Water Neutrality Statement

Building at Rowfold Lodge
Coneyhurst Road
Billingshurst
West Sussex
RH14 9DD

On Behalf of
Mr Rutherford

Prepared by
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1 INTRODUCTION

1.1 This Water Neutrality Statement is submitted in support of an application made under Regulation 77 of the Conservation of Habitats and Species Regulations 2017 (hereafter referred to as an 'HRA application').

1.2 It follows a Class Q prior approval for the conversion of an agricultural building at Rowfold Lodge to form 1no. 1 bedroom dwelling which was granted in April 2024 under application reference DC/24/0304.

1.3 This application is required following concerns raised by Natural England, through the publication of a Position Statement in September 2021, regarding water extraction within the Sussex North Water Supply Zone. It is stated that it cannot be concluded that the existing abstraction within Sussex North Water Supply Zone is not having an impact on the protected sites within Arun Valley, therefore new developments within this area must not add to this impact. This is demonstrated by achieving water neutrality.

1.4 In response to Natural England's Position Statement, this application seeks to demonstrate that the permitted development is water neutral and can thus be implemented in accordance with the relevant regulations.

1.5 The proposed dwelling will use a total 115.5 litres of water per day across the application site, as evidenced by the water calculations for the proposed dwelling which can be found in Appendix B. This equates to 90,388 litres of water per year.

1.6 Offsetting the water usage of the proposed dwelling will be undertaken via water reduction measures installed on the existing fixtures and fittings located within the dwelling known as Rowfold Lodge and which the applicant owns. The location of Rowfold Lodge is shown in Appendix C.

1.7 The flow rates of the kitchen taps, washroom taps and showers in Rowfold Lodge show that these fixtures currently use a total of 281.34 litres of water per day. The flow reducers will reduce this by 120.78 litres of water per day. This will more than offset the water usage of the approved dwelling subject to planning application DC/24/0304.

1.8 A summary of calculations are provided below:

Class Q Development

Total Proposed consumption before off-site mitigation 115.5 litres per day

Total Proposed consumption after off-site mitigation 0 litres per day

Offsetting Site

Offsetting site – existing mains consumption 281.34 litres per day

Offsetting site – total reduction per day from installation of flow restrictors 120.78 litres per day

Offsetting site – residual demand -5.28 litres per day

Net Water Demand

Total proposed mains consumption 115.5 litres per day

Reduction achieved through off-site mitigation 120.78 litres per day

Residential net mains water demand -5.28 litres per day

2 BASELINE CALCULATIONS

2.1 The application site contains one agricultural building extending to 47 sqm. The building has no historic water usage that can be evidenced and therefore the baseline water usage of the application site is zero.

2.2 There are no other extant permissions relevant to this statement other than the aforementioned Class Q approval.

3 PROPOSED DEMAND

3.1 The approved Class Q development comprises the conversion of one agricultural building into a one bedroom dwelling. A copy of the approved floor plan is provided at Appendix A.

3.2 Using the Horsham district average occupancy rate of a one bedroom dwelling of 1.32, the proposed development is expected to use 115.5 litres of water per day on the application site, assuming a daily usage of 87.5 litres per person which includes 5 litres for an outside tap, as shown on the Water Calculations provided in Appendix B. This figure is based on the following calculation:

1.32 occupancy rate x 1 x 87.5 litres per day = 115.5 litres per day

4 OFFSITE MITIGATION

4.1 Existing Water Usage

4.1.1 Due to there being no baseline water usage, offsetting measures will need to be identified to offset the water usage of the proposed dwelling.

4.1.2 Located to the north of the application site is an existing dwelling known as Rowfold Lodge which is owned and occupied by the applicant. The location of the dwelling is shown in Appendix C.

Figure 4.1 – Location Plan of Application and Offsetting Site



4.1.3 Rowfold Lodge is a 5 bedroom detached dwelling which has an occupancy rate of 2.86 The actual occupation rate of the property however is 3 persons, with other family members staying on a regular basis. For the purposes of this application and to err on the side of caution we have based our calculations using Horsham's District Councils Occupancy Rate of 2.86.

