; and
- CIRIA report C753 The SuDS Manual.

3.10.3 Irrespective of eventual ownership, in order to ensure the long-term performance of the site drainage all aspects of the system should be periodically inspected and maintained with the indicative schedule outlined below. The following provides a summary of the typical maintenance activities associated with the drainage features:

- **Permeable Paving** - Brushing and vacuuming three times per year; removal of weeds, repair of any broken blocks/damaged areas; maintenance of vegetation; three monthly inspections for poor operation and/or weed growth; annual inspection of inspection chambers; annual inspection for silt accumulation.

[23] CIRIA, The SuDS Manual (C753F), 2015 [online]. Available at: https://www.ciria.org/CIRIA/Item_Detail.aspx?iProductCode=C753F&Category=FREEPUBS&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91&OrderLineId=315a5390-84ff-4072-9e87-0a360394b238. Accessed February 2026.

[24] Water UK, Sewers for Adoption, A Design and Construction Guide for Developers, 2018 [online]. Available at: https://www.water.org.uk/sites/default/files/wp/2018/10/SfA-8-Master-2.pdf.. Accessed February 2026.

- **Swales/Rain Gardens** - Monthly removal of litter, grass cutting and vegetation management; annual re-seeding and pruning; repairs due to erosion, reinstatement of design levels, scarification and spiking of topsoil, removal of sediment, and removal of oils or petrol residues as required; monthly inspection for blockages, ponding, compaction and silt accumulation; monthly inspection for blockages and physical damage; six monthly inspection for silt accumulation and functioning of mechanical devices (where necessary).
- **Flow Control Devices** – To be inspected every three - six months, after a large storm event, or after an observed deterioration in system performance.
- **Attenuation Basins** – Main requirements include mowing along maintenance access routes, amenity areas and across any formed embankments. The remaining areas can be managed as 'meadow'. Grass clippings should be disposed of offsite to remove nutrients and pollutants. Sediment will occasionally require removal when reaching 25 mm depth.
- **Wetlands** – Monthly removal of litter and debris, cutting of grass in public areas; monthly inspection of inlets, outlets, banksides, structures, pipework etc. for evidence of blockage and/or physical damage; monthly inspection of waterbody for signs of poor water quality (May – October); six monthly cutting of meadow grass; six monthly inspection of silt accumulation rates; six monthly inspection of any mechanical devices; annual hand cut of submerged and emergent aquatic plants; annual removal of bank vegetation and tidying of dead growth; remedial repair, replanting, aeration, and realignment as required.

3.10.4 The above represents a typical maintenance schedule; a site-specific schedule should be fully developed and agreed upon detailed design of the site drainage.

3.10.5 The following maintenance measures are noted regarding specific locations within the site:

- During the March 2024 site visit, a fallen tree was observed in the northwest of Field 1 and was observed to be obstructing surface water flow exiting the field. Maintenance works to reduce the risk of pooling were successfully undertaken with the intent of 'formalising' the exit route for surface water from the site. These works are to be regularly inspected and actioned as required in the future.

3.11 Management of Runoff from Construction

3.11.1 During the stages of site preparation, earthworks, and construction there is the potential for contaminants and/or suspended sediments in surface water runoff entering the surrounding watercourses and existing drainage.

3.11.2 A strategy for managing surface water runoff during the construction phase, including specific measures tailored to the level of risk should be developed and agreed with West Sussex County Council. The extent of sediment/contaminant runoff will vary across the construction cycle, and a strategy should be developed to encompass potential pollution from all stages of construction.

3.11.3 The strategy should include details of how during the earthworks and site preparation stages the contracting engineer will employ the approaches outlined in CIRIA C532 Control of Water Pollution from Construction Sites[25]. This will require a proper understanding of the sensitivity of the downstream watercourses in terms of existing water quality and the potential impact of change. It is expected potential mitigation measures will include:

- Avoiding mass overburden stripping at the site; exposing only that part of the site essential for operation;
- Placing silt fences of geo-fabric or similar material around open or exposed ground and stockpiles; and
- Re-seeding any exposed ground and stockpiles to stabilise the ground and reduce erosion and gullying of such features.

