6.6 Richmond MakerLabs - Introduction

HAM LANDS BUTTERFLIES

6.6.1 Introduction

Introduction to Richmond MakerLabs

Situated on Ham Close is Richmond MakerLabs, a community space for people to 'tinker, make and be friendly'. The users of this facility have a keen interest in DIY and making. Existing facilities include: A kitchenette, laser cutters, IT benches, a wood shop, 3D printers, CNC machinery and a metal lathe. The building and the land it sits on is owned by Richmond Housing Partnership (RHP).

The existing building and associated gated yard where Richmond MakerLabs conduct their work was, however, originally built as a sub depot for Ham Close and thus overtime the space has proved insufficient for the expanding work of the group. This has been exacerbated during the Covid-19 pandemic, with inadequate space to allow for social distancing. As part of the overall development of Ham Close, the existing space will be re-provided in a new purpose-built facility to accommodate the expanded needs of Richmond MakerLabs users, predominantly through the provision of two accessible and inclusive workshop spaces and attached outdoor space.

This Design and Access Statement serves to discuss the site at hand, the emerging narrative and the consequential design approach to the new Richmond MakerLabs.

Photo of Existing Richmond MakerLabs

6.7 Richmond MakerLabs - The Site

HAM LANDS BUTTERFLIES

6.7.1 Plot Location Plan

The Existing Site

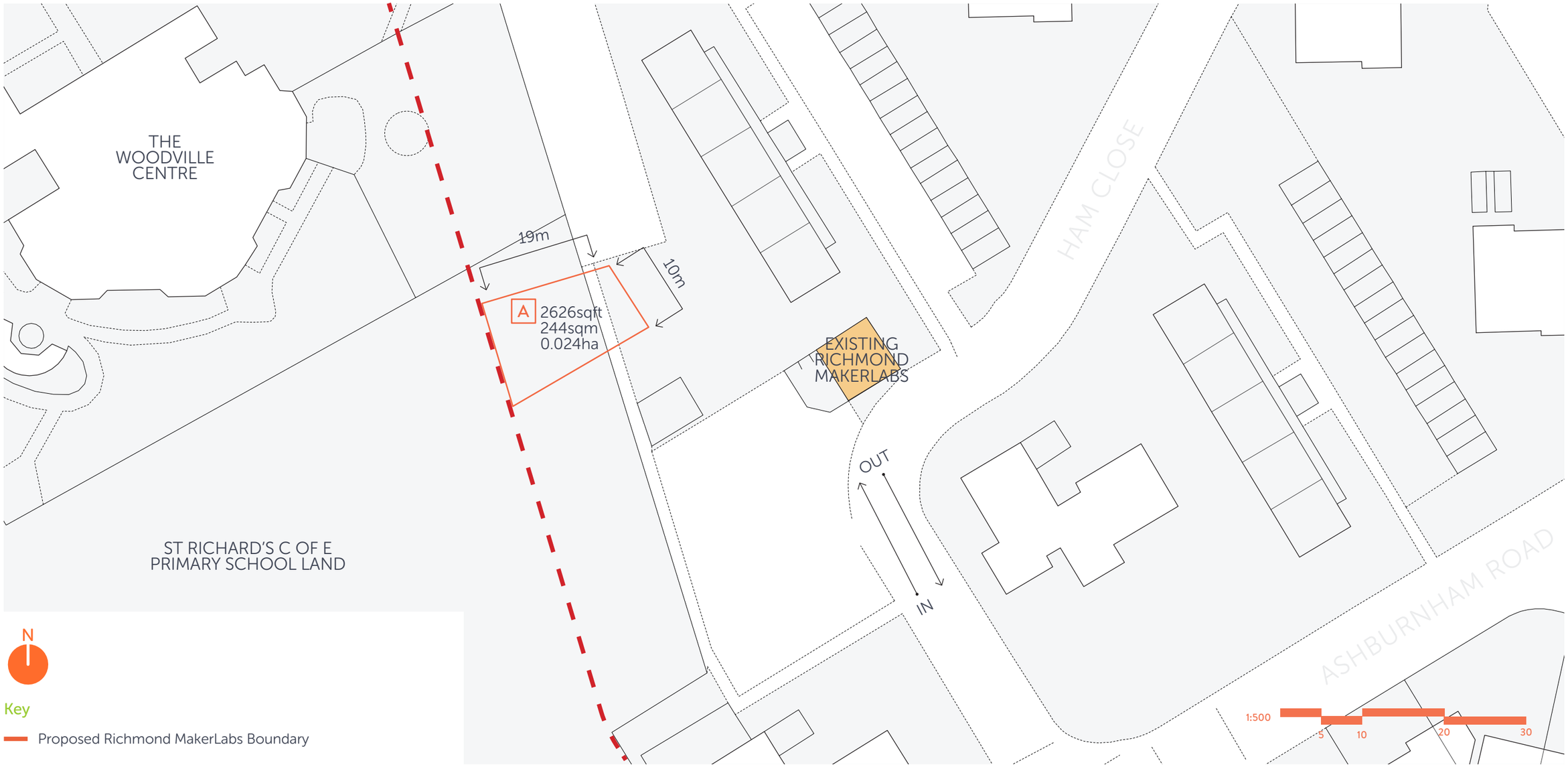
The below plan shows the proposed location for the Richmond MakerLabs on the existing site.

Plot Location Plan

6.7.2 Plot Site Plan

The Existing Plot

The below plan shows the proposed location for the Richmond MakerLabs on the existing site.



Plot Site Plan

6.7.3 Site Photography

Images of the Existing Site

As evidenced by the adjacent photographs, the proposed site of the new Richmond MakerLabs is currently situated within St Richard's Church of England Primary School land, beyond the existing wall to the east. To the immediate north are a number of trees, one of which is a Category A pine tree with an associated root protection area. These trees are located to the east of the Woodville Centre. Beyond the existing boundary school wall is Ham Close. The site will be accessible from roads leading off Ham Close, Woodville Road and Ashburnham Road.

1. View of existing boundary wall from the south with the site beyond

2. View of existing boundary wall from the north with the site beyond

Key Plan

3. View of the site from the other side of the existing boundary wall

4. View of the existing Richmond MakerLabs facility

6.7.4 The Proposed Site

Proposed Location

The location of the proposed new Richmond MakerLabs facility is beyond the existing boundary wall within St Richard's Church of England Primary School land, close to the existing Richmond MakerLabs building. Due to its location, the Richmond MakerLabs can be built during Phase 1, re-providing the existing facilities on the site and thus providing early community benefit.

The Richmond MakerLabs is situated away from the centre of the residential development to limit exposure to noise from within and also so any deliveries to the Richmond MakerLabs do not have a major impact on residents.

The reason for providing the Richmond MakerLabs as a standalone building is as follows:

1) The current building is a self-contained block rather than integrated into the residential homes.

2) By remaining stand-alone, it can be built early in the construction phasing, allowing continuity of use.

3) There is greater opportunity for the design of specialist spaces to suit the needs of the Richmond MakerLabs as a standalone building.

4) Noise exposure and lack of natural ventilation would be greater in a residential block, with greater acoustic consideration needed to prevent sound passing through floors and walls.

5) A standalone building would allow for expansion of the Richmond MakerLabs, explored in greater detail in the next chapter.

6) A single structure ensures legibility and prominence to the facility - it is a key piece of social infrastructure that should be celebrated architecturally.

Indeed, the proposed location sits at the end of the Linear Park on the residential masterplan and can be seen as a destination for the new development whilst seeking to attract more people from the wider community. Its location and programme also gives rise to the opportunity to create a bespoke piece of architecture separate to the residential proposals.

The next page highlights a number of the design constraints which have informed the development. These include a root protection area (RPA) to the north of the site, the site boundary to the school land, a rising main legal easement and new residential developments to the south.

Masterplan Site Plan.
Image Copyright LUC
For full details on phasing strategy refer to BPTW information

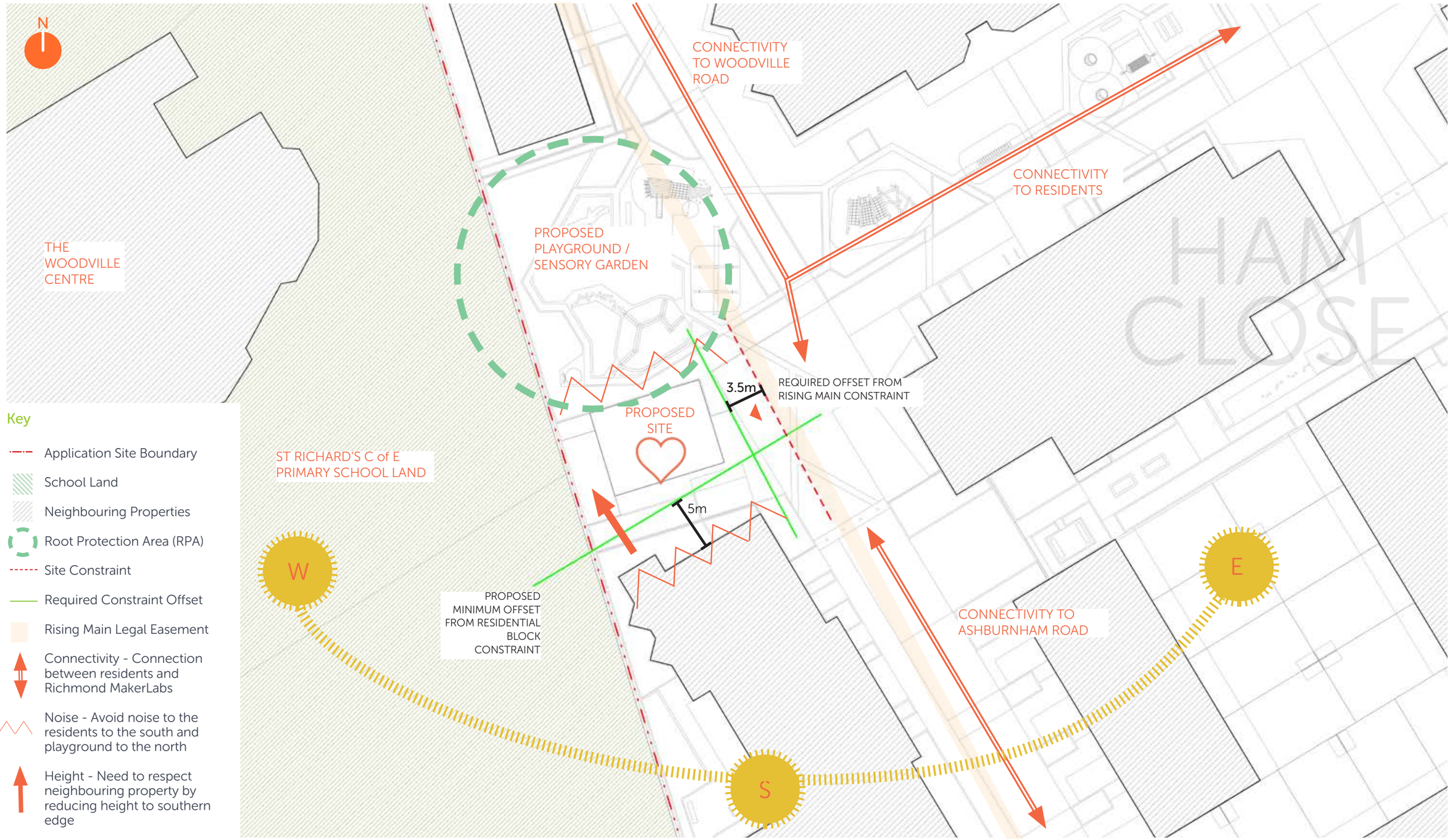
Key

- Application Site Boundary
- Public Transport Route to Community Facilities
- Footpath Routes to Community Facilities
- Richmond MakerLabs Site

6.7.5 Constraints & Opportunities

The Proposed Richmond MakerLabs Location

Below are a number of key constraints and opportunities informing the progression of design development.

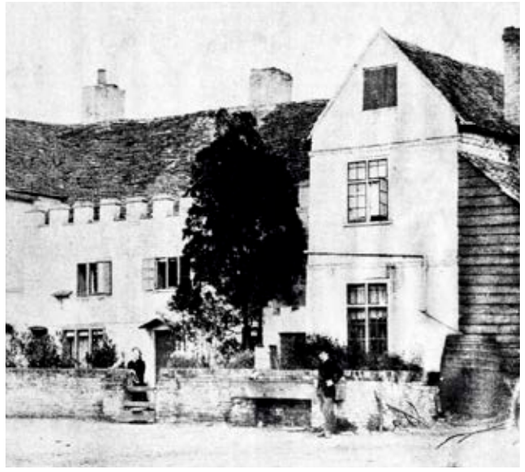


Indicative Residential Layout

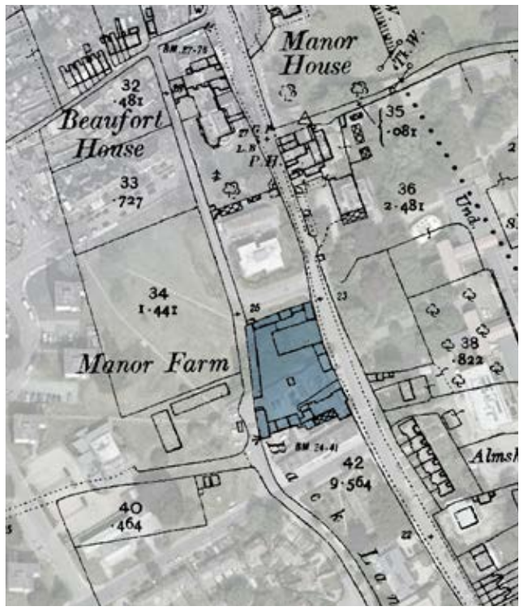
6.7.6 Site History

As researched within the historical analysis of the Ham community centre site, the history of Ham Close and its surroundings has undergone a range of expansion and development since the 1800s which also applies to the proposed site of the new Richmond MakerLabs. Indeed, in the 1800s, the site housed the former Manor House and associated farm, which was expanded in the 1870s.

The adjacent map shows the rural map of Ham dating back to the 1800s.



