EAL CONSULT BUILDING SUSTAINABILITY SINCE 2008

# NATIONAL WATER STANDARDS STATEMENT

# LAND REAR OF 224 ST LEONARDS ROAD

## PROPERTY ADDRESS

**LAND REAR OF 224 ST LEONARDS RD**
**EAST SHEEN**
**LONDON**
**SW14 7BN**

## DATE

May 2024

## PREPARED BY

EAL Consult

# CONTENTS

# 1. INTRODUCTION

This National Water Standards Statement has been prepared to support the planning application for the erection of two new build semi-detached houses on the land rear of 224 St Leonards Road, East Sheen. This Statement will assess how the proposed development complies with National Water Standards to reduce consumption and improve water efficiency.

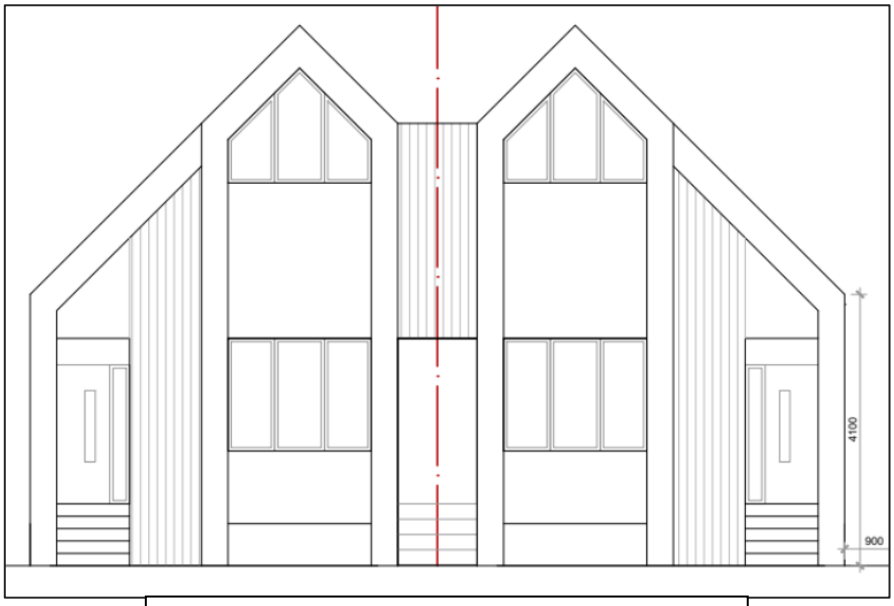


Figure 1 – Front elevation of the proposed development

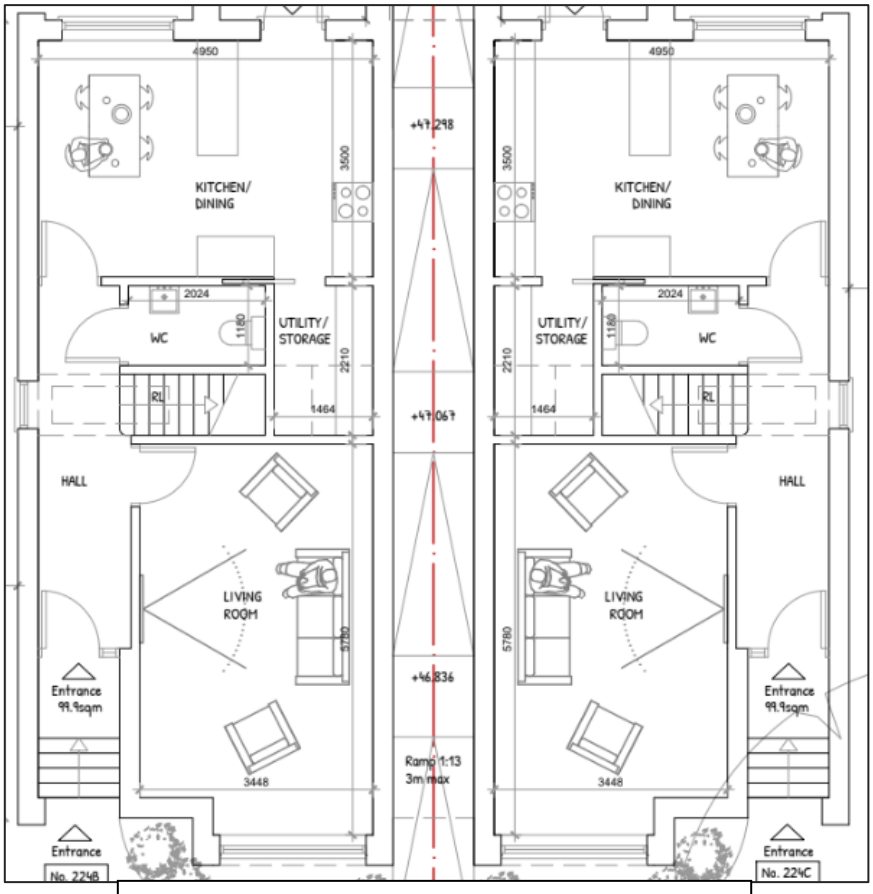


Figure 2 – Ground floor plan of the Proposed Development

# 2. PLANNING POLICY CONTEXT

**The London Plan 2021**

**Policy SI5 'Water infrastructure'**

**A.** In order to minimise the use of mains water, water supplies and resources should be protected and conserved in a sustainable manner.

B. Development Plans should promote improvements to water supply infrastructure to contribute to security of supply. This should be done in a timely, efficient and sustainable manner taking energy consumption into account.

C. Development proposals should:
   1) through the use of Planning Conditions minimise the use of mains water in line with the Optional Requirement of the Building Regulations (residential development), achieving mains water consumption of 105 litres or less per head per day (excluding allowance of up to five litres for external water consumption)
   2) achieve at least the BREEAM excellent standard for the 'Wat 01' water category160 or equivalent (commercial development)
   3) incorporate measures such as smart metering, water saving and recycling measures, including retrofitting, to help to achieve lower water consumption rates and to maximise future-proofing.

D. In terms of water quality, Development Plans should:
   1) promote the protection and improvement of the water environment in line with the Thames River Basin Management Plan, and should take account of Catchment Plans
