



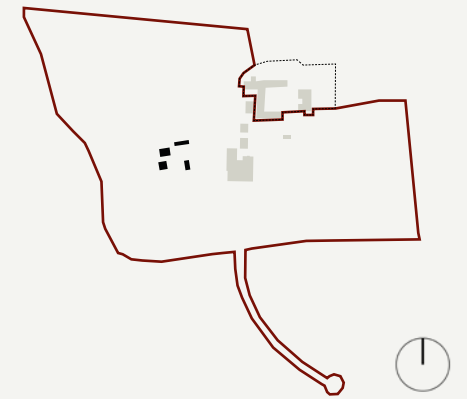
6.4

The Pool House

Material Character

The form and materiality of the building seeks to provide a contextual response rooted in the landscape and garden environment. The proposed form is single storey with a low-pitched roof that references local rural forms.

The material palette draws reference to historic character of glasshouses, using sculpted metalwork profiles and shaped wall tiles to establish an evolved expression of this lean-to form within the walled garden



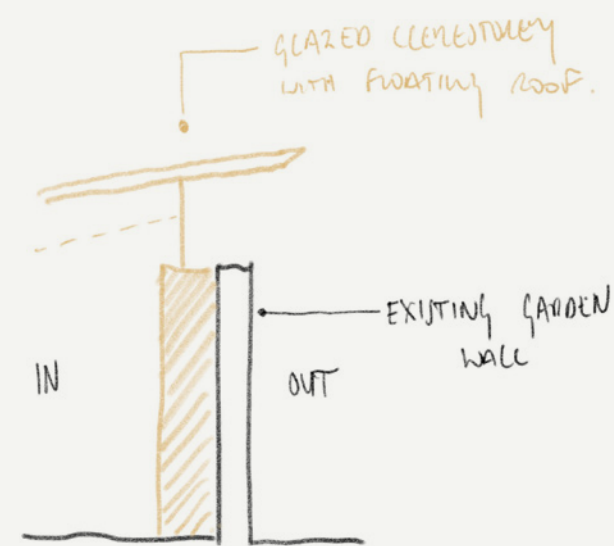
ABOVE: FRAMED VIEWS OF LANDSCAPE



'PAXTON' GLASS AND SHAPED PANES



EXAMPLE OF HAND-PRESSED TILES



CONCEPT SECTION: TAKEN THROUGH GARDEN WALL



KITCHEN GARDEN



EXISTING BRICK WALL



LEAN-TO FORM WITH SHAPED METALWORK



6.5

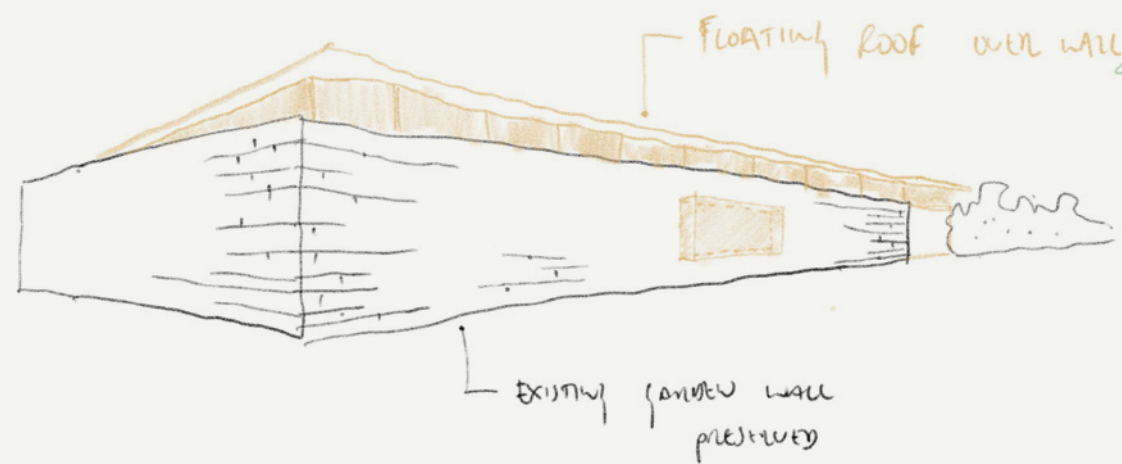
The Pool House

Leisure Area Plan

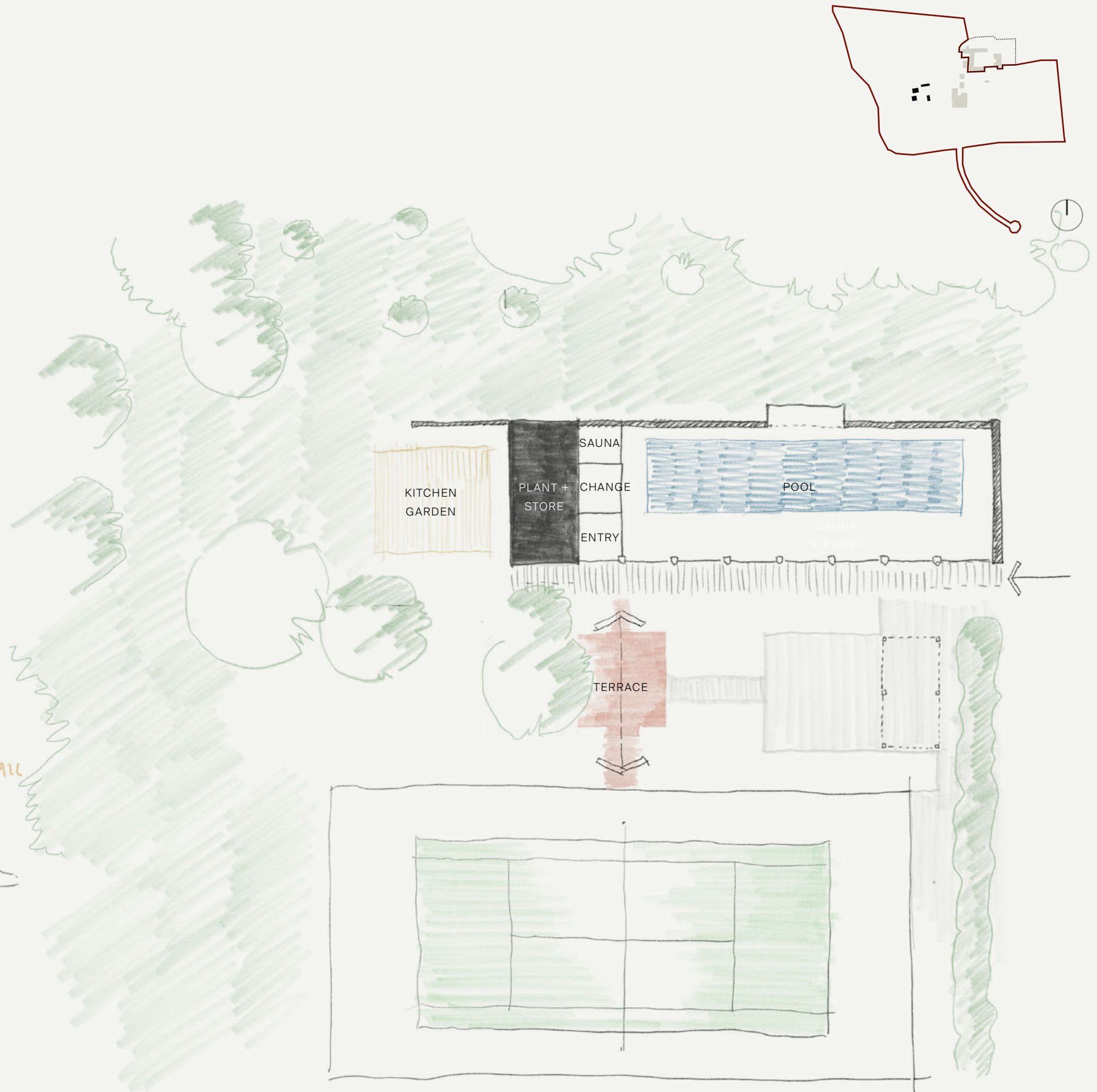
The proposed pool house runs east west along the existing axis of the garden wall, hosting an internal pool, changing facilities, sauna and plant. The architectural approach is carefully conceived to assist in keeping a low scale to the building and provide legibility of its key elements; wall, glass and roof.

The proposal seeks to extend the length of the existing garden wall westward and emphasise the enclosure to this portion of the site, akin to its historic intent.

The current greenhouses will be removed, with improved landscaping to unite the leisure area.