Manor House



Overlay with Present Day Map

Rural Map of Ham

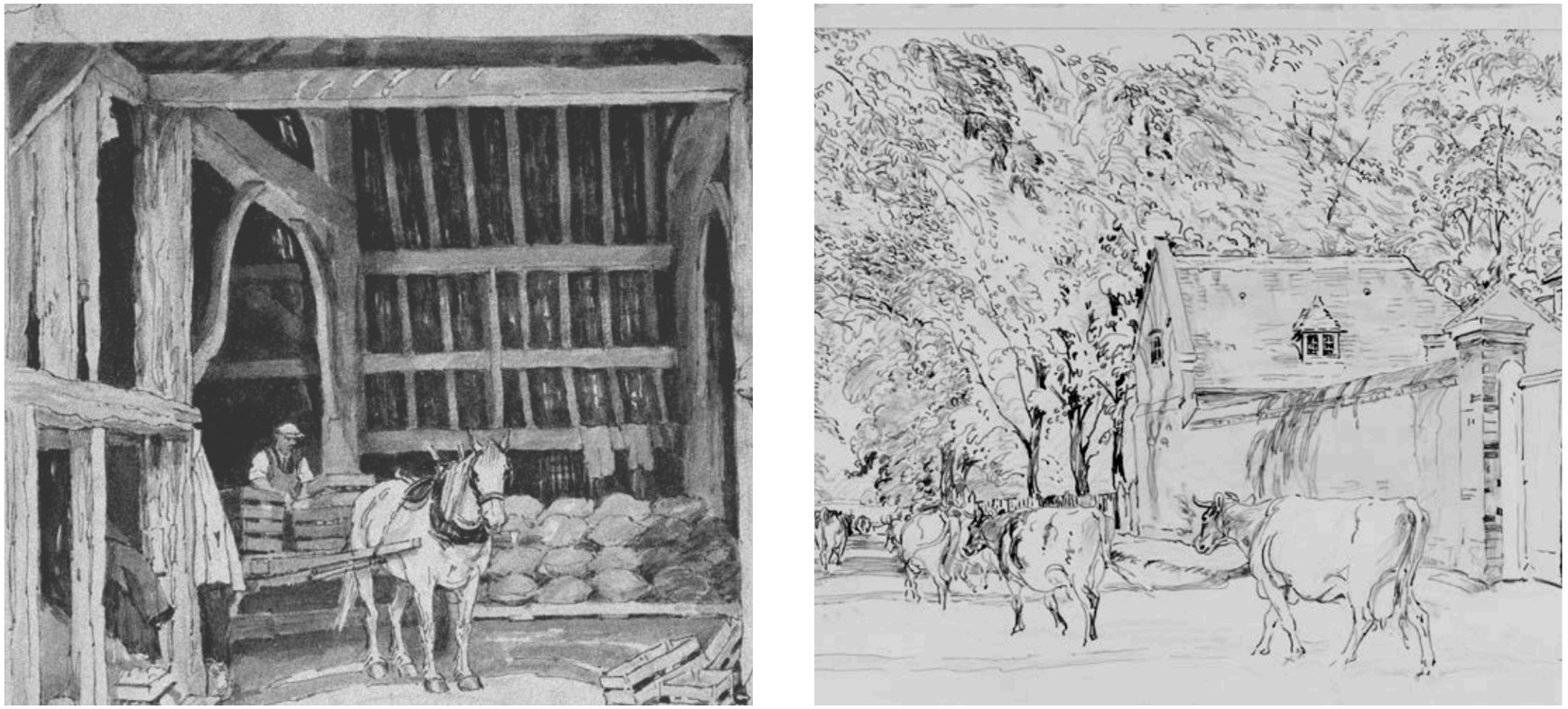
6.7.6 Site History

A Rural Heritage

The importance of this farmland was captured during WWII when, in the 1940s, artists were commissioned to draw rural life throughout England, with many of the rural architectural structures on the site drawn and displayed in the V&A today.

In the 1960s the old Manor Farm was demolished and replaced by the current parade of shops and post-war housing. By the 1970s the current configuration of Ham Close is evident.

Nonetheless, the legacy of Ham Close's rural heritage has not been forgotten and the design team have aimed to capture this heritage in the architectural expression of the developing Richmond MakerLabs designs.



Agricultural Sketches of Manor Farm

Barn Structures on Manor Farm - Now Demolished

6.8 Richmond MakerLabs - Design Principles

HAM LANDS BUTTERFLIES

6.8.1 Existing Facilities

The Existing Richmond MakerLabs

The Richmond MakerLabs is a member-run organisation within Ham United Group (HUG) and is the only one of its kind not only in the Borough, but in south-west London. The current Richmond MakerLabs space in the caretaker's cottage (Little House) is too small for the equipment needed and demand from the community. The Richmond MakerLabs have retrofitted their services into the cottage as best they could, but the space was not designed for them. Offers of donations of tools must currently be refused as there is no space to keep them. Opportunities to repair equipment over more than one session must be refused due to lack of storage space for work in progress despite there being demand.

Within this existing building is provision for the following 'making' activities: Stereo music system repair service, computers for computer aided design work, 3D printers, CNC mills, laser cutters, sewing machines, electronics, engineering/woodwork (e.g. belt sander, lathe and bandsaw), plus a WC and kitchen. Since the Covid-19 pandemic, the users of the Richmond MakerLabs have struggled to operate under social distancing guidelines due to the small size of the existing facility, exacerbated by the fact the space (formerly a sub depot) was not designed for its current purpose. A better designed, purpose built facility will enable the Richmond MakerLabs to improve upon their existing service and potentially expand to new services.

The adjacent plans give an indication of the existing uses of the Richmond MakerLabs.

EXISTING RICHMOND MAKERLABS	AREA (SQM) NIA
GROUND FLOOR	
Workshop	29
Laser Room	6
Storage	3
WC	3
Kitchen	6
TOTAL	47

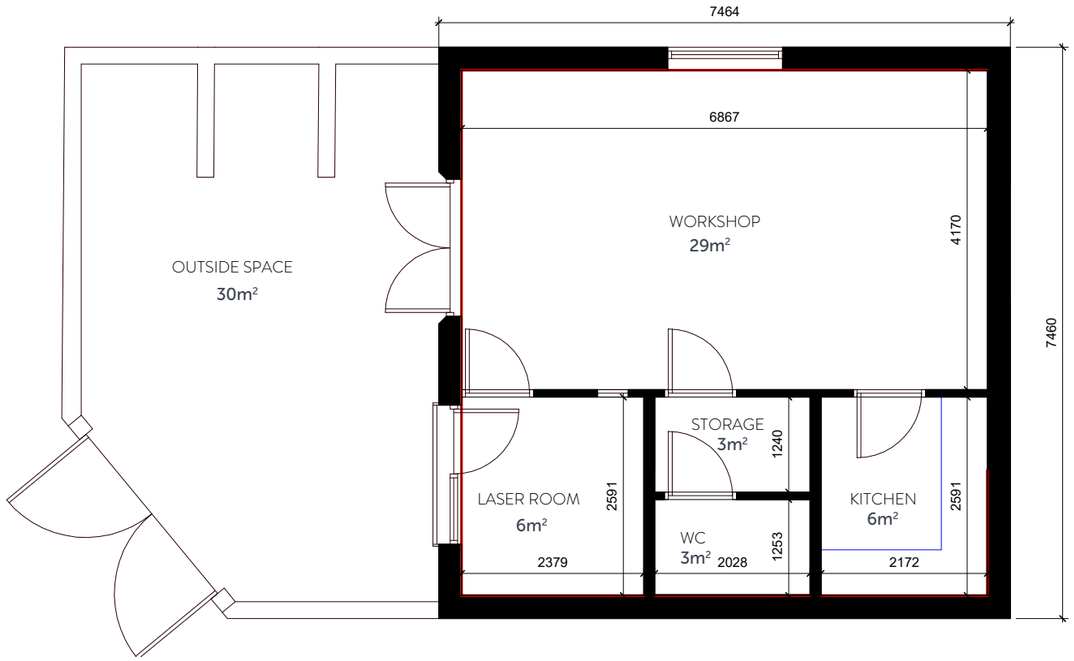
+ Storage in Mezzanine (Reduced Head Height Therefore Area Not Included)
+ 30sqm Outdoor Space

GEA = 56sqm

Existing Richmond MakerLabs Areas:
Areas Based on Measured Survey by Rapleys

Existing Richmond MakerLabs (Little House)

Existing Richmond MakerLabs (Little House)



Existing Richmond MakerLabs Ground Floor Plan

Inside the Existing Richmond MakerLabs - Image Courtesy of Richmond MakerLabs

6.8.2 The Brief

Requirements of the Richmond MakerLabs

The new Richmond MakerLabs will replace the existing accommodation of the group in a new bespoke configuration in collaboration with the LBRuT. Whilst the building is currently owned by RHP, the new facility will be owned by LBRuT and managed by Ham United Group (HUG) / Richmond MakerLabs.

The brief states that the Richmond MakerLabs needs can be met by providing two workshop spaces in the new facility – one for light work, the other for noisier activities. Workshop 01 would be used for meetings, coding and benchwork and would house the 3D printers and laser cutter. Maximum wall space would be needed for shelving and tool racks. Workshop 02 would be used for woodwork and metalwork and requires external access.

In addition to the workshops, the group requires a kitchen, WC and IT utility cupboard, plus outside space for external benches and a small, lockable shed to support the activities of HUG. This external space must also be accessible without the need to enter the building. We have also been mindful of mechanical and engineering requirements, particularly servicing and extraction of gases, dust and smells, plus a heat recovery A/C system to deliver comfort heating and cooling. The diagram on this page shows the brief requirements as an adjacency diagram.

Overall, Richmond MakerLabs seeks to have the balance of a pleasant, functional work space, whilst also having the comfort of security within their new space.

On the following page we set out how the scheme has been developed and rationalised by providing a comparison table that compares the existing accommodation and the proposed areas. This will follow with further explanation regarding the increase in accommodation for the Richmond MakerLabs.

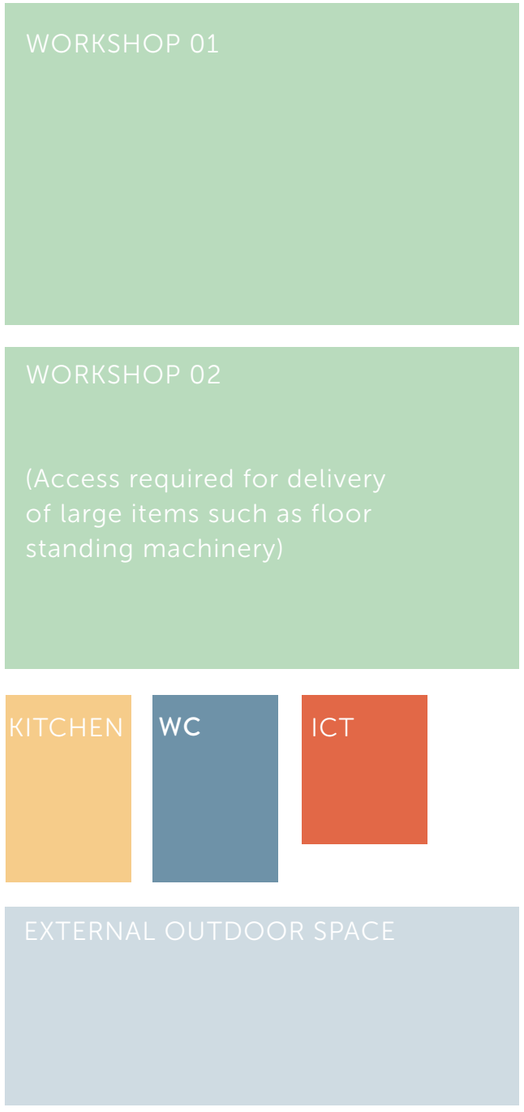


Diagram of Brief Requirements

6.8.3 Comparison Area Schedule

Areas

Below is an area schedule showing the existing provision of the Richmond MakerLabs facilities and the proposed areas.

EXISTING RICHMOND MAKERLABS BUILDING	AREA (SQM) NIA	PROPOSED RICHMOND MAKERLABS	AREA (SQM) NIA
GROUND FLOOR		GROUND FLOOR	
Workshop	29	Workshop 02	34
Laser Room	6	Entrance Circulation	15
Storage	3	Kitchen	5
WC	3	WC	5
Kitchen	6	Riser	1
		TOTAL SQM OF GROUND FLOOR:	60
		FIRST FLOOR	
		Workshop 01	36
		Storage	3
		IT Utility Cupboard	4
		Riser	1
		Circulation	7
		TOTAL SQM OF FIRST FLOOR:	51
TOTAL SQM:	47	TOTAL SQM:	111

+ Storage in Mezzanine (Reduced Head Height So Area Not Included)

TOTAL GEA: 56sqm

+ 30sqm Outdoor Space

TOTAL GIA: 130sqm

TOTAL GEA: 164sqm

+ 30sqm Outdoor Space

NOTES

1. Existing Richmond MakerLabs areas based on measured survey by Rapleys
2. All areas are indicative and require further ratification through design development
3. Plant areas need confirmation from MEP engineer
4. Internal walls in proposal indicated at 150mm thickness
5. External walls in proposal indicated at 507mm thickness
6. Ground FFL to CL in proposal = 2500mm
7. First FFL to CL in proposal = 1500-3500mm

6.8.4 Increased Accommodation

Reasons for a New, Larger Richmond MakerLabs

As explored, the existing Richmond MakerLabs is currently struggling to operate due to the size of the existing facility.

The current Richmond MakerLabs facility provides two events weekly, one for the whole community and one for members. Members of the community come to work on their own projects and seek guidance and knowledge from other members. There is a wide array of activities that are provided including woodwork, repairs, model-making, electronics. The new building design would allow more access for members of the community at different times of day as a key fob system would allow for secure and safe access to the equipment within the Richmond MakerLabs. A larger space would also make it possible for members of the community to use the space as a 'co-workshop' for their small businesses.

The increase in space would allow for the setup of a repair café which would run periodically throughout the year allowing the community to bring along small electrical and mechanical items instead of replacing them and creating landfill waste. Given the success of the Twickenham repair café in St Margaret's these events are expected to have good uptake. As far as we are aware there only 4 Maker-Spaces in London, the nearest being in Hackney, so this provides a great opportunity for the Richmond MakerLabs to become a valuable asset to the community.

Additionally, the new development will result in a population uplift, which will lead to an increase in demand of the facilities which could ultimately become a Sustainability Hub. As well as the repair café, the increased indoor and outdoor space would mean there is potential for Richmond MakerLabs to run bicycle repair drop-ins which would be an additional benefit to the community given the significant increase in cycle parking on site. This coupled with fact that cycling is already a popular and established mode of transport and hobby in the area – Richmond Park is in proximity and there are many cycle routes around Ham – mean the demand for these workshops is also likely to be high. Both the repair café and the bicycle workshop will also help drive sustainable behaviours in the community.

The two workshop spaces will mean that there is a place for work that creates debris/dust (such as woodwork or metal work) and a space that supports activities that require clean air (gluing, paint finishing, electronic assembly). The latter is also an area for mentoring, teaching and coding. Currently having only one space means that these activities cannot be carried out simultaneously which means there are limits on the projects that the community can bring in. In the past there have been instances where Richmond MakerLabs have had to turn away members of the community with projects as well as offers of donations of equipment due to lack of space.

Whilst the new design of the Richmond MakerLabs has increased in size, the massing of the new building will be pitched so the height is reduced at the boundary to the proposed residential buildings to the south. There will also be no glazing on the south elevation to avoid any overlooking and to maintain the privacy of the residents. To mitigate any noise generated by the Richmond MakerLabs, the outdoor space will be located to the rear of the building meaning noisy work will not be taking place close to the street of the masterplan. Additionally, the new location is on the edge of the masterplan to avoid noise disturbance to the new homes, further assisted by restrictive covenants and a management plan to be agreed between the freeholder of Ham Close, RHP and LBRuT.

The next chapter will describe the design of the Richmond MakerLabs in further detail.

Photo of Existing Richmond MakerLabs - Workshop

Photo of Existing Richmond MakerLabs - Workshop

6.8.5 Design Drivers

Historic Precedents

As this document has explored, the history of Ham Close – prior to its current condition as a housing estate – is that of rural heritage, with the site existing as farmland for many years.

The barnyard typology, which populated Manor Farm, is an endearing staple of rural agricultural and industrial architecture. Simple in construction and traditionally shaped from necessity rather than aesthetic, we have sought inspiration from this vernacular in the design development of the new Richmond MakerLabs, given its scale and industrial purpose. We see this as an opportunity to evoke this sense of history and to spark the imaginations of those seeking a contrast to the fast-paced, dense reality of urban life in this small space for making.

Looking at the adjacent bottom image of a barn that was situated on the site in the 1800s, we can see the architectural motifs of stable doors, as well as a square window on the gable end of the structure. These are traditional elements that have inspired our design development. Furthermore, the pitch of this structure shown in both adjacent images has influenced our design development and thus we see a pitched structure as a sensitive design idea for the Richmond MakerLabs.

