

**Brookleigh Eastern Primary School,
Brookleigh, Burgess Hill**

Reserved Matters Application

Flood Risk Assessment & Drainage Strategy

Client



**Homes
England**

Project No

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School, Brookleigh, Burgess
Hill

Flood Risk Assessment and
Drainage Strategy

For
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1.0 EXECUTIVE SUMMARY

CampbellReith has prepared this Flood Risk Assessment and Drainage Strategy to support the Reserved Matters Application for Brookleigh Eastern Primary School, located within Brookleigh, Burgess Hill, West Sussex, RH15 8RE.

The site comprises undeveloped greenfield land and is situated within Flood Zone 1, indicating a low probability of fluvial flooding.

The assessment confirms that the site is not at risk from tidal or artificial sources and is considered to have low risk from groundwater and sewer flooding. Surface water flood risk is classified as low to medium, with two discrete ponding zones identified. These have been addressed through site regrading and strategic placement of infrastructure.

The proposed development includes a two-storey school building, external teaching spaces, sports pitches, parking, and landscaping. Sustainable Drainage Systems (SuDS) have been incorporated to manage surface water runoff, including permeable paving, attenuation tanks, green roofs, and rainwater harvesting. Infiltration is not viable due to the site's underlying Weald Clay Formation and shallow groundwater levels; therefore, runoff will be attenuated and discharged at a controlled rate of 7.8 l/s to the wider strategic drainage network.

The drainage strategy has been designed to accommodate storm events up to the 1-in-100-year return period, with a 45% climate change allowance. Pollution hazard indices have been assessed and mitigated through appropriate SuDS features, ensuring compliance with CIRIA guidance and local planning policy.

The proposed development will not increase flood risk on or off site and is considered resilient to future climate scenarios.

2.0 INTRODUCTION

2.1 Brief

2.1.1 CampbellReith has been commissioned by Homes England to prepare a Flood Risk Assessment (FRA) in accordance with the National Planning Policy Framework (NPPF) for the proposed development of Brookleigh Eastern Primary School, located Land North and North West of Burgess Hill between Bedelands Nature Reserve in the East and Goddard's Green Waste Water Treatment Works in the West, herein referred to as 'the site'. The site location is illustrated in Appendix A.

2.1.2 This assessment is a qualitative report and has been based on readily available information and is supported by a site visit undertaken by CampbellReith in January 2025 as part of the RIBA Stage 2 design process.

2.1.3 The FRA has been prepared in support of a Reserved Matters Application for the proposed school development, submitted pursuant to DM/21/3279 (original reference DM/18/5114), which was granted by Mid Sussex District Council in October 2019 as part of the wider Brookleigh (formerly known as Northern Arc), Burgess Hill strategic mixed-use masterplan.

2.2 Project Overview

2.2.1 The site comprises undeveloped greenfield land within Parcel 1.2 of the Brookleigh masterplan. The proposal seeks to deliver the construction of a new two-form entry primary school with nursery and special support centre, car parking, multi-use games area, playing fields, landscaping and associated infrastructure. The proposed development layout is contained in Appendix B.

2.2.2 The development includes sustainable drainage features, permeable surfaces, and attenuation infrastructure designed to manage surface water runoff in accordance with the Lead Local Flood Authority (LLFA) and NPPF requirements.

2.2.3 The school forms part of Parcel P1.2 and is identified as Plot PS1. The design aligns with strategic infrastructure delivered under Phase 1C of the Brookleigh masterplan and responds to planning conditions and S106 obligations associated with the outline consent. The development is being brought forward by Homes England in collaboration with West Sussex County Council (County Education) and Mid-Sussex District Council (Planning Authority).

2.3 Aims and Objectives

2.3.1 This report has been prepared in accordance with the National Planning Policy Framework (NPPF) and the accompanying Planning Practice Guidance (PPG).

2.3.2 This FRA aims to identify the sources of flooding related to the site whilst demonstrating the feasibility of the proposed development and how residual risks, if any, could be managed.

2.3.3 The objectives of this FRA are to:

- Establish whether the site is likely to be affected by current or future flooding from any source;

- Establish whether proposed future development will increase flood risk elsewhere;
- Establish whether the measures proposed to deal with these effects and risks are appropriate;
- Ensure the evidence to satisfy the Local Planning Authority's (LPA) (if necessary) Sequential Test, and;
- Establish whether the Lead Local Flood Authority (LLFA) has records of flood risk on the site and within the surrounding area;
- Present the findings of the assessment through a site constraints plan (if applicable)
- Demonstrate surface water can be managed on site by preparing an illustrative surface water drainage strategy.

3.0 PLANNING POLICY

3.1 National Planning Policy Framework (NPPF)

3.1.1 The NPPF as updated in December 2024 sets out the government's national planning policies to protect people and property from flooding from either now or in the future which all Local Planning Authorities (LPAs) are expected to follow. There are three main steps which should be followed to ensure that the risk of flooding from development is minimised; assess the flood risk, avoid flood risk and manage and mitigate the flood risk.

3.1.2 The NPPF recommends that new development adopts a sequential, flood risk-based approach to the location of development, taking into account climate change and its impact to or by current or future flood risk. Subject to the type of development proposed and the relative flood zone (Zone 1 being the least risk and Zone 3b the greatest risk) in which the development site is located, there can be a requirement for a sequential test and an exception test.

3.1.3 The aim of the sequential test is to steer development to areas considered to be at the lowest risk from sources of flooding. If this is not possible then the exception test would be required demonstrating that the development would provide wider sustainability benefits to the community that would outweigh the flood risk and that the development would be safe for its lifetime taking into account the vulnerability of the users without increasing flood risk elsewhere and where possible reducing the current risk of flooding.

3.1.4 The NPPF also states that major developments should incorporate sustainable drainage systems (SuDS) unless there is clear evidence that this would be inappropriate.

3.2 Flood Risk and Coastal Change Planning Practice Guidance (PPG)

3.2.1 A FRA is required when developments are:

- Located within a Flood Zone 2 or 3 including minor development and change of use;
- More than 1 hectare (ha) in a Flood Zone 1;
- Less than 1 ha in a Flood Zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and sea (for example surface water, reservoirs); or
- In an area within a Flood Zone 1 which has critical drainage problems as notified by the Environment Agency (EA).

3.2.2 Annex 3 of NPPF defines the various flood risk vulnerability classifications and identifies the different types of development within each category. Table 2.1 on the following page summarises the flood risk vulnerability and incompatibility as extracted from Paragraph 079 (Table 2) of the PPG in relation to the above flood zones.

Table 3.1: Flood Vulnerability and Flood Zone 'Incompatibility' Table

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a†	Exception Test required†	✗	Exception Test Required	✓	✓
Zone 3b*	Exception Test required*	✗	✗	✗	✓*

Key ✓Development is appropriate.

✗ Development should not be permitted.

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

3.3 Roles and Responsibilities

3.3.1 The EA are a statutory consultee for planning applications. The EA are responsible for managing the risk of flooding from main rivers, reservoirs, estuaries and the sea.

3.3.2 The roles of the LLFAs were established following the Flood Risk Regulations (2009) and the Flood and Water Management Act (2010). They are responsible for developing, maintaining and applying a strategy for local flood risk management in their areas and maintaining a register of flood risk assets. They also have lead responsibility for managing the risk of flooding from surface water, groundwater and ordinary watercourses.

3.4 Climate Change

3.4.1 The NPPF sets out how the planning system should help minimise vulnerability and provide resilience to the impacts of climate change. The EA provide guidance on the climate change allowances which should be considered when assessing the future risk of flooding.

3.4.2 EA has produced a range of climate change allowances to be applied to the peak river flow and rainfall intensity based upon the river basin management catchment. Management catchments are sub-catchments of river basin districts. The site is located in the Adur and Ouse Management Catchment within the South East River Basin District. Table 3.2 shows the anticipated changes to peak flow, which should be considered for the area.

3.4.3 The range of allowances is based upon a statistical analysis above the 50th percentile which is regarded as being the central category. The higher central is based upon the 70th percentile and the upper end is based on the 95th percentile.

Table 3.2: Peak River flow allowances by Adur and Ouse Management Catchment within the South East River Basin District

Allowance Category	Total Potential Change Anticipated For The '2020s' (2015 to 2039)	Total Potential Change Anticipated For The '2050s' (2040 to 2069)	Total Potential Change Anticipated For The "2080s" (2070 to 2115)
Central	16%	18%	37%
Higher central	23%	28%	55%
Upper end	40%	55%	107%

3.4.4 Climate change allowances should be applied to the peak rainfall intensities. EA has produced updated rainfall allowances for both 1% and 3.3% annual exceedance rainfall events for each Management Catchment. Table 3.3 and Table 3.4 show the anticipated change in extreme rainfall intensity in small and urban catchments within the Adur and Ouse Management Catchment. The upper end allowances for both the 1% and 3.3% annual exceedance probability events should be applied for Flood Risk Assessments to assess the range of impact.

Table 3.3: EA Peak Rainfall Intensities (3.3% annual exceedance probability)

	Total Potential Change Anticipated For The '2050s' (2040 to 2069)	Total Potential Change Anticipated For The "2080s" (2070 to 2115)
Central	20	20
Upper end	35	40

Table 3.4: EA Peak Rainfall Intensities (1% annual exceedance probability)

	Total Potential Change Anticipated For The '2050s' (2040 to 2069)	Total Potential Change Anticipated For The "2080s" (2070 to 2115)
Central	20	25
Upper end	45	45

4.0 LOCAL POLICIES AND GUIDANCE

4.1.1 The following documents have been reviewed to inform this assessment:

- Mid Sussex District Council, March 2018 – Adopted District Plan 2014–2031
- Mid Sussex District Council, December 2023 – Draft Reg19 District Plan 2021–2039
- West Sussex County Council, November 2018 – West Sussex LLFA Policy for the Management of Surface Water
- Surface Water Mid Sussex District Council, July 2024 – Strategic Flood Risk Assessment Level 1
- Mid Sussex District Council, August 2024 – Strategic Flood Risk Assessment Level 2
- West Sussex County Council, May 2011 – Preliminary Flood Risk Assessment (PFRA)
- West Sussex County Council, July 2025 – Local Flood Risk Management Strategy (LFRMS)
- West Sussex County Council – Sustainable Drainage Systems (SuDS) Guidance (Online)
- Environment Agency, December 2010 – Adur and Ouse Catchment Flood Management Plan (CFMP)
- Environment Agency, December 2022 – South East River Basin District Flood Risk Management Plan 2021–2027 (FRMP)

4.2 Local Flood Risk Policy

4.2.1 The Mid Sussex District Plan 2014–2031 was adopted in March 2018 and sets out the spatial strategy for sustainable development across the district. It provides the framework for determining planning applications and delivering housing, employment, education, and infrastructure in line with national policy and local priorities.