CONCEPT 3D: VIEW LOOKING SOUTH TO GARDEN WALL AND LEAN TO ROOF OVER EXISTING FABRIC



ABOVE: CONCEPT PLAN



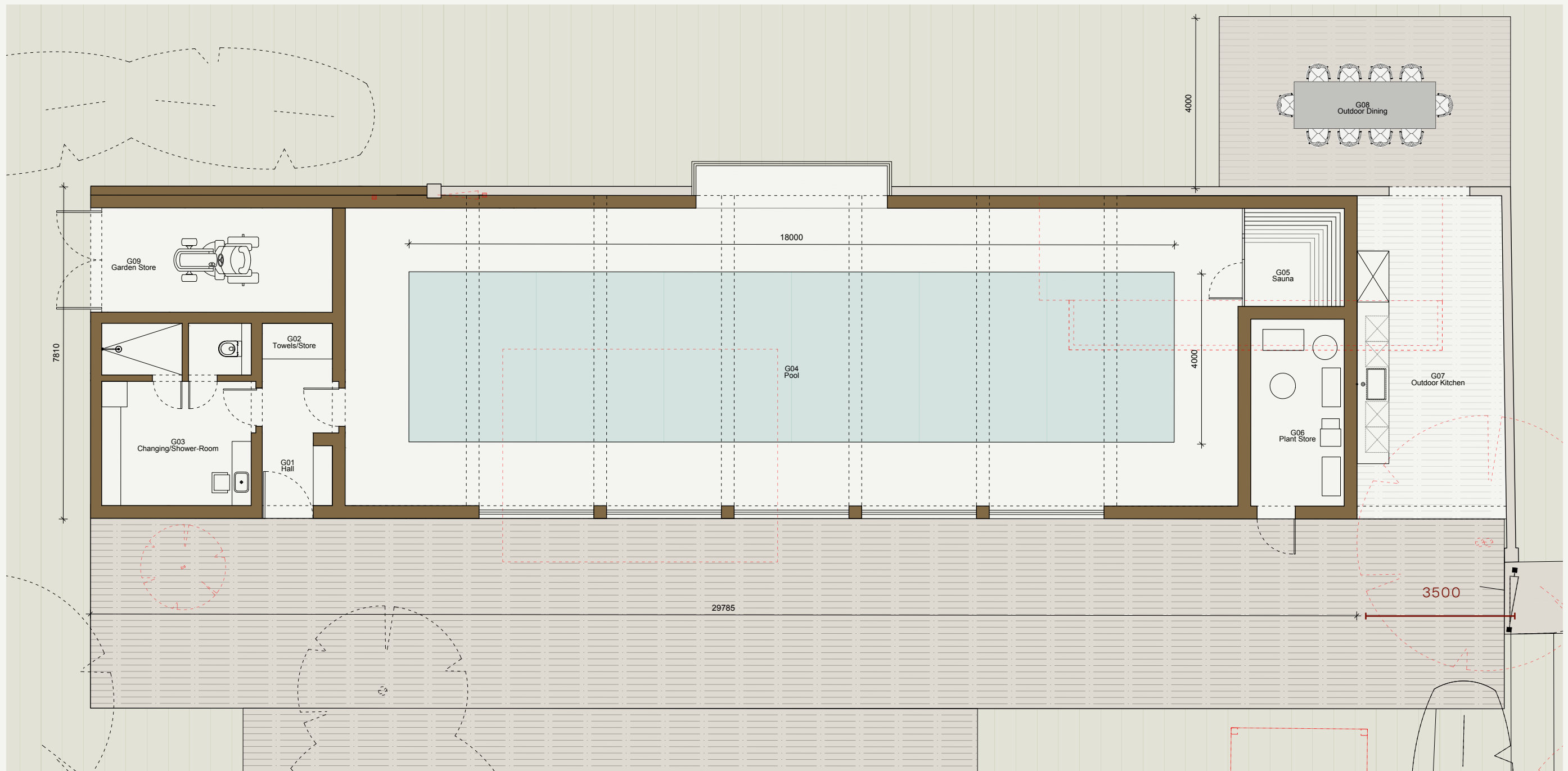
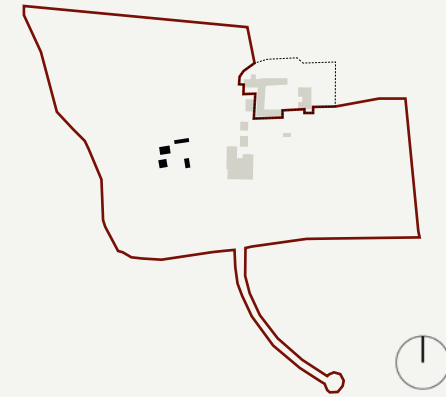


6.6

The Pool House

Pre-app Discarded Design

Previously submitted



KEY

- EXISTING WALLS
- PROPOSED WALLS
- DEMOLISHED

PROPOSED PLAN @ 1:100





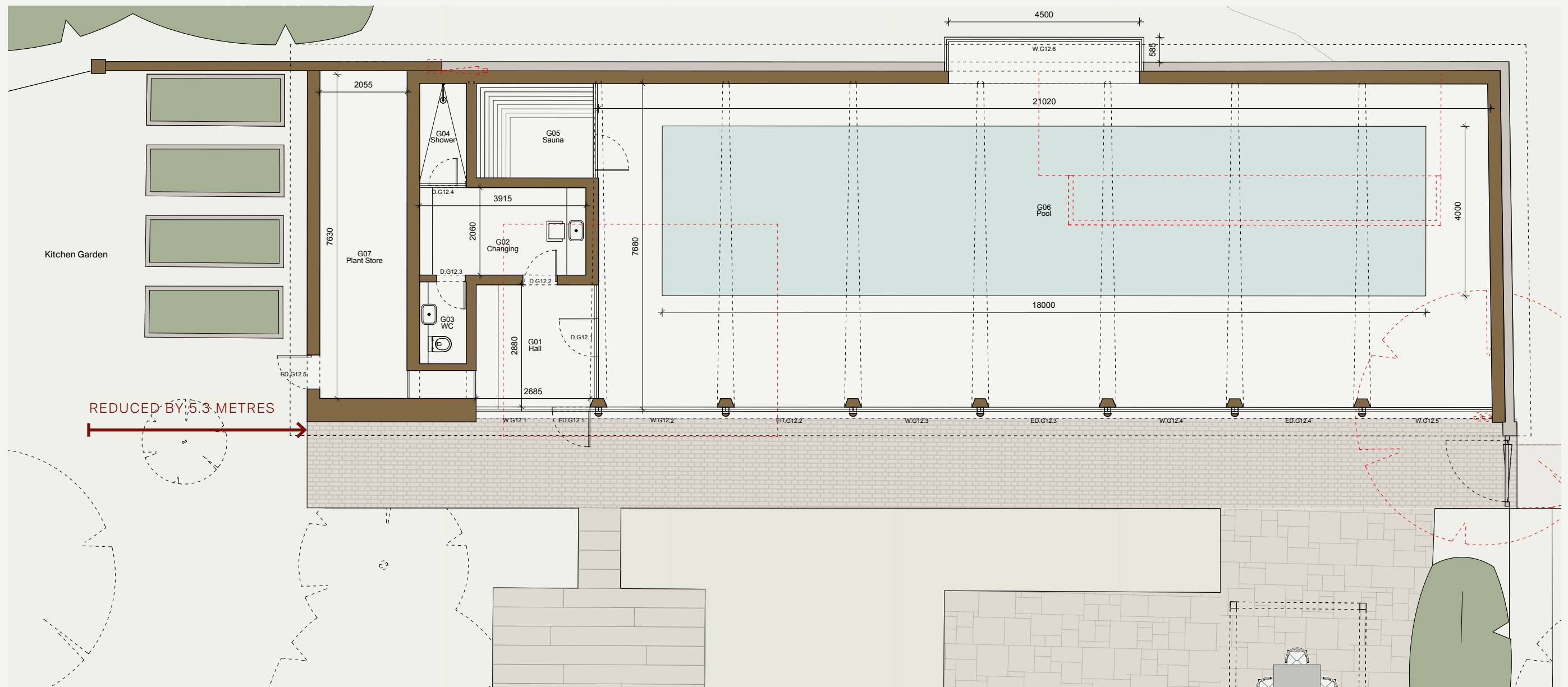
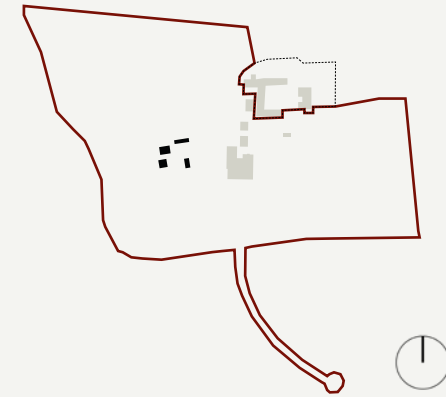
6.7

The Pool House

Plan

Key Principles

- The footprint of the proposed structure has been significantly reduced by over 5 metres through architectural refinement and removal of programme
- The footprint of the existing garden wall is maintained and extended. A single visual aperture is proposed in the wall to visually connect the site, whilst not compromising the physical connections in and around this area to maintain the principle of enclosure.
- The internal plan arrangement allows a glazed south facing elevation presenting a 'glassy', transparent reading from the gardens. The plant area with tiled facade is located to the west so upon entrance to the walled garden from the house, the glassy elevation is prevalent and retains the legibility of the current garden wall extents.



