Watermead, Henfield Road, Cowfold 13th October 2026

Drainage Technical Note

1.1 This Technical Note (TN) has been prepared to address Horsham District Council (HDC)'s comments on the submitted planning application reference DC/26/0934. HDC comments, reference DC/26/0934, are appended to this TN for ease of reference.

1.2 HDC response suggests that the drainage officer is "satisfied with the information provided at this stage of the application process". Notwithstanding this, this TN will seek to respond to the points raised for robustness – we trust that any further information necessary can be secured by condition. Any referenced drawings or calculations that have been created or updated to reflect these comments are appended to the end of this TN.

Comment 1

"The applicant should provide a measurement of the total site area, all predevelopment permeable and impermeable areas within the red line boundary, all post-development permeable and impermeable areas within the red line boundary, with supporting catchment plans and calculations".

1.3 A drainage catchment plan reference '13897_1105' has been created to show the total site area and the breakdown of permeable and impermeable areas within the red line boundary for pre- and post-development. This plan is included in Appendix A. This plan reflects the impermeable areas used in the calculations presented within the submitted Flood Risk Assessment (FRA) dated 13/05/2026.

Comment 2

"If connections to Southern Water Utilities are proposed as part of the development/ redevelopment, supporting plans and assumed points of connection must be provided as well as expected flow rates. Connection to the public sewerage network is advised, wherever it is reasonable to do so".

1.4 The proposed drainage strategy reference 13897_1100, included in Appendix F of the submitted FRA, shows the proposed connections to Southern Water's existing network. This is also covered in section 5 of the FRA. Expected foul flow calculations have now been provided in Appendix B of this TN.

Comment 3

"The runoff from the proposed development should, where possible, be restricted to the greenfield 1 in 1 year runoff rate (100% AEP) during all events up to and including the 1 in 100-year rainfall event (1% AEP) + 45% allowance for climate change. Where this is not possible, the runoff from the proposed

development should restrict flows to as close as reasonably practical to the greenfield runoff rate for the site. HDC Drainage note the applicant currently intends to restrict flows to 1l/s, which is exceptionally low given the runoff rate on site is currently considered to be 7l/s. The applicant must consider the risk of blockages and determine a suitable maintenance schedule to support this strategy".

1.5 To clarify, the calculated greenfield rate quoted in the FRA is 7.3 l/s**/ha**. This is the Q2 greenfield runoff rates calculated using the FEH2025 estimation method, in accordance with the requirements of the National SuDS Standards (see also paragraph 4.11 of the issued FRA). When the proposed impermeable area of the site (which is 0185 ha) is applied to this rate, the greenfield runoff rate equivalent for the site is calculated as 1.35 l/s.

1.6 The proposed rate of 1l/s has been set to further mitigate any impact on the downstream environment and to ensure any existing flood risks are not exacerbated by the proposals. The required vortex flow control device orifice size to achieve this is 46mm, which is above the typically recommended minimum for flow control devices. In addition, all proposed runoff will be treated through permeable paving and bioretention areas, significantly reducing the risks of blockage at the orifice.

Comment 4

"The surface water drainage strategy must demonstrate that the proposed SuDS attenuate all runoff from all impermeable areas (with an additional area equivalent to +10% of the area of any residential development, factored into the sum of the total impermeable areas on site, allowing for urban creep) for the 1 in 100-year rainfall event (1% AEP) + 45% allowance for climate change (upper end). Attenuation should be provided on site to ensure that:

- *The 100% AEP storm event does not generate excessive surcharging in the drainage system.*
- *The 3.33% AEP storm event is safely contained underground with no flooding.*
- *The 1% AEP + climate change storm event is safely contained within the site without risk to persons or property".*

1.7 As demonstrated in the hydraulic modelling calculations included in Appendix G of the FRA dated 13/05/2026, and referring to the catchment plan reference 13897_1105 (see Appendix A), it has been demonstrated sufficient attenuation has been provided for all proposed impermeable areas, with 10% urban creep added to all roof areas.

