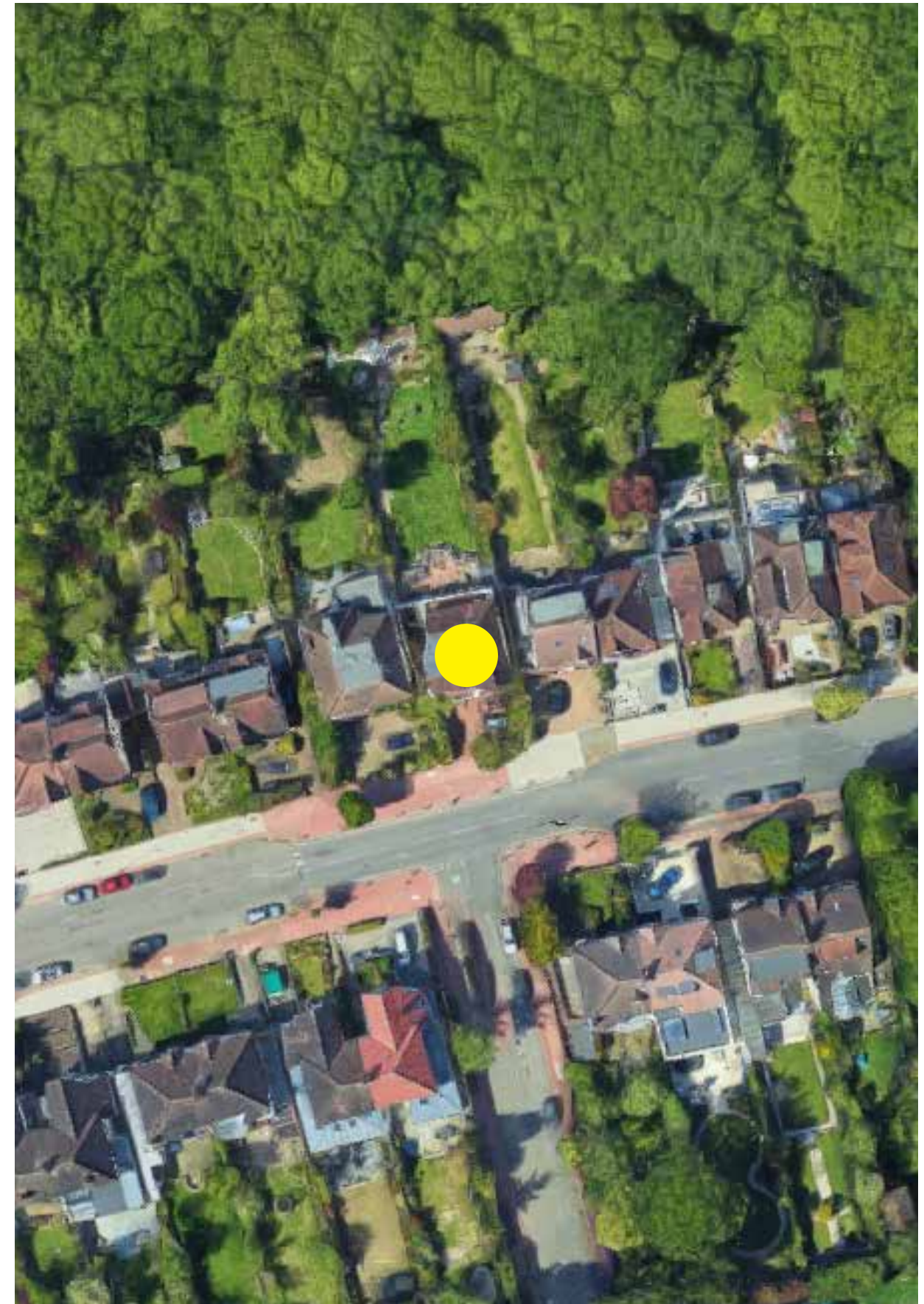


Design and Access Statement

186 Creighton Av, N2 9BJ

November 2022



Rev: P-01

0.0 Contents

1.0	Introduction	7.7	Surface Water Drainage
2.0	XUL Architecture Profile	7.8	Waste
3.0	Reference Documents	7.9	Transport
4.0	Site and Surroundings	8.0	Landscape Design
4.1	Creighton Avenue	8.1	Front Garden
4.2	186 Creighton Avenue - Existing Plot	8.2	Rear Garden
4.3	Existing Building Areas	8.3	Materials
4.4	186 Creighton Avenue - Existing House		
5.0	Planning	9.0	Conclusion
5.1	Planning History		
5.2	Pre-Planning		
5.3	Relevant planning precedent in Creighton Avenue		
5.4	Relevant planning precedent near Creighton Avenue		
6.0	Design		
6.1	Introduction		
6.2	Form and Massing		
6.3	Appearance and Materiality		
6.4	Use and Layout		
6.5	Proposed Building Areas		
6.6	Access		
7.0	Sustainability		
7.1	Case for Demolition and New Build		
7.2	Life Cycle CO2 Analysis - Refurbishment vs. New Build (Timber Frame)		
7.3	Energy		
7.4	Method of Construction		
7.5	Overheating		
7.6	Water		

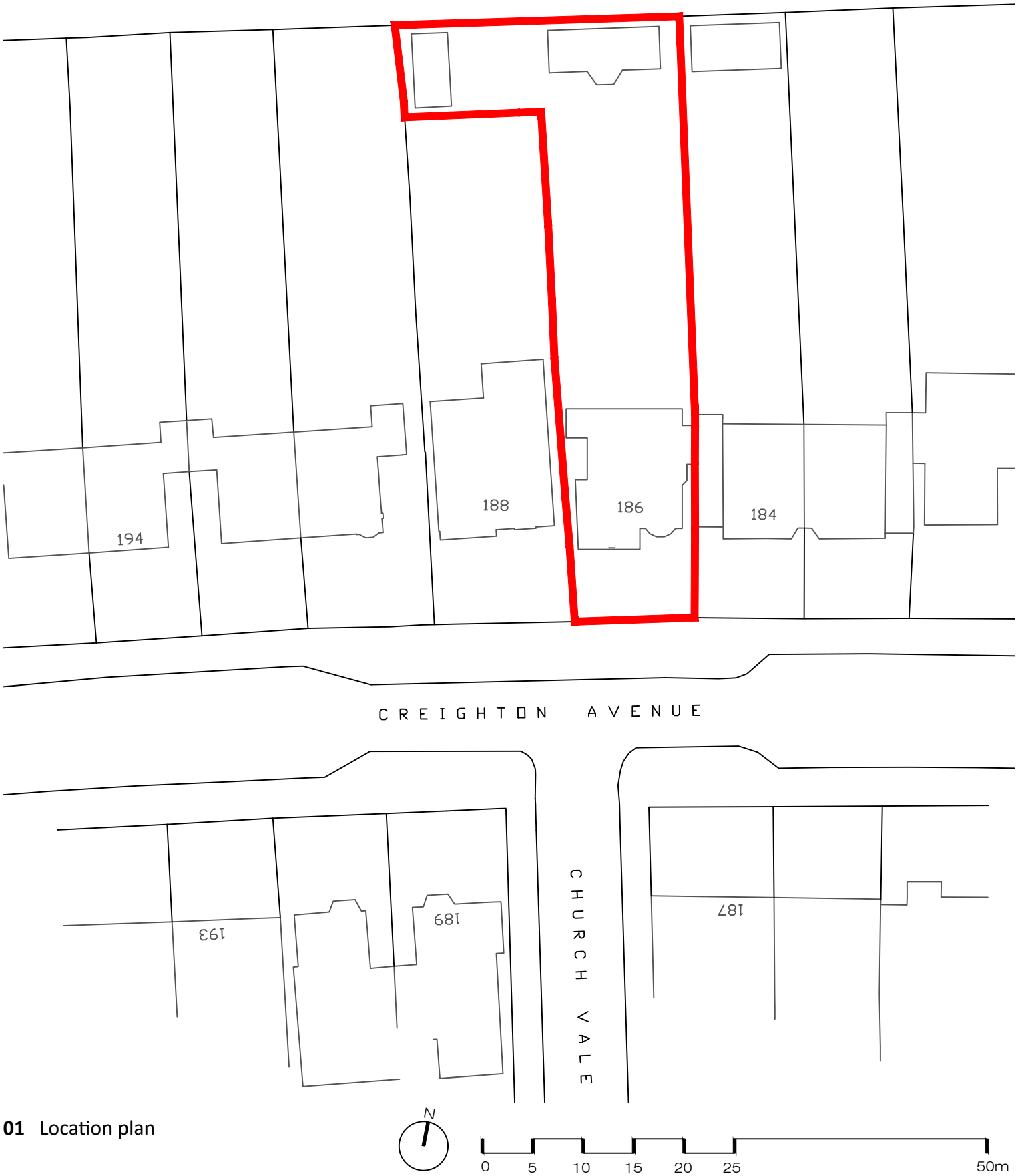
1.0 Introduction

XUL Architecture has been instructed to prepare a planning application for the demolition of the existing house at 186 Creighton Avenue N2 9BJ and replace it with a high quality contemporary designed family home.

The existing 1930’s house is of no historic or architectural merit which detracts from the character and appearance of the surrounding streetscape.

Given this, our client is keen to redevelop the site and construct a high-quality replacement house that enhances the character and appearance of the neighbourhood, provides environmental improvements through its increased sustainability and proposes a substantial scheme of re-planting and landscaping.

This document provides an explanation of the proposed scheme, evaluated against the constraints of the site and location, as well as all relevant local and national planning policy.



2.0 XUL Architecture profile

XUL Architecture is an award-winning, “commercially minded” and client-centered architecture practice. Our vision is to design beautiful buildings that use ingenious ways of bringing natural light to architecture while changing how architectural services are delivered.

We see design as a collaborative process and place great emphasis on our relationships with clients, consultants, and contractors. Combining our energy, extensive knowledge and talents we deliver exciting projects and make a positive difference to each scheme and its local context.

As a RIBA Chartered practice with over 13 years of experience we have successfully worked on circa 300 projects, taking new build and renovation schemes from initial sketches to completion. We have extensive experience working particularly in Barnet, Camden, Haringey and Westminster Councils.

Our innovative design can be seen through our residential portfolio and has been recognized by Barnet Council, who awarded us with the **Barnet Architecture Award 2017** for our Hale Lane project in Mill Hill. In 2014 we also won the **Stuart Grey Award for the best project in Hampstead Garden Suburb** on a listed house.



02 / 03 Hale Lane project



3.0 Reference Documents

This Design and Access Statement has been produced (by XUL Architecture) in accordance with Haringey’s Local Plan and SPD’s and is to be read in conjunction with the following supporting documents:

1.

Planning Statement by SM Planning
2.

Drawings by XUL Architecture

LP-00_P01: Site Location and Block Plans

EX-00_P01: Existing Site Plan

EX-01_P01: Existing Basement and Ground Floor Plans

EX-02_P01: Existing First and Second Floor Plans

EX-03_P01: Existing Front and rear Elevations

EX-04_P01: Existing Side Elevations

EX-06_P01: Existing Site Sections

PA-00_P01: Proposed Site Plan

PA-01_P01: Proposed Ground Floor Plan

PA-02_P01: Proposed First Floor Plan

PA-03_P01: Proposed Second Floor Plan

PA-04_P01: Proposed Roof Plan

PA-05_P01: Proposed Front Elevation

PA-06_P01: Proposed Rear Elevation and Side Elevation 1

PA-07_P01: Proposed Side Elevation 2

PA-08_P01: Proposed Sections AA, BB and CC
3.

Tree Survey, Arboricultural Impact Assessment and Tree Protection Plan by Tretec
4.

Structural Report and Drainage Strategy by SD Structures
5.

Overheating Assessment by P3R Engineers
5.

Landscape Proposals by James Smith Desgin
6.

Energy Statement and Life Cycle CO2 Analysis by Green Tiger Sustainability
7.

Construction Management Plan by Kias Services

4.0 Site and Surroundings

4.1 Creighton Avenue

Creighton Avenue is approximately 0.9 miles long linking East Finchley High Road to the Muswell Hill area. It is mainly made up of large detached and semi-detached single family residences of varying aesthetic style and materiality and set in generously sized plots; the general charcater is representative of a typical suburban street.

There are a variety of building scales, massings and different street boundary conditions. Many of the properties have undergone various extensions and alterations to adapt to modern living standards, and in various cases, they have been fully demolished and rebuilt.

It is noted that most houses have stepped front elevations, with combinations of pitched roof, gable ends, and areas of flat roof, which breaks down the mass of the larger residences when viewed from the street.

Refer to **images 04-09** on the right and to the diagramatic analysis, in the next page, of key architectural features found throughout Creighton Avenue and that have been included in the proposal.



