Design and Access Statement

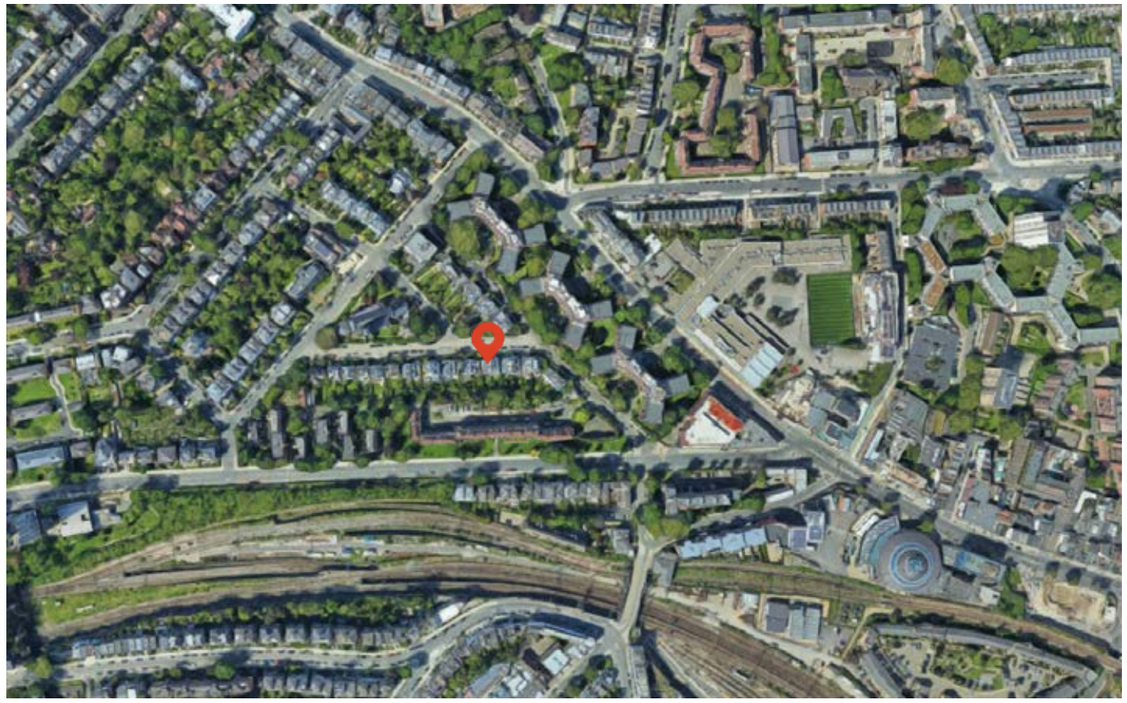
Contents

1.0 Introduction

This Design and Access Statement has been prepared to support a planning application for the proposed refurbishment and extension of 6 Provost Road, NW3 4ST.

The property is a Grade II listed, semi detached Villa within the Eton Conservation Area. The property appears to have been neglected for a considerable amount of time, and includes a number of unsympathetic refurbishments previously. The new owners propose to restore elements of the existing building to their original design, while also enhancing the energy efficiency and sustainability of the building so that it can be enjoyed long into the future.

The purpose of this report is to provide a detailed explanation of the design process and describe why the proposal is appropriate for the users, existing site and urban context.



Aerial View of the Location

2.0 Reference Documents

This statement should be read in conjunction with the attached reference documents as follows:

XUL Architecture:

LP-00: Location and Block Plan

EX-00: Existing Site Plan
EX-01: Existing Lower Ground Floor
EX-02: Existing Upper Ground Floor
EX-03: Existing First Floor
EX-04: Existing Second Floor
EX-05: Existing Roof Plan
EX-06: Existing Front Elevation
EX-06: Existing Rear Elevation
EX-07: Existing Side Elevation
EX-09: Existing Section AA
EX-10: Existing Section BB

PA-00: Proposed Site Plan
PA-01: Proposed Lower Ground Floor
PA-02: Proposed Upper Ground Floor (rear)
PA-03: Proposed Upper Ground Floor (front)
PA-04: Proposed First Floor
PA-05: Proposed Second Floor
PA-06: Proposed Roof Plan
PA-07: Proposed Front Elevation
PA-08: Proposed Rear Elevation
PA-09: Proposed Side Elevation
PA-10: Proposed Section A-A
PA-11: Proposed Section B-B
PA-12: Proposed Street Elevation
DD-01: Staircase Detail

Schedule of Works

Buckley Design Associates:

Landscaping Existing - Rear Garden
Landscaping Existing - Front Garden
Lanscaping Proposed - Rear Garden
Landscaping Proposed - Front Garden

The Heritage Practice:

Heritage Statement

3.0 Site Location & Context

The Eton Conservation Area sits centrally within the London Borough of Camden and is comprised of land that once belonged to Eton College. As described in the Eton Conservation Area Statement, the land surrounding Provost Road was recognised as being ripe for development in 1796. However, it was not until John Nash's Regents Park was under construction that the necessary surveys were carried out on the land. In 1826, an Act of Parliament was passed, authorising Eton College to grant leases for building. In 1844 Eton College further promoted the land to the west of Eton College Road – what would become the Provost Triangle – and development began. St. Saviour's church, 1850, formed the centrepiece of the development in an attempt to attract the upper middle classes to the area. The villas along Provost Road were considered modest in scale, accommodating fewer servants than other larger properties nearby, and were built to appeal to '*the younger and less affluent reaches of the professional classes and higher reaches of clerical and shopworkers'.*

The application site is located in the largest sub-area in the Eton Conservation Area (sub-area 1). The area has since been extended numerous times, with the final designation being made in 2002. Provost Road was one of the first roads within this Conservation Area to be designated in 1973, and no. 6 Provost Road was Grade II Listed in 1974.

The Listig Entry for no. 1-14 Provost Road reads as:
'7 pairs of semi-detached villas. c1844. By John Shaw. Painted stucco. Slated gabled roofs with dormers, central long slab chimney-stacks and overhanging eaves, bracketed on angle return and having plain bargeboards to gables. 2 storeys, attics and semi-basements. 1 window each plus 1 window recessed entrance bays. Architraved entrances to recessed doorways with pilaster jambs and part-glazed doors approached by steps. Architraved sashes, ground floor windows with pilasters and cornice. Nos 3 & 4 have 3-light canted bays rising from semi-basement through 2nd floor with pilasters. All have architraved 3-light attic windows, central window blind, in apex of gable. INTERIORS: not inspected.'

Map showing location of6 Provost Road in relation to Conservation Area boundary.

(Map taken from Eton Conservation Area Statement).

Building Location

4.0 Existing Building

6 Provost Road is part of seven pairs of semi-detached villas designed as a speculative build, in the rustic Italian style with restrained Grecian detailing, by architect John Shaw and built circa 1844. As early Victorian designs, the villas bear the hallmarks of Georgian architecture – simplicity and elegance in elevation with gable-fronted rendered stucco facades and well-proportioned sash windows. Numbers 1-14 Provost Road share a similar elevational style, each with architraved entrances to recessed doorways with pilaster jambs and partially-glazed doors approached by steps, and the windows are surrounded by a raised stucco architrave, cill, and cornice. All of the villas have raised ground and first floor levels which act as principal floors containing the more significant rooms. The lower ground floor basement area and a second floor attic space provide subsidiary accommodation.

The existing house is in urgent need of modernisation. Certain areas of the house have fallen into disrepair and unfortunately, a recent water leak has compounded the issue, such that an overhaul is unavoidable. Damp and black mould is also evident in the property.

The existing plumbing isn't functioning correctly, due to its age and condition. The electrics do not comply with current safety standards and large gaps and worn out door and window seals mean the house is draughty and inefficient. The house is not fit for habitation in its current condition and therefore the proposed works become critical in preventing further deterioration.

This Design and Access Statement should be read in conjunction with the Heritage Statement and Photographic Report prepared by Charles Rose at the heritage Practice.

