



**Trafford Eco House
Design and Access Statement**

June 2012

A Design and Access Statement produced by URBED
on behalf of Andrew Leask for Trafford City Council.

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1.0 Introduction

1.1 Location

The site is a detached house located at the end of an existing suburban street in Sale, Trafford: 107 Clough Avenue, M33 4HT. It is a primarily residential area, though is a short walk away from local shops, bus routes and the new tram-link to Manchester city centre.

1.2 Client

The client is an owner occupier. He is also a committed environmentalist and horticulturist. They currently grow approximately 40% of the family's food in the rear garden of the house. The family are also keen cyclists, and travel by bike and foot wherever possible.

After having considered both their transport and food related environmental impacts, they are now looking to reduce the family's environmental impact further by significantly improving the energy and environmental performance of the house.

1.3 Brief

The client has three key aims for this project:

- To extend the house to meet their young family's growing needs, and so elderly members of their extended family can come to live with them if needed in the longer term.
- To take an ordinary house and reduce its carbon dioxide emissions and energy use to the 2050 target, making the house an exemplar scheme for energy efficiency. If possible, the aim is to go beyond this and create an 'energy positive house' to offset travel emissions.
- To carry out works to resolve existing building problems and improve the indoor environment, such as curing the damp in upstairs cupboards, the excessive condensation on window frames, as well as resolving the cracks and spalling evident in the brickwork on the windward elevation.



Above: Existing house on Clough Avenue



Above: Aerial photograph showing surrounding context

EXISTING SITE PLAN 1:500



Red line indicates site boundary



2.0 Context

2.1 Site Context

The site is located in a suburban area of Trafford, Greater Manchester. The surrounding streets are dominated by a few similar detached and semi-detached house-types, built in the 1920s on a standard suburban layout. The original designs for these houses were finished in a variety of materials. Whilst brick is perhaps the most common material used, there are also large areas of render, tile hanging and timber cladding. The type of brick used also varies. Roofing materials are either clay or concrete tiles.

Almost every one of the homes in the area has undergone alteration and adaptation over the last 90 years, with the addition of a variety of different porches, extensions and car ports. There is little uniformity in how these have been approached, and how they have been attached to the original house. Some have flat roofs, others have hipped roofs, others still have pitched and gabled roofs.

The dominant house-type in the area...



Varying approaches to extensions....



2.1 Physical Context

The site sits on a bend on a residential road, and is irregular in shape. It is constrained at the northern end, where the house sits in next to its neighbours, facing onto the road behind a small paved area and driveway. To the rear the plot widens out, and backs onto adjoining fields with a boundary of trees and bushes.

The areas to either side of the house are an awkward shape and not well used. They are overshadowed by the adjoining houses, but face blank elevations, so are not overlooked. The rear garden is used for growing much of the family's own fruit and vegetables, so its south facing aspect and access to daylight is important.

The spaces within the house itself at ground floor are not well configured for the way the family wants to live, and do not provide them with enough space for their needs. The three upstairs bedrooms and spaces are relatively small - and a fourth bedroom is needed. The existing plan arrangement means it is difficult to extend to the rear of the property without restricting access to daylight for existing rooms.



Above: Side access between houses



Above: Rear elevation



Above: Aerial photograph showing the 'Victory Garden' where the family grows approximately 40% of their food.

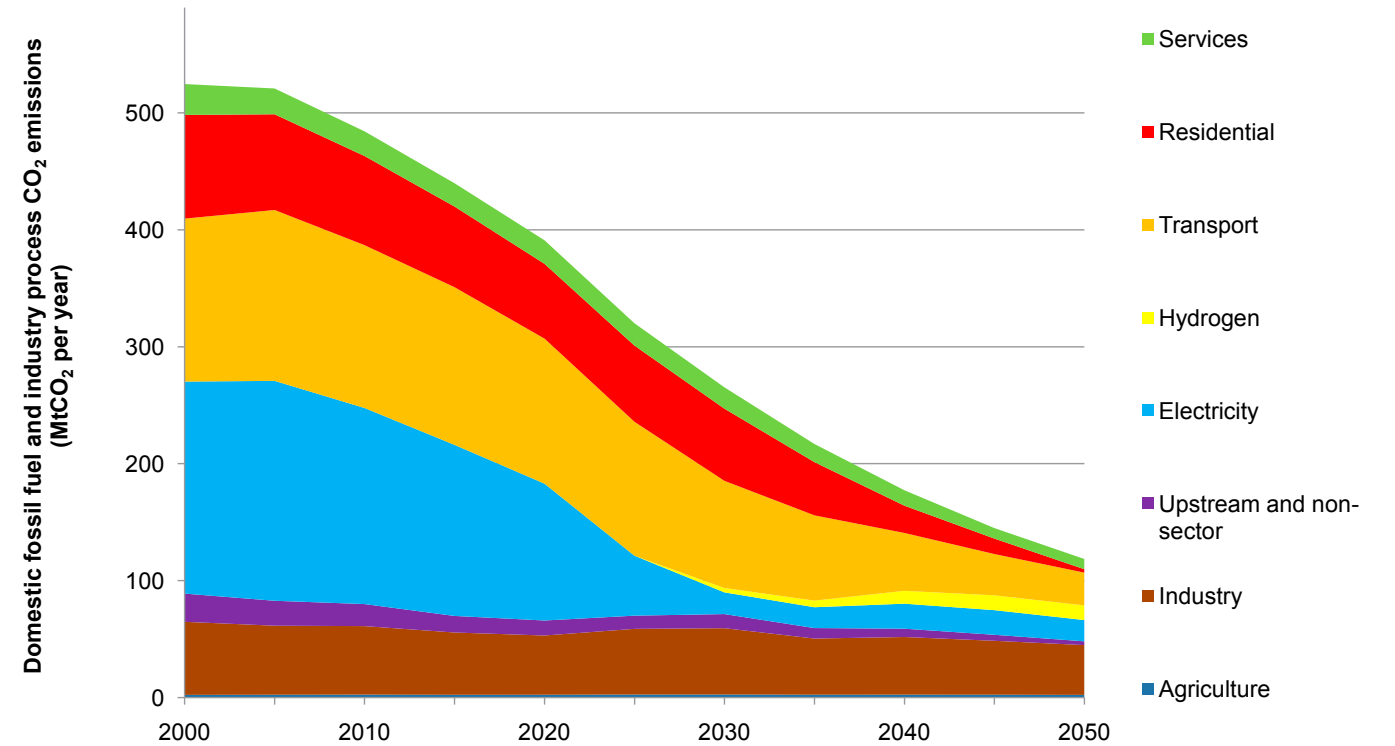
2.1 Social, Environmental and Economic Context

The Trafford Eco House already has a presence on 'green maps' of Greater Manchester because of the residents demonstration of super-local food growing (<http://traffordecohouse.wordpress.com/>). The family currently source around 40% of their food from their own back garden, and the client is a professional advisor on climate change and food related issues.

This refurbishment and extension project has been influenced by the economic climate. A key driver for the resident is reduced fuel bills and a reduced dependency on increasingly expensive fossil fuels - whilst also being able to accommodate the growing needs of their family without being forced to move house.

The need for mass-market whole house retrofits to reduce energy use across the UK has been identified in numerous academic reports and policy documents. The UK has some of the least energy efficient domestic building stock in Europe. Action to remedy this in existing buildings must be taken if the UK is to meet its commitments under the Climate Change Act 2008 - as around 80-90% of the buildings that will exist in 2050 have already been built. This has been recognised in both central government's 'Green Deal' programme, and the recently written 'Greater Manchester Domestic Retrofit Strategy'.

There are also potential wider economic, social and environmental benefits for the project. As one of the first whole house retrofit projects in Greater Manchester, and a demonstrator project, it will help show the way to others - raising awareness of the need for energy efficiency measures in homes as a response to climate change and fuel security issues. It will also make a contribution to the development of skills and know-how in whole house retrofit within the construction industry in Greater Manchester, making a small contribution to the potential for new jobs to be created in this 'green' area of the economy.



Source: MARKAL modelling based on CCC assumptions (2008).

Above: Graph showing the reductions required by sector if the UK is to meet its 80% reduction target - residential energy use drops to almost zero.



Above: urbed's 80% TSB 'Retrofit for Future' in Wakefield

Right: Manchester's first 80% retrofit - the designer's own house.





The existing house



The existing productive garden

3.0 Planning Policy

3.1 Introduction

The Trafford Eco-house has the potential to be an example-setter for how we can, as a nation, make our contribution to mitigating climate change. It has 2 major parts in terms of built form:

- 1. *To carry out an energy efficiency upgrade of the existing house to meet the emissions reductions targets enshrined in law for 2050.*
- 2. *To build an extension to the house that demonstrates best practice in cost effective sustainable new construction.*

At the current rate of housing starts being built around 80% will still be in use by 2050. It is therefore crucial that we show how existing houses can be adapted. The new build extension then shows how the other 20% could be built if we stand any chance of preventing catastrophic climate change.