04 179 Creighton Avenue



05 205 Creighton Avenue



06 226-224 Creighton Avenue



07 124 Creighton Avenue



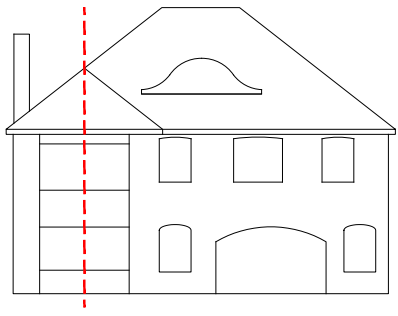
08 78 Creighton Avenue



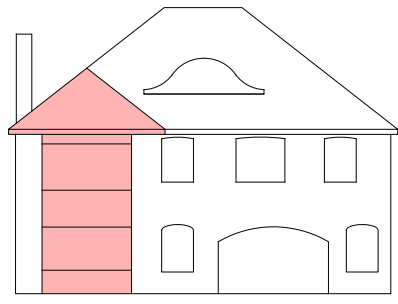
09 196-194 Creighton Avenue

124 Creighton Av.

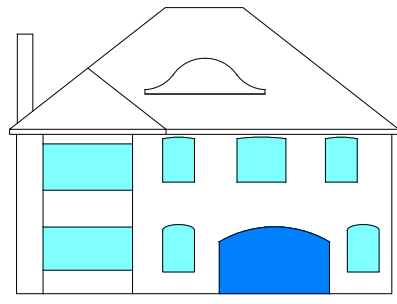
Symmetry



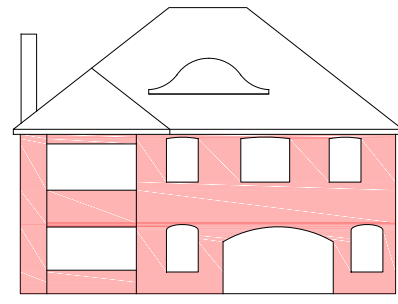
Dominant part



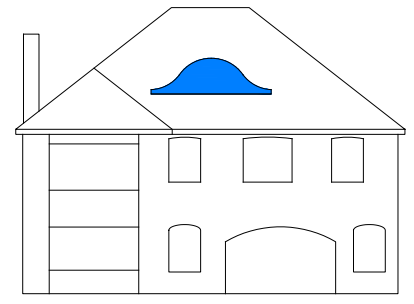
Windows + Entrance



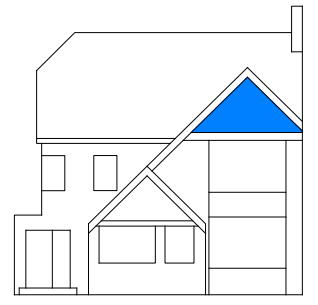
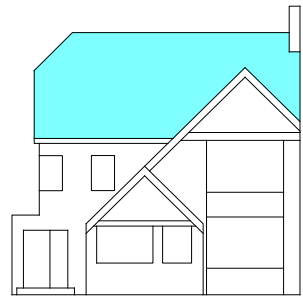
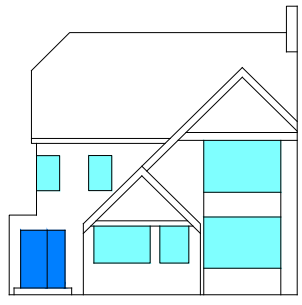
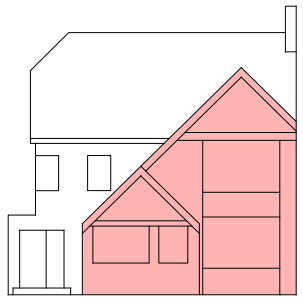
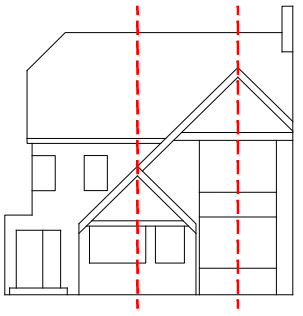
Brick walls + Slate roof



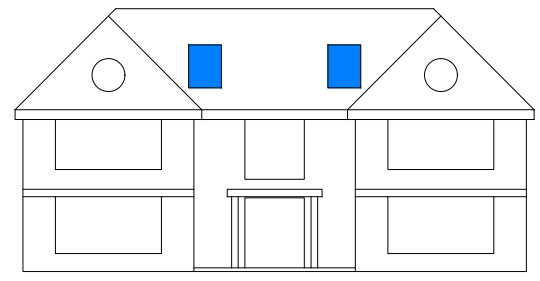
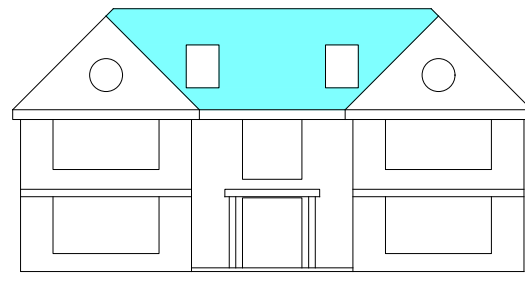
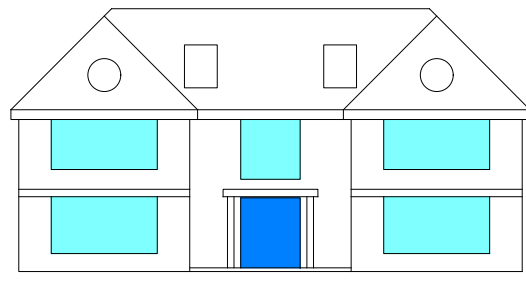
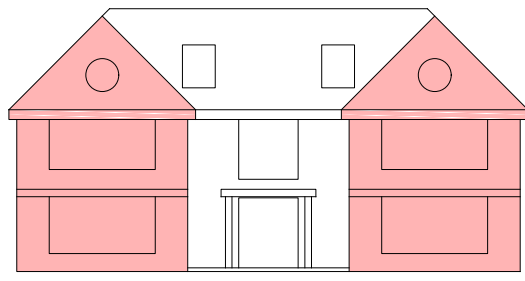
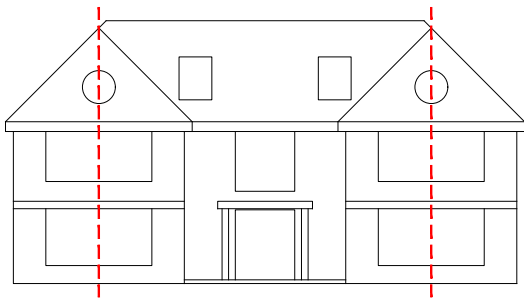
Front dormer



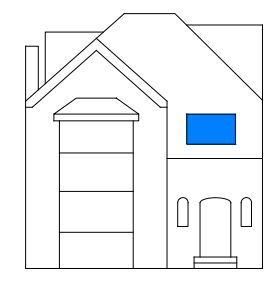
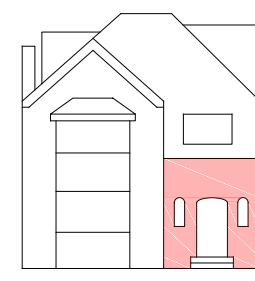
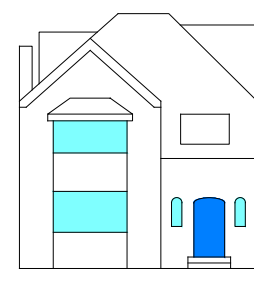
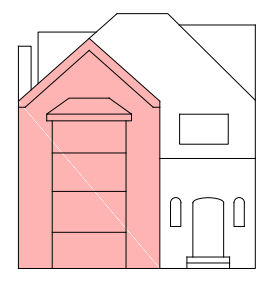
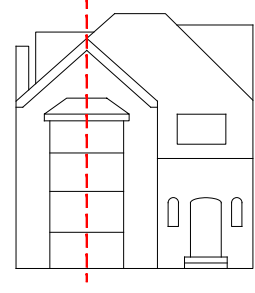
196 Creighton Av.



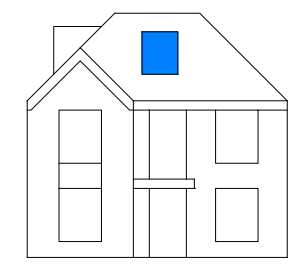
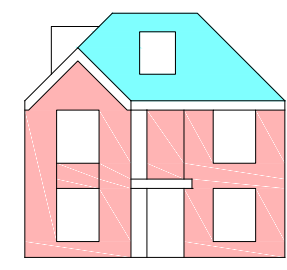
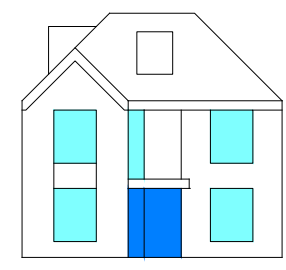
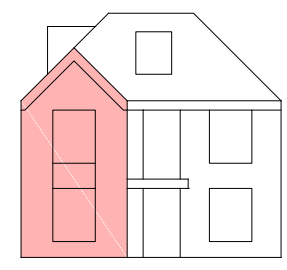
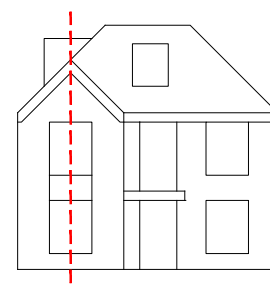
179 Creighton Av.



78 Creighton Av.



186 Creighton Av.
(proposal)



4.0 Site and Surroundings

4.2 186 Creighton Avenue - Existing Plot

The existing plot sits in the middle of a quiet residential avenue within the Fortis Green Ward of the Borough of Haringey in North London. As per the Haringey Map of Conservation Areas, the site is outwith and does not border any listed buildings or conservation areas.

The total site area is 933 sqm, including a single detached family dwelling and a rear outbuilding which aren’t listed and are of no special designation. It is accessed from Creighton Avenue on the southern boundary by a single driveway entrance via dropped curbs, is bounded to the North by Coldfall Wood and to the South/West by private residences and their gardens.

A rendered brick wall of varying heights together with metal railings and main gate define the south boundary of the front portion of the site. Behind this wall there are 2no good quality trees (Magnolia and Eriobotrya) to be retained and a Bay tree of no value to be replaced.

More than half (374 sqm) of the rear garden (663 sqm) is covered by hard paving which is in poor condition and the rest by lawn and planters. Where possible all existing mature trees will be retained.

4.3 Existing Building Areas (GIA)

Basement	17 m²
Ground Floor Area	119 m²
First Floor Area	92 m²
Second Floor (Roofspace) Area	31 m²
Total House Area	259 m²
Garden Building	42 m²
Garden Shed	22 m²
Total Built Area	323 m²
Total Site Area	933 m²
Plot Ratio	34.6%



10 Existing House with Magnolia Tree in Front Garden to be retained



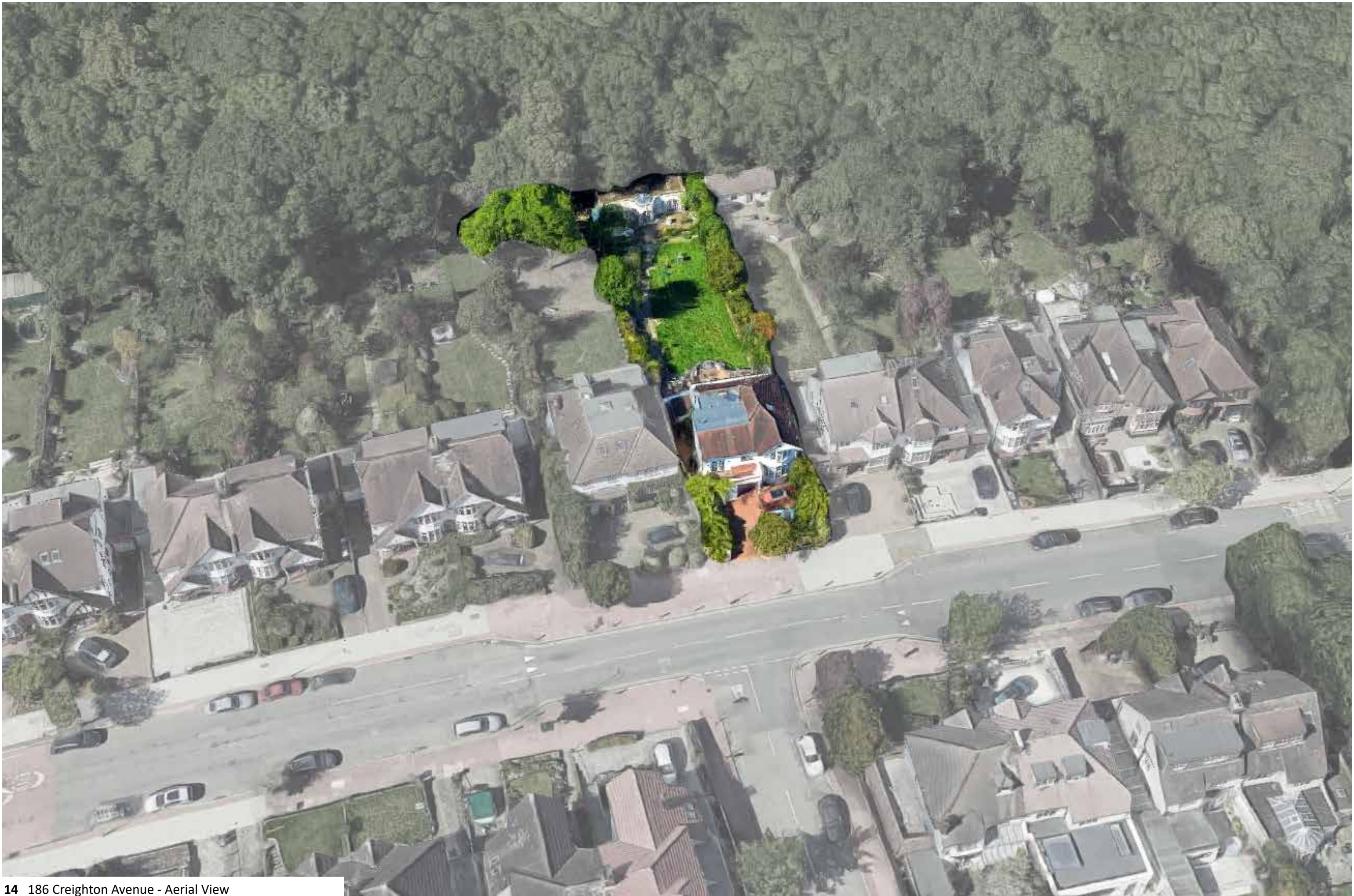
12 Existing Rear Garden Shed



11 Existing Rear Garden Room



13 Existing concrete pavers in Rear Garden



14 186 Creighton Avenue - Aerial View

4.0 Site and Surroundings

4.4 186 Creighton Avenue - Existing House

The existing building is a large, 5-bed two-storey detached house, built around 1935, of no historic or architectural merit which detracts from the character and appearance of the surrounding streetscape.

The property is built of solid brick walls (no insulation) rendered with pebble dashing, with a crown roof structure of hipped and gable design, clad with red rosemary clay tiles. It also includes white double-glazed uPVC doors and windows throughout which have reached the end of their lifespan.

There are 2 no concrete-built wide balconies to the front and the rear which are uncommon in this area and provide opportunities for overlooking.

The internal layout is simply organized with social areas on the ground floor and private areas on the upper floors. All living areas of the house are single aspect, providing no opportunities for natural cross ventilation. Also, the second floor can only be accessed through one of the first floor bedrooms which presents a fire safety risk.

The type of construction, awkward layout and lack of maintenance significantly limit the energy efficiency of the existing house, its ability to achieve modern building standards and to satisfy the requirements of its future users.



15 Front Elevation - Existing Condition



16 Rear Elevation - Existing Condition

5.0 Planning

5.1 Planning History

According to the Council’s online planning register, the only planning history that relates to the application site is as follows:

OLD/1975/0219

13/11/74 - Permission granted for the erection of a single-storey rear extension with alterations to back and front.