Front Elevation

Rear Elevation of no. 6

Recent photos taken inside 6 Provost Road showing the damp and mould to the lower ground floor and also the water damage from a recent burst pipe

5.0 Planning

5.1 Planning History of no.6 Provost Road

There is no recent planning history at no. 6 Provost Road

5.2 Relevant Planning and Listed Building History within the street

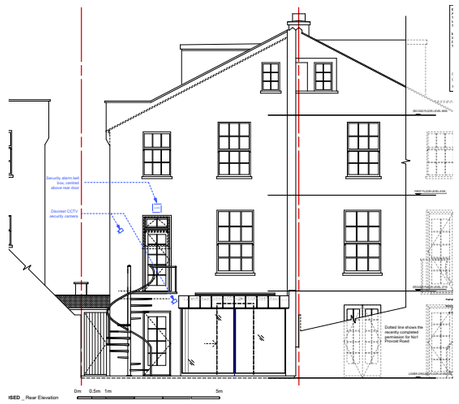
No. 1-14 Provost Road are 7 pairs of semi detached villas, which have been listed in part for their communal harmony and are read together. Therefore any approvals to the adjacent buildings give stronge precedent for the proposed works at no. 6 Provost Road.

2 Provost Road

2008/4671/P – Granted

The approved scheme at 2 Provost Road incorporates a single storey rear extension, which is similar in size to the proposed scheme.

It is also worth noting that the approved scheme at 2 Provost Road includes the addition of an external spiral staircase. These works establish an acceptance to interior remodelling and external works, notably increased fenestration at lower and upper ground floors to the rear, and the addition of external CCTV cameras.



Application 2008/4671/P for 2 Provost Road

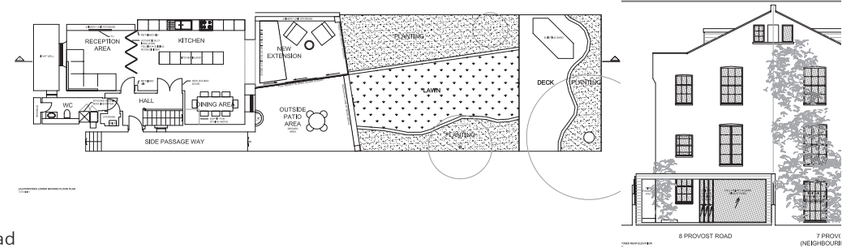
Proposed rear elevation

8 Provost Road

2010/1379/P - Granted

The approved scheme for 8 Provost Road features a structure which runs the full width of the boundary and provides a framed view of the garden from the house.

The lower ground floor internal remodelling sees the introduction of a large opening through to the new extension. The floor plan is significantly altered; however, the retention of key nibs helps the historic plan to be understood.



Application 2010/1379/P for 8 Provost Road

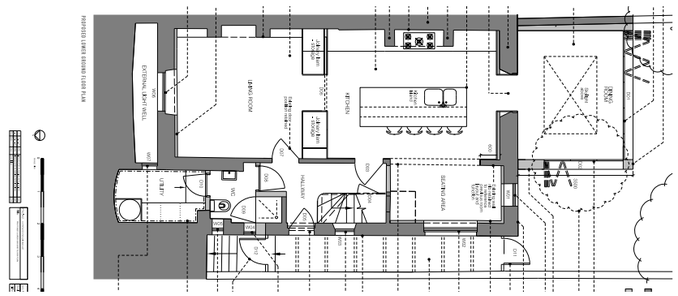
Proposed LGF plan and rear elevation

10 Provost Road

2016/6486/P - Granted

The approved scheme for no. 10 Provost Road features a number of alternations throughout the building, with the majority of the alterations to the lower ground floor.

These include a small rear extension, internal wall insulation to the lower ground floor where suitable and new double glazed windows to Lower Ground Floor where existing windows were non original and in poor condition. To the upper floors there is levelling of the existing floors and then significant alterations at first floor to create built in storage.



Application 2016/6486/P for 10 Provost Road

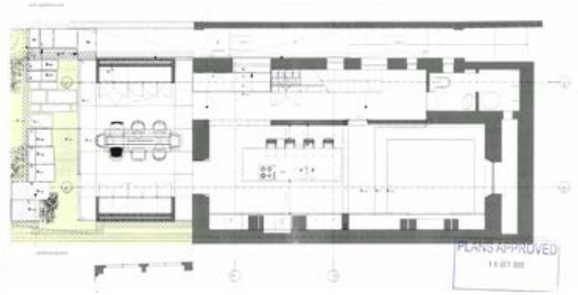
Proposed LGF plan and rear elevation

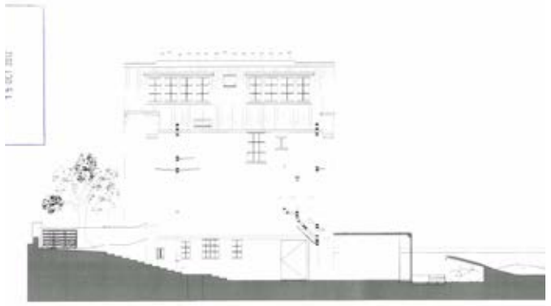
5.2 Relevant Planning and Listed Building History within the street- Continued

12 Provost Road

2012/3931/P - Granted

The granted works at 12 Provost Road involved works to the dormers, a modern single storey extension and excavation of the lower ground floor, along with other internal remodelling. There were also numerous applications relating the the enlargement of the two dormers.





Approved application 2012/3931/P for 12 Provost Road

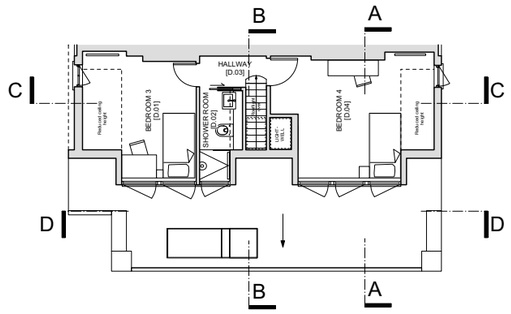
Proposed LGF Plan and side elevation

14 Provost Road

2020/3405/P

The approvaed scheme for no. 14 Provost Road features a number of alternations throughout the building, as well as a large full with rear extension in a contemporary style.

The alterations include opening up the Lower Ground floor plan, lowering the lower ground floor level and altering the steps to accomodate this. The first floor plan was altered to provide a large walk in wardrobe and on the Second floor the existing dormers were replaced with two larger dormers allowing the second floor to incorporate two bedrooms and a shared shower room.



Approved application 2020/3405/P for 14 Provost Road

Proposed second floor plan and rear elevation.

6.0 Design (Use, Amount, Scale, Appearance and Materiality)

6.1 Use

The dwelling is currently vacant, but was previously in use as a single family dwelling, and will return to this use after the proposed alterations.

6.2 Proposed works

We will go through the proposed works, floor by floor, beginning with the Lower Ground Floor and proposed rear extension. This D&A statement will give further explanations, and design thinking behind the works listed in the Schedule of Works and noted on the proposed drawings.

