



156 West End Lane, West Hampstead, London

Detail required to discharge Condition 24 (Water efficiency) pursuant to planning permission dated 14th July 2021 (Ref. 2019/4140/P)

Water Efficiency Calculation - 0001-M-HEN-CA-50-XX-5500 rev C02

22nd February 2023

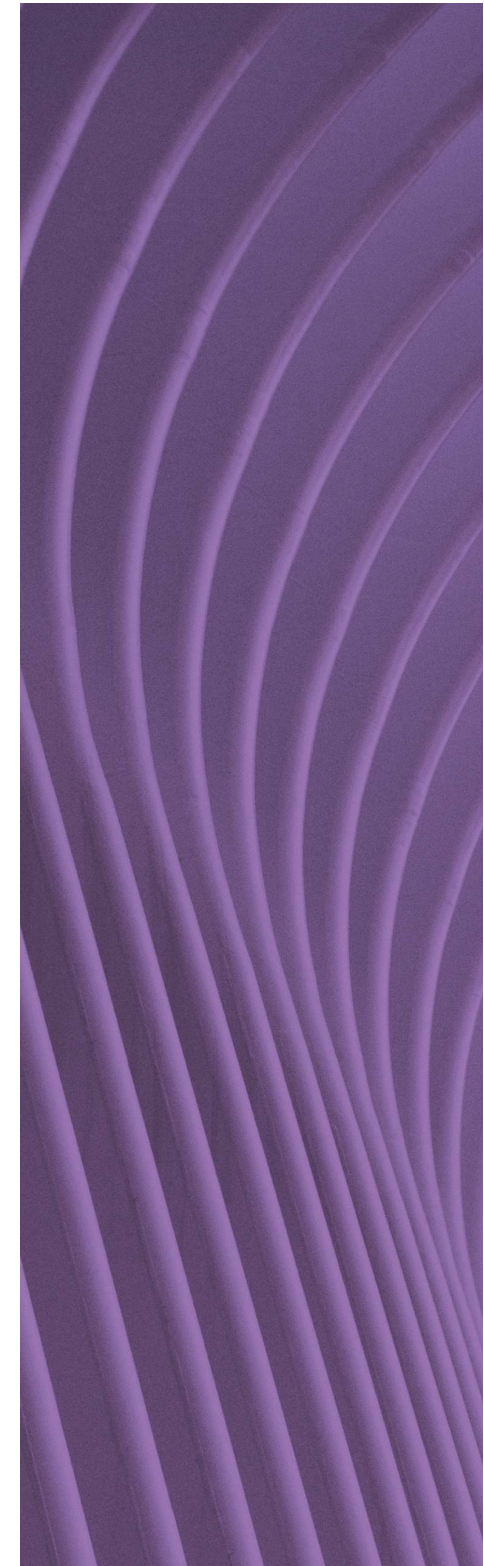


Inspiring Built
Environments

MEP

Sustainability & Building Physics

Digital Engineering



Revision	Date	Details	Author	Checked
C01	27.01.23	First Issue	DD	SM
C02	22.02.23	Client and planning consultant comments incorporated. Updated to latest white goods.	FN	JD

Water Efficiency Requirements

Condition 24 (Water Efficiency) of planning permission dated 14th July 2021 (Ref. 2019/4140/P) states:

“The development hereby approved shall achieve a maximum internal water use of 105litres/person/day for all residential dwellings, allowing 5 litres/person/day for external water use. Prior to occupation, evidence demonstrating that this has been achieved shall be submitted and approved by the Local Planning Authority.

Reason: To ensure the development contributes to minimising the need for further water infrastructure in an area of water stress in accordance with policy CC3 (Water and flooding) of the London Borough of Camden Local Plan 2017”.

This report, including calculations provides the necessary evidence to demonstrate that those internal and external calculations have been met.

Sanitaryware and Appliances

The following items of sanitaryware and appliances have been specified at:
156 West End Lane (Affordable and Intermediate rented dwellings)

Appliance	Model	Restricted Flow Rate / Capacity
Sink Tap	Corte Monobloc	6 litres/min (flow restrictor required)
Basin Tap	Deva Adore Mini Mono Basin Tap	4 litres/min (flow restrictor required)
Bath	Lecico Atlas 1700mm BSWH1700	130 litres to spill level
Shower	Thermostatic Bath Shower Mixer with Tao & Slider Shower Rail Kit	8 litres/min (flow restrictor required)
WC Cistern Dual Flush	Lecico Close Coupled Push Button Cistern 4-6ltr	6/4 litres
Dishwasher	N/A	Default value
Washing Machine	N/A	Default value

No washing machine or dishwasher is provided to the affordable dwellings and therefore the default litres/kg has been allowed for within the water efficiency calculations.

The following items of sanitaryware and appliances have been specified at:

156 West End Lane (Private dwellings)

Appliance	Model	Restricted Flow Rate / Capacity
Sink Tap	Monobloc mixer tap (finish tbc) with pull out spray	6 litres/min (flow restrictor required)
Basin Tap	Semi-recessed ceramic basin with monobloc mixer tap	4 litres/min (flow restrictor required)
Bath	Double-ended white steel bath with centralised thermostatic bath filler and removable panel	130 litres to spill level
Shower	Wall mounted thermostatic valve/diverter. Overhead shower. Handheld shower on sliding rail. Crosswater MPRO or similar	9 Litres/min (flow restrictor required)
WC Cistern Dual Flush	Concealed cistern with dual flush plate	6/3 litres
Dishwasher	Siemens SN61HX02AG	9.5 litres per cycle 13 place settings 0.73 litres per place setting
Washing Machine	Siemens WN34A1U8GB	Max Load 8kg 70 litres per wash 8.75 litres per kg.

