

WATER NEUTRALITY STATEMENT FOR THE PROPOSED DEVELOPMENT AT WOODEND, WATER LANE, STORRINGTON, WEST SUSSEX, RH20 3LY.

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Executive Summary

H2Ogeo provided this Water Neutrality Statement to accompany a planning application for the conversion of one seven-bedroom house into one 3-bed and one 2-bed residential property at Woodend, Water Lane, Storrington, West Sussex, RH20 3LY.

The Water Neutrality Statement demonstrates that the proposed development, with mitigation in both new properties, can achieve water neutrality.

<i>Existing Demand 7xBed Property (L/Day)</i>	<i>Proposed 2- Bedroom (Litres/Day)</i>	<i>Proposed 3-Bedroom Consumption (Litres/Day)</i>	<i>Combined Total (Litres/Day)</i>	<i>Water Neutral</i>
412	171	225	396	YES

Fixtures and fittings in the three-bed and two-bed property will meet Performance Level 3 of BREEAM.

With this mitigation in place the proposed development will not contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.

1 Introduction

Natural England cannot, with certainty, conclude that the Sussex North Water Supply Zone, that includes water supply from a groundwater abstraction, is not having an adverse effect on the integrity of:

- Arun Valley Special Area Conservation (SAC);
- Arun Valley Special Protection Area (SPA); and
- Arun Valley Ramsar Site.

Natural England have advised that developments within this zone must not add to this impact.

The Local Planning Authority (LPA) have requested a Water Neutrality Statement is provided to accompany planning applications to demonstrate that the proposed development does not increase the rate of water abstraction for drinking water supplies above existing levels.

1.1 Scope of Work

H2Ogeo was requested to provide a proposal for a Water Neutrality Statement to support a planning application to be submitted to Horsham District Council (HDC) Local Planning Authority (LPA).

The Water Neutrality Statement aims to demonstrate that the proposed development will not *contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.*

The proposal was accepted and the Water Neutrality Statement is presented in this report.

A Statement of Limitations is presented at the start of this report.

1.2 Background

This Water Neutrality Statement (WNS) has been provided to support a planning application for the sub-division of a seven bedroom house to create two semi-detached dwellings.

The planning drawings are presented in Annex A showing the proposed development and site location is presented in Figure 1.

1.3 Sussex North Water Resource Zone (WRZ)

Southern Water supplies water to Crawley Borough, Horsham District, the northern part of Chichester District, southern Waverley and the South Downs National Park from its Sussex North Water Resource Zone (WRZ).

Within the WRZ there are a number of water sources, one of which is the groundwater abstraction from the Hardham source, one of a number of groundwater and surface water abstractions around Pulborough¹ presented in Figure 2 along with the proposed site and boundary of the Sussex North WRZ

The Hardham Groundwater abstraction is located approximately 7.4km north west of the proposed site.

¹ https://www.horsham.gov.uk/_data/assets/pdf_file/0019/104482/EYP-JBAU-XX-XX-RP-EN-0001-A1-C03-Water_Neutrality_Assessment_Part_A.pdf

2 Site Location and Setting

The site address is Woodend, Water Lane, Storrington, West Sussex, RH20 3LY and is located 1km east of Storrington village centre, north of Sangate sand pit and the Washington Road (A283).

The property is centred on National Grid Reference: TQ10030 14277 (Easting: 510030, Northing: 114277) and presented in Figure 1.

2.1 Existing Site

The existing property consists of a seven-bedroom property with associated landscaping and driveway.

The planning drawings showing the existing layout are presented in Annex A.

There are five bedrooms located on the ground floor along with a garden room, lounge, dining room, kitchen, utility room, study and three bathrooms and one WC. On the first floor there are two bedrooms, two bathrooms and a lounge area.