This term is not used lightly, the latest forecasts from the Tyndall Centre suggest that we are in danger of missing targets to contain a temperature rise to even 2°C this century with a real risk that this could simply be a journey on the way to 4°C to which it is widely regarded as impossible to adapt. The Trafford Eco-house will offer real deliverable ways in which ordinary people can play their part in the task ahead.

The National Planning Policy Framework echoes the call to action without needless delay. One of the real challenges for delivering a low carbon economy is mass adoption of the measures needed to combat it. The location of the Trafford Eco House is therefore very appropriate as it is in an unremarkable area of a very common housing form.

The extremely high level of sustainability represented in this project has to be matched not only by good design but by design that will both complement and improve this area; an aspiration echoed in the NPPF, the Core Strategy and on through Trafford’s own SPD4. There are many areas of confluence in these three key documents and a more detailed appraisal has been done to demonstrate this which can be found in the appendix. The key issues arising from each document are stated in the following sections.

3.2 The National Planning Policy Framework

Our aims with this proposal are acknowledged in this new document. The NPPF recognises the ability of sustainable development to positively improve the quality of people’s lives and mandates the replacement of poor design with better design. It also mandates high quality design as well as encouraging the reuse of existing buildings and the use of renewable resources in the transition to a low carbon future. It is explicit that planning policy should not stifle innovation in order to conform to certain development styles. It requires weight to be given to outstanding and innovative design which raises the standards of the area even requiring the rejection of proposals that fail to take the opportunity to improve the quality of an area. Further emphasis is given to advise planning authorities against refusing high levels of sustainability because of concerns about effect on townscape if buildings are well designed. The framework goes on to argue that local authorities should be actively encouraging energy efficiency improvement alongside pro-active strategies to promote locally based renewable energy. We feel the proposed extension and retrofit of the existing house encompasses all of these points in order to move to a more sustainable future.

3.3 Trafford Local Development Framework (LDF) Core Strategy

Despite the chronology, this document complements the NPPF well. In its opening line it states that “by 2026 Trafford will have vibrant and inclusive prosperous and well-designed sustainable communities”. SO7 focuses this on sustainable construction and the use of new technologies to combat and adapt to climate change while minimising the impact of development on the environment. Place Objectives SAO20 and 21 require that this is done with the latest environmental standards and supporting opportunities to locate low carbon decentralised energy facilities. Trafford Eco House’s location is just south of one of the borough’s priority regeneration areas and is at the end of two long vistas near that estate. We would hope that the improved quality of design and construction (L3.1) in this development will assist by example. The truly sustainable nature of this proposal should assist with L3.2 and by improving the property’s relationship with the street, improving its casual surveillance and incorporating properly usable cycling facilities it will also assist with L3.6 and 12.18.

In L5 Climate Change the NPPF’s requirement for energy efficiency and micro generation is echoed

As existing:



and indeed in 5.4, development is required to demonstrate how it will contribute towards the borough's CO2 emissions reductions. The fabric first mandate of L5.9 is embodied throughout the Trafford Eco House proposal. As the country is falling behind in its own CO2 reductions our assumption is that where possible properties should go beyond an average CO2 reduction, recognising that other properties may not meet the target. The Trafford Eco House will be the closest to any property in the UK that we know of to reducing its overall carbon footprint through the demand reduction of the buildings and the food growing already on site, with a large photovoltaic installation offsetting the remainder of the family's CO2 emissions. This is supported in L5.12 and will assist with 14.4 and 14.5. As stated before, if this is not an attractive proposal, its effectiveness will be considerably reduced. It is our view that the proposals are fully in keeping with Policy L7 on design quality, seeking to strike a balance between complementing the existing context whilst making the best use of an opportunity to improve the character and quality of the area (L7.1). Opportunities have been taken to improve the relationship to the street to improve security, as well as enhance the street scene and so improve the amenity of the area (L7.4 and 16.3, 16.7).



3.4 Supplementary Planning Document 4 (SPD4): A Guide for Designing House Extensions & Alterations

Where there is an appearance of departure of intent between this proposal and that of the Council is in the interpretation of the core strategy in SPD4. This is where the mandate for proposals to be complementary to the area is interpreted as matching, where in reality this can result in pastiche, it certainly means that in areas of poor quality, opportunities to make things better are missed.

It is therefore our view that it is possible to produce design complementary to an area without matching building styles so that an opportunity can be seized to make an improvement in a suitable way. The design proposals in this document have been negotiated on for over a year, between local requirements, client requirements and budgetary necessity. The quality of the design aims to enhance the positive sides of the local area through innovative use of materials and subtle reinterpretation of predominant building forms.

The attached table (in appendix) of salient features of all of the policy documents is colour coded for the SPD4 to show that on the whole the proposal complies with the guide. It can be seen that in most

areas the scheme is compliant. There are only a few areas where we are obviously not complying with the generic standards, and so are submitting our proposal in the context of para 2.2.3 - namely a contemporary design that is positively responsive to local context without aping it. We seek to explain our departure from the "desire to match" in the following pages.

The extension steps back from the existing building line with an eaves line at the current eaves line but a ridge line below that of the existing, it is a metre away from the boundary of the neighbour on that side. The detailing of the extension will be minimal to ensure no competition with what few prevailing details there are. Energy efficiency requires a new porch but this will incorporate a new bin store and be glazed to showcase the arched doorway and original doorway behind. The form is to the side of the house and not to the back to maximise solar gain and natural daylighting, a requirement echoed through all three policies. This complies with the majority of SPD4, departing only from the requirement for materials and windows to match the existing. This will be covered in more detail in the description of the design later in this document.

Infill, Newington Green, London: Amenity Space 2010



4.0 Design Development

4.1 The Brief

As stated in section 3.0 the primary aim is to create an exemplar of both new build and retrofit side by side in a way that creates a genuinely carbon neutral, comfortable family home. The first driver of the design is demand reduction, taking as many measures as are practical to get energy demand down to a point where this can be delivered through on site renewables. The only practical on-site renewable energy source is the sun and to offset all of the energy demands for a family and its travel requires upwards of 8Kw of peak PV capacity. This becomes one of the key drivers for the scheme. However, this house represents a very common archetype, and there is a desire to show how the ideas here could be implemented elsewhere.

The client was very clear that they wanted to add to the ‘wasted’ parts of the plot in creating the larger accommodation required, not to the useful and heavily used “victory” garden. The upper part of the garden is used for children’s play and adult amenity but the rest of the garden is used for food growing: both outside, inside a polytunnel and using aquaculture in the shed. Trafford Eco House is already nationally renowned for the efforts made to grow as much food as possible within its own curtilage. This endeavour precluded the opportunity to build to the rear of the property or a single storey long extension to either side. Furthermore this extension form would have reduced natural daylight into the property and created a form that did not minimise heat-losing surfaces and would therefore depart from the best practice that we are seeking to demonstrate.

As seen in the pictures of neighbouring houses earlier in this document, many people have tried different approaches to extensions, leaving the area without a predominant character, so it is unclear what could or should be preserved.



Zero Carbon house, Balsall Heath, Birmingham; John Christophers

Other ‘eco-houses’



Feature window on a Manchester ecohouse

4.2 The Existing House

The first key move on the design was to make the most of the existing assets - to make the existing house look as attractive as we can.

Removing the single storey lean-to on the side of the property leaves behind an elevation that has a simple dignity to it, beneath what then becomes a symmetrical double hipped roof.

Behind the low quality brick and timber porch is a sturdy double layer semi-circular brick arch sheltering the original front door. This can be made much more of with a better designed glazed porch with glazed roof to reduce its influence as much as possible.

Much of the fabric of the house is in a poor state of repair and so the decision to go for external wall insulation is a logical step and indeed in terms of building physics is the most beneficial and effective way of reducing heat loss through the walls.

The bay itself has not been well maintained and needs to be re-built. This creates an opportunity to tidy up the window patterns on the building.



A timber clad extension to a traditional house



A 1930s house in Torquay



A typical Australian suburban houses



Meco, Lisbon: Jorge Mealha Arquitecto



Shingles as timber cladding



Above: Extension in Australia

4.3 The Extension

The initial design proposal was to create a composition on the front elevation based around this newly discovered square of the front elevation, adding a square of a new porch, a square timber box protruding slightly past it supporting the PVs, sat on top of a square containing the office and kitchen. However this was rejected as it contradicted too many elements of the Council's policy on extensions and we have sought to find a way of creating an extension that adds much less to the apparent mass of the building.