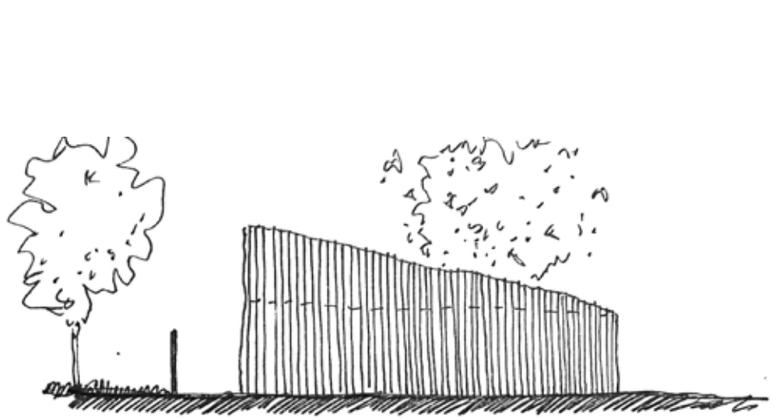
Historic Drawing of Manor Farm

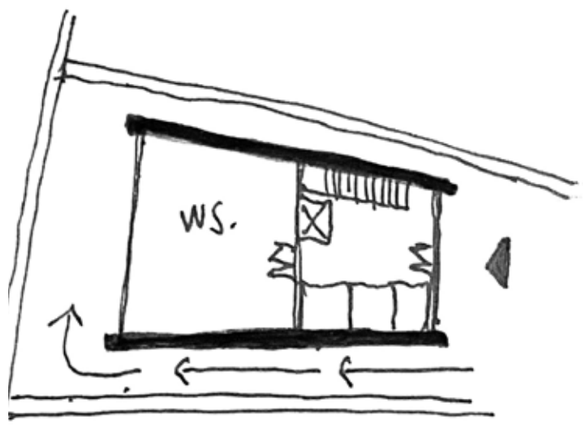
Barn Structures on Manor Farm - Now Demolished

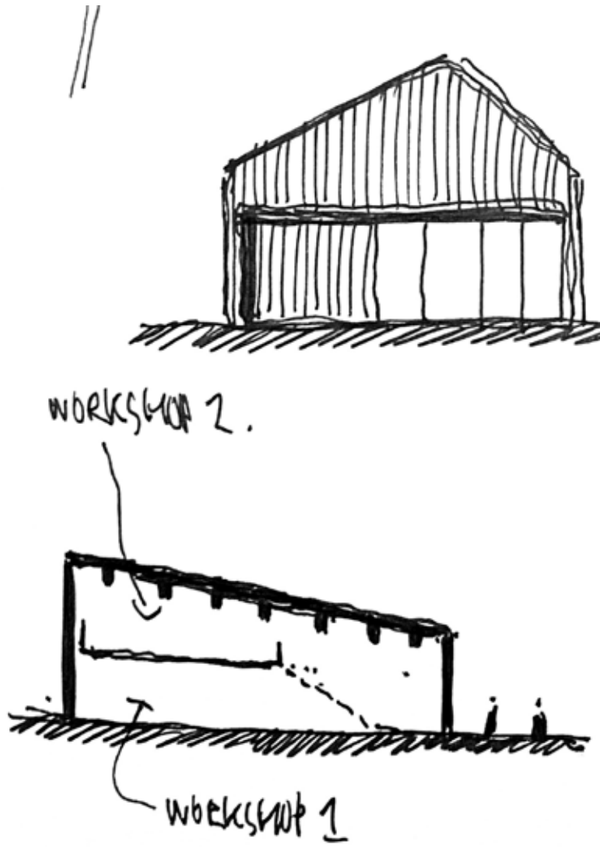
6.8.6 Design Development

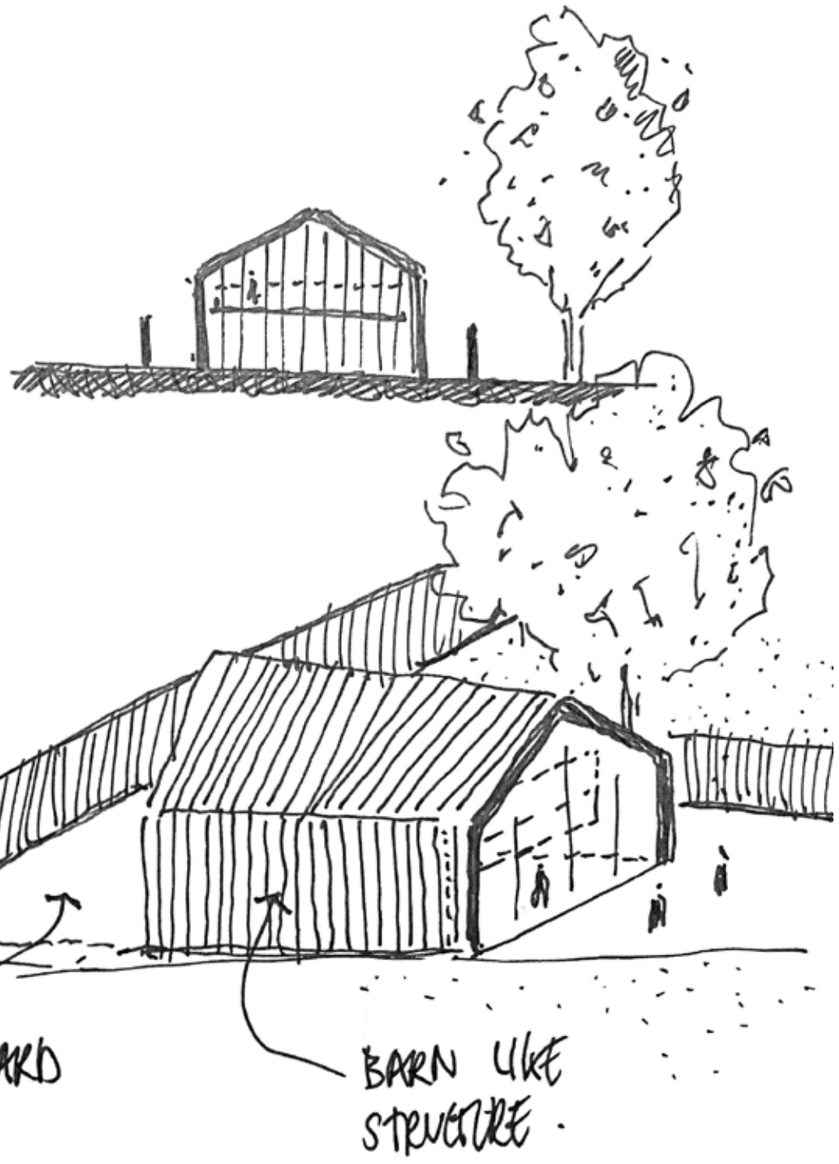
Sketch Development

We began with simple hand sketches to evolve our vision for the barn typology, before exploring in more detail how the programme could work within the constraints of the site.









Sketch Update

6.8.6 Design Development

Massing Development

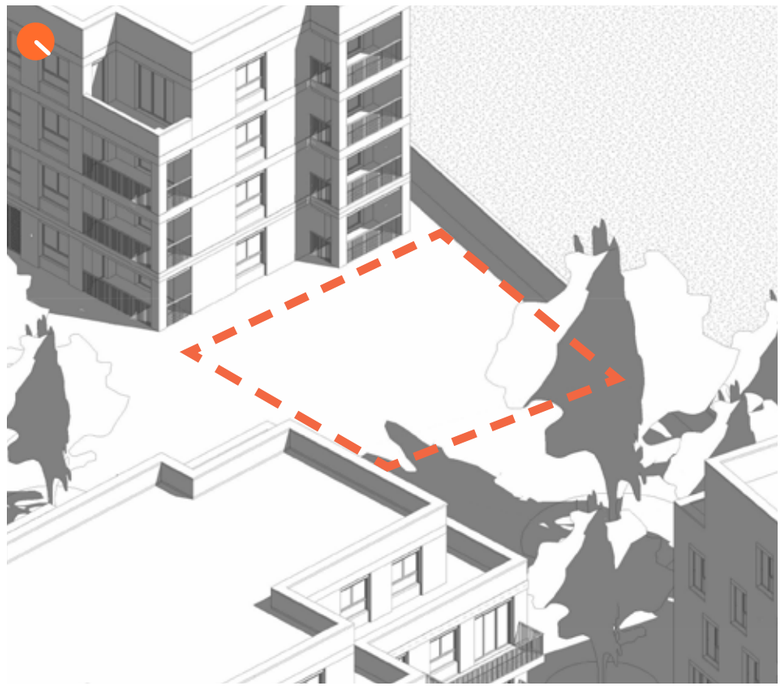
After initial sketches we began to mass the scheme, being mindful of the site constraints and required needs of the Richmond MakerLabs.

1 There are a number of constraints defining how the proposal may sit on the site, ranging from the root protection area zone, the school wall boundary and the proximity to the residential block to the south. We responded to these constraints as we evolved the massing.

2 We began by exploring a single storey mass, which would have benefits such as having less visual impact on the southern residential block. However, due to the site constraints it proved impossible to accommodate the Richmond MakerLabs' needs within each restriction, whilst the outdoor space would have to overset the root protection area whilst being more likely to circulate noise into the residential areas. As a result it seemed more suitable to explore the double storey option.

3 The double storey option allowed the Richmond MakerLabs needs to sit comfortably on the site, showing this was the more appropriate option. Meanwhile, the outdoor space could be accommodated to the rear of the property, minimising the impact of noise. We then looked at carving the massing, looking to the site's rural heritage to inform our development.

4 Due to the proximity to the southern block, we carved the mass to a pitched form, reducing overshadowing and stepped the front mass to the north to create a more generous distance from this building. This form is also inspired by the rural narrative. This development was welcomed at a Design Review Panel in January 2022. However, LBRuT Planning Officers commented on the oversized areas this scheme was creating and the inefficiency of the layout of the workshops. We thus looked to shrink the massing further leading to a very efficient form in both plan and shape.



1 The Site

2 Single Storey Option

3 Double Storey Massing

4 Carving the Massing

6.8.7 Design Development

The Developed Design

The adjacent axonometric shows the evolved massing after minimising the layout requirements and reducing the areas to be more efficient. This manipulation of the plan is simplistic in form, with just one pitch rather than the stepped double pitch. This has allowed for rectangular workshops inside which can be easily planned regarding equipment and circulation. We have created a rhythm of punched windows referencing the barn typology explored in the previous chapter, with architectural barn details such as the roof pitch and stable door a further nod to the rural heritage. The form, layout and architectural details will be explored in more detail in the next chapter of this Design and Access Statement.

1 North facing windows create good internal light within for working and making

2 Outdoor space positioned to the rear

3 Building at lowest point to the southern block reducing overshadowing

4 Active frontage

5 Skylights create a bright entrance and increases daylight within workshop 01

Proposed Axonometric
Landscape Design and Residential Masterplan Indicative

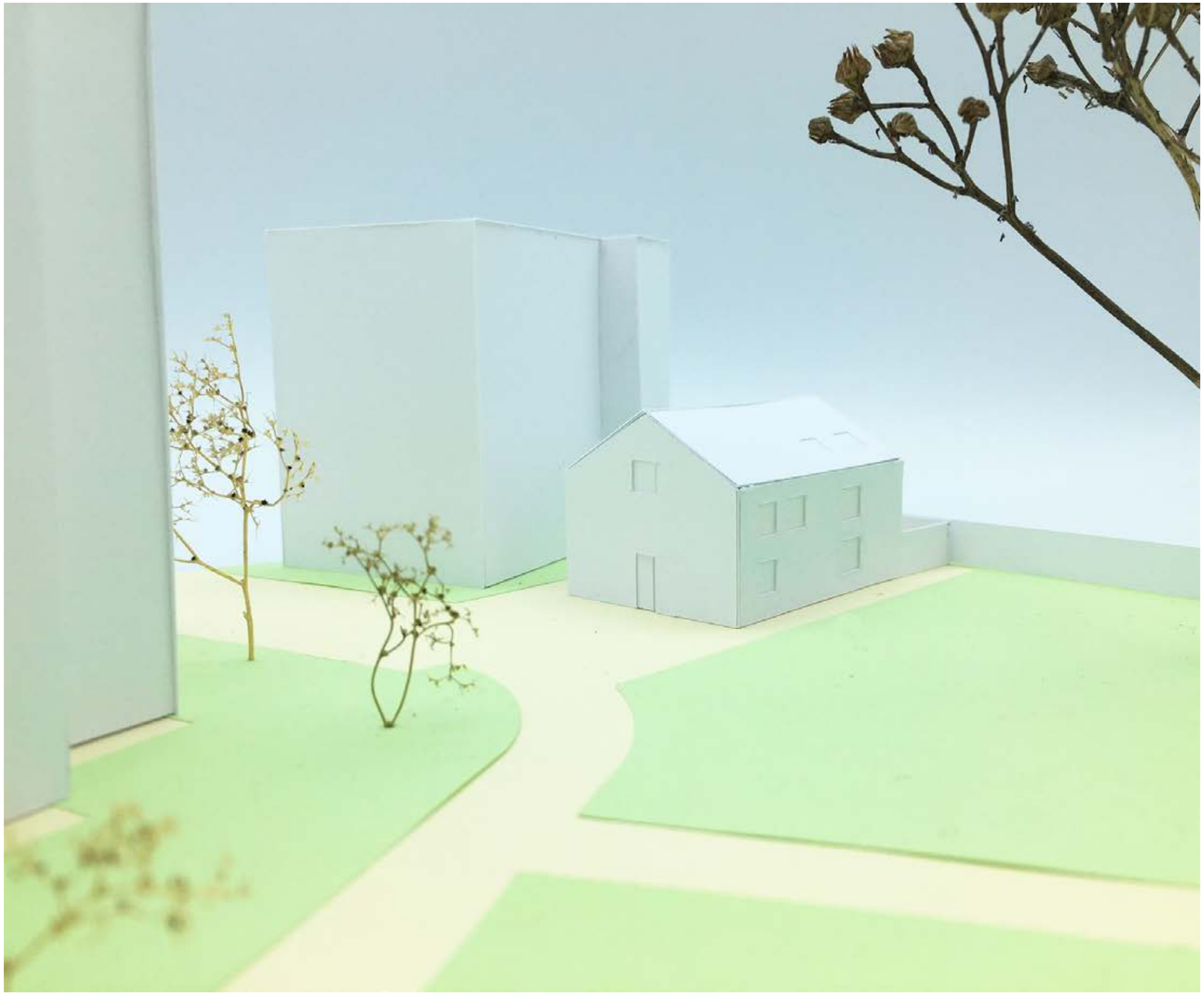
6.9 Richmond MakerLabs - Design Proposal

HAM LANDS BUTTERFLIES

6.9.1 Design Proposal

The Proposed Model

The adjacent model shows the developed proposal. The scheme's simplistic pitched form responds to the rural heritage of the site whilst accommodating the needs of the Richmond MakerLabs. In order to fit within the strict site constraints, the most feasible option was to propose a double storey scheme, allowing for the most efficient internal configuration.



1.200 Card Model of the Richmond MakerLabs Proposal

6.9.2 Proposed Plans

Site Plan

The adjacent site plan shows where the proposed Richmond MakerLabs sits relative to the proposed residential masterplan.

The proposal sits on the edge of the masterplan rather than at the heart. This is because activities within may be noisy so it is best to limit its proximity to the denser residential areas of the masterplan. Nonetheless, it sits at the end of the high quality landscaped Linear Park, making the scheme a destination for the community from the proposed community centre and elevating the need to create an enticing active frontage on the east elevation.

Site Plan (NTS)

6.9.2 Proposed Plans

Ground Floor Plan

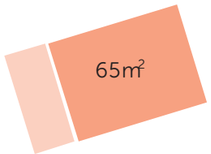
The proposal accommodates all of the needs of the Richmond MakerLabs within the site constraints. The ground floor houses both the WC and kitchen as well as workshop 02 which has direct access to the outdoors. The workshop, efficient in plan, enjoys glazing to the north and views of the mature trees, as well as two punched openings to the outdoor space and a stable door to allow direct access outdoors. Utilising punched openings also maximises wall space to allow for storage and built in joinery.