2.1.1 Existing Fixtures and Fittings

The numbers of existing fixtures and fittings observed on site are summarised in the table below:

Table 1 Existing Fixtures and Fittings

Room	WC	Taps (excluding kitchen/utility room taps)	Bath (where shower also present)	Standalone Shower	Kitchen/Utility room sink taps	Washing Machine	Dishwasher
Kitchen	-	-	-	-	1	1	1
Bedroom 6	-	1	-	-	-	-	-
Downstairs Family Bathroom	1	1	1	1	-	-	-
Bedroom 2 Ensuite	1	1	-	1	-	-	-
Master Bedroom 1 Ensuite	1	1	1	1	-	-	-
Utility	-	-	-	-	1	-	-
Bedroom 3 Ensuite	1	1	-	1	1	1	1

The existing fixtures and fittings were flow tested by H2Ogeo on 1 May 2025 and photos are presented in Figures 3.

2.2 Proposed Development

The proposed development for the sub-division of the property providing one two-bed property in the south and one three-bed property in the north.

The drawings showing the proposed division are presented in Annex A.

The property to the south will consist of:

- Two bedrooms;
- Kitchen;
- Utility room;
- Two shower rooms, one ensuite;
- One ensuite bathroom;

- Lounge;
- Study; and
- Garden room.

The northern property will consist of:

- Three bedrooms;
- Kitchen/dining/sitting room;
- Utility;
- Two ensuite shower rooms;
- Family bathroom;
- Lounge area; and
- Study.

2.2.1 Proposed Fixtures & Fittings

The number of proposed fixtures and fittings are presented in the table below:

Table 2 Proposed Development's Fixtures and Fittings

Fixture	Two-Bed Property	Three-Bed Property	Combined Totals
WC	3	3	6
Taps (excluding kitchen/utility room taps)	3	3	6
Bath (where shower also present)	1	1	2
Standalone Shower	3	3	6
Kitchen/Utility room sink taps	2	2	4
Washing Machine	1	1	2
Dishwasher	1	1	2

3 Baseline Water Consumption

This section outlines the existing baseline water consumption for the site.

The existing property is not on a metered water supply and therefore water bills are currently estimated. To obtain a site-specific demand, flow testing was carried out by H2Ogeo on the 1 May 2025.

The results of the flow testing are presented in the table below:

Table 3 Results of Flow Testing

Room	WC Effective Flush (Litres)	Taps (excluding kitchen/utility room taps) (Litres/Minute)	Bath (where shower also present) (Litres Capacity)	Standalone Shower (Litres/Minute)	Kitchen/Utility room sink taps (Litres/Minute)	Washing Machine (Litres/Dry kg)	Dishwasher (Litres/Place Setting)
Kitchen	-	-	-	-	10	6	0.64
Bedroom 6	-	12	-	-	-	-	-
Downstairs Family Bathroom	Single Flush 6	12	200	12	-	-	-
Bedroom 2 Ensuite	Dual Flush 4.5	10	-	12	-	-	-
Master Bedroom 1 Ensuite	Dual Flush 4.5	6	200	12	-	-	-
Utility	-	-	-	-	12	-	-
Bedroom 3 Ensuite	Dual Flush 4.5	10	-	10	10	4.86	1.19

3.1.1 Part G Calculator

Using the Part G Calculator presented in Annex B, the average consumption in Litres/Person/Day has been calculated for the existing property = 133.2 Litres/Person/Day.

3.1.2 Occupancy

Horsham District Council recommend using the extrapolated data from their 2011 Census to calculate the occupancy of residential buildings. There is no assumption for seven bedroom houses, so, as a conservative approach, the value of 3.09 people for a five-bed property has been assumed.

3.1.3 Existing Demand

The existing demand of Woodend = 412 Litres/Day.

4 Proposed Demand

The proposed flow rates for the two new properties have been outlined in the table below. Fixtures and fittings will achieve Performance Level 3 of the BREEAM 2018 New Construction Guidance.

Details and examples of fixtures that can achieve these standards are presented in Annex C.

Table 4 Efficiency of the proposed Fixtures and Fittings

Fixture – Four-Bedroom Property	Flow/Performance	Unit
WC	3.75	Effective Flush
Taps (excluding kitchen/utility room taps)	5	Litres/Minute
Shower Only	6	Litres/Minute
Kitchen/Utility room sink taps	6	Litres/Minute
Washing Machine	5	Litres/kg
Dishwasher	0.92	Litres/Place Setting

The modelled mains water consumption for the proposed developments are shown below:

- 2-Bed Property = 171 Litres/Day (91×1.88^2); and
- 3-Bed Property = 225 Litres/Day (91×2.47^3).