The demand reduction requirements sought after in the new build mean that masonry construction takes up far too much space once the required insulation has been incorporated. So early designs looked at a combination of render, which is a common material in the neighbourhood, on top of a heavily insulated timber frame construction with a feature contrasting box in a timber clad upper addition. Over time this has moved to a black timber cladding to complement the half timbered gables that occur throughout the neighbourhood and as an echo of the garage doors that would have been here when the house was built and are still present on some of the houses in the neighbourhood. By covering the entire extension in this material in it relegates the extension to a shadow.

The decision to do the windows in this section with very minimal detailing is to reinforce this appearance. The existing building has been fitted with poorly detailed uPVC windows - to match to that window pattern would make a bad job worse. It is also environmental common sense not to throw away functioning windows until absolutely necessary.

Other precedent



A terraced extension in contrasting materials



"Stealth Barn" by Carl Turner Architects uses black timber cladding



Timber cladding on house extension to a 'standard semi in London



Timber cladding on an infill to a terrace in Sheffield: Halliday Clark 2010



Long House, Winchester: Dan Brill Architects
A very similar original given a contrasting additional that balances the existing elevation



Below and right: Greenhill, Winchester, E Francis Architects.
Extension of a house to provide an extra bedroom, providing interest on an otherwise unremarkable street without resorting to pastiche.



Top, Above & Right:
Hunsett Mill, Acme Architects. RIBA Manser Medal 2010
A refurbishment and extension. Black timber and minimal detailing relegate what would otherwise be a very dominant extension to second place to the refurbished house, giving setting not competition



5.0 Consultations

5.1 Consultation of Planning Officer

There have been a significant number of pre-application consultations with the planning authority on this scheme. Despite the small scale of the development, it was felt that its significance in environmental terms, as one of the first 2050 compliant retrofits in Trafford, meant this was necessary. It does also challenge some of the assumptions set out in the Trafford SPD on house extensions, and negotiations of this issue have been important to the development of the scheme. Phone conversations and email exchanges between the designer and the development control officer responsible have been supplemented by two meetings held at Trafford Borough Council's offices.

The first of these meetings was held on 6th October, and was attended by the Client, Danielle Harrison (TBMC Development Control Officer), Andrew Hunt (TBMC Sustainability Officer), Charlie Baker (URBED) and Marianne Heaslip (URBED). The Client and the designer's commitment to low carbon and sustainable design was emphasised throughout this meeting. This commitment for the need of dramatic cuts in carbon emissions from the existing housing stock is supported in both the Climate Change Act 2008 and the Greater Manchester Domestic Retrofit Strategy.

A number of precedent studies were shown by Charlie Baker, demonstrating both the client's wishes and the design approach that was felt to be most appropriate for this scheme. Whilst the Development Control Officer felt that some of these would be suitable in this context, several, especially those that were bold and of high quality design, were felt to be potentially suitable as approaches to adopt to this project. It was noted that, whilst the SPD on house extensions applied fully to 'run of the mill' extensions, this case was likely to prove an exception - due to its contemporary



Above: Elevation Development, on the front, side and back of the proposed design.

ELEVATION DEVELOPMENT



1, 2 & 3, as before but with overhang back to depth on previous plans, for comparison 4 is as previous issue

5, as before but with bigger overhang as above, 6 then puts pitch on the roof sloping back to the garden to increase PV capacity so is much taller on this end, 7 has bigger overhang again with 8 to compare, 9 is the one that looked promising on a post it but not so good drawn and the PV capacity will be lower

10-13 have a higher ceiling height downstairs to reduce the apparent bulk of the wooden box, but then try out window types, joins to existing and pitches, 14 is a pitched version of 9 15 then tries the box but with a pitch across but no along, 16-18 then try it with height to achieve a 10° pitch facing due south (4.5° across and 8.9° towards the garden), 19 would be the optimal for solar yield.

design approach and environmental aspirations. As such, it would have to be of high quality design and materials to be acceptable under current local planning policy.

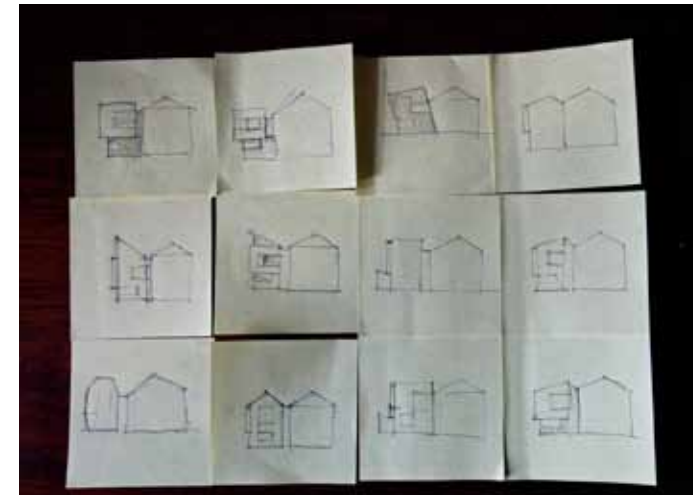
Following this meeting URBED developed the scheme designs to respond to comments from the Development Control Officer - whilst also responding to the needs of the client and budgetary constraints.

On 10th January 2012 a second pre-application meeting was held. This was attended by Danielle Harrison (TBMC Development Control Officer), and Charlie Baker and Marianne Heaslip of URBED. The designs developed to that stage were shown and discussed, with three different options presented. The first two options were 'bolder' in their approach, and were thought to challenge the SPD to too great a degree. The third option took a more subtle approach, with the extension taking a more subservient relationship to the existing house. It is this option which has been developed and illustrated further in this application.

5.2 Consultation of Neighbours

The client has visited his neighbours with the plans and discussed them with them. They are supportive on the whole only with a suggestion that white might be nice for the whole of the building including the extension from 109 and a concern over loss of evening sunshine into the conservatory of 105.

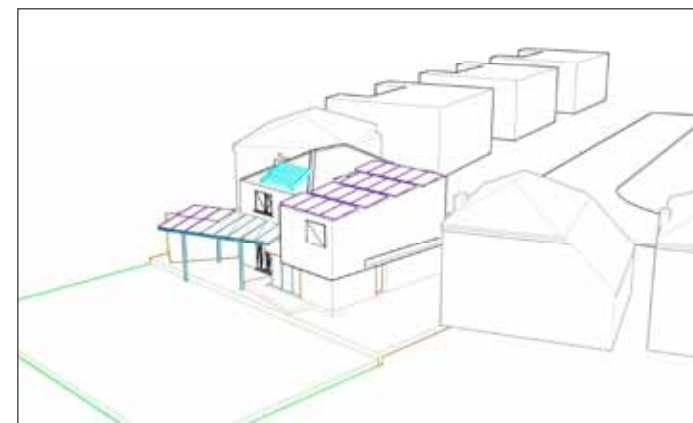
In the case of the latter this has been modelled: with the extension slid back 2m from the front as requested in meetings with the local development control officer the conservatory will be in shadow about 100 minutes earlier from about April to August, the rest of the year the sun will be too low for the extension to cause a problem.



Above: Design development sketches



Above: Design development in 3D



Above: Design development in 3D

6.0 Design Principles



The design as proposed here adds an additional bathroom, large bedroom and much increased living space that is flexible enough to accommodate future needs of both the family already in the property and aging parents. The existing footprint will be 108m² and the proposed footprint will be 147m².

The existing office in the former garage is removed, so the kitchen now enlarged can also have a clear view onto the street, radically improving the connection of the property with the street outside as well as allowing natural light into the new larger open plan kitchen, dining and living area.

The new glass box front porch is echoed by a glass box to the rear, which creates an axis through the middle of the property and retaining the primacy of the front door. A new side gate opens into a covered way giving access to the back garden, bike storage and the kitchen door to complement this.

Upstairs the existing small front bedroom becomes a new family bathroom. The extension contains two generously sized bedrooms. A feature lantern window allows direct sunlight to reach the north facing room as well as adding a clean lined design feature to the street, giving something for the vista down the street to finish on. The rear bedroom has views over the working garden.

The extension steps back at the front of the house to create the appearance of a much smaller extension from the front, its disposition on the street being fortunate in masking the actual length of the extension and making it appear shorter. This is further accentuated by the pitch being much shallower to the rear to accommodate the PVs which with the effect of foreshortening will make the extension appear shorter than it actually is. The diverging angle between this property and the next door neighbour together with the lowest eaves that could be managed minimise overshadowing of the neighbour's conservatory to only the last hour of sunlight in summer.

