

Social housing with interior public spaces

5.1 Introduction

This chapter will describe the development of the design, from conceptual phase, to design and detail development, concluding with the technification of the design. Throughout, the various design informants that led to specific design decisions or considerations will be discussed.

Part I will introduce the design process, as derived from the research methodology indicated in Chapter 1 (Figure 7). The development of the concept as derived from the theoretical and contextual analysis.

Part II describes the development of the design. This includes the definition and allocation of the programme, users, and spatial intervention. The various design informants will be discussed and their influence on design decisions indicated graphically. Thereafter the design proposal will be described.

Part III explores the technical resolution. Firstly an overview of the technical approach will be given, with specific details identified for investigation. Specific elements will be set out and discussed.

Part I: Design Process and Concept Development

5.2 Process

The process for the design development is a development on the process initially set out in Chapter 1 (c.f. 1.10; Figure 7). This chapter focuses on the latter part of the process, starting from the design development.

The concept was developed after a thorough analysis of the context and research. Thereafter, an initial design was developed by applying the concept to the building. The design development was influenced by further research and context analysis. From here the process follows an iterative process where the design is reflected with representative approaches (drawings, models). These were refined to develop a building identity, and finally reaching a full technical resolution. Proposed resolutions were tested with simulation in the form of an access and wayfinding audit, and retraced to the design phase for the resolution of possible problems.

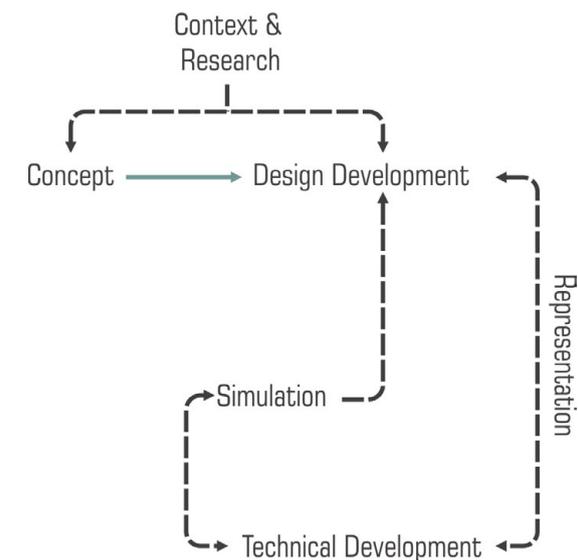


Figure 109 - Diagram of design process (by Author)



Figure 110 - "Frame" created by existing walls, columns, and brise soleil (by Author)



Figure 111 - "Frame" created by existing existing hallway and large window (by Author)



Figure 112 - "Frame" created by existing entrance (by Author)



Figure 113 - "Frame" created by existing floor, soffit and balcony space (by Author)

5.3 Concept

The concept was developed after coming across Porter's definition of "framing";

"... frames contain, order and systemize their contents... framing devices separate the viewer from view, inside from outside, and public from private to crop objects or events from the space beyond... framing becomes building, representing the container in which human activities are played out"

(Porter 2004:65-66).

The idea of framing allows the designer to clearly indicate, emphasise or obscure certain views or activities – ideal when indicating the transition between public and private.

The idea of framing or indicating defined areas of transition is echoed in the research done in Chapter 3, where all sources indicate the importance of clearly legible thresholds and transition spaces (Gehl 1987:63; Newman 1972:63-64).

The building has very well defined and attractive views all around the building (Figure 41- Figure 43). The framing concept will serve to focus users' attention to the views and use the views as an additional design element.

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Brise Soleil

The main exterior architectural feature of the building is the brise soleil design, which creates strong horizontal lines on the facade all around the building. The openings in the edging reduces its visual mass when viewed from close to, and within the building itself (Figure 114).

This is also an element that is visible and accessible for all areas of the building, thus can become a repeated design element and informs the design language (Figure 110).

Lima Art Museum

The proposed “framing” of the existing building with minimalistic, highly geometric shapes and spaces, provided an insight into the possibility of using the framing technique in both a vertical and horizontal manner.

The frames can be applied as surface finishes – a darkened border around a doorway, or spatial interventions – walls placed to obscure certain views and activities while emphasising others. These framing elements can double as thresholds – the areas of transition between one space and another. These thresholds can also take different forms, and range from physical barriers such as doors, to suggested or symbolic barriers such as a floor finish change. These framing elements can also be used to emphasise vertical connections, as shown in the Lima Art Museum precedent. As is the case in the project where the verticality experienced on the outside of the building is sought to be reflected on the interior, these vertical connections should be emphasised and explored to a larger degree.



Figure 114 - View of brise soleil from ground level with framing pattern (by Author)

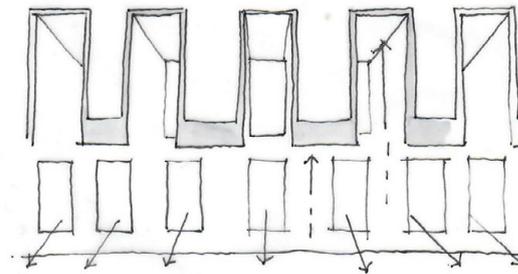


Figure 116 - Diagram of “framing” effect as seen in Lima Art Museum design (by Author)

Lima Art Museum

Location: Lima, Peru

Completed: Conceptual

Architect: Efficiency Lab for Architecture PLLC

Type: Museum, Cultural

Context: Urban, City Centre



Figure 115 - Images of Lima Art Museum (ELA 2016)

