



**WAYSIDE AND HILL VIEW, EASTERGATE
LANE, EASTERGATE, CHICHESTER PO20
3SJ**

PROPOSED RESIDENTIAL DEVELOPMENT

Drainage Strategy

Prepared on Behalf of

Eastmere Paddocks Ltd

D2380/DS1.2

June 2025

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Proposed Residential Development

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CONTENTS

1	INTRODUCTION	5
1.1	Background	5
2	SITE LOCATION AND DESCRIPTION	6
3	GROUND CONDITIONS	7
3.2	Groundwater	8
4	EXISTING DRAINAGE	11
4.1	Surface Water	11
4.2	Foul Water	11
4.3	Highway Drainage	11
5	FLOOD RISK	12
5.1	Flood Maps and Modelling	12
5.2	Summary of Flood Risk	14
6	PROPOSED DEVELOPMENT	15
6.1	Description of Development	15
7	PROPOSED DRAINAGE STRATEGY	16
7.1	Surface Water	16
7.2	Treatment	17
7.3	Climate Change	18
7.4	Urban Creep	19
7.5	Foul Water Drainage	19
8	LIDSEY DRAINAGE IMPACT ASSESSMENT	21
9	MAINTENANCE	22
9.1	Proposed Maintenance Regime	22
10	OFFSITE IMPACTS	23
11	SUMMARY	24

DRAWINGS

- PL100** Site Location Plan
- PL200** Topographic Survey & Contours
- PL300** Impermeable Areas Assessment
- PL400** Constraints Plan
- PL500** Proposed Drainage & Levels

APPENDICES

- Appendix A** Symmetry Architecture Development Proposals
- Appendix B** Topographic Survey
- Appendix C** Constructive Evaluation Site Investigation
- Appendix D** Southern Water Public Sewer Records
- Appendix E** Flood Maps for Planning Extracts
- Appendix F** Wallingford Greenfield Run-off Calculations
- Appendix G** Site 3D Proposed Surface Water Drainage Calculations

1 INTRODUCTION

1.1 Background

- 1.1.1 BP Civils is instructed by Eastmere Paddocks Ltd ('the client') to prepare a drainage strategy to accompany a full planning application in respect of the proposed development at Wayside and Hill View, Eastergate Lane, Eastergate.
- 1.1.2 The proposed development concerns the construction of 9 No. dwellings. The architectural development proposals are contained within **Appendix A**.
- 1.1.3 This report has been undertaken in accordance with National Planning Policy Framework (NPPF) and The Planning Practice Guidance on the use of SuDS for achieving sustainable development.
- 1.1.4 In preparing this report, BP Civils has referred to the following documents and information:
- Arun District Council Strategic Flood Risk Assessment
 - Constructive Evaluation Site Investigation
 - Environment Agency 'Flood Maps for Planning'
 - MAGIC Mapping
 - Southern Water Public Sewer Records
- 1.1.5 This drainage strategy report has been prepared to assess site constraints and opportunities and propose a drainage strategy that is appropriate for the design life of the development, without causing off site impacts from run-off in a design event.
- 1.1.6 This report has been prepared for the benefit of the named client only.

2 SITE LOCATION AND DESCRIPTION

- 2.1.1 The National Grid Reference for the site is SU 94867 06024.
- 2.1.2 A site location plan is included within this report (drawing **PL100 'Site Location Plan'**).
- 2.1.3 The site measures 7,046m² (0.70Ha) and is located on the southern side of Eastergate Lane, surrounding the existing properties 'Wayside' and 'Hill View'.
- 2.1.4 The site is currently occupied by disused commercial buildings to the east and south of 'Hill View', in addition to the former orchard land to the south and west of 'Wayside'.
- 2.1.5 Topographic surveys been undertaken at the site and are contained within **Appendix B**.
- 2.1.6 The topographic surveys identify levels broadly in the range of 17.00m AOD and 15.60m AOD.
- 2.1.7 Drawing **PL200 'Site Topographic Survey & Contours'** demonstrates the trends in topography at the site.

3 GROUND CONDITIONS

- 3.1.1 Constructive Evaluation has undertaken intrusive investigation at the site.
- 3.1.2 Initial site works consisted of the excavation of 2 No. boreholes (BH1 and BH2) to provide an understanding of the underlying geology in addition to undertaking winter groundwater monitoring. The 2 No. boreholes were excavated on 29th October 2024.
- 3.1.3 BH1 was excavated to a depth of 6.00m below ground level, with BH2 excavated to a depth of 5.00m below ground level.
- 3.1.4 A summary of the encountered geology, as confirmed by Constructive Evaluation, is provided below:

Material	Description	Min-Max Depth (mbgl)
Topsoil	Grass over brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse angular flint.	0.0 – 0.30
Head Deposits	Soft light brown CLAY. Soft to firm slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse angular to sub-rounded flint.	0.30 – 1.80
Head Deposits	Soft cream slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is fine to coarse sub-angular to sub-rounded flint and very weak low density chalk.	1.80 – 6.00

