



LAKE HOUSE

DESIGN & ACCESS STATEMENT

Address:

Lake House, Beckspool Road,
Frenchay, Bristol BS16 1NU

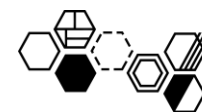
Client:

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24.01.24

Prepared by:



ARCH HIVE
ARCHITECTURAL DESIGN

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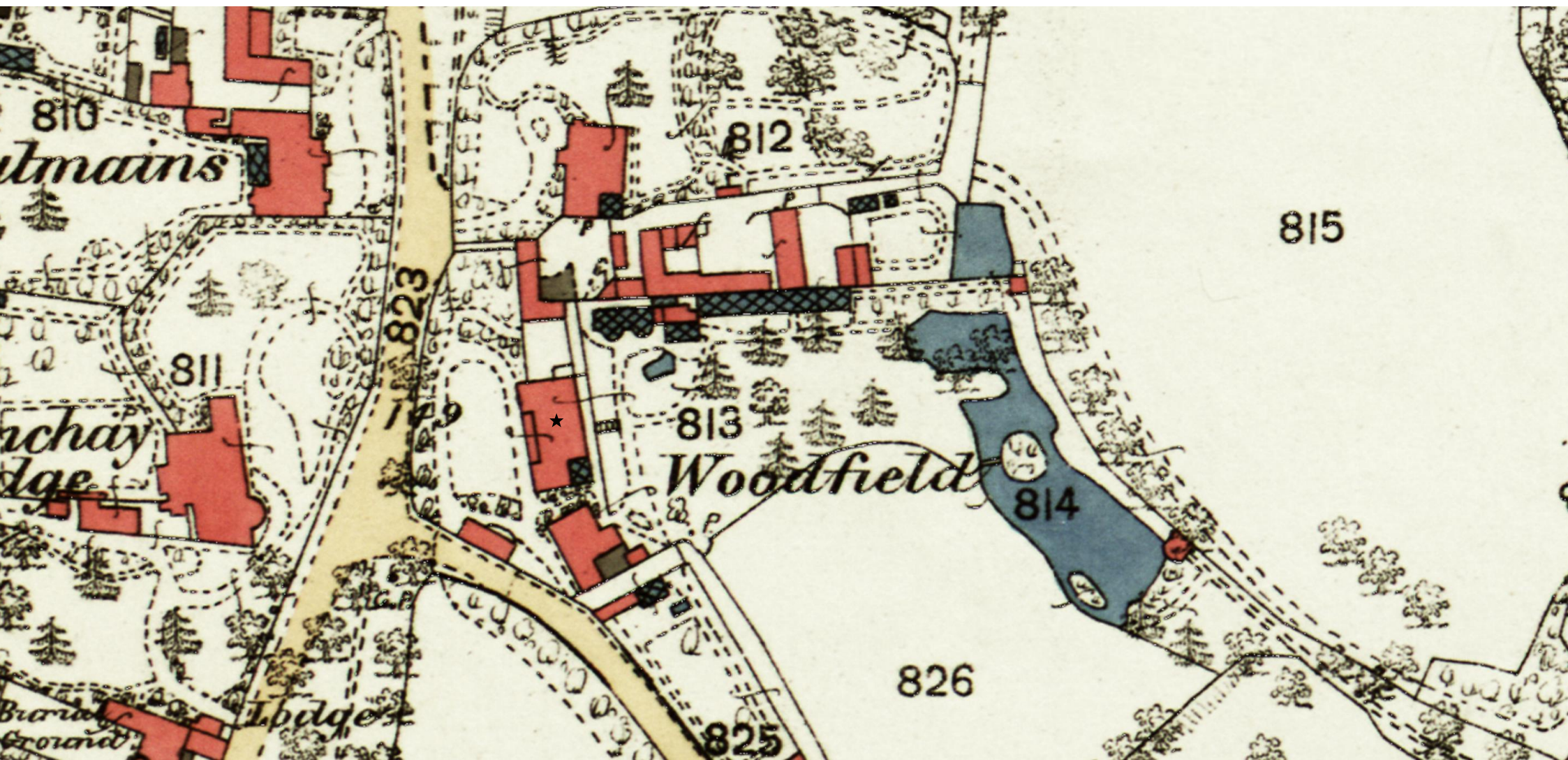


Figure 1 Ordnance Survey Map of 1844-1888 showing Lake House and grounds

INTRODUCTION

This design and access statement is prepared in support of a Listed Building Consent Application to install 3No. air source heat pump units to the internal courtyard of Lake House, Beckspool Road, Frenchay.