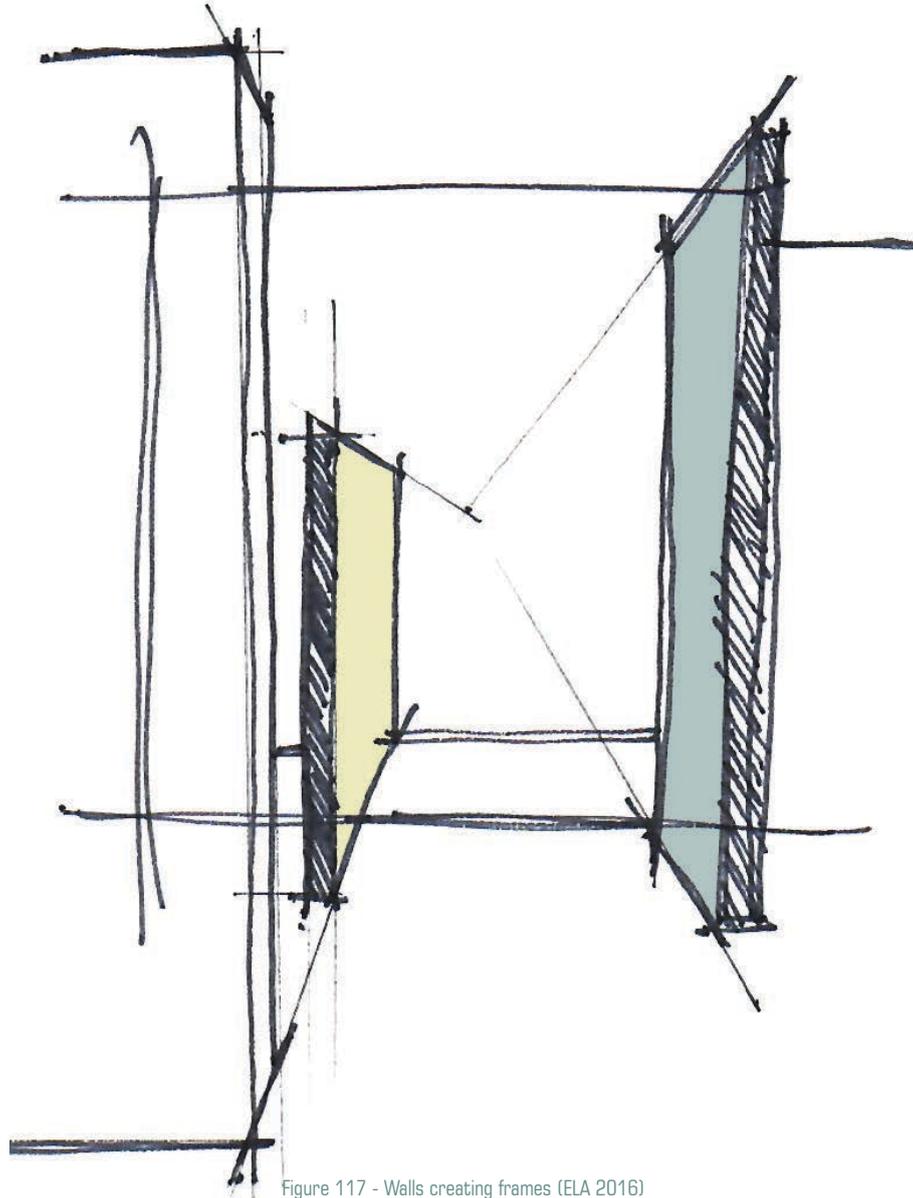


Figure 117 - Walls creating frames (ELA 2016)

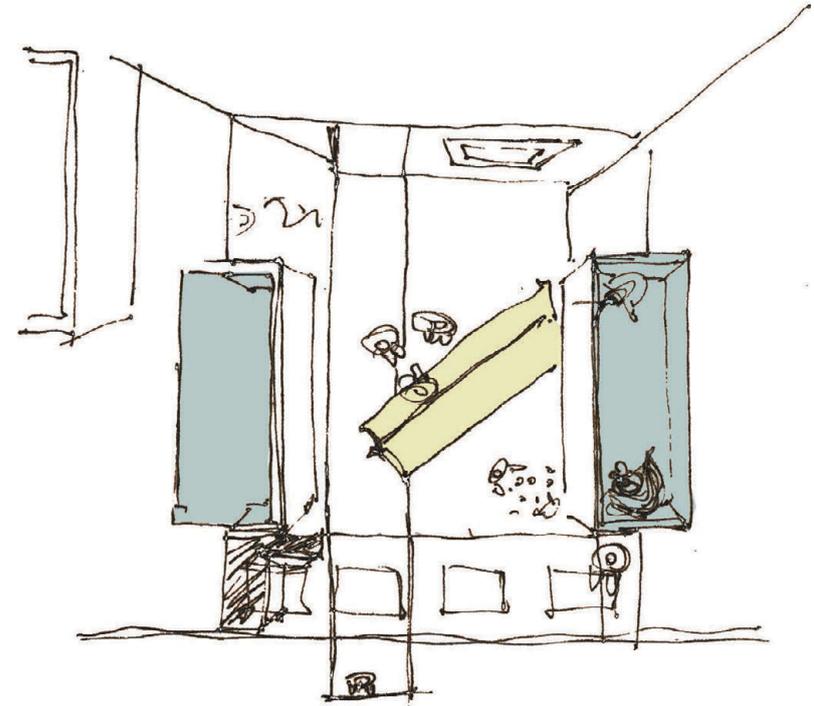


Figure 118 - "Framed" public space (by Author)

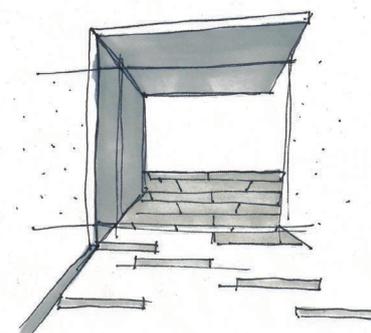


Figure 119 - Symbolic barrier and threshold (by Author)

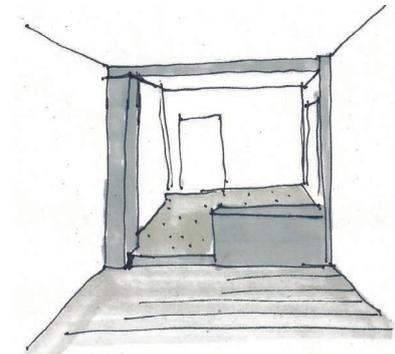


Figure 120 - Physical barrier and threshold (by Author)

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Part II: Design Development

5.4 Regulations

Bearing the regulations in mind, the following social spaces and amenities are provided for and integrated in the building itself:



Laundry

There are 3 laundry spaces in the building, each with at least 3 stations each to wash, tumble dry, handwash, fold, iron, and dry the clothing. The laundry spaces would have lockable drying areas for residents to leave their washing for a set amount of time, and would not require them to wait for their clothing to dry all day.