   2) support wastewater treatment infrastructure investment to accommodate London's growth and climate change impacts. Such infrastructure should be constructed in a timely and sustainable manner taking account of new, smart technologies, intensification opportunities on existing sites, and energy implications. Boroughs should work with Thames Water in relation to local wastewater infrastructure requirements.

E. Development proposals should:
   1) seek to improve the water environment and ensure that adequate wastewater infrastructure capacity is provided
   2) take action to minimise the potential for misconnections between foul and surface water networks.

**F.** Development Plans and proposals for strategically or locally defined growth locations with particular flood risk constraints or where there is insufficient water infrastructure capacity should be informed by Integrated Water Management Strategies at an early stage

**Richmond Core Strategy 2009**

**8.1.3 CP3 Climate Change - Adapting to the Effects**

**3.A** Development will need to be designed to take account of the impacts of climate change over its lifetime, including:

- Water conservation and drainage
- The need for Summer cooling
- Risk of subsidence
- Flood risk from the River Thames and its tributaries

**8.1.3.4** As the demand for water rises and rainfall declines it will be important for buildings to be designed or refurbished to reduce water use, to improve permeability of surfaces, and to re-use rain and grey water. Landscaping will need to take account of likely future climate change.

**Richmond Development Management Plan 2011**

**Policy DM SD 9 Protecting Water Resources and Infrastructure**

The borough's water resources and supplies will be protected by resisting development proposals that would pose an unacceptable threat to surface water and groundwater quantity and quality. This includes pollution caused by water run-off from developments into nearby waterways.

New developments must achieve a high standard of water efficiency by:

1. meeting the minimum mandatory target for water consumption as set out in the Code for Sustainable Homes, or
2. meeting a minimum of 2 credits on water consumption for other types of developments (BREEAM "excellent"), or
3. meeting a minimum of 3 credits on water consumption for conversions (EcoHomes "excellent"), and
4. utilising rainwater harvesting for all external water uses to reduce the consumption of potable water wherever possible.