1.8 The hydraulic modelling calculations demonstrate that the proposed network and associated SuDS are able to accommodate the 1 in 100-year rainfall event plus 45% climate change, the 1 in 30-year event + 40% climate change, and the 1 in 2-year event (substituted for the 1 in 1-year event). There is no flooding in any of the modelled event.

Comment 5

"The applicant must provide plans which indicate the expected exceedance routes for storm events greater than the 1% AEP + climate change storm event. The Drainage Strategy must demonstrate that the surface water runoff from these events can be controlled, to confirm there is no adverse flood risk to the development or elsewhere. Evidence of appropriate management and mitigation of exceedance flows are expected within the Drainage Strategy, to demonstrate that the proposed conveyance systems have considered the risks associated to nature, people and property during the event of failure and/or exceedance.".

1.9 The management and mitigation of exceedance flows have been discussed in section 4.15 of the FRA. An exceedance flow plan reference 13897_1110 has also been included in Appendix A of this TN, to show the expected exceedance flow routes in extreme storm events or as a result of failure of the drainage system.

Comment 6

"Supporting foul flow calculations, in line with Sewerage Sector Guidance and/or Building Regulations Part H, is to be provided. It should be noted that any proposed foul water system and foul water treatment unit should be in line with current legislation and best practice for the management of domestic waste, with any method for disposal justified and appropriate permits sought.".

1.10 The proposed foul connection to the existing sewer network is shown on the proposed drainage strategy drawing reference 13897_1100 (Appendix F of FRA), and in section 5 of the FRA. Supporting foul flow calculations have been provided in Appendix B of this TN.

Comment 7

"Maintenance and Management Plans must be provided for both the proposed Foul and Surface Water Drainage Strategy, including access requirements, maintenance frequency and responsibility, and proprietary device manuals, for all drainage features and SuDS devices".

1.11 A drainage maintenance plan has been included in Appendix H of the FRA dated 13/05/2026. This plan contains all maintenance and management requirements for all aspects of both proposed surface and foul drainage networks.

Appendix A – Drawings

GENERAL NOTES

1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations , record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.

2. Tender or billing drawings shall not be used for construction or the ordering of materials.

3. Do not scale. All dimensions and levels to be site confirmed.

4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements

5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.

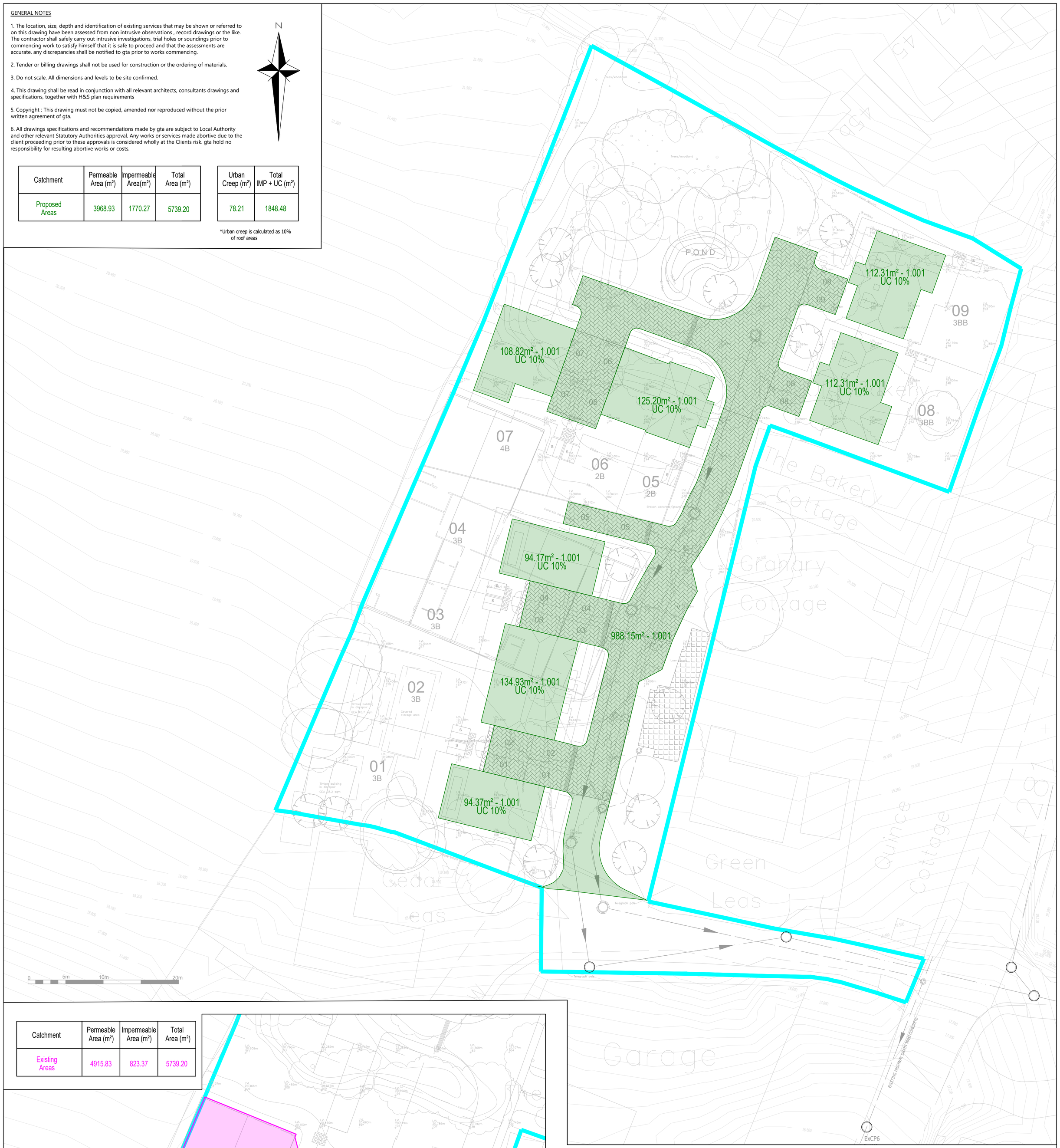
6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.