Play Area

There is provision made for both an after school care facility (for primary school children) as well as a daycare centre within the building. An indoor play area is provided for in one of the main public spaces, which is closely linked to the daycare centre. This playarea can be used by the daycare as an indoor play area or by other inhabitants of the building.



Public Spaces

The building has various interior public spaces where residents can meet either formally or informally. Throughout the building, non-programmed general gathering spaces have been spread evenly throughout the building. More dedicated functions, such as the large communal cooking and eating areas, as well as a recreational area for young adults have been placed in dedicated areas on the lower levels of the building.



Daycare Facility

In order to create a more integrated and sustainable community, the project proposes a daycare be introduced into the building. This allows residents to drop off or pick up their children on the way to work or on the way home. Locating the daycare facility inside the building allows other residents of the building to work at the facility, providing an income and job opportunity for elderly or unemployed members of the community.

Regulations

The various regulations consulted in Chapter 2, state that additional amenities apart from the housing are required. In addition to the residential units, related social facilities and amenities must accommodate recreation and other needs related to higher density residential living. The housing must be mindful of its role in social and spatial restructuring and must create social stability. The housing environment is also just as important as its immediate environment. The development encompasses the unit design, common areas such as walkways, staircases, as well as amenities that contribute to the social environment such as play areas, landscaping, parking, laundry and drying areas, and community meeting rooms. The move to a project based approach means the public environment can be made integral to the project design – not merely a consideration left to the end or considered as secondary to the housing itself. Retrofitting should be allowed and planned for.



Study Space

There are various study areas, for use by all residents, spread out through the building. Each study area has a main focus. One space is reserved for a mixture of private study and group sessions, one is purely for social learning and groupwork, and another is integrated into a small library and is reserved for quiet study.

General

For the scope of this project, the spaces that are expected to be used most often by the largest group of people, will be designed in full detail. As there are various applications of similar functions, one of each of the following will be designed; a public, unprogrammed space, a study area, laundry area, as well as general circulation. The main reception area will also be designed in detail, as this is the first contact both users and visitors will have with the building.

In the buildings' grounds, there is a large space available for outdoor facilities (see site plan, Figure 124). These include;

- Open Space
- Outdoor eating area
- Outdoor play areas for all ages
- Outdoor Gym
- Sports Fields
- Community garden
- Outdoor cooking area

5.5 Users

The user is the main informant for this design – being social housing, satisfying the users' needs is of utmost importance. This includes their needs for appropriation, attachment and identity as discussed in Chapter 3 (c.f.).

The regulations and Yeast (the client), have identified specific family types which can receive the Gap Housing subsidies and live in Yeast's developments. They have been identified as a couple without dependants, a couple with dependants, or a single mother with dependants. In order to ensure the development considers each of these family types' needs, hypothetical families have been created in order to create plausible scenarios for the different families, each with members of varying age groups (Figure 121 - Figure 123).

It is thus highly important to consider age groups when designing for these families, especially when integration and the development of positive social relationships is required.

It has been identified that each of these age groups would have different needs in terms of amenities as well as social spaces – due to the varied nature of their social interactions and preferred activities.

Thus the building has been zoned to accommodate the amenities identified from the regulations within the building, while also considering the different age groups that might use these spaces.

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Couple with Dependants

Married/stable couple with one or more children

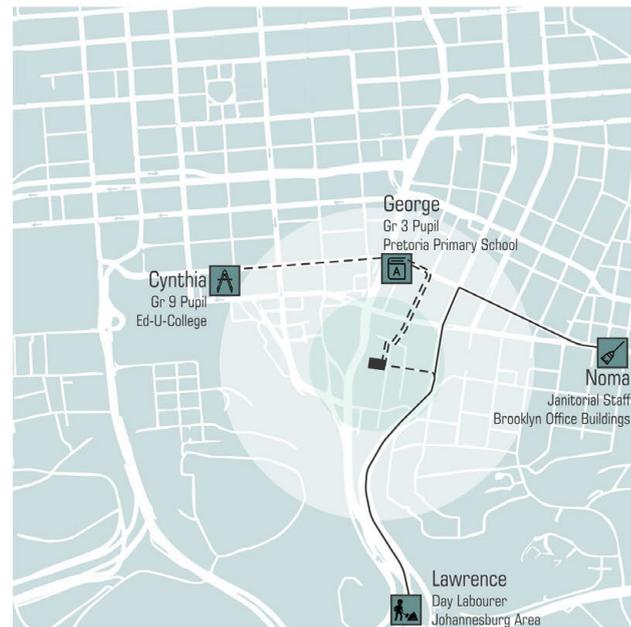
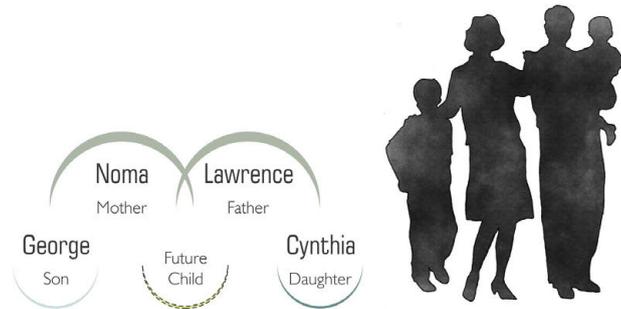


Figure 121 - Couple with dependants (by Author)