4.1.4 It is therefore proposed to offset the water demand of the proposed dwelling by installing flow restrictors onto the existing fittings located within Rowfold Lodge

4.1.5 A qualified plumber attended site to verify the existing fixtures and fittings' flow rates and to confirm what these can be reduced to by installing flow restrictors. A summary of the findings is provided in Table 4.1 and Table 4.2.

Table 4.1 – Existing Flow Rates

(Please see detailed water calculations attached at Appendix B)

Appliance	QTY	Existing Average Flow Rate
Kitchen Tap Cold	1	22
Kitchen Tap Hot	1	20
Utility Room Tap Cold	1	12
Utility Room Tap Hot	1	16
Cloak Room Tap Cold	1	14
Cloak Room Tap Hot	1	12
Master Tap Cold	1	18
Master Tap Hot	1	16
Master Shower Hot	1	9

Master Shower Cold	1	10
Bathroom Tap Cold	1	16
Bathroom Tap Hot	1	14
Bathroom Shower Hot	1	12
Bathroom Shower Cold	1	14
Jack & Jill Tap Cold	1	18
Jack & Jill Tap Hot	1	16
Ensuite Tap Cold	1	22
Ensuite Tap Hot	1	16
Ensuite Shower Hot	1	11
Ensuite Shower Cold	1	12

4.1.6 Total water usage of the existing fixtures and fittings per day is 98.37 litres per person, multiplied by the average occupancy of a 5 bedroomed property totals 281.34 litres per day.

98.37 litres per day x 2.86 Occupancy Rate = 281.34 litres per day

4.2 Proposed Offsetting Measures

4.2.1 In order to offset the water consumption of the dwelling (115.5 litres per day), it is proposed to fit water saving measures to the existing fixtures and fittings at Rowfold Lodge. The location of which is shown in Appendix C.

4.2.2 The proposed water saving fittings are flow limiters which will be fitted to the kitchen taps, hand basins and showers to reduce water flow, details are provided at Appendix D. The water savings are detailed within table 4.2.

Table 4.2 – Proposed Flow Rates

(Please see detailed water calculations attached at Appendix B)

Appliance	QTY	Existing Average Flow Rate
Kitchen Tap Cold	1	8
Kitchen Tap Hot	1	8
Utility Room Tap Cold	1	8
Utility Room Tap Hot	1	8
Cloak Room Tap Cold	1	8
Cloak Room Tap Hot	1	8
Master Tap Cold	1	8
Master Tap Hot	1	8
Master Shower Hot	1	6
Master Shower Cold	1	6
Bathroom Tap Cold	1	8

Bathroom Tap Hot	1	8
Bathroom Shower Hot	1	6
Bathroom Shower Cold	1	6
Jack & Jill Tap Cold	1	8
Jack & Jill Tap Hot	1	8
Ensuite Tap Cold	1	8
Ensuite Tap Hot	1	8
Ensuite Shower Hot	1	6
Ensuite Shower Cold	1	6

4.2.3 Total water usage per day will therefore be 56.14 litres per person, multiplied by the average occupancy of a 5 bedroom property in the Horsham District gives a total water usage of 160.56 litres per day. This equates to a reduction in water consumption of 120.78 litres per day.