4.2.2 The Brookleigh Primary School site lies within the strategic allocation defined by Policy DP9 – Strategic Allocation to the North and North-West of Burgess Hill, which requires development to be supported by a comprehensive drainage strategy, incorporate SuDS, and deliver site-wide drainage infrastructure in accordance with the Strategic Flood Risk Assessment and Policy DP41.

4.2.3 The following policies should be considered when assessing flood risk and surface water management of the Brookleigh Primary School site:

- DP41 – Flood Risk and Drainage: Requires developments to demonstrate that flood risk is not increased elsewhere and that SuDS are incorporated where feasible.
- DP42 – Water Infrastructure and the Water Environment: Requires development to demonstrate adequate capacity in foul and surface water networks, and to meet water efficiency standards. Surface water drainage must follow the preferred hierarchy: infiltration, discharge to watercourse, and finally discharge to surface water sewer.

- DP38 – Biodiversity: Requires development to protect and enhance ecological networks, including watercourses and wetland habitats, and to avoid fragmentation of green infrastructure.
- DP39 – Sustainable Design and Construction: Encourages climate-resilient design, including water efficiency and integration of SuDS into the landscape to enhance biodiversity and amenity.
- DP6 – Settlement Hierarchy: Supports infrastructure delivery in strategic locations such as Burgess Hill, subject to environmental constraints.

4.2.4 Whilst not yet formally adopted, the Draft Reg19 District Plan 2021-2039 contains policy DPS4 - Flood Risk and Sustainable Drainage which also should be considered in any upcoming development in the district.

4.2.5 In line with these policies, the Brookleigh Eastern Primary School development must demonstrate that:

- Surface water flood risk is appropriately mitigated through site layout and SuDS design
- Foul and surface water drainage infrastructure is coordinated with wider strategic delivery
- Water efficiency and ecological enhancement are embedded in the drainage strategy
- No increase in flood risk occurs on or off site, including under future climate scenarios

4.3 West Sussex LLFA Policy for the Management of Surface Water

4.3.1 This document sets out the statutory and technical expectations of West Sussex County Council in its role as Lead Local Flood Authority (LLFA). It provides guidance for developers on the preparation of drainage strategies and surface water management plans, with emphasis on sustainable drainage systems (SuDS), climate change resilience, and water quality protection.

4.3.2 Key policies relevant to the Brookleigh Primary School site include:

- SuDS Policy 1–6: Requirements for discharge hierarchy, flood risk management, natural flow mimicry, resilience to climate change, and maintainability of drainage infrastructure.
- SuDS Policy 7–10: Environmental considerations including water quality, amenity, biodiversity, and landscape integration.
- Drainage Strategy Scope: The LLFA expects detailed consideration of impermeable area, discharge rates, infiltration viability, exceedance routes, and adoption strategy.
- Consultation Protocols: The LLFA outlines its role in reviewing major planning applications and encourages early engagement through pre-application advice.

4.4 Strategic Flood Risk Assessment

- 4.4.1 Mid Sussex District Council published updated Level 1 and Level 2 SFRAs in July and August 2024 respectively. The Level 1 SFRA provides a district-wide overview of flood risk from fluvial sources (including the River Adur and its tributaries), surface water, groundwater, sewers, and artificial infrastructure.
- 4.4.2 The Level 2 SFRA focuses on strategic development sites allocated in the District Plan. It includes detailed hazard mapping, surface water flow paths, and breach modelling for critical infrastructure.
- 4.4.3 All SFRA flood mapping for Mid Sussex is available online via the Mid Sussex District Council website through the interactive mapping portal¹. The maps appear to be fully up to date and aligned with the EAs online mapping.

4.5 Preliminary Flood Risk Assessment (PFRA)

- 4.5.1 The PFRA was produced by West Sussex County Council in 2011 to meet the requirements of the Flood Risk Regulations (2009). It provides a high-level assessment of flood risk from surface water, groundwater, ordinary watercourses, and artificial infrastructure. While Burgess Hill was not identified as a nationally significant flood risk area, the PFRA highlights the importance of managing surface water runoff in areas of clay geology and limited infiltration.
- 4.5.2 PFRA recommends that all major developments incorporate SuDS and climate change allowances. It also notes that historic infrastructure—such as culverted watercourses and decommissioned sewage works—may influence local drainage patterns and should be considered in site-specific assessments.

4.6 Local Flood Risk Management Strategy (LFRMS)

- 4.6.1 The LFRMS was updated by West Sussex County Council in July 2025 and outlines the county's approach to managing flood risk from surface water, groundwater, and ordinary watercourses. The strategy promotes integrated catchment management, resilience to climate change, and the use of SuDS to improve water quality and biodiversity.
- 4.6.2 The accompanying Strategic Environmental Assessment identifies surface water flooding as a key concern, particularly in relation to its potential impact on ecological corridors, school infrastructure, and public health.

¹ <https://shared.xmap.cloud/?map=d8e029cb-832b-4fe5-a712-82b9393564fe>

5.0 SITE CONTEXT

5.1 Site Location

5.1.1 The site is located within the strategic development known as 'Brookleigh', located to north and north-west of Burgess Hill, West Sussex as illustrated in Figure 4.1 below. The nearest postcode for the site is RH15 8RE and the National Grid Reference for the approximate centre of the site is 532950E, 119950N.

5.1.2 Mid Sussex District Council serves as the Local Planning Authority (LPA) for the site, while West Sussex County Council acts as the Lead Local Flood Authority (LLFA) for the area.

5.1.3 The existing site comprises predominantly undeveloped land, historically used as agricultural fields and more recently as a construction compound. It is bounded to the west by Isaac's Lane, to the south by Fairbridge Way, and to the north and east by open fields and the wider Brookleigh development area.