SITE & CONTEXT

The site is the property and curtilage of Lake House, a Grade II listed early 19th Century manor house located within the Frenchay Conservation Area. The main property has been divided into two dwellings (Lake House & Fromeshaw House) with the adjoining coach house now forming a third separate dwelling.



Figure 2 Front elevation and driveway of Lake House with adjoining Fromeshaw

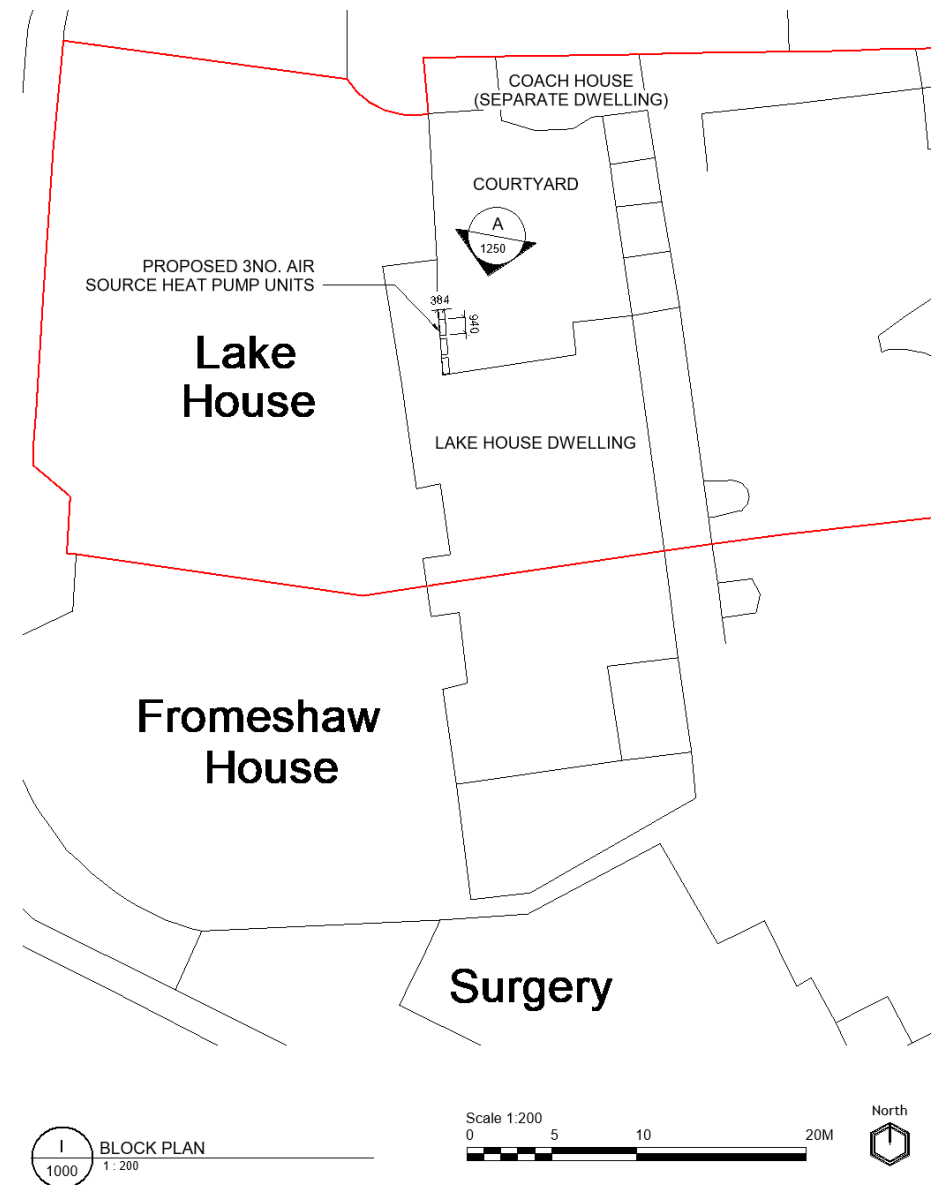
House to the right, originally forming part of the Lake House estate.

PROPOSALS

The proposals relate to the installation of 3No. Air Source Heat Pump units to the internal courtyard of the property. The units will be situated in the south western corner of the courtyard along the inside of the retaining wall separating the courtyard from the front driveway. Units will be floor mounted and arranged in a line running north from the south west corner. Each unit has a total footprint of 0.357m² with around 200mm spacing between units the expected total footprint of the installation is 1.17m² the units are proposed in an effort to reduce reliance of fossil fuel demand and de-carbonise heating and cooling systems across the estate in line with planning policy.