1. Lower Ground Floor

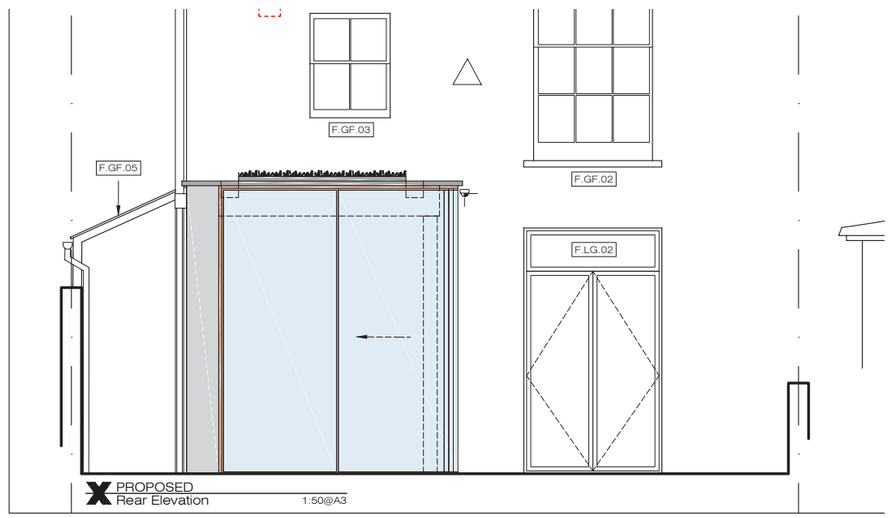
Current Condition

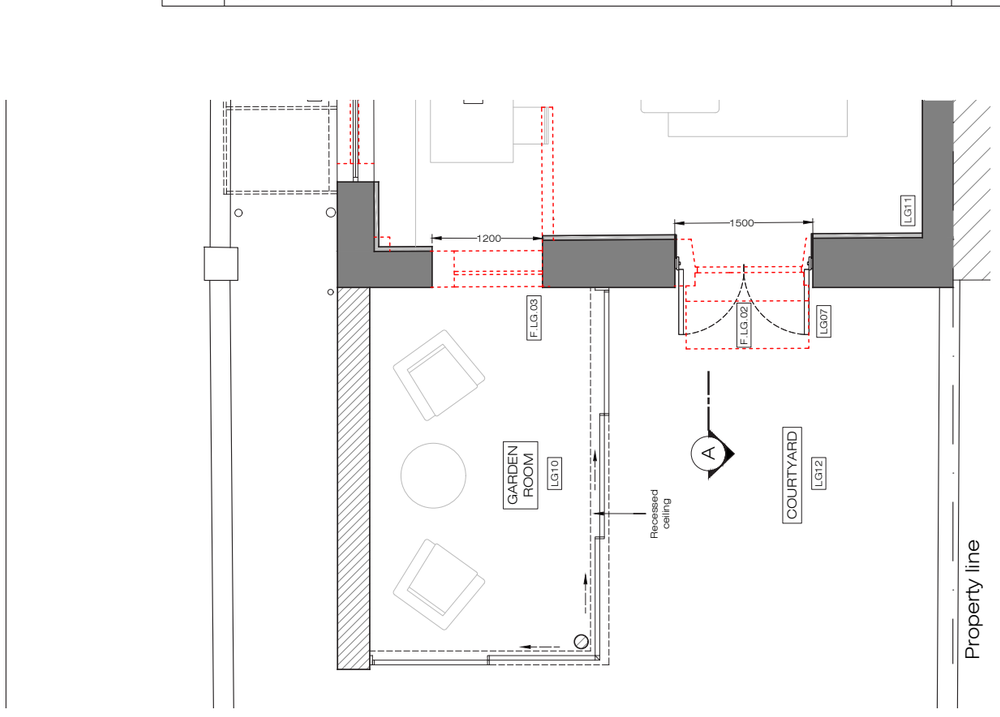
The lower ground floor level accommodation sits half submerged below street level at the front of the property and is fully exposed to the rear garden. Internal access is via a compact timber staircase. The front room is served by a lightwell, an original feature of the house. To the rear are the kitchen and dining room. Both are dark and poorly served by natural light compared to the upper floors of the house. There are also limited links between the dining room/kitchen and garden; a single door provides access. As can be seen in the photographic report there are no remaining historic features of note in any rooms of the lower ground floor.

Proposed Works:

The lower ground is access from the upper ground floor through a simple timber staircase that curves at the bottom. We propose to straighten the last few steps to create a straight run of stairs to the LGF. We also intend to lower the level of the ground floor, as has been done numerous times along the street, to increase the floor to ceiling height in the LGF to 2.8m. The final new step is proposed to align with the previous partition wall and help deliniate the historic plan. We also proposed to keep a small downstand to also help enclose the vestibule at LGF level. This down-stand will also conceal a fire curtain which will be required to comply with Building Control and firesafety.
We proposed to reduce the partition wall between the kitchen and Utility by 2000mm, bringing the wall back to the structural wall which extends up under the external steps.
We also propose to remove the non-original stud partitions to lower Ground Floor. Similar to what has been ap-proved at no. 2, 8, 10 and 14 Provost Road.

We have designed a delicate rear extension to no. 6 Provost Road, which will create a tranquile space from which to enjoy the garden, this single story extension will have metal sliding foors, a thin metal profit, and also a sedum green roof so that it has a minimal visual impact on neighbouring buildings. To access this garden room we have widened an existing window opening in the rear elevation, similar widening of openings to the rear elevation have been ap-proved along Provost Road.
The existing rear glazed door is not original, so we have proposed to also widden this opening, and change the single door, for a pair of timber french doors.
New internal wall insulation has been proposed for the external walls to the LGF, as there are no original features to the LGF, we could insulate the lower groung floor with no impact to th historic fabric. This has also been done at no. 10 Provost Road where they were granted approval to use IWI to the lower ground floor.





Raised Ground Floor

Current Condition

The upper ground floor is the piano nobile of the house, with generous ceiling heights and large sash windows serving both the front and rear room. The original plan remains along with some historic features, such as shutters, skirting boards, and cornices, which are modest, with minimal embellishment.

Although not all features are original, such as the front room cornice and ceiling which are clearly modern replacements. Sections of the skirting boards have either been replaced or removed to accommodate built in joinery.

Chimney breasts also remain in both front and rear rooms. There is an existing opening between the front the rear rooms, which offers dual aspect.

Proposed Works:

The works to Upper Ground Floor are quite limited.

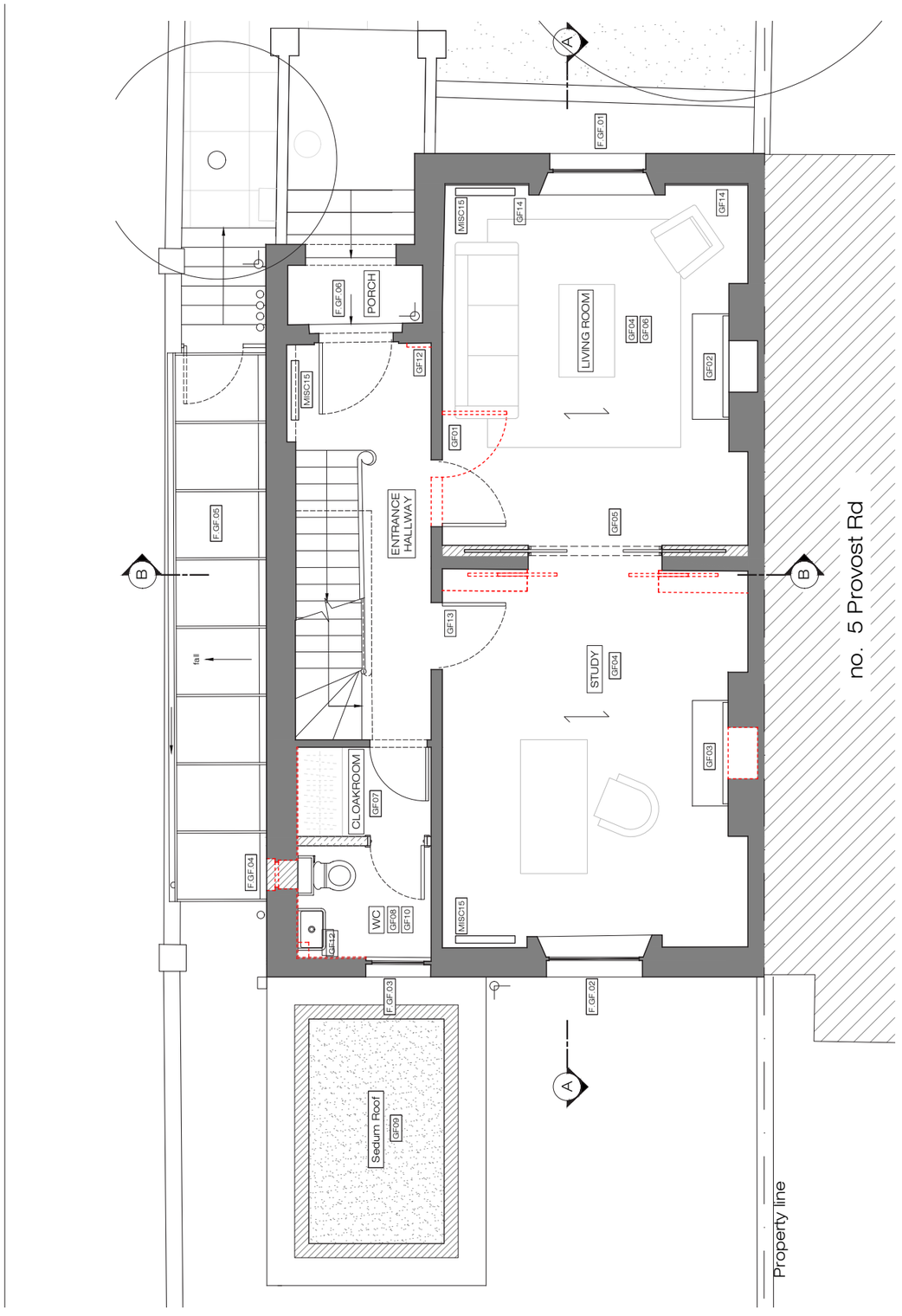
The existing Guest WC is very large currently, so we have proposed adding a partition wall to create a smaller WC, and a cloakroom to the front. This area also has a false ceiling which we have proposed removing. This rear side room varies from house to house, along Provost rd with approval for various different layouts. When the existing bathroom wall finishes are removed, we propose to add the thin thermolite IWI to the external walls of the WC and cloak room. As below, the bathroom does not contain any historic fabric and so the IWI will only be a positive contribution.