5.1.4 The total site area is approximately 2.18ha.

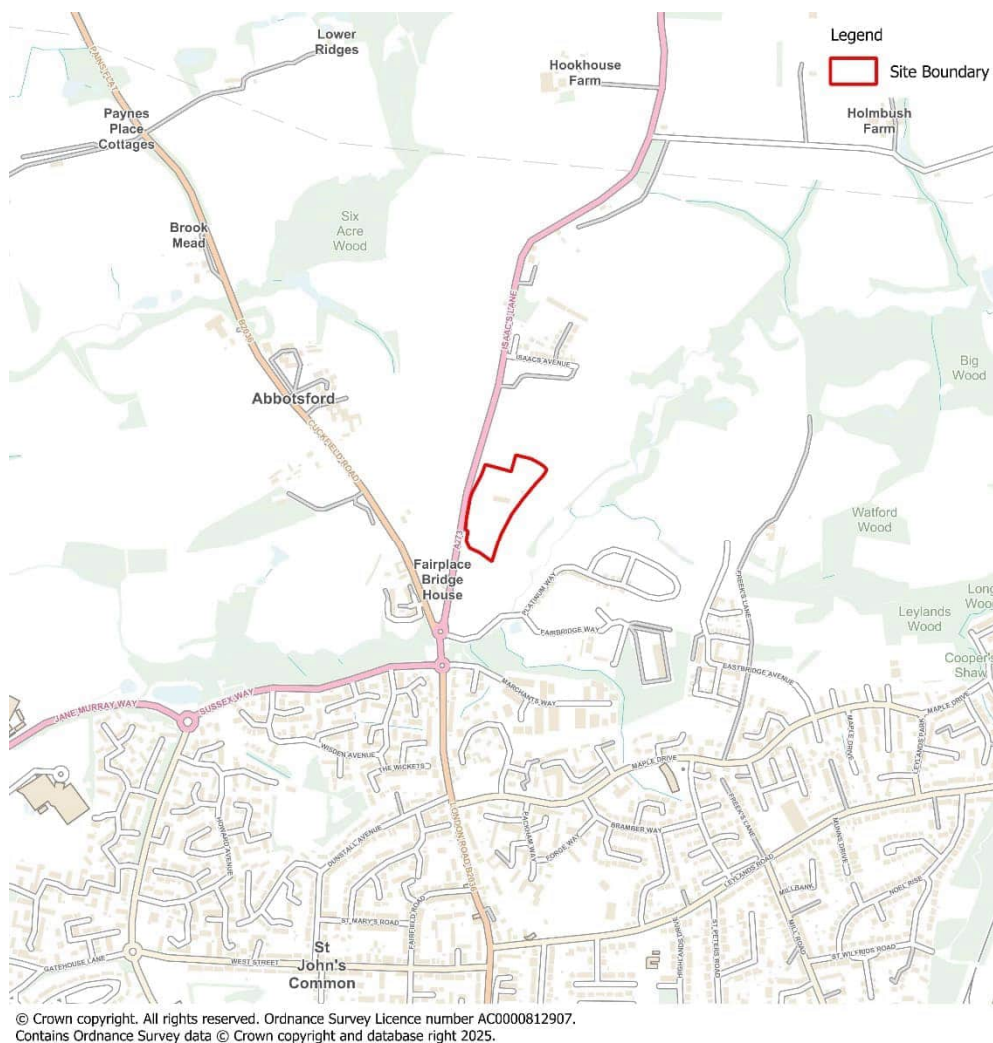


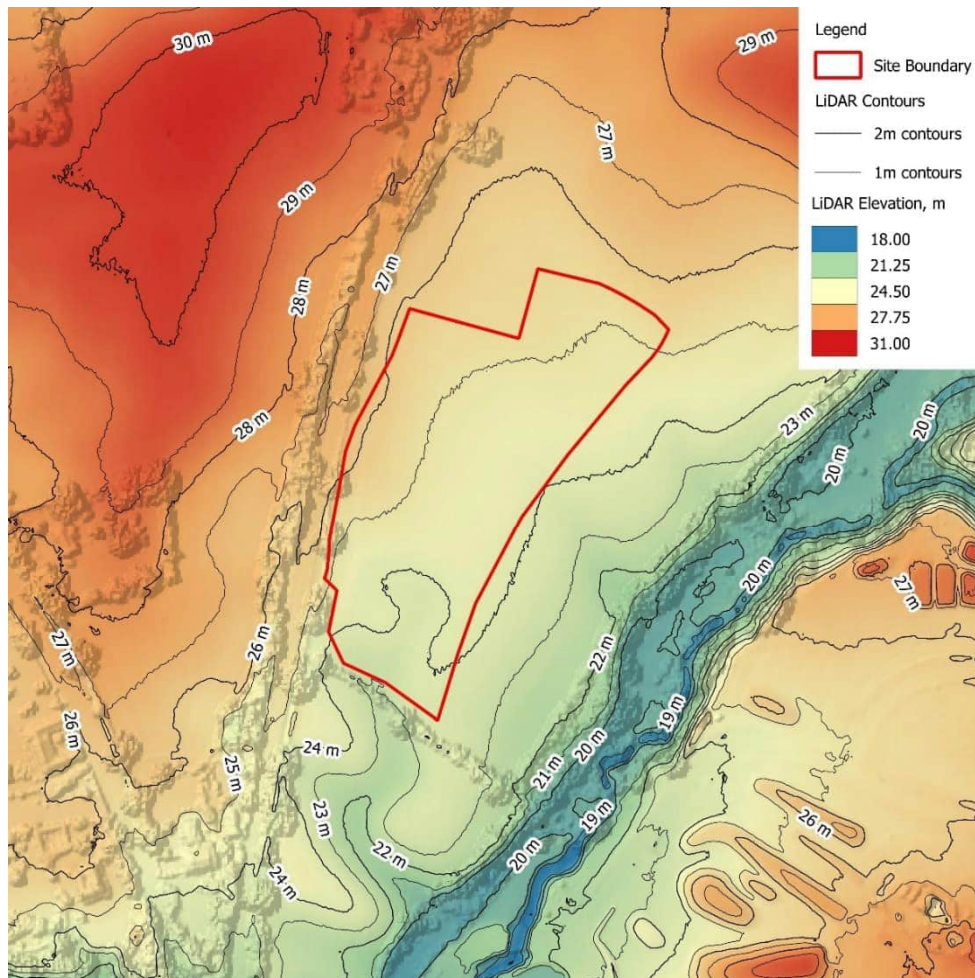
Figure 5.1: Site Boundary

5.2 Site History

- 5.2.1 The site has historically comprised undeveloped agricultural land, with no recorded industrial or municipal use. Historical mapping indicates the presence of a watercourse crossing the northern portion of the site between 1880 and 1967, which was subsequently backfilled or culverted by 1974. More recently, the site has been used as a construction compound associated with the wider Brookleigh development. The current land use is vacant, with no permanent structures or infrastructure within the site boundary.

5.3 Topography

- 5.3.1 Lidar data has been obtained as part of this assessment and is shown in Figure 4.2 below.
- 5.3.2 A topographical survey was undertaken by Terrain Surveys Ltd in December 2023 (refs: TS23-677-1 and TS23-677-2) and is contained in Appendix C.
- 5.3.3 The site slopes gently from northwest to southeast, with elevations ranging from approximately 27.0 m AOD at the northwest corner to 22.9 m AOD at the south boundary. The central area of the site lies between 24.0 m and 26.0 m AOD, indicating a mild and consistent gradient suitable for development. The southern portion of the site contains a localised depression, which has been identified as a potential area for surface water ponding and is addressed in the drainage strategy.



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Figure 5.2: Lidar Data

5.4 Geology

- 5.4.1 The British Geological Survey (BGS) Online Geology Viewer² notes the underlying bedrock at the site as the Weald Clay Formation, comprising interbedded mudstone and siltstone. This sedimentary bedrock was formed during the Early Cretaceous period, approximately 125 to 100 million years ago.
- 5.4.2 No superficial deposits are recorded across the site boundary. The absence of Quaternary drift suggests that the site is directly underlain by weathered Weald Clay, with limited natural variation in surface geology.
- 5.4.3 Site specific ground investigation works were undertaken by Harrison Group Environmental Ltd in August 2020. The works included 1 x cable percussive borehole; 7 x dynamic continuous sampling boreholes and a single soakaway test.

² British Geological Survey (BGS) Online Geology <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

5.4.4 A Land Quality Statement Report (Ref: 14176-CRH-XX-XX-RP-GE-0001-P01) has been prepared by CampbellReith to support this planning application. The report provides a detailed assessment of ground conditions, including results from the trial pit logs, laboratory testing, and contamination screening. The findings inform the surface water drainage design, particularly in relation to infiltration viability and groundwater protection, and should be read in conjunction with this FRA.

5.4.5 The ground conditions encountered during the ground investigation supported the expected desktop geology and generally comprised Topsoil / Made Ground over weathered Weald Clay deposits comprised of clay with local silts and clay/mudstone over bedrock of Weald Clay Formation.

5.5 Hydrology

5.5.1 A desk-study review of ordnance survey mapping indicates an absence of surface water bodies on-site. A site walkover undertaken in January 2025 confirmed the absence of any on-site drainage ditches or surface water features.

5.5.2 The EA statutory main river map indicates that the nearest Main River is the River Adur, located approximately 1.2km southeast of the site. The watercourse flows in a south-westerly direction and forms part of the wider Adur and Ouse catchment. As mentioned in Section 5.2, there is evidence to suggest that a historic watercourse was present up until around 1970. Currently, there are no Ordinary Watercourses are present within or immediately adjacent to the site.

5.6 Hydrogeology

5.6.1 The site is not located on a Source Protection Zone (SPZ) or on a Nitrate Vulnerable Zone (NVZ), as defined by the Environment Agency.

5.6.2 The underlying Weald Clay Formation is classified as a Secondary (undifferentiated) Aquifer, with low permeability and limited groundwater yield. No superficial aquifer is present. Groundwater vulnerability is considered low to moderate due to the cohesive nature of the clay and absence of permeable drift.

5.6.3 As part of the site investigation works, groundwater monitoring wells were installed on the site. Groundwater levels beneath the site were recorded between 1.60m and 2.12m bgl during return monitoring visits undertaken between June and July 2020. It should be noted that groundwater levels are subject to seasonal variation, and shallower groundwater levels may be anticipated during wetter months, particularly in winter, which should be considered when finalising drainage infrastructure.

5.6.4 During the site investigation works an infiltration test was conducted in accordance with BRE 365. The water level did not drop over the course of the test and the results suggest that infiltration is not likely possible on site.

5.7 Site Drainage

5.7.1 Southern Water is the incumbent sewerage utility provider for the area. A review of the Southern Water Records, contained in Appendix D, confirms the absence of existing public foul or surface water drainage system.

5.7.2 The topographical survey does not identify any private onsite sewers.

5.7.3 The natural surface water flow paths have been devised from reviewing the available Lidar and topographical data and is shown on Figure 5.3 below. Flows across the site generally fall to the south-east towards the River Adur.

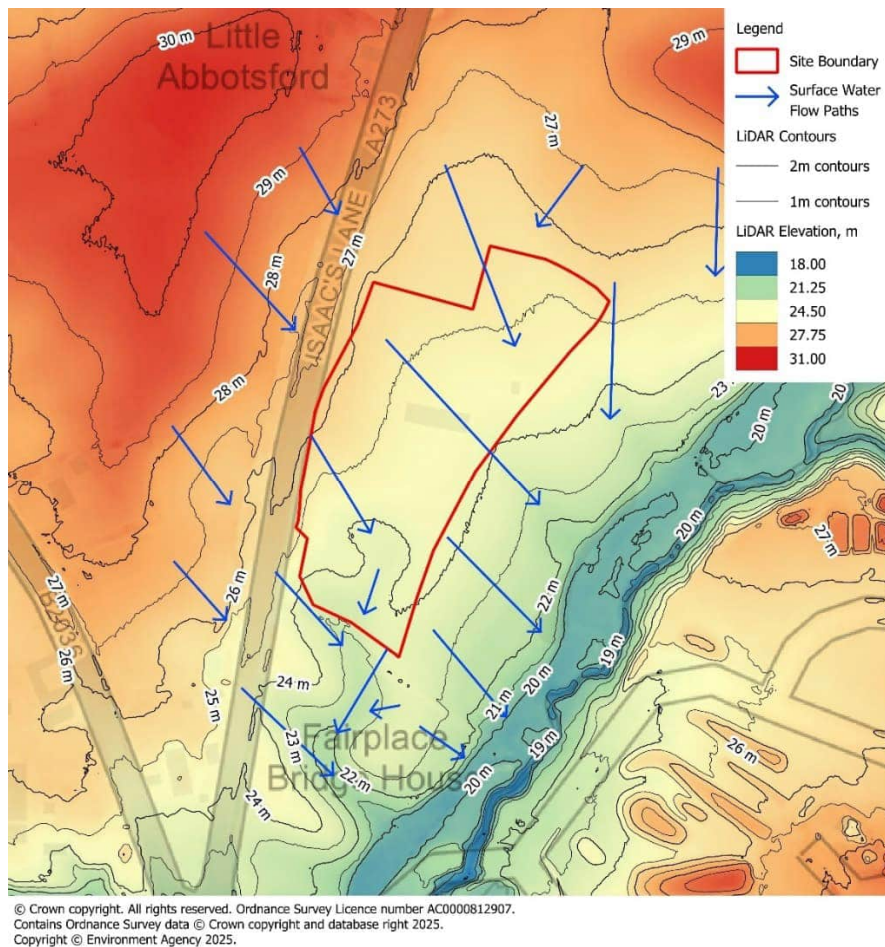


Figure 5.3: Surface Water Flow Paths

5.8 Greenfield Runoff Rate

5.8.1 Drainage design should aim to replicate pre-development hydrological conditions and limit discharge to greenfield runoff rates wherever feasible, in accordance with national SuDS guidance and local planning policy. The greenfield runoff rates for the site were calculated using the IH124 method using on UKSuDS online tool and are summarised in Table 5.1.