A full schedule of accommodation can be found in the previous chapter of this document, but in principle the accommodation at ground floor is as follows:

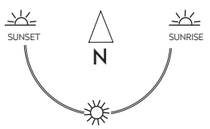
GROUND FLOOR

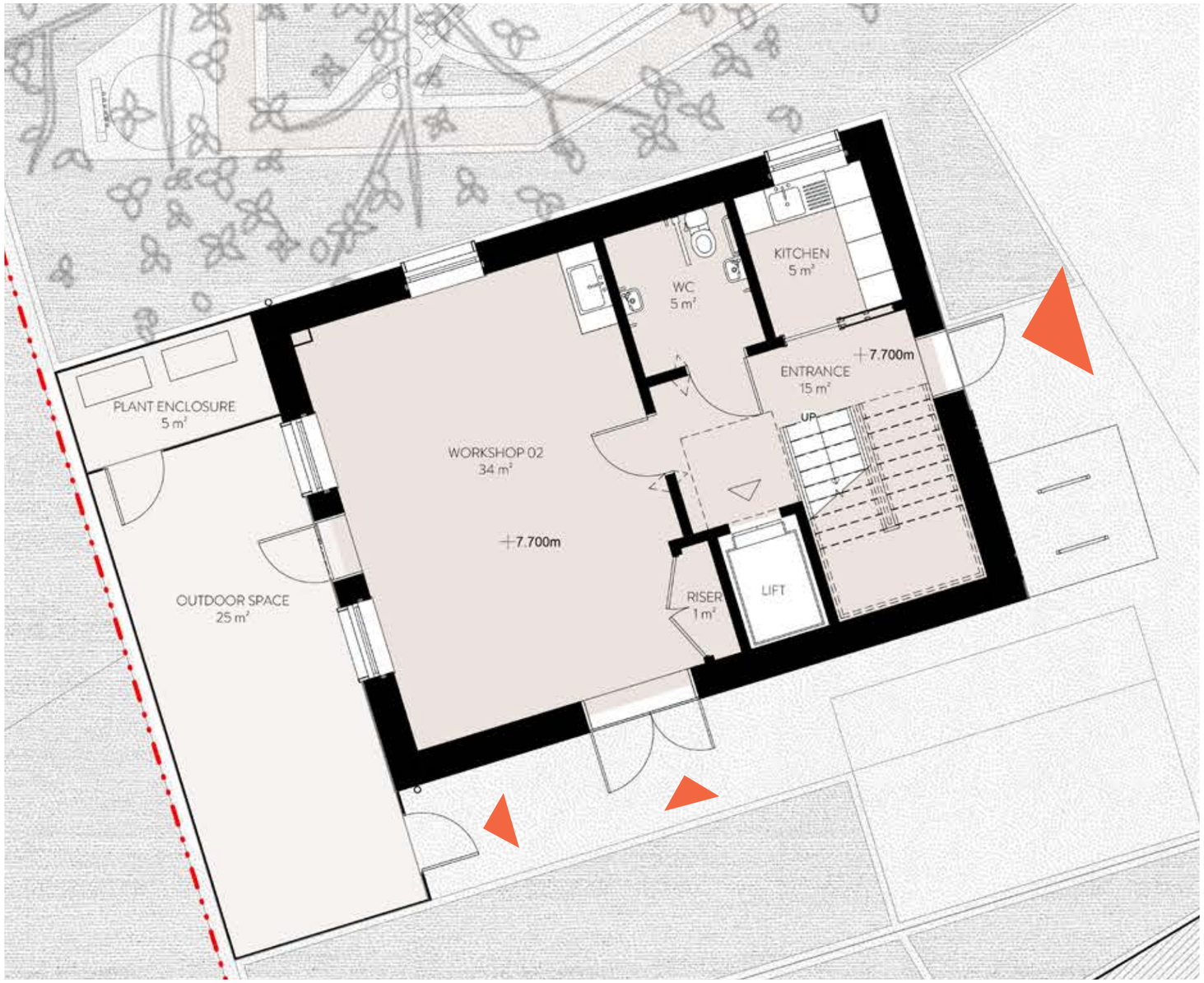
- Outdoor space
- Entrance
- Kitchen
- WC
- Workshop 02 (for activities such as metal and woodwork, with access to outdoors)

TOTAL GIA



BUILDING ORIENTATION





Ground Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.9.2 Proposed Plans

First Floor Plan

The first floor is accessed either via stairs or a platform lift and the circulation space enjoys a punched opening looking onto the Linear Park. Both storage, the IT cupboard and workshop 01 is accessed from the circulation space.

Workshop 01 is efficient in plan and enjoys views to the south west as well as northern glazing and 2 skylights, creating good working conditions due to limited glare.

A full schedule of accommodation can be found in the previous chapter of this document, but in principle the accommodation at first floor is as follows:

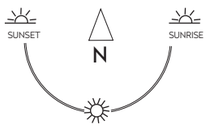
FIRST FLOOR

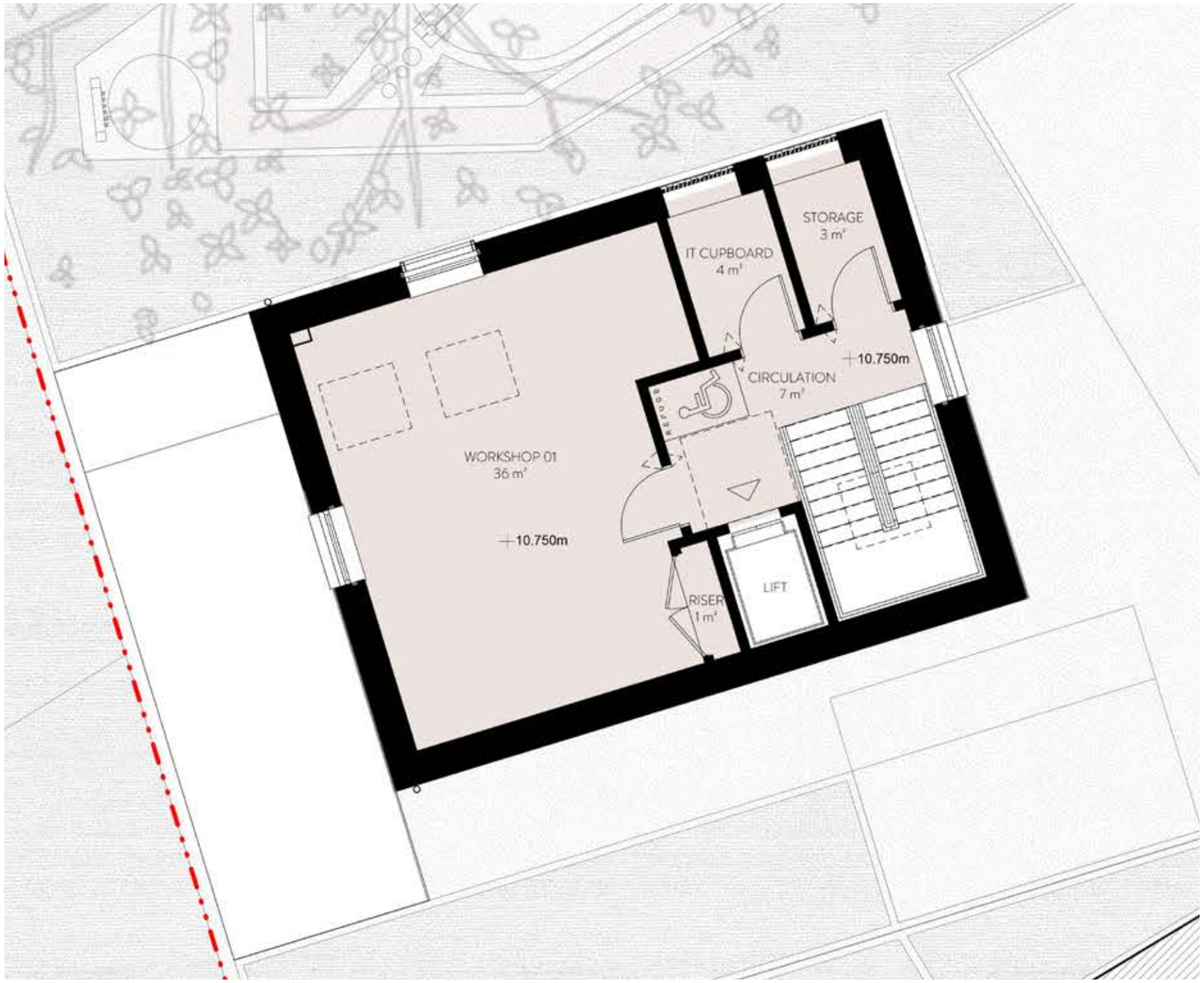
- Workshop 01 (for activities such as meetings and IT work)
- IT Utility Cupboard
- Storage

TOTAL GIA

65m²

BUILDING ORIENTATION





First Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

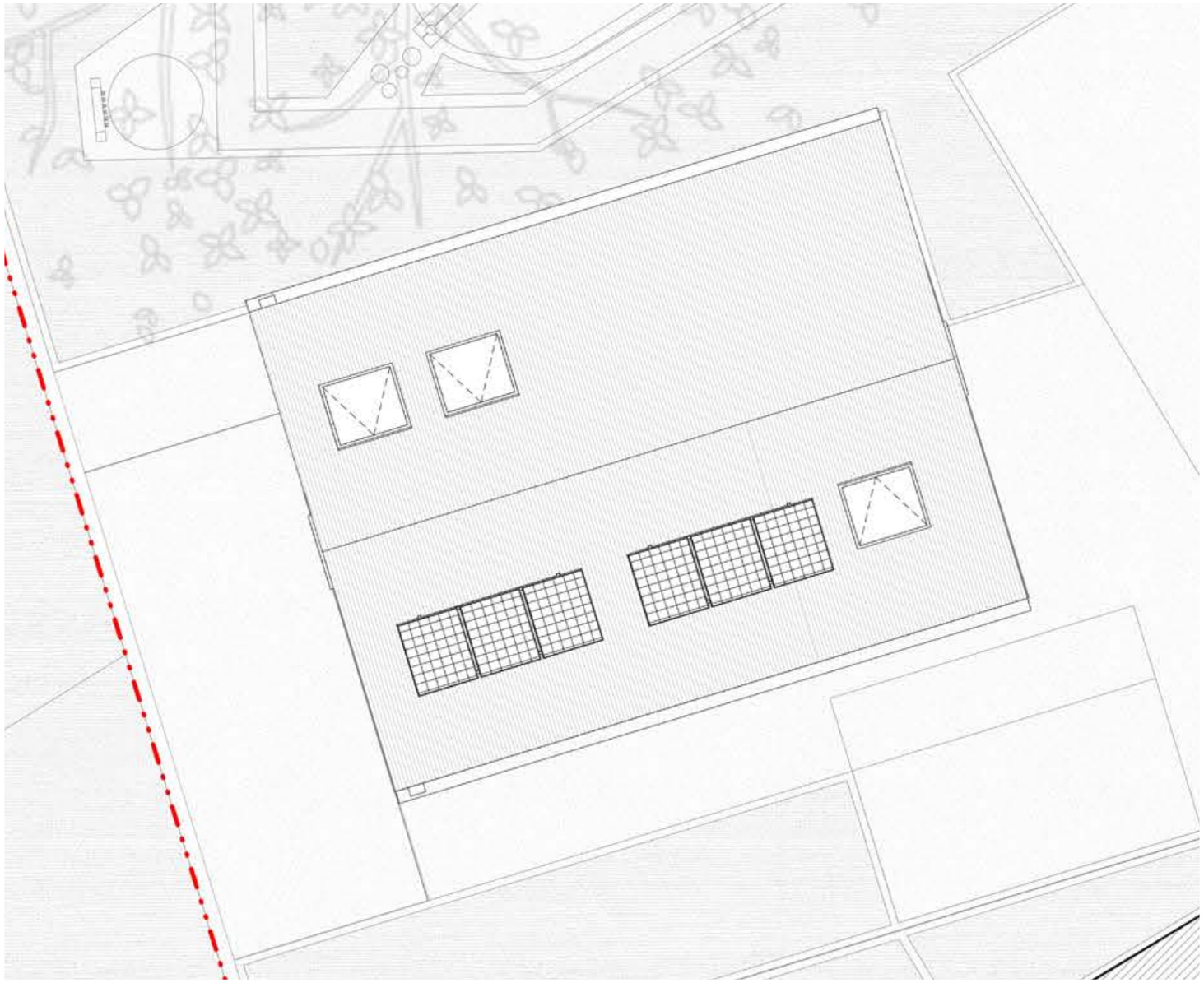
6.9.2 Proposed Plans

Roof Plan

The roof plan shows three skylights overall, one above the circulation space and two above workshop 01, maximising the light into the scheme.

There will also be a number of photovoltaics (PVs) on the roof, contributing to the energy strategy and overall sustainability of the scheme.

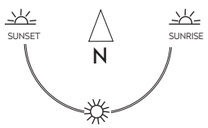
See the separate Energy Strategy submitted as part of the application for further information.



First Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

0.5 0 0.5 1 1.5 2 2.5
m

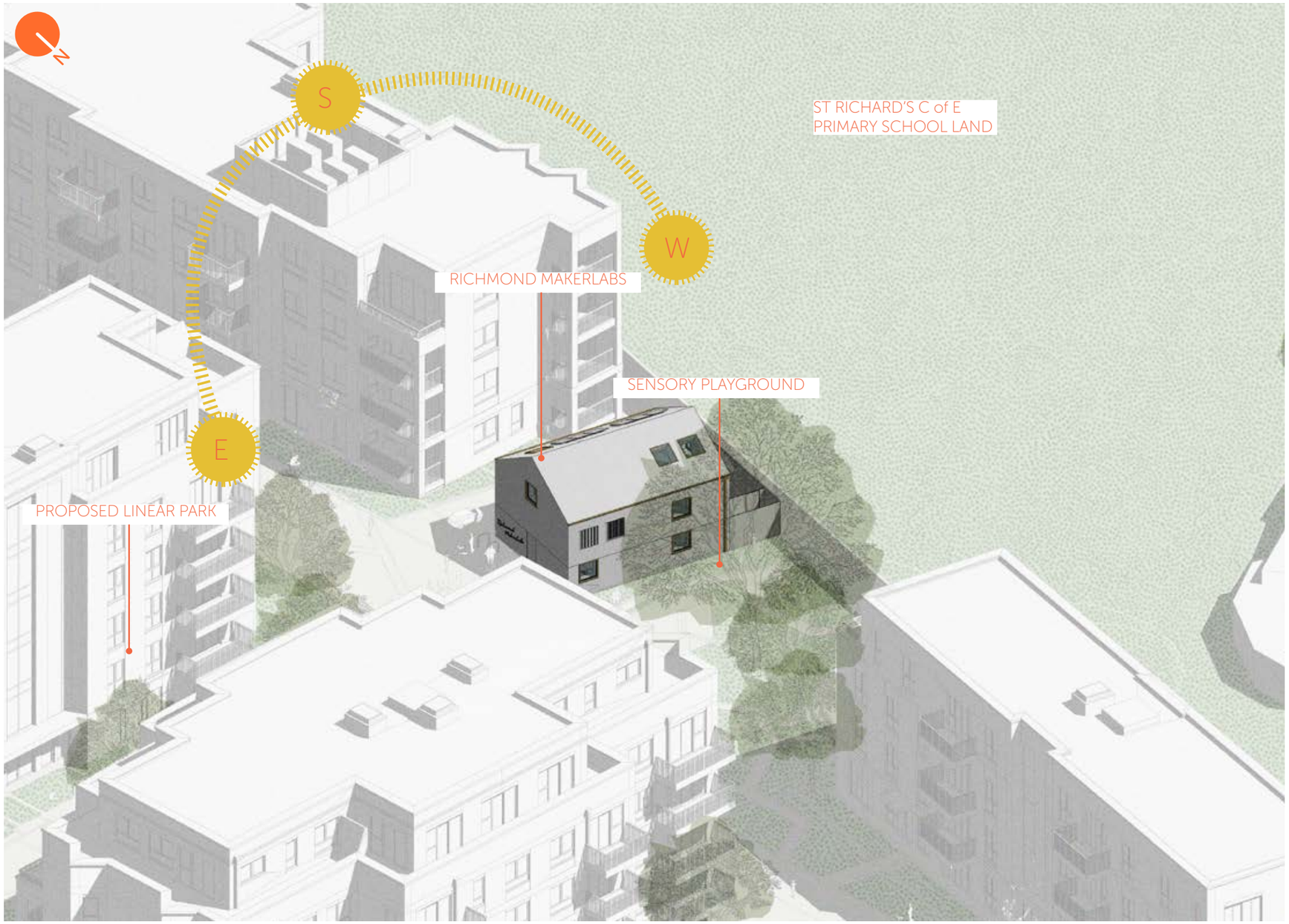
BUILDING ORIENTATION



6.9.3 Massing

Form and Scale

The adjacent drawing shows the Richmond MakerLabs within the indicative proposed masterplan and its situation at the end of the Linear Park, showing the opportunity to create an active frontage on this gable end. We see its subtle prominence on the masterplan as a key driver to create a bespoke and charming piece of architecture that contrasts the residential proposals, signifying a transition from residential to community use, sensitively responding to the heritage of the site.