The total consumption for the site = 396 Litres/Day

² Extrapolated 2011 Horsham District Population Census Data for 2-Bed Properties

³ Extrapolated 2011 Horsham District Population Census Data for 3-Bed Properties

5 Conclusion

The proposed development, with mitigation through updating fixtures and fittings to meet Performance Level 3 of the BREEAM Standards, would achieve water neutrality.

The proposed development would consume less water than the existing property.

Table 5 Summary of Water Neutrality

Existing Demand 7xBed Property (L/Day)	Proposed 2- Bedroom (Litres/Day)	Proposed 3-Bedroom Consumption (Litres/Day)	Combined Total (Litres/Day)	Water Neutral
412	171	225	396	YES

5.1.1 Sensitivity Testing

It should be noted that H2Ogeo has taken a conservative approach to assessing water neutrality, for example:

- The occupancy of the existing seven-bed property has been assumed to have a modelled occupancy of a five-bed property – 3.09 people;
- There are horses on site, therefore the current daily allowance of 5 Litres/Person/Day for external use is likely to be exceeded over the course of a year. This has not been accounted for in the existing baseline consumption figures and therefore provides more contingency for the future development.

This Water Neutrality Statement demonstrates that the proposed development will not contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.

6 Figures

Figure 1 Site Location

Figure 2 Sussex North Water Resource Zone

Figure 3 Site Photolog

Figure 1 Sussex North WRZ

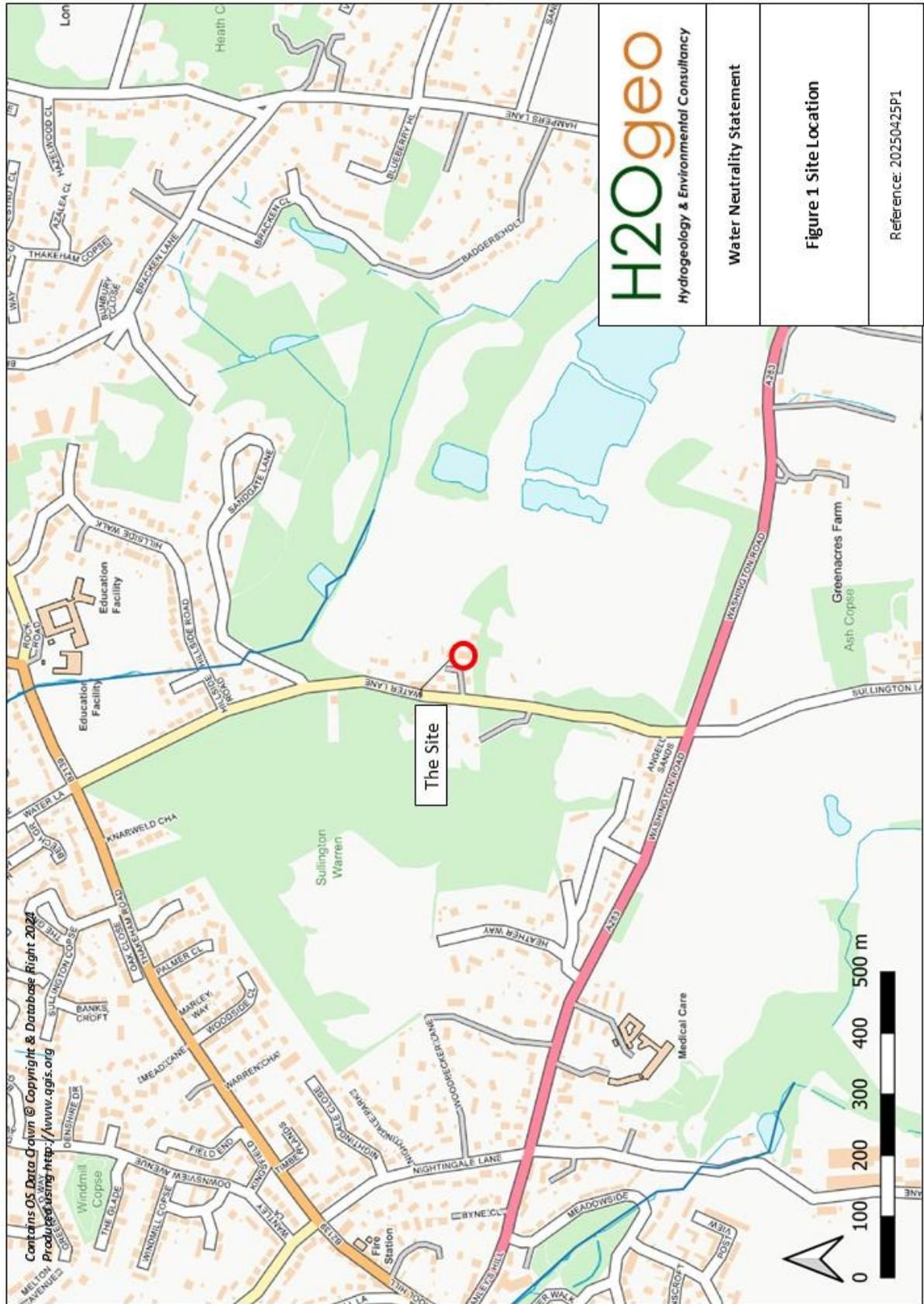


Figure 2 Site Location



Figure 3 & 4 Photolog

						
<p>Kitchen Tap</p>			<p>Utility Sink</p>	<p>Bedroom 6</p>	<p>Family Bathroom</p>	
						
<p>Upstairs Bedroom 2</p>	<p>Master Bedroom Ensuite</p>					
						
<p>Bedroom 3 Ensuite</p>		<p>Garden Room Kitchen</p>				
 <p>H2Ogeo Hydrogeology & Environmental Consultancy</p>			<p>Water Neutrality Statement</p>	<p>Reference: 20250425P1</p>	<p>Figure 3 Photolog</p>	