Table 5.1: Greenfield runoff rates

Storm Event	Greenfield Runoff Rate (litres/second/ha)
Qbar	5.81 l/s/ha
1 in 1 Year (100% AEP)	4.9 l/s/ha
1 in 2 Year (50% AEP)	5.1 l/s/ha
1 in 30 year (3.3% AEP)	9.4 l/s/ha
1 in 100 Year (1% AEP)	18.5 l/s/ha

6.0 EXISTING FLOOD RISK TO THE SITE

6.1 Fluvial Flood Risk

6.1.1 The EA NaFRA2 mapping shows the site is located within Flood Zone 1 as shown in Figure 5.1. The EA defines Flood Zones from rivers or the sea in Paragraph 078 (Table 1) of the PPG, as follows:

- Flood Zone 1 (Low Probability): Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2, 3a and 3b).

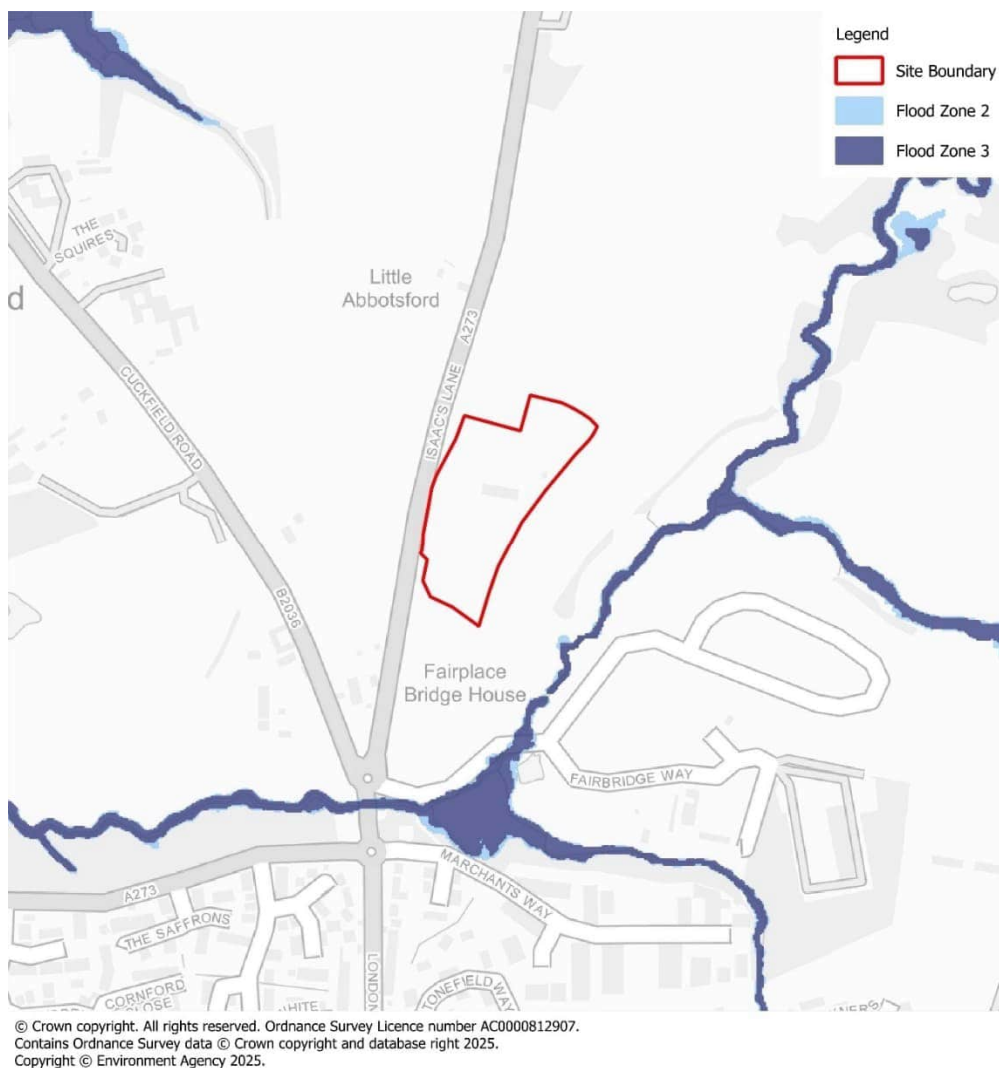


Figure 6.1: Environment Agency Flood Zones from NaFRA2

6.1.2 The nearest main river to the site is the River Adur, situated approximately 125 m west of the site boundary. Topographic analysis, supported by LiDAR data, confirms that the Brookleigh Eastern Primary School site occupies higher ground relative to the river corridor, with natural gradients sloping away from the river. This elevation differential provides a topographic buffer,

ensuring that the site is not hydraulically connected to the River Adur's floodplain under current or projected climate scenarios.

- 6.1.3 Based on EA mapping and corroborated by strategic and local flood risk documents, the risk of fluvial flooding to the Brookleigh Eastern Primary School site is deemed Low. The site is located within Flood Zone 1, is not within a Critical Drainage Area (CDA), and has no recorded history of fluvial flood events.

6.2 Tidal Flood Risk

- 6.2.1 There are no tidal watercourses in proximity to the site. The site lies significantly upstream of any tidal reach and is not influenced by sea-level fluctuations.

- 6.2.2 The risk of tidal flooding is therefore Very Low.

6.3 Flood Alert Area

- 6.3.1 The site does not fall within a flood alert or flood warning area.

6.4 Surface Water Flood Risk

- 6.4.1 The EA classify surface water flood risk as follows:

- VERY LOW – the area has a chance of surface water flooding of less than 0.1%
- LOW – the area has a chance of surface water flooding of between 0.1% and 1%
- MEDIUM – the area has a chance of surface water flooding of between 1% and 3.3%
- HIGH - the area has a chance of surface water flooding of greater than 3.3%

- 6.4.2 The EA's Risk of Flooding from Surface Water (RoFSW) map is presented in Figure 6.2.

- 6.4.3 RoFSW mapping indicates that the majority of the site within the red boundary lies within very low to low risk zones for surface water flooding.

- 6.4.4 However, two isolated medium to high-risk zones are present within the red boundary:

- A low-risk area of potential surface water ponding is shown in the north-western corner of the site.
- Similarly, medium risk area of potential surface water ponding is located within a central-southern landscaped area which corresponds to a shallow topographic depression identified in the LiDAR survey.

- 6.4.5 The climate change-adjusted RoFSW mapping shows a slight expansion of these medium risk zones, particularly in the northwestern corner. However, it is anticipated that the core proposed development footprint, including primary circulation routes and key infrastructure, could be safely positioned on relatively elevated ground.

- 6.4.6 Surface water flood risk within the red line boundary ranges from very low to medium, with ponding limited to two discrete areas. The majority of the site remains largely unaffected. On balance, and accounting for future climate scenarios, the overall surface water flood risk within the site boundary is considered Low, with mitigation embedded in the proposed design.

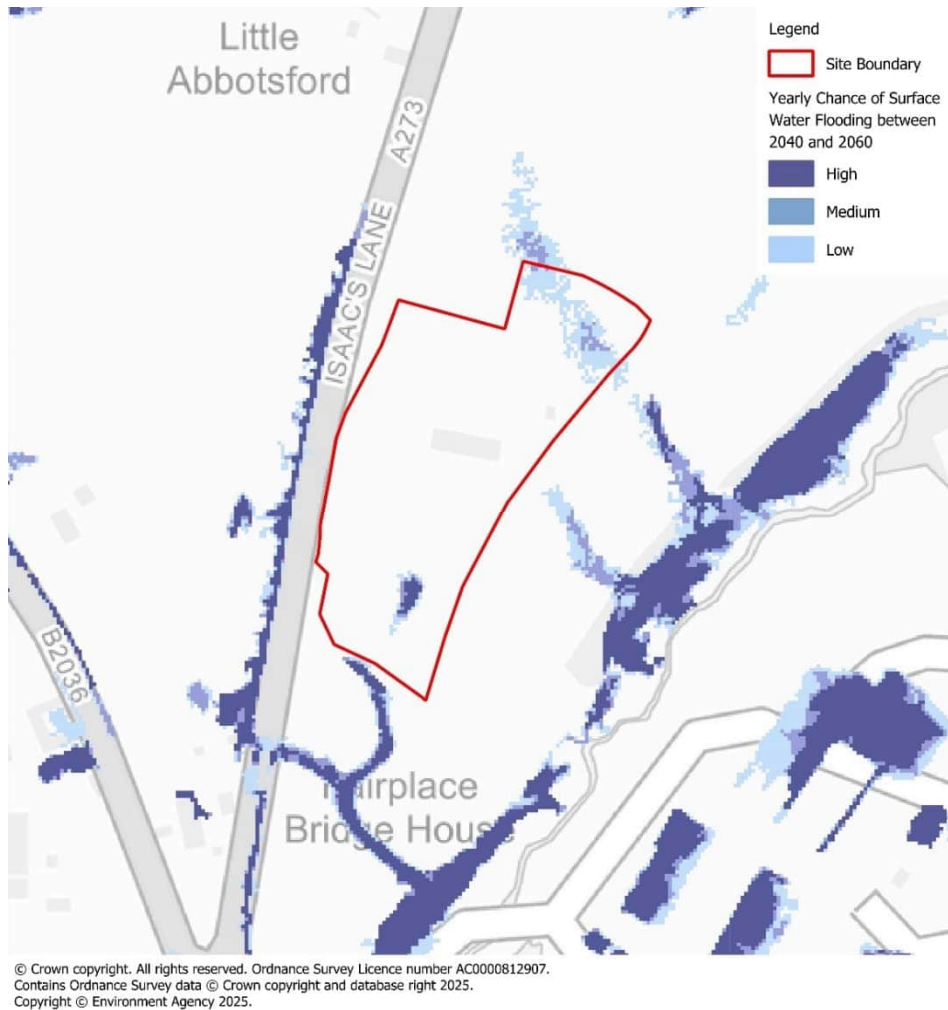


Figure 6.2: EA Updated Flood Map for Surface Water (including climate change)