Couple without Dependants

Married/stable couple with no children

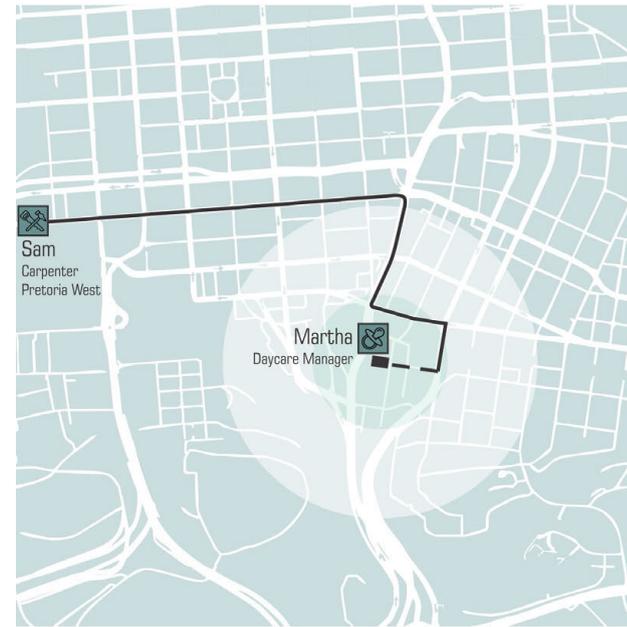


Figure 122 - Couple without dependants (by Author)

Single with Dependants

Single mother with more than 1 child and/or other dependants

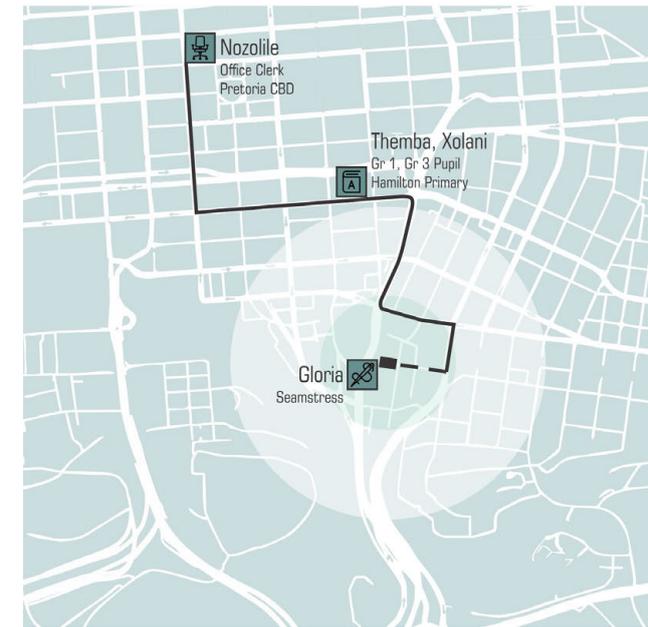
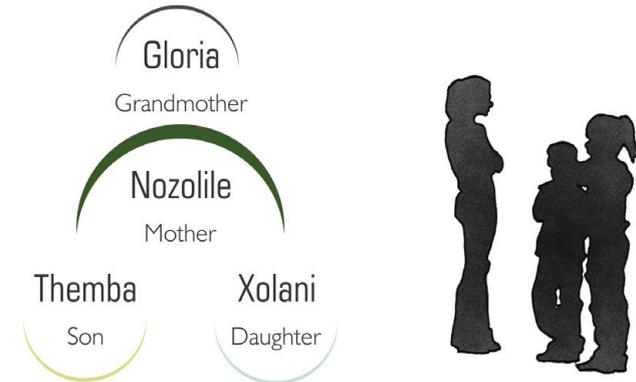
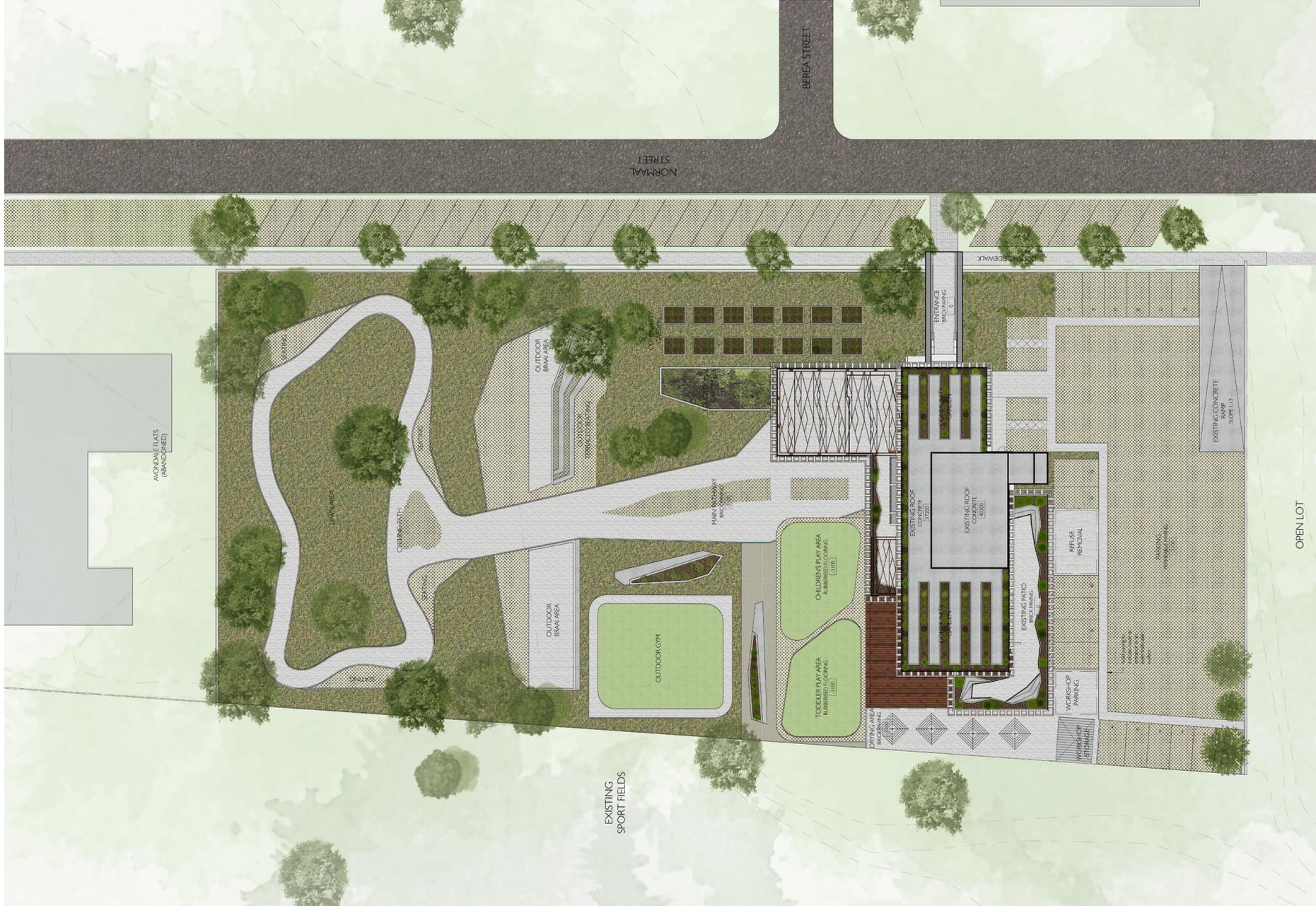