7 Annexes

Annex A - Planning Drawings

Annex B – Part G Calculations

Annex C – Example Fixtures and Fittings to meet Performance Level 3

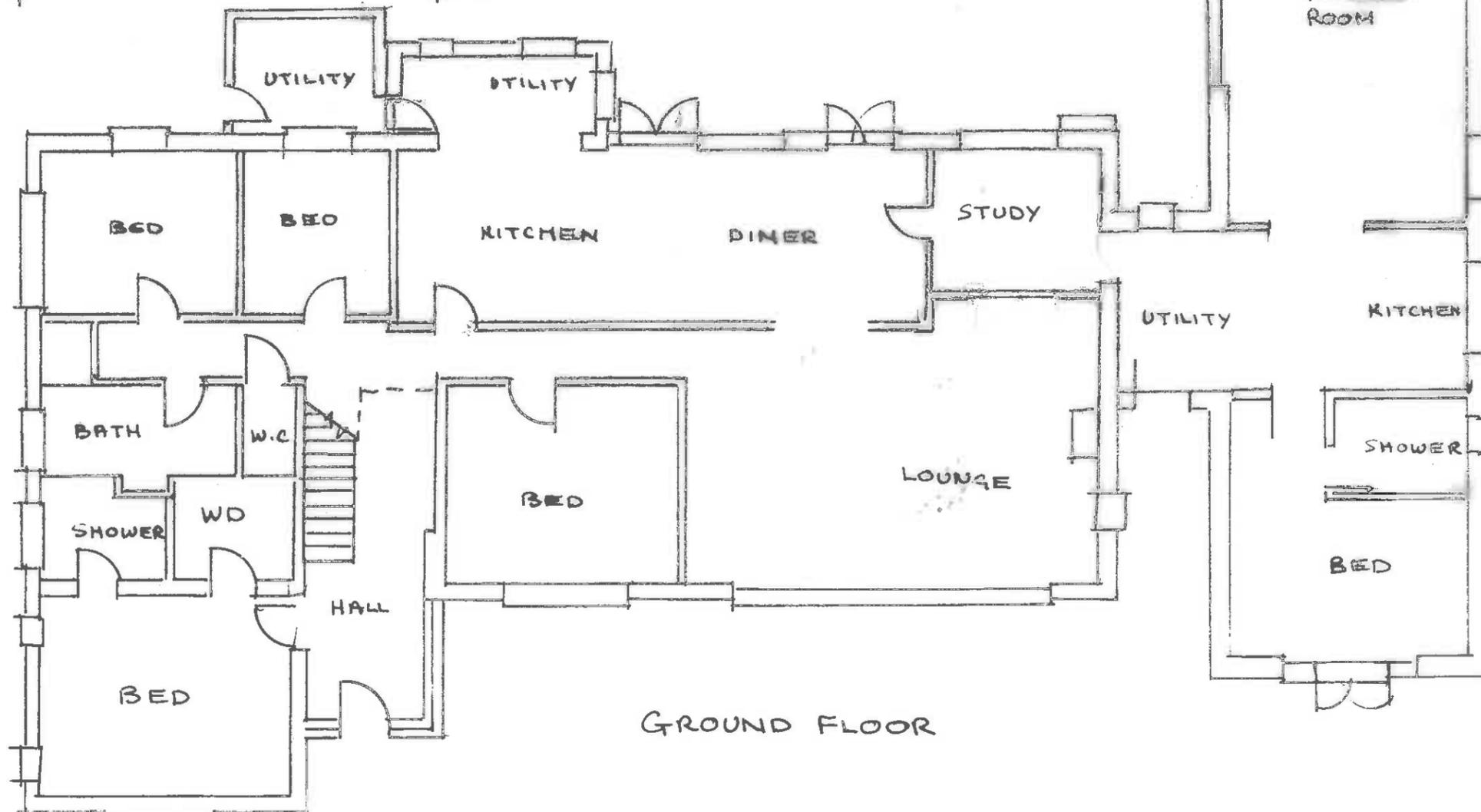
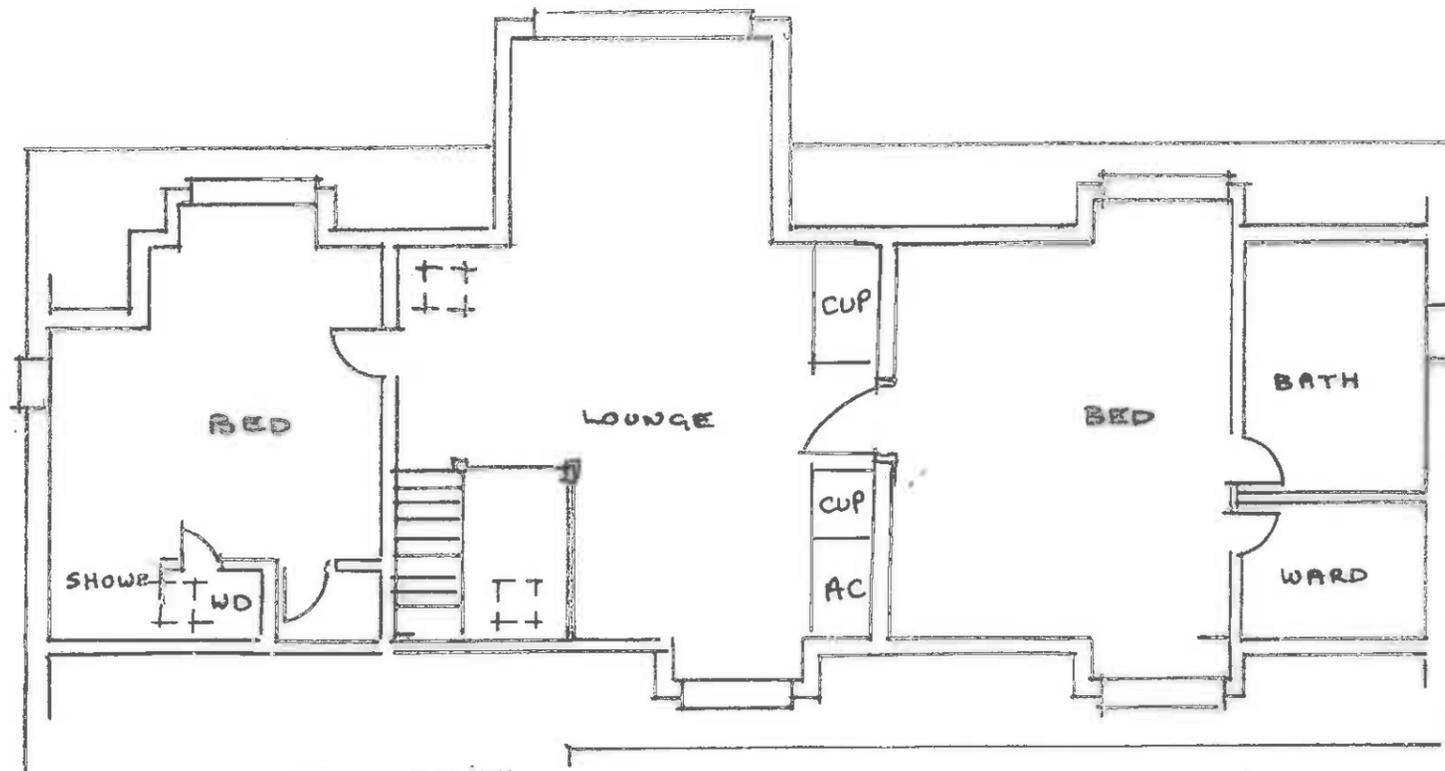
Annex A - Planning Drawings