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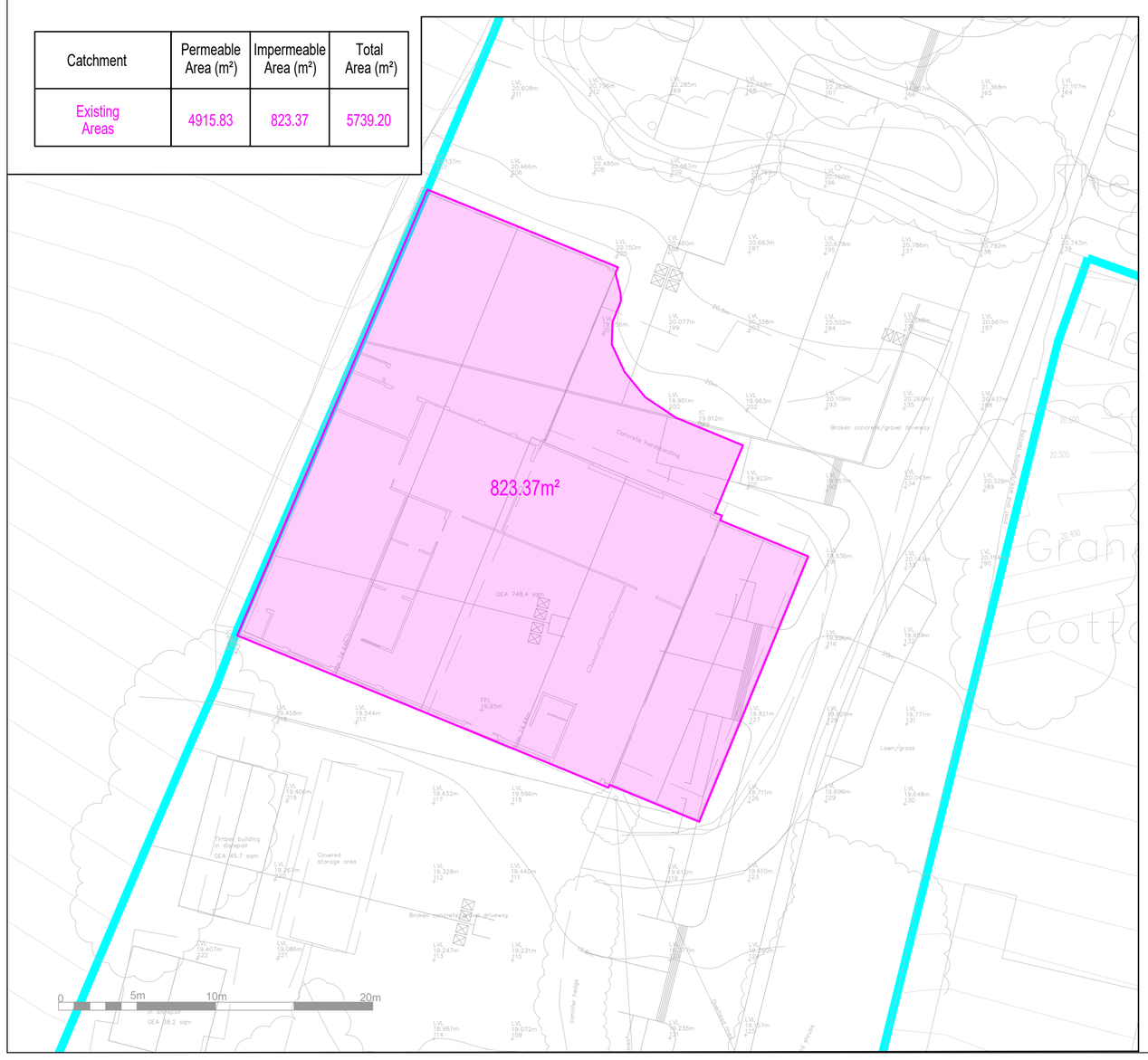
Catchment	Permeable Area (m²)	Impermeable Area(m²)	Total Area (m²)
Proposed Areas	3968.93	1770.27	5739.20