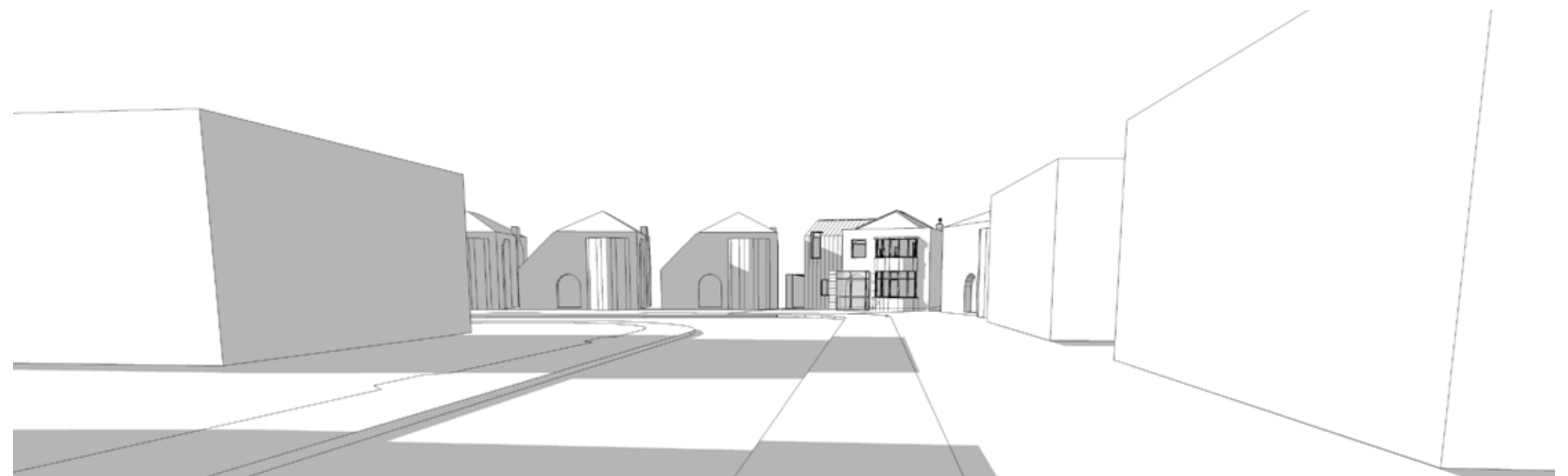
The existing verandah at the back of the house has a new canopy that is peeled away from the house and shunted sideways so that the PVs that could not be accommodated on the extension roof can be used to reduce the visual effect of the garden shed and incorporate it into the overall composition in a more deliberate way.

The strategy for the appearance of the house is that the external wall render will be white to match the render in the area, the bay window will be rebuilt in high quality timber so that whilst it will be of the highest thermal performance, in a form in keeping with the existing house and its neighbours. The

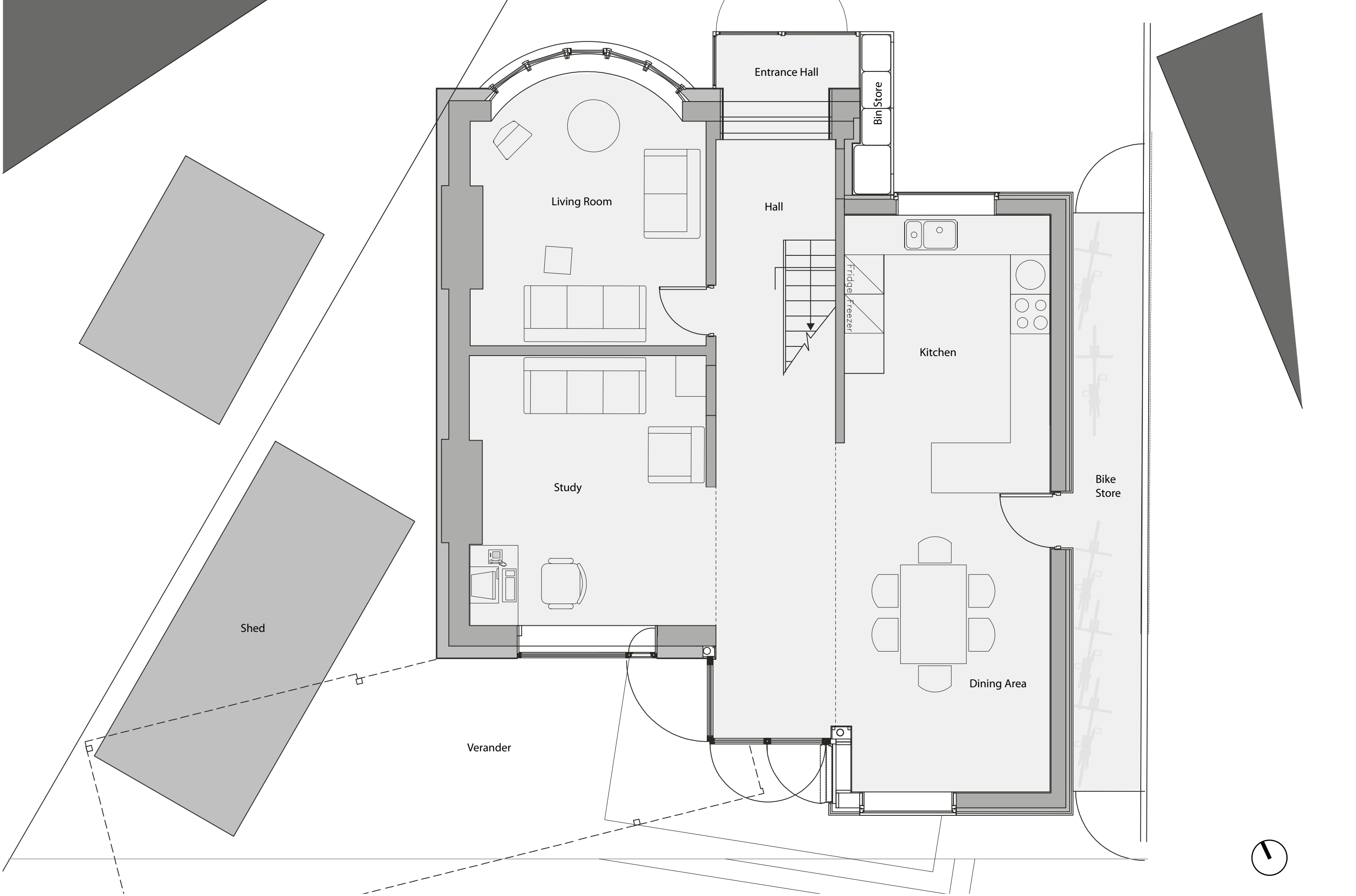
existing uPVC windows on the rest of house will be reused, simply being brought forward into the new insulation so as not to create a conspicuous deep reveal and to reduce thermal bridging.