Figure 1. Constructive Evaluation Summary of Encountered Geology

- 3.1.5 Additional intrusive works were undertaken on 8th May 2025, consisting of the excavation of 2 No. trial pits (TP01 and TP02) for the purpose of undertaking infiltration testing.
- 3.1.6 TP01 and TP02 were both excavated to depths of 1.60m below ground level.
- 3.1.7 A summary of the encountered geology, as confirmed by Constructive Evaluation, is provided below:

Material	Min-Max Depth (mbgl)	Average Depth (mbgl)
Topsoil	0.00 – 0.30	0.00 – 0.28
Slightly sandy CLAY	0.25 – 1.20	0.28 – 0.95
Clayey sandy GRAVEL	0.70 – 1.60	0.95 – 1.45
Silty gravelly SAND	1.30 – 1.60	>1.60*

Figure 2. Constructive Evaluation Summary of Encountered Geology

- 3.1.8 A summary of the results from the infiltration tests, as confirmed by Constructive Evaluation, is provided below:

Trial Pit ID	Cycle/ Test no.	Pit Depth (m bgl)	Time at 75% (mins)	Time at 25% (mins)	Permeability Coefficient (m/s)	Drainage Conditions*
TP01	1	1.60	0.68	2.15	1.88E ⁻⁰³	Good
TP01	2	1.60	1.50	4.25	9.77E ⁻⁰⁴	Good
TP01	3	1.60	0.70	3.50	9.59E ⁻⁰⁴	Good
TP02	1	1.60	1.80	8.90	3.78E ⁻⁰⁴	Good
TP02	2	1.60	4.55	14.80	2.62E ⁻⁰⁴	Good
TP02	3	1.60	4.50	18.80	1.88E ⁻⁰⁴	Good

Figure 3. Constructive Evaluation Summary of Infiltration Test Results

3.1.9 Complete reporting from Constructive Evaluation is contained within **Appendix C**.

3.2 Groundwater

3.2.1 Groundwater was observed at 4.60m below ground level at BH1 during excavation. BH2 remained dry during excavation.

3.2.2 Groundwater monitoring was undertaken between 31st October 2024 and 28th March 2025.

3.2.3 The peak groundwater level at BH1 was recorded at 3.28m below ground level (c. 13.32m AOD).

3.2.4 The peak groundwater level at BH2 was recorded at 3.35m below ground level (c. 12.75m AOD).

3.2.5 A summary of the full groundwater monitoring results, as confirmed by Constructive Evaluation, is provided below:

Date	BH1		BH2	
	Groundwater Level (mbgl)	Base of Borehole (mbgl)	Groundwater Level (mbgl)	Base of Borehole (mbgl)
31/10/2024	4.45	5.40	4.90	5.00
29/11/2024	4.12	5.40	4.38	5.00
19/12/2024	4.17	5.38	3.84	5.00
31/01/2025	3.95	5.38	3.57	5.00
28/02/2025	3.28	5.38	3.35	5.00
28/03/2025	3.65	5.38	3.72	5.00

Figure 4. Constructive Evaluation Summary of Groundwater Monitoring Results

3.2.6 Complete reporting in respect of the groundwater monitoring undertaken is contained within **Appendix C**.

3.2.7 Mapping managed by MAGIC (magic.defra.gov.uk) provides geographic information concerning the natural environment from across government. This mapping tool has been referred to in order to confirm aquifer designations, as well as whether the site is located within any groundwater source protection zones, groundwater vulnerability zones, drinking water protected areas or drinking water safeguard zones.

3.2.8 The site falls within 'Unproductive' bedrock and superficial drift aquifers.

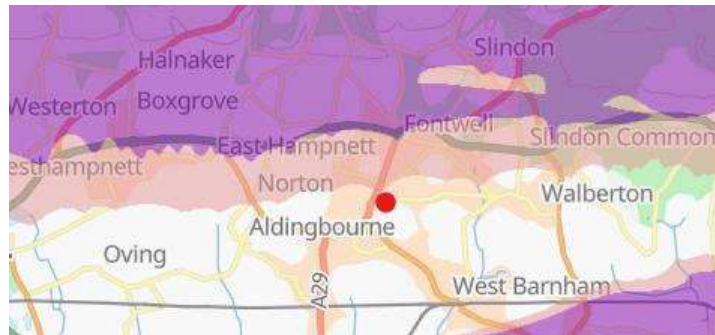


Figure 5. Bedrock Aquifer Designation Map (DEFRA)



Figure 6. Superficial Drift Designation Map (DEFRA)

3.2.9 The Groundwater Vulnerability Map confirms that the site falls within a 'Low' groundwater vulnerability zone, with a 'Soluble Rock Risk' identified from central to northern areas of the site.



Figure 7. Groundwater Vulnerability Map (DEFRA)

3.2.10 The site falls outside of any drinking water protected areas and drinking water safeguard zones,

however, falls within both 'Zone I – Subsurface Activity' and 'Zone II – Subsurface Activity' source protection zones.