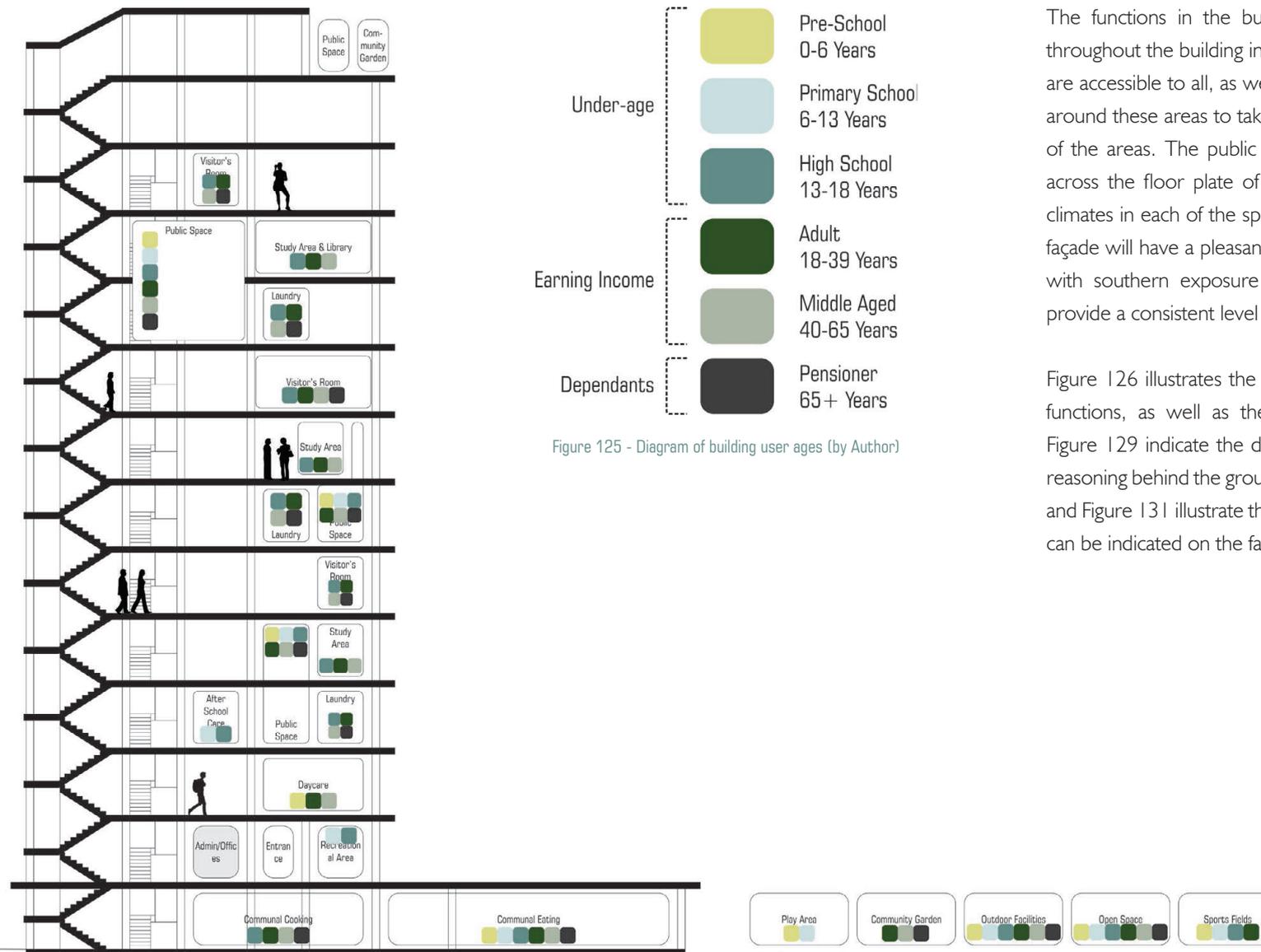
Figure 123 - Single with dependants (by Author)



1/1 Site Plan
Not to scale

Figure 124 - Site Plan (by Author)

Social housing with interior public spaces



The functions in the building have been spread vertically throughout the building in order to provide public spaces that are accessible to all, as well as to create smaller communities around these areas to take responsibility for the maintenance of the areas. The public spaces have also been spread out across the floor plate of the building, allowing for different climates in each of the spaces. Public spaces on the northern façade will have a pleasant environment all year, where areas with southern exposure will be pleasant in summer, and provide a consistent level of lighting throughout the day.

Figure 126 illustrates the vertical arrangement of the various functions, as well as their intended users. Figure 127 to Figure 129 indicate the development of the zoning, and the reasoning behind the grouping of specific functions. Figure 130 and Figure 131 illustrate the investigation of how the amenities can be indicated on the façade of the building.