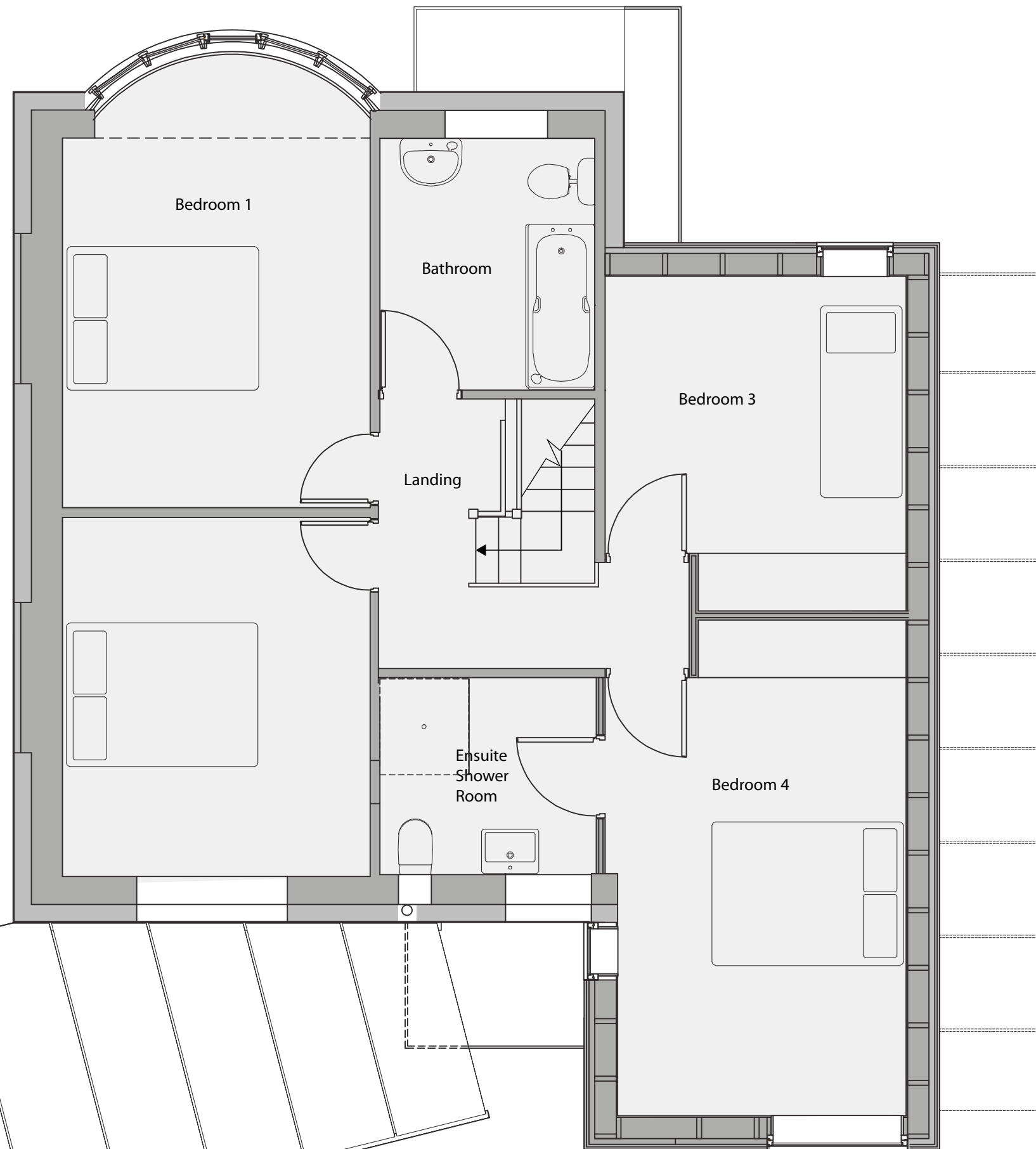
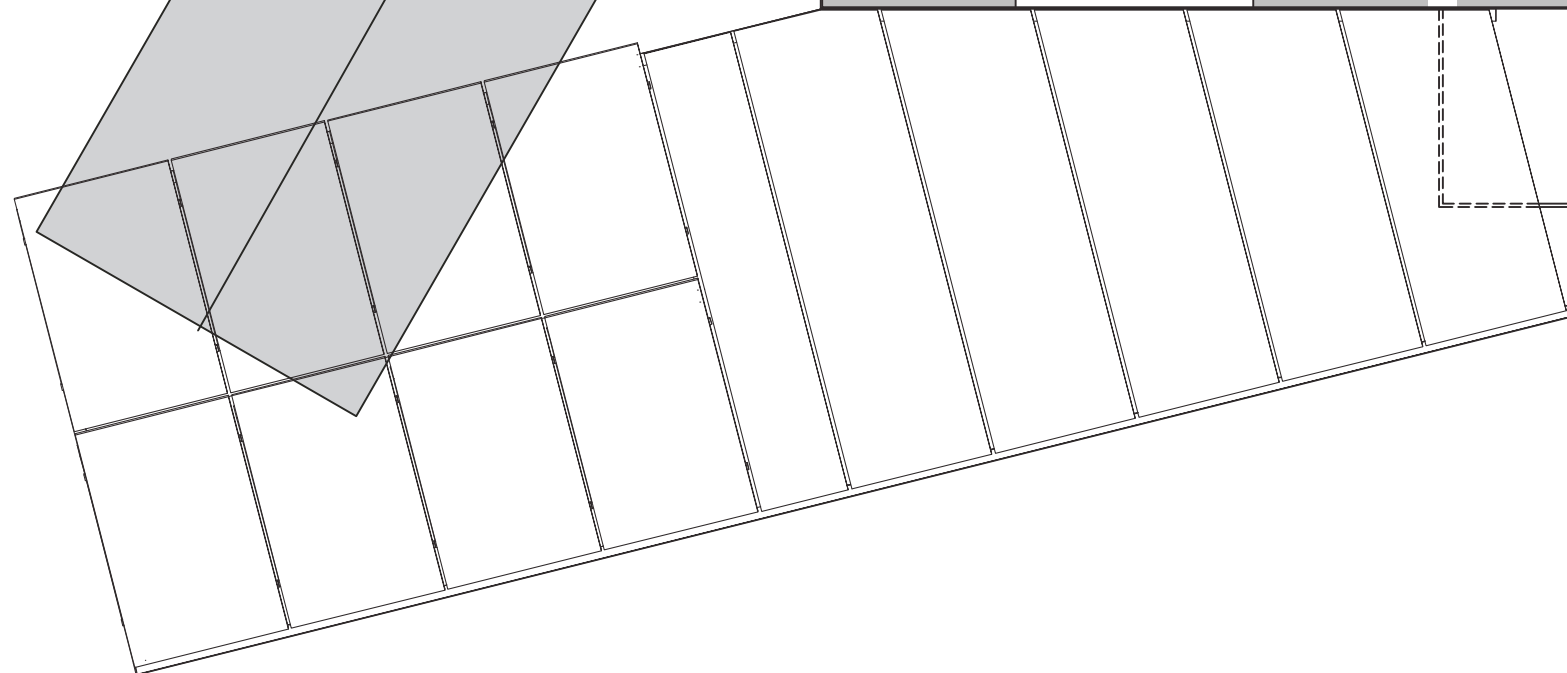
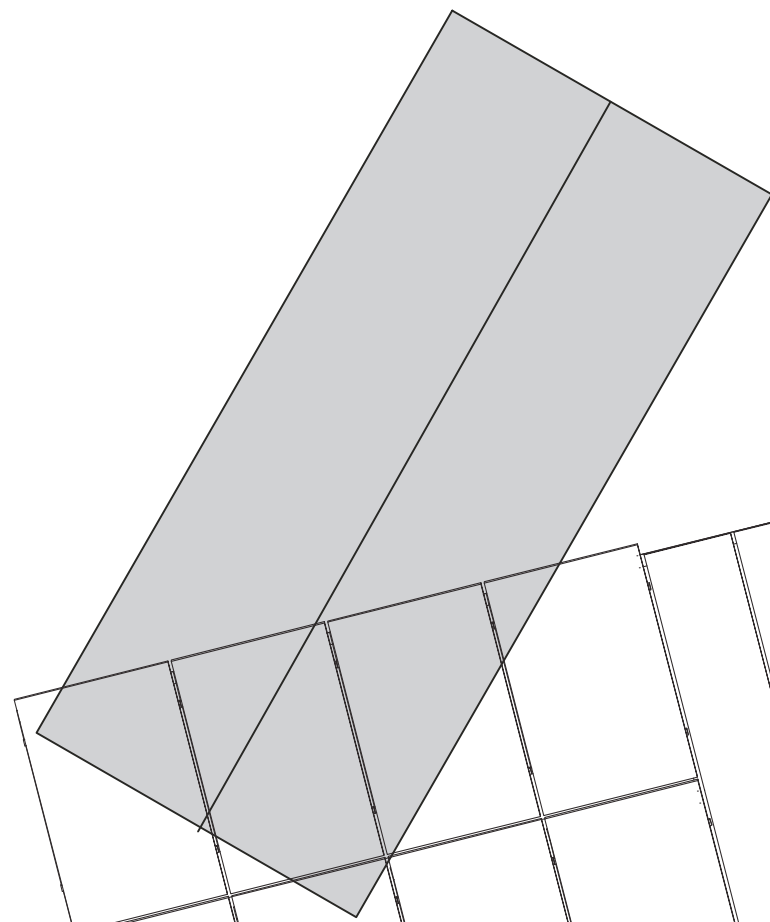
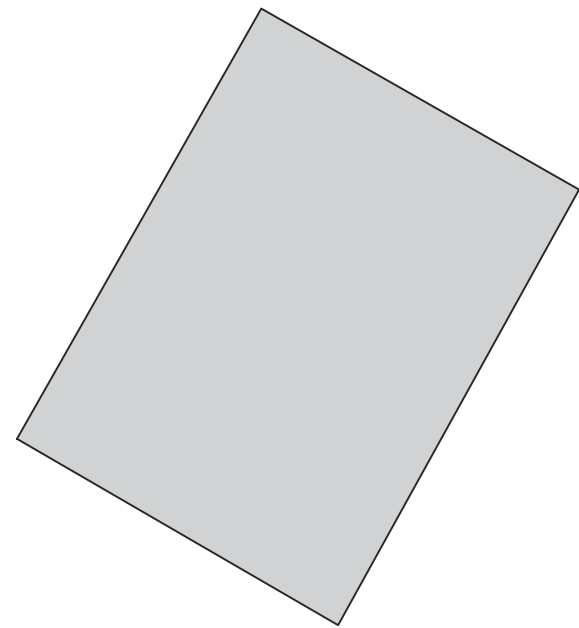
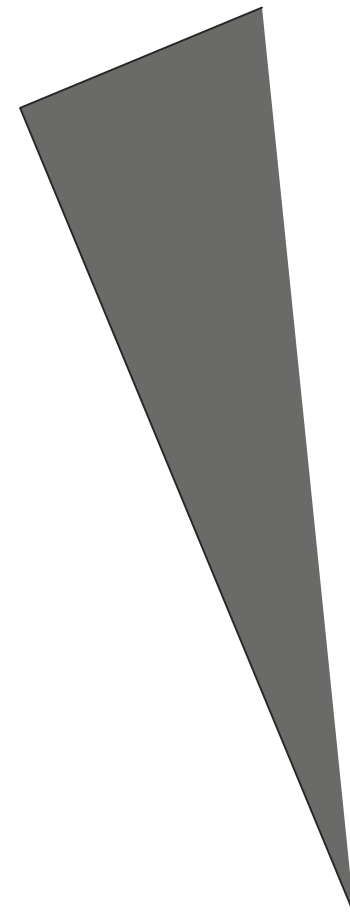
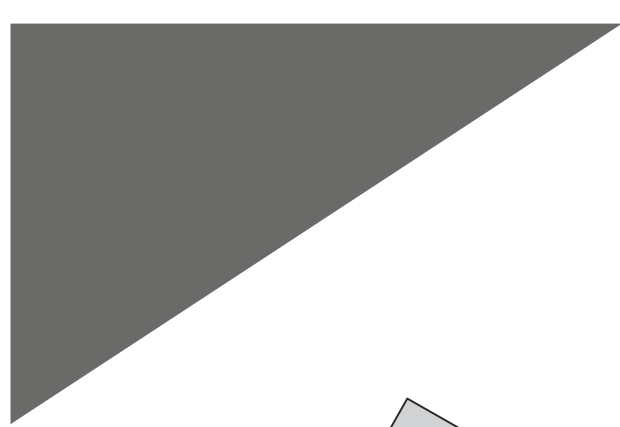
The existing roof will be retained and as it has been recently redone it would not be an appropriate use of resources to reroof. However the thickness of the insulation required will mean that at roof line a parapet effect will be created around the retained building. This allows a nod at the clients affection for Art Deco as this will create a small parapet that for guttering reasons will need a feature line where a cornice might otherwise have been.