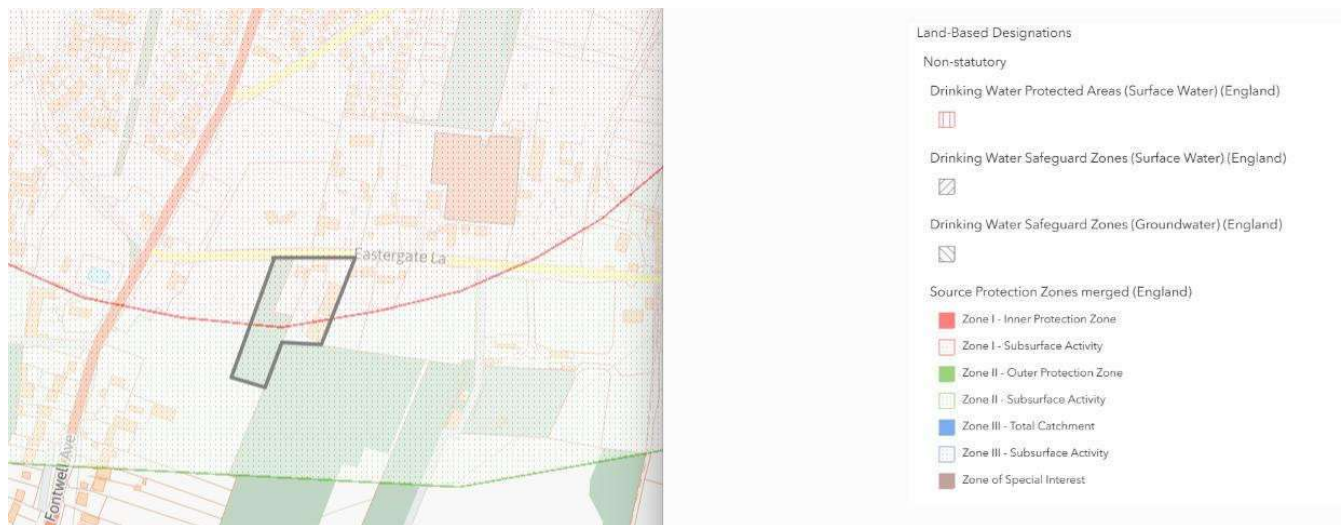


Figure 8. Drinking Water Protected Areas (Surface Water), Drinking Water Safeguard Zones (Surface Water and Groundwater) and Source Protection Zones Map (DEFRA)

4 EXISTING DRAINAGE

4.1 Surface Water

- 4.1.1 The existing development and associated impermeable area at the site is concentrated to the east and south of 'Hill View', in relation to the disused commercial buildings. The site topographic survey identifies drainage infrastructure in this area, although line, level and connectivity has not been established.
- 4.1.2 Land to the south and west of 'Wayside' drains naturally.
- 4.1.3 There are no ordinary watercourses or Main Rivers on site, or within the vicinity of the site.
- 4.1.4 There are no other known water bodies within the vicinity of the site.
- 4.1.5 Southern Water provide sewerage services within the area. Asset records have been obtained from Southern Water.
- 4.1.6 Southern Water's public sewer records do not identify any dedicated surface water assets/sewers on site, or within the vicinity of the site.
- 4.1.7 Greenfield run-off rates have been calculated based on the site area of 7,046m² (0.7Ha) as follows:
- QBAR: 1.44 l/s
 - 1 in 1-Year: 1.2 l/s
 - 1 in 10-Year: 2.3 l/s
 - 1 in 30-Year: 3.3 l/s
 - 1 in 100-Year: 4.6 l/s
 - 1 in 200-Year: 5.4 l/s
- 4.1.8 Given the existing impermeable area at the site, run-off is likely to exceed that of the greenfield run-off rates as established, above.
- 4.1.9 Based on a 50mm/hour flat rainfall rate methodology, in respect of the existing impermeable area at the site, brownfield run-off is calculated as being 31.40 l/s.

4.2 Foul Water

- 4.2.1 Southern Water's public sewer records identify a 150mm dia. public foul water sewer beneath Eastergate Lane. This is identified as flowing in a westerly direction.
- 4.2.2 It is assumed that the site currently benefits from a connection to this public foul water sewer, although this has not currently been confirmed.

4.3 Highway Drainage

- 4.3.1 Eastergate Lane, within the vicinity of the site, is not served by any formal drainage infrastructure. The carriageway drains 'over the edge' to the adjacent verge.