Urban Creep (m²)	Total IMP + UC (m²)
78.21	1848.48

*Urban creep is calculated as 10% of roof areas



Catchment	Permeable Area (m²)	Impermeable Area (m²)	Total Area (m²)
Existing Areas	4915.83	823.37	5739.20



KEY

15.600 LIDAR Contour

Site boundary

DESIGN NOTES

1. PROPOSED SuDS STRATEGY BASED ON DISCHARGE TO EXISTING NETWORK UNDER HIGHWAY A281. SUBJECT TO AGREEMENT WITH HIGHWAY AUTHORITY.

2. STORAGE DESIGN BASED ON 1 IN 100 YR STORM + 45%. ADDITIONAL 10% ALLOWANCE INCLUDED ON ROOF AREA FOR 'URBAN CREEP'.

3. PROPOSED FOUL SEWER CONNECTION TO EXISTING NEIGHBOURING DEVELOPMENT NETWORK SUBJECT TO AGREEMENT AND CONFIRMATION OF SEWER OWNERSHIP AND AVAILABLE CAPACITY.

4. DRAIN POINTS AND LOCATIONS TO BE CONFIRMED BY ARCHITECT.

5 CONTRACTOR TO ESTABLISH LOCATIONS OF ALL EXISTING SERVICES PRIOR TO COMMENCING.

6. EXISTING TREES TO BE PROTECTED WHERE EXCAVATIONS RUN CLOSE.

Rev	Amendments	Date	Dsn	Chk
P1	FIRST ISSUE	09.10.2026	AW	FVV

Status: PRELIMINARY

Client: EARLSWOOD HOMES

Architect: ECE ARCHITECTURE

Project: WATERMEAD
HENFIELD ROAD, COWFOLD

Title: CATCHMENT PLAN

Date	Scale @ A1
OCTOBER 2026	1:250
Clients Ref.	Project Ref. 13897

gta Civils & Transport
Gloucester House, 66a Church Walk,
Burgess Hill, West Sussex, RH15 9AS
Tel.01444 871444 Web: www.gtacivils.co.uk

Drawing Number	Rev.
13897_1105	P1

GENERAL NOTES

1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations , record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.