OLD/1979/0241

14/2/79 - Permission granted for the erection of 1st floor extension, porch and formation of room in the roof.

5.2 Pre-Planning

XUL Architecture and SM Planning submitted a pre-planning application for the demolition of the existing house and the construction of a new house on the 29th July 2022.

The pre-planning meeting took place on the 14th September 2022 and was attended by the following:

- | | |
|------------------------------------|--------------------|
| Mark Chan, Senior Planning Officer | - LB Haringey |
| Stuart Minty, Director | - SM Planning |
| Allen Sacbucker, Associate | - SM Planning |
| Sebastian Sandler, Director | - XUL Architecture |
| Frederico Marques, Architect | - XUL Architecture |

Key issues such as demolition of the existing house and sustainability, the design, scale and massing of the proposal and the impact on the existing trees were discussed in detail.

Pre-Planning Ref: **PRE/2022/0205**

5.3 Relevant planning precedent in Creighton Avenue

The applications below have all been approved by Haringey Council and show a history for approving demolition and erection of contemporary new buildings, and the addition of front dormers in Creighton Avenue.

179 Creighton Avenue, London, N2 9BL (Image 04)

Ref.: HGY/2011/2294

Demolition of existing 6 bedroom detached house and 1 x existing garden building. Erection of a new 6 bedroom detached dwelling house with basement level, car parking and creation of a new crossover.

Full permission Granted (16/03/2012) – Delegated

The Lodge, 82-84 Creighton Avenue, N10

Ref.: HGY/2005/1633

Demolition of existing park keeper’s lodge and erection of 2 x 2 storey four bedroom dwelling houses with room at lower ground and first floor, with associated car parking and landscaping.

Full permission Granted (02/12/2005) - Committee

124 Creighton Avenue, London, N2 9BL (Image 07)

Ref.: HGY/2020/0299

Erection of front eyebrow dormer and rear roof dormer extensions and installation of front and rear roof lights.

Full permission Granted (13/03/2020) – Delegated

5.4 Relevant planning precedent near Creighton Avenue

The applications below have all been approved by Haringey Council and show a history for approving demolition and erection of contemporary new buildings in other areas of Haringey.

33 Sheldon Avenue, London, N6 4JP

Ref.: HGY/2010/2213

Demolition of existing building and erection of two storey house with rooms in the attic, 3 x dormers to front/3 x dormers to rear elevations and basement level to provide leisure rooms with a garage.

Full permission Granted (18/01/2011) – Delegated

1b Sheldon Avenue, N10

Ref.: HGY/2013/1001

Conservation Area Consent for demolition of existing 2-storey building and erection of 2- storey replacement dwelling with basement.

Full permission Granted (16/07/2013) - Delegated

63 Lanchester Road, London, N6 4SX

Ref.: HGY/2012/0706

Demolition of existing five bedroom two storey detached house and erection of two storey, five bedroom detached house.

Full permission Granted (17/12/2012) - Committee

6.0 Design

6.1 Introduction

The design, massing and materials of the building envelope have been developed in close consideration of the site and its context.

This application is for the demolition of a existing house and garden building and the construction of a new family home that maximises the opportunities for bringing in natural light and that prioritises the relationship with the rear garden and Coldfall Wood.

Since the Pre-Planning receipt of reponse, a rigorous re-assessment of the site has been undertaken in order to satisfy the planning issues at hand and to establish a proposal suitable to its surroundings.

The following pages aim to describe the design process and the reasoning behind key design decisions.

6.2 Form and Massing

Creighton Avenue is mainly ocupied by large family dwellings with generously-sized front gardens. The replacement building is consistent with the overall streetscape in terms of scale, bulk and mass by way of providing a two storey single family dwelling, with roof accommodation.

The proposed building will match the alignment of the exisitng building footprint at the front of the site which prevents any adverse impact to the exisitng streetscape (see image 17). The removal of the exisitng one-storey side extension and the inclusion of a side courtyard, will create a better separation from no184, and improve the circulation between the front and the rear gardens at no186. The depth of the new rear extension will be similar to the depth of the existing extension at no188, maintaing the amount of development balanced with it's neighbours.

(continued)



17 Illustrative site plan

6.0 Design

6.2 Form and Massing

The roof has been designed to replicate that of a traditional roof profile and the eaves and ridge heights are consistent with those of 186 and 188 Creighton Avenue (see image 18).

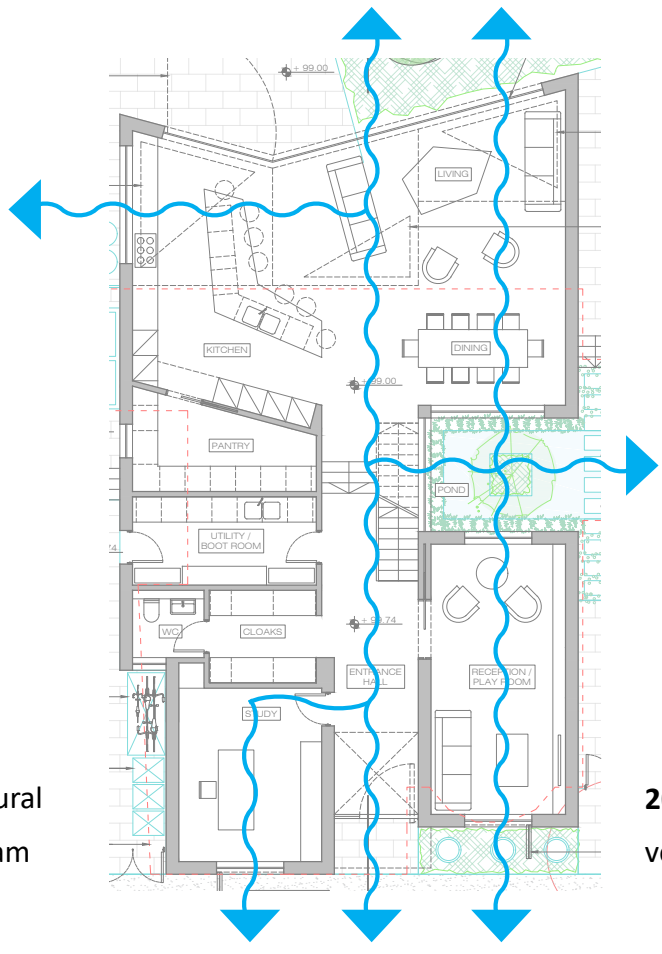
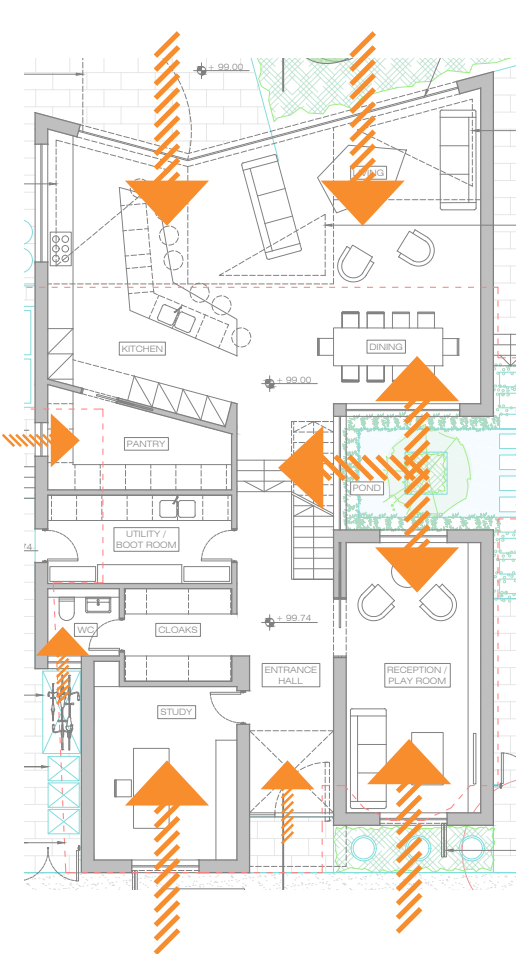
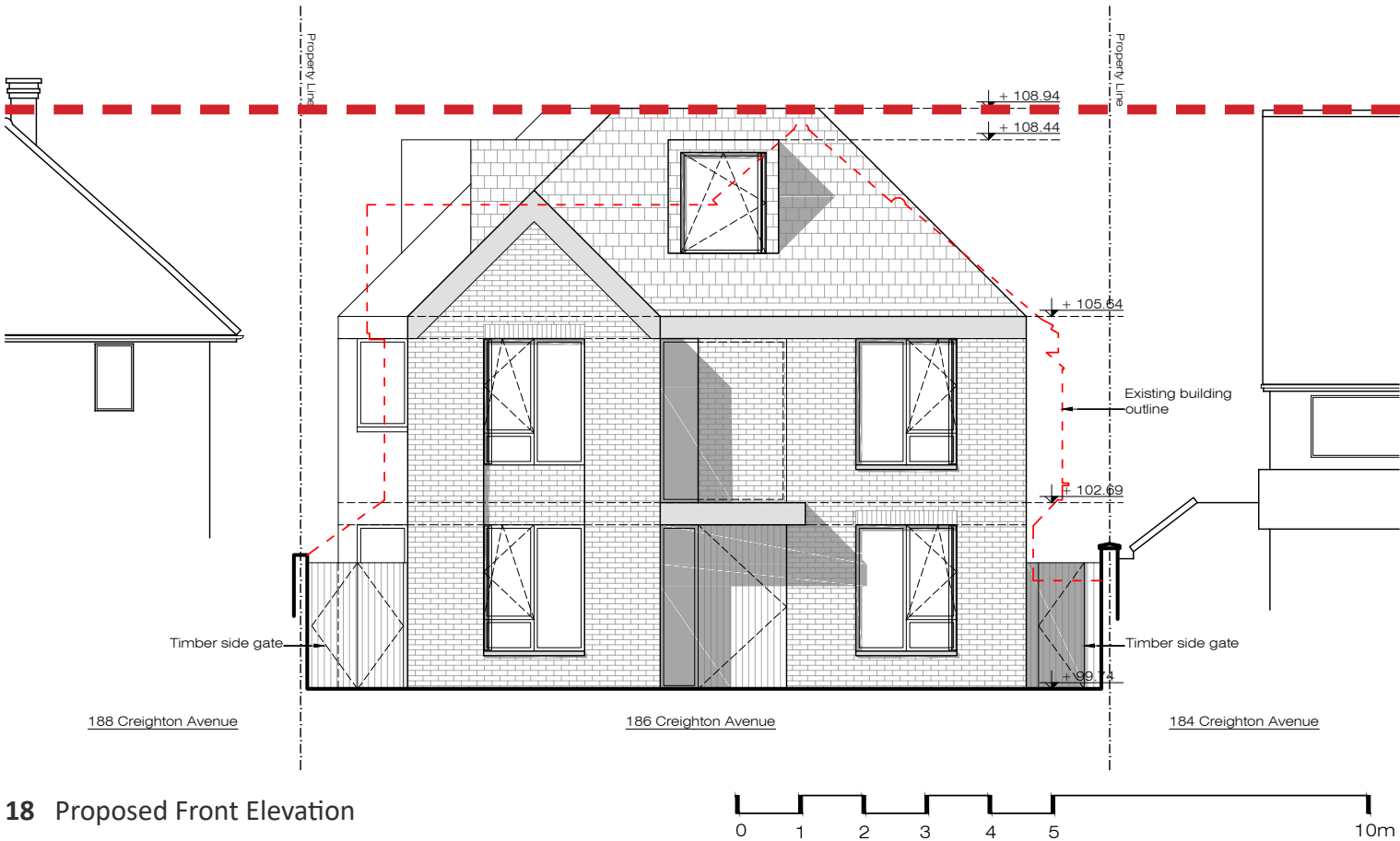
The form, rhythm and massing was designed to respond to the prevalent architectural features of the neighbourhood, such as:

- dominant volume in front and rear elevations which steps forward and is subordinate to the main body of the house helping reduce the mass
- existing gable end roof design feature omitted from the new design to minimise impact on the neighbours
- modest-sized front and side dormers, subordinate to the roof, set away from the eaves and ridge, and in keeping with the character, size and scale of other dormers in Creighton Av
- window arrangement symmetrically organized and proportionally sized to the front and rear elevations

Refer to diagrammatic analysis in section 4.1.

One of the most important design features of the house is the proposed courtyard on the side elevation facing East. It helps break up the mass of the building but more importantly, due to the deep plan, it maximises the intake of natural light to the adjacent rooms on all levels (see image 19), and provides opportunities for natural cross ventilation (see image 20) without compromising the amenity of the neighbours. It also brings a piece of nature closer to the core of the house.

The rear extension, which faces North-West, takes advantage of its irregular shape to maximise the opportunities to capture natural light through large 3no rooflights and glazed doors. These doors also offer uninterrupted views of the rear garden and Coldfall Wood.



6.0 Design

6.3 Appearance and Materiality

The proposal aims to be sympathetic and considerate in its appearance and character to the adjacent and surrounding built environment, through the use of relevant materials and design features.

Refer to diagramatic analysis in section 4.1.

The front, rear and side elevations are predominantly constructed of brick and will be erected in a stretcher bond layout. Continuous cast stone banding has implemented at the junction with the roof to provide a sense of horizontality to the elevations and help breakdown the volume mass. Cast stone will also be used to clad the entrance canopy and for window sills, for aesthetic coherence. A powder-coated triple-glazed aluminium-clad window system is proposed and will be set back from the main facade to provide deep reveals externally. Delicate aluminium external shutters are also proposed to all south facing windows and west facing dormers to prevent overheating on peak summer days.

The roof will be clad with dark grey welsh slate. A low-carbon and extremely durable material that will be complemented with crisp and contemporary detailing to keep the facades smart and less ‘busy’. These details include:

- concealed gutter
- mitred hip (no tiled hip or lead roll)
- dormers also clad in slate
- integrated PV array (flush)

The rear extension is subordinate to the main house but will be modern in its form and provide an contemporary juxtaposition against the solid construction of the main body of the house. It will be clad in charred timber, a natural material that provides a balanced relationship between the new build house and the rear garden/Coldfall Wood.