5 FLOOD RISK

5.1 Flood Maps and Modelling

5.1.1 Flood Maps for Planning confirms that the site is located in Flood Zone 1.

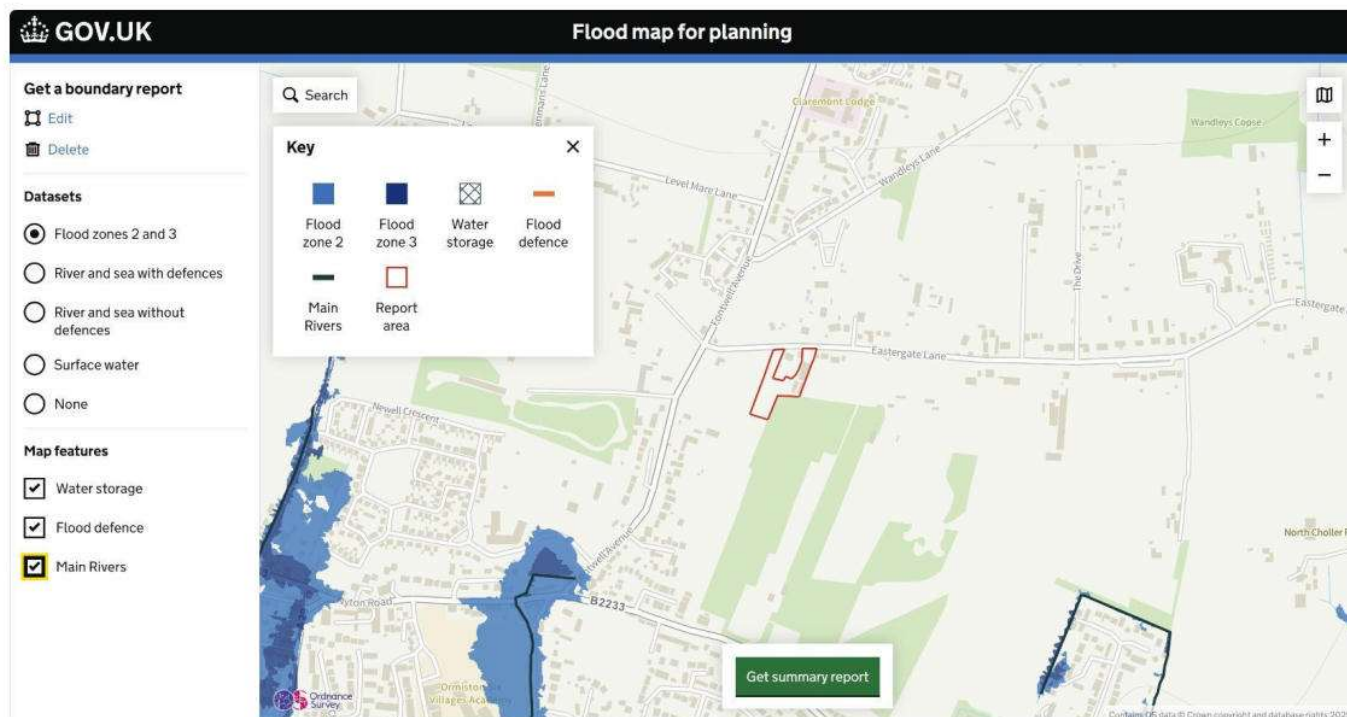


Figure 9. Flood Maps for Planning (Gov.uk)

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b).
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map).
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map).
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: Land having a 3.3% or greater annual probability of flooding, with any existing flood

	management infrastructure operating effectively; or Land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map).
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- 5.1.2 Flood Maps for Planning, Rivers and the Sea, do not identify the site as being at risk of flooding from such sources in either the present day, or in view of climate change (with and/or without defences).
- 5.1.3 Flood Maps for Planning, Surface Water, largely do not identify the site as being at risk of surface water flooding. Central areas of the site are identified as being at risk of surface water flooding (1 in 30, 1 in 100 and 1 in 1000). As demonstrated by drawing **PL200**, this area represents a low point of the site, at c. 15.600m AOD.
- 5.1.4 Flood Maps for Planning extracts are contained within **Appendix E**.
- 5.1.5 The Long-Term Flood Risk Service indicates that groundwater and/or reservoir flooding is 'unlikely' at the site.

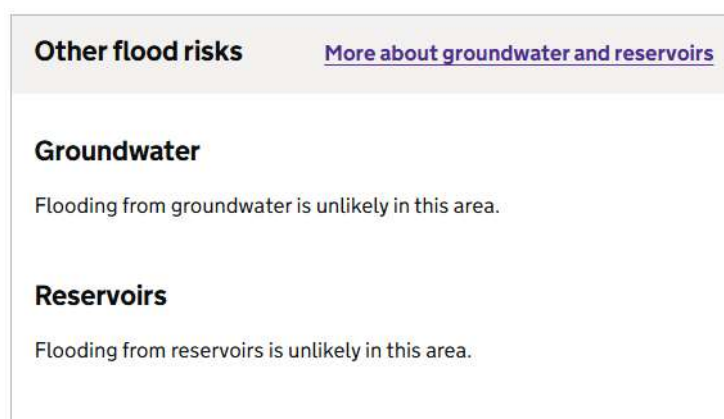


Figure 10. Long-Term Flood Risk Service – Groundwater and Reservoirs (Gov.uk)