The above requirements may be adjusted in future years to take into account the then prevailing standards and any other national guidance to ensure that these standards are met or exceeded. New developments should also consider the following:

1. utilising rainwater harvesting and greywater recycling for all non-potable uses to reduce the consumption of potable water wherever possible, and
2. designing of landscaping to minimise water demand.

Proposals that seek to increase water availability or protect and improve the quality of rivers or groundwater will be encouraged.

The development or expansion of water supply or waste water facilities will normally be permitted, either where needed to serve existing or proposed new development, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impact.

The Council will support in principle the implementation of the Thames Tunnel project.

Where rivers have been classified by the Environment Agency as having 'poor' status (currently the River Crane, the Beverley Brook and the River Thames, upstream of Teddington), any development affecting such rivers is encouraged to improve the water quality in these areas.

# 3. APPROVED DOCUMENT G

**National Standards**

The National Technical Standards are the legal requirement within the UK Construction industry, adopted in full as of October 2015 and act to streamline construction compliance issues into one overall compliance requirement under the Building Regulations.

**Required Standards**

All new developments are required to meet Part G compliance in accordance with the Government Approved Document G: sanitation, hot water safety and water efficiency. Part G focuses on internal water use with the aim of reducing overall usage within dwellings. Water supply is to be measured utilising the 'Water Efficiency Calculator Tool for New Dwellings' within the Part G Approved Document and show an internal potable water use of <125 litres/person/day, with an option for this to be reduced further to <110 litres/person/day, should this be requested by the local Planning body.

In line with the Part G guidance, Richmond Council requires all new dwellings to meet the lower target of <105 litres/person/day, excluding the 5 litre allowance for external use.

The proposed development will achieve a net potable water use of <105 litres/person/day – excluding the 5 litre allowance for external water use; and therefore satisfy both Part G of the Building Regulations and Richmond Council's requirements.

**Reducing Demand**

The demand for water can be reduced as much as 50% using a variety of simple and innovative strategies that are integrated into the plumbing and mechanical systems. In order to reduce water consumption, the proposed development will include efficient fixtures with low flow rates.

The water use within the dwelling will be restricted using inline flow restrictors and reduced capacity cisterns and baths to meet Part G requirements. The following specifications are required:

- Bath: maximum 170 litre
- Showers: flow rate of 8 litres/min (baths are also present in the dwelling)
- Dual Flush WCs (4/2.6 litre)
- Kitchen/Utility sink taps: flow rate of 6 litres/min
- Other basin taps: flow rate of 5 litres/min
- Dishwashers: 1.25 litres/place setting
- Washing Machine: 8.17 litres/kg of dry load

These are assumed specifications based on Table 2.2 "Maximum Fittings Consumption" of Approved Document Part G 2015. Due to the precise details of the sanitary ware and fittings are not being available at this stage. The calculations can be updated at a posterior date once the full details are available.

# 4. WATER CALCULATIONS

The total water usage using the specification above is 104.9 litres/person/day (excluding external use). The full calculations can be found in the appendix.

| Schedule Appliance Water Consumption | | |
|---|---|---|
| **Appliance** | **Flow rate or Capacity** | **Total Litres** |
| WC | Dual flush WC 4/2.6 litre | 16.18 |
| Basin | 1.7 litres/min | 12.64 |
| Shower | 8 litres/minute flow | 34.96 |
| Bath | 160 litres | 15.95 |
| Sink | 4 litres/min | 13.88 |
| W/machine | Default used | 17.16 |
| Dish Washer | Default used | 4.5 |
| | | **104.9** |

# 5. CONCLUSION

The Proposed Development meets all the relevant requirements set out through implementing the above measures.

The water calculations show that the development will achieve a net potable water use of <105 litres/person/day – excluding the 5 litre allowance for external water use, and therefore satisfies the requirement of Part G of the Building Regulations and Richmond Council's planning requirements.