2. Tender or billing drawings shall not be used for construction or the ordering of materials.

3. Do not scale. All dimensions and levels to be site confirmed.

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0 5m 10m 20m

KEY

15.600 LIDAR Contour

Site boundary

Exceedance flow arrow

DESIGN NOTES

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Rev	Amendments	Date	Dsn	Chk
P1	FIRST ISSUE	08.10.2026	AW	FVV

Status: PRELIMINARY

Client: EARLSWOOD HOMES

Architect: ECE ARCHITECTURE

Project: WATERMEAD
HENFIELD ROAD, COWFOLD

Title: EXCEEDANCE FLOW PLAN

Date	Scale @ A1
OCTOBER 2026	1:250
Clients Ref.	Project Ref. 13897

gta Civils & Transport
Gloucester House, 66a Church Walk,
Burgess Hill, West Sussex, RH15 9AS
Tel.01444 871444 Web: www.gtacivils.co.uk

Drawing Number	Rev.
13897_1110	P1

Appendix B – Calculations

Developer Capacity Enquiries Flow Calculation - Impact of New Developments

13897 Watermead - Henfield Road, Cowfold

V1 - 08.10.2026

Peak Flow:

Development Size - Units	N	9	
Occupancy - persons/dwelling (default 2.4)	O	2.4	
Per Capita Flow - l/h/d (default 125l/h/d)	G	125	l/h/d
Infiltration (default 10%)	I	10%	
Trade Flow - L/day	E		l/d
DWF Multiplier (PF) (default 2.5)		2.5	See Table 1
Population of development (P)	=	21.6	

New development gravity connection: peak rate flow of 2.5DWF plus storm contribution of 1.4m² per property shall be used.

Surface water misconnection allowance will be assigned to (unused) runoff surface 12 and assigned a land use to generate 85% fixed runoff.

Table 1

DWF Peaking Factor	
Storm Duration (SD)	Multiplier (PF)
30 to 120	2.5
240 to 480	2
960	1.4

Peak Foul Flow =	0.08	l/s	7.02 mcd

Allowance for Surface water misconnection

Surface water misconnection (default 1.4)	1.4	12.6	m²	0.00126 Ha

Note 1: Surface water misconnection: - 1.4 m²/property - Based on average development density of 32 properties/Hectare - See Table 2

Note 2:Surface water misconnection: - Flats, housing association, and commercial property addresses will have no misconnected surface water allowance applied.

Example:

DWF = PG + I +E

I = 10% Infiltration

I = 10% PG

E - Trade Flow

DWF = PG + 0.1PG + E

2.5DWF Multiplier

2.5DWF = 2.5PG + 0.1PG + 2.5E

2.5DWF = 2.6PG +2.5E

$P_{(population)} = N \times O$

$$\text{Peak Flow} = \frac{2.6 \times N \times O \times G}{24 \times 60 \times 60} + 2.5E$$

Table 2

Development Density (Properties/4Ha)	Surface water misconnection (m2/Property)
<=100	2.1
120	1.6
140	1.1
180	0.6
>=200	0.3

Note: To change default settings - unprotect sheet

Sewers for Adoption - (SFA)

Design Flow -4000 l/unit dwelling/day

Approximates to 3 person/property:

*200 l/hd/d : 6.0*DWF+10% Infiltration*

2000 l/dwelling/day (50% Design Flow)	0.21	l/s
4000 l/dwelling/day	0.42	l/s

New development pumped flow: peak flow shall be calculated as 2000 l/dwelling/day in accordance to SFA & CED 4015

Appendix C – HDC Comments

TO:	Horsham District Council – Planning Dept
LOCATION:	Watermead Henfield Road Cowfold Horsham
DESCRIPTION:	Demolition of existing vacant storage buildings and erection of 9no. residential units, provision of open space and retention of pond.
REFERENCE:	**DC/26/0934**
RECOMMENDATION:	More Information – Conditions

SUMMARY OF COMMENTS & RECOMMENDATION:

The following documents have been reviewed:

- Letter of correspondence from Southern Water to Horsham District Council, Dated: 14th August 2026
- Design and Access Statement, Rev P4, Dated: 04.06.26, Author: ECE Architecture
- Detailed Site Plan, Drawing No PL-003, Revision C. Dated: 11.08.2026, Author: ECE Architecture.
- Flood Risk Assessment, Dated: May 2026, Author: GTA Civils