The extension, in keeping with its role as a shadow of its host, will be clad in black timber throughout except on the shallow rear slope of the roof which will be entirely covered in photovoltaic panels. The windows will be designed so that there is minimal framing visible as this will enhance the shadow like effect of the extension, ensuring that whilst obviously contemporary in its design it does not compete with its surroundings. The intent is that the eye will be drawn being drawn to the quality of detailing on the retrofitted main building, its bay window and front porch.



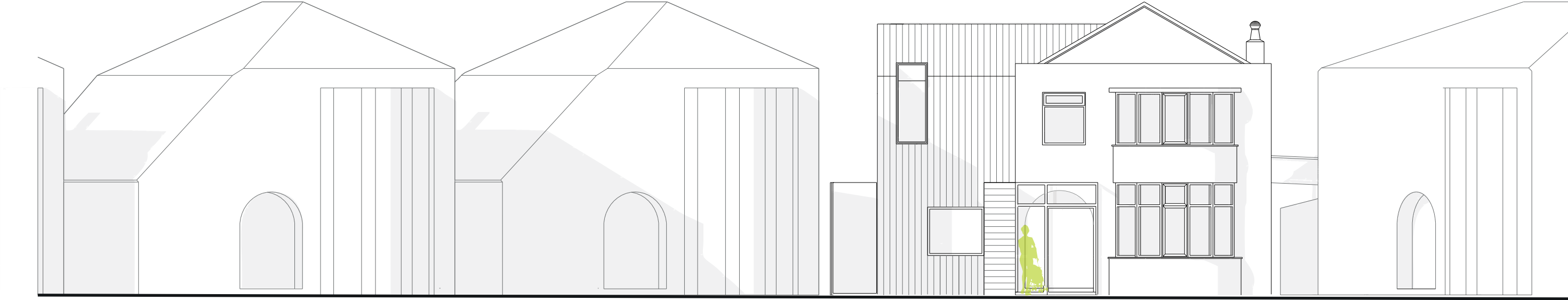
Above: 3D Visualisation of how the proposed elevation will sit in the existing streetscape.





FIRST FLOOR PLAN AS PROPOSED 1:50

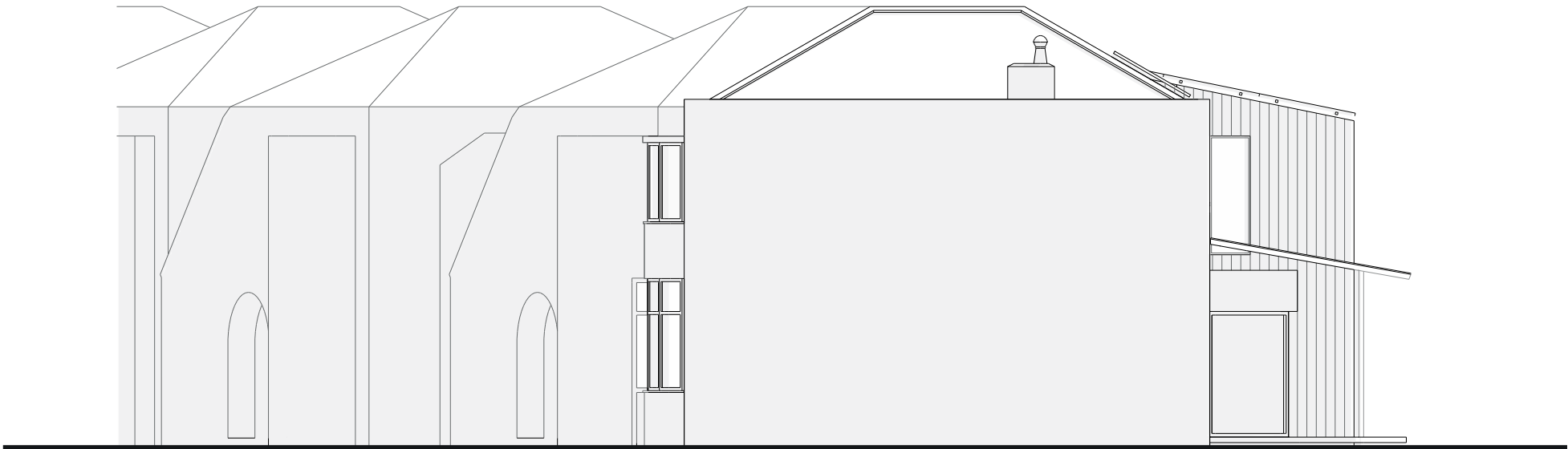
NORTH ELEVATION



North Elevation
Scale 1:100



West Elevation
Scale 1:100



East Elevation
Scale 1:100

SOUTH ELEVATION



South Elevation
Scale 1:100

FRONT VIEW



7.0 Sustainability

Sustainability as a key driver for the project, and as such has been woven through the entire design process. The key elements of the sustainable design approach are outlined below.

The aim of the proposals is to get the property to the point where it goes beyond the 2050 reduction target. However in so doing so, we aim to showcase the kinds of moves individual householders would be able to take in taking their properties to the dominant carbon reduction targets.

This will involve taking the building fabric itself to a point where for most of the year it will require no space heating. It will stop short however of a full 'passivhaus' standard as it is our view that for the house to have the maximum effect in persuading others to adopt similar measures it needs to be seen as comfortable in the eyes of other less committed people. Building fabric changes will aim to improve the performances of each building element and are as follows : 0.1w/sqm/K for the roof, 0.15-0.2 for the walls, 0.2 for the floor, 0.8 for the windows where new.

The photovoltaic array will generate enough electricity to offset that used by the household for all of their electricity needs as well as going a considerable distance to offsetting their travel-related CO2 emissions, with the possibility that surplus capacity on sunny days in the future might charge an electric car. There will also be a small solar thermal array feeding a thermal store and a small clean air act compliant wood burner.

Ventilation is to be a natural method called passive stack, making use of the quite considerable undercroft beneath most of the property so that this ventilation strategy will also enable incoming air on very hot days to be cooled prior to entering the property.

All the materials will illustrate best practice in responsible sourcing of materials, avoiding use of petrochemically derived products and other high embodied energy materials, taking a "natural step"

approach to materials procurement so that where possible low embodied energy naturally occurring materials are used. Where these are not possible higher energy natural materials are used only as a last resort as these have far larger upstream and downstream impacts on the environment.

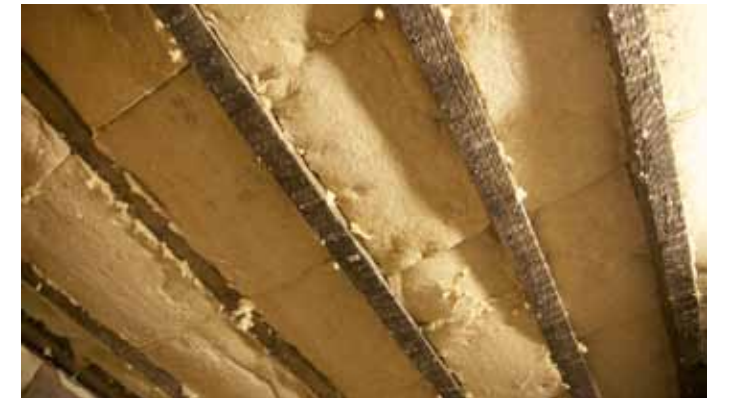
All rainwater will be collected and used on the food growing facilities.