PROPOSED PLAN @ 1:100

KEY

- EXISTING WALLS
- PROPOSED WALLS
- DEMOLISHED

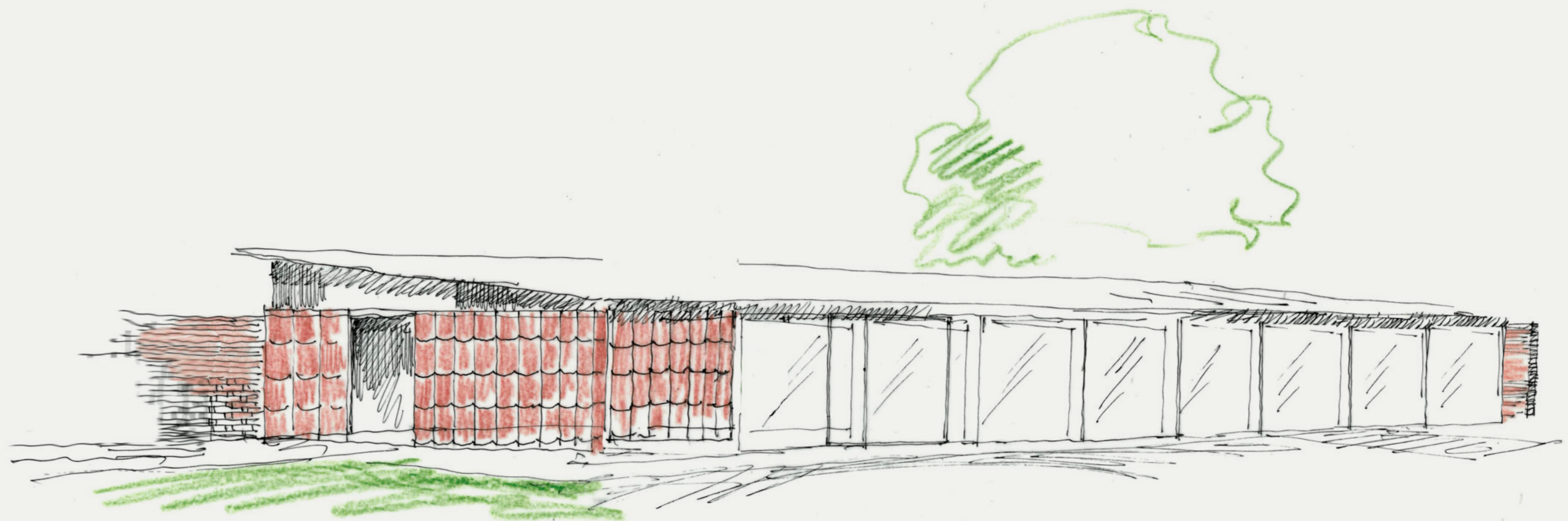
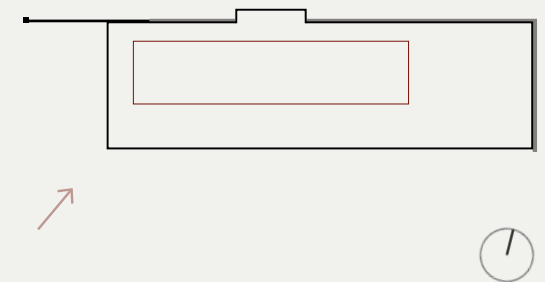




6.8

The Pool House

Sketch Impression



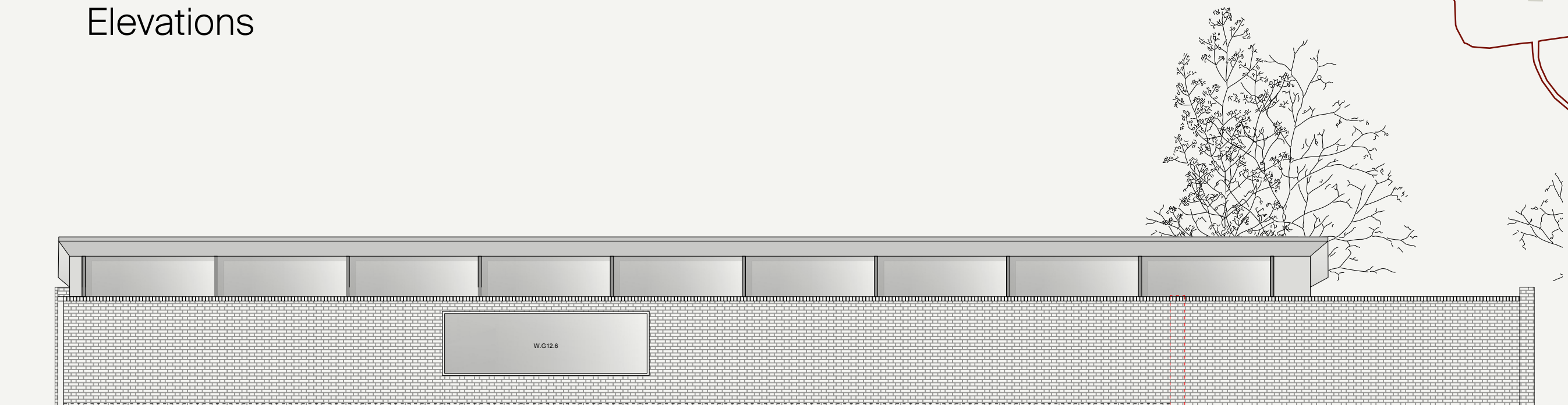
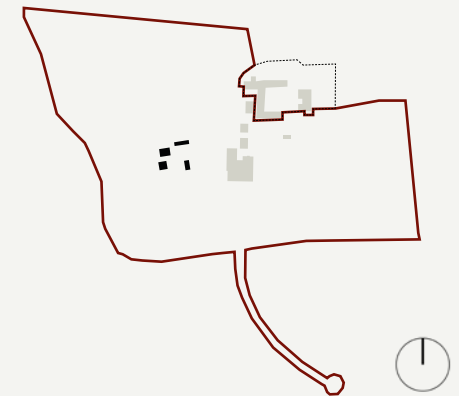
SKETCH OF PROPOSED POOLHOUSE SET BEHIND GARDEN WALL