21

A. BRICK

Product: Karma Grey Blend
Finish: Handmade
Application: External Walls
Dimensions: 215mm x 102.5mm x 65mm
Bond type: Stretcher Bond
Mortar: Tarmac Coloured - ‘White Y101’
Pointing: Flush
Durability: F2
Toletance: T2
Range: R1

Supplier: Taylor Maxwell
Taylor Maxwell House
The Promenade
Clifton
Bristol, BS8 3NW

www.taylormaxwell.co.uk
+44 (0) 203 794 9377



22

B. CAST STONE

Product: Wet Cast Portland
Finish: Medium Etch, WP-01ME
Application: Horizontal banding
Window sills

Supplier: Taylor Maxwell
Taylor Maxwell House
The Promenade
Clifton
Bristol, BS8 3NW

www.taylormaxwell.co.uk
+44 (0) 203 794 9377



23

C. SLATE

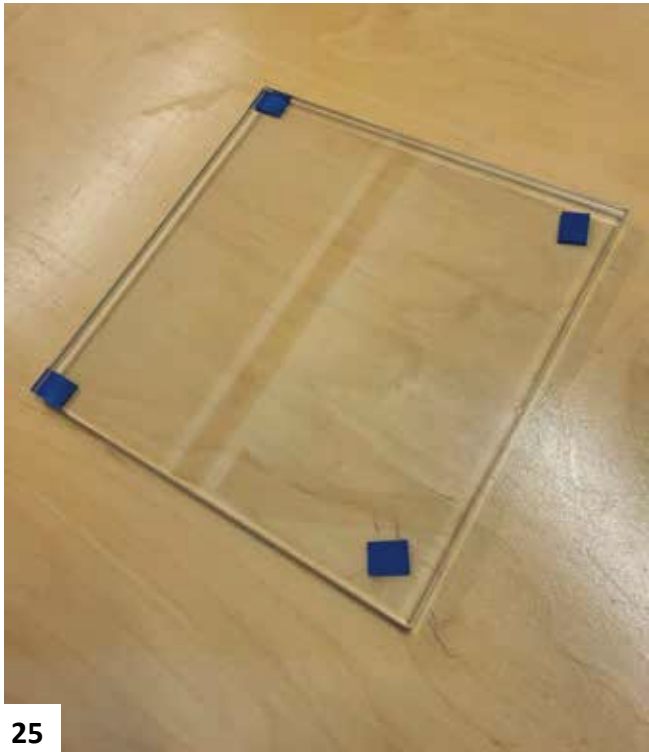
Product: Cwt-y-Bugail, Capital Grade
Finish: Dark Blue Grey
Application: Roof
Dimensions: 400m x 200mm x 5.5mm

Supplier: Welsh Slate
Penrhyn Quarry
Bethesda
Bangor
Gwynedd, LL57 4YG

www.welshslate.com
+44 (0) 1248 600656

6.0 Design

6.3 Appearance and Materiality



D. ALUMINIUM

Product: Aluminium
Finish: Powder Coated
Application: Cladding for windows, sliding and pivot doors
External bi-fold shutters
Colour: RAL 7021, Black Grey

Supplier: Ecovia
226 Battersea Park Road
London, SW11 4ND

www.ecovia.com
+44 (0) 203 865 4376

E. GLASS

Product: TBC
Finish: Clear
Application: Windows, sliding and pivot doors
Type: Triple, Safety

Supplier: Ecovia
226 Battersea Park Road
London, SW11 4ND

www.ecovia.com
+44 (0) 203 865 4376

F. TIMBER

Product: Accoya
Finish: Shizen, charred
Application: Rear Extension cladding
Dimensions: Various

Supplier: Exterior Soluutions Ltd
Dropshot Farm
College Road North
Aston Clinton
Aylesbury, HP22 5EZ

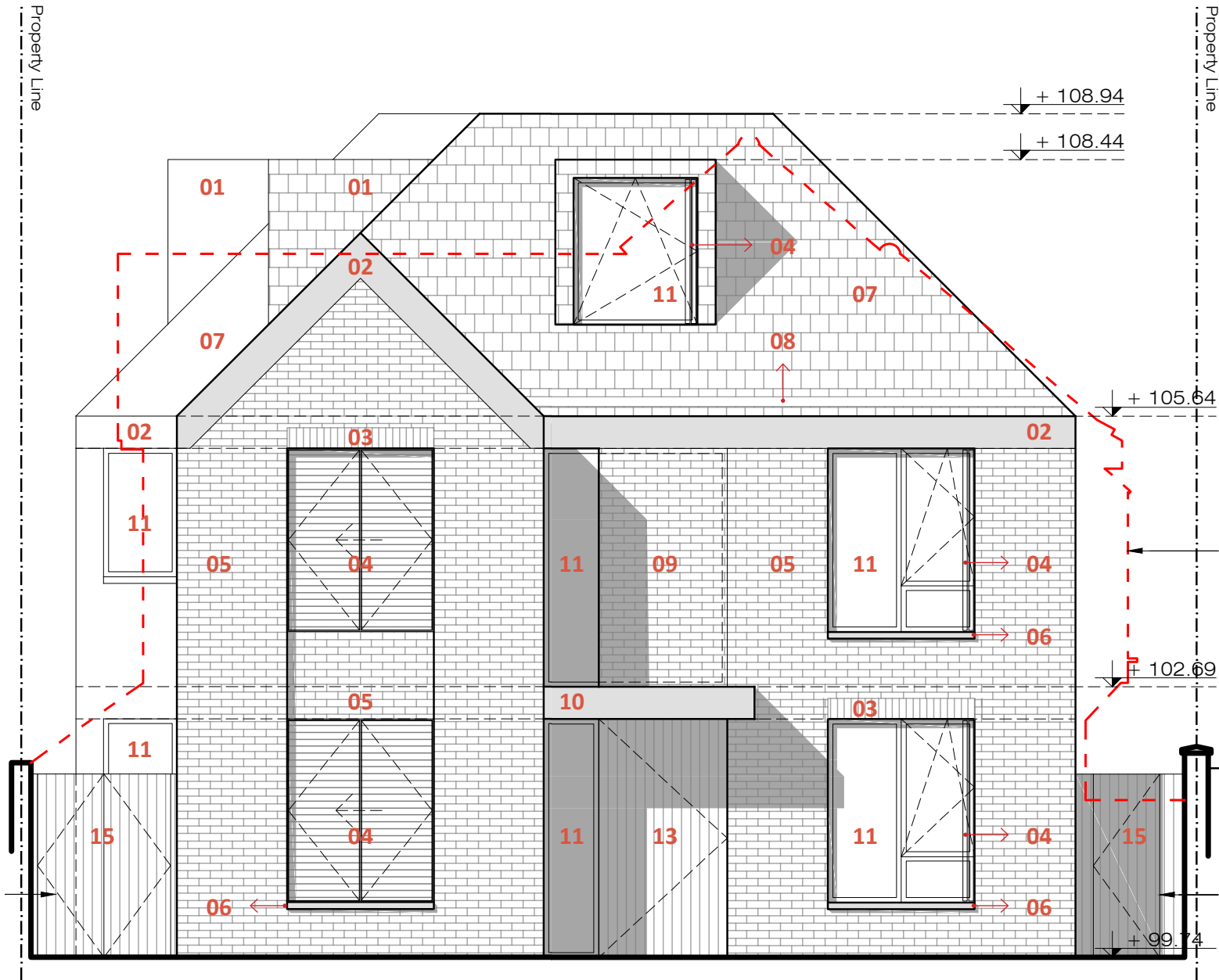
www.shousugiban.co.uk
+44 (0) 1494 711800

6.0 Design

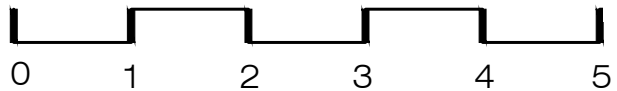
6.3 Appearance and Materiality

Material Key

01	Roof dormer clad with slate tiles	(material ref: C)	07	Roof slate tile cladding	(material ref: C)	13	Aluminium front door	(material ref: D)
02	Cast stone wall banding	(material ref: B)	08	Concealed gutter		14	Charred timber cladding	(material ref: F)
03	Brick soldier course	(material ref: A)	09	Perfurated brick panel	(material ref: A)	15	Timber gate - refer to Landscape Design details	
04	Bifold aluminium external shuters w/	(material ref: D)	10	Entrance canopy clad w/ cast stone	(material ref: B)	16	Aluminium rainwater downpipe	(material ref: D)
05	Facing brickwork w/ stretcher bond	(material ref: A)	11	Triple glazed aliminium-framed window	(material ref: D/E)	17	Integrated Solar PV panel	
06	Cast stone window sill	(material ref: B)	12	Triple glazed aliminium-framed door	(material ref: D/E)	18	Aluminium railing balustrade	(material ref: D)



27 Proposed Front Elevation

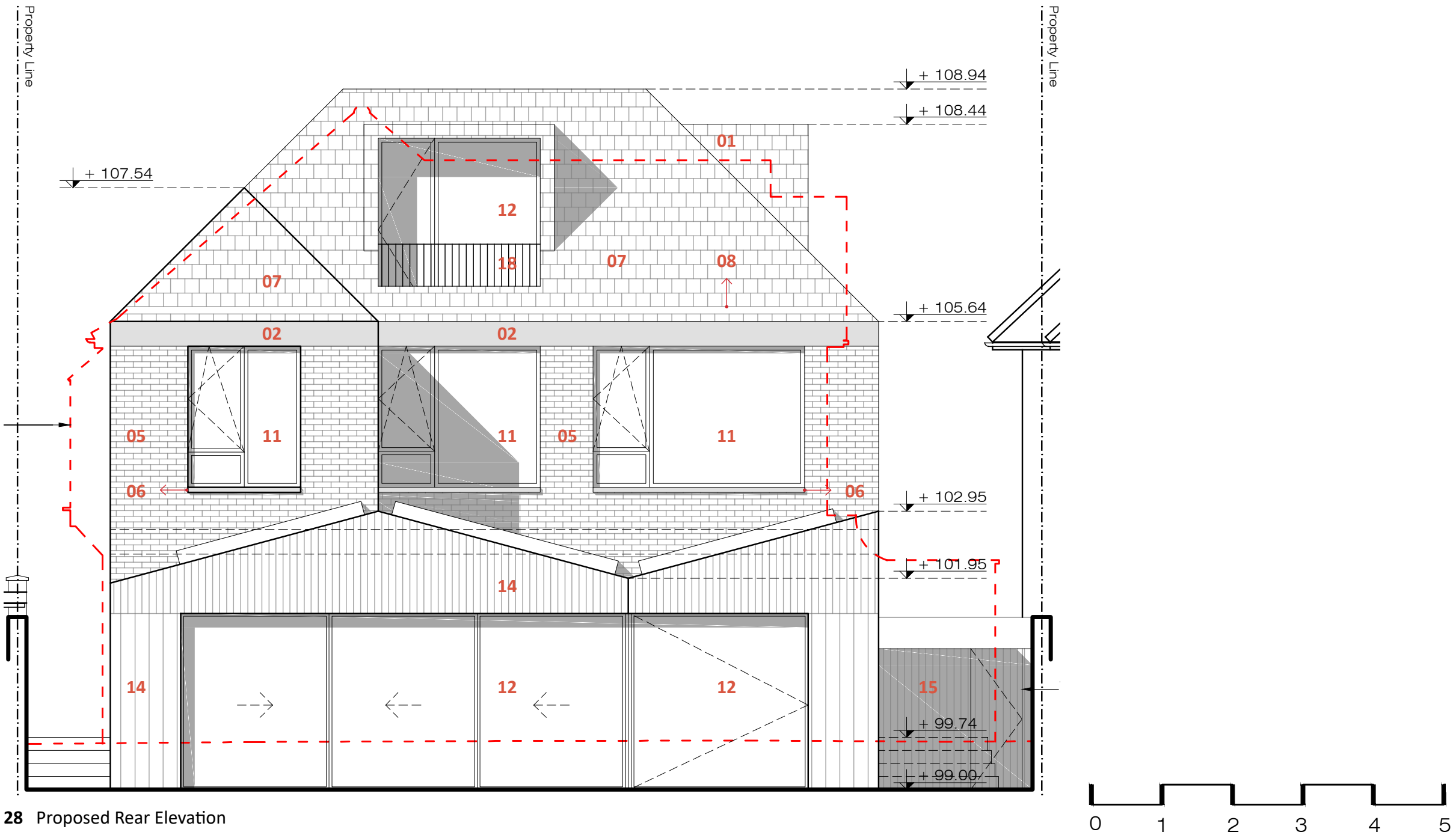


6.0 Design

6.3 Appearance and Materiality

Material Key

01	Roof dormer clad with slate tiles	(material ref: C)	07	Roof slate tile cladding	(material ref: C)	13	Aluminium front door	(material ref: D)
02	Cast stone wall banding	(material ref: B)	08	Concealed gutter		14	Charred timber cladding	(material ref: F)
03	Brick soldier course	(material ref: A)	09	Perfurated brick panel	(material ref: A)	15	Timber gate - refer to Landscape Design details	
04	Bifold aluminium external shutters w/	(material ref: D)	10	Entrance canopy clad w/ cast stone	(material ref: B)	16	Aluminium rainwater downpipe	(material ref: D)
05	Facing brickwork w/ stretcher bond	(material ref: A)	11	Triple glazed aliminium-framed window	(material ref: D/E)	17	Integrated Solar PV panel	
06	Cast stone window sill	(material ref: B)	12	Triple glazed aliminium-framed door	(material ref: D/E)	18	Aluminium railing balustrade	(material ref: D)