Figure 126 - Diagram of building zoning (by Author)

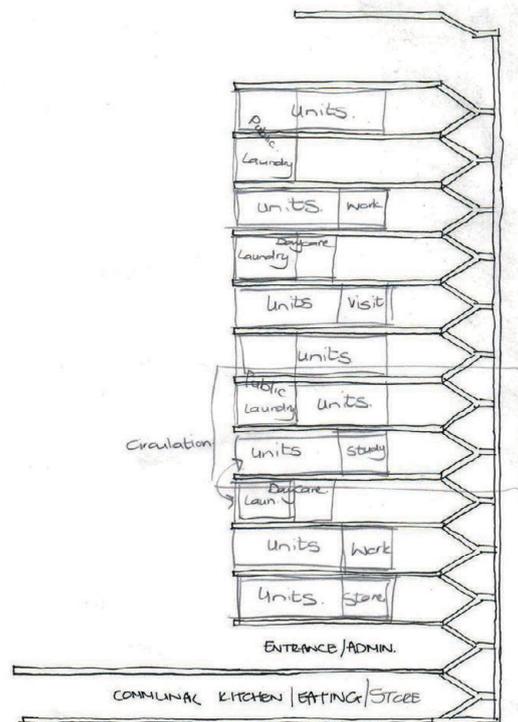


Figure 127 - Process drawing of zoning (by Author)

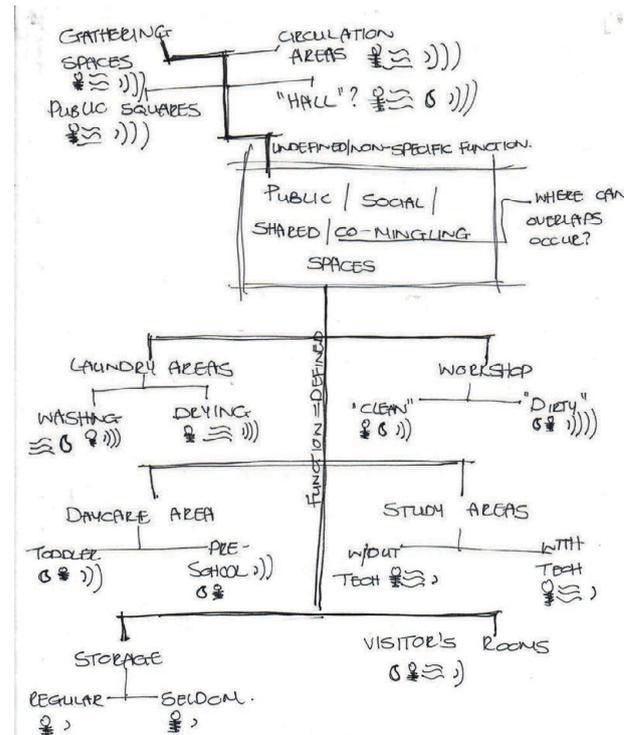


Figure 128 - Analysis of proposed functions, based on electrical, auditory and plumbing requirements (by Author)

PEOPLE DRAW MORE PEOPLE...
⇒ FUNCTIONAL SPACE NEXT TO UNPROGRAMMED

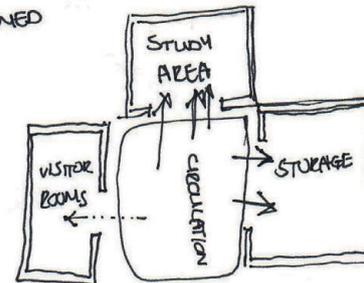


Figure 129 - Proposed functions to be grouped for mutual benefit (by Author)

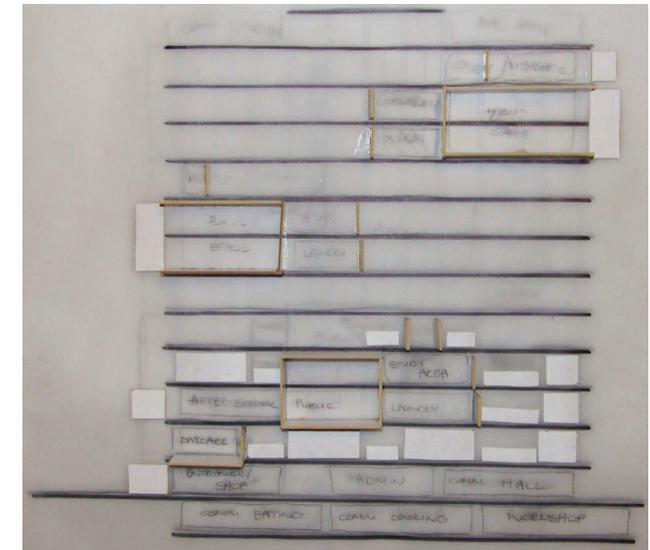


Figure 130 - Zoning and facade development (by Author)



Figure 131 - Detail of zoning development (by Author)

Social housing with interior public spaces

The interior public spaces have been grouped in order to create mutually beneficial areas of interest, and to be able to effectively make use of the spatial intervention needed to create each of these.

Around the public spaces a laundry space will lead out directly from the public spaces in order to create constant activity and provide users with an excuse to spend time in or go to these spaces. On the level just above the public space, the study area will look out over the public space as a constant surveillance, also providing users with the feeling of being a part of the activity without being influenced or distracted by said activity.

The three different public spaces all use the same arrangement in order to provide consistency between all the public spaces, to ease wayfinding and navigation. A resident who regularly uses a specific laundry space, but must on occasion use another laundry space, will easily find the alternative laundry space by navigating to the public space and be safe in the presumption that the laundry space is directly linked to the public space. A child can also tell a parent that they will use the study space of a specific public space, and the parent will know how to find the correct study space.

