

County Inspections

14 December 2025

Application Number: 241828. Assessment to discharge planning conditions 20 & 21.

Site:

Plot 1 to 4
58 Finchampstead Road
Wokingham
RG40 2NS

Architect:

Harding Rose Architects Ltd.
Sterling House
Stroudly Road
Basingstoke
RG24 8UG

The planning permission is conditional in that conditions 20 & 21 require:

Condition 20 - Future Homes Standard - The dwelling(s) shall meet the interim Future Homes Standard in accordance with the requirements of the Building Regulations. No dwelling shall be occupied until compliance has been confirmed by an accredited assessor certifying that a 31% reduction in carbon dioxide emissions has been achieved as per the Standard. Condition 21 - Water Standards - Prior to the commencement of development, details of how the dwelling shall meet internal potable water consumption targets of 110 litres or less per person per day.

1. Summary - Several low or zero carbon renewable technologies would be excluded for the following reasons. The garden areas were deemed insufficient to incorporate the ground coils for ground source heat pumps and vertical bore holes are not financially viable. The location is not suitable for wind turbines. Solar thermal (hot water generation from the Sun) and photovoltaic (electricity generation from the Sun) arrays were considered but excluded as they were unnecessary due to the government commitment to net zero carbon by 2050. Either of these technologies could be easily fitted retrospectively. It was therefore decided to incorporate air source heat pumps into the design and reduce energy demand by having lower heat loss walls, roof, floor, doors & windows. There will be no gas supply to the house and no secondary heating will be fitted. Low water use / capacity fittings will be installed to restrict water use to 108.5 litres per person per day.

2. Controlled fittings - Under Approved Document Part L various elements are classed as either controlled fittings or are required to meet or better limiting values.

Controlled Fittings (new build)	
Fitting	Standard Required
Window, Roof Window	U-Value 1.6 w/m ² k or less
External Doors	U-Value 1.6 w/m ² k

3. Standards - Approved Document Part L also specifies threshold u-value requirements for improved thermal elements.

Standards For New Elements	
Element	Maximum U-Value Allowed
Wall	0.26 w/m ² k
Pitched Roof – Insulation at ceiling level	0.16 w/m ² k
Pitched Roof – Insulation at rafter level	0.16 w/m ² k
Floors	0.18 w/m ² k

4. Requirements - Works such as the installation of new heating systems are required to achieve minimum efficiencies and lighting is subject to certain requirements. These are detailed in the DBSCG (Domestic Building Services Compliance Guide).

Domestic Building Services Compliance Guide Requirements	
Situation	Requirement
Installation of a new air source heat pump	Efficiency of at least 250%
Installation of new lighting	Lighting efficacy of at least 80 lumens per Watt

5. Method – SAP (standard assessment procedure) calculations have been prepared for the houses in line with the requirements of Part L and the Domestic Building Services Compliance Guide. SAP is the Government's approved methodology for assessing dwellings under Approved Document Part L. The Domestic Building Services Compliance Guide is approved by Government and covers the installation of fixed building services to help compliance with the energy efficiency requirements of the building regulations. The calculations establish the target emission rate for the houses as well as the predicted dwelling emissions.
6. Specification - Part L requirements, specification for new elements and specification for design calculations. The passive design using low u-values for thermal elements and high efficiency for heating delivers dwellings far superior to current building regulation requirements.

Building Specification			
	Part L 2021 (new elements)		Actual Specification
External wall u-value w/m2 k	0.26		0.17
Roof u-value w/m2 k	0.16		0.14
Ground floor u-value w/m2 k	0.18		0.12
Entrance door u-value	1.8		1.4
Window u-value	1.6		1.4
Roof window u-value	1.6		1.4
Low energy lighting	80 lumens per Watt		80 lumens per Watt
Air source heat pump efficiency	250.00%		296.33% (average)

7. Results - Results of SAP calculations

SAP calculation CO2 emissions (TER & DER)			
	Target Emission Rate of CO2	Predicted Dwelling Emission Rate of CO2	Reduction %
Plot 1	7.37	3.34	54.68
Plot 2	7.32	3.35	54.23
Plot 3	7.58	3.28	56.73
Plot 4	7.34	3.29	55.18
	Average Reduction (area weighted)		55.24

8. Heat pumps & servicing

Samsung AE08 heat pumps (or similar) will be installed along with efficient hot water cylinders. Heating will be delivered by under floor heating on the ground floor and aluminium radiators on the first and second floors.

Air source heat pumps require less maintenance than traditional boilers, an annual professional service is required by manufacturers which is a condition for keeping the warranty valid. A qualified, accredited engineer (often MCS or F-gas certified) should perform a comprehensive service at least once a year, ideally before the heating season begins in autumn. This typically includes a full visual inspection and system diagnostics, checking and topping up refrigerant levels (only a certified professional can do this), testing electrical connections and safety controls, inspecting and

cleaning the indoor and outdoor coils and fans, checking the condensate drainage and defrost cycle operation, assessing overall system performance and efficiency.

In addition to the annual service, occasional DIY checks should be performed such as clearing the outdoor unit of any obstructions like leaves, snow, or plant overgrowth to ensure proper airflow and monitor the system's water pressure and check for unusual noises, leaks, or error codes, calling a professional if there are any issues.

9. Water standards. All fittings will be low flow rate or low capacity and will deliver an internal water use of 108.5 litres per person per day. If necessary, flow restrictors will be fitted to the showers to restrict the flow to 6.0 litres per minute as these account for the highest daily water use.