3.11.4 The strategy should be developed and agreed during detailed design and should be implemented prior to the commencement of any enabling and/or construction works onsite.

3.11.5 A strategy for managing surface water runoff during the construction phase, including specific measures tailored to the level of risk at the site should be developed and agreed with West Sussex County Council during detailed design.

[25] CIRIA, Control of water pollution from construction sites. Guidance for consultants and contractors (C532D), 2001 [online]. Available at: https://www.ciria.org/ItemDetail?iProductCode=C532D&Category=DOWNLOAD.

4. SURFACE WATER FLOODING MITIGATION

4.1.1 As part of our development of mitigation options, and in consideration of future site development, Ramboll has considered climate change in the following ways:

- Consideration of climate change allowances when considering peak fluvial flood levels – this is also a policy requirement of the EA for all NPPF-compliant FRAs;
- Consideration of greater frequency and higher magnitude of surface water flooding events and overland flow, and assessing how a site and building layout can be designed to manage this risk; and
- Consideration of the likely increased risk of seasonal groundwater flooding as a result of wetter winters.

4.1.2 Each of the above will be considered when assessing the mitigation measures, which are summarised as follows:

- Finished Floor Levels (FFLs) – All FFLs and threshold levels should be at least 150 mm above the surrounding ground to manage future risk from surface water flooding and overland flow.
- Planning for Exceedance Events - This risk relates to the occurrence of intensive rainfall events (expected to become more frequent with the advent of climate change) which could cause overland flow and surface water flooding or cause the capacity of the site drainage system to be exceeded and result in flooding. To manage this risk, the development should consider exceedance overland flow routes during extreme flood events, adopting the principles set out in CIRIA C635, Designing for Exceedance in Urban Drainage[26]. The design of exceedance routes should correlate with the proposed swales/surface water attenuation basins, which will make highly suitable exceedance flow paths. The overall volumes for the surface water attenuation features presented in the Drainage Layout Plans have been determined based on calculations where an allowance for the potential impacts of climate change was made.
- External Gradients - Along with the planning of exceedance routes, external gradients where possible, are to be designed to fall away from buildings, so that any overland flow resulting from extreme events would be channelled away from building entrances. Where this is not possible, linear interceptor drains should be located at all building entrances towards which there is a positive gradient for surface water to flow.
- Management of Flood Extents – Areas at risk from surface water were investigated during the March 2024 site visit, and again during the separate site visit to Hurst Farm, and have been accounted for in the proposed surface water drainage strategy. Proposed surface water attenuation basins, connected by a network of proposed swales to convey surface water runoff, have been strategically located across the site. Regarding shallow groundwater levels observed at the site, as noted in Section 2.4 above, appropriate land drainage measures are to be located at the site as required, to intercept and direct any

[26] CIRIA, Designing for exceedance in urban drainage – good practice (C635), 2006 [online]. Available at: https://www.ciria.org/CIRIA/Books/Free_publications/C635F.aspx. Accessed February 2026.

emerging groundwater away from the Proposed Development, and to direct it toward the proposed surface water drainage system as presented in the Drainage Layout Plans.

5. FOUL DRAINAGE STRATEGY

5.1 Foul Flow Calculations

5.1.1 The expected peak flows have been calculated based on the British Water Code of Practice 4[27] which states that for a standard residential dwelling a flow rate of 150 L/Person/Day should be assumed.

5.1.2 Based on the number of proposed units, an occupancy of 552 people has been estimated for the Proposed Development (230 dwellings with an average occupancy of 2.4 people per household). This would mean the following:

(150 x 552)/24 (hours in a day)/60 (minutes in an hour)/60 (seconds in a minute) = 0.96 L/s.

5.1.3 For a residential care home, a flow rate of 350 L/Person/Day should be assumed. This would mean the following:

(350 x 70)/24 (hours in a day)/60 (minutes in an hour)/60 (seconds in a minute) = 0.28 L/s.