5.2 Summary of Flood Risk

5.2.1 The potential sources of flooding are:

Source of Flooding	Level of Risk
Rivers and Coastal	Very Low The site is not identified as being at risk of flooding from such sources.
Surface Water	Very Low to High Flood Maps for Planning, Surface Water, identify the site, largely, as not being at 'Very Low' risk of surface water flooding. Central areas of the site are identified as being at risk of surface water flooding (1 in 30, 1 in 100 and 1 in 1000). The extents identified relate to the localised low point of the site at c. 15.60m AOD. The extents do not represent part of a wider surface water flow route with wider third party constraints/impacts. These extents will be managed through the proposed development of the site and do not represent a wider surface water flood risk.
Groundwater	Very Low Winter groundwater monitoring has been undertaken at the site, confirming peak groundwater levels of 3.28m below ground level (BH1) and 3.35m below ground level (BH2).
Sewers	Very Low Southern Water's public sewer records identify a 150mm dia. public foul water sewer beneath Eastergate Lane, to the north of the site. No instances of historic sewer flooding have been identified.
Artificial Sources	None The site is not identified as being at risk of flooding from artificial sources.

6 PROPOSED DEVELOPMENT

6.1 Description of Development

- 6.1.1 The proposed development concerns the construction of 9 No. dwellings. The architectural development proposals are contained within **Appendix A**.
- 6.1.2 The type of development proposed falls within the “More Vulnerable” flood risk vulnerability classification (Annex 3: Flood risk vulnerability classification, NPPF) and is appropriate in Flood Zone 1 (Flood Risk and Coastal Change Table 2).

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	Exception Test Required	✓	✓	✓
Flood Zone 3a†	Exception Test Required †	✗	Exception Test Required	✓	✓
Flood Zone 3b*	Exceptions Test Required *	✗	✗	✗	✓*
✓ = Development is appropriate ✗ = Development should not be permitted					

- 6.1.3 The pre-development impermeable area totals 2,261m² (0.23Ha).
- 6.1.4 The post-development impermeable area totals 3,097m² (0.32Ha).
- 6.1.5 The increase in impermeable area, post development, amounts to 836m² (36%).
- 6.1.6 The use of SuDS methods and techniques, where site conditions and constraints allow, will be utilised to assist in the management of surface water run-off generated by the proposed development, whilst adhering to the SuDS hierarchy as stated within Building Regulations (Part H) and The SuDS Manual (C753).
- 6.1.7 The specific drainage proposal is detailed in **Section 7** of this report.

7 PROPOSED DRAINAGE STRATEGY

7.1 Surface Water

7.1.1 The SUDS Manual and Building Regulations, Approved Document H, set out a hierarchy of drainage methods to ensure that developments maximise the use of sustainable drainage techniques. The hierarchy favours infiltration methods of disposal over other methods such as watercourse and sewers, as detailed below;

- i. Utilise infiltration techniques
- ii. Attenuate rainwater in ponds or open water features for gradual release
- iii. Attenuate rainwater by storing in tanks or sealed water features for gradual release
- iv. Discharge rainwater direct to a watercourse
- v. Discharge rainwater to a surface water sewer/drain
- vi. Discharge rainwater to a combined sewer

SUDS Technique	Suitable	Comments
Living Roof	No	Not suitable in view of architectural proposals.
Basins and Ponds (such as Wetlands, Balancing Ponds, Detention Basins, Retention Ponds)	No	Not viable in view of spatial constraints at the site, dictated by the proposed site layout.
Filter strips and swales	No	Not viable in view of spatial constraints at the site.
Infiltration Devices - Soakaways - Infiltration trenches and basins	Yes	Groundwater monitoring has concluded peak groundwater levels at 3.28m below ground level (BH1) and 3.35m below ground level (BH2). The results in respect of the infiltration testing undertaken on site confirm rates within acceptable ranges, therefore infiltration is considered to be viable. The site falls within 2 No. source protection zones. The Environment Agency has been consulted on this matter, but no response has yet been received.

Permeable surfaces and filter drains (such as gravelled areas and porous block paving)	Yes	Permeable paving may need to be tanked, depending on confirmation of Made Ground, subject to further investigation on site. The depth at which the drainable strata is present beneath the site will require soakaways to be design in conjunction with the permeable paving to ensure that the drainable strata is targeted.
Tanked systems (such as oversized pipes or cellular tanks)	Yes	No initial constraints.

- 7.1.2 Infiltration testing undertaken by Constructive Evaluation has confirmed infiltration rates of 9.59×10^{-4} (TP01) and 1.88×10^{-4} (TP02).
- 7.1.3 Groundwater has been confirmed as being at 3.28m below ground level (BH1) and 3.35m below ground level (BH2) following monitoring from 31st October 2024 to 28th March 2025.
- 7.1.4 West Sussex County Council policies require 1m+ freeboard in relation to peak groundwater levels and the base of infiltration features.
- 7.1.5 In view of the above factors, it is proposed that the development will rely on infiltration in terms of surface water drainage.
- 7.1.6 A design rate of 1×10^{-4} has been utilised for preliminary design purposes.
- 7.1.7 The access roads will be of a permeable construction which will be tanked (subject to further investigation/testing at detailed design stage), discharging to soakaways which penetrate the drainable strata on site.
- 7.1.8 All private driveways will also be of permeable construction, with a 300mm deep/thick sub-base.
- 7.1.9 The permeable access roads will have a 600mm deep/thick sub-base.
- 7.1.10 Free-draining root protection construction will be provided where road alignments/driveways conflict with tree root protection areas.
- 7.1.11 Roof water will drain to the private soakaways located within the rear gardens of all plots, with the exception of Plots 5 and 6. Roof water from Plots 5 & 6 and the associated garages will drain to a communal soakaway (Soakaway 2), beneath the access road, owing to site constraints.
- 7.1.12 The surface water drainage calculations have considered a 1-in-100-year storm event, inclusive of an allowance of 45% for the potential impact(s) of climate change.