6.5 Groundwater Flood Risk

- 6.5.1 The Mid Sussex SFRA and Groundsure Location Intelligence Report confirm that the site lies outside any area classified as significantly prone to groundwater flooding. It falls within a 1 km grid square with less than 25% susceptibility to groundwater emergence, and no historic groundwater flood incidents are recorded nearby.
- 6.5.2 The bedrock geology underlying the site comprises mudstone and siltstone of the Weald Clay Formation, which are low-permeability soils. The hydrogeology is classified as a Secondary Undifferentiated Aquifer, typically associated with low permeability and limited groundwater flow.
- 6.5.3 Based on geological conditions, mapped susceptibility, and the absence of historic incidents, the risk of groundwater flooding at the site is considered Low.

6.6 Sewer Flood Risk

6.6.1 A review of the Mid Sussex SFRA confirms that there are no recorded sewer flooding incidents in the vicinity of the Brookleigh Eastern Primary School site. Additionally, no drainage-related flood events have been reported within a 500 m radius. The site is currently undeveloped and does not contain any existing drainage infrastructure, meaning there is no legacy sewer network that could contribute to flood risk.

6.6.2 Based on available evidence and historic flood records, the sewer flood risk associated with the proposed development is considered to be Low.

6.7 Artificial Flood Risk

6.7.1 Information available from the EA for risk of inundation from reservoirs indicates that the Site is considered to be unlikely. The risk is therefore considered to be Low.

6.7.2 Accordingly, the risk of artificial flooding for the proposed development is considered Low.

6.8 Flood Risk Summary

Table 6.1: summary of existing flood risk

Flood Risk	Level of Risk
Fluvial	Low
Tidal	Very Low
Surface Water	Low
Groundwater	Low
Sewer	Low
Artificial	Low

6.9 Climate Change Impact

6.9.1 Climate change must be considered as an integral part of any site-specific FRA in order to minimise the impact of future flooding and allow adequate consideration for resilience to alleviate the burden on potential future users of the proposed development.

6.9.2 The impact of climate change has been adequately factored into the proposed drainage design in line with all current best practice and guidance.

7.0 DEVELOPMENT PROPOSALS

7.1 Proposed Development Description

7.1.1 The proposed development comprises a new two-form entry primary school with associated external play areas, sports pitches, and access infrastructure. The site spans approximately 2.18 hectares, defined by a single boundary, and is currently undeveloped, forming part of the wider Brookleigh strategic allocation in Burgess Hill.

7.1.2 The proposed development will consist of:

- A two-storey primary school building, including classrooms, hall, kitchen, staff areas, and ancillary spaces.
- External hard play areas, soft landscaping, and informal recreation zones.
- Dedicated staff and visitor parking, including accessible bays and cycle storage.
- Vehicular access from the new spine road, with internal circulation and turning head.
- Below-ground attenuation infrastructure and SuDS features integrated into the landscape design.

7.1.3 The proposed development and landscape layout are contained in Appendix B.

7.1.4 The expected lifetime of the development is 60 years, in line with Department for Education design standards and climate resilience guidance.

7.2 Vulnerability of Development

7.2.1 Annex 3 of NPPF defines the different categories of development in terms of flood risk vulnerability. The proposed development is classified as More Vulnerable in terms of flood risk.

7.2.2 As the site is located within Flood Zone 1, the development is deemed appropriate.

7.3 Urban Creep Allowance

7.3.1 New developments should factor in the effect urban creep. This is the increase in impermeable area on developments due to conservatories/extensions/driveways etc.

7.3.2 However, urban creep allowances are not applicable to non-residential developments such as schools. As Brookleigh Primary School is a public educational facility with a fixed operational footprint and no residential curtilage, urban creep has not been considered for the purposes of this assessment.

7.4 Sequential Test

7.4.1 This FRA has not undertaken a review to support the sequential test. The site is located within Flood Zone 1 and is therefore deemed to have passed the Sequential Test in accordance with national planning guidance.

7.4.2 As the site is included within Policy DP9 of the adopted Mid Sussex District Plan and forms part of the Brookleigh strategic infrastructure allocation, it has been identified for educational

use through the plan-making process and is supported by the wider Burgess Hill masterplan. Given its allocated status, location within Flood Zone 1, and alignment with strategic infrastructure delivery, the Sequential Test is considered satisfied.

7.5 Exception Test

7.5.1 Since the sequential test is not required, an exception test is also not applicable.

7.6 Proposed Site Levels

7.6.1 The proposed school building is located in the north on the higher central portion of the site, with external play areas and sports pitches positioned toward the southeast, where levels fall naturally. The car park and access road are situated along the western edge, adjacent to Isaac's Lane, where levels are highest. The site will be regraded to tie into the access road and other site boundaries and ensure positive drainage falls toward the attenuation infrastructure.

8.0 SURFACE WATER MANAGEMENT

8.1 Overview

8.1.1 The surface water drainage system has been designed in accordance with the NPPF and the accompanying Guidance and Technical Standards for SuDS, in addition to the updated National Standards for Sustainable Drainage Systems (SuDS) (DEFRA, 2025). It also complies with the requirements under Building Regulations Part H, and SuDS guidance by West Sussex County Council.

8.1.2 In line with Standard 1: Runoff Destinations of the National Standards for SuDS (DEFRA, 2025), surface water runoff shall be managed using a prioritised approach that treats rainfall as a resource and promotes sustainable discharge pathways. The hierarchy of runoff destinations is as follows:

1. Collection for non-potable use – including rainwater harvesting for irrigation or internal reuse, where feasible and safe
2. Infiltration to ground – subject to ground conditions, groundwater protection zones, and structural stability
3. Discharge to surface water bodies – such as rivers, streams, lakes or ponds, with appropriate flow control and water quality measures
4. Discharge to surface water sewers or other piped drainage systems – only where higher priority options are demonstrably impracticable
5. Discharge to combined sewers – strictly as a last resort, and subject to capacity confirmation and risk mitigation.

8.2 Site Constraints

8.2.1 A review of the site characteristics has informed the following site constraints as explained:

- Limited infiltration potential: As outlined in Section 6.6 of the Land Quality Statement (CampbellReith, 2025), a single infiltration test was undertaken in 2020 by Harrison Group Environmental at trial pit location IT7-01. The test followed BRE Digest 365 method and targeted the Weald Clay Formation at depths between 1.80m and 2.60m below ground level. The results indicated minimal reduction in water level over the test period, and no infiltration rate could be calculated. These findings confirm that the underlying clay and siltstone soils exhibit poor drainage characteristics and are unsuitable for soakaway-based SuDS. The site is underlain by low-permeability mudstone and siltstone of the Weald Clay Formation, classified as a Secondary Undifferentiated Aquifer (Section 2.9), with limited groundwater flow and shallow groundwater levels observed between 1.60m and 2.12m bgl (Section 5.2). These conditions, combined with the site's proximity to the River Adur East (90m southeast), suggest that infiltration poses both practical and environmental constraints. Accordingly, infiltration-based drainage is not considered feasible for the proposed development.

- Contamination and environmental risk management: Ground investigation and soil sampling indicate a very low risk to end users, groundwater, and surface water receptors (Sections 11.3–11.4). However, residual contamination may be present near the former site compound and fuel storage area. A watching brief is recommended during groundworks, with any unexpected contamination (e.g. hydrocarbons, asbestos fragments) to be assessed and managed in accordance with the Remediation Specification and current waste guidance.
- Tree protection and root constraints: As detailed in the AIA (Sections 2.6–2.8), all proposed buildings and hardstanding areas are located outside the root protection areas (RPAs) of retained trees. However, the site lies adjacent to trees protected under TPO/16/0008 (AIA, Section 2.1.2), and any future service routing or level changes must avoid RPAs or follow sympathetic methodologies in accordance with BS5837:2012 and NJUG4 guidance. Protective fencing and exclusion zones are required throughout construction (AIA, Section 3.3), and any unforeseen root disturbance must be reviewed by the project arboriculturist.
- Ecological sensitivities and environmental protection: The site is situated within 250m of multiple designated ecological sites, including Bedelands Farm LNR and several Local Wildlife Sites (PEA, Section 7). While no direct impacts are anticipated, adjacent hedgerows and woodland habitats provide structurally diverse foraging and commuting corridors for protected species including bats, badgers, and dormice (PEA, Sections 14–16). Construction activities must be managed to avoid indirect impacts such as light spill, dust, and pollution.
- Soil and groundwater-related drainage design constraints: As outlined in Section 10.7 of the Land Quality Statement, the site's medium volume change potential may cause ground heave, particularly in vegetated areas. Drainage and services should be laid with increased falls and flexible connections (Section 10.7.1). Silty soils present a risk of frost heave (Section 10.7.2), fines ingress (Section 10.7.3), and scour (Section 10.7.4), requiring protective measures in drainage specification. Shallow and variable groundwater levels may necessitate temporary dewatering and land drainage pre-development (Section 10.7.5), and any unidentified springs must be incorporated into final drainage design (Section 10.7.6).

