

Appendix B - Water Usage Report

Summary of Requirements

This appendix addresses water consumption for the proposed development. The approved document Part G gives two options to demonstrate compliance. These are as follows:

- **Fittings Approach.** Within the approved document, tables 2.1 and 2.2 describe the maximum rates for fittings to achieve 125/p/d or the 'optional' 110 l/p/d. The specifier may choose fittings which do not exceed these limits in order to attain compliance.
- **The Water Efficiency Calculator.** If any fittings exceed the amounts described within tables 2.1 or 2.2, then the water efficiency calculator must be completed to demonstrate compliance. Similarly, where a shower is not to be provided or where a waste disposal unit, a water softener or water re-use is to be provided the water efficiency calculator must be completed.

The standard required by default is **125 litres/person/day**. The 2015 edition of Approved Document G includes an 'optional' standard of **110 litres/person/day** which may be required by planning permission. This is intended to supersede the ability of planning authorities to require the Code for Sustainable Homes. The optional standard is equivalent to the minimum water use permitted under CSH Level 4.

By following the Government's national calculation methodology for assessing water efficiency in new dwellings for the project as designed, it is possible to achieve a water consumption of less than 110/125 litres per person per day using the fittings approach. Compliance with Building Regulation 36(1) can therefore be demonstrated.

This is compliant with Policy 5.15 B (Water Use and Supplies) of the London Plan, which states that developers should minimise the use of mains water by:

- A. Incorporating water saving measures and equipment.
- B. Designing domestic development so that mains water consumption would meet a target of 105 litres or less per head per day (excluding an allowance of 5 litres or less per head per day for external water consumption).

Compliant Design Specification

The fittings approach can be adopted to demonstrate compliance as follows. Fittings must not exceed the given the rates during design and construction:

Fitting	Maximum Consumption
WC flush	4/2.6 litres dual flush
Basin taps (in WCs and bathrooms)	5 l/min
Sink taps (kitchen and utility)	6 l/min
Showers	8 l/min
Baths	170 litres to overflow
Dishwasher	1.25 l/place setting
Washing machine	8.17 l/kilogram
Waste disposal unit	None fitted
Water softener	None fitted
Total consumption:	110 litres/person/day (105 internal)

Further Guidance for Specifiers on Achieving the Required Flowrates

Taps and showers will require flow limiters to meet these values. Please ensure these are installed along with the tap and shower fittings as these must be checked by Building Control prior to sign off.

These are some links to example flow limiters

- [5 l/min](#) for sink taps
- [6 l/min](#) for sink taps
- [8 l/min](#) for showers

Some taps and showers may already have built in limiters. Flow limiters are almost needed to meet the shower and tap values. You could alternatively check the flow rate with the manufacturer. For high pressure water systems (above 1 bar) it's the flow rates measured at 3 bar that is required. If it's a low-pressure water system (less than 0.3 bar), the flow rate at 0.1 bar is required. Tap values should be the maximum flow rate and showers should be the cold flow rate.

What if a waste disposal unit or water softener system is being used? These use additional water so may need to be compensated with lower values elsewhere. Please provide details of the waste disposal and softener systems being used. This report assumes that no such system is present.

What if any values are exceeded? It may be possible to compensate for them by further reducing values elsewhere. If you'd like us to look at this, please let us know. Grey water recycling or rainwater harvesting for internal use can also compensate for exceeding values.

WC Flush and Baths. The flush volume and capacity to overflow is often displayed on the manufacturer website or can be requested from them.

Dishwashers must achieve a water use of 1.25 l/place setting. This can be found by dividing the water consumption of a standard cycle by the number of place settings. If only the annual water consumption is given, divide this by 280 to get the water consumption of a single cycle. Where a dishwasher is not being fitted, 1.25 l/place setting is used as a default.

Washing machines need to achieve a water use of 8.17 l/kg dry load. This can be found by dividing the water consumption of a standard cycle by the dry load capacity in kg. If only the annual water consumption is given, divide this by 220 to get the water consumption of a single cycle. Where a washing machine is not being fitted, 8.17 l/place setting is used as a default.

External Water Use. Both the 125l and 110l target include a 5l allowance for external water use, e.g. to water a garden. This is not influenced by the building specification or fittings. It is common to see these targets described as 120l or 105 targets for internal water use. For example, the Greater London Authority require "mains water consumption would meet a target of 105 litres or less per head per day (excluding an allowance of 5 litres or less per head per day for external water consumption)".