Axonometric
Landscape Design and Residential Masterplan Indicative

6.9.4 Sections

Section A-A

The adjacent section cuts through both workshops, showing the efficient planning of both workshops for the required activities. Further, the barn-like pitch creates a generous space on the top floor for activities such as coding and meetings, with the north facing skylights bringing daylight within.

KEY PLAN

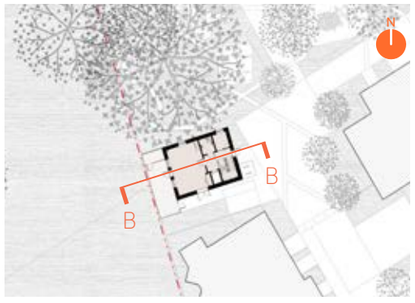
Section A-A
Landscape Design and Residential Masterplan Indicative

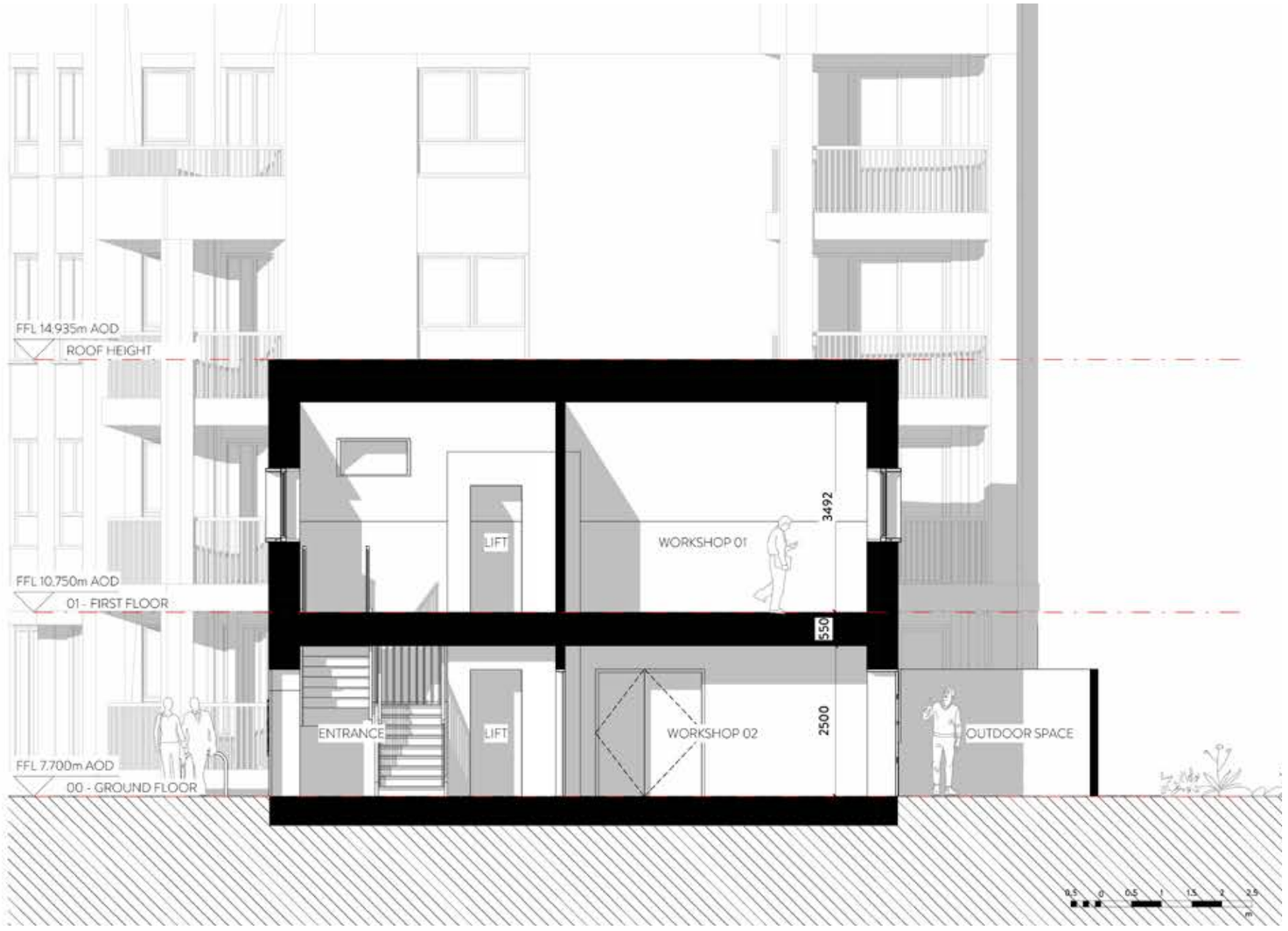
6.9.4 Sections

Section B-B

The adjacent section cuts through the length of the proposal, capturing the top lit entrance which welcomes users to the workshops. The section shows how workshop 01 is accessed via stairs or lift and enjoys a generous head height. Both workshops enjoy glazing to the west, with workshop 02 looking onto the outdoor space with two windows and workshop 01 enjoying a picture window.

KEY PLAN

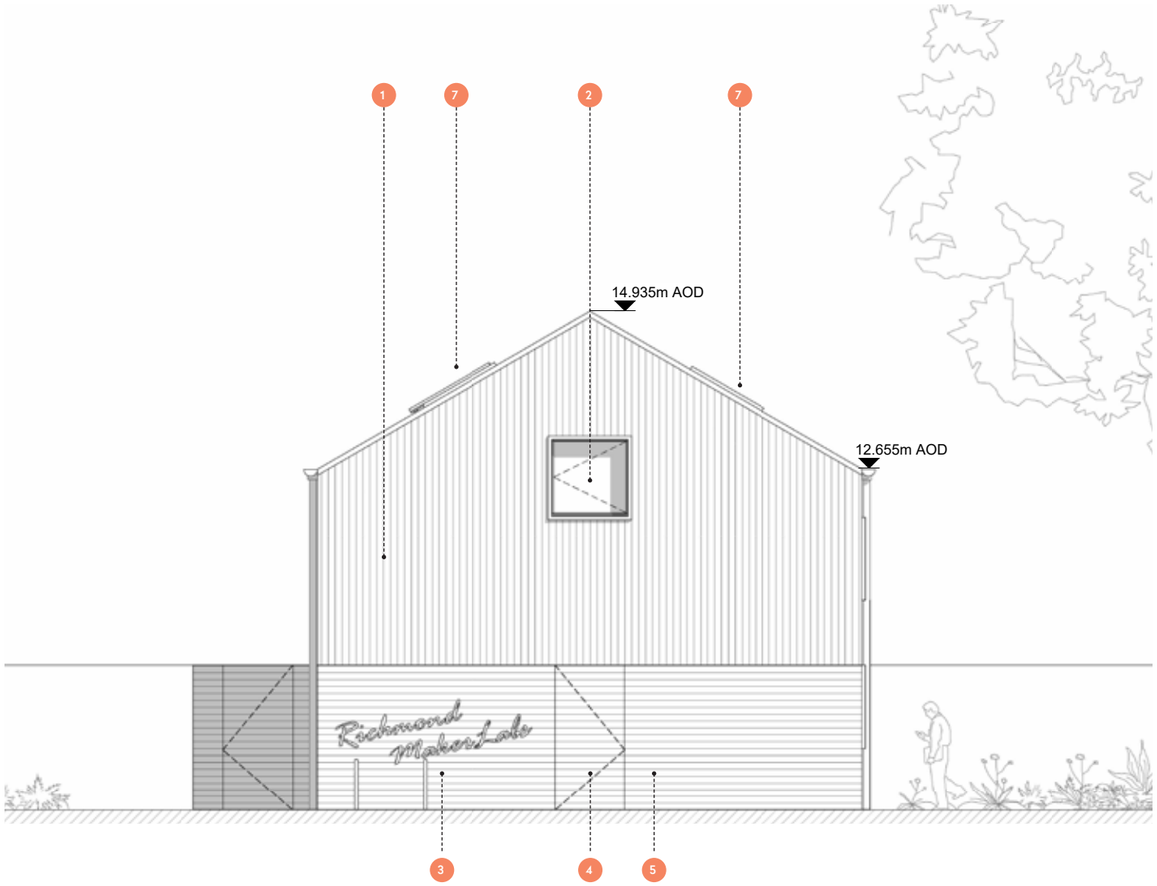




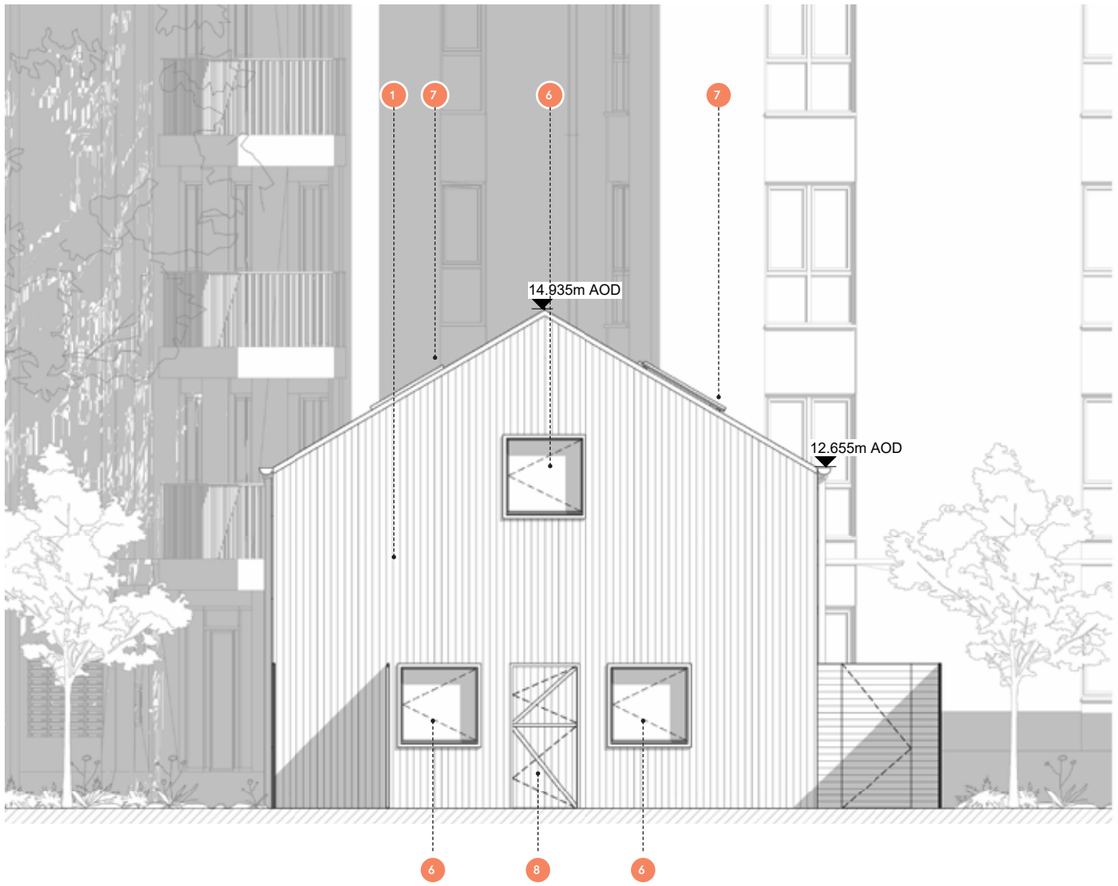
Section B-B
Landscape Design and Residential Masterplan Indicative

6.9.5 Appearance - Elevations

East & West Elevations



East Elevation
Landscape Design and Residential Masterplan Indicative



West Elevation
Landscape Design and Residential Masterplan Indicative

KEY PLAN

EAST & WEST ELEVATION

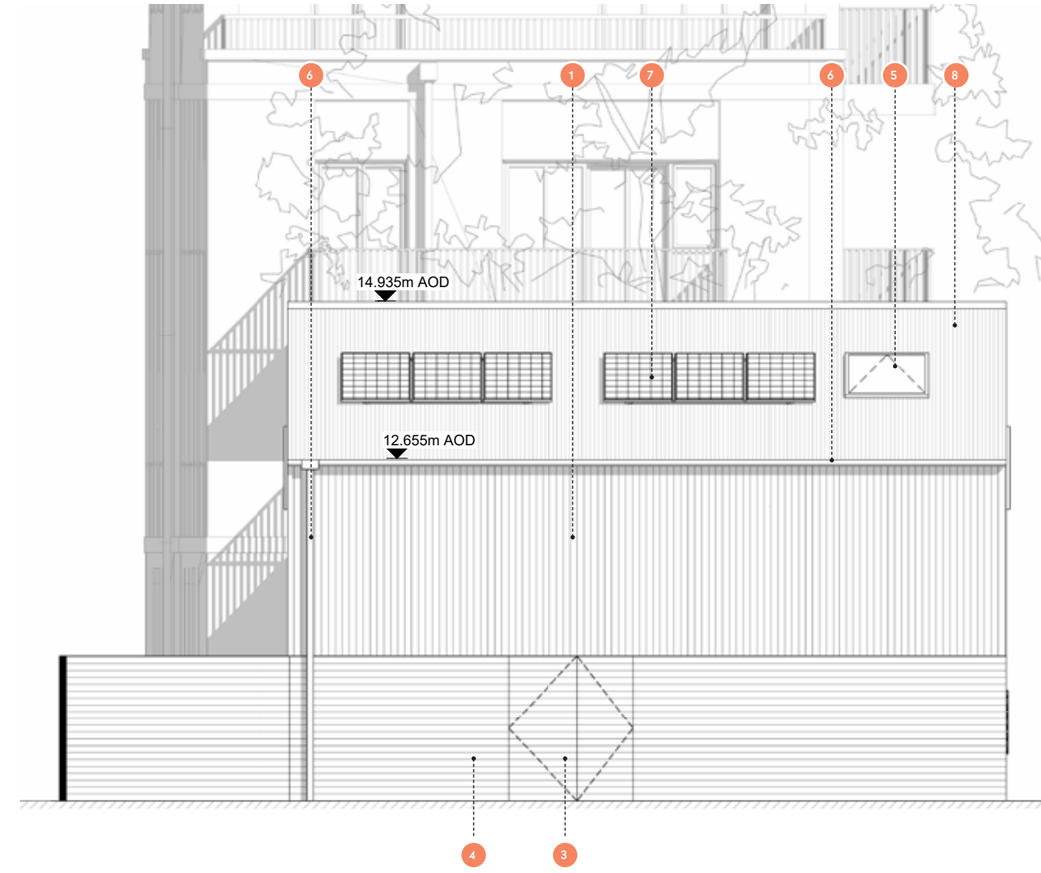
The east elevation shows the facade facing the street. The pitched form references the rural architectural narrative. We wanted to create an active frontage to this elevation, putting the main front door here next to a sign welcoming the community to Richmond MakerLabs. The picture window above the front door references the gable end windows on barns that used to sit on site. The west elevation shows the rear façade which fronts the outdoor space. Punched windows bring light in whilst we have again utilised the gable end window on the second floor to increase daylight within. The stable door on this elevations is a subtle nod to the barn heritage and provides access to outdoors.