8.3 Existing and Proposed Impermeable and Permeable Areas

- 8.3.1 The site is currently a greenfield area, and the proposed development will create new impermeable surface which include the school building, car park, access road, MUGA and playground areas. A new grassed football pitch of area 0.51ha will also be included.
- 8.3.2 The existing and proposed impermeable and permeable areas are presented in Table 8.1.

Table 8.1: Existing and Proposed Impermeable and Permeable Areas

	Permeable (ha)	Impermeable (ha)
Existing	2.18	0
Proposed	1.41	0.77

8.4 Masterplan Surface Water Drainage Strategy

8.4.1 Based on the Regional Surface Water Masterplan (AECOM, Document Ref: 60610807-ACM-XX-XX-RP-DR-10002), dated 5 August 2020, the proposed school development lies within Drainage Area 9, specifically Network 9.4. The site is allocated a flow control rate of 7.8l/s, discharging to the water quality pond WQ02, which serves Network 9.4 within DA 9. Following attenuation and treatment, flows are conveyed through the wider drainage network to the River Adur, in accordance with the site-wide SuDS strategy. The AECOM sitewide drainage masterplan, forms part of Outline Planning Consent Ref: DM/18/5114, which was granted by Mid Sussex District Council in October 2019 as part of the wider Brookleigh, Burgess Hill strategic mixed-use masterplan.

8.5 Proposed Surface Water Runoff Rates

8.5.1 As set out in Section 5.8, QBar has been calculated to be 5.81 l/s/ha. Based on the proposed impermeable area of 0.77 ha, in addition to the pitch drainage area of 0.51 ha, the greenfield runoff rate equates to an estimated runoff of approximately 7.43 l/s.

8.5.2 This closely aligns with the allocated flow rate of 7.8l/s from the Masterplan Drainage Strategy. This supports compliance with national SuDS guidance and local policy by reflecting pre-development hydrological conditions and reinforces the suitability of the proposed discharge strategy within the wider site SuDS network.

8.6 Surface Water Volume

8.6.1 Surface water storage volumes have been calculated on the basis that site runoff must be restricted to the approved rate 7.8l/s during all storm events up to and including the 1 in 100-year event, incorporating a 45% allowance for climate change. As infiltration has been assessed and deemed unviable for the proposed development, attenuation storage has been sized to accommodate the full volume of excess runoff generated under these conditions.

8.6.2 However, the proposed drainage strategy incorporates a green roof, which will promote absorption and evaporation. This feature is expected to reduce the rate of surface water discharge from the proposed school building.

8.6.3 Hydraulic calculations indicate that approximately 1500 m³ of attenuation storage will be required across the Site, based on the proposed impermeable area. Supporting calculations are provided in the SuDS strategy in Appendix E.

8.7 SuDS Strategy

- 8.7.1 The proposed drainage strategy layout, presented in Appendix F, illustrates the SuDS features designed to manage surface water runoff across the Brookleigh Eastern Primary School site.
- 8.7.2 The surface water drainage strategy aims to control runoff from impermeable areas at source and attenuate flows through a combination of green roofs, permeable surfaces, sub-base storage, and geocellular attenuation features.
- 8.7.3 Based on the site's underlying geology and feasibility constraints, infiltration is not considered viable. In accordance with the drainage hierarchy, surface water drainage is proposed to connect into the River Adur via the wider infrastructure shown on drawing BUR-WAC-ZZZ-00-D-C-10402, provided in Appendix G. This drawing forms part of the engineering plans for the Burgess Hill Brookleigh Phase 1C development and was prepared by Walker Associates Consulting Limited.
- 8.7.4 Within the masterplan drainage strategy is allowance for a stub outfall to the south-eastern corner of the site into which the proposed drainage from the school site is to be routed.
- 8.7.5 The following SuDS features have been considered within the proposed surface water drainage strategy:
- Permeable Paving (Car Park and MUGA)
 - Geocellular Attenuation Tanks
 - Flow Control Chamber (Hydrobrake or equivalent)
 - Green Roofs (subject to structural feasibility)
 - Rainwater Harvesting (via water butts in educational landscape zones)
- 8.7.6 Roof runoff from the proposed school buildings will be directed via diffuser units into permeable paving sub-bases, which have been designed to accommodate flows from a 1 in 100-year storm event, inclusive of a +45% climate change allowance.
- 8.7.7 The car park is proposed to be permeable paved; potentially with permeable bays and impermeable aisles over a single voided sub-base for treatment and storage of surface runoff. Due to the ground conditions, permeable pavements would be lined with outfalls via diffuser boxes or perforated pipes.
- 8.7.8 In addition, lined permeable surfaces are proposed across the playgrounds and MUGA, reducing reliance on below-ground attenuation infrastructure and thereby minimising both capital costs and environmental impact. Allowance has also been made for formal drainage of the grassed football pitch, should this be an aspiration of the Local Authority.
- 8.7.9 Attenuated surface water will discharge to the wider drainage by others in the south-eastern corner of the site via a flow control chamber restricting discharge rate to 7.8 l/s in accordance with the AECOM masterplan.

- 8.7.10 While there is limited feasibility in large-scale rainwater harvesting on the site, localised rainwater harvesting could be provided via domestic-scale water butts located in the educational landscape area to the southeast of the site.
- 8.7.11 Subject to structural loading assessments, green roofs may be incorporated on flat roof areas to enhance biodiversity, improve water quality, and contribute to retention of rainfall. These features align with planning policy requirements for sustainable design and ecological enhancement.
- 8.7.12 Landscaped areas will be designed to support water-sensitive urban design principles, with potential for future integration of rain gardens or swales to intercept and treat runoff prior to discharge.
- 8.7.13 The proposed surface water drainage system can effectively control all runoff generated within the site and maintain pre-development greenfield runoff, without increasing flood risk elsewhere.
- 8.7.14 The maintenance of SuDS is vital ensuring that they work as efficiently as they set out to do and is discussed in Chapter 10.

8.8 Surface Water Quality

- 8.8.1 The SuDS components within the surface water drainage strategy have been designed in accordance with the guidance set out in the SuDS Manual.
- 8.8.2 Treatment within SuDS components is essential for frequent low intensity and duration rainfall events, where urban contaminants are being mobilised and washed off urban surfaces and the aggregated contribution to the total pollutant load to the receiving surface water body is potentially high. For rainfall events greater than the 1 in 1 return period, the pollutants become diluted and the environmental risks will be reduced which means that the SuDS treatment process becomes less crucial. Treatment effectiveness is strongly linked to the hydraulic control of runoff, in particular velocity control and retention time.
- 8.8.3 Table 26.2 of the CIRIA SuDS Manual provides the pollution hazard indices for different land use classifications as shown in the table below.

Table 8.2: CIRIA Pollution hazard indices for different land use classifications

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydro-carbons
Commercial/Industrial Roofs	Low	0.3	0.2	0.05
Individual property driveways, residential car parks, low traffic roads, car parks with infrequent change	Low	0.5	0.4	0.4

- 8.8.4 Different areas across the site will have varying pollution hazard levels associated with their intended use. For example, the proposed school building's rooftops, will generate a low pollution hazard level, with CIRIA indices of 0.3 for Total Suspended Solids (TSS), 0.2 for metals, and 0.05 for hydrocarbons.
- 8.8.5 The proposed access roads and car parking areas, will experience relatively infrequent vehicle movements – likely being filled/emptied once per day under usual operation. Therefore, these areas are classified as having a low pollution hazard level. These areas correspond to CIRIA indices of 0.5 for TSS, 0.4 for metals, and 0.4 for hydrocarbons.
- 8.8.6 To mitigate the potential level of pollution generated by car parks across the site, permeable paving has been proposed. These areas will benefit from source control and treatment through the paving sub-base and perforated pipe network.
- 8.8.7 The school building rooftops, which are classified as low pollution hazard surfaces, could incorporate green roof systems. These provide source control by intercepting rainfall, slowing the rate of runoff, and improving water quality through filtration and vegetative uptake of various pollutants. Runoff from green roofs will discharge to the tanked permeable paving subbase, supporting both water quantity and quality objectives within the wider drainage strategy.
- 8.8.8 Table 8.3 below summarises the treatment efficiency of different SuDS components discharging to surface waters as detailed in Chapter 26 of the SuDS Manual.

Table 8.3: CIRIA Indicative SuDS Mitigation Indices for Discharges to surface water

Type of SuDS Component	Mitigation Indices		
	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
Green Roofs			
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7

As demonstrated in Table 8.3, the mitigation indices associated with the proposed SuDS features exceed the pollution hazard indices of the anticipated runoff from the development. This confirms that the SuDS strategy will provide sufficient treatment prior to discharge. Where multiple drainage features are used, the efficiency of the secondary system to treat water is reduced.

8.9 Foul Water Strategy

- 8.9.1 Foul water flows have been estimated for the proposed two-storey primary school building, including staff and pupil usage, in accordance with Sewerage Sector Guidance. No trade effluent is anticipated as part of the development.

- 8.9.2 A peak foul water flow rate of approximately 0.9 l/s has been calculated based on occupancy assumptions and standard discharge rates for educational facilities. Supporting calculations are provided in Appendix E.
- 8.9.3 Foul flows will be conveyed via new 150mm gravity foul water sewers, as shown on the Proposed Drainage Layout (Drawing 14176-CRH-ZZ-XX-DR-C-5050). The system connects to the wider Brookleigh foul drainage network via a designated manhole located to the north-east of the site, in accordance with the strategic infrastructure design (Appendix G).
- 8.9.4 The foul water strategy has been coordinated with the wider masterplan and reflects the approved discharge arrangements for Brookleigh.
- 8.9.5 The foul water strategy is presented in the Proposed Drainage Strategy and is contained in Appendix F.