The house is already self sufficient for leafy greens and above ground vegetables, with work ongoing to be self sufficient for fish.

All food waste that can be used as compost is and a new bin store has been created on the side of the porch to accommodate current recycling needs and some capacity for future expansion of segregation.



The existing productive garden



Hemp floor insulation



Solar Thermal tubes



Whole house retrofit, Wakefield: urbed 2010



Photovoltaic panels



External Insulation covered in render

8.0 Access

8.1 Transport

The proposed development does not in any way alter the existing motorised transport access arrangements to the site. The front driveway is retained, and the same level of car parking provision will be available as before.

However, given the sustainable aims of the overall project, a sustainable approach to transportation has also been taken. Bike parking has been given priority.

8.2 Inclusive Design

One of the key aims of the project is the desire to provide long term flexible accommodation for potential future use by elderly extended family members. Where possible the building should be adaptable to these changing needs. The ground floor has no changes in level. No specific place has been reserved for later installation of a wheelchair lift as this would reduce later flexibility however the flexibility of the ground floor layout means several locations for this are possible. While the staircase has been retained it now has considerably more landing space at the top to allow easier manoeuvring for those with mobility impairments. All the rooms are big enough to allow small wheelchair manoeuvring and circulation routes have been simplified. Both bathrooms will allow wheelchair use, the en suite only needing the addition of grab rails.



The family use bikes and a trailer as the primary means of transport

9.0 Appendix

NPPF	National Planning Policy Framework
i Ministerial Foreword	Development that is sustainable should go ahead, without delay
page 2	the United Nations General Assembly defined sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs.
page 3	
9	Pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life, including ... <ul style="list-style-type: none"> replacing poor design with better design; improving the conditions in which people live
page 5	
17	<ul style="list-style-type: none"> always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings; support the transition to a low carbon future in a changing climate,... including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);
page 15	
60	Planning policies and decisions should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness.
page 16	
63	In determining applications, great weight should be given to outstanding or innovative designs which help raise the standard of design more generally in the area.
64	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.
65	Local planning authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design
page 21	
93	Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions...
page 22	
95	To support the move to a low carbon future, local planning authorities should:... <ul style="list-style-type: none"> actively support energy efficiency improvements to existing buildings;
96	In determining planning applications, local planning authorities should expect new development to: ... <ul style="list-style-type: none"> take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.
97	To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should: <ul style="list-style-type: none"> have a positive strategy to promote energy from renewable and low carbon sources;
98	...recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions;
page 46	
196	The planning system is plan-led. Planning law requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. This Framework is a material consideration in planning decisions.
197	In assessing and determining development proposals, local planning authorities should apply the presumption in favour of sustainable development.

DPD1 Trafford LDF Core Strategy:

	Adopted January 2012
	BY 2026:
	Trafford will have vibrant and inclusive, prosperous and well designed sustainable communities,
SO7	Secure sustainable development - promote the reuse of resources, the principles of sustainable construction and the use of new technologies to combat and adapt to climate change to minimise impact of all new development on the environment.
	the place objectives then go on to say
SAO20:	To ensure all new development is constructed in accordance with the latest environmental standards.
SAO21:	To encourage and support opportunities to locate low-carbon / decentralised energy facilities.
	<i>The neighbourhood is just south of an L3 Priority Regeneration area:</i>
12 L3	REGENERATION AND REDUCING INEQUALITIES
L3.1	Within Trafford's Regeneration Areas the Council will secure:... <ul style="list-style-type: none"> Improved quality of design and construction
L3.2	Within these Regeneration Areas the Council will support appropriate development(s) that will reduce inequalities, secure regeneration benefits; create truly sustainable communities; and make positive contribution(s) to achieving the Plan's Strategic Objectives and relevant Place Objectives as follows:
	Priority Regeneration Area - Sale West
L3.6	Within Sale West development and redevelopment will be supported in order to regenerate this former Council estate. Development should focus on improvements to the residential mix and quality, the neighbourhood centre, the public realm and access to employment opportunities. The Council will seek the net addition of 100 residential units during the plan period as part of the regeneration proposals for Sale West. The new housing will be designed to a high standard, with a particular emphasis on improving the relationship between buildings and the street and the quality of neighbourhood open space.
12.18	In Sale West the proposal represents an opportunity to focus improvement and development on this former council estate to remodel it and improve the mix of housing offer available to the local community. Development will provide the opportunity to improve public access and to encourage walking and cycling; provide enhanced linkages to employment opportunities and; to enhance the quality, appearance and utility of the local environment for the benefit of the local community.
14 L5	CLIMATE CHANGE
	CO2 Emissions Reduction
L5.3	Developments below the thresholds, but involving the erection of a building or substantial improvement to an existing building (such as extensions or change of use), will be encouraged to adopt the principles of energy efficiency and incorporate appropriate micro- generation technologies to help contribute towards reducing CO2 emissions within Trafford. Those developments within Conservation Areas or which include Listed Buildings will also be encouraged to adopt these principles.
	CO2 Emissions Reduction Target
L5.4	Development will need to demonstrate how it contributes towards reducing CO2 emissions within the Borough. This should include incorporating measures such as applying sustainable design and construction techniques prior to utilising renewable energy generation technologies, examples of which can be found in the Supporting Technical Note.
	How to Calculate and Reduce CO2 Emissions
L5.9	CO2 emissions should be reduced by applying the following hierarchy:- <ol style="list-style-type: none"> Design and construction techniques to reduce the demand for energy (for example: through the orientation of building; internal layout; and superior energy efficiency measures such as extra insulation); Technology (for example through sourcing low carbon or renewable energy generation, including any district energy network which may be accessible).
	Energy Generating Infrastructure Opportunities – Commercial or Community

L5.12	The Council recognises the role that commercial and community low carbon, renewable and decentralised energy generation and distribution facilities can play in reducing CO2 emissions and providing viable energy supply options to serve new and existing developments. The impact of such infrastructure and any suitable mitigation measures will be assessed in line with the policies within this Plan, in particular Policy L7 – Design Quality and Protecting Amenity.
	CO2 Emissions Reduction Target
14.4	The justification to set local CO2 emissions reduction targets is detailed in national, sub-regional and local documents. National guidance sets out the guidance for local authorities to identify the potential for renewable and low carbon technologies and to set local requirements for decentralised energy supply within Development Plan Documents.
14.5	In 2009, the UK government designated Greater Manchester as a Low Carbon Economic Area for the Built Environment. This designation indicates that the city region is expected to be an exemplar for low carbon buildings, to provide a focus for job creation and economic development in the low carbon sector. This is supported by the Greater Manchester Strategy, of which a key component is to achieve a reduction in CO2 emissions of between 30-50% by 2020.
16 L7	DESIGN
	Design Quality
L7.1	In relation to matters of design, development must: <ul style="list-style-type: none"> • Be appropriate in its context; • Make best use of opportunities to improve the character and quality of an area; • Enhance the street scene or character of the area by appropriately addressing scale, density, height, massing, layout, elevation treatment, materials, hard and soft landscaping works, boundary treatment and; Functionality
L7.2	•Provide appropriate provision of (and access to) waste recycling facilities, preferably on site.
	Security
L7.4	In relation to matters of security, development must: <ul style="list-style-type: none"> • Demonstrate that it is designed in a way that reduces opportunities for crime and •Not have an adverse impact on public safety.
16.2	High quality design is a key element to making places better and delivering environmentally sustainable developments,
16.3	The use of planning and design can play a major role in enhancing the environment and promoting a high quality of life for new and existing communities. Therefore in order to protect the attractiveness of the Borough, it is important for developments to enhance the street scene and not adversely impact the amenity of the surrounding area and neighbours.
16.7-The layout to be designed so that it discourages criminal activity; - Maximising opportunities for natural surveillance of the street;