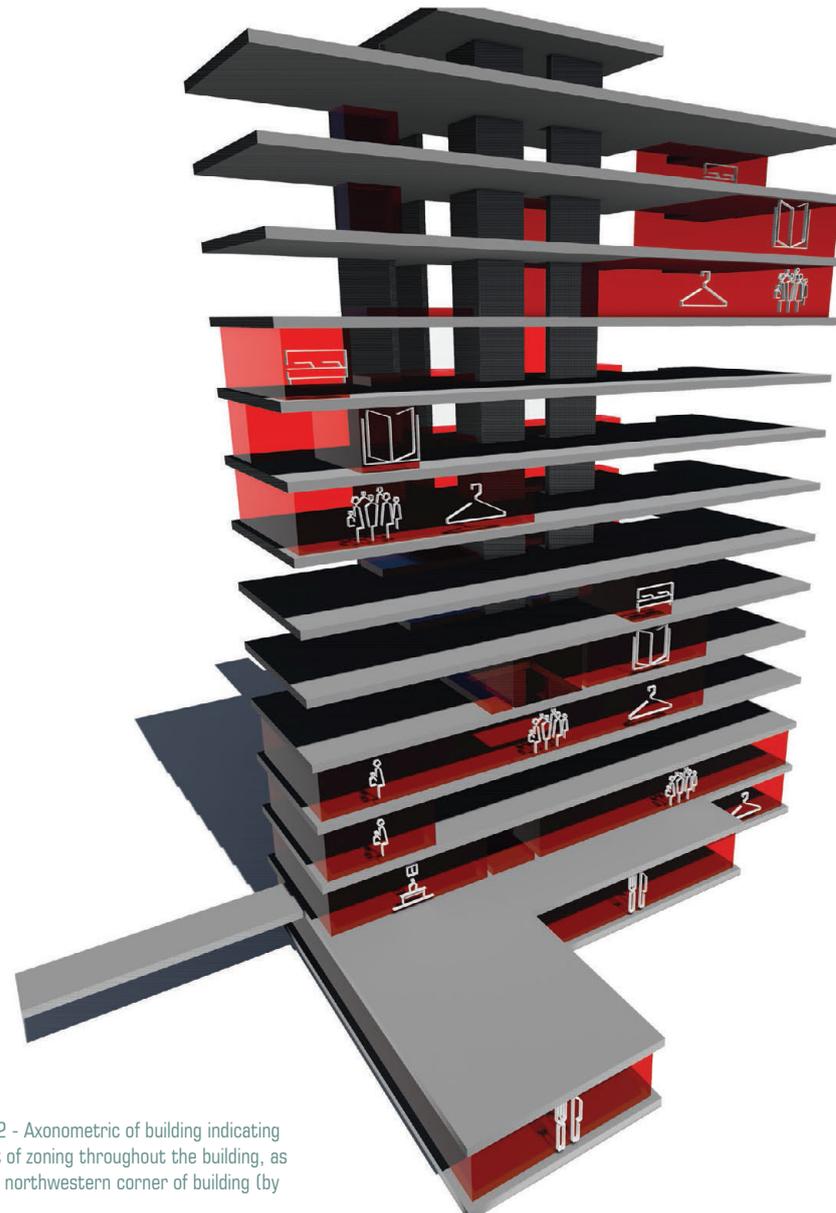
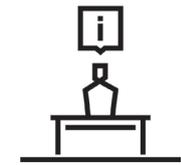


Figure 132 - Axonometric of building indicating placement of zoning throughout the building, as seen from northwestern corner of building (by Author)



Reception/Lobby



Public Space



Laundry



Study Space



Communal Eating / Cooking



Visitor's Room



Figure 133 - Photograph of public space perspex model, showing norther-eastern facade (by AE Heijdenrjch)

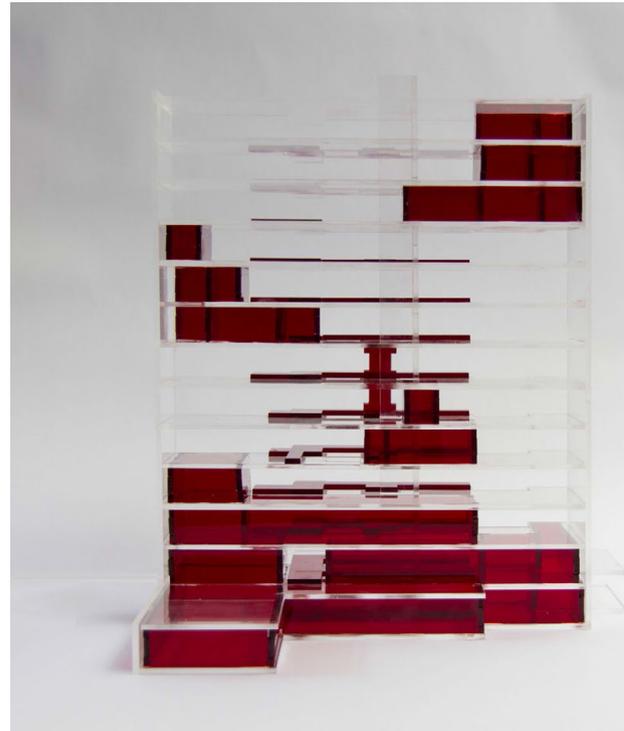


Figure 134 - Photograph of public space perspex model, showing northern facade (by AE Heijdenrjch)

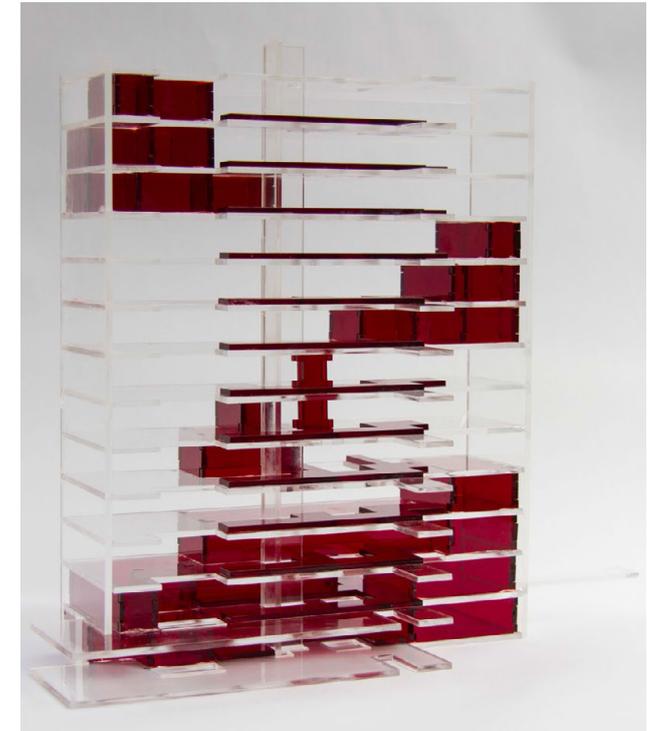


Figure 135 - Photograph of public space perspex model, showing southern facade, indicating circulation corridors (by AE Heijdenrjch)

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5.6 Building Verticality

5.6.1 Verticality

The building is the highest in the immediate context. The vertical green lines on the facade serve to emphasize the height of the building. The verticality of the building as a whole is not reflected on the interior at present, and provides a design opportunity.