We have also proposed to add IWI to the internal face of the front elevation. The front reception room cornice is not original, and as we propose to remove the cornice and replace with with a cornice to match the origial cornice it the study, we would use this opportunity to insulate this external wall.

Between the Reception room and Study there is an opening, with a pair of pocket doors designed into some joinery within the Study. The opening appears to be original, but the joinery and pocket doors are a later addition, the joinery does not go full height as the original cornice remains in the study. We looked at ways to improve the pocket doors, as there is currently a gap at the top which does not prevent noise transfer when shut. Our proposal moved the pocket doors to the Reception side, as the cornice and ceiling are not original here, and proposed to be replaced. Our proposal is to box out the existing wall fully, to conceal the new pocket doors, and then run the new cornice around the room.

The floor covering in the reception room and study is a chipboard, rather than original floor boards. As this floor is not original we propose to install new oak engineered timber flooring throughtout, to insulate between the floor joists and to lay UFH within the floor joists so that the floor levels are not impacted.

Finally on this floor, the existing window shutters appear to be painted shutt so we have prosed to restore them to working order if possible.



First Floor

Current Condition:

The key feature of the first floor is its unusual floorplan. Driven by a need to provide access to the rooms within the 2nd floor roof space, the staircase to the 2nd floor runs perpendicular to the other two staircases, so that the pitch of the staircase runs under that of the roof. The narrow staircase is placed centrally and is flanked by two-bedroom doors positioned diagonally in plan. This floor contains the master bedroom with an en suite, a second bedroom and a bathroom, all in need of modernisation.

No historic features of note remain in either of the bathrooms. The cornice and skirting to the front bedroom appear to be original, but the cornice to the rear bedroom is not original and we propose to replace this to match the front room.

Cracked plaster to rear wall

Proposed Works:

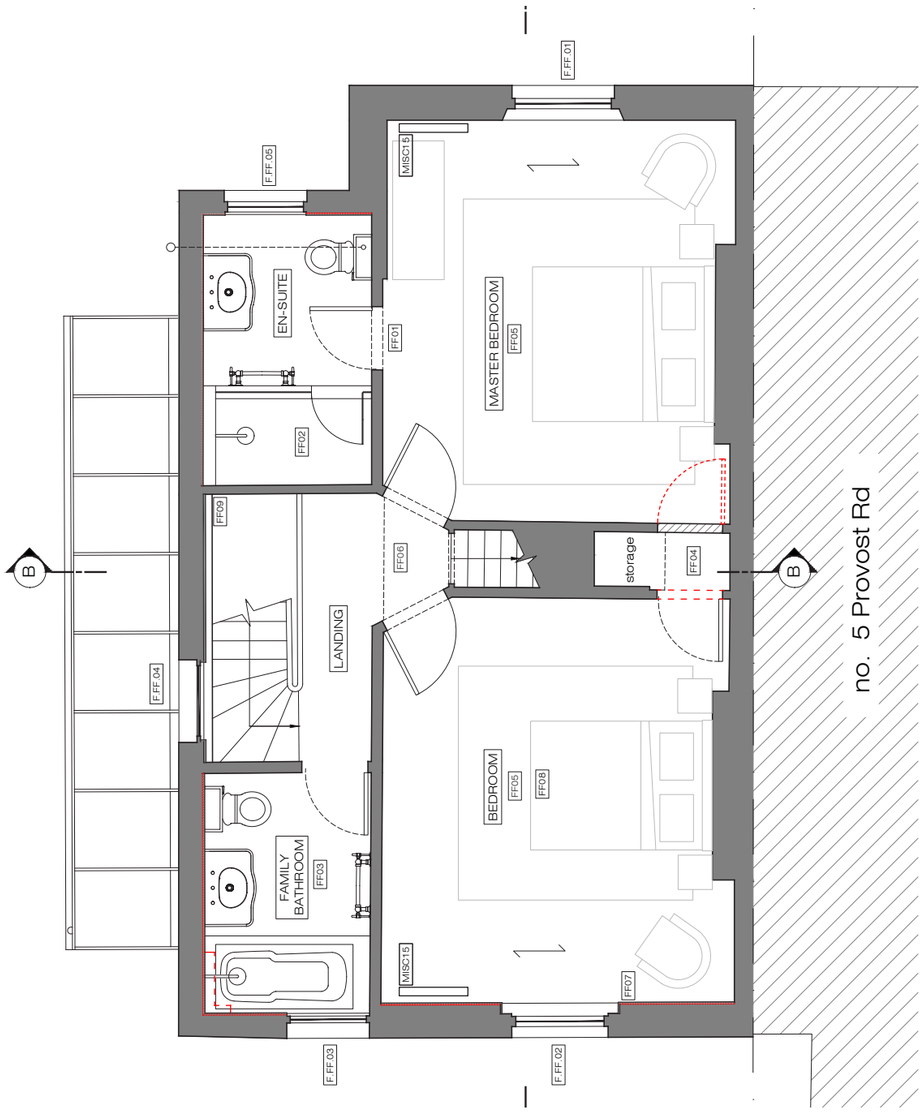
The proposed works to the first floor are very minor.

Both the family bathroom and master ensuite require a full refurbishment, and removal of all wall and floor finishes and existing fittings. External plumbing and boxings for pipework will also be removed where possible to enhance the building. As on the UGF we propose to insulate the external walls of the bathroom when the existing wall finishes are removed as there is no historic fabric to be protected.

The external wall of the rear bedroom is damp, cracked and the plaster needs to be removed and redone as can be seen in the image across.

We also proposed to insulate the rear wall of this bedroom as the plaster is damaged and needs to be replaced, and the cornice in this room is not original and we have proposed to replace this with appropriate cornicing to match the front bedroom. The architrave has also been removed from the rear window and so we can insulate the window reveal as well without any impact on original features.

As on the upper ground floor, the original floor boards to the bedrooms are not in situ. Therefore we propose to remove the chipboard covering, insulate between the existing floor joists, lay under floor heating (UFH) pipes between the joists and then lay an oak engineered timber floor over.



Second Floor

Current Condition

The habitability of the 2nd floor has been greatly improved by the two dormers, which serve one large open plan space, with a kitchenette against the rear elevation. There are no original features of note beyond the legibility of the floor plan. The front and rear windows do not appear to be original, and the current roof is clad in composite tiles. There have been leaks to the floors below and the roof generally looks in poor condition with the parapets and leadwork requiring renewing.

Proposed Works:

The proposed scheme includes the enlargement and modernisation of the two dormers, and the division of the floor into two bedrooms with a shared shower room. The proposed dormers are the same size as those recently approved at no.14 Provost Road.

The windows in the dormer are modern, matching many other properties on the street. Please note that the dormers are not original and therefore would never have featured sash windows or glazing bars. The current windows are PVC double glazing, and so we proposed to install new timber double glazed windows which will be an improvement on the current windows.

The existing roof tiles are not orginal as previously noted above. We propose to use new slate tiles to re-tile the roof when the dormers are constructed. A new breather membrane will be used along with new battens. Where necessary new rafters will be inserted alongside the original, and we will Insulation the roof to improve the energy efficiency of the building. We also proposed to insulate the inside elevation of the front and rear walls with to further improve the buildings thermal performance.

External Works:

There are a number of external works proposed at no.6 Provost Road, to restore the building to its former state. These include removing the existing cement render which has blown in places, and rendering the building in a lime render with the original block markings. As noted in the Schudule of works, a number of the windows are not original, and therefore we have proposed to replace the windows with something that we believe to be closer to what the house would originally have had.

Along the front brick wall we propose to reinstate the metal railings and new pedestrian gate, to match the rainings and gate at no. 8 Provost Road. We have also noted an electric keypad on the gate for added security.

Along the side passage we have designed a glass canopy which are promenent along Provost Road, in a variety of styles.

Designs for the front and rear landscaping have also been submitted as part of our submission which indicate the proposed designs, again proposing to remove the concrete to the front garden and proposing a york stone paving which is more in keeping with the street.