6.9

The Pool House

Elevations



PROPOSED NORTH ELEVATION @ 1:100

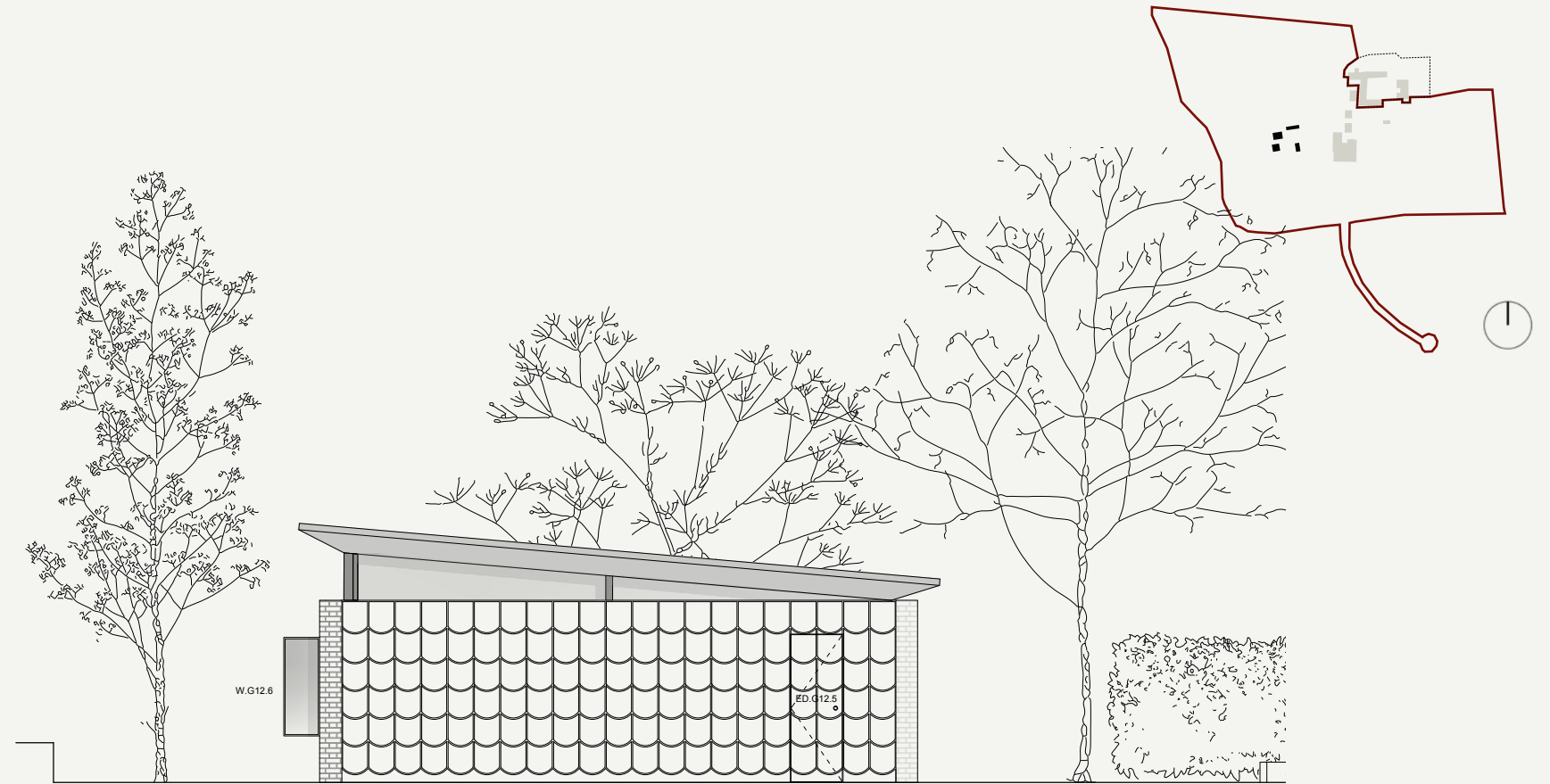


PROPOSED SOUTH ELEVATION @ 1:100



6.10

The Pool House Elevations



PROPOSED NORTH ELEVATION @ 1:100



PROPOSED SOUTH ELEVATION @ 1:100

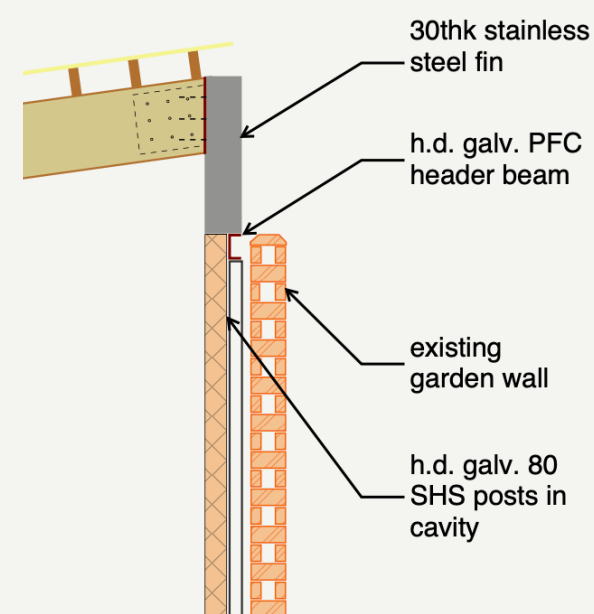


6.11

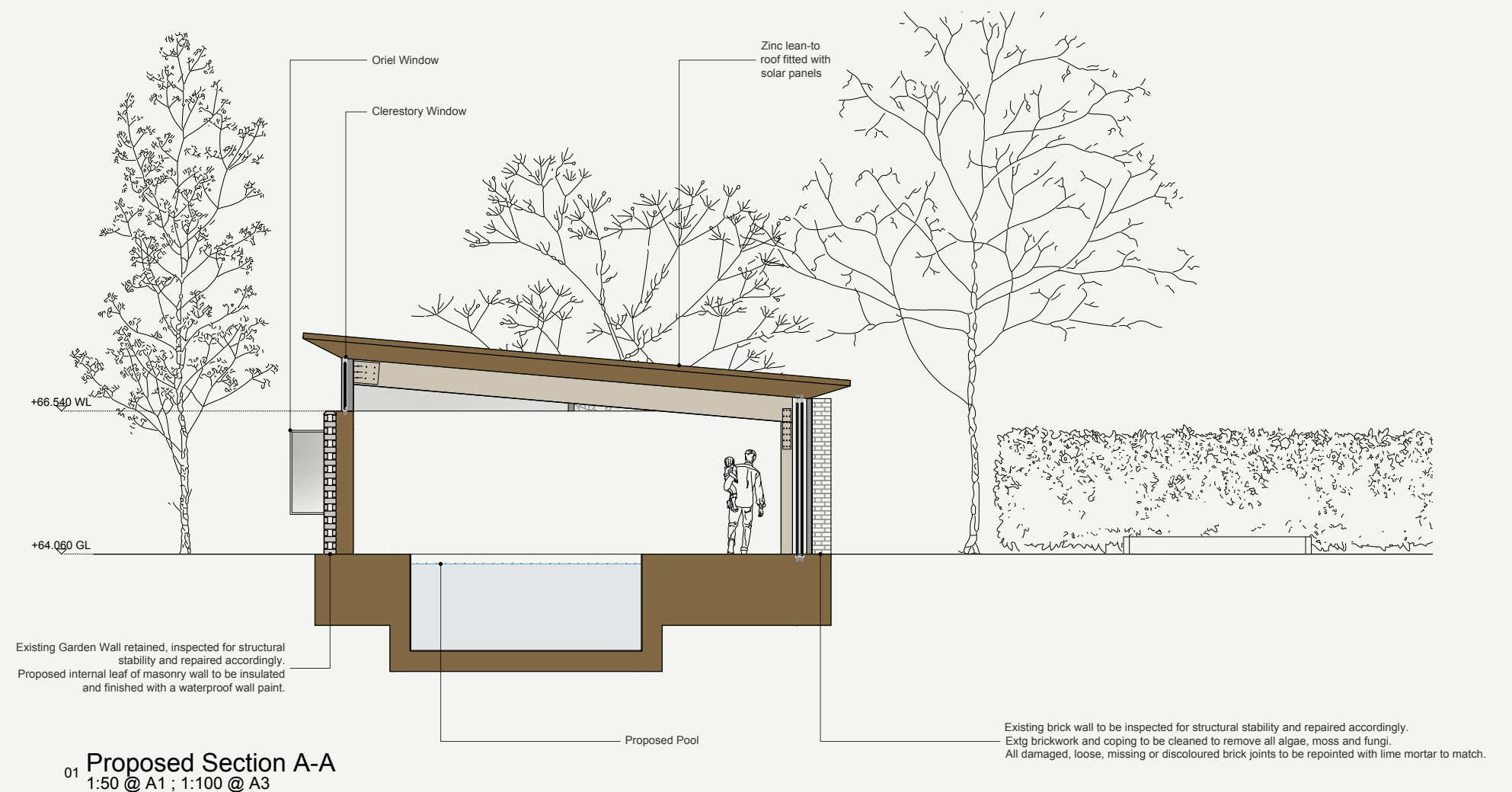
The Pool House

Sections

The interface between the existing garden wall and the proposed swimming pool has been appraised by structural engineers. Initial investigations have identified areas of instability—particularly where affected by adjacent vegetation—necessitating local rebuilding and structural reinforcement. Further site investigations and detailed coordination will inform appropriate foundation and wall stabilisation strategies.