KEY

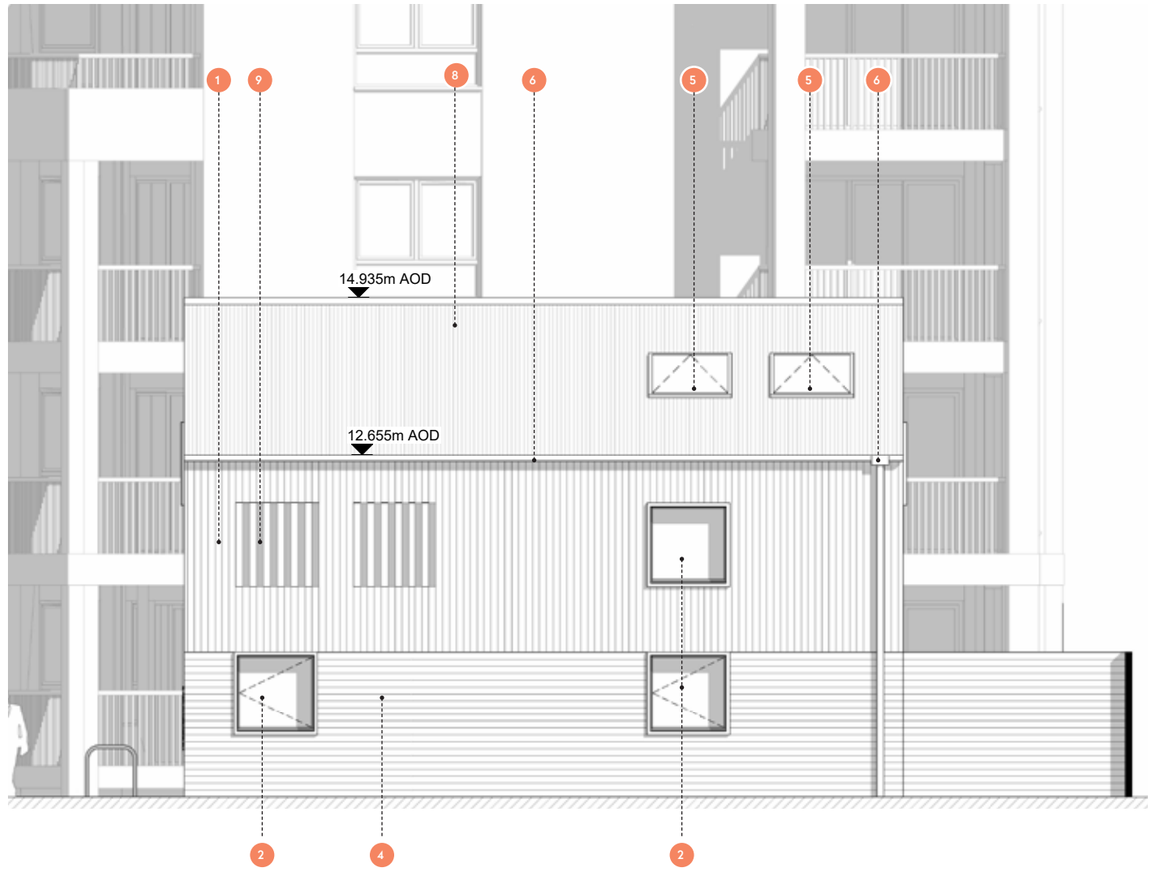
1. Vertical silver timber referencing the sites rural barn heritage
2. Window on street facing elevation bringing light into the circulation area and offering views to the Linear Park - yellow frames
3. Sign
4. Main entrance - metal door with timber cladding
5. Horizontal silver timber referencing the sites rural barn heritage
6. Picture windows with yellow frames
7. Skylights
8. Stable door

6.9.5 Appearance - Elevations

South & North Elevations



South Elevation
Landscape Design and Residential Masterplan Indicative



North Elevation
Landscape Design and Residential Masterplan Indicative

KEY PLAN

SOUTH & NORTH ELEVATION

The north elevation shows a rhythm of punched openings, providing consistent north light into the workshops and kitchens without the risk of glare. This activates the façade whilst providing views of the mature trees and improving the internal quality of the spaces. Skylights also bring good daylight into the internal spaces. There are also concealed louvres providing extraction of stale air. The south elevation is more simple in articulation, with a double door and then a skylight bringing light into the circulation space. The minimal fenestration on this side is to avoid overlooking to the adjacent proposed residential block. The horizontal and vertical timber cladding creates a separation between ground level and first.

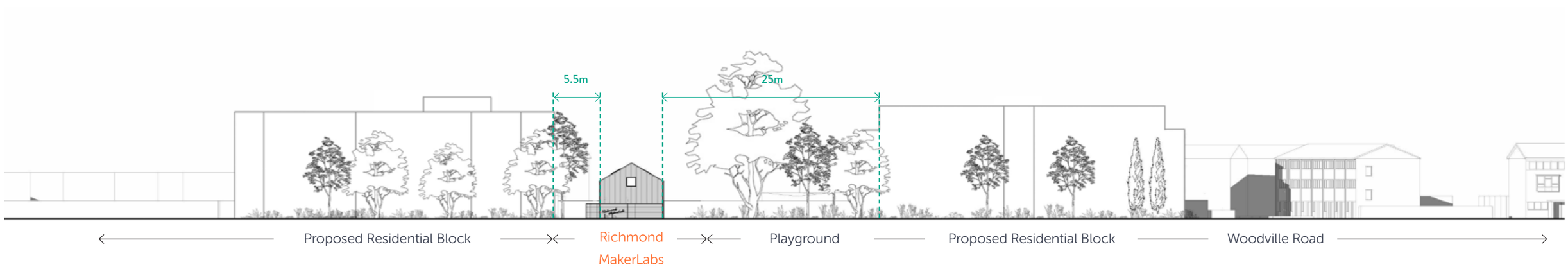
KEY

1. Vertical silver timber referencing the sites rural barn heritage
2. Picture windows with yellow frames
3. Metal double door with timber cladding
4. Horizontal silver timber referencing the sites rural barn heritage
5. Skylights
6. Gutters and rainwater pipes
7. PVs
8. Corrugated metal roof
9. Louvres with vertical hit and miss timber in front

6.9.6 Building Scale, Massing & Proximities

Long Elevations

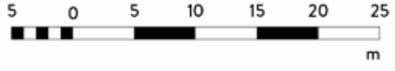
The below elevation shows the Richmond MakerLabs within the context of the residential development.



Section A-A
Landscape Design and Residential Masterplan Indicative

Section A-A
Landscape Design and Residential Masterplan Indicative

KEY PLAN



6.9.7 Wider Area

Character Study

In order to gain a deeper understanding of the local architectural context, photographs of the area and the special features/detailing were gathered and studied.

These images were then collated into categories, as seen in the diagram to the right (separating non-residential buildings from residential). This enabled the analysis of the varying architectural motifs and important architectural features visible within the area to see any trends in textures, colours and materials.

There is a great opportunity for the new Richmond MakerLabs to add to the architectural materiality of Ham. Given its prominence at the end of the Linear Park on the masterplan, the design response needs to be of high quality and distinguishable from the surrounding residential elements.

Local Non-Residential Buildings

Strathmore School

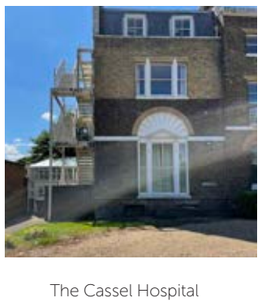
Strathmore School

Strathmore School

Strathmore School

Strathmore School

Ham Library



The Cassel Hospital

Meadlands Primary School

The Woodvile Centre

The Woodvile Centre

St. Richards Church

St. Richards Church

St. Richards Church

St. Thomas Aquinas Church

St. Thomas Aquinas Church

6.9.8 Materiality

Material Board

Materially, we are proposing timber cladding with texture and knots that will weather naturally to a silver finish. This is to create a distinctive piece of architecture which people are drawn to at the end of the Linear Park, whilst referencing the timber heritage.

We also propose pops of yellow on the window frames to create a sense of playfulness and to complement the timber.

The roof will be a light corrugated metal, again referencing the barn typology.

Key

1. Lightly coloured corrugated metal roof
2. Vertical naturally silvered timber
3. Horizontal naturally silvered timber
4. Sign
5. Aluminium yellow window frames

6.9.9 Elevation Character

Colour Elevations

The adjacent elevation studies show the materiality of the scheme, predominantly the vertical and horizontal timber elements, corrugated metal roof, glazing and yellow details.

1. East Elevation

2. West Elevation

3. North Elevation

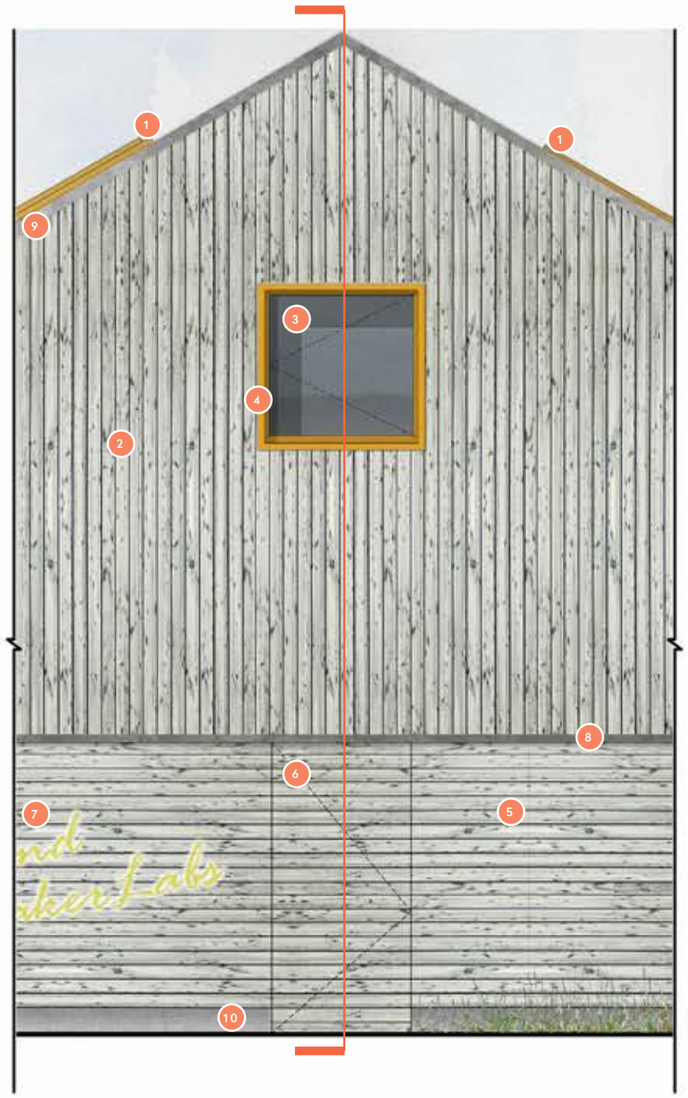
4. South Elevation

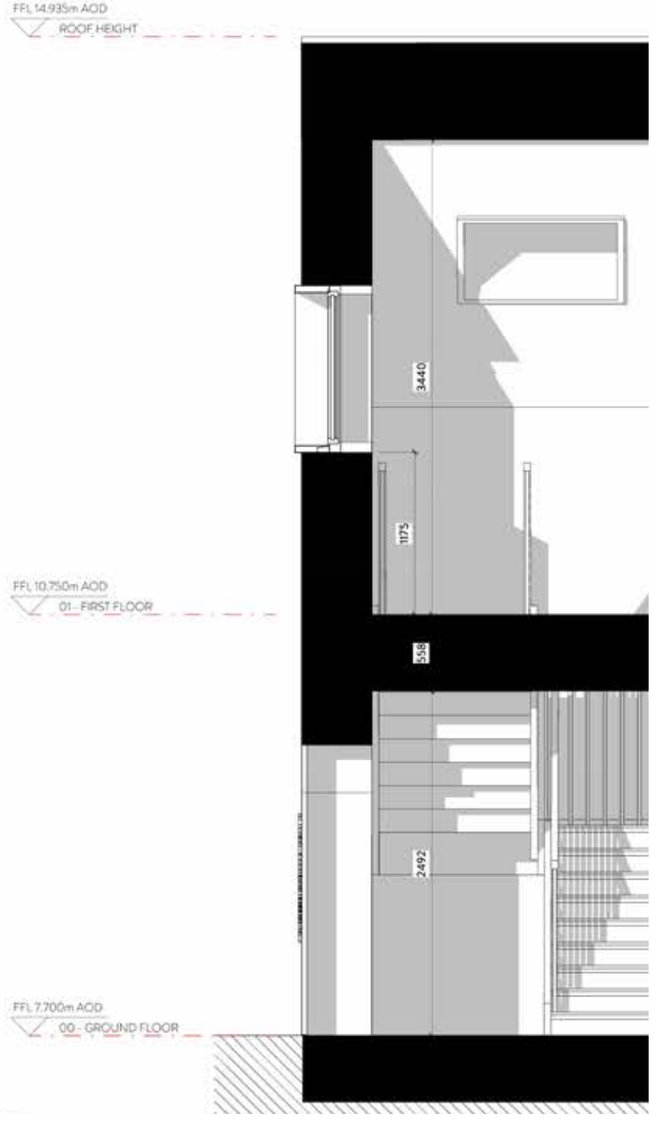
KEY PLAN

6.9.10 Bay Study

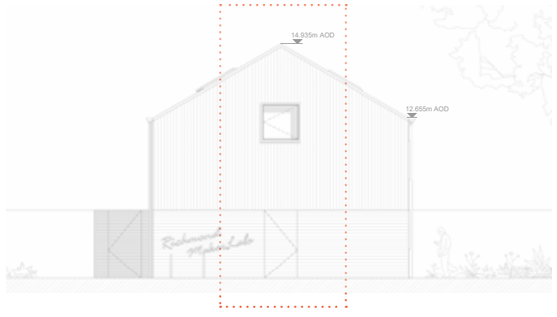
East Elevation

The adjacent elevation shows the east elevation which faces the street and Linear Park. Here you can see architectural details inspired by the barn typology such as the pitch roof and picture window on the gable end, animating the facade. This is in addition to the vertical and horizontal timber cladding which again references the rural narrative. This facade also has a sign welcoming the community to the scheme. The yellow window frames add a sense of playfulness.





