Consulting Civil Engineers

Installed Fittings Survey

35A Brambling Road, Horsham, West Sussex RH13 6AX

For

Simone Brown

Rev – P1

Reference C2826

Date 9th December 2024

Revision	Date of Issue	Comments	Prepared By	Checked By
P	06.11.2024	Initial Issue	LH	CS
P1	09.12.2024	Revised	LH	CS

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1 Introduction

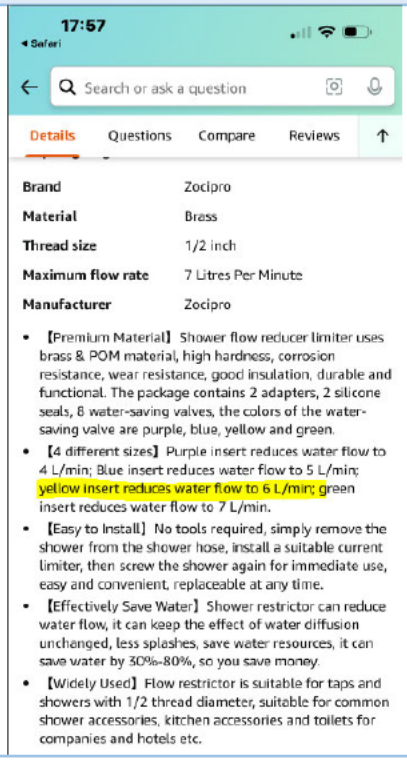
1.1.1 CGS Civils Ltd has been appointed by Simone Brown to undertake an Installed Fittings Survey for a proposed development at the 35 Brambling Road, Horsham, West Sussex, which will follow the required measures that were listed within the Water Neutrality Report which was carried out by CGS Civils Ltd – Ref: **C2826 Water Neutrality Report.**

1.1.2 The water neutrality report has stated that the 4-bedroom dwelling is to have water efficient fittings and water butts installed which will result in a water demand of **227.4 l/day**. The water neutrality report also states that the another property within the Horsham DC area is also to have the fittings changed and water butts fitted in order to offset the demand from the proposed dwelling and they will therefore follow this report.

1.1.3 The purpose of this report is to provide details on the fittings that have been / are to be installed within the proposed dwelling in order to adhere to the water usage set out within the water neutrality report.

2 Installed Fittings within Brambling Rd

Fitting Type	Water Reduction measure:	Water Usage Required:	Proof:
Toilet	Fitted New Toilets	Required Water Demand: 5.84 + 7.70 = 13.54 l/p/day (dual Flush) Installed measures water demand: 5.84 + 7.70 = 13.54 l/p/day (dual Flush)	Milan Modern Thermostatic Shower - Chrome 2 Cruze Contemporary Mono Basin Mixer Tap with Waste - Chrome 2 Chatsworth Traditional Dual Flush Push Button - Chrome 1 1200 x 800mm White Slate Effect Rectangular Shower Tray + Chrome Grill Waste 1 Nova Frameless 1200 x 800 Sliding Door Shower Enclosure 1 Cruze Modern Bathroom Tap Package (Bath + Basin Tap) 1 Brooklyn Modern Square Toilet + Soft Close Seat 1 Back To Wall Toilet with Soft Close Seat + Concealed Cistern 1 RAK Summit Square Cloakroom Hand Basin Sink 40cm 1TH 1 [redacted]
Basin Taps	Fitted 2l/min tap limiter	Required Water Demand: 5.53 l/p/day Installed Measures Water Demand: 5.53 l/p/day	

Bath	Installed 145 litre capacity	145 litres capacity to overflow	Brooklyn 1700 x 700 Grey Avola Bathroom Suite with Tall Cabinet
Showers	Fitted 6l/min flow restricter	Required Water Demand: 30.6 l/p/day Installed Measures Water Demand: 26.22 l/p/day	

Kitchen Taps	Fitted 5 l/min flow restricter	Required Water Demand: 12.56 l/p/day Installed Measures Water Demand: 12.56 l/p/day	
Dishwasher		Required Water Demand: 0.73 l/p/day Installed Measures Water Demand: 0.92 l/p/day	Performance Energy consumption per cycle 0.94 kWh Noise level 47 dB Wash efficiency rating A Water consumption per cycle 12 litres Energy efficiency rating E Place settings 13 Noise rating C Energy consumption per 100 cycles 94 kWh
Water Butt		Required water butt for 5l/p/day external usage	
Required fitting water demand:			79.5 l/p/day
Installed fitting water demand			76.2 l/p/day

