

Water Efficiency Report

For

Residential Development

At

**Land adjacent 38 Broadway
Crowland
Lincolnshire**

Client

Churchfield Developments

Project Reference	22-2251
Status	Issued for Planning and Building Control Approval
Date Issued	4 th January 2024
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1 – Introduction & Recommendations

Anglia Building Consultants has been commissioned by Churchfield Developments to carry out a design stage predicted potable water consumption calculation for their proposed new 3 bedroom dwelling at land adjacent 38 Broadway, Crowland. The purpose of this report is to demonstrate compliance with planning condition 11 of planning permission reference H02-0277-23, which gives a maximum consumption of potable water of 110 Litres/person/day, along with compliance with Approved Document G of the Building Regulations 2015.

Project particulars

The following drawings and information has been used in the preparation of this calculation:

Plans 22-2251-101 to 22-2251-105 and Building Control Specification 22-2251.

Information relating to the property is retained on our computer data files for future evaluations.

Key information to achieve compliance.

The following items form an important part of achieving compliance and should be noted by builder, building control body and owner.

1. Basins in ground floor WC and bathroom have been assumed to have separate hot and cold water taps with mixers used in the kitchen and utility room sinks.
2. Bath to have a maximum capacity of 175 litres.
3. Basin taps to have the same fittings or have the same flow rates of 3 litres per minute.
4. Kitchen taps to have a flow rate of 4 litres per minute.
5. Fix showers installed over bath to have a flow rate of 9 litres per minute.
6. Tap and shower flow rates are based on manufacturer's data and taken at 3 bar dynamic pressure, alternatively flow restrictors are to be used to achieve the correct flow rate assumed in the calculation.
7. Toilets are dual flush with a capacity of 4 litres full flush and 2.6 litres part flush.
8. Washing machine litres per kilogram of dry load, default figure of 8.17 litres used.
9. Dishwasher litres per place setting, default figure of 1.25 litres used.
10. Waste disposal unit is not present.
11. Water softener if installed to comply with good practice, with consumption as a percentage of the water softeners total capacity not to exceed 4%.

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As Built Stage

It is important that the design flow rates/capacities and assumptions made are adhered to as changes made on site may affect the end figure resulting in the dwelling failing to comply with Building Regulations at the completion stage.

It may also result in enhancements having to be made to bring the dwelling back up to compliance and may delay the issuing of a completion certificate from the building control body. Therefore, it is important that any changes are reported to us.

Installer Notes

Please note that the flow rates are based on a dynamic pressure of 3 Bar, flow rate information is generally not provided in the fittings manual. Flow rate information can be found on manufacturer's websites or by ringing their technical department. Flow restrictors are allowed to be used in the fittings inlet or outlet. Where flow restrictors are used there is no need for the fitting itself to have the correct flow rate.

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2 – Water Efficiency Calculation report

By following the Government's national calculation methodology for assessing water efficiency in new dwellings, this 3-bedroom house as designed, achieve a water consumption of 107.1 litres per person per day and therefore complies with planning condition 11 of planning permission reference H02-0277-23, and Approved Document G of the Building Regulations.

See separate report for full calculations.

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Part G Compliance Report

PROJECT DETAILS

Project Reference: 22-2251-3
Client: Churchfield Developments
Property: Land adjacent 38 Broadway
Crowland
Lincolnshire

A.I.: Assent Building Control
Agent: Anglia Building Consultants Ltd

Assessor: Anglia Building Consultants Ltd
Address: Villeneuve, Basin Road, Outwell, Norfolk, PE14 8TQ
Contact: Nick Seaton
Software: G-Calc 2010 version 2.0.24
Prepared on: 04-Jan-24

RESULT SUMMARY

By following the Government's national calculation methodology for assessing water efficiency in new dwellings this 3 bed dwelling, as designed, achieves a water consumption of 107.1 litres per person per day.

Compliance with Building Regulation 36(1) has been demonstrated.

