

## As Built Water Efficiency Report Part G

**Client:** Make Some Space Ltd

**Site:** 25 Carol Street  
London  
NW1 0HT

**Proposals:** Proposals are for a 3-storey, new build dwelling with part commercial (artist's studio space) and part residential (1-bed flat)

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### Report Details:

| Prepared by  | Checked by                | Date       | Project |
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## 1. Introduction

From 6th April 2010 Part G of the building regulations came into force. The document has been set out to recognise the requirements for Sanitation, Hot water and water efficiency. Where this report concentrates on Water Efficiency of dwellings based on section 17.K.

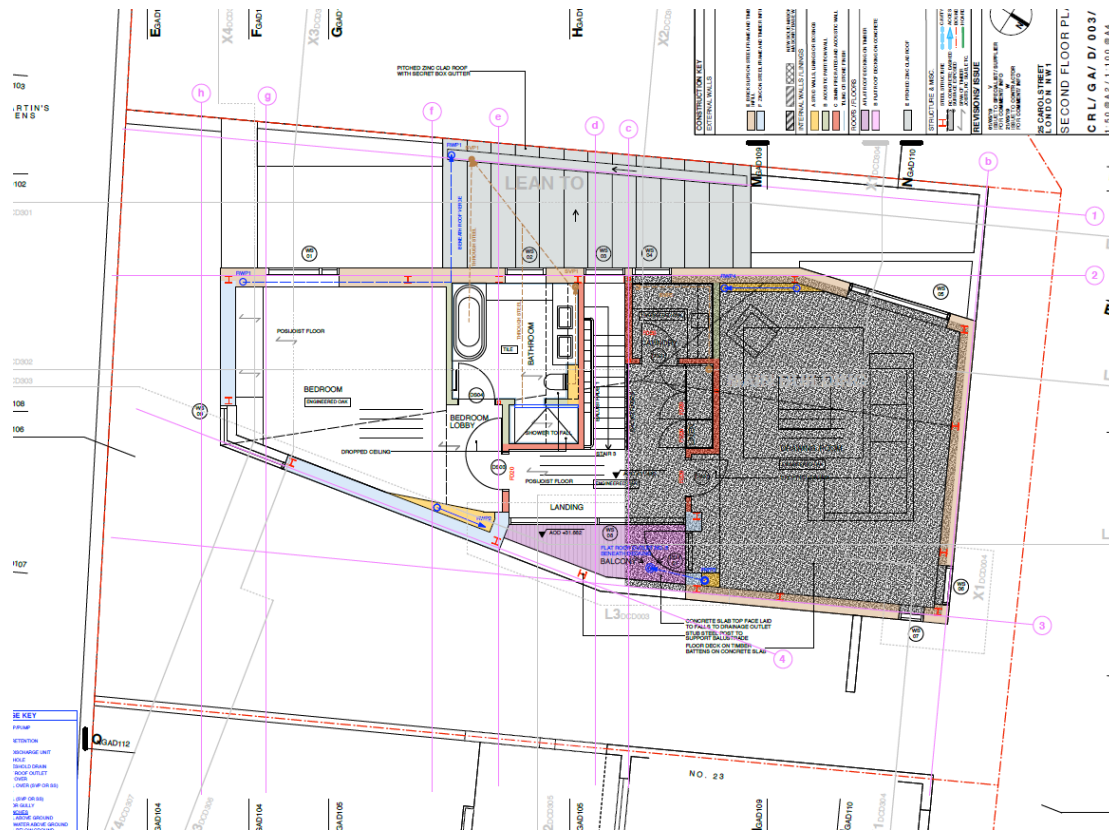
The calculator tool has been designed to comply with the 'Water Efficiency Calculator for New Dwellings' and Approved Document Part G Building Regulations 2000 (as amended).

**The proposed dwelling will need to achieve a 110 L/person/day saving indoor water use based on Camden Council Planning target of a maximum of 110 litres/person/day.**

The below table shows the step change in CO2 emissions and Water efficiency based on the Code for Sustainable Homes. The Code for Sustainable Homes is being phased out, however the issue 'Wat 1' has been incorporated into the Building regulations and is proposed that future water efficiency targets will be brought in to force.

| Minimum Entry Requirements |  |  |                               |
|----------------------------|--|--|-------------------------------|
| Code Levels                | Energy Improvement over target emission rates                    | Water Litres / person / day                                      | Total points score out of 100 |
| Level 1                    | Compliance with Part L of the Building Regulations 2010 required | Compliance with Part G of the Building Regulations 2010 required | 36                            |
| Level 2                    | Compliance with Part L of the Building Regulations 2010 required | Compliance with Part G of the Building Regulations 2010 required | 48                            |
| Level 3                    | 0%   | 105  | 57                            |
| Level 4                    | 25%  | 105  | 68                            |
| Level 5                    | 100%   | 80   | 84                            |
| Level 6                    | Zero Carbon  | 80   | 90                            |

## 2. Existing and Proposed Development



The site is located at 25 Carol Street, London, NW1 0HT.