9.0 FLOOD RISK FROM THE PROPOSED DEVELOPMENT

9.1 Fluvial Flood Risk

- 9.1.1 The site is located within Flood Zone 1 as defined by the Environment Agency, indicating a low probability of fluvial flooding. Hence, the proposed development is unlikely to increase the fluvial flood risk to the site.

9.2 Tidal Flood Risk

- 9.3 The site is not in close proximity to any tidal sources. The current tidal flood risk is Very Low.

- 9.4 The proposed development will not increase the tidal flood risk to the site.

9.5 Surface Water Flood Risk

- 9.5.1 The site comprises greenfield land and will introduce a new impermeable footprint. A site-wide SuDS strategy has been designed to manage runoff at source and attenuate flows to a controlled rate of 7.8 l/s for all storm events up to and including the 1-in-100-year event, with a 45% climate change allowance. Two discrete surface water ponding zones have been identified and mitigated through site regrading and strategic infrastructure placement.

- 9.5.2 Current surface water flood risk is Low to Medium and can be suitably managed on site through the levels proposed strategy. The proposed development is not considered likely to increase surface water flood risk either on or off the site.

9.6 Groundwater Flood Risk

- 9.6.1 Groundwater levels are shallow, and infiltration is not viable due to the underlying Weald Clay Formation. However, the proposed development is unlikely to increase groundwater flood risk to the site. Therefore, the risk of groundwater flooding is considered to remain Low.

9.7 Sewer Flood Risk

- 9.7.1 The proposed development incorporates SuDS measures that will reduce surface water runoff to a controlled discharge rate. As the existing site is undeveloped and unrestricted, the proposed drainage strategy is not expected to increase sewer flood risk to the site.

9.8 Artificial Flood Risk

- 9.8.1 The risk of artificial flooding is associated with off-site infrastructure such as reservoirs or canals. The proposed development will have no impact on these external influences. Therefore, the risk of artificial flooding is considered to remain Low.

- 9.8.2 The proposed development is unlikely to increase the artificial flood risk to the site.

9.9 Climate Change Impact

- 9.9.1 The impact of climate change has been factored into the proposed drainage design, with a 45% allowance applied to surface water attenuation volumes in line with the EA and LLFA guidance.

10.0 SCHEDULE OF MAINTENANCE

10.1 Introduction

10.1.1 The maintenance of SuDS features is vital ensuring that they work as efficiently as they set out to do. Maintenance activities can be broadly defined as:

- Regular maintenance – basic tasks carried out regularly;
- Occasional maintenance – tasks that are required periodically but on a much less frequent basis; and
- Remedial maintenance – tasks required when a fault needs rectifying and often includes unforeseen events.

10.1.2 The proposed drainage system is to remain private and maintained by a third party management company to be set up post-construction.

10.1.3 Maintenance requirements for each SuDS feature has been outlined below.

10.2 Permeable Paving

Construction

10.2.1 Construction vehicles and equipment not directly involved in the construction of the pervious pavements will be kept away from these areas. Silt fences, staged excavation works and temporary drainage swales/bunds to divert runoff away from exposed areas will be utilised, as appropriate, to manage the risks associated with, and to intercept the discharge of sediment laden runoff. Landscaping activities will be carefully designed and carried out to prevent deposition of topsoil, turf and other materials on the surface of the pavement. Infiltration surfaces will not be compacted and will be protected at all times. Excavations for the pervious pavement installation should aim to be undertaken in times of dry weather, when possible, to prevent mobilisation of sediments from exposed surfaces during rainfall events. Surfaces exposed as part of the pervious paving installation works should be stabilised as soon as possible. Perimeter controls should be installed prior to construction to protect watercourses.

Maintenance Schedule

10.2.2 The table below shows the operation and maintenance requirements for the pervious pavements which are in accordance with the CIRIA C753 SuDS Manual.

Table 10.1: Operation and maintenance requirements for pervious pavements (CIRIA C753, 2015)

Maintenance Schedule	Required Actions	Typical Frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations - pay particular attention to areas where water runs onto pervious surfaces from adjacent impervious areas as these areas are most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using Glyphosate applied directly onto the weeds by an applicator rather than spraying	As required - once per year on less frequently used pavements
Remedial actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action	Three-monthly, 48 hrs after large storms in first six months
	Assess silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

10.3 Bio-retention areas, Rain Gardens and Tree Pits

Construction

- 10.3.1** Construction vehicles and equipment not directly involved in the construction of the tree pits will be kept away from these areas. Silt fences, staged excavation works and temporary drainage swales/bunds to divert runoff away from exposed areas will be utilised, as appropriate, to manage the risks associated with, and to intercept the discharge of, sediment laden runoff prior to its discharge to the drainage network. Excavations for the tree pits should aim to be undertaken in times of dry weather when possible, to prevent mobilisation of sediments, during rainfall events. Surfaces exposed as part of the tree pit construction should be stabilised as soon as possible. Perimeter controls should be installed prior to construction. Root protection measures should be undertaken if working in proximity to existing trees.

Maintenance Schedule

- 10.3.2** The table below shows the operation and maintenance requirements for rain gardens and tree pits, taken from the CIRIA C753 SuDS Manual.

Table 10.2: Operation and maintenance requirements for tree pits (CIRIA C753, 2015)

Maintenance Schedule	Required Actions	Typical Frequency
Regular maintenance	Remove litter and debris	Monthly (or as required)
	Cut the grass - public areas	Monthly (during growing season)
	Inspect marginal and bankside vegetation and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Inspect inlets, outlets, banksides, structures, pipework etc. for evidence of blockage and/or physical damage	Monthly
	Inspect silt accumulation rates in the rain garden/tree pit and establish appropriate removal frequencies; undertake contamination testing once some build-up has occurred, to inform management and disposal options	Half yearly
	Check any mechanical devices	Half yearly

Maintenance Schedule	Required Actions	Typical Frequency
	Tidy all dead growth (scrub clearance) before start of growing season (Note: tree maintenance is usually part of overall landscape management contract)	Annually
Occasional maintenance	Remove sediment from the main body of the tree pits when water volume is reduced by 20%	With effective pre-treatment, this will only be required rarely, e.g. every 25-50 years
	Check edging and kerbing plus any inlets to rain garden/tree pit and repair/replace if required	As required
Remedial actions	Repair erosion or other damage	As required
	Replant, where necessary	As required
	Aerate tree pit when signs of eutrophication are detected	As required
	Repair/rehabilitate inlets, outlets and overflows.	As required

10.4 Green Roof

- 10.4.1** Maintenance frequency varies pertaining to the complexity of the green roof; intensive green roofs require regular inspection and action, this may include weekly mowing of grassed areas and weeding of plant beds. On the other hand, extensive green roofs will be managed with a more subtle approach, biannual visits to remove litter, invasive plants species as well as checking fire breaks and drains.
- 10.4.2** Maintenance responsibility for green roof systems should be placed with a responsible organisation with specialist training in green roof care, all maintenance actions must comply with appropriate health and safety regulations, especially as this encompasses regulations for working at height (e.g. operators require safety fastenings to work at roof level). Training and guidance information for operating and maintenance the roof is to be distributed to all property owners and tenants.
- 10.4.3** Roof access points should be designed with safety and mobile convenience at foremost, providing secure points for harness attachments where approach of the roof edges is required. CDM 2015 requires designers to ensure that all maintenance risks have been identified, eliminated, reduced and/or controlled where appropriate. This information will be required as part of the health and safety file.

10.4.4 The table below provides guidance on the type of operational and maintenance requirements that may be appropriate. The list of actions is not exhaustive and some actions may not always be required.

10.4.5 Maintenance Plans and schedules should be developed during the design phase, and will be specific to the type of roof that is adopted. Specific maintenance needs of the system should be monitored, and maintenance schedules adjusted to suit requirements.

Table 10.3: Maintenance and Operation of Green Roofs (CIRIA C753, 2015)

Maintenance Schedule	Required Actions	Typical Frequency
Regular maintenance	Remove debris and litter to prevent clogging of inlet drains and interference with plant growth.	Biannually
	During establishment (ie year one), replace dead plants as required	Monthly (usually responsibility of manufacturer)
	Post establishment, replace dead plants as required (where >5% loss of coverage)	Annually (in autumn)
	Remove fallen leaves and debris from deciduous plant foliage	Biannually or as required
	Remove nuisance and invasive vegetation, including weeds	Biannually or as required
	Mow grasses, prune shrubs and manage other planting (if appropriate) as required – clippings should be removed and not allowed to accumulate	Biannually or as required
Remedial actions	If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material and sources of erosion damage should be identified and controlled	As required
	If drain inlet has settled, cracked or moved, investigate and repair as appropriate	As required

Maintenance Schedule	Required Actions	Typical Frequency
Monitoring	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources	Annually and after severe storms
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance of roof drain system	Annually and after severe storms
	Inspect underside of roof for evidence of leakage	Annually and after severe storms

10.5 Attenuation Tanks

Construction

- 10.5.1 Construction vehicles and equipment not directly involved in the construction of the attenuation tank will be kept away from these areas. Silt fences, staged excavation works and temporary drainage swales/bunds to divert runoff away from exposed areas will be utilised, as appropriate, to manage the risks associated with, and to intercept the discharge of, sediment laden runoff prior to its discharge to nearby watercourses. Excavations for the attenuation tank should aim to be undertaken in times of dry weather when possible, to prevent mobilisation of sediments during rainfall events. Perimeter controls should be installed prior to construction to protect watercourses.

Maintenance Schedule

- 10.5.2 The table below shows the operation and maintenance requirements for the Attenuation tanks, taken from the CIRIA C753 SuDS Manual.