SPDA Guide for Designing House Extensions & Alterations		February 2012
1	INTRODUCTION	
1.1.	Purpose of this Supplementary Planning Document	
1.1.2	Extensions and alterations can potentially cause harm however to neighbouring properties, the appearance of the street or the property through unsympathetic design. The Council has a duty to safeguard the amenity of neighbouring properties and to protect the character and appearance of individual properties and residential areas. It is important to achieve a high standard of design for each residential extension.	
1.1.3.	The Council will seek to ensure that extensions and alterations are of high standard design, are compatible with and not harmful to local character. All applications are considered individually and on their individual merits.	
1.1.4.	These guidelines suggest principles of good design which should be borne in mind whilst planning an extension or alteration. They are not intended to stifle innovative design but intend to guide development that is complementary to its local environment. It is important that the design of a proposal is responsive to its context and reflective of the surrounding character.	
1.2	Policy context	
1.2.1	...well designed proposals should contribute positively to places, must be appropriate to their area, and if they do not take the opportunity to improve the area, they will not be accepted.... Householder proposals should be well-designed, positively respond to their context and give consideration to sustainability.	
2	GENERAL DESIGN GUIDANCE APPLICABLE TO ALL FORMS OF EXTENSION AND DOMESTIC ALTERATION	
2.2	Reflecting the existing character of the property	
2.2.1.	It is important that extensions should reflect the character, scale and form of the original dwelling by matching and harmonising with the existing architectural style and detailing. <ul style="list-style-type: none"> - Roof design & eaves should reflect main roof - Window design should match main house - Windows should line through horizontally & vertically - Scale & design should complement the original dwelling - Size should be proportionate to the original dwelling - Materials should match existing 	
2.2.3.	These guidelines will be sufficient for most cases, however they are not exhaustive and predominantly are for proposals that are reflective of or are in keeping with the traditional built form of the original property. If your property is of unusual design or layout, more individual attention will need to be given to ensure that the overall affect is satisfactory and that the extension does not look like an afterthought. A contemporary design or approach may be acceptable however such proposals must be justified and explained in detail as to why the individual proposal is appropriate, responsive to the character of the property and the surrounding context. This type of submission needs to be demonstrate high quality design and a clear design process that is thorough, well thought-through and carefully responsive to its context.	
2.3.	Scale	
2.3.1.	Any extension should respect the scale and proportion of the original dwelling and should not dominate through excessive size and/or prominent siting. Extensions should be in proportion in their own right and in relation to the size of the original dwelling. <ul style="list-style-type: none"> - Width/scale of extension should be proportionate to original property - Extension should not compete with the original dwelling - Extension should not appear more dominant than original by reason of excessive width/ height - Not appear to be more dominant than the original dwelling due to being sited forward or inappropriate design 	
2.4.	Windows	
2.4.1.	The style, proportion and position of windows should match those on the original dwelling. This includes the size of windows and divisions within the openings, materials, joinery details, and the opening mechanism.	
2.5.	Materials	

2.5.1.	The external finish of an extension, including the roof finish, should complement the original building by using appropriate materials. The choice of materials should be in keeping with the locality but most importantly should match the original building as much as possible in terms of type, colour, size, and texture. The brick bond and mortar joints should also reflect the original property.	
2.6. Residential Character		
2.6.1.	In areas of established residential character, the qualities of traditional buildings and characteristics of the surrounding area should be respected and complemented in any new form of extension or alteration to reinforce the character of the area. As a general rule, any special design details on an existing property should be repeated on the extension (e.g. decorative brick course). Older buildings often have distinctive architectural features which contribute to their special character and to the quality of the surrounding area. These can be used to good effect to help marry the design of the extension with the original dwelling in a sensitive manner. Original features should be identified and where possible not obscured. It is often appropriate to incorporate these features into the design of the extension.	
2.7. Respect the street scene		
2.7.1.	It is important that an extension fits in with its surroundings by not only complementing the dwelling but also the street scene that it sits within. Extensions should harmonise with other residential development in the vicinity, in terms of scale and design, spacing within the plot, and the prevailing architectural design	
2.7.2.	Taking the following principles into consideration when designing a proposal will help the proposal sit well within the surrounding area.	
	- The design, scale, form and finish of an extension should blend in with and complement the character and design of neighbouring houses and the street scene.	
	- Proposals should respect the established character and form of development in the surrounding area.	
	- Care should be taken not to protrude past prominent building lines in the street scene, particularly on corner sites, so as to not appear out of character.	
	- Roofs should be finished in a manner complementary to the street scene.	
	- Sufficient space should be left around the extended property to retain a degree of spaciousness within the property's curtilage that is in keeping with the surrounding area.	
	- A sufficient gap should be retained between dwellings to maintain the prevailing pattern of spaciousness within a row or group of houses.	
	- Important glimpsed views between houses, particularly of greenery, should be retained.	
	- Existing features within the street should be taken account of and complemented such as hedges, trees, landscaping, walls and gateposts.	
2.10. Bin Storage		
2.10.1.	The requirement to segregate waste has brought about a need to accommodate three or four large bins within a household curtilage.... a well-designed and appropriately sited bin storage facility will be sought.	
2.11. Private Garden Area		
2.11.2.	The loss of garden area should also be kept to a minimum to retain the visual quality and reduce the loss of existing features such as greenery and biodiversity.	
2.15. Overlooking/Loss of Privacy		
2.15.5	...An above eye-level window position is an alternative option in some circumstances for achieving extra light without causing undue loss of privacy.	
2.19. Principles of Sustainable Development		
2.19.1.	Government guidance encourages sustainable development, prudent use of natural resources and environmental protection. The Council's Core Strategy requires development proposals to mitigate and reduce their impact on the environment and maximise sustainability by adopting measures that reduce carbon emissions. Householder development will be encouraged to adopt the principles of energy efficiency and to incorporate appropriate micro-generation technologies.	
2.19.3.	When determining planning applications for such measures, a balance needs to be kept between achieving the wider benefits from carbon emission reduction and not harming neighbouring amenity or the amenities of the area.	
2.20. Sustainable Design and Construction at Householder Level		
2.20.1.	Consideration should be given to the potential for incorporating renewable and low energy supply systems in households, such as those listed below.	

2.20.3.	Solar hot water systems - Generally these comprise solar panels that ideally should be placed on south facing surfaces.	
2.20.4.	Solar electricity - Ideally photovoltaic (PV) cells they should be placed on a south facing surface. Photovoltaic tiles are now available and resemble slate roofs and traditional tiles. Visual concern is a key planning concern with this type of technology and any PV panel should take account of the colour, style and character of the roof or surface that it will be attached to.	
2.20.7.	Biomass systems - A heat providing system that within the domestic sector refers to wood fuel from a sustainable source.	
2.21. Site layout and building design		
2.21.2.	Initially, proposals should attempt to minimise demolition and reconstruction altogether. Consideration should be given to re-using buildings and existing structures and secondly whether any materials can be recovered and re-used.	
2.21.3.	When designing your extension consideration should be given to its siting so that its orientation can maximise the potential from solar gain, natural daylight and natural ventilation. In this way, the design of an extension can reduce the energy consumption of the building overall.	
2.22.	The siting and design of an extension should:	
	- Maximise solar heat gain through the use of solar panels on south-facing roof pitch.	
	- Maximise the use of natural daylight to reduce the requirement for artificial lighting.	
	- Maximise the use of natural ventilation, instead of mechanical ventilation to reduce energy consumption.	
3. DETAILED GUIDANCE ON PARTICULAR TYPES OF EXTENSION		
3.1. Side Extensions		
3.1.1.	Side extensions can have a prominent visual impact on the appearance of your dwelling and they can remove gaps from the street scene that help define the local character. Side extensions should be appropriately scaled, designed and sited so as to ensure that they do not:	
	- Appear unacceptably prominent,	
	- Erode the sense of spaciousness within an area	
	- Detract from a dwelling's character.	
	- Adversely affect the amenities of neighbouring properties.	
3.1.2.	Proposals for two storey side extensions or first floor additions will normally be acceptable with regard to the following:	
	- A gap of a minimum of 1m should be retained between the side elevation of an extended property and its side boundary, to retain the impression of space to the side of the dwelling. This is particularly important within a row of closely spaced detached or semi-detached houses.	
	- Projection of eaves or details such as guttering into this required separation distance must be minimal to achieve a satisfactory 1m visual gap at first floor.	
	- An extension which results in a detached house being sited close up to the boundary on both sides at two storey height is likely to appear unduly cramped and out of character with the area.	
	- Extensions should not be taller than the existing property or extend above the main ridge line of the property.	
	- The eaves level of the extension should correspond with the original house.	
3.1.6.	In addition, an existing direct through route to the rear garden should be retained for refuse bins, garden equipment and general storage.	
3.7.2.	Front extensions may be acceptable if:	
	- They are designed to harmonise with the character of the dwelling, and neighbouring houses, by reflecting the design, detailing, and proportions of the existing dwelling. This will often include incorporating a pitched or lean-to roof which can complement the original dwelling and lessen maintenance requirements.	
	- The materials match those on the original house. The use of different materials should be avoided or it may appear out of character with the appearance of the house or the street scene.	
	- The front door is retained in the front elevation so that the house has a legible entrance.	
	- They are modest in scale, predominantly single storey, and do not project excessively forward so as to not detract from the house or street's character.	
	- They are restricted in width so as to not detract from the design of the original house.	