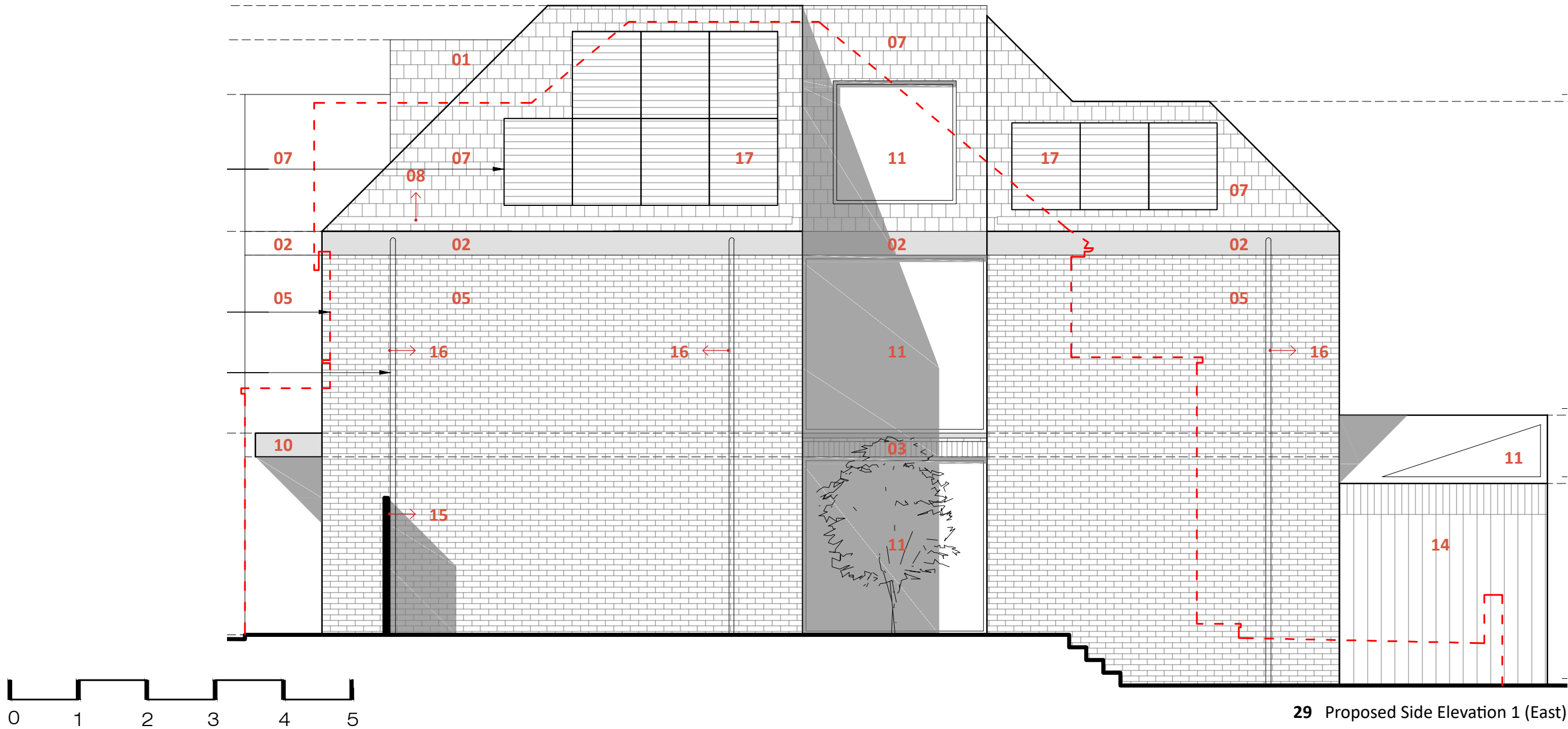


6.0 Design

6.3 Appearance and Materiality

Material Key

01	Roof dormer clad with slate tiles	(material ref: C)	07	Roof slate tile cladding	(material ref: C)	13	Aluminium front door	(material ref: D)
02	Cast stone wall banding	(material ref: B)	08	Concealed gutter		14	Charred timber cladding	(material ref: F)
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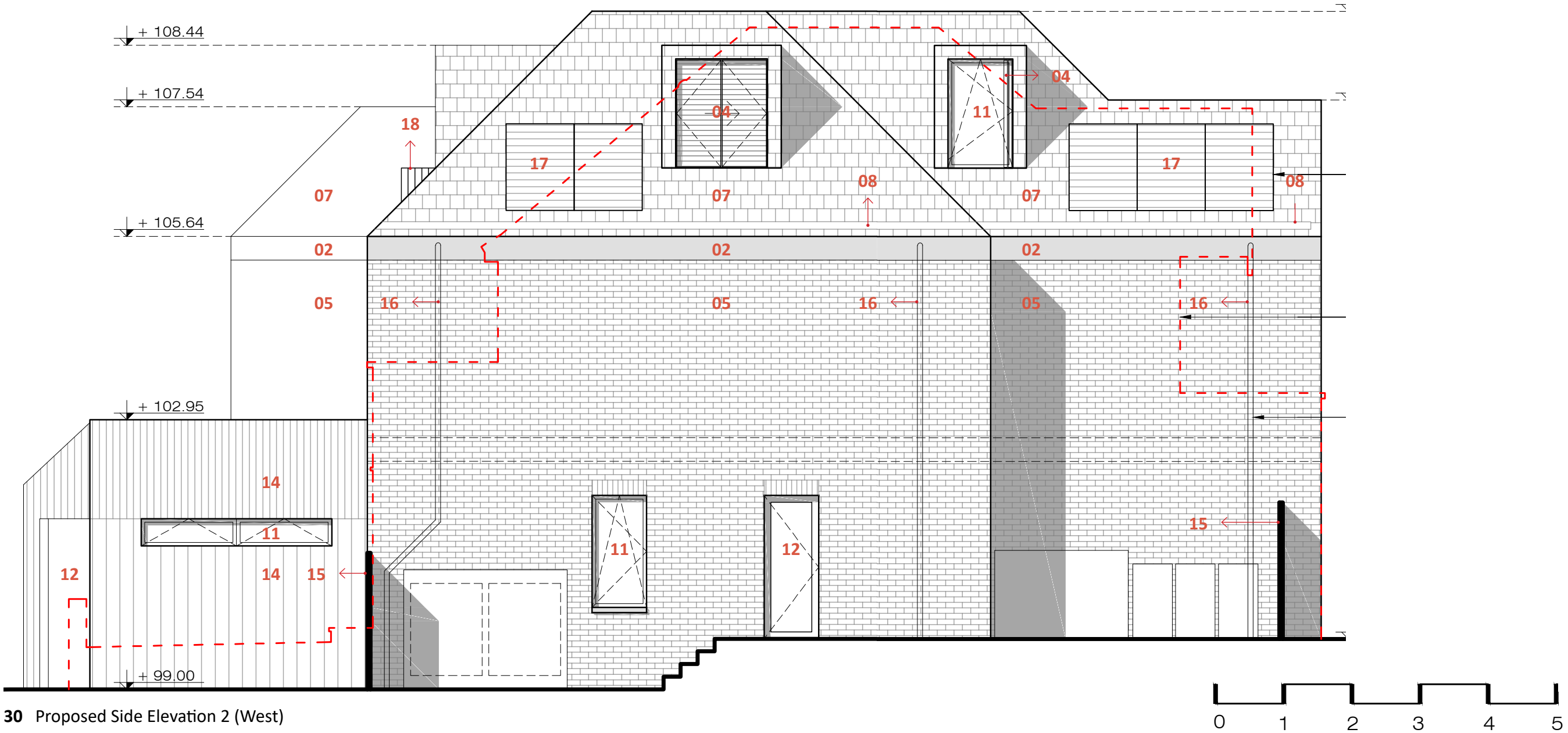
29 Proposed Side Elevation 1 (East)

6.0 Design

6.3 Appearance and Materiality

Material Key

01	Roof dormer clad with slate tiles	(material ref: C)	07	Roof slate tile cladding	(material ref: C)	13	Aluminium front door	(material ref: D)
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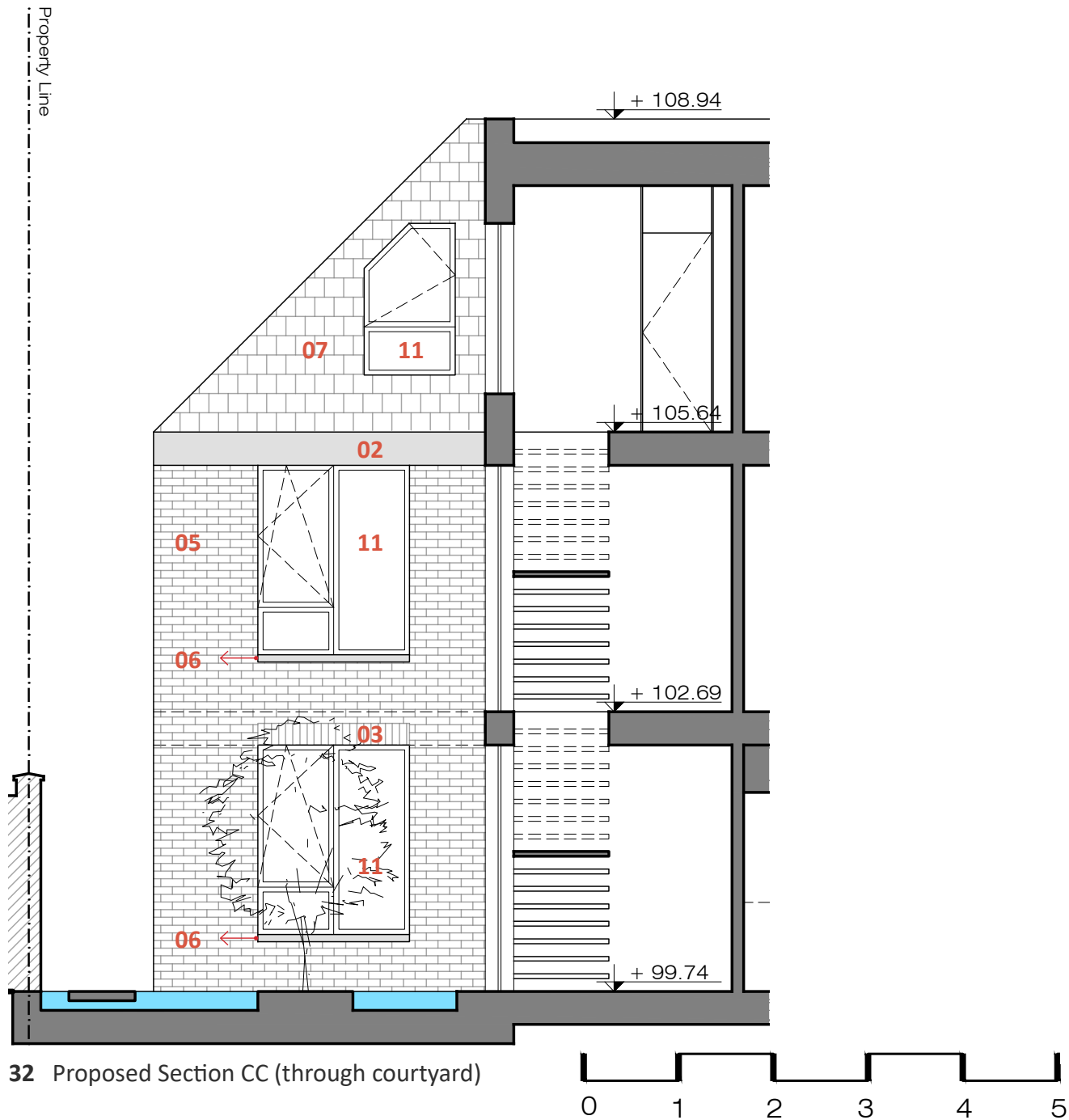
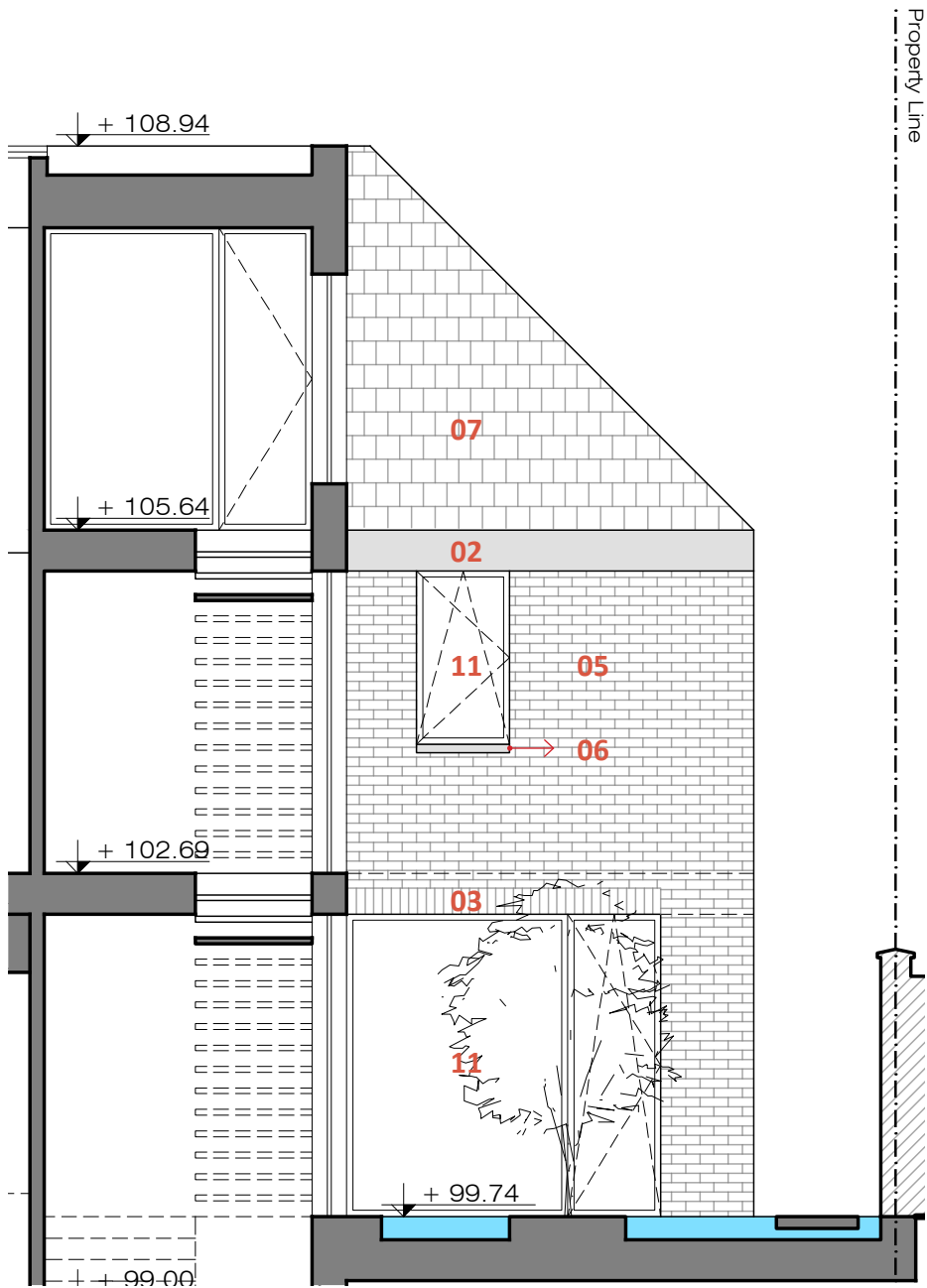


6.0 Design

6.3 Appearance and Materiality

Material Key

01	Roof dormer clad with slate tiles	(material ref: C)	07	Roof slate tile cladding	(material ref: C)	13	Aluminium front door	(material ref: D)
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6.0 Design

6.4 Use and Layout

The existing property was previously used as a residential property and the new proposal will also be used as a residential property. This use is characteristic of the area. No commercial activity will take place on this site.