Figures 3&4 Proposed location of ASHP units





PROPOSED PERSPECTIVE A

Manufacturer: Samsung EHS
 Model: Monobloc Heat Pump AE160RXYDEG/EU
 Output: 16kW (per unit)

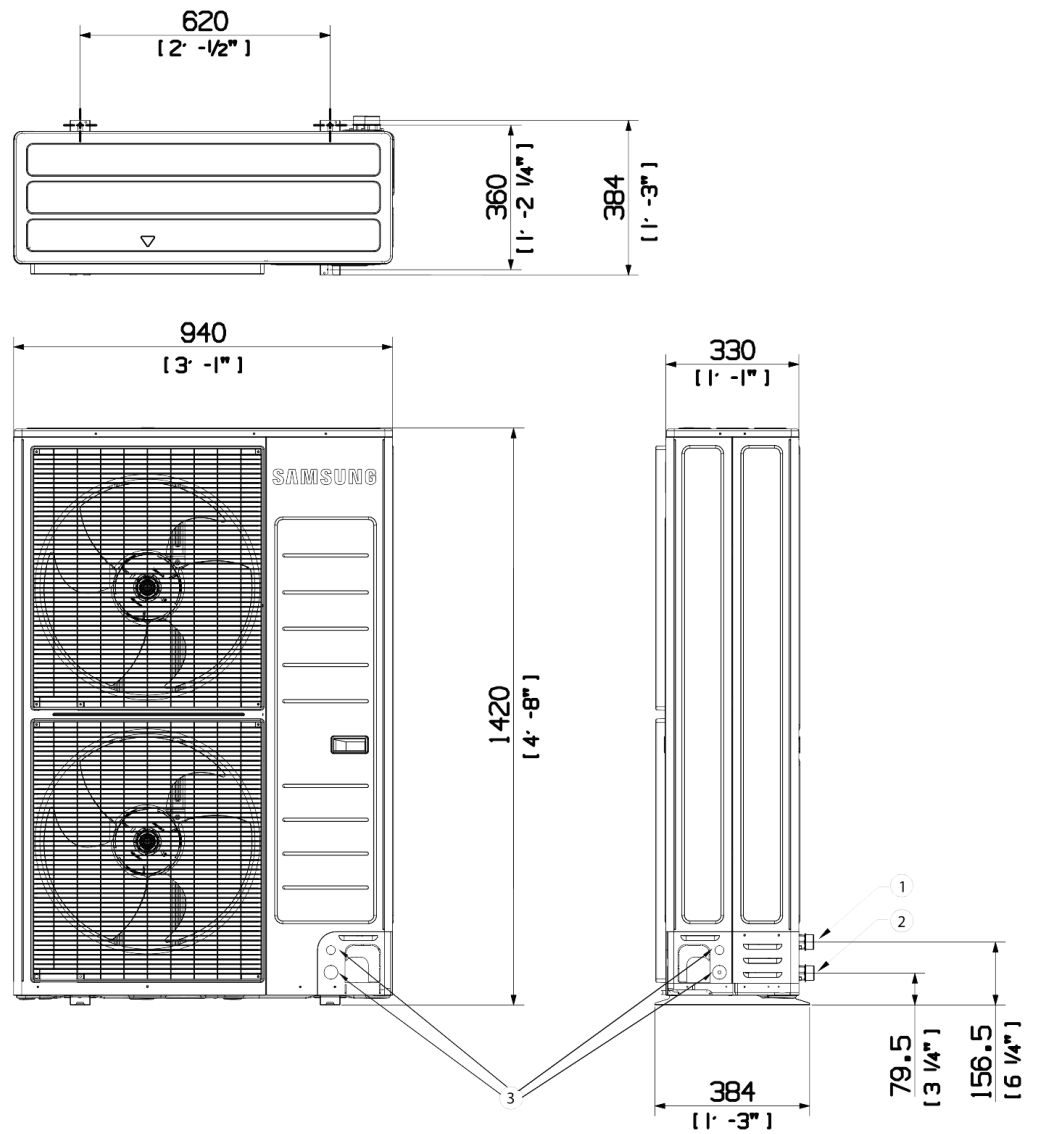


Figure 4 – ASHP dimensions and external appearance further details in appendix A. Units in mm – not to scale

1A) Character Areas

Hambrook Conservation Area

STATEMENT OF SIGNIFICANCE

The site is located within the Frenchay Conservation Area which is characterised by green open spaces and large Georgian villas situated around Frenchay Common and adjoining Frenchay Moors.