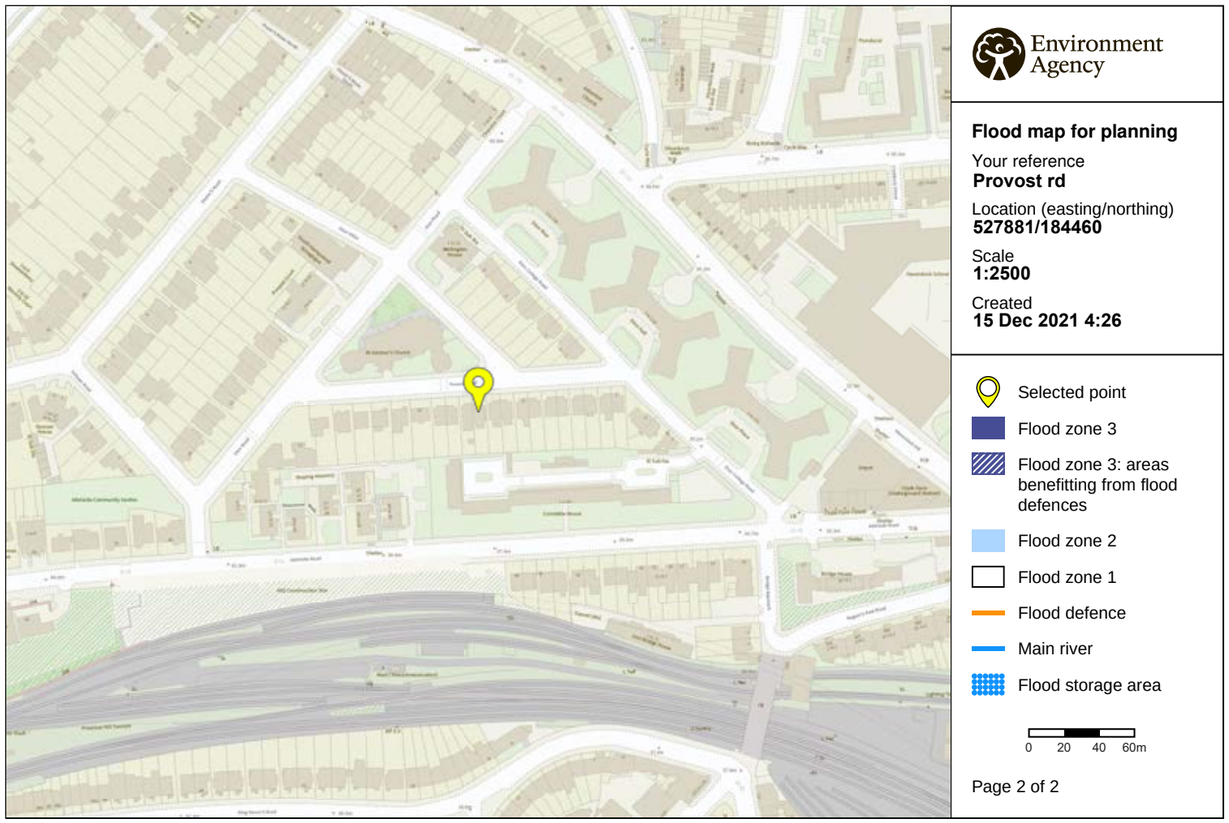
7.0 Access and Other Issues

7.1 Access

This application will not affect the existing access arrangements through the front door at Raised Ground Floor level, or the steps down the side passageway to the side access.

7.2 Flood Risk

The application site is located within Flood Risk Zone 1, so a Flood Risk Assessment is not required.