The proposal seeks to decrease the total number of bedrooms from 7no (5x in the main house + 2x in the garden building) to 5no (main house only).

The proposed layout is as follows:

Ground Floor - Study, reception/playroom, cloaks, WC, utility/boot room, pantry and open plan kitchen, living and dining (see image 33).

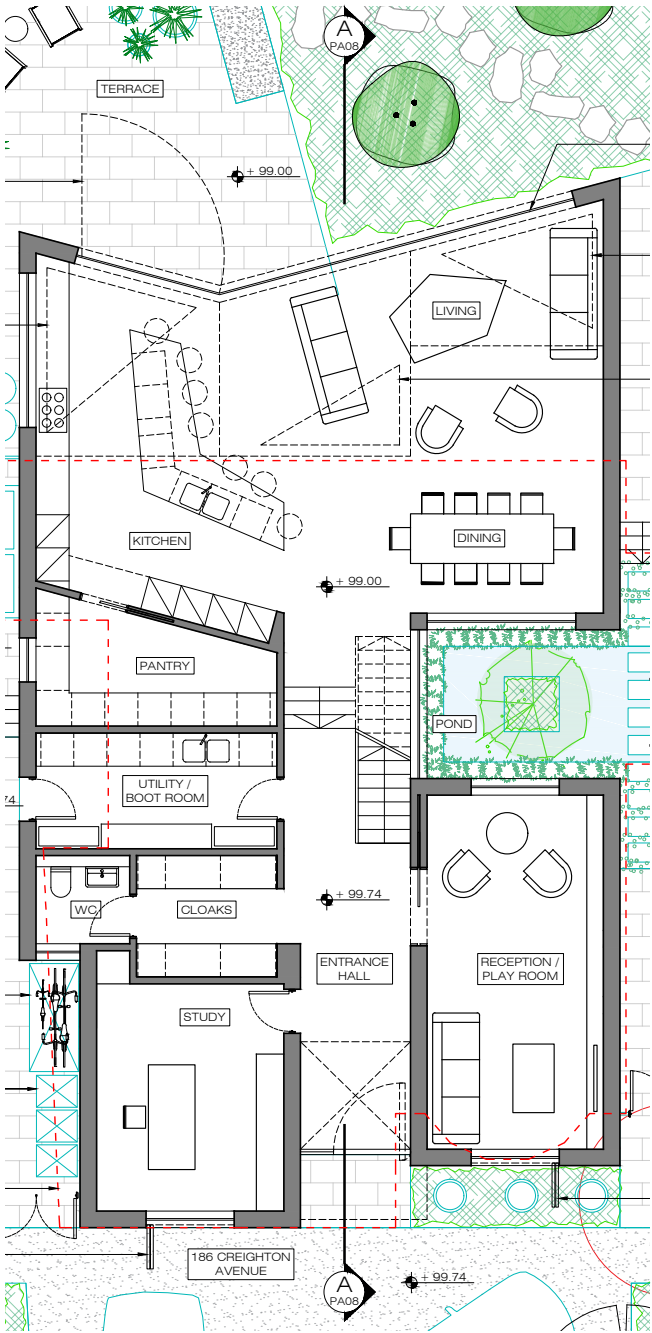
First Floor - 4no bedrooms, master en-suite and walk-in wardrobe, and family bathroom (see image 34).

Second Floor - Guest bedroom, bathroom and study (see image 35).

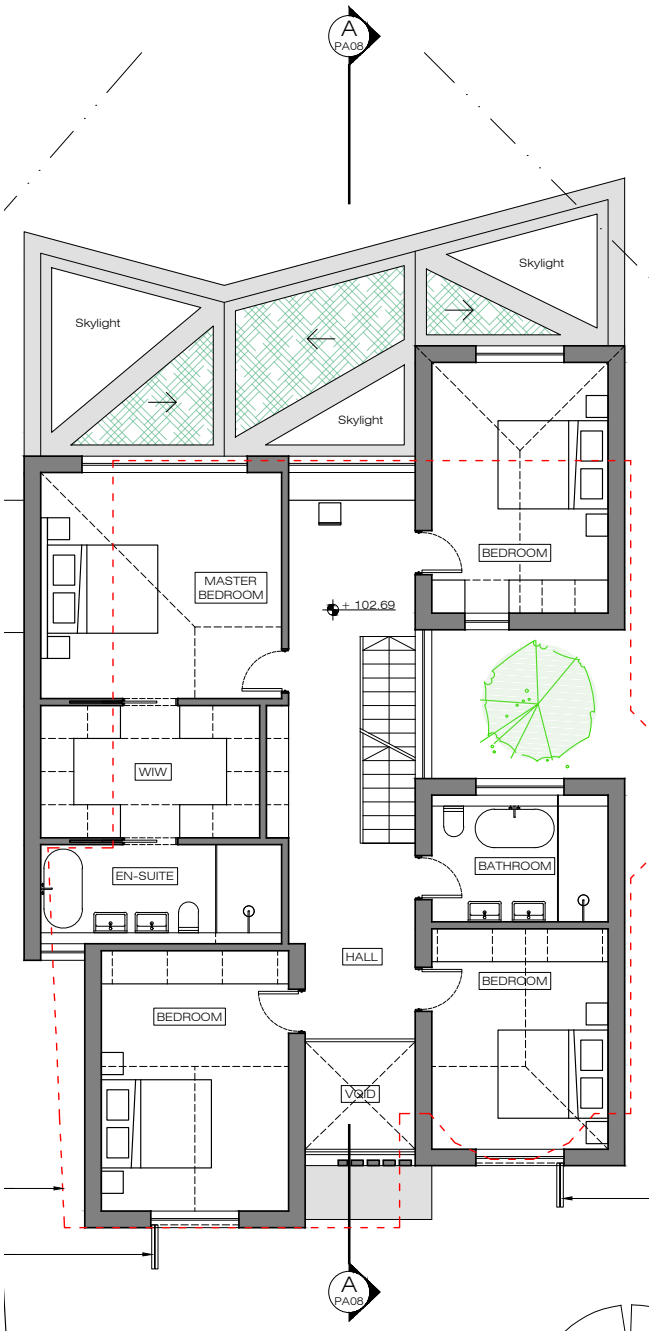
6.5 Proposed Building Areas (GIA)

Basement	0 m ²
Ground Floor Area	154.4 m ²
First Floor Area	117.1 m ²
Second Floor (Roofspace) Area	45.5 m ²
Total House Area	317 m ²
Garden Building	0 m ²
Garden Shed	14 m ²
Total Built Area	331 m ²
Total Site Area	933 m ²
Plot Ratio	35.4%

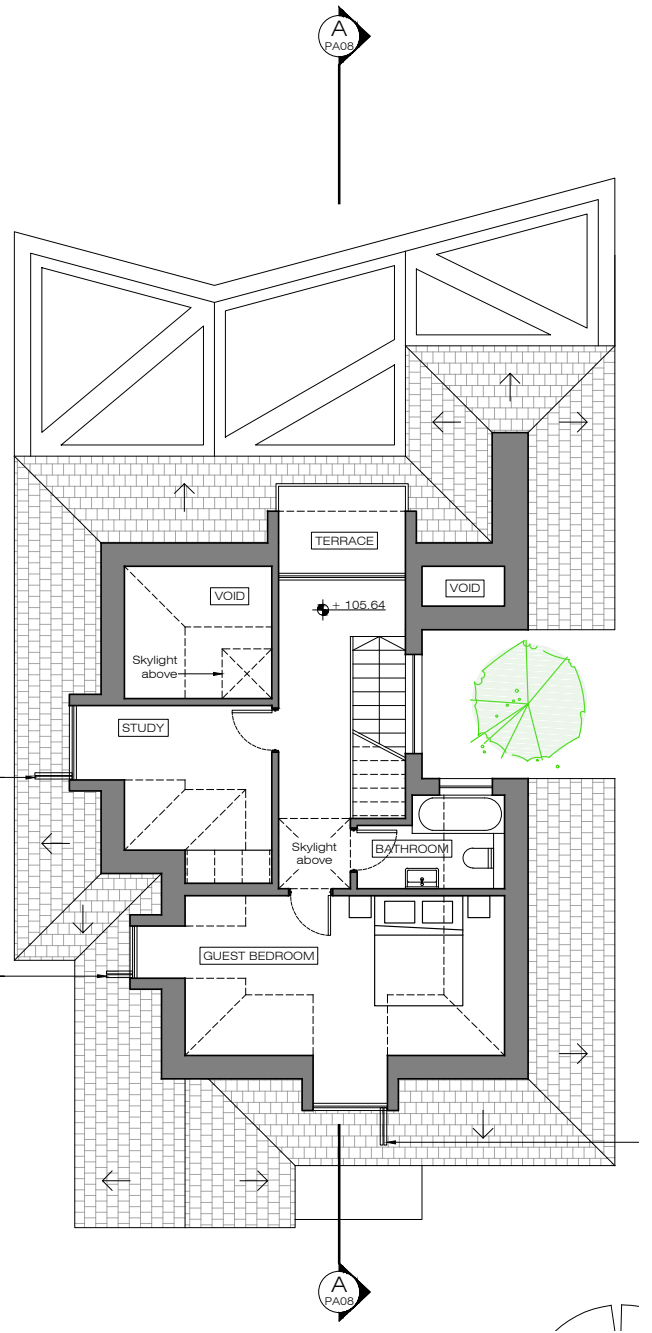
The proposal seeks to increase the total house area (GIA) by 58 m². However, due to the demolition of the existing garden building and the replacement of the garden shed with a smaller one, the plot ratio will increase by only 0.8%.



33 Proposed Ground Floor Plan



34 Proposed First Floor Plan



35 Proposed Second Floor Plan (Roofspace)

6.0 Design

6.6 Access

The site is located approximately 0.7miles from East Finchley Underground Station (14minute walk from the site) and is well connected with numerous bus routes (143 and 263) travelling on the nearby North Finchley High Road.

Access to and within the site remains unchanged. The existing driveway will be retained and and gate is to be removed to facilitate access. The house is accessible via the front main entrance and a secondary entrance located on west-facing side elevation throught the utility room.

It is propsoed that the internal floor finish is level with the proposed driveway finish so level access is provided. Internally, each of the floor levels are accessible via the main central staircase.

7.0 Sustainability

The accompanying **Energy Statement** and **Life Cycle CO2 Analysis** produced by Green Tiger Sustainability, and the **Overheating Assessment** produced by P3R Engineers confirm the proposal will meet the targets set out in Haringey’s current planning policies, provide detailed information of the project’s energy reduction credentials and on the proposed sustainability strategies.

7.1 Case for Demolition and New Build

The current dwelling cannot be upgraded to a satisfactory standard from a practical or longevity point of view. The existing property was built around 1935 and is approximately 87 years old and, whilst many pre-war dwellings stand longer, the life expectancy of a property such as this is 60 years (BRE).

The current dwelling survey details potential damp in kitchen area, windows/joinery in disrepair and finishing upgrades required. Electrical and plumbing services are also in disrepair and require replacement. The timber roof structure shows evidence of beetle infestation attack and needs to be replaced. The property has an inefficient use of space and the layout is poor for movement through the dwelling.

New builds in Haringey should meet a minimum carbon emission target 35% beyond building regulations Part L – under the London Plan guidance and local policy requires 100% overall carbon reduction, through on-site means first and contribution to Haringey offset fund for remaining emissions.

A refurbishment of the existing single dwelling would need to meet Part L building regulations in terms of energy, which are less rigorous than the standard of new build regulations and considerably lower than the London Plan/local new build requirements.

Also, after reviewing various options to adapt the existing structure to the client’s requirements, it became apparent that only small sections of external walls were left. And to hold these in place while alterations took place, significant amounts of temporary works and steel would be required, resulting in a very long, inefficient and expensive construction.

As demonstrated in the long term CO2 analysis, the new timber-frame building (see more detail in section 7.4) will go far beyond building regulations, **91.7% over Part L** (see more detail in section 7.3), and contribute to much lower carbon emissions in the long term over the refurbishment scenario (see more detail in section 7.2), in keeping with the borough’s wider aims.