7.2 Treatment

- 7.2.1 In accordance with the CIRIA SuDS Manual C753 regarding methods for managing pollution risks, the risk posed by surface water run-off to the receiving environment depends on the pollution hazard at the site (the source), SuDS treatment techniques (the pathway), and the sensitivity of the environment (the receptor).

- 7.2.2 The simple index approach considers whether SuDS techniques are appropriate for the site. The states that for SuDS components to deliver adequate treatment, the total pollution mitigation index for each contaminant type should equal or exceed the pollution hazard index.
- 7.2.3 The SuDS Manual outlines three categories of pollution hazard identification, which vary depending on proposed land use, which are as follows:
- Total Suspended Solids (TSS).
 - Metals (M).
 - Hydrocarbons (H).
- 7.2.4 In accordance with C753 Table 26.2, the proposed land uses at the site are categorised as follows:
- Residential Roofs– Very low/TSS=0.2/M=0.2/H=0.05
 - Individual property driveways, residential car parks, low traffic roads – Low/TSS=0.5/M=0.4/H=0.4
- 7.2.5 In accordance with C753 Table 26.3, the values of SuDS Mitigation indices are provided for permeable paving:
- Permeable Pavement – TSS=0.7/M=0.6/H=0.7
- 7.2.6 The use of permeable paving will ensure that run-off from the site receives a level of treatment required by the SuDS Manual, with hydrocarbons being filtered by the aggregate and geotextile layers.
- 7.2.7 As the pollution hazard index does not exceed any pollution mitigation index for any contaminant type, the proposed SuDS methods will provide sufficient treatment for the proposed development.

7.3 Climate Change

- 7.3.1 Gov.uk provides guidance for local planning authorities preparing strategic flood risk assessments and developers and their agents preparing flood risk assessments for planning applications, and development consent orders for nationally significant infrastructure projects.
- 7.3.2 Climate change allowances are predictions of anticipated change for peak river flow, peak rainfall intensity, sea level rise and offshore wind speed and extreme wave height.
- 7.3.3 Allowance for climate change shall be provided in the undertaking of site-specific flood risk assessments where new development is proposed to minimise vulnerability and provide resilience to flooding and coastal change.
- 7.3.4 The 'Peak Rainfall Allowances Map' shows anticipated changes in peak rainfall intensity.
- 7.3.5 Based on the latest allowances, for the 3.3% annual exceedance rainfall event, an increase of 40% should be applied to peak rainfall in relation to the proposed development.
- 7.3.6 For the 1% annual exceedance rainfall event, an increase of 45% should be applied to peak rainfall in

relation to the proposed development.