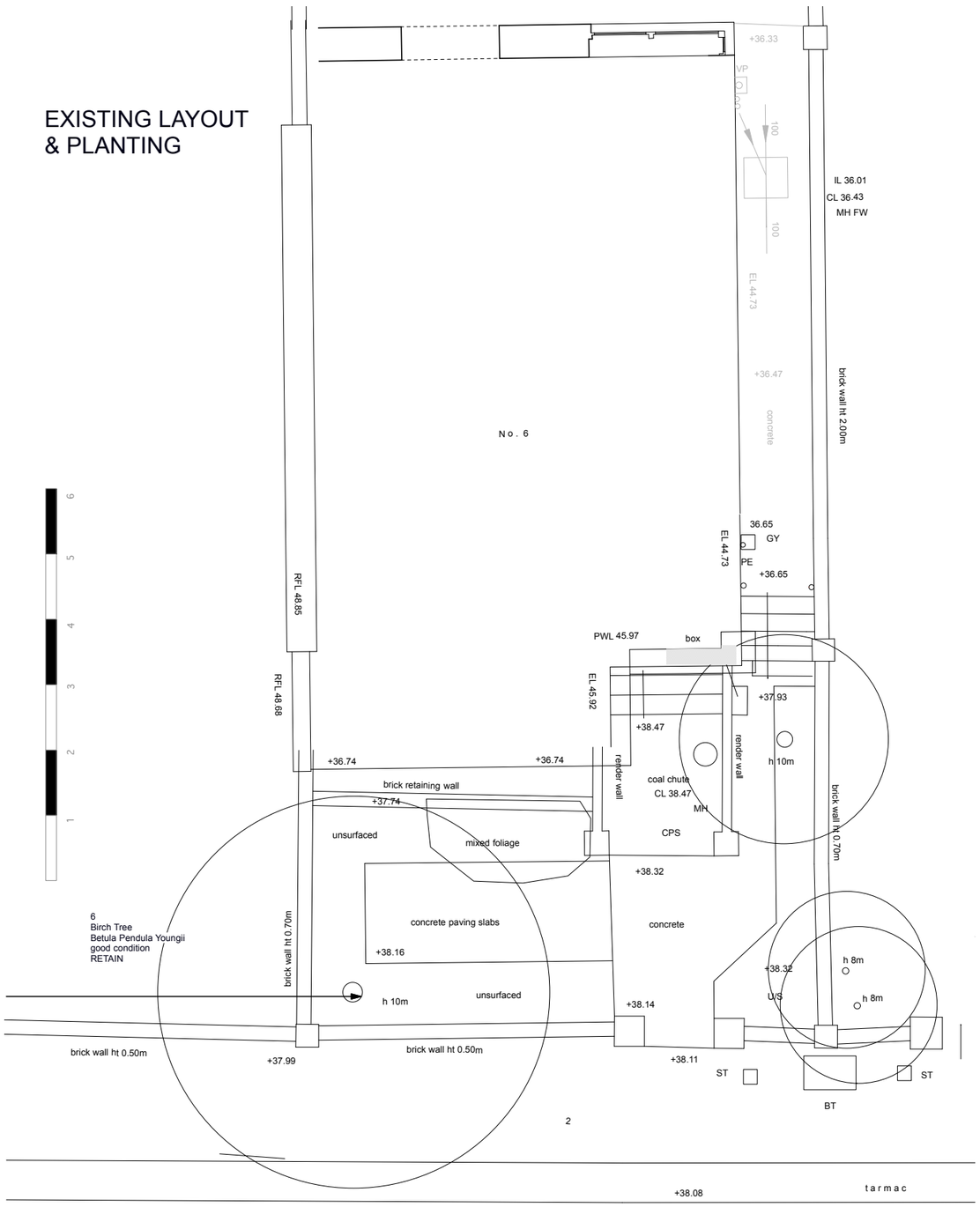


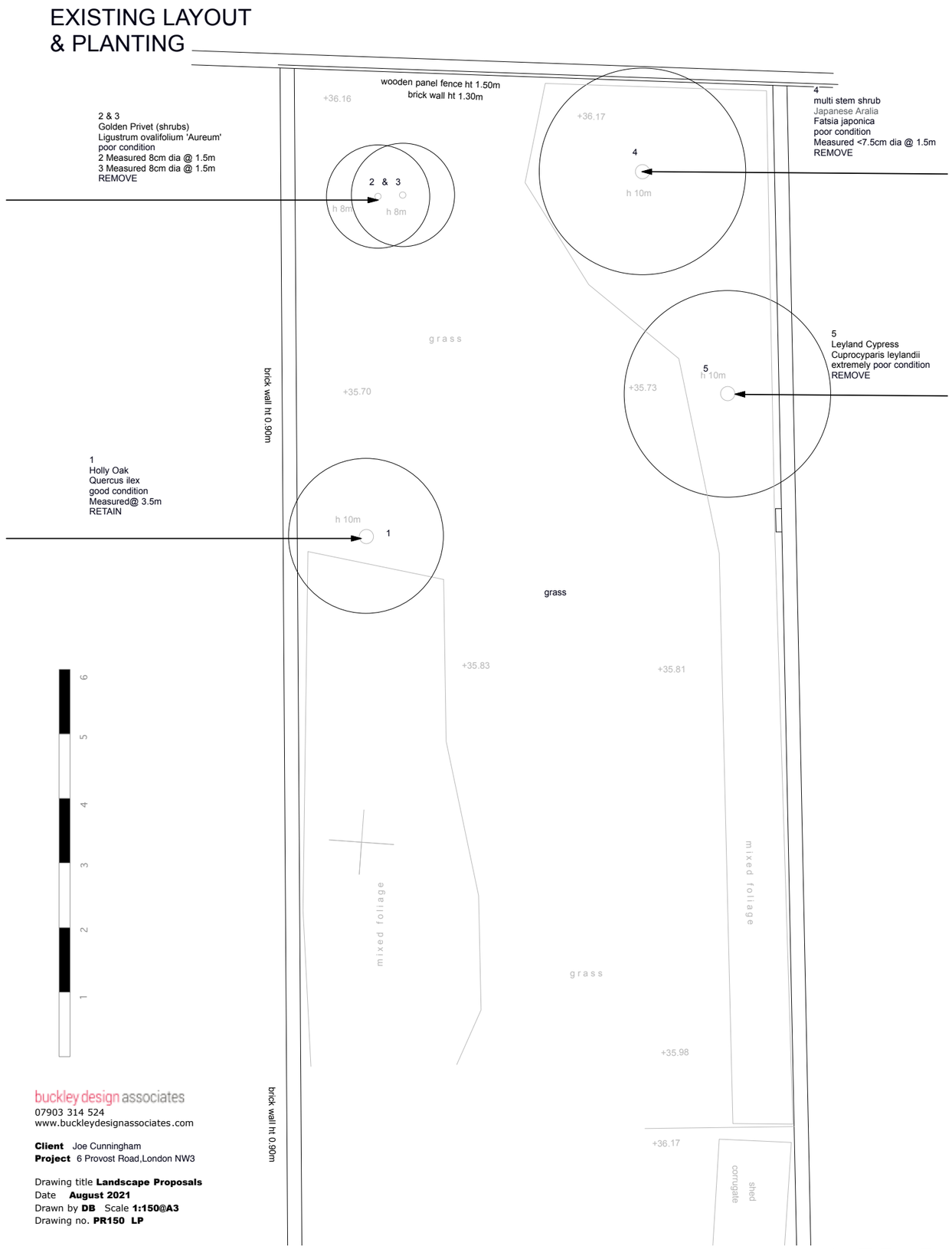
Flood risk map from the Environment Agency

7.3 Trees

The proposed scheme includes the removal of some trees, as shown on the Proposed and Existing Landscape Design included by Buckley Design Associates. Most of these trees are saplings and none are mature.

The proposed garden design shows how they will be replaced with generous planting which will make a positive contribution to this garden and the setting for neighbouring gardens.





buckley design associates
07903 314 524
www.buckleydesignassociates.com

Client Joe Cunningham
Project 6 Provost Road,London NW3

Drawing title **Landscape Proposals**
Date **August 2021**
Drawn by **DB** Scale **1:150@A3**
Drawing no. **PR150 LP**

8.0 Conclusion

Most of the works will not be visible from public highways within the Conservation Area, which, due to the high gate and change in level, will mostly be hidden. The restoration works, removing the composite roof tiles, re-rendering the exterior of the building and imprinting the brick pattern to match the ajacent building, and replacing the non original windows will be visible from the public demain but all of these changes are positive contributions to the building and the Conservation Area.

The proposed Internal Wall Insulation will improve the energy efficiency of an inefficient building, enhancing the owners quality of life and helping preserve a heritage asset for future generations.

The rear extension is contemporary and clean in appearance and has been designed to compliment the host building. The proposed single-storey rear extension will have a minimal impact on the neighbouring gardens. The proposed extension is sufficiently far away from both no.5 and no. 7 Provost Road that the impact is negligible. The proposed scheme does not present any overlooking issues beyond those which are already generated by the existing dwelling – which are reasonable given the local density and urban grain.

In conclusion, we believe that the proposed alterations and restoration works will have a postive impact on the host building, and Conservation Area and therefore shold be supported.

9.0 About the Architects

XUL Architecture is an RIBA Chartered Award Winning Architecture practice based in Belsize Park in North London. We specialise in bespoke residential projects and have gained a reputation for sensitive and thoughtful interventions, and aspire to bring light into every home.

We have been awarded the Barnet Architecture Award, and the Stuart Grey Award for the best project in the Hampstead Garden Suburb for work to a listed house and pride ourselves in our collaborative approach to design.

10.0 Appendix 1 - Supporting Planning Policy

10.0 PLANNING POLICY: CONSIDERATION AND EVALUATION

10.1 PLANNING POLICY

The national, regional and local planning documents that are applicable to the Southwark Council and the application site are:

- National Planning Policy Framework 2019;
- The London Plan March 2019;
- Camden Local Plan 2017;
- CPG Design (March 2019)
- CPG Amenity (March 2018)
- CPG Altering and extending your home (March 2019)

Some of the above planning policy documents are introduced below, along with the more relevant policy points.

10.2 NATIONAL PLANNING POLICY FRAMEWORK 2019

The National Planning Policy Framework (NPPF) 2019 replaces the Planning Policy Statements and sets out the Government's planning policies for England. We refer to the NPPF specifically as it is relevant to the application.

As part of its core principles, the NPPF states that:

> *"Always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings."*

Under Section 12, 'Achieving well-designed places', Paragraph 124 states:

> *"The creation of high-quality buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities."*

Paragraph 127 states:

> *"Planning policies and decisions should ensure that developments:*
>
> - *will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
> - *are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;"*

In Paragraph 130:

> *"Permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions, taking into account any local design standards or style guides in plans or supplementary planning documents. Conversely, where the design of a development accords with clear expectations in plan policies, design should not be used by the decision-maker as a valid reason to object to development."*

And in Paragraph 131:

> *"In determining applications, great weight should be given to outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of desi*gn more generally in an area, so long as they fit in with the overall form and layout of their surroundings."

Under Section 16, "Conserving and enhancing the historic environment", Paragraph 185 states:

> *"Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:*
>
> - *the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;*
> - *the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring; and*
> - *opportunities to draw on the contribution made by the historic environment to the character of a place."*

10.0 Appendix 1- Supporting Planning Policy

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10.3 CAMDEN LOCAL PLAN 2017

The Camden Local Plan plays a key role in Camden's development plan. In this document we reference points that refer design and heritage, on guidelines to preserve and enhance historic context and the policies regarding working with listed buildings.

On Design and Heritage, Local Plan Policy D1 states that

"The Council will require that development:

- *Respects local context and character;*
- *Preserves or enhances the historic environment and heritage assets in accordance with Policy D2 Heritage;*
- *Comprises details and materials that are of high quality and complement the local character;*
- *Promotes health;*
- *Responds to natural features and preserves gardens and other open space;*
- *Preserves strategic and local views."*

Paragraph 7.2 states:

"The Council will require all developments, including alterations and extensions to existing buildings, to be of the highest standard of design and will expect developments to consider:

- *character, setting, context and the form and scale of neighbouring buildings;*
- *the character and proportions of the existing building, where alterations and extensions are proposed;*
- *the prevailing pattern, density and scale of surrounding development;*
- *the impact on existing rhythms, symmetries and uniformities in the townscape;*
- *the composition of elevations;*
- *the suitability of the proposed design to its intended use;*
- *inclusive design and accessibility;*
- *its contribution to public realm and its impact on views and vistas; and*
- *the wider historic environment and buildings, spaces and features of local historic value."*

Also on Design and Heritage, Local Plan Policy D2 states that to preserve or enhance the borough's listed buildings, the Council will:

e. "require that development within conservation areas preserves or, where possible, enhances the character or appearance of the area.

f. resist the total or substantial demolition of an unlisted building that makes a positive contribution to the character or appearance of a conservation area;

g. resist development outside of a conservation area that causes harm to the character or appearance of that conservation area;

h. preserve trees and garden spaces which contribute to the character and appearance of a conservation area or which provide a setting for Camden's architectural heritage. It also states that the Council will resist development that would cause harm to significance of a listed building through an effect on its setting; and

Uniclass L68152	
CI/SfB	R (M2)

Thermablok Aerogel ThermaSlim IWI Board

Internal Wall Insulation (IWI) Board

Ultra Thin Internal Solid Wall & Ceiling Insulation Systems for New Build & Refurbishment

- Unique insulation with the lowest Thermal Conductivity of any insulation product.
  Thermablok - 0.015 W/m²K
- Fire Classification.
  Thermablok Aerogel - C - s1,d0
  Particle Facing Board - A1
- Hydrophobic, extremely vapour permeable but non hydroscopic offering no transport for liquid.
- Breathable (Vapour Open) or Non-Breathable (Vapour Closed with vapour control layer - VCL)
- Hydroscopic Buffer Facia.
- Hostile environment to mould offering no bacterial platform.
- Non Flammable, Non Combustible
- Thermablok Aerogel Blanket contains no resins, binders or performance enhancing gases which may be released through service.
- 100% Recyclable.
- Environmentally Friendly.
- Rodent / Vermin Resistant.

