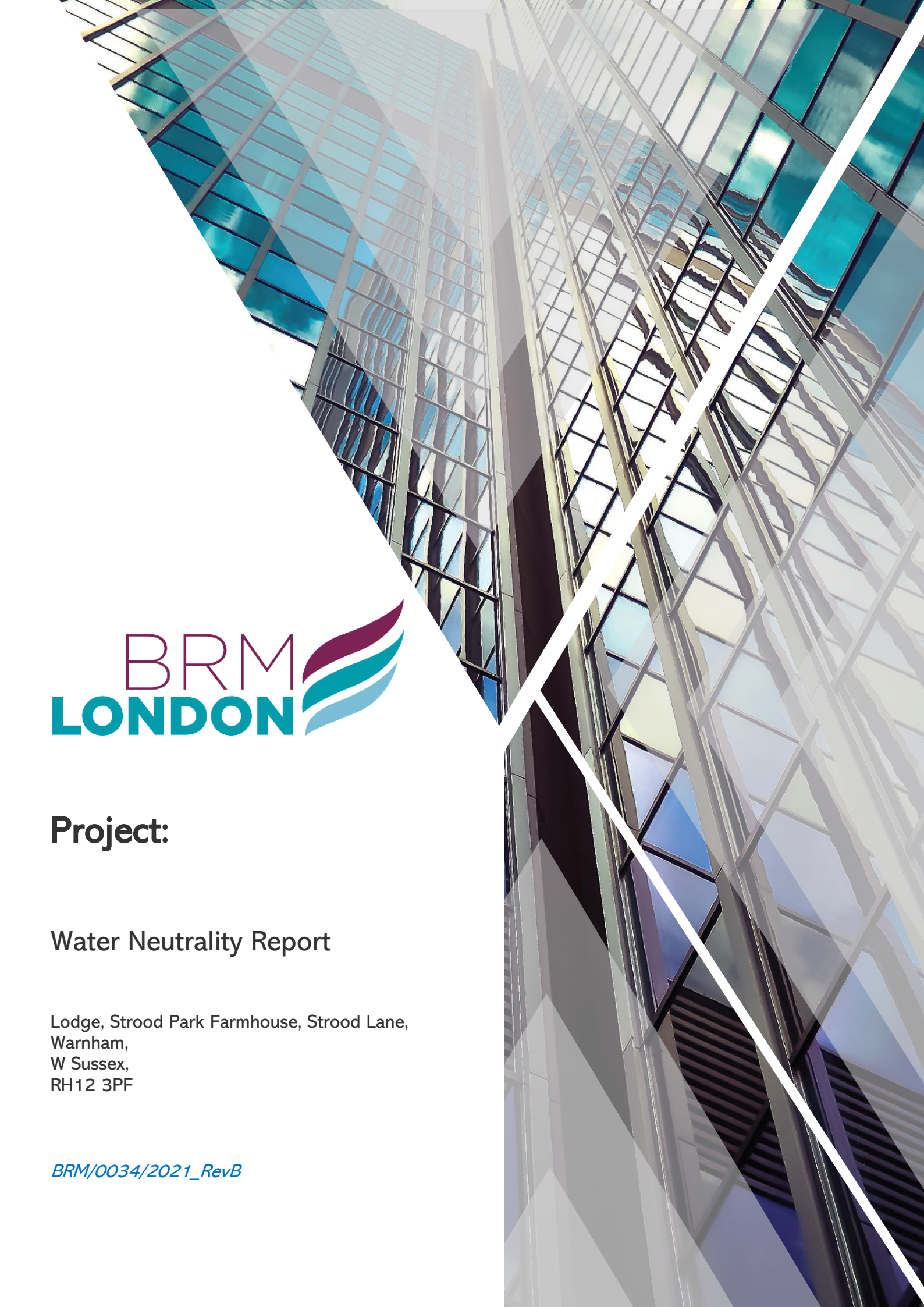


BRM LONDON

Project:

Water Neutrality Report

Lodge, Strood Park Farmhouse, Strood Lane,
Warnham,
W Sussex,
RH12 3PF

BRM/0034/2021_RevB

Document History

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Contents

Document History 2

Appointment of works 4

Part-G information 5

Proposed 6

Summary 6

Appointment of works

has been appointed by owners of the proposed development at Lodge, Strood Park Farm House to undertake an Existing Fittings Survey in support of a Water Neutrality Report (C3025 Water Neutrality Report) for a proposed development at Strood Park Farm House of a 2-bedroom house to replace an existing 2-bedroom house. The existing house has 2 occupants.