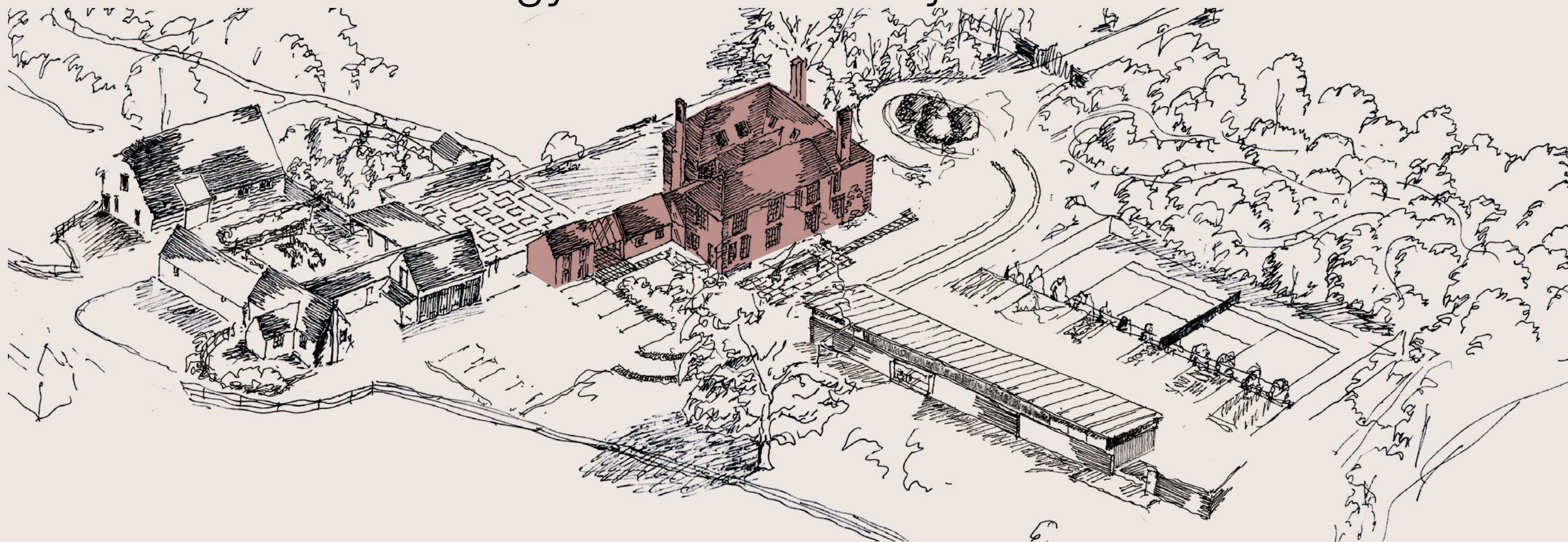
STRUCTURAL APPRAISAL SCHEMATIC DRAWING



PROPOSED CROSS SECTION @ 1:100



7.0 Energy & Sustainability





7.1

Fabric Performance

To better understand the performance of the building fabric, a thermal imaging survey was commissioned (extracts adjacent). This identified numerous weak points which is causing poor thermal comfort and / or damage to the building and its fabric. Notably, also assisting to identify where modern alterations have taken place.

Observation summary below;

- Significant heat loss through windows, and air infiltration through sash windows.

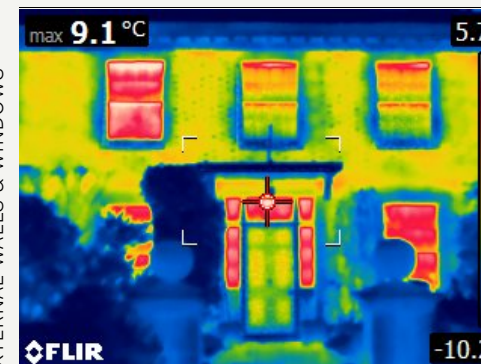
- Studwork (assumed modern) to internal faces of external walls with patchy areas of insulation and prospective interstitial condensation

- Patchy / non existing insulation to all loft areas of roof and low walls.

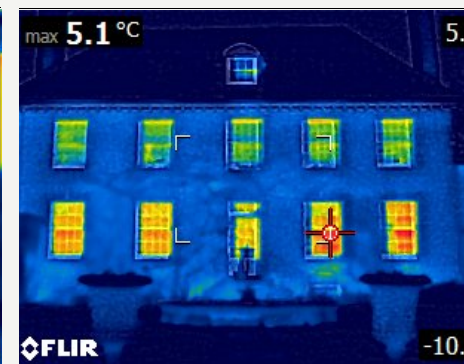
- Substantial weather ingress at basement causing damp, air infiltration to upper floors and degradation of fabric.

After analysis, this survey has assisted in developing the energy and retrofit strategy which is further explained in the next pages. Please refer to the accompanying report provided by Clifford Design.

EXTERNAL WALLS & WINDOWS



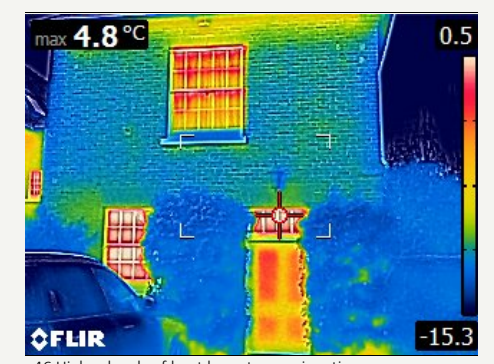
05 The South elevation when compared directly with the same temp scale as others shows higher levels of heat loss. This may be due to retained heat from the previous day or a variation in internal heating or wall build up.



15 Note overall difference in colour when compared directly on same scale as south elevation. South elevation may have retained heat from previous day.

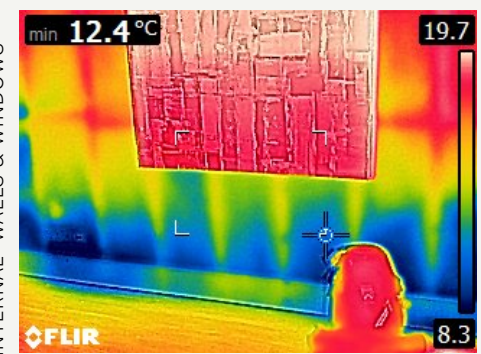


21 Heat loss from air ingress at head of window and horizontal sash junction.

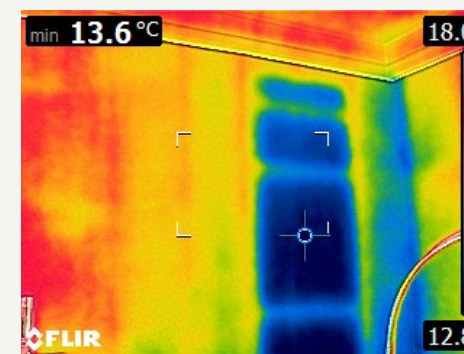


46 Higher levels of heat loss at eaves junction.

INTERNAL WALLS & WINDOWS



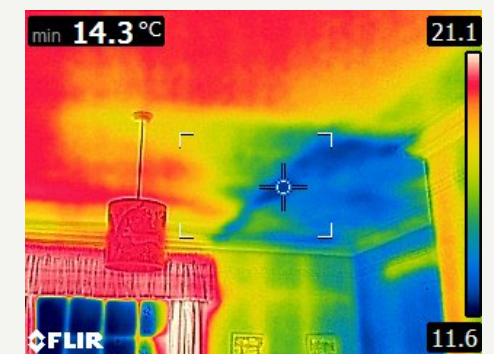
80 Studwork to inside face of west elevation that may contain internal wall insulation (IWI). Cold at low level. May be due to air ingress from sub floor void.



123 Area of studwork on north elevation with large temperature differential. Likely to be missing IWI or air ingress. Likely location for interstitial condensation. Further investigation required.

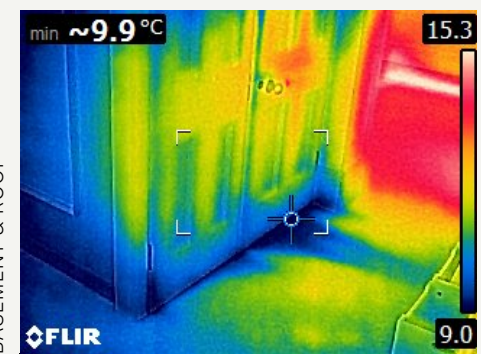


82 Limited thermal bridge around window. Air ingress to perimeter of sash.



200 Missing and uneven insulation in loft above.
199 Studwork to south elevation.

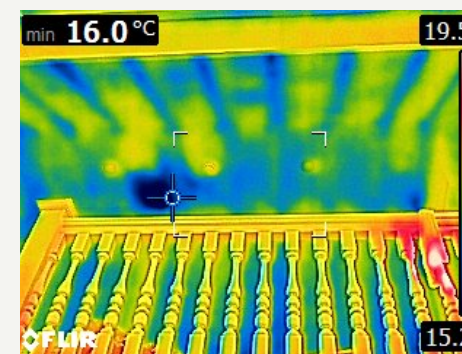
BASEMENT & ROOF



134 Air infiltration under door to basement. Basement is unheated, door should be external grade and area under stair insulated.