5.1.4 This would mean a total flow of approximately 1.24 L/s.

5.1.5 To account for the diurnal variation of WC and kitchen facilities use, a peak rate of 6 times the average flow rate will be considered, giving a peak rate of approximately 7.5 L/s.

5.2 Proposed Foul Strategy

5.2.1 Thames Water sewer records presented in Appendix D at the rear of the report, indicate the presence of a foul water sewer approximately 50 - 100 m south of the site. The presence of this sewer was confirmed during the March 2024 site visit.

5.2.2 The intended foul strategy for the site proposes to connect the majority of the site into the existing 225 mm diameter Thames Water gravity sewer located approximately 50 – 100 m south of the site. The exact route of the sewer is presented in the Thames Water sewer records in Appendix D, at the rear of the report.

5.2.3 For development proposed in Fields 1 and 2, foul water is proposed to connect into a foul pumping station, located in the northwest of Field 1. This pumping station would deliver flows into the existing Thames sewer via a proposed rising main that would cross Fields 1 and 2 before delivering foul flows into a proposed gravity connection at approximately the topographical high point in the southern part of Field 2. This gravity connection would then connect directly into the existing Thames sewer which is outside the site but within Client land.

[27] British Water, Code of Practice, Flows and Loads – 4, Sizing Criteria, Treatment Capacity for Sewage Treatment Systems [online]. Available at: https://cdn.ymaws.com/www.britishwater.co.uk/resource/resmgr/publications/codes_of_practice/flows_and_loads___bw_cop_18..pdf. Accessed January 2026.

5.2.4 For development proposed in Field 8/Hurst Farm, foul water is proposed to connect via gravity into the proposed foul water network for Field 1, from where it would connect into the proposed foul pumping station in the northwest corner of Field 1, to be directed into the existing Thames sewer as per the foul drainage for development proposed in Fields 1 and 2.

5.2.5 Thames Water have confirmed capacity in the sewer network for the strategy proposed above. Letters of confirmation are presented in Appendix D at the rear of the report.

5.2.6 The foul pumping station is proposed to be adoptable. It will therefore require a compound area of approximately 8x12 m, will be required to be at least 15 m from any dwellings (as per Sewers for Adoption (Section 3.10.2)), and will need to allow for tanker access. Additionally, an allowance of 24 hours of storage will be required for the attenuation of foul flows for periods of maintenance/power failure/breakdown.

5.2.7 The drainage strategy is presented in Figure 5 at the rear of the report.

6. SUMMARY

6.1.1 The site located on land to the west of Crawley Down is to be brought forward for development. The Proposed Development will consist of up to 230 residential dwellings and a 70 bed care home. The site is divided between Field 1, Field 2 and Field 8/Hurst Farm. It is noted that Fields 1 and 2 were previously granted conditional approval under Application DM/25/0016, for the development of up to 150 dwellings and a 70 bed care home.

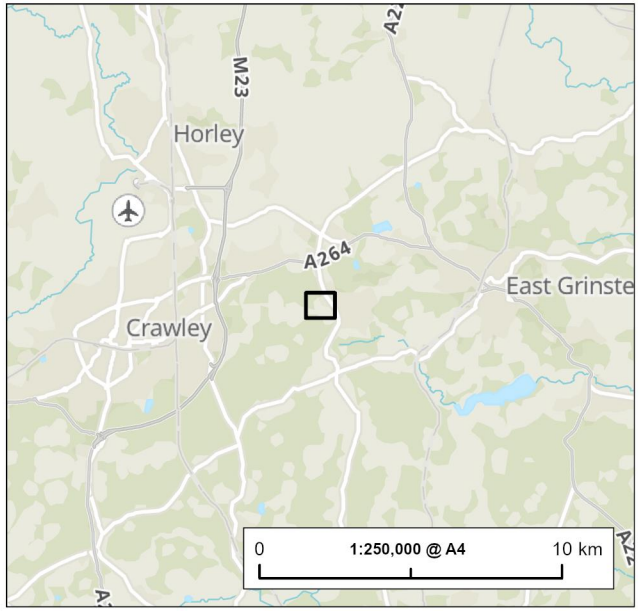
6.1.2 The site currently consists of undeveloped, greenfield land in the case of Fields 1 and 2, and existing farmland with associated farm buildings, residential dwellings, and access in the case of Field 8/Hurst Farm. A drainage strategy is required to demonstrate how newly introduced impermeable areas will collect, treat, and discharge runoff in a manner which does not cause a detrimental impact downstream, in terms of both water quality and quantity (i.e., not increase flood risk).