56.14 litres x 2.86 occupancy rate = 160.56 litres per day

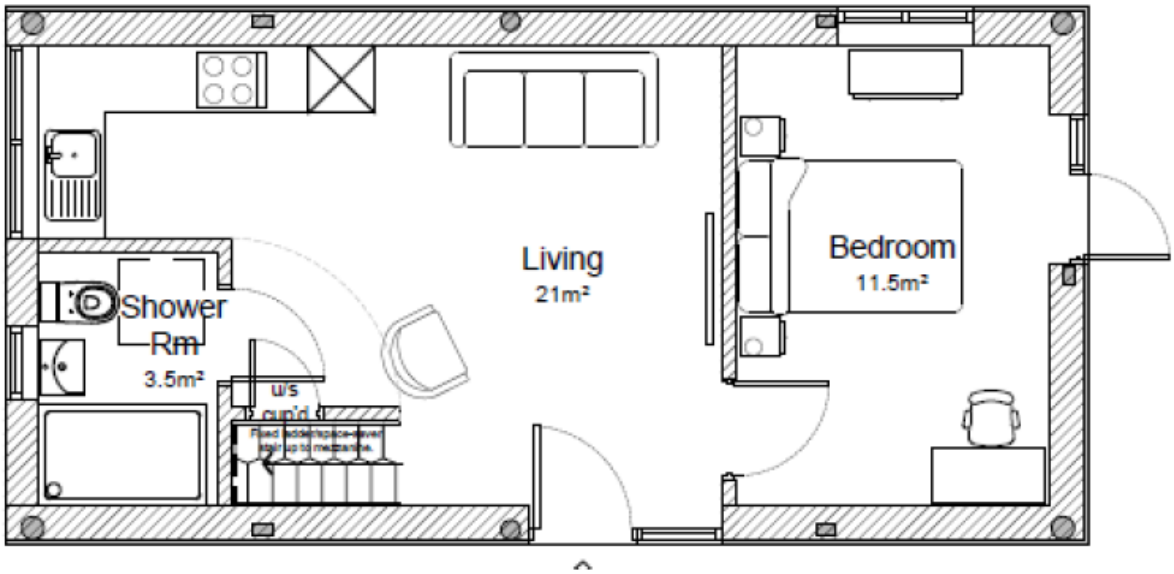
Existing Water Usage 281.34 litres per day – 160.56 Proposed Water Usage litres per day = 120.78 litres per day

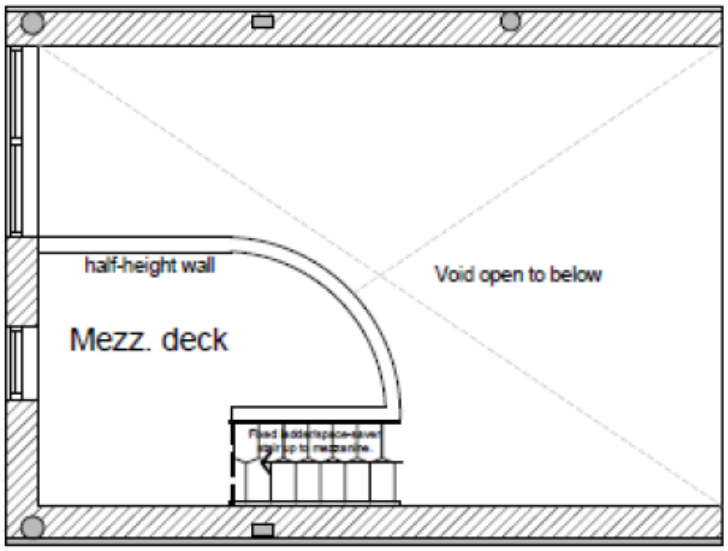
4.2.4 This therefore offsets the required water usage of the new dwelling being 115.50 litres per day and deems the proposal water neutral.

Site Address	Existing Water Usage of Fittings	New Water Usage of Fittings (flow reduces installed)
Rowfold Lodge	281.34 l/p/d	160.56 l/p/d
Water Reduction		120.78 l/p/d
Proposed Water Usage of New Dwelling		115.50 l/p/d
Net Demand		**-5.28 l/p/d**

Appendix A

Approved plans





Appendix B

Water Calculator for New Dwelling (Class Q)

