beat

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DESIGN STAGE WATER EFFICIENCY CALCULATION REPORT

FOR

METIS BUILD LTD

AT

PLOT 2
LONG COPSE LANE
EMSWORTH
PO10 7UR

1. Executive Summary

This report has been produced by BEAT Solutions Ltd on 16th August 2021 for Metis Build Ltd to demonstrate compliance with Building Regulation Part G Regulation 17K. This report confirms the water usage for the dwelling to be 109.41 litres/person/day.

2. Introduction

BEAT Solutions have been instructed to calculate the predicted water usage for the dwelling based on the proposed specification. This report has been produced by Sophie Pinnick.

The methodology used to calculate the water usage is the national approved BRE water efficiency calculation procedure.

A copy of this report should be submitted to the Building Control Officer within 24hrs.

3. Proposed Water Fittings Specification

Metis Build Ltd hasn't completed a schedule to confirm the water usage fixtures and fittings. Therefore this calculation is based on an assumed water usgae target for each of the fitting types.

4. Compliance Summary

BEAT Solutions Ltd hasn't received sufficient information from the client to enable the internal water usage to be calculated. Therefore this calculation is based on an assumed water usgae target for each of the fitting types. The schedule below confirms these target figures would achieve the followina:-

Plot Type:	Detached House
Targeted Water Usage:	110.00 litres/person/day
Proposed Water Usage:	109.41 litres/person/day
Building Reg Compliant:	Yes
Planning Requirement:	110.00 litres/person/day
Planning Compliant:	Yes

5. Note To Developer/Builder

Please ensure a copy of this specification is given to your architect, kitchen and bathroom designers and the specified flow rates / capacities detailed within this report are included on all drawings and specifications. It is the clients responsibility to ensure these flow rates & capacities aren't exceeded when purchasing any fixtures, fittings or appliances. IF IN DOUBT ASK!

Plot / Address	Plot 2, Long Copse Lane, Emsworth, PO10 7UR, ,					Our Reference	WAT-0409/PLOT 2
No. of Bedrooms	4	**Plot/House No.**	Plot 2	**Plot Type**	Detached House	Occupancy rate for Calculation Purposes	5

Basin & Utility Taps	**Flow Rate**	**Quantity**
Fitting Type	**Litres/Min**	**(No.)**
Flow Rate Not to Exceed (5l/min)	5.00	4

Total No. of Fittings (No.)	**4**
Total Flow (l/s)	20.00
Maximum Flow (l/s)	5.00
Average Flow (l/s)	5.00
Weighted Average Flow (l/s)	3.50
Flow for Calculation (l/s)	**5.00**

Showers	**Flow Rate**	**Quantity**
Fitting Type	**Litres/Min**	**(No.)**
Flow Rate Not to Exceed (7l/	7.00	3

Total No. of Fittings (No.)	**3**
Total Flow (l/s)	21.00
Maximum Flow (l/s)	7.00
Average Flow (l/s)	7.00
Weighted Average Flow (l/s)	4.90
Flow for Calculation (l/s)	**7.00**

Bath	**Capacity to**	**Quantity**
Type	**Overflow**	**(No.)**
Capacity Not to Exceed (195L)	195.00	1

Total No. of Fittings (No.)	**1**
Total Capacity (l)	195.00
Maximum Capacity (l)	195.00
Average Capacity (l)	195.00
Weighted Average Capacity (l)	136.50
Capacity for Calculation (l)	**195.00**

W/C	**Full Flush**	**Part Flush**	
Type	**Volume**	**Volume**	**Quantity (No)**
Flow Rate Not to Exceed (6/3	6.00	3.00	4

Total number of fittings	**4**
Average effective flushing volume	**4.00**

Dishwasher	**L per Place**	**Quantity**
Type	**Setting**	**(No.)**
l/p/s		

Total No. of Fittings (No.)	**0**
Total Consumption (l)	1.25
Maximum Consumption (l)	1.25
Average Consumption (l/s)	1.25
Weighted Average Consumption (l)	0.88
Consumption for Calculation (l/s)	**1.25**

Washing Machine	**L per Kg**	**Quantity**
Type	**Dry Load**	**(No.)**
(l/kg)		

Total No. of Fittings (No.)	**0**
Total Consumption (l)	8.17
Maximum Consumption (l)	8.17
Average Consumption (l/s)	8.17
Weighted Average Consumption (l)	5.72
Consumption for Calculation (l/s)	**8.17**

Kitchen Taps	**Flow Rate**	**Quantity**
Type	**Litres/Min**	**(No.)**
Flow Rate Not to Exceed (8l/min)	8.00	2

Total No. of Fittings (No.)	**2**
Total Flow (l/s)	16.00
Maximum Flow (l/s)	8.00
Average Flow (l/s)	8.00
Weighted Average Flow (l/s)	5.60
Flow for Calculation (l/s)	**8.00**

Waste Disposal Y/N	N
Water Softner	
Consumption beyond 4% l/p/d	
Grey water and harvested rainwater	
Total Grey water from WHB taps (l)	
Total Availble Grey Water Supply (l)	260.20
Possible Demand (l)	174.18
Grey/Rain Installed Capacity (l)	
Figure for Calculation lit/person/day	0.00

Water Use Assessment

Installation Type	Unit	Capacity/ Flow Rate	Use Factor	Fixed use (l/p/day)	**Total Use (l/p/day)**	
WC Single Flush	Volume (l)	0.00	4.42	0.00	0.00	
WC Dual Flush	Full Flush (l)	0.00	1.46	0.00	0.00	
	Pt Flush (l)	0.00	2.96	0.00	0.00	
WC's (Multiple)	Volume (l)	4.00	4.42	0.00	17.68	
Taps Exc. Kitchen	Flow Rate	5.00	1.58	1.58	9.48	
Bath (shower present)	(l/s)	195.00	0.11	0.00	21.45	
Shower (bath present)	(l/s)	7.00	4.37	0.00	30.59	
Bath Only	(l)	0.00	0.50	0.00	0.00	
Shower Only	(l/s)	0.00	5.60	0.00	0.00	
Kitchen Taps	(l/s)	8.00	0.44	10.36	13.88	
Washing Machines	(l/kgdry)	8.17	2.10	0.00	17.16	<< Note - these are default values.
Dishwashers	(l/place)	1.25	3.60	0.00	4.50	<< Note - these are defualt values.
Waste Disposal	(l/s)	0.00	3.08	0.00	0.00	
Water Softner	(l/s)	0.00	1.00	0.00	0.00	
				Total Calculated Water Use (l/p/day)	**114.74**	
				Grey/RainWater Reused (l)	0.00	
				Normalisation Factor	0.91	
				Total Consumption CSH (l/p/day)	**104.41**	
				External Water Use Allowance (l)	5.00	
				Total Comsumption Part G (l/p/day)	**109.41**	
				Assesment Result	**PASS**	