135 Temperature change below ground floor level evident.



244 Roof shows thermal bridging by timber structure. Uneven fill of insulation. Likely stuffed in place from below. Dark blue spot is area of missing insulation and likely air ingress.



266 Very poor levels of insulation to vertical surfaces. Chimney is a significant thermal bridge where it passes through the roof. Evidence of damp in chimney breast. Likely to be condensation as often below dew point.



7.2 Window Replacement

The application seeks full replacement of the existing windows around the envelope in favour of double glazed, slimline glazed fittings with historically sympathetic pane, horn and furniture arrangement to match the existing. This will sustainably upgrade the thermal performance of the house, notably improving energy efficiency closer to continuously evolving domestic standards.

Notably all the existing windows have been determined to be of modern replacement, likely in the late twentieth century, at the time of previous permitted application. The adjacent pictures show a selection of the existing conditions.

Please refer to the accompanying window schedule established by Robinson Wild alongside their Heritage Statement further assessing the conditions and advocating the means for replacement, with measures in line with Historic England formal guidance.



L00 WEST FACING FROM KITCHEN



L00 EAST FACING WINDOW TO COURT



L01 SOUTH FACING FROM BEDROOM



L00 EAST FACING FROM DINING ROOM



L01 WEST FACING FROM BEDROOM



L01 NORTH FACING FROM BEDROOM

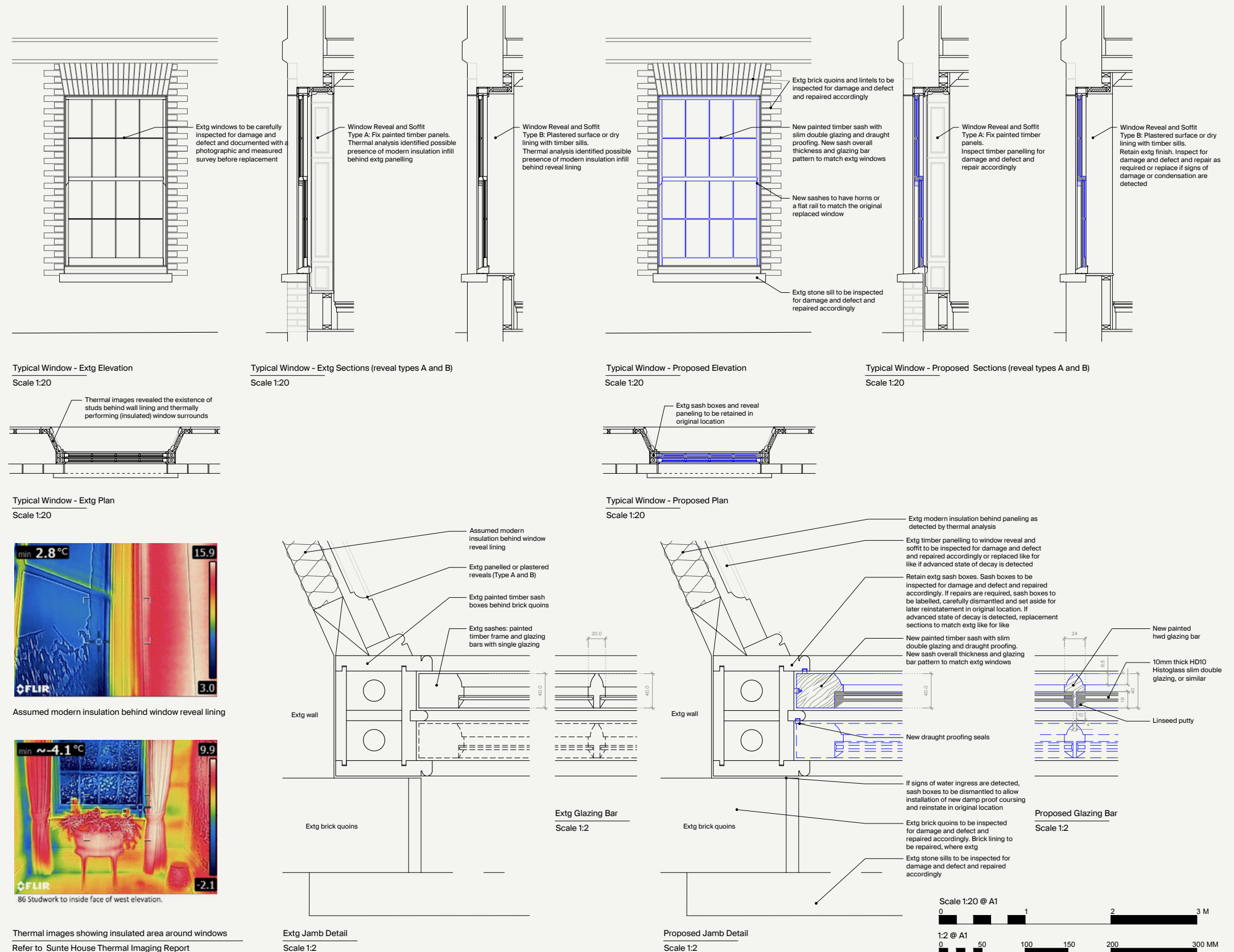




7.3 Window Replacement Detail

The proposed works retain the existing sash boxes and timber reveals where possible, and introduce new painted timber sashes fitted with slim-profile double glazing and discreet draught-proofing. The glazing bar pattern, sash proportions, and external detailing are carefully matched to the existing windows to maintain visual continuity.

To support this upgrade, the technical drawings detail a conservation-led strategy: existing sash boxes are to be inspected, catalogued, and either retained in situ or carefully dismantled for repair and reinstatement. Where decay is advanced, like-for-like replacements will be made. Thermal analysis has identified modern insulation behind panelled and plastered reveals, which will be retained and supplemented where necessary to enhance energy performance. All new sash components will include draught-proofing and linseed putty glazing in accordance with best practice.

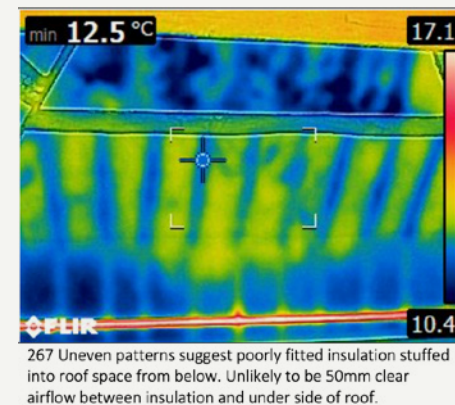
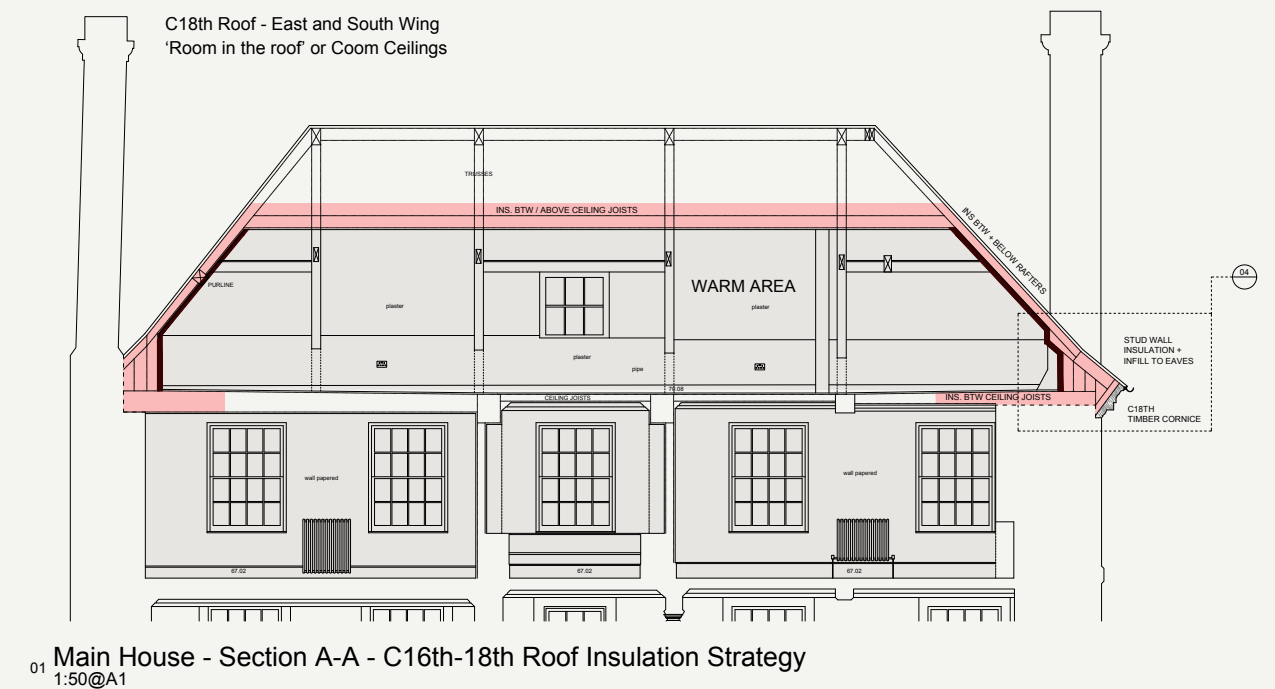