For more information on Thermablok Aerogel products please visit www.thermablok.co.uk or telephone 01622 840289

Introduction

Thermablok Aerogel Advanced Insulation an Environmentally Friendly Solution to Thermal Bridging

Thermablok Aerogel Advanced Insulation is an ultra high performance fibre reinforced silica aerogel blanket insulation suitable for thermal upgrades of solid walls, floors and roofs and associated thermal bridges in new, modern and historic buildings.

The material uses the insulating power of trapped air in a nano-porous silica matrix to achieve its excellent thermal performance and represents the most thermally efficient bridging treatment available today.

Unlike competing solutions, *Thermablok Aerogel* can be mechanically fixed to substrates such as concrete, brick, wood and metal and is ideal for use in building construction and energy efficiency retrofits.

Most heat transmission through walls is passed directly through the building envelope, be it masonry, block or stud frame to the internal facia in a process known as *Thermal Bridging*.

Thermablok Aerogel, which has the highest insulation value of any known material with the lowest thermal conductivity value of any solid (0.015W/mK), works by breaking this thermal bridging link.

Products

- *Thermablok Aerogel Blanket*
- *Thermablok Aerogel Blanket A2 / BASF SLENTEX*
- *Thermablok Aerogel ThermaSlim Internal Wall / Reveal / Return Insulation Board Systems (IWI)*
- *Thermablok Aerogel ThermaSlim Reveal / Return Insulation Board System*
- *Thermablok Aerogel ThermaSlim Impact Panel Internal Floor Insulation (IFI)*
- *Thermablok Aerogel ThermaSlim External Insulation Finishing System (EIFS)*
- *Thermablok Aerogel Strips (Standard & Custom)*

The material is totally breathable, ensuring a healthy, durable working building with a natural ability to repel liquid whilst allowing the passage and release of moisture vapour - a major factor in historic buildings.

Thermablok Aerogel does **not** rely on a vacuum or heavy molecular gases to insulate. It is hydrophobic and is therefore not affected by moisture or age and is a hostile environment, offering no bacterial platform for mould growth. It also provides major energy savings for the life of the building.

A single 10mm thickness of *Thermablok Aerogel Super Insulation Blanket* increases the insulation factor by up to 67% without compromising on Gross Internal Area (GIA).

It is 100% recyclable.

Thermablok Aerogel carries a European Technical Approval (ETA) governing its use as a thermal insulation in various Building & Construction applications - ETA11_0471, an Environmental Product Directive (EPD) and British Board of Agrement (BBA) approval for the composite board systems of Thermablok Aerogel Magnesium Oxide Board and installation as instructed.

Applications

- *Solid Wall (IWI)*
- *Partition Wall Returns*
- *Window & Door Reveals / Headers*
- *Floors*
- *Ceilings / Roofs*
- *Timber Frame, Steels, Columns*
- *Soffits*
- *Balconies*
- *Joist Ends*
- *Pipe Lagging*

For more information on Thermablok Aerogel products please visit www.thermablok.co.uk or telephone 01622 840289

Design Considerations

Heritage Solutions
Where a breathable upgrade is required, for example in historic or heritage projects, a hydroscopic, vapour open variant - *Thermablok Aerogel / ThermaSlim Aerogel Board* should be selected.

ThermaSlim Aerogel Board is a complete natural lime based wall insulation upgrade designed to offer a heritage finish in an easy to install and finish system.

WUFI Consultancy
Thermablok Aerogels can offer consultancy and a hygrothermal simulation software package where required.

Breathability / Vapour Control
Thermablok Aerogel is available in breathable and non breathable forms. Product variants should be selected based on an appropriate condensation risk assessment.

Interstitial Condensation / Moisture
It may be assumed that any permeable structure with warm humid air on one side and cold air on the other will be subject to interstitial condensation and precautions need to be taken.
Thermablok Aerogel ThermaSlim Board offers a hydroscopic buffer.

Thermal Bridging / Thermal Creep
Thermablok Aerogel can be used to reduce surface condensation at window and door openings where conventional insulations would obscure the window frame or provide insufficient thermal resistance.

Window & Door Reveals
A 10mm thickness of *Thermablok Aerogel Blanket* is typically sufficient to increase the surface temperature factor F_{rsi} above the critical limit (0.75) necessary to avoid surface condensation.

Joist Ends
Thermablok Aerogel JoistTherm offers heat loss and vapour control in this critical location, not addressed with conventional insulation methods.

Partition Walls
Thermablok Aerogel ThermaSlim Board's ultra slim form represents an excellent treatment for the classic thermal bridge or partition walls to external solid wall junction.

Fire Classification
Thermablok Aerogel Blanket : C - s1,d0
Thermablok Aerogel A2 Blanket : A2 - s1,d0 in accordance with DIN EN 13501-1
The specific fire performance criteria required for each element of design within any given project should be firmly established by specifiers.

NBS Specification
H11, H20, K10, K11 K40, K45, M40, M21, P10

Durability
The finished system is expected to last the duration of the building, the *Thermablok Aerogel* component is expected to perform for a minimum of 60 years.

Emissions
Thermablok Aerogel meets the highest requirements of the interior emissions M1 Test (Finland)
Thermablok Aerogel does not contain any resins, binders or performance enhancing gases which may be released during service.

Environmental Impact, Sustainability and Responsibility
Thermablok Aerogels and Aspen Aerogels operate a sustainable supply chain management and responsible sourcing system.
Thermablok Aerogels has a long term commitment to sustainability and responsibility: as a manufacturer and supplier of insulation products; as an employer and as a member of its neighbouring communities.
An Environmental Product Declaration for *Thermablok Aerogel* (EPD) is available on request.

Specification Terms
The specific insulation will be:
Thermablok Aerogel Insulation Blanket
Thermablok Aerogel Blanket A2 / BASF SLENTEX
Thermablok Aerogel Isolation Strips (Blanket)
Thermablok Aerogel ThermaSlim Wall (IWI),
Thermablok Aerogel ThermaSlim Reveal / Return,
Thermablok Aerogel ThermaSlim Impact Floor (IFI)
Thermablok Aerogel ThermaSlim Basement Rail
Thermablok Aerogel Insulation Slab and Frame

Ozone Depletion Potential (ODP) - 0
Global Warming Potential (GWP) less than 5

Product Description

Thermablok Aerogel ThermaSlim IWI Board

Uniclass L68152	
CI/SfB	R (M2)

Thermablok Aerogel ThermaSlim IWI Board is a unique ultra thin, ultra high performance, direct fix internal wall & ceiling insulation system for new and refurbishment properties. It delivers outstanding thermal insulation upgrades while maximising gross internal area (GIA) for home owners, occupants, developers and investors. BBA Certified.

Thermablok Aerogel ThermaSlim IWI Board combines - *Thermablok Aerogel Insulation Blanket* as standard - *(10mm increments)*, a thin super insulation material with the lowest thermal conductivity of any known material, with a particle facing board (6mm and 9mm thicknesses). This enables designers to maximise thermal standards whilst maintaining optimum internal dimensions/ increased Gross Internal Area (GIA).

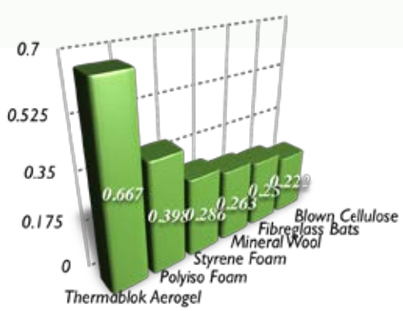
The particle facing panel functions as a hydroscopic buffer at times of peak humidity and offers increased fire and acoustic performance. Each element of the system is designed to integrate seamlessly to deliver either a vapour open or vapour closed / air tight upgrade envelope.