Table 10.4: Operation and maintenance requirements for attenuation storage tanks (CIRIA C753, 2015)

Maintenance Schedule	Required Actions	Typical Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually

Maintenance Schedule	Required Actions	Typical Frequency
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	Remove sediment from catchpits/ gullies/ sumps.	Annually, or as required
Occasional maintenance	Removal of sediment from tank via vacuum pumping (if appropriate)	As required
Remedial maintenance	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

11.0 CONCLUSION

- 11.1.1 CampbellReith has produced this Flood Risk Assessment and Drainage Strategy to support the Reserved Matters Application for Brookleigh Primary School, forming part of the Brookleigh strategic allocation in Burgess Hill, located at Eastern Bridge, Burgess Hill, West Sussex, RH15 8RE. The proposed development comprises a two-storey primary school building with associated external teaching areas, sports pitches, car and cycle parking, access arrangements, hard and soft landscaping, and supporting infrastructure including sustainable drainage features.
- 11.1.2 The site lies within Flood Zone 1 and is not subject to fluvial, tidal, or artificial flood risk. Surface water flood risk is low to medium, with mitigation embedded in the proposed design. Groundwater and sewer flood risks are considered low, and no historic flood incidents have been recorded on or near the site.
- 11.1.3 The site comprises undeveloped greenfield land and will introduce a new impermeable footprint through the proposed school development. The drainage strategy incorporates Sustainable Drainage Systems (SuDS) including permeable paving, attenuation tanks, green roofs, and rainwater harvesting. These features are designed to manage surface water runoff from all storm events up to the 1-in-100-year return period, including a 45% allowance for climate change. As infiltration is not viable due to the underlying Weald Clay Formation and shallow groundwater levels, runoff will be discharged at a controlled rate of 7.8 l/s to the wider strategic drainage network via flow control chambers.
- 11.1.4 In accordance with CIRIA Pollution Hazard Indices, the proposed development is considered to have a low to medium pollution hazard. Water quality will be maintained through the use of permeable paving and green roofs.
- 11.1.5 Maintenance schedules for all SuDS components have been defined in accordance with CIRIA C753 guidance. The drainage system will be privately maintained by a third-party management company post-construction.
- 11.1.6 Foul water from the proposed development will be domestic in nature and is to be discharged into the wider strategic foul water drainage system to the north-east of the site.
- 11.1.7 It is considered that the proposed development is appropriate in flood risk terms, will not increase flood risk elsewhere, and can be safely delivered in accordance with planning and environmental requirements.



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Appendix A

Site Location Plan and Existing Site



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Appendix B

Proposed Development



LEGEND

- Site Boundary
- Hard Paving
- Raised kerb
- Flush edging
- Feature paving inlay/painted
- Seating walls
- Walls
- Proposed tree
- Proposed small tree/large shrub
- Planting areas
- Grassed areas
- Woodland planting area
- Play equipment
- Feature arch



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Client

Project: D3347 Brookleigh School, Burgess Hill
Drawing Title: Landscape Layout - Option 0
Homes England

Design Information Only
Drawn By: db
Checked By: pc
Drawn Date: 1:500 @ A1
Date of First Issue: June | 2025

Drawing Number: D3347-FAB-00-XX-DR-L-1005
Revision: Pr01

Project	26.06.2025	Issued for Information Only	DB	PC
Revision	Date	Reason	Drawn	Checked

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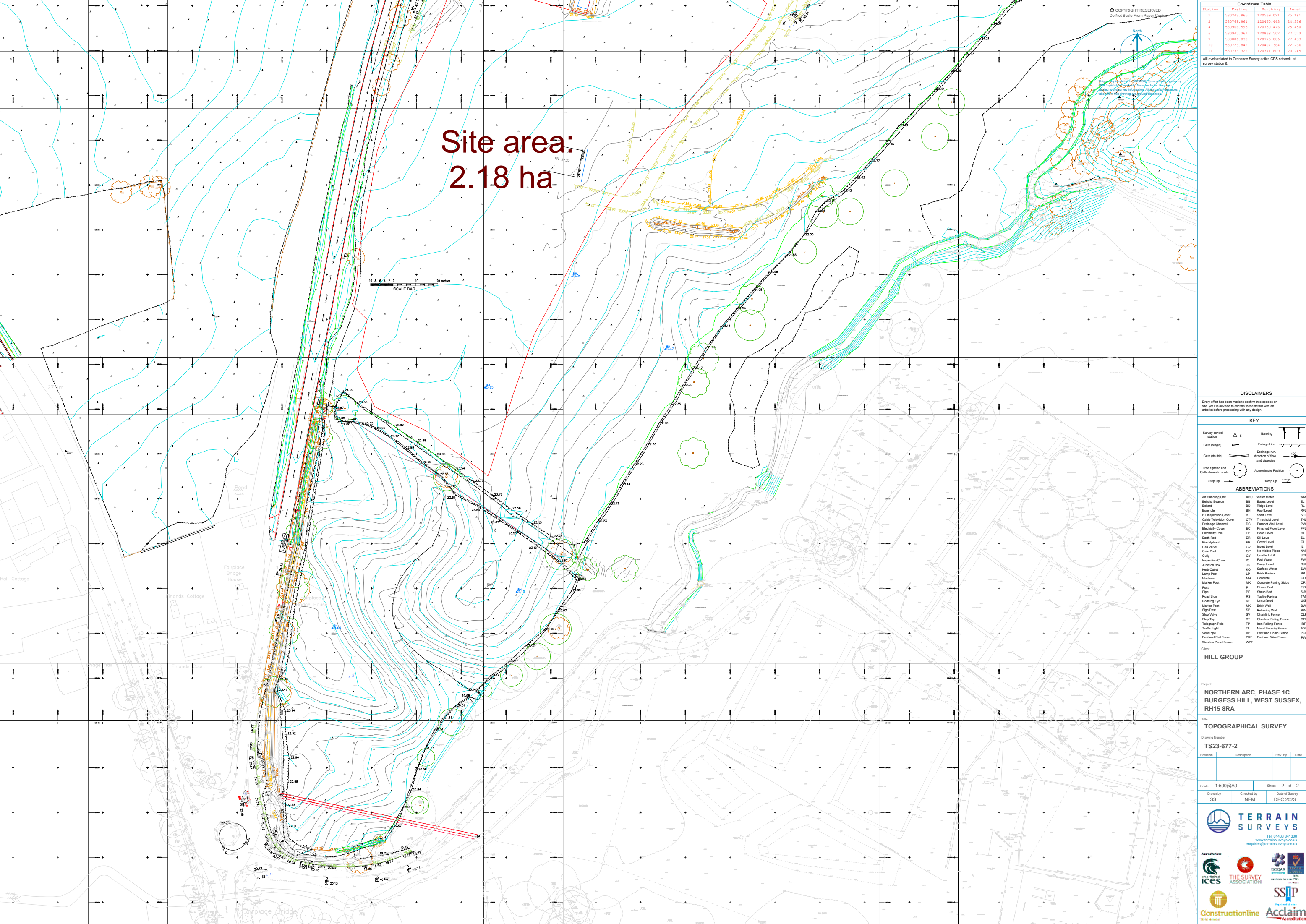
External References:
• J10347 Brookleigh School, Burgess Hill
• D3347-FAB-00-XX-DR-L-1005
• D3347-FAB-00-XX-DR-L-1001



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Appendix C

Topographical Survey



Site area:
2.18 ha

Co-ordinate Table			
Station	Easting	Northing	Level
1	530743.865	120569.021	25.181
2	530769.961	120460.463	24.336
4	530946.595	120750.416	25.450
6	530945.361	120868.502	27.573
7	530806.830	120776.886	27.433
10	530723.842	120407.384	22.236
11	530733.322	120371.809	20.745

All levels related to Ordnance Survey active GPS network, at survey station 6.

DISCLAIMERS

Every effort has been made to confirm tree species on site, yet it is advised to confirm these details with an arborist before proceeding with any design.

KEY

Survey control station

Gate (single)

Gate (double)

Tree Spread and Girth shown to scale

Step Up

Banking

Foliage Line

Drainage run, direction of flow and pipe size

Approximate Position

Ramp Up

ABBREVIATIONS

Air Handling Unit	AHJ	Water Meter	WM
Belted Beacon	BB	Waste Level	EL
Boiler	BD	Ridge Level	RL
Boundary	BH	Road Level	RFL
BT Inspection Cover	BT	Soft Level	SFL
Cable Television Cover	CTV	Threshold Level	THL
Drainage Channel	DC	Plaster Wall Level	PWL
Electricity Cover	EC	Finished Floor Level	FFL
Electricity Pole	EP	Head Level	HL
Earth Road	ER	Sill Level	SL
Fire Hydrant	FH	Cover Level	CL
Gas Valve	GV	Invert Level	IL
Gate Post	GP	No Visible Pipes	NVP
Gully	GY	Unstable Lift	UTL
Inspection Cover	IC	Foul Water	FW
Junction Box	JB	Sump Level	SUL
Kids Cooled	KD	Surface Water	SW
Lamp Post	LP	Brick Pavers	BP
Manhole	MH	Concrete	CON
Marker Post	MP	Concrete Paving Slabs	CPS
Post	P	Flower Bed	FB
Pipe	PE	Shrub Bed	SB
Road Sign	RS	Tackle Paving	TAC
Rodding Eye	RE	Unsurfaced	US
Marker Post	MK	Brick Wall	BW
Stop Post	SP	Reinforcing Wall	RW
Stop Valve	SV	Chainlink Fence	CLF
Stop Top	ST	Chainlink Fence	CLF
Telegraph Pole	TP	Iron Railing Fence	IRF
Traffic Light	TL	Metal Security Fence	MSF
Vent Pipe	VP	Post and Chain Fence	PCF
Post and Rail Fence	PRF	Post and Wire Fence	PWF
Wooden Panel Fence	WPF		

HILL GROUP

Project
**NORTHERN ARC, PHASE 1C
BURGESS HILL, WEST SUSSEX,
RH15 8RA**

Title
TOPOGRAPHICAL SURVEY

Drawing Number
TS23-677-2

Revision	Description	Rev. By	Date

Scale	1:500@A0	Sheet	2 of 2
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Drawn by	SS	Checked by	NEM	Date of Survey	DEC 2023
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