7.4 Roof Insulation Strategy

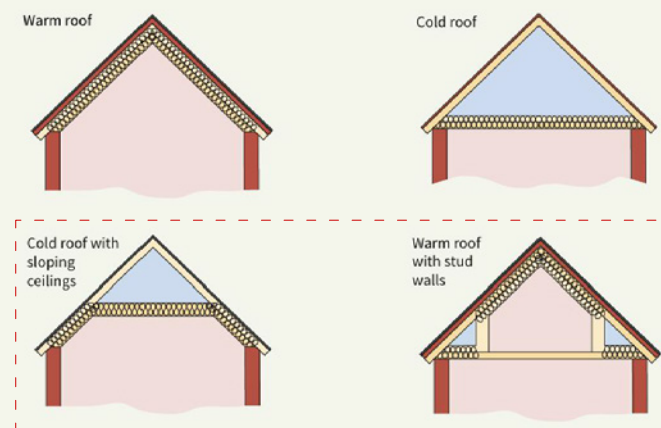
Our proposal outlines a considered and conservation-led strategy for upgrading the thermal performance of the roof structure at Sunte House while preserving the historic integrity of the Grade II* listed fabric.

The thermal imaging survey carried out at Sunte House indicates that the poor thermal performance of the roof results not only from inadequate insulation installation but also from a lack of ventilation. Our proposals to protect the historic fabric from further decay caused by condensation and poorly installed, unsympathetic additions.

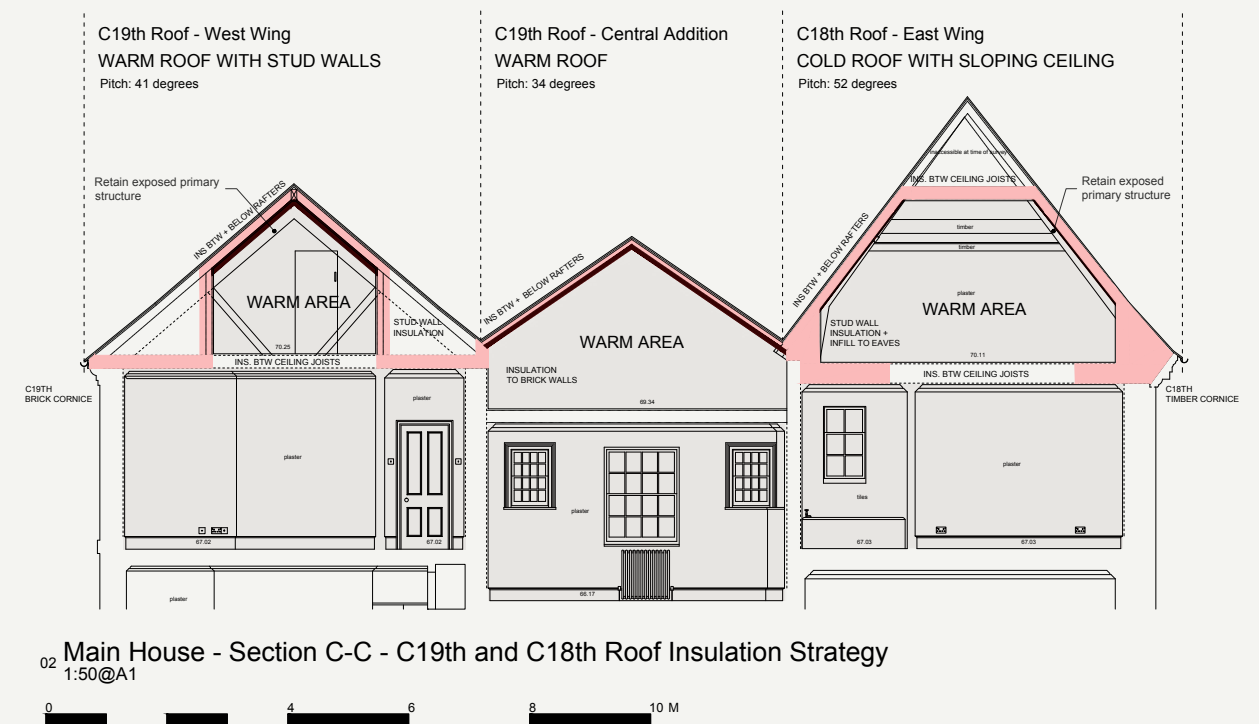


Warm Roofs and Cold Roofs

In this guidance the term 'cold roof space' or 'cold roof' is used to describe a pitched roof with insulation at the level of the horizontal ceiling of the uppermost floor, leaving an unheated roof space (attic or loft) above the insulation. In contrast a 'warm roof space' or 'warm roof' has insulation between or just under or over the sloping rafters, so that the whole of the volume under the roof can be heated and used. Some buildings have combinations of these two arrangements.



The main house roof rooms insulation strategy is a hybrid between Cold Roof and Warm Roof approach





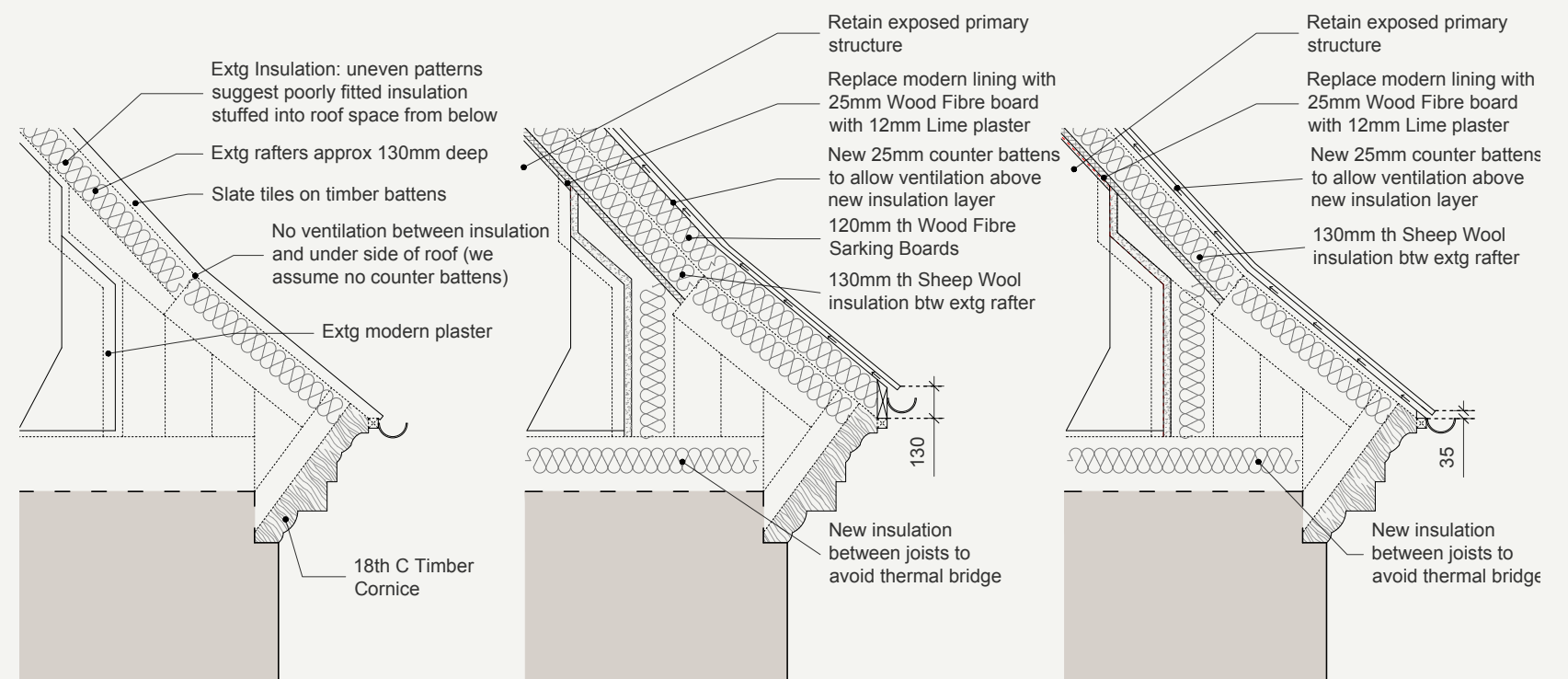
7.5 Roof Insulation Details

The approach is tailored to align with heritage best practices, proposing a ventilated warm roof upgrade that introduces insulation both between and below existing rafters. The selected materials—including sheep wool insulation and wood fibre boards—promote breathability and support moisture regulation, thereby safeguarding the historic timber elements.