Thermablok Aerogel ThermaSlim IWI Board offers the thinnest robust internal wall and floor insulation available and is also manufactured in window and door reveal systems where space saving is crucial, making it an ideal solution for both new build and refurbishment projects.

ThermaBlok Aerogel	*MS Board*	*Laminate Board TOTAL*	*R value of laminate (m^2K/W)*	*Installed U value* (W/m^2K)*
10mm	6mm	16mm	0.687	0.85
10mm	9mm	19mm	0.696	0.85
20mm	6mm	26mm	1.353	0.54
20mm	9mm	29mm	1.362	0.54
30mm	9mm	39mm	2.03	0.40
40mm	9mm	49mm	2.696	0.31
50mm	9mm	59mm	3.362	0.26

**Calculations based on standard 220mm BRE U 2.15 rated wall assembly.*

R Value Comparisons of 10mm Thickness



NB - Establish if the existing assembly is Vapour Open (Breathable) or Vapour Closed (Non Breathable) and specify the appropriate open or closed system / solution.

NB - Establish which fire classification is required for each and every application.

NB - Product variants should be selected based on an appropriate condensation risk assessment.

NB - Thermablok Aerogel Insulation Blanket is a direct fix solution without the need for a ventilation cavity and as such it is advised to prepare the area in such a way to ensure a flat and even surface for 100% contact of aerogel to substrate. It is also further advised to wash any existing substrate with an anti microbial solution to remove any bacterial / mould spores and deposits.

NB - The figures quoted are for guidance only. A detailed U–value calculation and a condensation risk analysis should be completed for each project.

NB - It is assumed that a good level of workmanship has been attained in all installations and thus eliminating repeat bridges and thermal loops.

For more information on Thermablok Aerogel products please visit www.thermablok.co.uk or telephone 01622 840289

Product Details

Thermablok Aerogel ThermaSlim IWI Board

Uniclass L68152	
CI/SfB	R (M2)

Thermablok Aerogel ThermaSlim IWI Board is a rigid composite board available in breathable (vapour open or non breathable (vapour closed) forms. Product variants should be selected based on an appropriate condensation risk assessment.

A comprehensive characterisation file for *Thermablok Aerogel ThermaSlim IWI Board* system is available on request for commonly used hygro-thermal simulation software programmes such as WUFI.

Standards & Approvals

BBA - British Board Agrement Approval
ETA - European Technical Approval
EPD - Environmental Product Directive

Green Deal Certified
ECO Registered
Certificated Silver C2C
RoHS (Restriction of Hazardous Substances) - Compliant
REACH - Compliant

Ozone Depletion Potential - Zero
Global Warming Potential - Less than 5

Thermal Conductivity
- Thermablok Aerogel: 0.015W/m²K
- Magnesium Oxide Board: 0.307W/m²K

Fire
- Thermablok Aerogel: C - s1,d0 Fire rated to BS EN ISO 1182
- Magnesium Oxide Board: BS EN: ISO 1182 - Euro Class A1 Non Combustible EN13501-1

Impact Strength (Brinell)
- Thermablok Aerogel: 80kPa / 80 kN/m² at 10%
- Magnesium Oxide Board: 34Nmm2

Density (Dry) (ex works)
- Thermablok Aerogel: 150kg/m3
- Magnesium Oxide Board: 1050kg/m3 (+/- 10%)

Vapour Permeability
- Thermablok Aerogel: ISO 12572: 5to 5.5mu
- Magnesium Oxide Board: BSEN 12086: 100mg/m2/h

Mould / Bacteria
- Thermablok Aerogel: NIL / Hostile Platform
- Magnesium Oxide Board: NIL / Hostile Platform

Specific Heat
- Thermablok Aerogel: 1000 J/kg/K

Embodied Energy (10mm)
- Thermablok Aerogel: 5.4kgs / CO² per m²

Laminate Board Thickness	*Board Dimensions Size*	*Magnesium Oxide Weight*	*Thermablok Aerogel Weight*	*Total Board Weight*
16mm	2400mm x 1200mm	6.24kg/m²	1.5kg/m²	7.74kg/m²
19mm	2400mm x 1200mm	9.37kg/m²	1.5kg/m²	10.87kg/m²
26mm	2400mm x 1200mm	6.24kg/m²	3.0kg/m²	8.49kg/m²
29mm	2400mm x 1200mm	9.37kg/m²	3.0kg/m²	12.37kg/m²
39mm	2400mm x 1200mm	9.37kg/m²	4.5kg/m²	13.87kg/m²
49mm	1200mm x 1200mm	4.68kg/m²	6.0kg/m²	10.68kg/m²
59mm	1200mm x 1200mm	4.68kg/m²	7.5kg/m²	12.18kg/m²

For more information on Thermablok Aerogel products please visit www.thermablok.co.uk or telephone 01622 840289

Product Details

Thermablok Aerogel Insulation Blanket

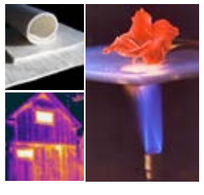
Uniclass	
CI/SfB	L (M2)

Thermablok Aerogel Blanket Insulation is a flexible material available in differing thicknesses. Typically our 5mm system is used within industry, and our 10mm system more widely used in building and construction.

Product variants should be selected based on an appropriate condensation risk assessment.

Essential Characteristic	*Value*	*Test Standard*
Colour	Blue / Grey	
Thickness	5mm / 10 mm	DIN EN 823
Thermal Conductivity (λ_D)	$\lambda_{D(23,50)}$ = 0.015 W/m.K $u_{23/50}$ = 0.003, $u_{23,80}$=0.006 F_{m1}=1.005, F_{m2}=1.059 $R_{D(23/50)}$ = 0.60 m²K/W	EN 12667
Water Vapour Permeability, μ-Value	μ ≤ 5.0	EN 12086
Short Term Water Absorption by Partial Immersion	$W_p \leq 1$ kg/m²	EN 1609 (A)
Apparent Density	150 kg/m3 ± 20%	EN 1602
Dimensional Stability	Length $\lvert\Delta\varepsilon_l\rvert \leq 1\%$, Width $\lvert\Delta\varepsilon_b\rvert \leq 1\%$, Thickness $\lvert\Delta\varepsilon_d\rvert \leq 1\%$	EN 1604
Geometry	Length −300mm / + no limit Width ± 25mm Thickness ± 1mm	EN 822, EN 823
Reaction ro Fire Classification	C,s1,d0	DIN EN 13501-1
Values given for characteristics are average values.		

The data contained in this document as well as advice or other support services are based on our current knowledge and experience and are provided according to our best knowledge. In view of many factors that may affect processing and application of our products, this data does not relieve designers, installers or processors from carrying out their own investigations and tests, particularly with regards to the suitability of the goods supplied for the processes and purposes they intend to use them for; neither does this data imply any guarantee of certain properties, or the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, measured values etc. given herein may change without prior notice and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.



Thermablok AEROGEL ENERGY CONSERVATION

intelligent insulation

For more information on Thermablok Aerogel products please visit www.thermablok.co.uk or telephone 01622 840289

11.0 Appendix 2 - Technical Details for Aerogel Thermaslim IWI Board

Product Details

BBA Certification Extract (Page 1 of 10)

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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
16/5290
Product Sheet 1

THERMABLOK AEROGEL LTD – THERMAL INSULATION SYSTEMS

THERMABLOK AEROGEL THERMASLIM INTERNAL WALL INSULATION SYSTEMS

This Agrément Certificate Product Sheet(1) relates to the Thermablok Aerogel ThermaSlim Internal Wall Insulation Systems, magnesium oxide board laminated to Aerogel insulation, and with an integrated vapour control layer (VCL), for use as insulated dry lining on masonry walls of new and existing dwellings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Thermal performance – the systems can contribute to limiting heat loss through walls. The U values achieved will depend on the overall construction and insulation thickness (see section 6).

Condensation risk – the systems can limit the risk of surface and interstitial condensation; however, an assessment should be made in each case (see section 7).

Behaviour in relation to fire – the magnesium oxide board (MultiPro) has a reaction to fire classification of Class A1 and the Aerogel has a reaction to fire classification of Class C, in accordance with BS EN 13501 : 2007 (see section 8).

Durability – under normal conditions, the boards are rot-proof, dimensionally stable and durable and will have a service life equal to the building in which they are installed (see section 14).

The BBA has awarded this Certificate to the company named above for the systems described herein. These systems have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 9 February 2016

John Albon – Head of Approvals Construction Products

Claire Curtis-Thomas Chief Executive

The BBA is a UKAS accredited certification body – Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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