7.2 Life Cycle CO2 Analysis - Refurbishment vs. New Build (Timber Frame)

When calculating the total life cycle CO2 emissions of the refurbishment and new build (timber frame) scenarios, 4no variables have been considered:

- 1. Production of materials (Embodied)
- 2. Construction
- 3. Operational / Use
- 4. End of life / Recycle, Reuse and Discard

The overall carbon emissions are much lower in the new build scenario when analysed over 50 years. If looked at further in the future the carbon saving estimate would continue to increase dramatically in comparison with the refurbishment scenario. Also, carbon sequestration has not been taken into

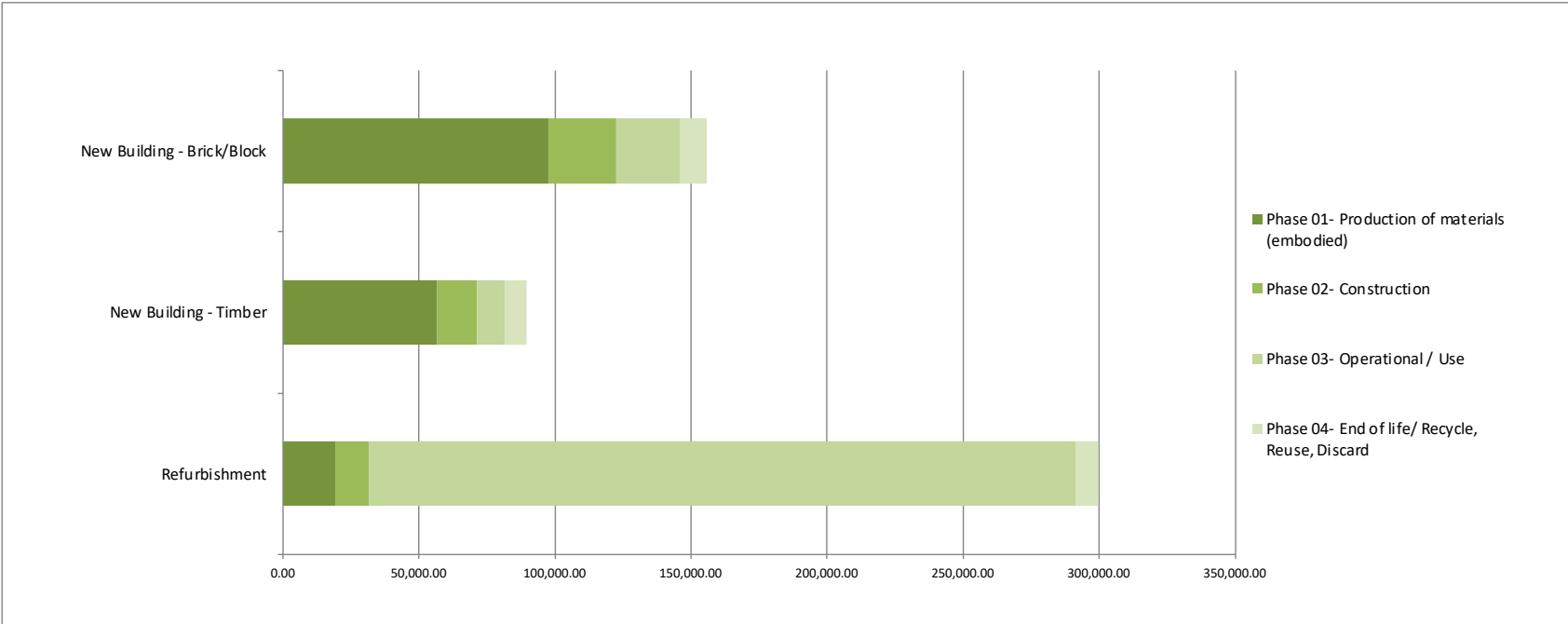
consideration, which would improve the new build (timber frame) scenario by 10%.

It is estimated that the new build scenario will achieve a saving of around 200,000 metric tones of Carbon Dioxide (CO2) in comparison with the refurbishment scenario (see image 36). For illustration purposes, this saving is equivalent to:

- 240 flights from London to New York
- or, greenhouse emissions from around 43,000 gasoline-powered passenger vehicles driven for one year
- or, CO2 emissions from around 460,000 barrels of oil consumed

In addition to the selected method of construction - Timber Frame - the traditional method of brick and block was also analysed. In comparison, it’s estimated that the timber frame scenario will achieve a saving of around 65,000 metric tones of CO2.

The above demonstrates that carefull and thorough consideration has been given to several possible scenarios in order to achieve the most sustainable solution for the foreseeable future.



36 Comparative Total Life Cycle CO2 emissions (KgCO2)

7.0 Sustainability

7.3 Energy

An extremely well-insulated energy efficient building envelope made of timber frame cassette with woodfibre insulation is proposed, and will result in a **20%** reduction of CO2 emissions when measured against Part L of the current Building Regulations.

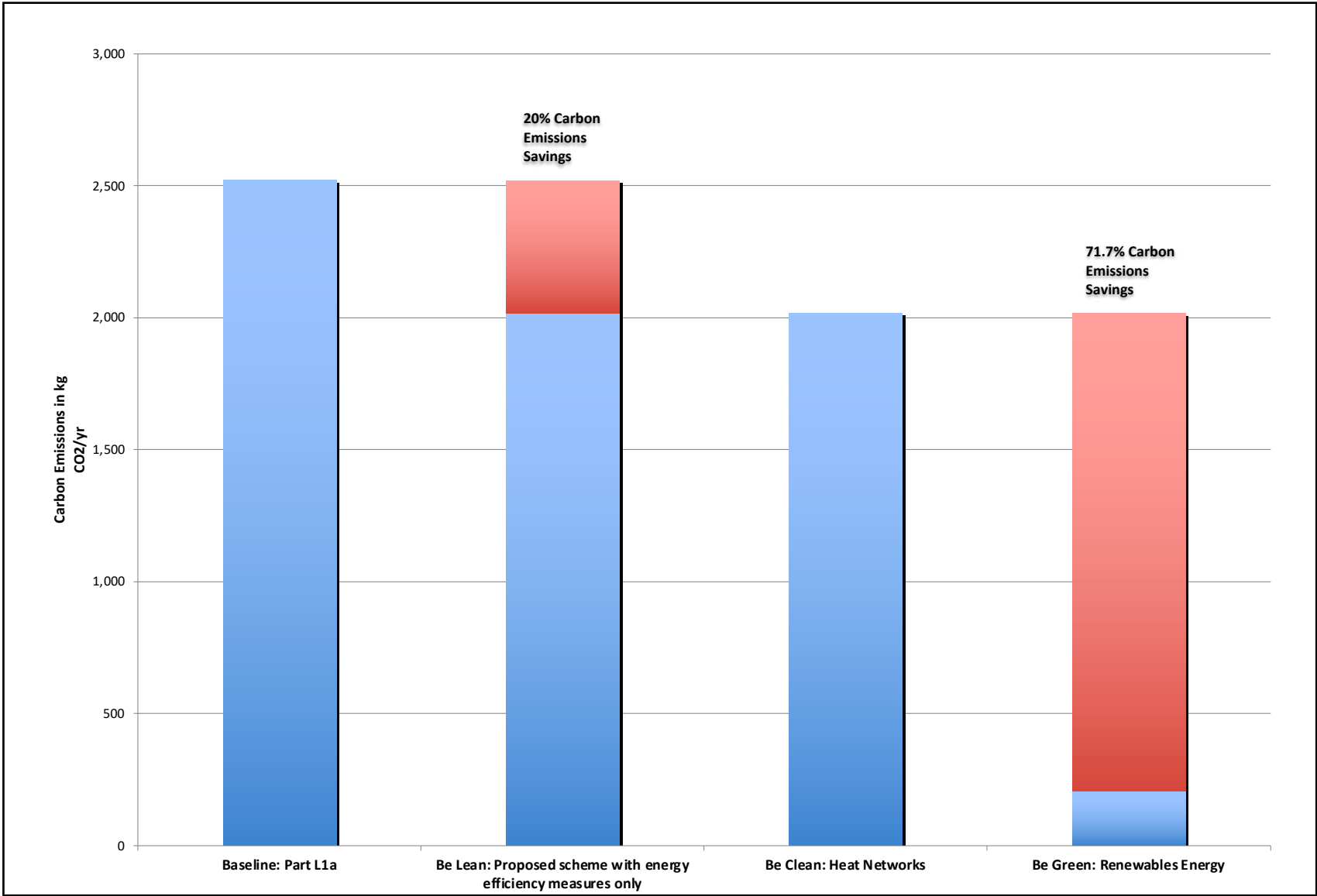
In addition to excellent u-values (see image 37), a very high-performance timber frame development is proposed with outstanding air tightness levels is to be achieved such that the proposed scheme does not exceed an air permeability level of 0.18 m3/hr/m2 at 50pa during testing.

Through the use of air source heat pump (ASHP) to provide heating, CO2 emissions will be reduced. In addition to this, a total Photovoltaic (PV) array of 7.2kWp is proposed to provide additional CO2 reductions. These will be integrated on the west and east faces of the main roof and also in the crown roof. No panels are proposed on the south face to avoid being seen from the street.

These renewable solutions will provide a further **71.7%** reduction of CO2 emissions, resulting in an overall carbon saving of **91.7%** over baseline building regulations (see image 38).

Element	Building Regulations Part L max U-Value (W/m²K)	Proposed U-Value (W/m²K)
Roof	0.16	0.11
Floor	0.18	0.10
Walls	0.26	0.14
Window	1.6	0.71

37 Proposed U-values



38 Energy Hierarchy

7.0 Sustainability

7.4 Method of Construction

The preferred method of construction is the timber frame cassette. A light weight, fully insulated and airtight construction methodology that is exceedingly high performing, fast to erect and friendly to the environment.

Timber cassettes are precision engineered offsite prefabricated components that are shipped to site and erected using a crane and crew. It's an incredibly simple method that offers an extremely high-quality finish. By using cassettes, the clients benefit from a building that can rapidly seal external facing walls, giving them protection from the elements and improving health and safety. By being light weight it reduces the foundation volume, i.e. less concrete.

Once the timber frame is water tight, it allows for all the service trades to progress their work at the same time that the facade and roof finishes are being laid (brick and slate respectively). This allows for a reduction of the overall construction programme and helps minimize disruption to the immediate neighbours.



39 Pre-fabricated roof cassette being craned into place



40 Pre-fabricated floor cassette being craned into place



41

7.0 Sustainability

7.4 Overheating

A dynamic thermal model was carried out following the methodology of CIBSE TM59 whilst employing overheating mitigation measures detailed in Part O and the LETI Design Guide.

The results confirmed there is no risk of overheating in the house, which was possible due to the implementation of the following passive design measures:

- External shutters to all south facing windows and to all roof-level west facing windows
- Deep window reveals
- High performance triple-glazing throughout with low g-value (0.4)
- Thick woodfibre insulation to all external walls and roof
- All living rooms to be dual aspect to allow for evening purge ventilation on peak summer days
- Full mechanical ventilation with heat recovery (MVHR)
- Floor finishes with exposed thermal mass
- Internal blinds throughout

7.5 Water

The water efficiency measures included in the house will ensure that the water use target of Part G, 125 litres/person and the recommended level of 110 litres/person/day will be achieved using the measures described below:

- 6/3 litre dual flush WC 's
- Kitchen taps flow aerated taps with flow rate of 5 litres
- Flow aerated taps with flow rate of 3.5 litres
- Showers are average max flow rate mix of max. 6 and 9 litres/minute at supplied pressure
- Bath 200 litres max
- A/A+ rated washing machines (5kg per litre) and dishwashers (0.68 litre / place)

The above specification will equate to less approx. 103.2 litres/person/day.

7.6 Surface Water Drainage

The London Borough of Haringey's Development Management report states under policy DM25 that all minor development proposals should aim to achieve a greenfield run-off rate and, at a minimum, achieve a 50 per cent reduction on existing run-off rates.

To provide this reduction, the proposed front drive will be made from a permeable surfacing system with a minimum of 300mm sub-base. The permeable surfacing system will be lined with a permeable geotextile. Additionally, a geocellular storage tank system will be located within the rear of the property to provide additional storage for extreme rainfall events.

Both SuDS systems will utilise an orifice plate to restrict the overall discharge rate into the public surface water sewer by a minimum of 50%.

7.7 Waste

Secure external storage for general household and recyclable waste has been included within the proposal. A composting facility will also be provided externally near the kitchen.

7.8 Transport

The proposal aims to retain the existing 2no parking spaces in the front driveway and a new electric car charging point will be provided. Also, the existing car garage will be omitted.

A secure external store for bikes has also been included in the proposal.

8.0 Landscape Design

8.1 Introduction

The gardens at Creighton Avenue have been designed sensitively with the client to work in harmony with their new home designed by XUL Architecture, the existing site context, and the future intended use as an engaging, sustainable, and restful family garden.

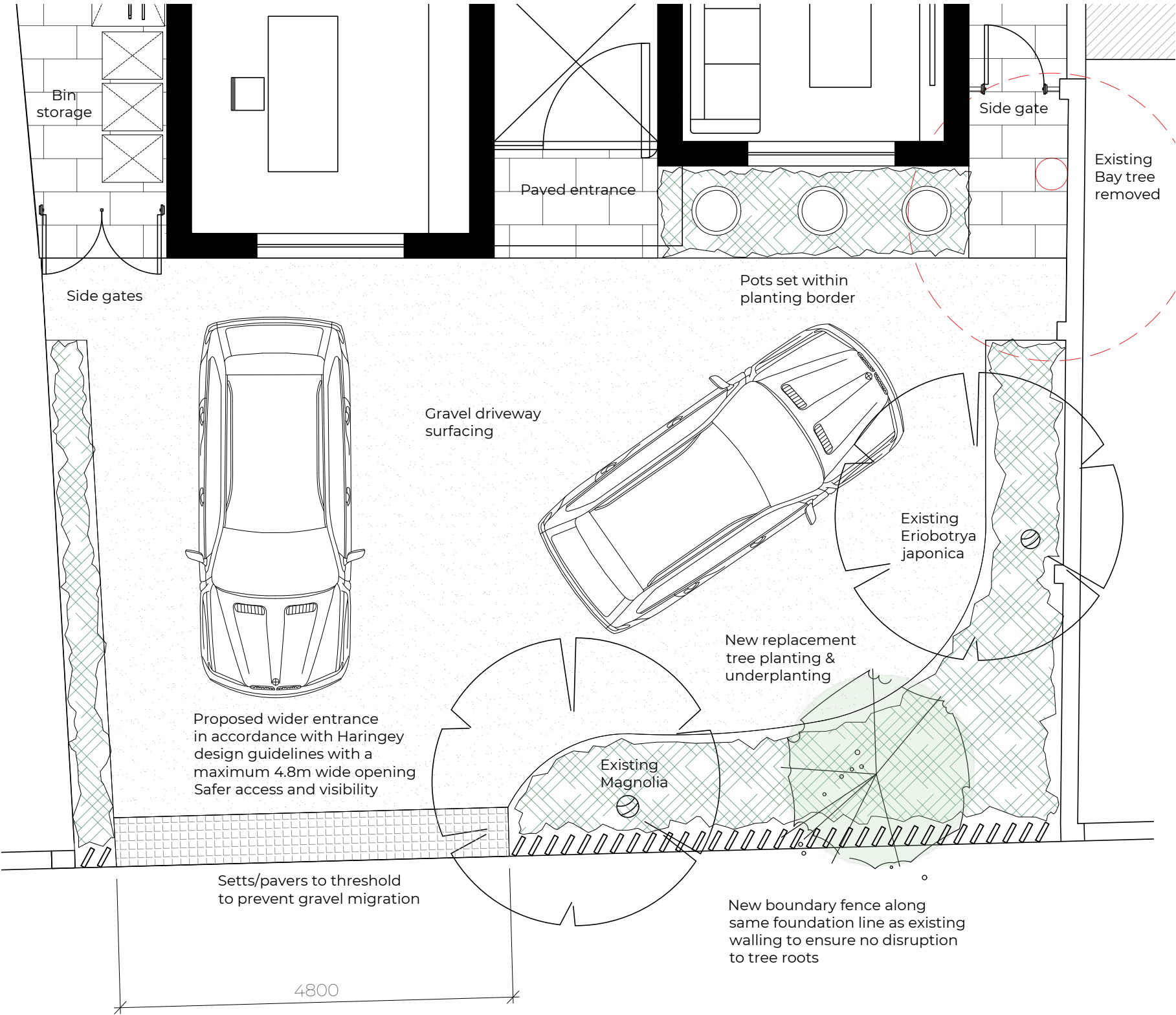
Refer to the **Landscape Proposals** document produced by James Smith Design for additional details.