The following items of sanitaryware and appliances have been specified at:

156 West End Lane (Shared Ownership dwellings)

Appliance	Model	Restricted Flow Rate / Capacity
Sink Tap	Vado - Sky Mono sink mixer	6 litres/min (flow restrictor required)
Basin Tap	Hansgrohe - Logis Basin Mixer 70	4 litres/min (flow restrictor required)
Bath	Vitra - Balance Bath 170x70 cm	130 litres to spill level
Shower	Hansgrohe - Chroma 100 Vario Shower Kit	8 litres/min (flow restrictor required)
WC Cistern Dual Flush	Vitra - Concealed cistern	6/3 litres
Dishwasher	Bosch SMV40C40GB	11.7 litres per cycle 12 place settings 0.975 litres per place setting
Washing Machine	Beko WDER7440421W	Max Load 7kg 50 litres per wash 7.14 litres per kg

The following items of sanitaryware and appliances have been specified at:

156 West End Lane (Wheelchair dwellings)

Appliance	Model	Restricted Flow Rate / Capacity
Sink Tap	Corte Monobloc	6 litres/min (flow restrictor required)
Basin Tap	Deva Adore Mini Mono Basin Tap	4 litres/min (flow restrictor required)
Bath	Lecico Atlas 1700mm BSWH1700	130 litres to spill level
Shower	Thermostatic Bath Shower Mixer with Tao & Slider Shower Rail Kit	8 litres/min (flow restrictor required)
WC Cistern Dual Flush	Lecico Close Coupled Push Button Cistern 4-6ltr	6/4 litres
Dishwasher	Bosch SMV40C40GB	11.7 litres per cycle 12 place settings 0.975 litres per place setting
Washing Machine	N/A	Default value

No washing machine is provided to the wheelchair dwellings and therefore the default litres/kg has been allowed for within the water efficiency calculations.

Water Efficiency Calculator

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS - (BASIC CALCULATOR)										
House Type:		Type 1		Type 2		Type 3		Type 4		
Description:		(Affordable)		(Private)		(Shared Ownership)		(Wheelchair Unit)		
Installation Type	Unit of measure	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	C fl
Is a dual or single flush WC specified?		Dual		Dual		Dual		Dual		
WC	Full flush volume	6	8.76	6	8.76	6	8.76	6	8.76	
	Part flush volume	4	11.84	3	8.88	3	8.88	4	11.84	
Taps (excluding kitchen and external taps)	Flow rate (litres / minute)	4	7.90	4	7.90	4	7.90	4	7.90	
Are both a Bath & Shower Present?		Bath & Shower		Bath & Shower		Bath & Shower		Bath & Shower		
Bath	Capacity to overflow	130	14.30	130	14.30	130	14.30	130	14.30	
Shower	Flow rate (litres / minute)	8	34.96	9	39.33	8	34.96	8	34.96	
Kitchen sink taps	Flow rate (litres / minute)	6	13.00	6	13.00	6	13.00	6	13.00	
Has a washing machine been specified?		No		Yes		Yes		No		
Washing Machine	Litres / kg		17.16	8.75	18.38	7.14	14.99		17.16	
Has a dishwasher been specified?		No		Yes		Yes		Yes		
Dishwasher	Litres / place setting		4.50	0.73	2.63	0.975	3.51	0.975	3.51	
Has a waste disposal unit been specified?		No		No		No		0.00		
Water Softener	Litres / person / day		0.00		0.00		0.00		0.00	
Calculated Use		112.4		113.2		106.3		111.4		
Normalisation factor		0.91		0.91		0.91		0.91		
Code for Sustainable Homes	Total Consumption	102.3		103.0		96.7		101.4		
	Mandatory level	Level 3/4		Level 3/4		Level 3/4		Level 3/4		
Building Regulations 17.K	External use	5.0		5.0		5.0		5.0		
	Total Consumption 17.K Compliance?	107.3		108.0		101.7		106.4		
		Yes		Yes		Yes		Yes		

Conclusion

Incorporating the above measures allows the water efficiency calculations to meet the internal water use requirement of 105l/person/day in all instances.

The affordable dwelling types have been estimated to achieve a max internal water consumption per dwelling of 102.3 litres/person internally. This dwelling type also achieves 107.3 litres/person when allowing the additional 5 litres/person for external water use.

The private dwelling types have been estimated to achieve a max internal water consumption per dwelling of 103.0 litres/person internally. This dwelling type also achieves 108.0 litres/person when allowing the additional 5 litres/person for external water use.

The Shared Ownership dwelling types achieve a max internal water consumption per dwelling of 96.7 litres/person internally. This dwelling type also achieves 101.7 litres/person when allowing the additional 5 litres/person for external water use.

The Wheelchair dwelling types achieve a max internal water consumption per dwelling of 101.4 litres/person internally. This dwelling type also achieves 106.4 litres/person when allowing the additional 5 litres/person for external water use.

It has been shown that all approved residential dwellings achieve a maximum internal water use of 105litres/person/day and allow for 5 litres/person/day for external water use in accordance with the requirements of Condition 24. It is therefore considered that the development contributes to minimising the need for further water infrastructure in the area and the detail should accordingly be discharged.