3 Fittings to be installed within existing house at BN5 9ST

Fitting Type	Water Reduction measure:	Water Usage Required:
Toilet	Fitted 2lt cistern displacement bag reducing flush volume to 3.5 l/flush	Required Water Demand: 5.84 + 7.70 = 13.54 l/p/day (dual Flush) Installed measures water demand: 15.47 l/p/day
Basin Taps	Fitted 2l/min tap limiter	Required Water Demand: 5.53 l/p/day Installed Measures Water Demand: 4.74 l/p/day
Bath	Installed 145 litre capacity	145 litres capacity to overflow
Showers	Fitted 7l/min flow restricter	Required Water Demand: 30.6 l/p/day Installed Measures Water Demand: 30.59 l/p/day
Kitchen Taps	Fitted 5 l/min flow restricted	Required Water Demand: 12.56 l/p/day Installed Measures Water Demand: 12.56 l/p/day
Washing Machine	Fitted washing machine with 4.46 l/kg dry load	Required Water demand: 11.55 l/p/day Installed measures water demand: 9.366 l/p/day
Dishwasher		Required Water Demand: 0.73 l/p/day Installed Measures Water Demand: 0.92 l/p/day
Water Butt		Required water butt for 5l/p/day external usage
Required fitting water demand:	79.5 l/p/day	
Installed fitting water demand	80.24 l/p/day	

4 Conclusion

4.1.1 Based upon the planned installation of the above fittings fittings, the main house's water demand will be reduced from **631.55 l/day** to **401.2 l/day**. This is a total saving across the site of **230.35 l/day** which is enough to offset the water demand of **227.4 l/day** from the proposed 3-bedroom dwelling.

5 Appendices

5.1 Appendix A:

Table 1 – Water Calculator from Building Regulations Part G – Information input from existing properties prior to any mitigation.

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	0	4.42	0	0
WC (Dual Flush)	Full Flush Vol.	6.4	1.46	0	9.34
	Part Flush vol.	4.5	2.96	0	13.32
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	6	1.58	1.58	11.06
Bath (shower also present)	Capacity to overflow (l)	190	0.11	0	20.35
Shower (bath also present)	Flow rate (l/min)	10	4.37	0	43.70
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)	0	5.6	0	0
Kitchen sink taps	Flow rate (l/min)	8	0.44	10.36	13.88
Washing Machine	Litres/kg dry load	8.17	2.1	0	17.16
Dishwasher	litres/place setting	1.25	3.6	0	4.50
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			133.31
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			0
		Normalisation factor			0.91
		External water use			5
		Total water consumption (36(1)) (l/p/d)			126.31

5.2 Appendix B:

Table 2 – Water Calculator from Building Regulations Part G – Information input from existing dwelling with installed fittings with Water Butts

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	0	4.42	0	0
WC (Dual Flush)	Full Flush Vol.	4	1.46	0	5.84
	Part Flush vol.	2.6	2.96	0	7.696
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	2.5	1.58	1.58	5.53
Bath (shower also present)	Capacity to overflow (l)	145	0.11	0	15.95
Shower (bath also present)	Flow rate (l/min)	6	4.37	0	26.22
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)		5.6	0	0
Kitchen sink taps	Flow rate (l/min)	5	0.44	10.36	12.56
Washing Machine	Litres/kg dry load	5.5	2.1	0	11.55
Dishwasher	litres/place setting	0.92	3.6	0	3.312
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			88.658
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			5
		Normalisation factor			0.91
		External water use			0
		Total water consumption (36(1)) (l/p/d)			76.1

5.3 Appendix C:

Table 2 – Water Calculator from Building Regulations Part G – Information input from existing dwelling at BN5 9ST with installed fittings

The Water Calculator for New Dwellings with Water efficient measures					
Installation Type	Unit of measure	Volume/ flow rate	Use factor	Fixed use	Litres/person/day
WC (Single Use)	Flush volume (l)	3.5	4.42	0	15.47
WC (Dual Flush)	Full Flush Vol.	0	1.46	0	0
	Part Flush vol.	0	2.96	0	0
WC (Multiple Fittings)	Average effective flush volume (l)	0	4.42	0	0
Taps (excl. Kitchen)	Flow rate (l/min)	2	1.58	1.58	4.74
Bath (shower also present)	Capacity to overflow (l)	145	0.11	0	15.95
Shower (bath also present)	Flow rate (l/min)	7	4.37	0	30.59
Bath only	Capacity to overflow (l)	0	0.5	0	0
Shower only	Flow rate (l/min)	0	5.6	0	0
Kitchen sink taps	Flow rate (l/min)	5	0.44	10.36	12.56
Washing Machine	Litres/kg dry load	4.46	2.1	0	9.366
Dishwasher	litres/place setting	1.25	3.6	0	4.5
Waste disposal unit	litres/use	0	3.08	0	0
Water softener	litres/person/day	0	1	0	0
		Total Calculated use (l/p/d)			93.176
		Contribution from greywater (l/p/d)			0
		Contribution from rainwater (l/p/d)			5
		Normalisation factor			0.91
		External water use			0
		Total water consumption (36(1)) (l/p/d)			80.24