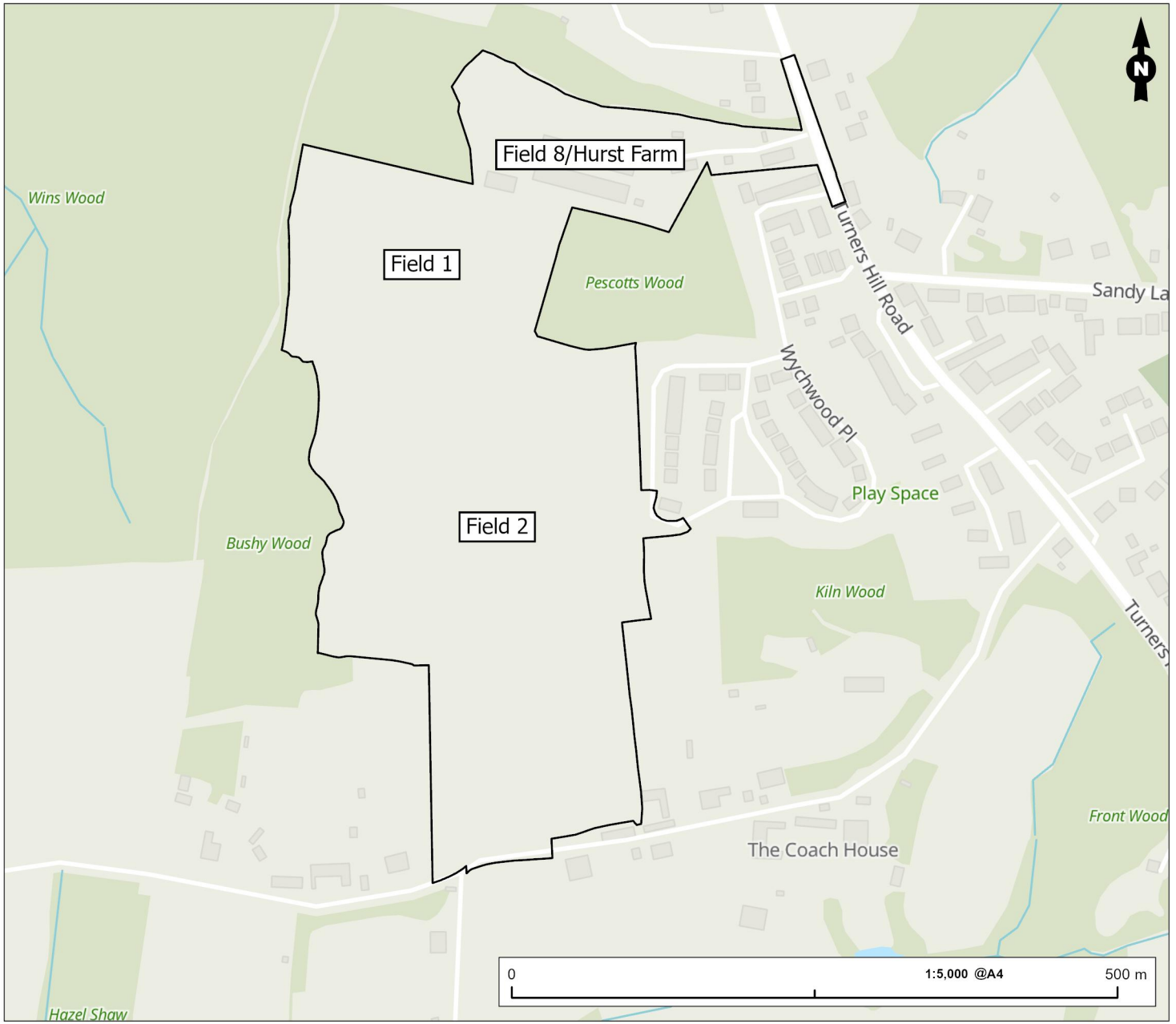
6.1.3 The intent is to discharge to three separate existing watercourses in the northwest of Field 1, Field 2, and Field 8/Hurst Farm respectively. The QMED greenfield runoff rate, to which discharge from the Proposed Development intends to be limited, is calculated at 19.8 L/s for Field 1, 41.6 L/s for Field 2, and 19.3 L/s for Field 8/Hurst Farm.