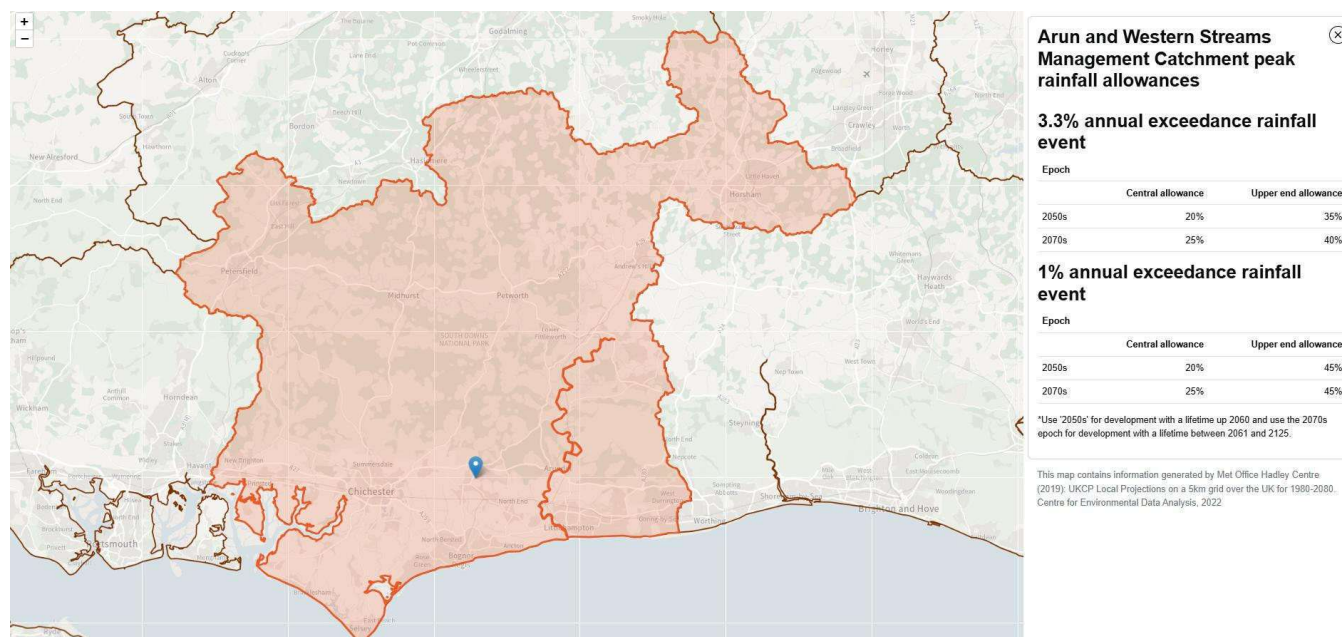


Figure 9. Climate Change Allowances – Peak Rainfall Allowances (Gov.uk)

7.4 Urban Creep

- 7.4.1 An allowance of 10% has been made within the surface water drainage calculations prepared for the potential impacts of urban creep. This has been attributed to the proposed roof catchment.

7.5 Foul Water Drainage

- 7.5.1 It is proposed that the 9 No. dwellings will drain to Southern Water's public foul water sewer network.
- 7.5.2 A new connection is to be established to the 150mm dia. public foul water sewer located beneath Eastergate Lane, if existing infrastructure/connections cannot be retained and utilised where proven to exist (subject to investigation).
- 7.5.3 Plots 5-9, inclusive, will require pumping.
- 7.5.4 Based on 21 No. persons (3 x 3 No. Bed @ total 15 No. persons and 1 x 4 No. Bed @ total 6 No. persons) 24-hour emergency storage amounts to 3.15m³.
- 7.5.5 Post development, peak foul water flows are estimated to amount to 0.42 l/s (based on Sewer Sector Guidance, Appendix C, Design and Construction Guidance).
- 7.5.6 Connection to the public foul water sewer will be subject to a S106 application, and approval from Southern Water.
- 7.5.7 Changes in recent years to infrastructure and connection charges (OFWAT Charging Rules) place the onus on the sewerage undertaker to reinforce their network should there no longer be sufficient capacity to serve new development. Funding for this is provided by revised charging arrangements for infrastructure and connection charges for each dwelling constructed comprising a Network Reinforcement Charge and Site-Specific Charges. The revised charging arrangement (funded by the



developer) covers alterations to the Existing Sewer Network and the sewerage undertaker remains responsible for the cost of reinforcing their Strategic Assets. The developer is responsible for connecting the development to the public sewer network.

8 LIDSEY DRAINAGE IMPACT ASSESSMENT

- 8.1.1 The site is located within the Lidsey wastewater treatment catchment area.
- 8.1.2 Communities which fall within the catchment area have, historically, experienced foul water flooding of roads and property which has also led to the pollution of watercourses. The stated cause is assumed to have been as a result of the sewerage system being overloaded, as a result of groundwater infiltration/ingress and surface water inundation of the sewerage system.
- 8.1.3 West Sussex County Council has published the Lidsey Surface Water Management Plan (2014) which does not identify the site as falling within any of the defined Local Flood Risk Zones.
- 8.1.4 LFRZ-026 captures Eastergate Lane, to the east of the site, within the vicinity of Freeman Close. The site itself is not identified as being within the defined extents of this Local Flood Risk Zone.
- 8.1.5 As stated in Section 4.1 of this drainage strategy report, the arrangement concerning the existing below ground drainage infrastructure on site has not been confirmed. An assumption may be that, currently, surface water is draining to the existing below ground piped system that may drain to Southern Water's public foul water sewer network. This will need to be verified.
- 8.1.6 If the above assumption is proven to be correct, the proposed development will provide betterment by removing such flows from the public foul water sewer network, with post-development surface water flows being managed and contained fully within the confines of the site, with soakaways proposed. The implementation of such an arrangement will reduce the burden currently placed upon the public sewer network and represents a reduction in associated flood risk concerning the public foul water sewer network.
- 8.1.7 If found to be viable, existing connections to the public foul water sewer network may be retained, subject to confirmation of their condition and suitability. If found to be defective – for example, displaced or open joints allowing groundwater ingress and inundation to occur, these will be repaired or alternatively, new pipework and connections will be implemented instead.

9 MAINTENANCE

9.1 Proposed Maintenance Regime

- 9.1.1 Maintenance is required to ensure the long-term operational performance of the proposed surface water drainage system.
- 9.1.2 The drainage system has been designed to minimise maintenance requirements; however a number of key tasks will need to be undertaken so that the system remains in optimal condition. These operations are summarised in the table below, along with the required frequency of works.