WOODEND WATER LANE
STORRINGTON

EXISTING LAYOUT

SCALE: 1:100

FIRST FLOOR



GROUND FLOOR

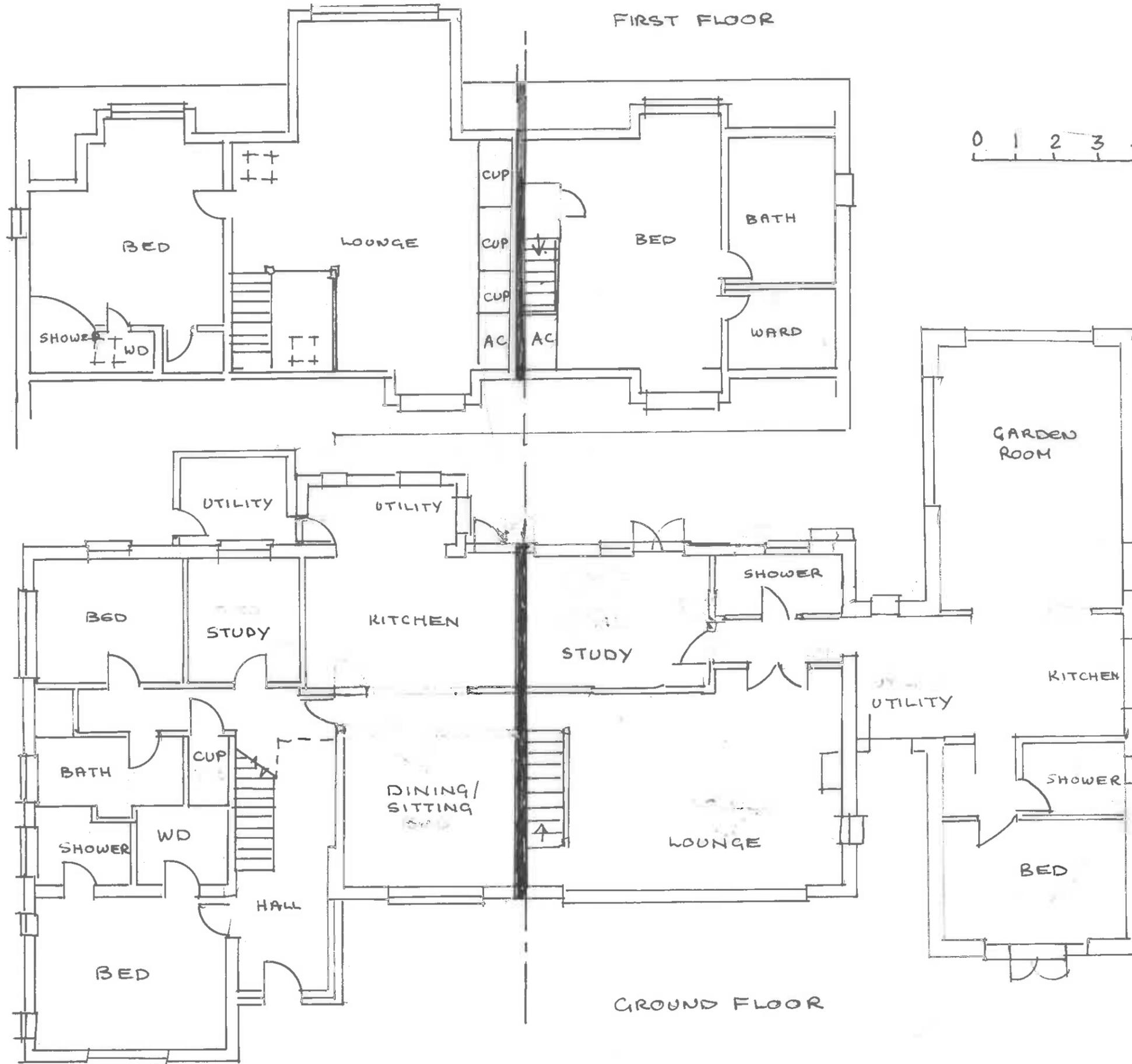
DRAWING: EL/03

WOODEND, WATER LANE
STORRINGTON

PROPOSED LAYOUT

SCALE: 1:100

0 1 2 3 4 5 10 METRES



DRAWING: EL/04

Annex B – Part G Calculations

Existing 7-Bed Modelled Water Consumption

Water Calculator					
WC Taps (Other) Taps (Kitchen/Utility) Baths Dishwashers Washing Machines Showers H2O softeners Greywater Rainwater					
Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)		4.42	0.00	0
WC (dual flush)	Full flush Volume (litres)		1.46	0.00	0
	Part flush Volume (litres)		2.96	0.00	0
WC (multiple fittings)	Average effective flushing Volume (litres)	4.88	4.42	0.00	21.55
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	10.00	1.58	1.58	17.38
Bath (where shower also present)	Capacity to overflow(litres)	200.00	0.11	0.00	22.00
Shower (where bath also present)	Flow Rate(litres / minute)	11.50	4.37	0.00	50.26
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	10.67	0.44	10.36	15.05
Washing Machine	(Litres/kg dry load)	5.43	2.1	0.00	11.40
Dishwasher	(Litres/place setting)	0.92	3.6	0.00	3.29
Waste disposal unit	(Litres/use)	<input type="checkbox"/> Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
(5)	Total Calculated use (litres/person/day) =SUM(column 4)				140.93
(6)	Contribution from greywater (litres/person/day)				0
(7)	Contribution from rainwater (litres/person/day)				0
(8)	Normalisation factor				0.91
(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)				128.25
(10)	External water use				5.0
(11)	Total water consumption (Building Regulation 17.K) = (9) + (10)(litres/person/day)				133.2