KEY ELEVATION



EAST ELEVATION

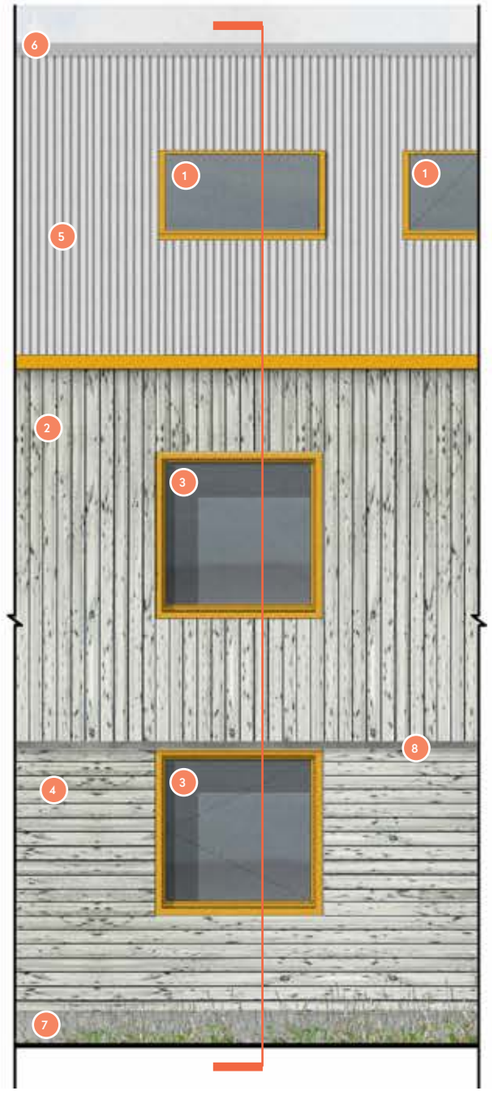
1. Skylights
2. Vertical silvered timber
3. Picture window
4. Yellow window frames
5. Horizontal silvered timber
6. Flush metal door with horizontal timber cladding
7. Sign
8. Metal profile
9. Metal capping
10. Concrete plinth

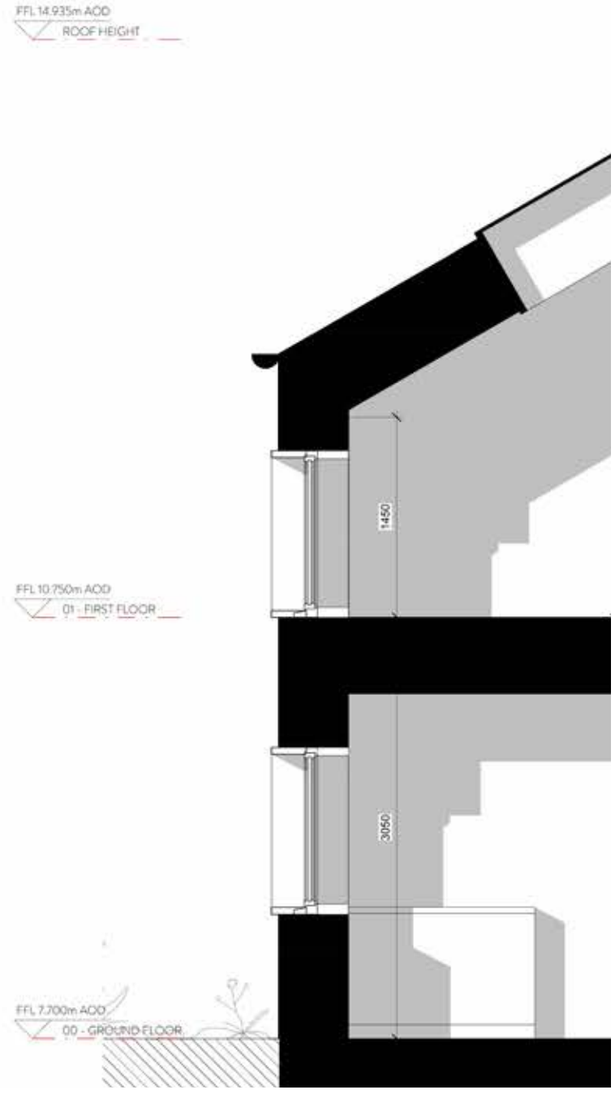
SECTION

6.9.10 Bay Study

North Elevation

The adjacent elevation shows the north elevation, in particular the punched openings which create a dynamic and playful facade. This allows ample daylight into workshop 02 and some daylight into workshop 01, which is then supplemented by the skylights. The roof is a light corrugated metal to complement the silver timber. The yellow window frames add a sense of playfulness and reference the community centre proposal.





KEY ELEVATION

NORTH ELEVATION

1. Skylights
2. Vertical silvered timber
3. Picture windows with yellow window frames
4. Horizontal silvered timber
5. Light corrugated metal roof
6. Metal capping
7. Concrete plinth
8. Metal profile

SECTION

6.9.11 Energy & Sustainability

Strategies

Careful consideration has been given to the internal layout of accommodation to maximise the benefits of its orientation. The balance between natural ventilation, daylighting and solar gains has been optimised when designing the external fabric and windows.

The scheme supports fabric first design which reduces heating and cooling demand. This is followed by maximising renewable contribution, which for the Richmond MakerLabs would be heat pump variable refrigerant flow (VRF) technology which is highly efficient and operates on grid electricity, which benefits from greening of the national grid. This in essence future-proofs the development as carbon emissions continue to fall for grid electricity, compared to natural gas.

The Richmond MakerLabs will be BREEAM 'Excellent'. Please refer to the separate BREEAM Pre-Assessment Statement for further detail as to how the scheme meets the required credits.

Natural Ventilation
Natural ventilation is proposed throughout the Richmond MakerLabs. There is an openable window in workshop 01 and two openable skylights allowing stack ventilation. There is also an openable window and openable skylight in the circulation area allowing natural stack ventilation. There is also an openable window in the kitchen allowing natural ventilation. In workshop 02, there are three openable windows allowing cross ventilation in this space.

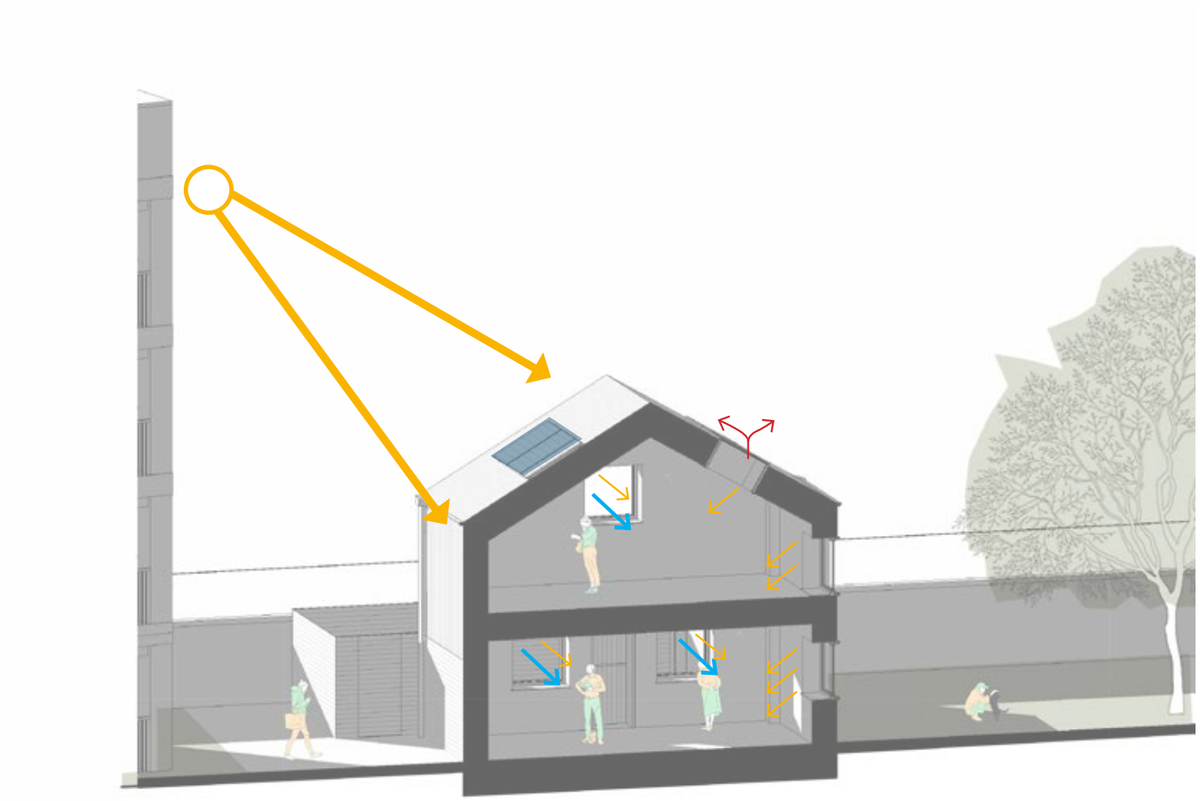
A/C System & Heating
A mechanical cooling strategy will be in place to cool the space in warmer months. There will be additional panel heaters in the circulation areas and workshops.

Sunlight & Natural Daylight
The building has been orientated to minimise glare and overheating by limiting openings to the south. Two skylights on the north elevation bring daylight into workshop 01 as well as a north facing window and west facing window. Meanwhile, the east elevation enjoys a picture window which brings daylight into the circulation area, improving the internal quality of this space and reducing the need for artificial light. Workshop 02 enjoys three windows bringing light into the room. Please refer to the separate Daylight/Sunlight Assessment for further detail.

Photovoltaics
A number of photovoltaics (PVs) will be located on the south facing pitch of the building to contribute to the renewable energy strategy of the scheme, helping to offset the electricity used for the VRF strategy.

Materials
Sustainable materials such as responsibly sourced timber will be utilised within the scheme.

Please refer to the separate Energy and Sustainability Statements, Circular Economy Statement and Whole Life Carbon Assessment for further detail.



Sustainability Axonometric

Key

- Air Intake
- Air Exhaust
- Sunlight
- Photovoltaics (PVs)

6.9.12 Linear Park - South-West View - MakerLabs

Artists Impression

6.10 Richmond MakerLabs - Strategies

HAM LANDS BUTTERFLIES

6.10.1 Strategies

Access & Circulation

Access will be improved through the introduction of a lift to the facility. It is located within the entrance circulation area adjacent to the stair.

Lift access is available on all levels and will:

- Be located adjacent to other means of vertical circulation (i.e. stair cores)
- Have a clear level landing directly in front of the lift of at least 1500mm by 1500mm for manoeuvring and waiting.

Additional consideration will be given to the material finish of the lifts (including consideration of slip resistance, comfort and safety in use).

For safety, stairs will be designed to be of consistent width, have unobstructed landings at the head, foot and between flights, with a depth at least equal to the width of the channel of the flight. No stair flight will have more than 12 risers in a single run and all will have uniform risers and treads in consecutive flights.

Access from outside into the building is level, increasing the schemes accessibility. A glazed window is provided at first floor as well as a skylight above the stair, bringing daylight into the circulation spaces and thus enhancing the internal quality of these areas.

Key

- Main Circulation
- Stair and Core
- Lift Core
- External Circulation
- Pedestrian Access

First Floor Plan (NTS)

Ground Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.10.1 Strategies

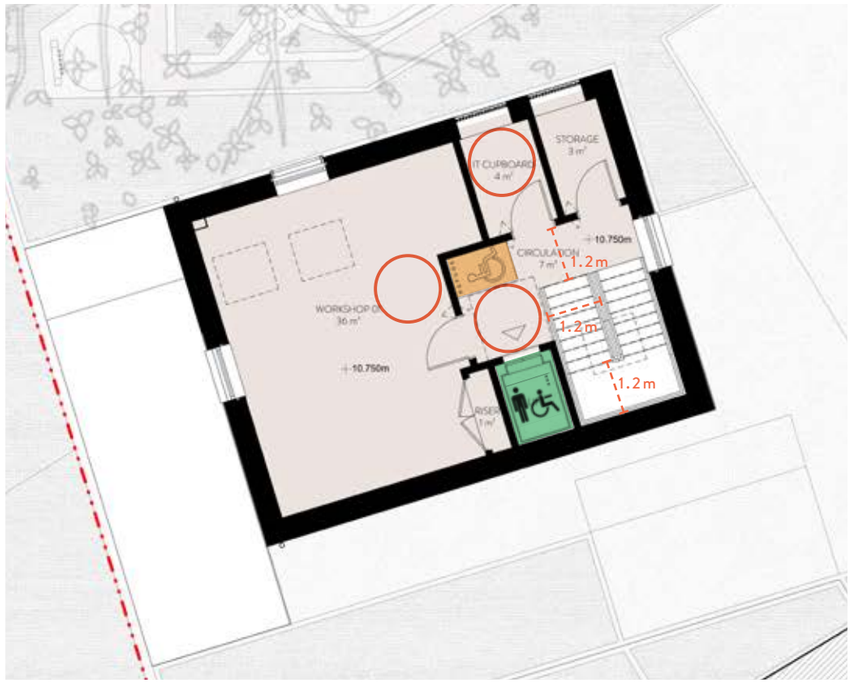
Inclusive Layout

The Richmond MakerLabs is designed to be inclusive and therefore there are a number of accessible design elements integrated within the proposal. This includes a WC which is designed to Part M requirements, 1200mm minimum width communal corridors, level access and a Part M compliant lift.

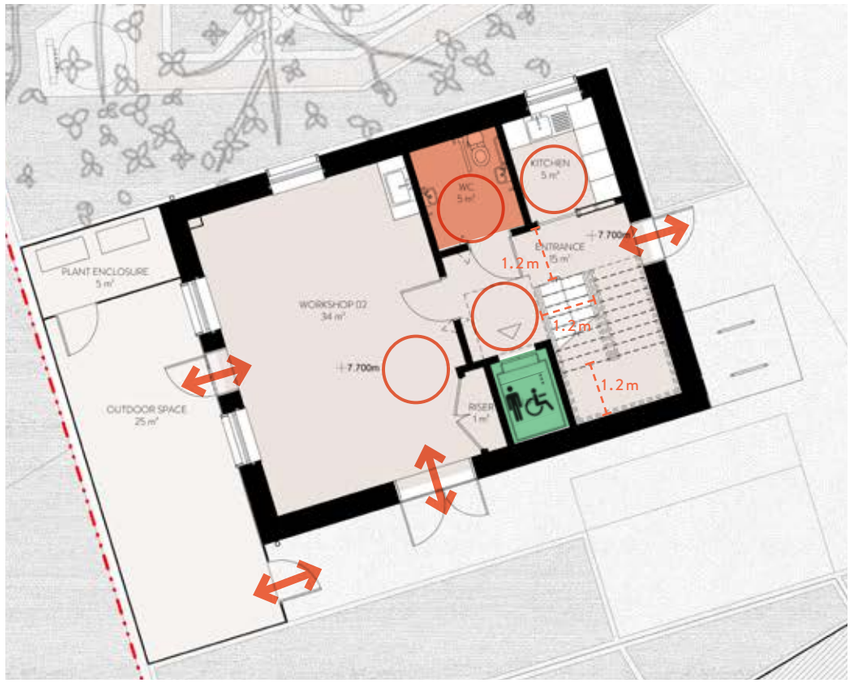
All doors have a clear opening width of 890mm. The stairs have a width of 1200mm with 1000mm between handrails.