6.1.4 This represents a considerable reduction in the peak flows presently emanating from the site area. The strategy will therefore improve upon the current situation with regard to surface water management and flood risk.

6.1.5 Foul water will be collected and discharged via conventional means to an existing Thames Water sewer located within Client land. A foul water pumping station is proposed to be located in the northwest of Field 1 to direct foul flow to its intended destination. Thames Water have confirmed capacity in the existing sewer network for the proposed foul water strategy.

FIGURES



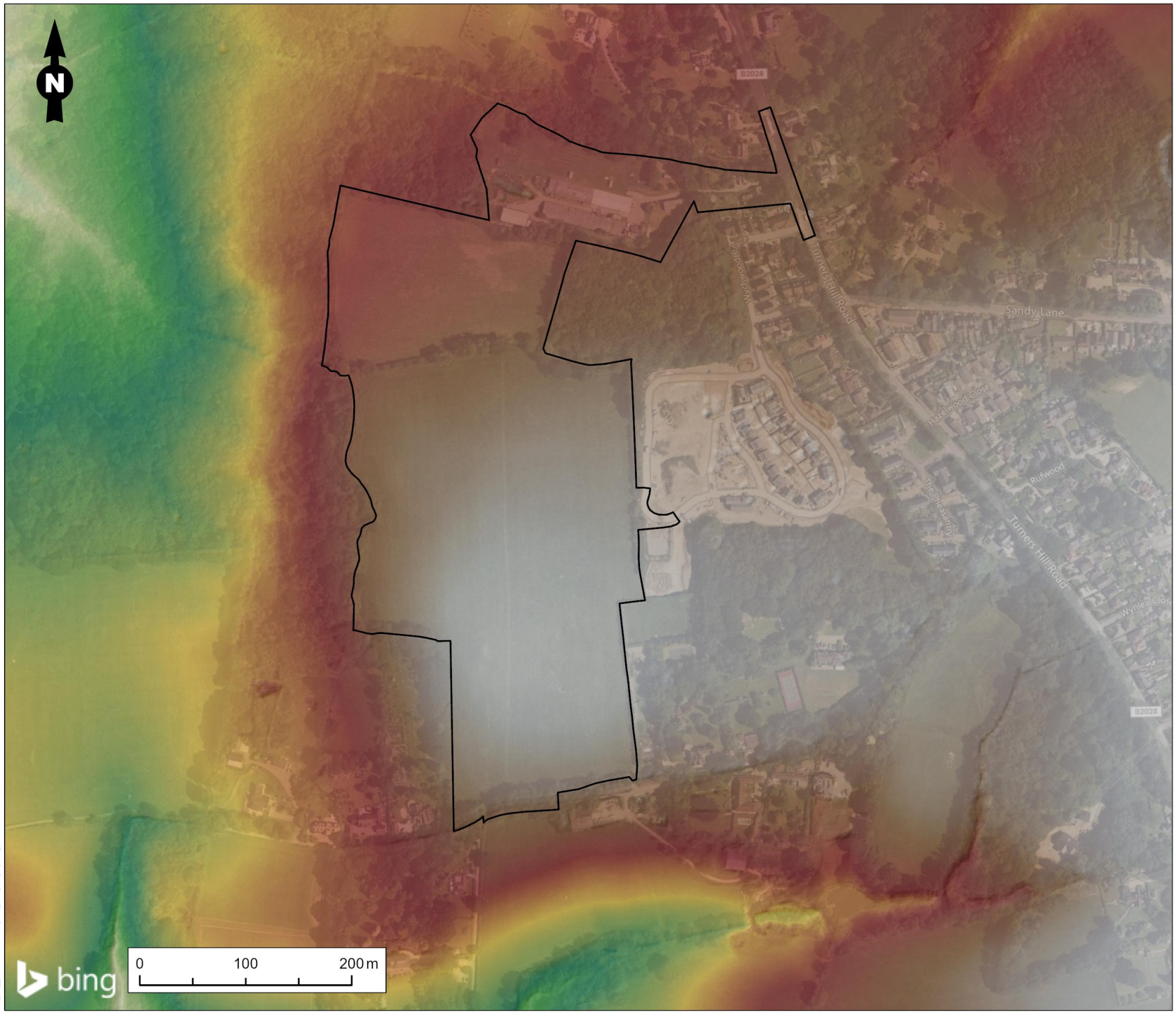


RAMBOLL

Figure Title: Site Location Plan	Project Name: Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road, Crawley Down, West Sussex	Date: January 2026	
		Prepared By: DM	Figure No.: 1
Client: **Wates Developments Limited**	Project No./Filery ID: 162001691-014 / RUK2021N00014	Scale: As Shown	Revision: 1.0

Fig1_SiteLocationPlan.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

Site Boundary

LiDAR 1m DTM/mAOD

>130

<90

Figure Title
LiDAR Topography

Project Name
Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road, Crawley Down, West Sussex