The site is to provide a 3-storey, new build dwelling with part commercial (artist's studio space) and part residential (1-bed flat) with a kitchen, WC's, bath and showers. (see figure1).

### **3. Water Efficiency Background**

Fresh water is a fundamental resource and demand is higher than ever; it is being used at an increasing amount every day. This in turn has an increasing environmental impact on the climate change and lifestyle. Reduced water use will also have an impact on reducing CO2 emissions and greenhouse gasses from water industries. To help mitigate these risks and reduce the effects of climate change, there are several actions that could be taken.

Water tariffs are making people more aware of these issues, but this alone is not enough.

All new build dwellings are now required to have a water efficiency assessment carried out to comply with building regulations. The aim of this is to have more efficient indoor water fittings installed.

Local councils have taken further steps to investigate incentives to encourage retrofitting of efficient appliances in the existing housing stock. Where they are using WAT 1 of the CSH 1 as targets levels to go beyond building regulations and make a bigger positive impact on water efficiency in homes.

The government is taking steps towards water suppliers and water users to continue to implement water efficiency measures and should continue to innovate and adapt to meet particular circumstance.

Consumers can reduce their water usage employing water efficiency practises in their home, such as turning the water off while brushing teeth or running washing machines only when they are full.

#### 4. Water Fittings Details

The water figures below demonstrate the fittings that have been installed have complied with the requirement of 110L/person/day.

The target of 110L/person/day based on Camden Council Planning target has been achieved.

**Table 1 Water Fittings**

| Taps         | Litres | Number of fittings |
|--------------|--------|--------------------|
| Basin Taps   | 4      | 4                  |
| Kitchen Taps | 8      | 2                  |

| Showers | Flow rate Average (Litres) | Number of fittings |
|---------|----------------------------|--------------------|
| Showers | 9.33                       | 3                  |

| Baths | Capacity to overflow (Litres) | Number of fittings |
|-------|-------------------------------|--------------------|
| Bath  | 140                           | 1                  |

| Dishwasher | Litres / place / setting | Number of fittings |
|------------|--------------------------|--------------------|
| Dishwasher | 1.00                     | 1                  |

| Washing machine | Litres / Kg/ Dry load | Number of fittings |
|-----------------|-----------------------|--------------------|
| Washing machine | 7.5                   | 1                  |

| WC's | Flush (Litres) | Number of fittings |
|------|----------------|--------------------|
| WC   | 4 to 3         | 4                  |

### Water Calculation Result

| Assessment reference | Dwelling reference | Total Water Consumption (litres / person / day) | Compliance |
|----------------------|--------------------|---|------------|
| 11522                | 25 Carol Street    | 107   | YES        |

\* The requirement is for there to be less than 110L/person/day to comply.

## Water Efficiency Calculator for new dwellings

| 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)                 | 4  | 1.46           | 0.00                              | 5.84                                    |
|  | Part flush Volume (litres)                 | 3  | 2.96           | 0.00                              | 8.88                                    |
| WC (multiple fittings)                     | Average effective flushing Volume (litres) |  | 4.42           | 0.00                              | 0                                       |
| Taps (excluding kitchen/utility room taps) | Flow rate (litres/min)                     | 4.00   | 1.58           | 1.58                              | 7.90                                    |
| 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)                 | 9.33   | 4.37           | 0.00                              | 40.79                                   |
| 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)                  | 8.00   | 0.44           | 10.36                             | 13.88                                   |
| Washing Machine                            | (Litres/kg dry load)                       | 7.50   | 2.1            | 0.00                              | 15.75                                   |
| Dishwasher                                 | (Litres/place setting)                     | 1.00   | 3.6            | 0.00                              | 3.60                                    |
| 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)                          |                |                                   | 112.04                                  |
|  | (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)         |                |                                   | 101.96                                  |
|  | (10)                                       | External water use   |                |                                   | 5.0                                     |
|  | (11)                                       | Total water consumption (Building Regulation 17.K) = (9)+(10)(litres/person/day) |                |                                   | 107.0                                   |



## 5. Conclusion

The proposals are for the construction of a 3-storey, new build dwelling with part commercial (artist's studio space) and part residential (1-bed flat) at 25 Carol Street, London, NW1 0HT.

In line with Camden Council Planning target, the development needs to achieve 110L/person/day water efficiency through the provision of water efficient systems.

Through the incorporation of water efficient fittings as per table 1 above, the dwellings result is an overall of 107 Litres/person/day and is therefore within the requirement for a 110L/person/day based on Camden Council Planning target.