Key

- Part M Compliant Lift with 1500mm x 1500mm Zone in Front
- Protected Refuge Area
- Accessible Toilet
- Levelled Threshold
- 1500mm Turning Circle



First Floor Plan (NTS)



Ground Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.10.1 Strategies

Waste Management, Cycling & Parking Provision

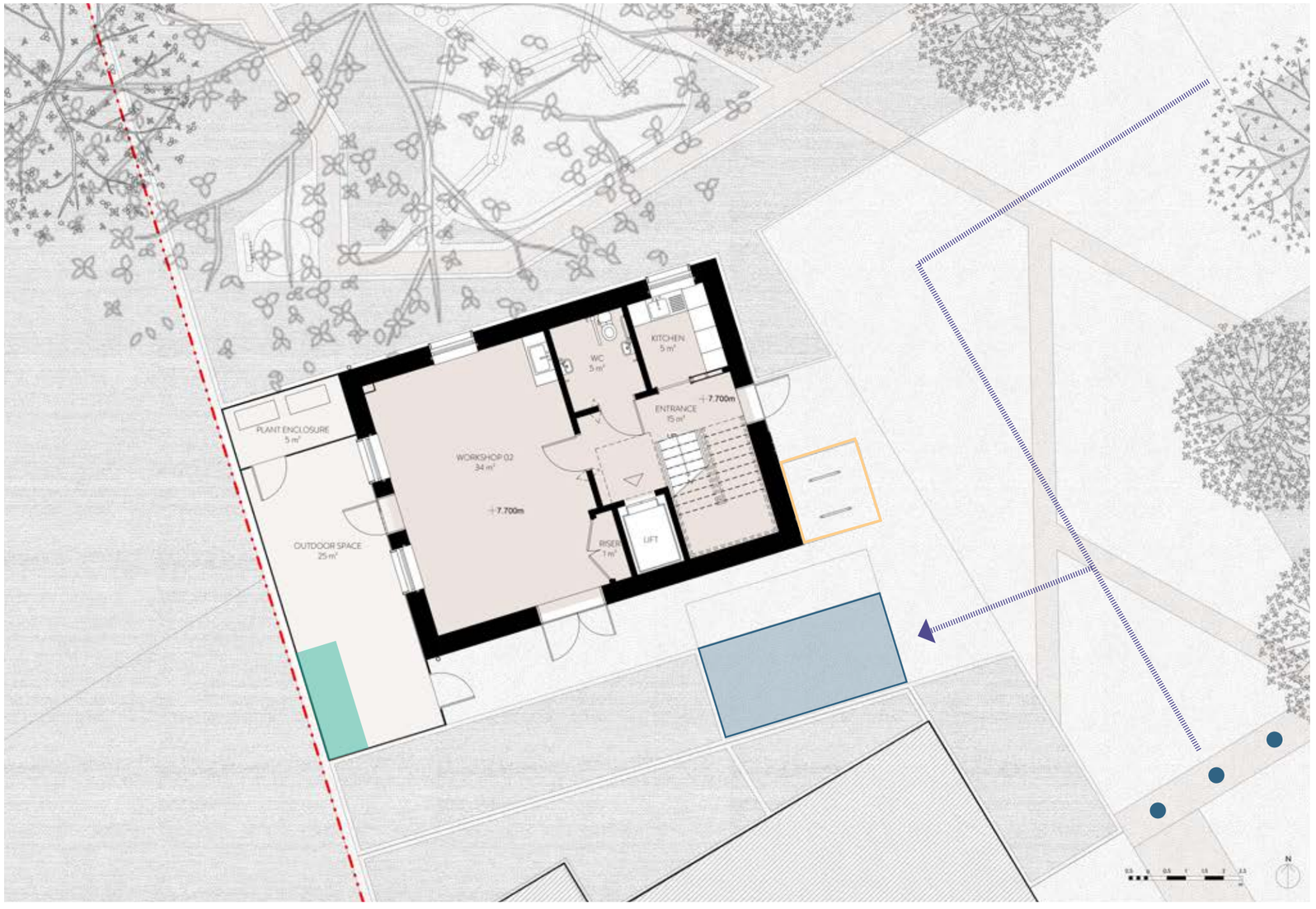
There will be one parking space provided for users of the Richmond MakerLabs. Vehicular access will be beyond control access barriers within the landscape plan.

Cycle storage can be provided to the front of the Richmond MakerLabs building through Sheffield Stands.

A waste store can be provided within the rear outdoor space of the building. Refuse vehicles have access to the site through the control access barriers. For more information regarding vehicular access refer to LUC's Landscape Statement.

Key

- 1 Blue Badge Parking Space for Richmond MakerLabs Users
- Vehicular Access for Richmond MakerLabs Users (Controllded Access Beyond Barriers)
- Controlled Access Barriers
- Cycle Store
- Waste Store



Ground Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.10.1 Strategies

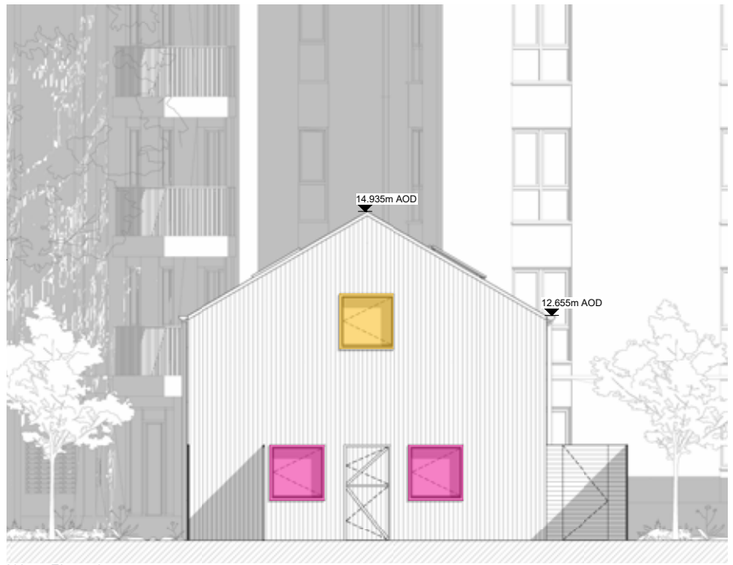
Facade Maintenance Strategy

The material palette of timber and metalwork has been chosen to be low maintenance and durable. The adjacent elevations show how the glazing will be cleaned.

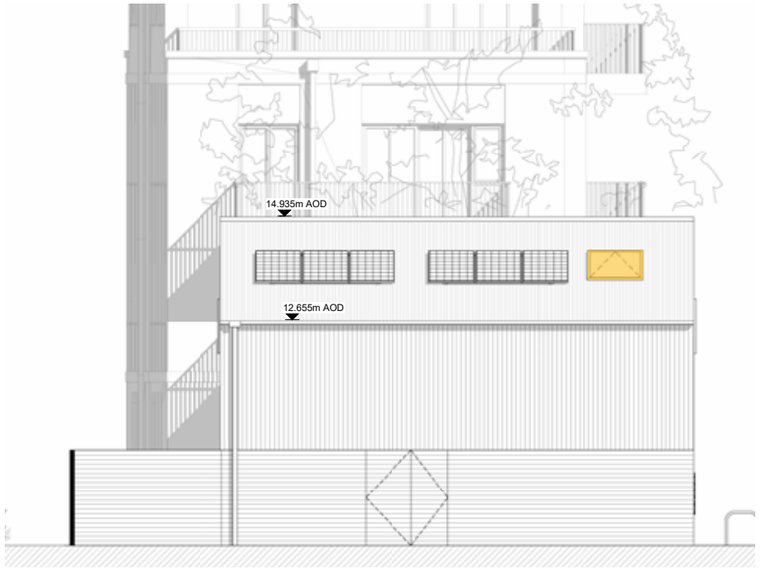
Key

- Glazing Cleaned with Omnipole
- Glazing Cleaned from Ground Floor Level

East Elevation
Landscape Design and Residential Masterplan Indicative



West Elevation
Landscape Design and Residential Masterplan Indicative



South Elevation
Landscape Design and Residential Masterplan Indicative

North Elevation
Landscape Design and Residential Masterplan Indicative

6.10.1 Strategies

Roof Maintenance Strategy

There are a number of PVs on the roof level. These will be maintained via a roof ladder.

Key

Photovoltaics (PVs)

First Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.10.1 Strategies

Fire Strategy

At ground floor there are three means of escape. All internal structures and finishes will be fire rated in accordance with building regulations (refer to Fire Statement submitted as part of this Planning Application).

The risk profile for the Richmond MakerLabs is A3 - Awake and Familiar. For fire detection, there will be a minimum grade L2 system in accordance with BS 5839 1.

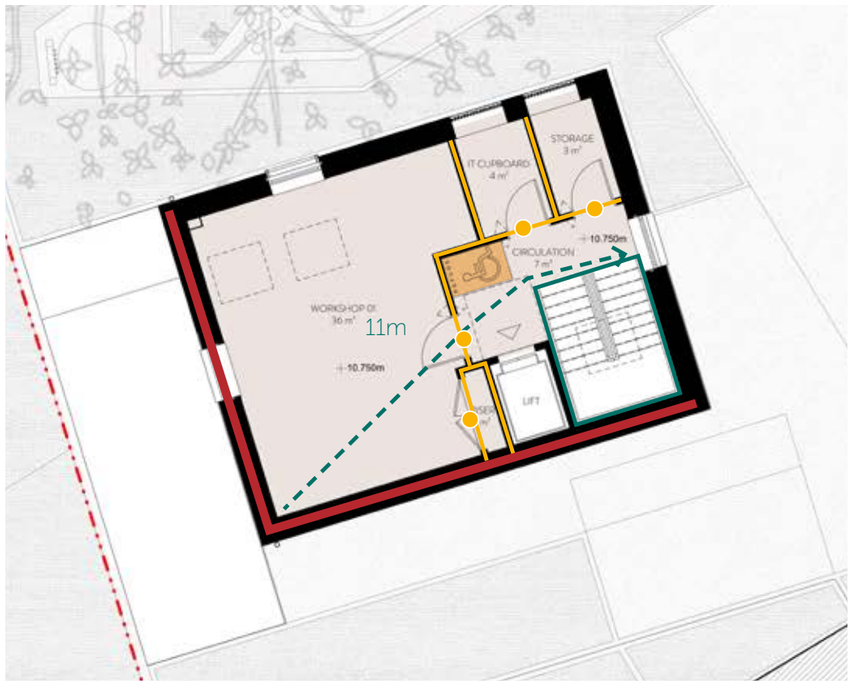
As the building is less than 11m in height, cladding will achieve a Euro Class B-s3, d2 or better. The timber cladding will be treated with a fire retardant. There will also be a number of fire doors with a rating of FD30S.

At first floor, the maximum horizontal escape distance from workshop 01 to the stair core is 11m. There is also a wheelchair refuse area on this floor. A single direction travel distance of 18m applies to this scheme. The population of users of the first floor will be limited to 60 people. Inner rooms with access will have to be protected by an automatic smoke detector that operates an alarm that is automatically audible from the inner room.

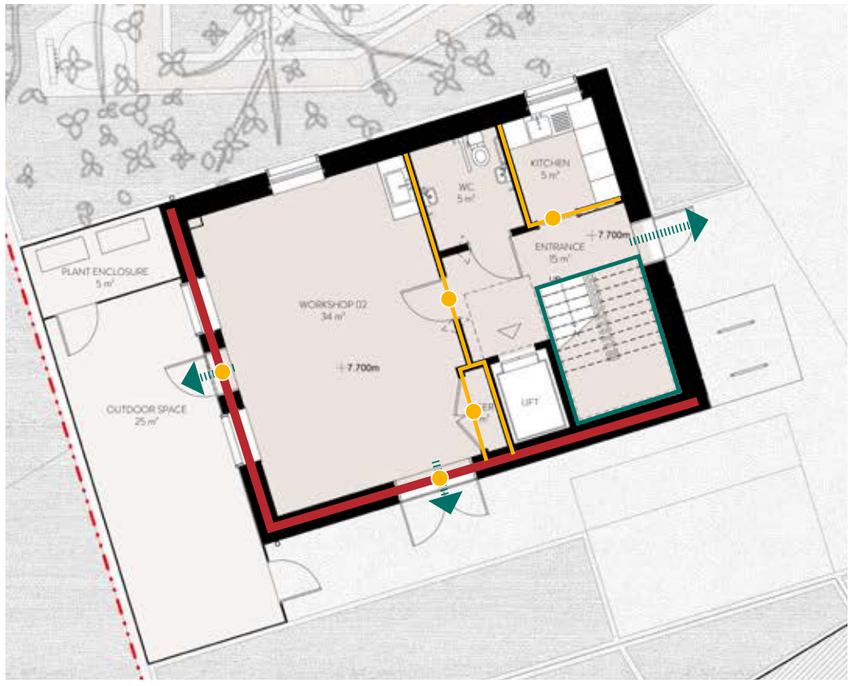
See the separate Fire Strategy Report submitted as part of the planning application for further information.

Key

- Egress
- Wheelchair Refuse Area
- Stair Core
- Horizontal Travel Distance
- FD30S Door
- 30/30/30 FDR Wall
- 60/60/60 FDR Wall



First Floor Plan (NTS)



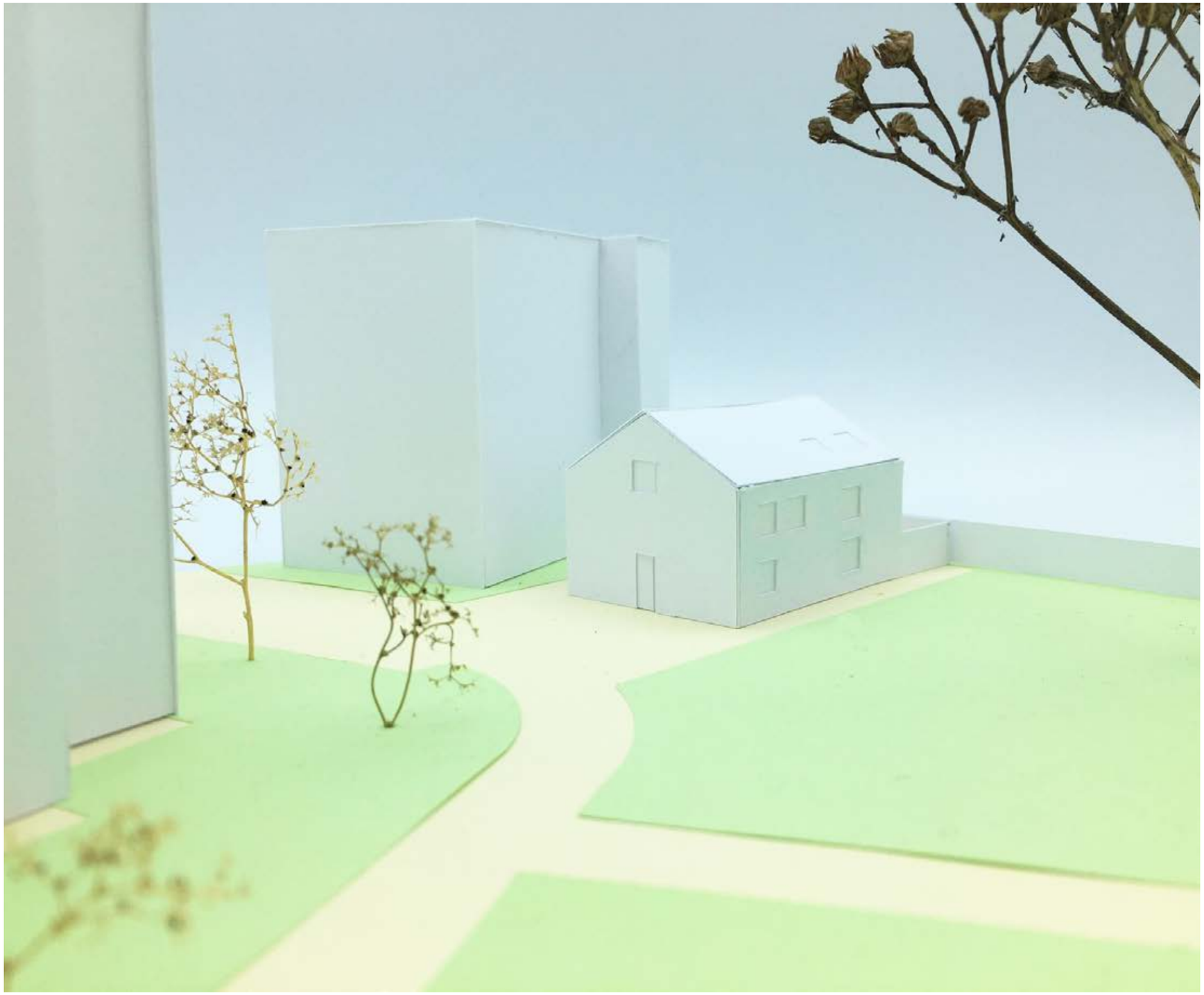
Ground Floor Plan (NTS)
Landscape Design and Residential Masterplan Indicative

6.10.2 Conclusion

Careful consideration has been given to the replacement of the existing Richmond MakerLabs building on site, through collaboration with the end users and design team.

The chosen location responds to the need to be easily accessible for loading/unloading of materials, whilst being on the edge of the new residential development so as to avoid noise disturbance to residents. The constraints have been carefully adhered to, shaping a double storey proposal that makes the most of the opportunities available.

The new Richmond MakerLabs is a small scale barn building inspired by the site's rural heritage. It takes distinct form and materiality to purposefully contrast, but compliment, the proposed residential and community uses and will be an integral part of the overall masterplan.



1.200 Card Model of the Richmond MakerLabs Proposal

This page is intentionally left blank