# 6. APPENDIX

## A. Water Calculations

Efficiency is what we're all about

House 1, Land at rear of 224 St Leonards Road, East Sheen, LONDON SW14 7BN

**You are within your target maximum consumption of potable water (105 litres per person per day).**

Total water consumption from your calculation **104.9** litres per person per day

This calculator is intended to inform design choices by demonstrating the likely impact of specification changes on total water consumption. Results can only be used to demonstrate compliance with the Code for Sustainable Homes when the calculations have been verified by a suitably qualified Code for Sustainable Homes assessor.

## CALCULATIONSUMMARY

| Installation type | Unit of measure | Capacity / flow rate | Use factor | Fixed use | Litres / Person / day |
|---|---|---|---|---|---|
| WC (single flush) | Flush volume (litres) | | 4.42 | 0 | 16.18 |
| WC (dual flush) | Average effective flushing volume (litres) | 3.66 | | | |
| Taps (excl. kitchen/utility room) | Flow rate (litres / minute) | 7 | 1.58 | 1.58 | 12.64 |
| Bath (show also present) | Capacity to overflow (litres) | 145 | 0.11 | 0 | 15.95 |
| Shower (bath also present) | Flow rate (litres / minute) | 8 | 4.37 | 0 | 34.96 |
| Kitchen/utility room sink taps | Flow rate (litres / minute) | 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 | 4.5 |
| Waste disposal unit | Litres / use | ☐ | 3.08 | 0 | |
| Water softener | Litres / person / day | ☐ | 1 | 0 | |
| Contribute from Grey Water | | | | | undefined |
| Contributed from Rain Water | | | | | undefined |
| | | | | Normalisation factor | ∑x 0.91 |

This calculation assumes default unit of measure values of WC, taps, bath, shower, kitchen taps, washing machine and dishwasher. For more accurate values, please provide us the units of measurement provided from manufacture product details.

17 Dobree Avenue, London NW10 2AD Tel 020 8930 5668
Info@ealconsult.com www.ealconsult.com
Registered in England 5079365 VAT Registration No. 942704035
Eal Consult is part of the Energy Assessors London Limited.

elmhurst accredited energy assessor

Efficiency is what we're all about

House 2, Land at rear of 224 St Leonards Road, East Sheen, LONDON SW14 7BN

**You are within your target maximum consumption of potable water (105 litres per person per day).**

Total water consumption from your calculation **104.9** litres per person per day

This calculator is intended to inform design choices by demonstrating the likely impact of specification changes on total water consumption. Results can only be used to demonstrate compliance with the Code for Sustainable Homes when the calculations have been verified by a suitably qualified Code for Sustainable Homes assessor.

## CALCULATIONSUMMARY

| Installation type | Unit of measure | Capacity / flow rate | Use factor | Fixed use | Litres / Person / day |
|---|---|---|---|---|---|
| WC (single flush) | Flush volume (litres) | | 4.42 | 0 | 16.18 |
| WC (dual flush) | Average effective flushing volume (litres) | 3.66 | | | |
| Taps (excl. kitchen/utility room) | Flow rate (litres / minute) | 7 | 1.58 | 1.58 | 12.64 |
| Bath (show also present) | Capacity to overflow (litres) | 145 | 0.11 | 0 | 15.95 |
| Shower (bath also present) | Flow rate (litres / minute) | 8 | 4.37 | 0 | 34.96 |
| Kitchen/utility room sink taps | Flow rate (litres / minute) | 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 | 4.5 |
| Waste disposal unit | Litres / use | ☐ | 3.08 | 0 | |
| Water softener | Litres / person / day | ☐ | 1 | 0 | |
| Contribute from Grey Water | | | | | undefined |
| Contributed from Rain Water | | | | | undefined |
| | | | | Normalisation factor | ∑x 0.91 |

This calculation assumes default unit of measure values of WC, taps, bath, shower, kitchen taps, washing machine and dishwasher. For more accurate values, please provide us the units of measurement provided from manufacture product details.

17 Dobree Avenue, London NW10 2AD Tel 020 8930 5668
Info@ealconsult.com www.ealconsult.com
Registered in England 5079365 VAT Registration No. 942704035
Eal Consult is part of the Energy Assessors London Limited.

elmhurst accredited energy assessor