Drainage System feature	Proposed maintenance / remedial works	Required frequency of works
Permeable Paving	Surface raking/sweeping to reduce/remove silt and debris accumulation.	Every 8 to 12 weeks
	Removal / management of weed growth	At least once a year
Catch pits, gully sumps and soakaways	Inspection and additional cleansing as required.	Annual
	Desilting	Year 1, Year 3, then every 5 years
Pipework	Jetting to clear blockages	As required

- 9.1.3 Infrastructure which is 'shared' (i.e. serving more than a single plot and/or falling outside of any individual plot's curtilage) will be the responsibility of an appointed Management Company.
- 9.1.4 The responsibility of any drainage infrastructure supporting a single dwelling will be the sole responsibility of the owner/occupier of the associated dwelling.

Accidental Spillages

- 9.1.5 It is not envisaged that any materials are to be stored onsite once the development has been completed, which could cause major spills and potential pollution issues within the drainage system. If this situation alters in the future consultation with a specialist will be required in order to confirm if any upgrades to the existing system are necessary.
- 9.1.6 Minor spillages of fuels and oils will be dealt with by the permeable paving and deep trapped gullies, by bio-degrading and collecting the hydrocarbons respectively.

Future Alterations to the Development

- 9.1.7 Any future alterations at the site which may impact upon the proposed drainage systems should be assessed and confirmed by a specialist.
- 9.1.8 Where possible any future services are to avoid being located through areas of permeable paving.
- 9.1.9 If new services are required to run through areas of permeable paving, services should be installed below the depth of permeable paving with the permeable system reinstalled above.

10 OFFSITE IMPACTS

- 10.1.1 Surface water will be managed fully within the confines of the site via infiltration methods and techniques. As a result, there will be no adverse impacts off-site.
- 10.1.2 Foul water is to discharge to Southern Water's public sewer network. Southern Water is responsible for ensuring that their network has sufficient capacity to support new development, and to provide this where it may not currently exist, aided by contributions made by developers.

11 SUMMARY

- 11.1.1 The proposed development concerns the construction of 9 No. dwellings.
- 11.1.2 The site measures 7,046m² (0.7Ha) with an existing impermeable area totalling 2,261m² (0.23Ha).
- 11.1.3 The site topographic survey identifies levels broadly in the range of 17.00m AOD and 15.60m AOD.
- 11.1.4 Existing drainage arrangements to the east/south of Hill View have not been confirmed. Land to the south/west of Wayside currently drains naturally.
- 11.1.5 The site is located in Flood Zone 1 and has been assessed as being at 'Very Low' risk of flooding from all of the potential sources of flood risk considered, with the exception of surface water, where central area of the site are identified as being at 'Low' to 'High' risk of surface water flooding.
- 11.1.6 The areas identified as being at 'Low' to 'High' risk of surface water flooding correspond with the localised low point on site, rather than demonstrating a wider surface water flow route with wider third party constraints/impacts. These extents will be managed through the proposed development of the site and do not represent a wider surface water flood risk.
- 11.1.7 The site is identified as falling with both 'Zone I – Subsurface Activity' and 'Zone II – Subsurface Activity' source protection zones.
- 11.1.8 Groundwater has been confirmed as being at 3.28m below ground level (BH1) and 3.35m below ground level (BH2) following monitoring from 31st October 2024 to 28th March 2025.
- 11.1.9 Post development, the site drain via infiltration. Infiltration testing has confirmed rates of 9.59×10^{-4} (TP01) and 1.88×10^{-4} (TP02).
- 11.1.10 A design rate of 1×10^{-4} has been utilised for preliminary design purposes.
- 11.1.11 The access roads will be of a permeable construction which will be tanked (subject to further investigation/testing at detailed design stage), discharging to soakaways which penetrate the drainable strata on site.
- 11.1.12 All private driveways will also be of permeable construction, with a 300mm deep/thick sub-base.
- 11.1.13 The permeable access roads will have a 600mm deep/thick sub-base.
- 11.1.14 Free-draining root protection construction will be provided where road alignments/driveways conflict with tree root protection areas.
- 11.1.15 Roof water will drain to the private soakaways located within the rear gardens of all plots, with the exception of Plots 5 and 6. Roof water from Plots 5 & 6 and the associated garages will drain to a communal soakaway (Soakaway 2), beneath the access road, owing to site constraints.
- 11.1.16 The surface water drainage calculations have considered a 1-in-100-year storm event, inclusive of an allowance of 45% for the potential impact(s) of climate change.
- 11.1.17 Foul water will drain to the public foul water sewer beneath Eastergate Lane. If existing connectivity is proven, subject to condition and suitability, this will be retained. If no existing connectivity is confirmed, and/or cannot be retained and utilised, a new connection will be established.
- 11.1.18 Post development, peak foul water flows are estimated to be to 0.42 l/s (based on Sewer Sector

Guidance, Appendix C, Design and Construction Guidance).

11.1.19 In conclusion, the proposed development is suitable with regards to foul and surface water drainage.