10. Conclusion

By installing an air source heat pump an average reduction in predicted carbon emissions of 55.24% will be achieved. This will be reduced to zero once the UK electricity grid is zero carbon by 2050.

By installing water fittings in line with the water use calculated in Appendix 2, the internal water use will be restricted to 108.5 litres per person per day.

Appendix 1 – Plots 1 to 4 SAP CO2 emissions calculation summary showing the DER (dwelling emission rate of CO2) & TER (Part L target emission rate of CO2)

Appendix 2 – Typical water use calculation

CO2 Emissions



Block Reference	Plots 1 to 4, 58 Finchampstead Road, Wokingham, RG40 2NS		
Block Name			
Calculation Type	New Build (As Designed)	SAP Version	10.2

Assessor Details	Steve Leahy	Assessor ID	A593-0001
Client	Harding Rose Architects Ltd., Sterling House, Stroudley Road, Basingstoke, RG24 8UG		

Block Compliance Report - Dwelling Emission Rate				
Block Reference: 58 Finchampstead Road		Block Name:		
Property-Assessment Reference	Floor area (m ²)	DER (kgCO ₂ /m ²)	TER (kgCO ₂ /m ²)	% DER/TER
Plot 1 - 58 Finchampstead Road	309.71	3.34	7.37	54.68 %
Plot 2 - 58 Finchampstead Road	312.44	3.35	7.32	54.23 %
Plot 3 - 58 Finchampstead Road	331.32	3.28	7.58	56.73 %
Plot 4 - 58 Finchampstead Road	320.03	3.29	7.34	55.18 %
Totals:	1273.50	13.26	29.61	
Average DER (dwelling emission rate) = 3.31 kgCO ₂ /m ²		CO2 Reduction	Part L 2021 - PASS	
Average TER (target emission rate) = 7.40 kgCO ₂ /m ²		55.24 %		

AD Part G

Water Use Calculation

Site Information	
Site Name	Finchampstead Road
Reg Number	
Street 1	Plot 1
Street 2	58 Finchampstead Road
Area	
Town or City	Wokingham
Post Code	RG40 2NS

Installation Type	Average Capacity/Flow Rate	Litres/Person/Day
Single Flush WC's	0	0
Dual Flush WC's	4.66	20.6
All WC's	4.66	20.6
Kitchen/Utility Room Taps	8	13.88
Other Taps	6	11.06
Baths	185	20.35
Showers	6	26.22
Dishwashers	1.25	4.5
Washing Machines	8.17	17.16
Water Softener		
Waste Disposal Unit	Not Present	0
Total Water Use	113.77 Litres/Person/Day	
Contribution from Rain Water	0 Litres/Person/Day	
Contribution from Grey Water	0 Litres/Person/Day	
Normalisation Factor	0.91 Litres/Person/Day	

Code for Sustainable Homes - Consumptions & Credits	
Water Consumption (Code for Sustainable Homes)	103.5 Litres/Person/Day
Credits Scored	3

Building Regulations 2000 AD Part G (2010 Ed) - Consumption	
External Water Use	5 Litres/Person/Day
Water Consumption (Building Regulation 17 K)	108.5 Litres/Person/Day

AD Part G

Water Use Calculation

Kitchen/Utility Room Taps						
Description	Flow Rate	Qty	Total Water	Grey Water	Rain Water	Net Water
Kitchen / Utility	8	2	16	0	0	16
Total Litres/Person/Day Gross						13.88
Total Litres/Person/Day Gross						13.88

Other Taps						
Description	Flow Rate	Qty	Total Water	Grey Water	Rain Water	Net Water
Basin Taps	6	6	36	0	0	36
Total Litres/Person/Day Gross						11.06
Total Litres/Person/Day Gross						11.06

Baths						
Description	Capacity	Qty	Total Water	Grey Water	Rain Water	Net Water
Bath	185	2	370	0	0	370
Total Litres/Person/Day Gross						20.35
Total Litres/Person/Day Gross						20.35

Showers						
Description	Flow Rate	Qty	Total Water	Grey Water	Rain Water	Net Water
Showers	6	4	24	0	0	24
Total Litres/Person/Day Gross						26.22
Total Litres/Person/Day Gross						26.22

Washing Machines						
Description	L/Kg Dry Load	Qty	Total Water	Grey Water	Rain Water	Net Water
Washing Machine	8.17	1	8.17			8.17
Total Litres/Person/Day Gross						17.16
Total Litres/Person/Day Gross						17.16

Dishwashers						
Description	L/Place Setting	Qty	Total Water	Grey Water	Rain Water	Net Water
Dishwasher	1.25	1	1.25	0	0	1.25
Total Litres/Person/Day Gross						4.5
Total Litres/Person/Day Gross						4.5

Single Flush WC's						
Description	Flush Volume	Qty	Total Water	Grey Water	Rain Water	Net Water
Total Litres/Person/Day Gross						0
Total Litres/Person/Day Gross						0

Dual Flush WC's						
Description	Flush Vol (P/F)	Qty	Total Water	Grey Water	Rain Water	Net Water
WCs	4/6	6	27.96			0
Total Litres/Person/Day Gross						20.6
Total Litres/Person/Day Gross						20.6

Ion Exchange Water Softener	
% of Total Capacity Used Per	
Water Consumed Per Regeneration	
Average Regeneration Cycles Per Day	
Occupants Served by the System	
Water Consumed Beyond 4%	
Water Consumed Beyond 4%	