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Proposed 2 and 3-Bed Modelled Water Consumption

Water Calculator					
WC Taps (Other) Taps (Kitchen/Utility) Baths Dishwashers Washing Machines Showers H2O softeners Greywater Rainwater					
Installation Type	Unit of Measure	Capacity/Flow rate (1)	Use Factor (2)	Fixed use (litres/person/day) (3)	Litres/person/day = [(1)x(2)] + (3) (4)
WC (single flush)	Flush Volume (litres)	3.75	4.42	0.00	16.58
WC (dual flush)	Full flush Volume (litres)		1.46	0.00	0
	Part flush Volume (litres)		2.96	0.00	0
WC (multiple fittings)	Average effective flushing Volume (litres)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	5.00	1.58	1.58	9.48
Bath (where shower also present)	Capacity to overflow(litres)	140.00	0.11	0.00	15.40
Shower (where bath also present)	Flow Rate(litres / minute)	6.00	4.37	0.00	26.22
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)		5.60	0.00	0
Kitchen/Utility room sink taps	Flow rate (litres/minute)	6.00	0.44	10.36	13.00
Washing Machine	(Litres/kg dry load)	5.00	2.1	0.00	10.50
Dishwasher	(Litres/place setting)	0.92	3.6	0.00	3.31
Waste disposal unit	(Litres/use)	<input type="checkbox"/> Present	3.08	0.00	0
Water Softener	(Litres/person/day)		1.00	0.00	0
(5)	Total Calculated use (litres/person/day) =SUM(column 4)				94.49
(6)	Contribution from greywater (litres/person/day)				0
(7)	Contribution from rainwater (litres/person/day)				0
(8)	Normalisation factor				0.91
(9)	Total internal water consumption = [(5)-(6)-(7)]x(8) (litres/person/day)				85.99
(10)	External water use				5.0
(11)	Total water consumption (Building Regulation 17.K) = (9) + (10)(litres/person/day)				91.0