Table 1: The Water Calculator for New Dwellings

Installation Type	Unit of measure	Value	Use factor	Fixed use	litres/person/day
WC(single flush)	Flush volume (litres)	0	4.42	0.00	0
WC(dual flush)	Full flush vol.	0	1.46	0.00	0
	Part flush vol.	0	2.96	0.00	0
WC(multiple fittings)	Average effective Flush vol. (litres)	3.06	4.42	0.00	13.53
Taps(excl. Kitchen)	Flow rate (litres/min)	3	1.58	1.58	6.32
Bath (shower also present)	Capacity to overflow (litres)	175	0.11	0.00	19.25
Shower (bath also present)	Flow rate (litres/min)	9	4.37	0.00	39.33
Bath only	Capacity to overflow (litres)		0.50	0.00	0
Shower only	Flow rate (litres/minute)		5.6	0.00	0
Kitchen sink taps	Flow rate (litres/minute)	4	0.44	10.36	12.12
Washing Machine	litres/kg dry load	8.17	2.1	0.0	17.16
Dishwasher	litres/place setting	1.25	3.6	0.0	4.5
Waste disposal	litres/use	0	3.08	0.0	
Water softener	litres/person/day	0	1.0	0.0	0
Total calculated use (litres/person/day)					112.21
Contribution from greywater (litres/person/day)					-
Contribution from rainwater (litres/person/day)					-
Normalisation factor					0.91
Total Water Consumption. Code for Sustainable Homes (litres/person/day)					102.1
External water use					5.0
Total Water Consumption. (36(1)) (litres/person/day)					107.1

Table 2: Consumption Calculator for multiple fittings for New Dwellings			
2.1: Taps (excluding kitchen sink taps)			
	Flow Rate (l/min)	Quantity (No.)	Total per fitting type
1 Ground Floor WC Basin	3	2	6
2 Bathroom Basin	3	2	6
3			
4			
Total (Sum of all Quantities)		4	
Total (Sum of all totals per fitting type)			12
Average Flow Rate (l/min)			3
Maximum Flow Rate (l/min)			3
Proportionate flow Rate (l/min)			2.1

Table 2: Consumption Calculator for multiple fittings for New Dwellings			
2.7: WC's			
WC Type	Effective flushing volume (litres)	Quantity (No.)	Total per fitting type
1 Ground Floor WC	3.062	1	3.06
2 Bathroom	3.062	1	3.06
3			
4			
Total (Sum of all Quantities)		2	
Total (Sum of all totals per fitting type)			6.12
Average effective flushing volume (litres)			3.06

Summary of fitting types "As Designed"			
Type	Description	Flow rates, volumes etc.	Qty
Taps	Ground Floor WC Basin	3 litres/min	2
	Bathroom Basin	3 litres/min	2
Baths	Bathroom	175 litres to overflow	1
Dishwashers	TBC	1.25 litres/place	1
Washing Machines	TBC	8.17 litres/kg	1
Showers	Fixed head over bath	9 litres/min	1
WC's	Ground Floor WC	4 / 2.6 litres flush vols.	1
	Bathroom	4 / 2.6 litres flush vols.	1
Kitchen/Utility taps	Kitchen sink	4 litres/min	1

The lower section of this table is to be filled in by the builder prior to completion. The descriptions, values and quantities should represent the 'as built' specification. Please note the values above represent design values and should not be exceeded without prior consultation with the agent/designer (Anglia Building Consultants Ltd).
The completed table should be returned to the assessor: Anglia Building Consultants Ltd (Contact: Nick Seaton).

Declaration of fitting types "As Built"			
Type	Make and Model	Flow rates, volumes etc.	Qty
Taps			
Baths			
Dishwashers			
Washing Machines			
Showers			
WC's			
Kitchen/Utility taps			

Project ref: 22-2251-3 - Land adjacent 38 Broadway

The above declaration of fittings, values and quantities is a true reflection of those installed on this project.

Name: Signature: Date:

-----End of Report-----