Despite the encroachment of residential development over the years the area maintains a feeling of openness due to the preservation of green spaces and planting bounded by the river Frome to the south. The Frenchay Conservation Area Appraisal documents describes its distinctive features as "a combination of elements - the form and detailing of buildings and their boundaries; the treatment of roads and the spaces between buildings; the open spaces, trees and woodlands"

Bristol City Council
Stapleton & Frome Valley
Conservation Area

Figure 5 St. Frenchay Conservation Area & Character Areas (inset)

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The property was Grade II Listed in 1984 and covers both Lake House and Fromeshaw house along with adjoining courtyard wall, garden terrace and grotto. Listing details as follows:

Listing NGR: ST6420077956

ST 67 NW WINTERBOURNE BECKSPOOL ROAD (east side), Frenchay 3/2 Fromeshaw and Lake House and G.V. adjoining courtyard walk, garden terrace and grotto II

House, now 2 houses. Early C19. Rendered, rubble, slate and concrete tile roofs, raised coped verges. Main block, 3 storeys, 3 windows, 2 windows each in projecting single storey wings; central C20 glazed bay porch with modern doors flanked by tripartite glazing bar windows divided by pilasters; first floor windows are 16 and 9-pane glazing bar sashes under cornices; at second floor there are only 2 glazing bar sashes under cornices on corbels; tall wings have large pediments which rise well above parapet, each has a pair of glazing bar sashes divided by pilasters under a frieze all in a large segmental arched recess. Rear elevation: main block has 2½ storeys, 2 windows under full gables, windows are 3-light multi-pane mullioned casements under exaggerated labels; ground floor has similar larger french doors; wings are 2 storeys, similar windows. To left is a large courtyard wall with arched opening with keystone, beyond a similar double wall has smaller openings to cellar-like rooms and through to the garden; above is a terrace at the garden end of which is a small doorway of unworked stone, within is a garden room with a curved wall set with shells and fossils; a C20 pitched roof replaces the former dome.

SUSTAINABILITY

Given the size of the buildings the existing heating system requires a significant energy output in order to maintain the property which is currently entirely based on fossil fuel supply. The proposals will enable the building to reduce this fossil fuel reliance and reduce energy demand across the estate in line with both local and national sustainability targets and planning policy. A total output of 48kW will be produced by the installation which is estimated to fulfil both heating and hot water demand for the main Lake House dwelling.

ACCESS

No material change to access is proposed.

CONCLUSION

As with all historic buildings it is crucial to balance conservation of historic character and fabric with the impact buildings have on the health of the planet through their energy demand. The proposals do not include the removal or demolition of any historic fabric and are entirely reversible. Given the location of the units in the corner of an internal courtyard it is felt that the benefits in relation to sustainability outweigh any potential harm to the listed building and its setting. Furthermore, as the units are not visible from any public land or highway the proposals are expected to have a negligible impact on the Frenchay Conservation area.

APPENDICES

APPENDIX A

Air Source Heat Pump Specifications

Datasheet

Samsung EHS Monobloc Heat Pump AE**0RXYD*G/EU



Samsung 8kW Monobloc

	5kW	8kW	12kW	16kW	16kW 3 Phase
Product Code	AE050RXYDEG/EU	AE080RXYDEG/EU	AE120RXYDEG/EU	AE160RXYDEG/EU	AE160RXYDGG/EU
Heating and Cooling					
Min. heating	15°C	15°C	15°C	15°C	15°C
Max. heating	65°C	65°C	65°C	65°C	65°C
Min. cooling	-	-	-	-	-
Max. cooling	-	-	-	-	-
MCS listed SCOPS					
@ 35°C	4.46	4.27	4.55	4.35	4.35
@ 40°C	3.56	3.98	4.25	4.12	4.12
@ 45°C	3.65	3.69	3.95	3.88	3.88
@ 50°C	3.35	3.4	3.68	3.65	3.65
@ 55°C	3.05	3.11	3.4	3.42	3.42
MCS Certification #					
w/ MIM-E03CN	011-1W0448(2)	011-1W0450(3)	011-1W0447(3)	011-1W0446(4)	011-1W0447(6)
w/ 200L climate hub	011-1W0448(1)	011-1W0449(1)	011-1W0446(1)	011-1W0446(3)	-
w/ 260L climate hub	-	011-1W0450(2)	011-1W0447(1)	011-1W0447(4)	011-1W0447(5)
Dimensions					
Height	798	998	1420	1420	1420
Width	880	940	940	940	940
Depth	310	330	330	330	330
Additional Data					
Weight	58.5	76	110	110	110
Min. flow rate	7	7	12	12	12
Max. flow rate	48	48	58	58	48
Sound Power Level	61	63	64	66	66(H)/68(C)
Refrigerant	R32	R32	R32	R32	R32
Refrigerant charge	1	1.15	2.2	2.2	2.2

All information correct as of 02/11/22