Abbreviations

L/S	Litres a second
LPPPD	Litres Per Person Per Day
VOL	Volume
DCWS	Domestic Cold-water System
HVAC	Heating ventilation & Air conditioning
PC	Principle Contractor
RHS	Right Hand Side
LHS	Left Hand Side
F	Flow
R	Return

Site location

Lodge, Strood Park Farmhouse, Strood Lane,
Warnham,
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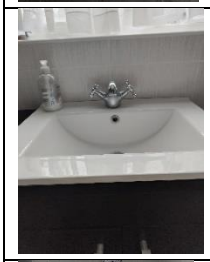
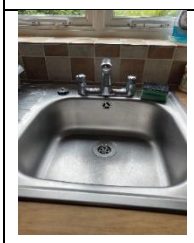
General Scope

The purpose of this report is to provide an overview on the existing fittings and their water usages, as well to show the proposed water usage changes on the new, proposed 2-bedroom main house as a result of the recommendations made within the Water Neutrality report.

The water usage calculations within this report have been made using the Water Calculator from Building Regulations G.

Part-G information

Table showing pictures of existing outlets and fittings, alongside new dwelling proposed flow rate per unit.

Photo of Existing Fitting	Type of Fitting	Existing Dwelling Water Use	New Dwelling Water Use
	Toilet – Full Flush Part Flush	10.22 14.80	ZERO ZERO
	Taps – bathroom sink	12.64	3.95
	Shower	61.60	39.20
	Taps – kitchen sink	13.88	13.30
	Washing Machine	16.80	ZERO
	TOTAL LITRES PER DAY	129.94	56.45
	Addition of external water	5.00	ZERO
	Normalisation factor 0.91	122.80	51.37
	SAVING OF		**71.43 lpppd**

Water Calculator from Building Regulations Part G – Information input from existing property and proposed new property.

Proposed

It is proposed that the new house with have a rain water harvesting system with a 3,000 litre capacity. The harvested rainwater will reduce the toilet, washing machine and 5 litre daily outdoor water usage to ZERO from the main's water.

Flow restrictions will be placed on all plumbing pipes feeding at water fittings in the proposed new dwelling. This will reduce the flow per litre per minute as shown in the diagrams.

The rainwater harvesting and the flow restrictions will reduce the amount of water consumed in the proposed new dwelling from 122 lpppd to 51 lpppd, a saving of 71 litres per person per day.

					Existing Dwelling		New Dwelling
Installation Type	**Unit of Measure**	**Vol/flow rate**	**Use Factor**	**Fixed**	**Litres pppd**	**Vol/flow**	**Litres pppd**
WS (dual flush)	Full flush	7	1.46		10.22	7	ZERO
	Part flush	5	2.96		14.8	5	ZERO
Taps excl kitchen)	Flow rate l/min	8	1.58		12.64	2.5	3.95
Shower	Flow rate l/min	11	5.6		61.6	7	39.2
Kitchen sink	Flow rate l/min	8	0.44	10.36	13.88	2.5	13.3
Washing Machine	Litres/kg dry load	8	2.1		16.8	8	ZERO
Outdoor tap	External water use				5		ZERO
	Total water usage - daily				134.94		56.45
	Normalisation Factor 0.91						
	TOTAL WATER CONSUMPTION - l				122.8		51.37

Summary

As indicated within the above calculations, the water demand of the existing 2-bedroom property can be reduced by 71 litres a day for the proposed new 2 bedroom dwelling. This is achieved by installing rainwater harvesting which will supply the toilets and washing machine, plus water efficient taps and piping for showers and taps.

The water demand from the proposed 2bedroom dwelling will be 51 litres a day after rainwater harvesting techniques and flow restrictions are implemented.

These above measures result in a total reduction in water demand of 71 litres a day on a like for like occupancy over the existing site, making the proposals water neutral.