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)	2,95	1,46	0,00	4,31
	Part flush Volume (litres)	2,5	2,96	0,00	7,40
WC (multiple fittings)	Average effective flushing Volume (litres)		4,42	0,00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	2,50	1,58	1,58	5,53
Bath (where shower also present)	Capacity to overflow(litres)		0,11	0,00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4,37	0,00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)	7,00	5,60	0,00	39,20
Kitchen/Utility room sink taps	Flow rate (litres/minute)	5.00	0.44	10.36	12.56
Washing Machine	(Litres/kg dry load)	8,17	2,1	0,00	17,16
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.50
Waste disposal unit	(Litres/use)	☐ 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)			90,66
	(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)			82,50
	(10)	External water use			5,0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			87.5

Installation Type	Make/Model (mandatory)	Litres/Person/Day
WC (dual flush)	Proposed Flow Rate	11.71
Taps	Proposed Flow Rate	5,53
Showers Only	Proposed Flow Rate	39.20
Kitchen Taps	Proposed Flow Rate	12,56
Washing Machines		17.16
Dishwasher		4,50

Water Calculator Existing at Rowfold Lodge

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)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	15.82	1.58	1.58	26.57
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)	11.33	5.60	0.00	63.47
Kitchen/Utility room sink taps	Flow rate (litres/minute)	17.50	0.44	10.36	18.06
Washing Machine	(Litres/kg dry load)	8.17	2.1	0.00	17.157
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.5
Waste disposal unit	(Litres/use)	☐ 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)			129.76
	(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)			118.08
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			123.1

Installation Type	Make/Model (mandatory)	Litres/Person/Day
Taps	Existing Sep Hot/Cold	26.57
Showers Only	Existing Hot/Cold	63.47
Kitchen Taps	Existing Sep Hot/Cold	18.06
Washing Machines	Generic	17.157
Dishwasher	Generic	4.5

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Water Calculator Proposed at Rowfold Lodge

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)		4.42	0.00	0
Taps (excluding kitchen/utility room taps)	Flow rate (litres/min)	8.00	1.58	1.58	14.22
Bath (where shower also present)	Capacity to overflow(litres)		0.11	0.00	0
Shower (where bath also present)	Flow Rate(litres / minute)		4.37	0.00	0
Bath Only	Capacity to overflow(litres)		0.50	0.00	0
Shower Only	Flow Rate (litres/minute)	6.00	5.60	0.00	33.60
Kitchen/Utility room sink taps	Flow rate (litres/minute)	8.00	0.44	10.36	13.88
Washing Machine	(Litres/kg dry load)	8.17	2.1	0.00	17.157
Dishwasher	(Litres/place setting)	1.25	3.6	0.00	4.5
Waste disposal unit	(Litres/use)	☐ 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)			83.36
	(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)			75.85
	(10)	External water use			5.0
	(11)	Total water consumption (Building Regulation 17.K) =(9)+(10)(litres/person/day)			80.9

Installation Type	Make/Model (mandatory)	Litres/Person/Day
Taps	Proposed Sep Hot/Cold	14.22
Showers Only	Proposed Hot/Cold	33.60
Kitchen Taps	Proposed Sep Hot/Cold	13.88
Washing Machines	Generic	17.157
Dishwasher	Generic	4.5

Appendix C

Location of Offsetting Site



Appendix D

Flow Restrictions

ECO RANGE

Accessories
Flow Regulators



Features:

- All flow limiters accurate by +/-10%
- Flow rates shown in litres per minute
- All relevant products, unless otherwise stated will work on a minimum pressure of 0.2bar
- For TMV2 approved products fitted on a combi boiler system, it is recommended that flow regulators are fitted inside both shower inlet connections