Project No./Filery ID
1620011691-014 / RUK2021N00014

Date	Figure No.	Revision
January 2026	2	1.0

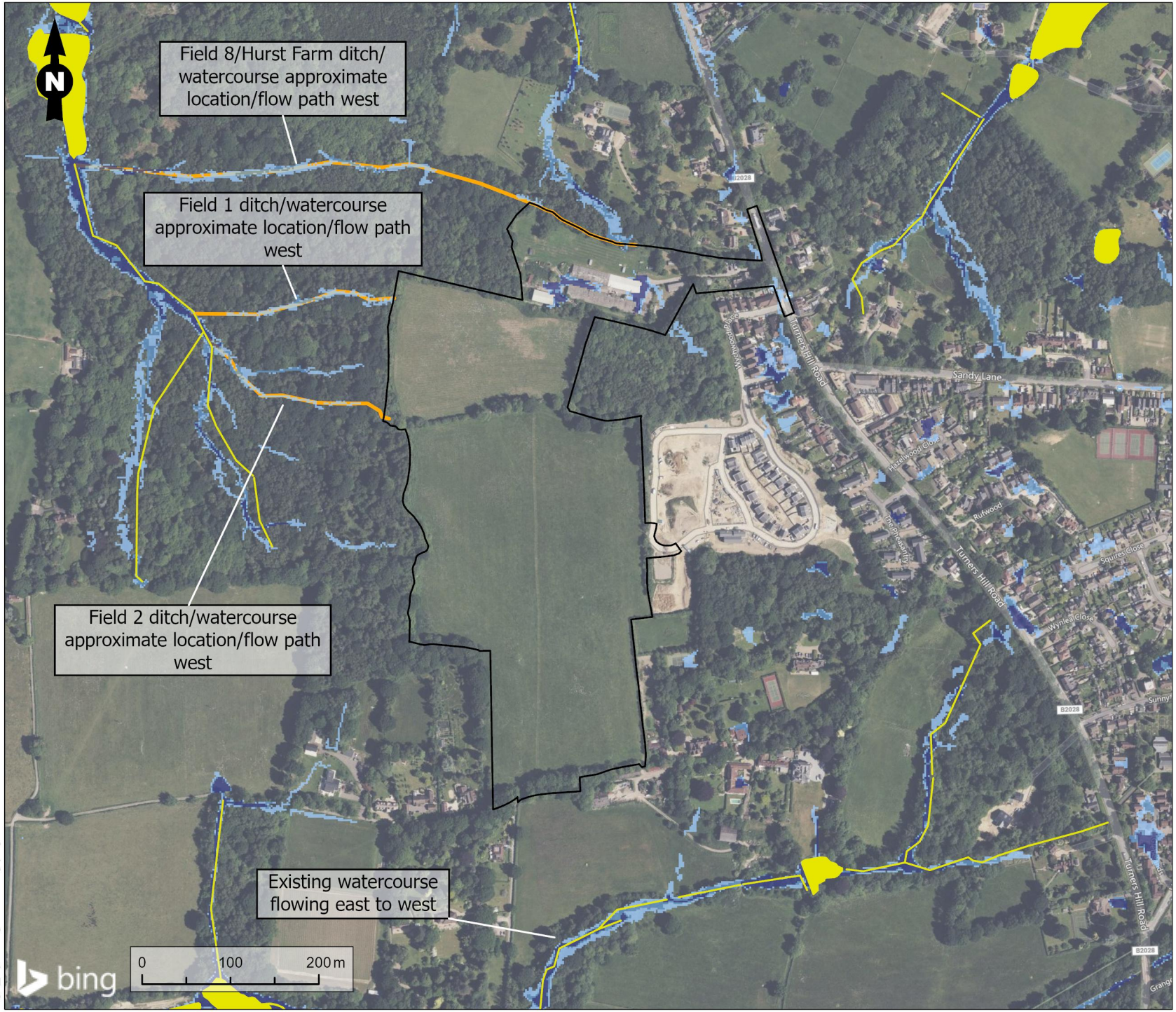
Prepared By	Scale
DM	1:5,000 @A4

Client
Wates Developments Limited

RAMBOLL

Fig2_LiDAR Topography.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.



Legend

- Site Boundary
- OS Waterbodies
- OS Watercourses
- Approximate Route of Existing Watercourses/ Ditches

Yearly Chance of Flooding between 2040 and 2060

- High Chance (Greater than a 3.3% chance each year)
- Medium Chance (Between 1% and 3.3% chance each year)
- Low Chance (Between a 0.1% and 1% chance each year)

Figure Title
Hydrological Setting

Project Name
Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road, Crawley Down, West Sussex

Project No./Filery ID
1620011691-014 / RUK2021N00014

Date	Figure No.	Revision
February 2026	3	2.0

Prepared By	Scale
DM	1:6,000 @A4

Client
Wates Developments Limited

RAMBOLL

Fig3_HydrologicalSetting.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

Site Boundary

Yearly Chance of Flooding

- High Chance (Greater than a 3.3% chance each year)
- Medium Chance (Between 1% and 3.3% chance each year)
- Low Chance (Between a 0.1% and 1% chance each year)