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Annex C – Example Fixtures and Fittings to meet Performance Level 3

Type	Brand/Make/Model	Flow Rate	Unit	Performance Level
Wash-hand Basin Tap	Grohe Eurosmart Cosmopolitan Basin Mixer Tap	3.5	Litres/Minute	4
	Hansgrohe Talis S EcoSmart Basin Mixer Tap	3.5	Litres/Minute	4
	Bristan Prism Eco Basin Mixer Tap	3.8	Litres/Minute	3
	Ideal Standard Tesi Basin Mixer Tap with EcoFlow Regulator	3.7	Litres/Minute	3
	Methven Minimalist Basin Mixer Tap with Satinjet Technology	3.5	Litres/Minute	4
Showers	Mira Eco 4 Spray Showerhead	4	Litres/Minute	4
	Hansgrohe Croma 100 Vario EcoSmart Showerhead	3.5	Litres/Minute	4
	Methven Waipori Satinjet Ultra Low Flow Showerhead	4.5	Litres/Minute	4
	Triton Dene Low Flow Fixed Showerhead	4	Litres/Minute	4
	Aqualisa EcoSpray 105 Showerhead	3.8	Litres/Minute	4
Baths	Armitage Shanks Sandringham 21 Compact Bath	110	Litres Overflow	4
	Twyford Celtic Compact Bath	100	Litres Overflow	4
	Kalderwei Saniform Plus Small Steel Bath	105	Litres Overflow	4
	Carron Compact Acrylic Bath	115	Litres Overflow	4
	Ideal Standard Tempo Space Saving Bath	110	Litres Overflow	4
WC	Roca The Gap Wall-Hung Toilet with 3/4.5L Dual Flush	3.38	Effective Flush Litres	4
	Ideal Standard Concept Air Back-to-Wall Toilet with Dual Flush	3.38	Effective Flush Litres	4
	VitrA S50 Compact Wall-Hung WC with Dual Flush	3.38	Effective Flush Litres	4
	Twyford E100 Square Close-Coupled WC with 3/4.5L Dual Flush	3.38	Effective Flush Litres	4
	Grohe Bau Ceramic Wall-Hung WC with 3/4.5L Dual Flush	3.38	Effective Flush Litres	4
Kitchen Taps	Grohe BauEdge Single-Lever Kitchen Mixer Tap	4.5	Litres/Minute	4
	Hansgrohe Metris Select Kitchen Mixer Tap	4	Litres/Minute	4
	Franke Eiger Eco Kitchen Mixer Tap	4	Litres/Minute	4
	Blanco Fontas II Filter Kitchen Mixer Tap	4.5	Litres/Minute	4
	Bristan Orta Eco Kitchen Mixer Tap	4.8	Litres/Minute	4
Washing Machines	Samsung Series 6 WW80T684DLN/S1 Washing Machine	4.9	Litres/dry kg load	3
	Bosch Serie 8 WAW325H0GB Washing Machine	4.8	Litres/dry kg load	3
	LG F4V909WTSE Washing Machine	4.5	Litres/dry kg load	3
	AEG L7FEE865R 8000 Series Washing Machine	4.8	Litres/dry kg load	3
	Miele WED125 WCS Washing Machine	4.6	Litres/dry kg load	3
Dishwashers	Bosch Serie 6 SMS6ZDW48G Freestanding Dishwasher	0.74	Litres/Place Setting	4
	Miele G5260 SCVi Integrated Dishwasher	0.73	Litres/Place Setting	4
	Siemens iQ500 SN258I06TG Freestanding Dishwasher	0.75	Litres/Place Setting	4
	Neff N50 S513K60X1G Integrated Dishwasher	0.75	Litres/Place Setting	4
	AEG FFE62620PM Freestanding Dishwasher	0.76	Litres/Place Setting	4