8.2 Front Garden

The intention is to retain and enhance as much of the existing planting as possible with a new tree proposed to replace an existing insignificant bay tree removed as part of the works. The existing bay is currently overgrown and in a poor location, overhanging the neighbour’s boundary, meaning there will always be pressure to prune it back. The loss is not considered significant and can be mitigated with new long-term biodiverse planting. A suitable small ornamental tree will be proposed between the existing Magnolia and the Eriobotrya japonica, improving the visual amenity from the street, along with mixed underplanting of herbaceous plants, grasses, and shrubs.

The tired existing boundary walling and gates are proposed for replacement with a new durable metal fence to complement the house and improve the aesthetic from the streetscape, enhancing the eclectic mix of styles that can be seen along Creighton Avenue. The fence will be installed on the same foundation line to ensure no disturbance to existing trees.

As part of the works the driveway threshold will be widened in accordance with Haringey design guidelines, without having any impact on the existing highway crossover. This will make it more practical and safer for day-to-day family use. The surfacing will be a permeable loose gravel finish with a threshold of pavers to prevent migration of gravel into the footpath.



42 Front Garden plan

8.0 Landscape Design

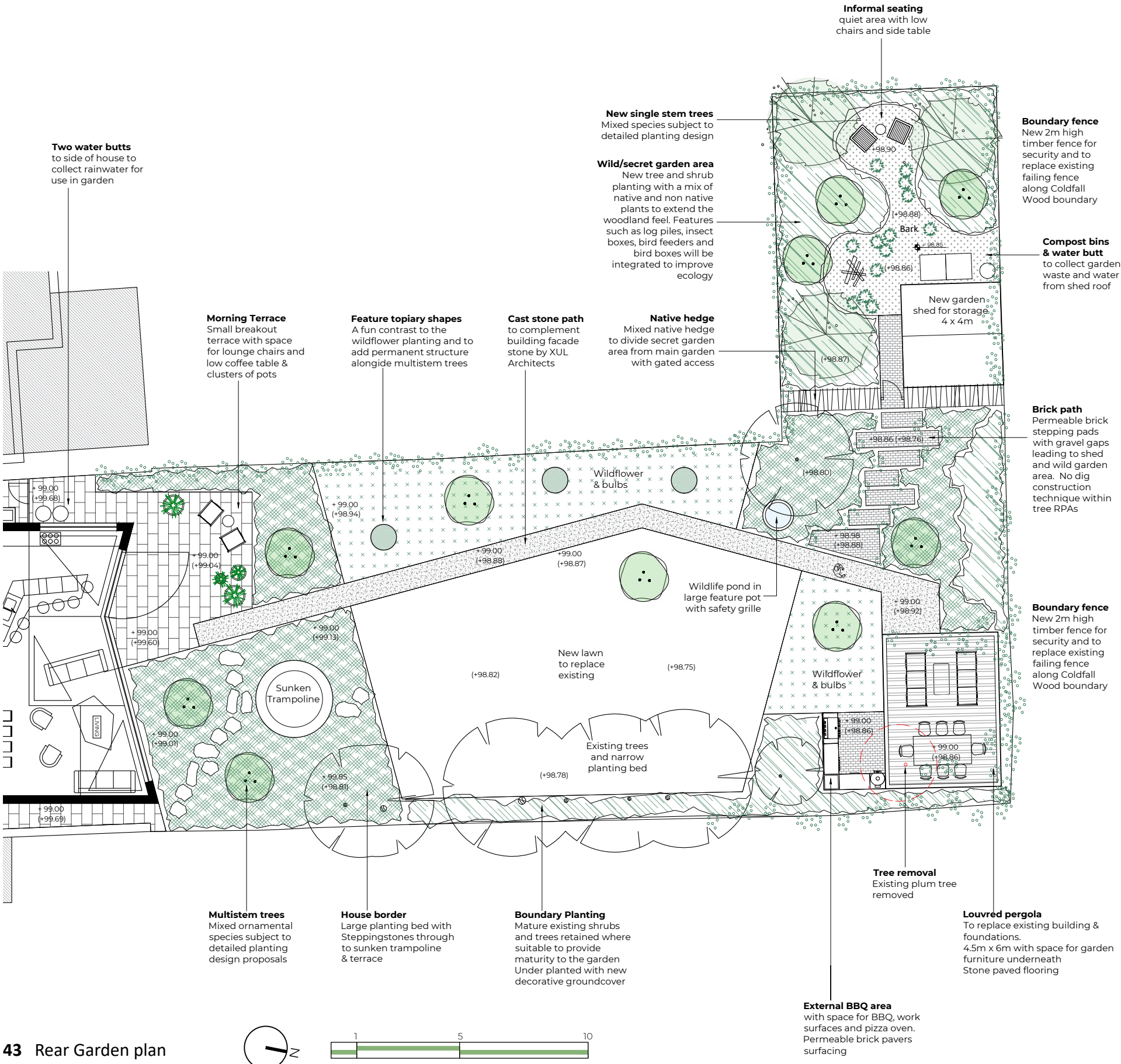
8.3 Rear Garden

A well-considered and playful design that caters for all age groups has been proposed with generous areas of new naturalistic planting, trees, wildflower, and features that help improve biodiversity. A strong connection between the garden and building has been key to design ethos with a restful central courtyard garden, and generous areas of planting flanking the rear façade. The intention is to entice the family into the garden as much as possible. Interwoven into the soft landscaping are areas for seating, entertaining, play, and paths for access. Practical space for storage, composting, and water butt collection is also provided.

To the northwest corner of the garden a wilder area is proposed with plenty of features to help improve biodiversity and provide a quiet space for the family to engage closely with nature, observing wildlife that is so important to the health and vitality of our gardens. Features might include log piles, bird and bat boxes, insect hotels, and native and non-native planting beneficial to wildlife.

Where possible all existing mature trees will be retained, except for a small insignificant ornamental plum tree to the northeast corner. New species are proposed to enrich and boost the number of trees in the garden, using a range of native and non-native species. The woodland canopy of Coldfall Woods is seen as a very important asset to the garden and provides a stunning backdrop acting as a borrowed landscape. We have been careful to respect this with sensitive interventions. Existing foundations or no-dig construction techniques will be adopted where necessary within the tree RPAs with permeable surfacing. The existing large shed and significant garden building will be replaced with more modest structures as indicated on the landscape proposals.

Lighting will be necessary both practically and aesthetically speaking within the garden. There is however a desire to keep this to a minimum with a ‘less is more’ approach being taken and low-level lighting used to keep light pollution to a minimum.



8.0 Landscape Design

8.4 Materials

The hard landscaping material palette will work closely with the materials used on the house to ensure there is a co-ordinated relationship, with a preference for natural stone where possible and areas of permeable surfacing to ensure SUDs requirements are met. Where SUDs build ups are not practical, water runoff will be directed into attenuation tanks under the garden as designed by others.

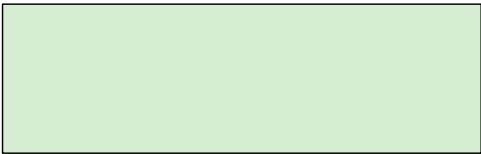
Refer to the Landscape Materials masterplan on the next page (image 44).

In summary, the landscape design at 186 Creighton Avenue will see a vibrant and engaging garden created for a young family looking to connect with nature and enhance the woodland setting of the site. Where possible biodiversity will be enhanced, with sustainable materials and construction techniques also implemented.

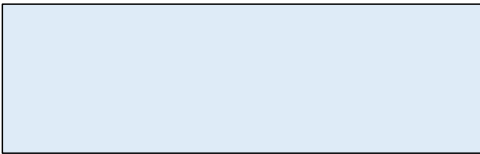
Refer to the **Landscape Proposals** document produced by James Smith Design for additional details.



Portland Grey Buff Gravel 10mm dia
Supplier: Allgreen
Use: Driveway



Oyster grey clay pavers
Supplier: Vande Moortel
Use: Driveway, terraces, stepping pads



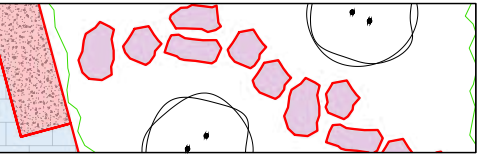
Sofia Grey Limestone or similar
Supplier: Allgreen
Use: Terraces & Steps



Wet cast stone - Portland finish
Supplier: TBC
Use: Feature path to rear garden



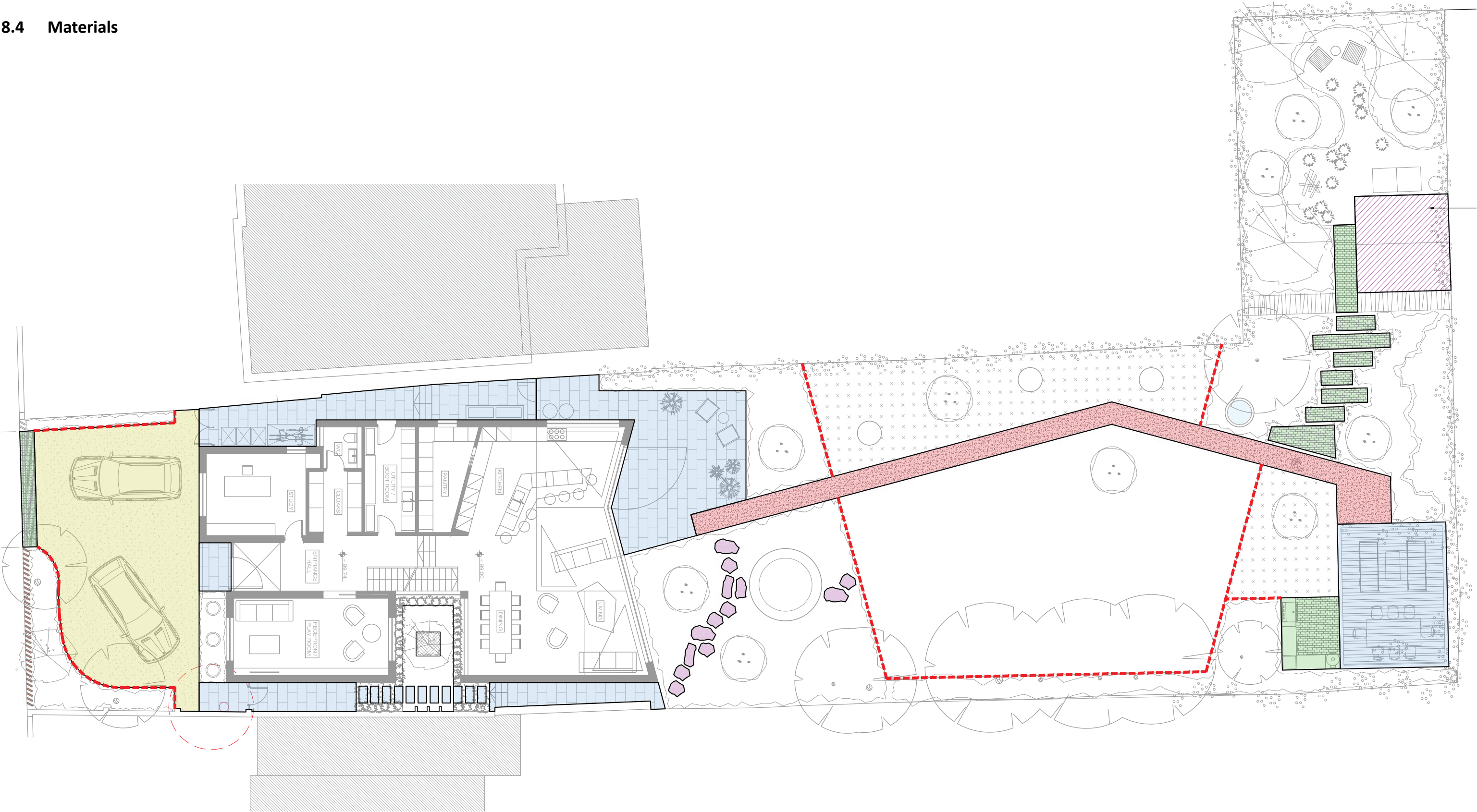
Mild steel edging 3-5mm thick
Supplier: TBC
Use: Separation for lawn and planting & driveway gravel and planting



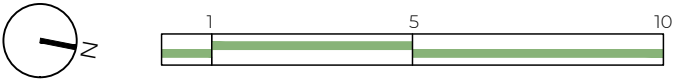
Example of natural steppingstone type material for path into garden

8.0 Landscape Design

8.4 Materials



44 Landscape Materials masterplan



9.0 Conclusion

The existing house is of no historic or architectural merit which detracts from the character and appearance of Creighton Avenue. The principle of redeveloping the existing site with a high quality replacement house accords with the local and national planning policy requirements.

The high quality design, the detailed consideration of the landscaping proposals and the appropriate scale, massing, height and use of materials for the proposed house will ensure the very highest form of development is delivered, in accordance with the National Planning Policy Framework.

The scheme produces a highly sustainable form of development which addresses the applicable targets for new development. The scheme also incorporates an integrated and comprehensive landscaping scheme which offers a significant planning benefit in terms of tree environment, character, amenity and biodiversity for Creighton Avenue.

Overall, it is believed that the proposal will provide a positive contribution to the area whilst satisfying the requirements of its future users.