Product Code	Colour	Use	Dimension	Limited To (lpm)	Fitted To
ECO TAP1	Pink	Flow Regulator	ø15mm	1	Tap Tail/Shower Inlet
ECO TAP2	Olive	Flow Regulator	ø15mm	2	Tap Tail/Shower Inlet
ECO TAP3	Brown	Flow Regulator	ø15mm	3	Tap Tail/Shower Inlet
ECO TAP4	Grey	Flow Regulator	ø15mm	4	Tap Tail/Shower Inlet
ECO TAP5	Yellow	Flow Regulator	ø15mm	5	Tap Tail/Shower Inlet
ECO TAP6	Black	Flow Regulator	ø15mm	6	Tap Tail/Shower Inlet
ECO TAP7	Green	Flow Regulator	ø15mm	7	Tap Tail/Shower Inlet
ECO BA53.5	Blue	Aerator	M24	3.5	Tap Spout
ECO FBA53.5	Blue	Aerator	M22 Female	3.5	Tap Spout
ECO BA54.5	Pink	Aerator	M24	4.5	Tap Spout
ECO BA56	Black	Aerator	M24	6	Tap Spout
ECO SPBA5 1.8	Lime Green	Spray Regulator	M24	1.8	Tap Spout
ECO SPBA53.5	Dark Blue	Spray Regulator	M24	3.5	Tap Spout
ECO SHW 04	Grey	Flow Regulator	G 1/2"	4	Shower Outlet
ECO SHW 05	Yellow	Flow Regulator	G 1/2"	5	Shower Outlet
ECO SHW 06	Black	Flow Regulator	G 1/2"	6	Shower Outlet
ECO SHW 07	Green	Flow Regulator	G 1/2"	7	Shower Outlet
ECO SHW 08	White	Flow Regulator	G 1/2"	8	Shower Outlet
ECO SHW 10	Blue	Flow Regulator	G 1/2"	10	Shower Outlet
ECO SHW 14	Pink	Flow Regulator	G 1/2"	14	Shower Outlet

Product Certifications:

Also available from the ECO Range is:

TECHNICAL DATA SHEET

BRISTAN TAPS & SHOWERS

D5

Bristan, Birch Coppice Business Park, Dordon, Tamworth, B78 1SG. Telephone: 0844 701 6274 Facsimile: 0844 701 6275. Web Site: www.bristan.com Email: enquire@bristan.com
The information contained on this page was correct at date of issue. Fitting Dimensions are provided as a guide only. Some variation may occur due to manufacturing tolerances. Bristan pursues a policy of continuing improvement in design and performance of its products and so reserves the right to change specifications without prior notice.

Appendix E

Flow Testing Invoice

INVOICE

Andrew Rutherford
Rowfold Lodge, Coneyhurst Road, Billingshurst, RH14 9DD

Invoice Date
1 Jul 2024

Invoice Number
19342

VAT Number
247525592

Perry's Group (Sussex) Ltd
Unit H
The Henfield Business Park Shoreham Road
Henfield
BN5 9SL
Tel: 01273 661888

Description	Quantity	Unit Price	VAT	Amount GBP
Flow test	1.00	75.00	20%	75.00
Flow test on x3 upstairs showers, tighten waste on bath and ct1 feet to floor	1.00	75.00	20%	75.00
Materials used from van stock - CT1	1.00	15.00	20%	15.00
			Subtotal	165.00
			TOTAL VAT 20%	33.00
			TOTAL GBP	**198.00**

Due Date: 15 Jul 2024
BACS Payment:
Perry's Group (Sussex) Ltd
Lloyds Bank plc
Account Number: 37094660
Sort Code: 30-18-30

We kindly ask for payments to be made within 7 days of the invoice date

THANK YOU FOR YOUR BUSINESS. VAT Registration No. 247 5255 92

PAYMENT ADVICE

Customer	Andrew Rutherford
Invoice Number	19342
Amount Due	198.00
Due Date	15 Jul 2024
Amount Enclosed	

Enter the amount you are paying above

To: Perry's Group (Sussex) Ltd
Unit H
The Henfield Business Park Shoreham Road
Henfield
BN5 9SL
Tel: 01273 661888

Company Registration No: 09743737. Gas Safe Registration No. 576397.. Registered Office: Ghiaci Goodhand Smith Ltd, 12A Marlborough Place, Brighton, Sussex, BN1 1WN, GBR.