NOTE: The Design and access statement states: *"Surface water is proposed to discharge at a controlled rate to the existing highway drainage network…"* The FRA states *"The new outfall to the highway system will be subject to formal approval by the Highway Authority in due course. An initial enquiry has been submitted to confirm feasibility."* As connection to highway infrastructure is generally not permissible, the applicant MUST obtain permission from West Sussex County Council to connect to their infrastructure and have been granted permission in writing, before HDC Drainage area able to approve of the strategy.

HDC Drainage are satisfied with the information provided at this stage of the application process and request that a finalised drainage strategy and all supporting information regarding the suitability of the outfall, is provided at Discharge of Conditions.

MAIN COMMENTS:

- The applicant should provide a measurement of the total site area, all pre-development permeable and impermeable areas within the red line boundary, all post-development permeable and impermeable areas within the red line boundary, with supporting catchment plans and calculations.
- If connections to Southern Water Utilities are proposed as part of the development/ redevelopment, supporting plans and assumed points of connection must be provided as well as expected flow rates. Connection to the public sewerage network is advised, wherever it is reasonable to do so.
- The runoff from the proposed development should, where possible, be restricted to the greenfield 1 in 1 year runoff rate (100% AEP) during all events up to and including the 1 in 100-year rainfall event (1% AEP) + 45% allowance for climate change. Where this is not possible, the runoff from the proposed development should restrict flows to as close as reasonably practical to the greenfield runoff rate for the site. **HDC Drainage note the applicant currently intends to restrict flows to 1l/s, which is exceptionally low given the runoff rate on site is currently considered to be 7l/s. The applicant must consider the risk of blockages and determine a suitable maintenance schedule to support this strategy.**

- The surface water drainage strategy must demonstrate that the proposed SuDS attenuate all runoff from all impermeable areas (with an additional area equivalent to +10% of the area of any residential development, factored into the sum of the total impermeable areas on site, allowing for urban creep) for the 1 in 100-year rainfall event (1% AEP) + 45% allowance for climate change (upper end). Attenuation should be provided on site to ensure that:
    - The 100% AEP storm event does not generate excessive surcharging in the drainage system.
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    - The 1% AEP + climate change storm event is safely contained within the site without risk to persons or property.
- The applicant must provide plans which indicate the expected exceedance routes for storm events greater than the 1% AEP + climate change storm event. The Drainage Strategy must demonstrate that the surface water runoff from these events can be controlled, to confirm there is no adverse flood risk to the development or elsewhere. Evidence of appropriate management and mitigation of exceedance flows are expected within the Drainage Strategy, to demonstrate that the proposed conveyance systems have considered the risks associated to nature, people and property during the event of failure and/or exceedance.
- Supporting foul flow calculations, in line with Sewerage Sector Guidance and/or Building Regulations Part H, is to be provided. It should be noted that any proposed foul water system and foul water treatment unit should be in line with current legislation and best practice for the management of domestic waste, with any method for disposal justified and appropriate permits sought.
- Maintenance and Management Plans must be provided for both the proposed Foul and Surface Water Drainage Strategy, including access requirements, maintenance frequency and responsibility, and proprietary device manuals, for all drainage features and SuDS devices.

Further evidence in addition to that requested above may be required once the additional information is submitted.

Advisory notes:

- Whilst not a mandatory requirement, HDC Drainage welcome and encourage the consideration of rainwater harvesting within the proposed development, for non-potable use.

ANY RECOMMENDED CONDITIONS:

Pre-Commencement Condition: No development shall commence until a finalised drainage strategy detailing the proposed means of foul and surface water disposal has been submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the approved scheme.

Reason: As this matter is fundamental to ensure that the site drainage meets the requirements of the NPPF and PPG, National standards for sustainable drainage systems (June 2025), and complies with Policy 35 and 38 of the Horsham District Planning Framework (2015).

NAME:	A.Furness
DEPARTMENT:	Horsham District Council - Drainage
DATE:	29/09/2026