A new counter batten system is incorporated above the rafters to create a ventilated zone beneath the roof covering, ensuring compliance with conservation principles for breathable construction. This design addresses previous issues caused by poor, non-ventilated modern insulation, which contributed to suboptimal energy performance and damp ingress.

To minimise visual impact, the proposed buildup would result in only a 35mm increase in roof height. This marginal addition will not be perceptible from ground level or in elevation, thus preserving the external appearance of the historic roofline.

This carefully detailed proposal demonstrates that a substantial improvement in energy efficiency can be achieved without compromising the building's historic character and supports the case for listed building consent.



EXTG ROOF STRUCTURE EAVES

Poor modern interventions with insulation stuffed unevenly between rafters with no clear 50mm ventilation zone above insulation generated poor energy performances and damp issues. We propose to remove the modern roof insulation and lining.

VENTED ROOF WITH INSULATION BETWEEN, ABOVE AND BELOW RAFTERS

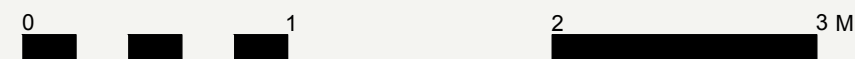
U-Value: 0.16 W/m²K
The roof would meet Part L requirements but with an impact on the appearance of the C16th facade, with the addition of a 130mm border above the original timber cornice.

VENTED ROOF WITH INSULATION BETWEEN AND BELOW RAFTERS **PROPOSED OPTION**

U-Value: 0.30 W/m²K
General improvement of energy performances and ventilation, would allow to increase the roof level of only 35mm. This option has a lower impact on heritage.

04 Insulation Options - Heritage Impact Analysis

1:20@A1



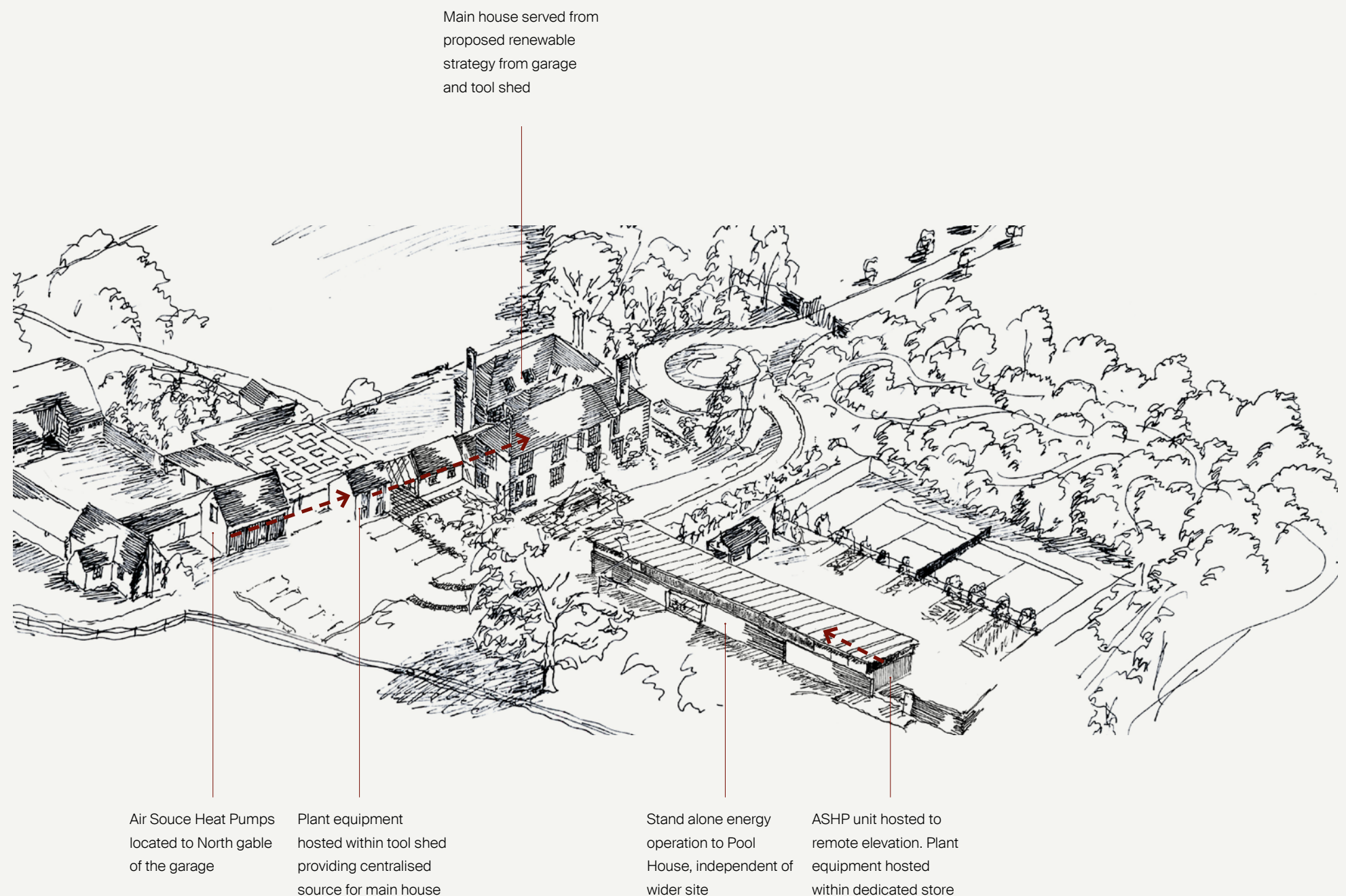


7.6 Site Wide Power Strategy

As set out on the previous pages, a fabric-first approach has been taken to improve the passive performance of Sunte House, to improve u-values, improve airtightness and reduce overall carbon load. By optimising the fabric efficiency first, the energy demand of the property can be reduced, ensuring that any renewable solutions implemented are appropriately scaled.

The design development to planning has conducted feasibility studies to analyse both existing and proposed building performance, whilst critiquing Part L policy requirements for the respective portions of the development to ensure overheating will be mitigated where possible. Air Source Heat Pumps (ASHP) have been selected to facilitate a renewable, primary energy source across the buildings and move away from the current, gas fired system. This requires externally located units, alongside associated plant infrastructure. The summary of locations is shown on the adjacent.

Effort has been made to locate the ASHP units to the North of the garage, and conceal these away from key views to avoid perceived 'harm' in the setting and reading of Sunte House. To facilitate the ASHP upgrade, internal changes will be required to ensure the system is feasible. This includes removal of existing pipework, upgrading to suitable pipes and review of existing radiators, and if required, radiator replacement for larger sizes.





7.7

Pool House Power Strategy

For the pool house, an ASHP solution has also been selected, with the unit being located to the furthest extremity from Sunte House to mitigate impact. Given the new build proposal and associated Part L2 policy requirements of the design, a solar panel array will be hosted on the roof. Effort will be made to flush mount these to the roof finish and specify a low profile, or ‘solar tile’ type fitting to mitigate visual effect.

It is recognised that whilst there is a degree of visual impact to cater for renewable energy strategy, on balance, they help to provide significant betterment in reducing carbon load, and achieving sustainability targets as set out in local and national planning policy. The proposals to Sunte House alone are provisionally deemed to reduce carbon emissions annually, by over 80% in comparison to the current energy load.

Full SAP & Energy Assessment analysis will come forward as part of the regulatory approvals process.

Sunte House	Gas	ASHP	GSHP
Capital cost, £	6,000	89,000	162,000
Annual running cost, £	15,000	11,660	9,700
20-year total, £	306,000	323,000	355,000
Annual carbon emissions saving, Kg	45,000	5,900	4,900

CARBON EMISSION AND RUNNING COST COMPARISON

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Thank You

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