Figure Title
EA Surface Water Flood Risk Present Day

Project Name
Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road, Crawley Down, West Sussex

Project No./Filery ID
1620011691-014 / RUK2021N00014

Date	Figure No.	Revision
February 2026	4a	1.0

Prepared By	Scale
DM	1:5,000 @A4

Client
Wates Developments Limited

RAMBOLL

Fig4a_EASurfaceWaterFloodRiskPresentDay.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.

Legend

Site Boundary

Yearly Chance of Flooding between 2040 and 2060

- High Chance (Greater than a 3.3% chance each year)
- Medium Chance (Between 1% and 3.3% chance each year)
- Low Chance (Between a 0.1% and 1% chance each year)

Figure Title
EA Surface Water Flood Risk Future Scenario

Project Name
Land West of Turners Hill Road and North of Huntsland, including land at Hurst Farm, Turners Hill Road, Crawley Down, West Sussex

Project No./Filery ID
1620011691-014 / RUK2021N00014

Date	Figure No.	Revision
February 2026	4b	1.0

Prepared By	Scale
DM	1:5,000 @A4

Client
Wates Developments Limited

RAMBOLL

Fig4b_EASurfaceWaterFloodRiskFutureScenario.pagx

Coordinate System: British National Grid. Projection: Transverse Mercator. Datum: OSGB 1936.