The interpretation of the verticality of the building has been applied in two areas. Firstly, it is evident in the proposed new public spaces. The public spaces are double volumes, created by cutting away sections of the floor slab in order to create a varied spatial experience inside the building (Figure 134).

Smaller openings have been cut elsewhere to open strategic sight lines between different levels and public functions, as an indication from one floor to another of the functions above and below the floor the user may find themselves on.

Sendai Mediatheque

Ito's method for creating visual connections throughout the building - see-through columns - is intriguing and was explored within this project in order to enhance the exterior of the verticality to the interior of the building.

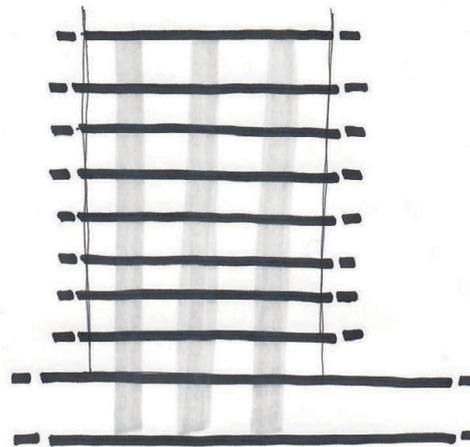
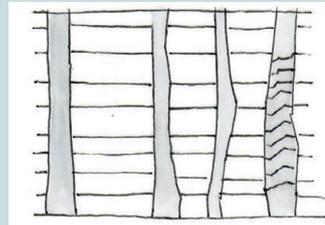


Figure 136 - Axonometric of building indicating zoning and connection between levels (by Author)

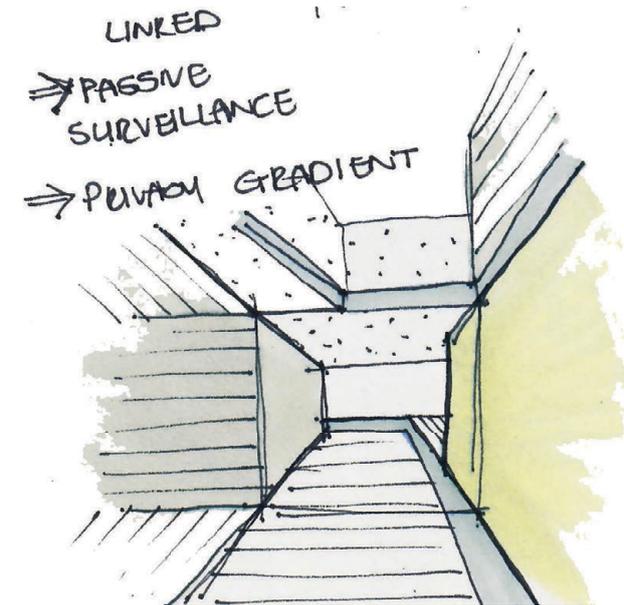


Figure 137 - Development of the visual connection between levels (by Author)

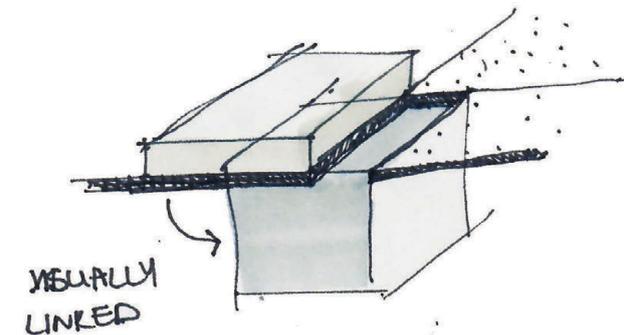


Figure 138 - Visual connection between primary and secondary functions (by Author)

5.6.2 Building Tenant Layout

Figure 136 to Figure 149 illustrate the proposed tenant layouts of the various floors, as well as the relevant double volume spaces.

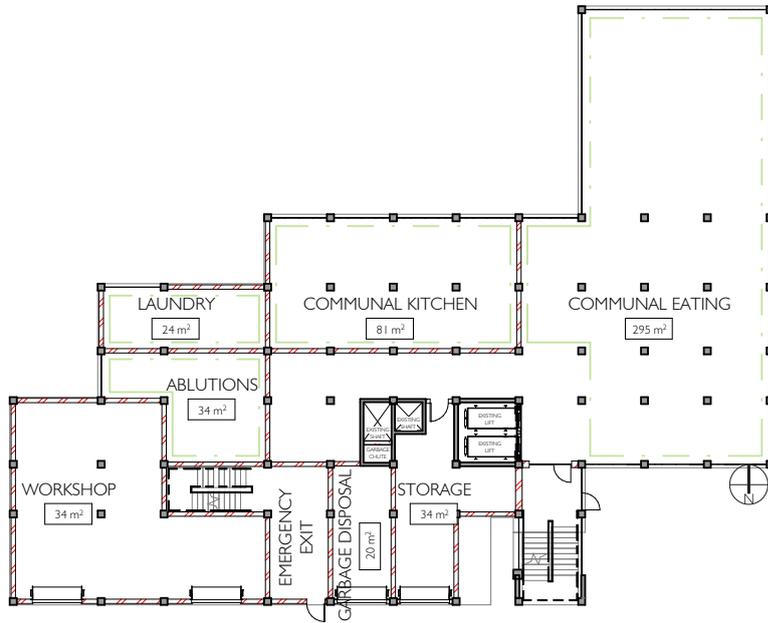


Figure 139 - Lower Ground Floor (by Author)

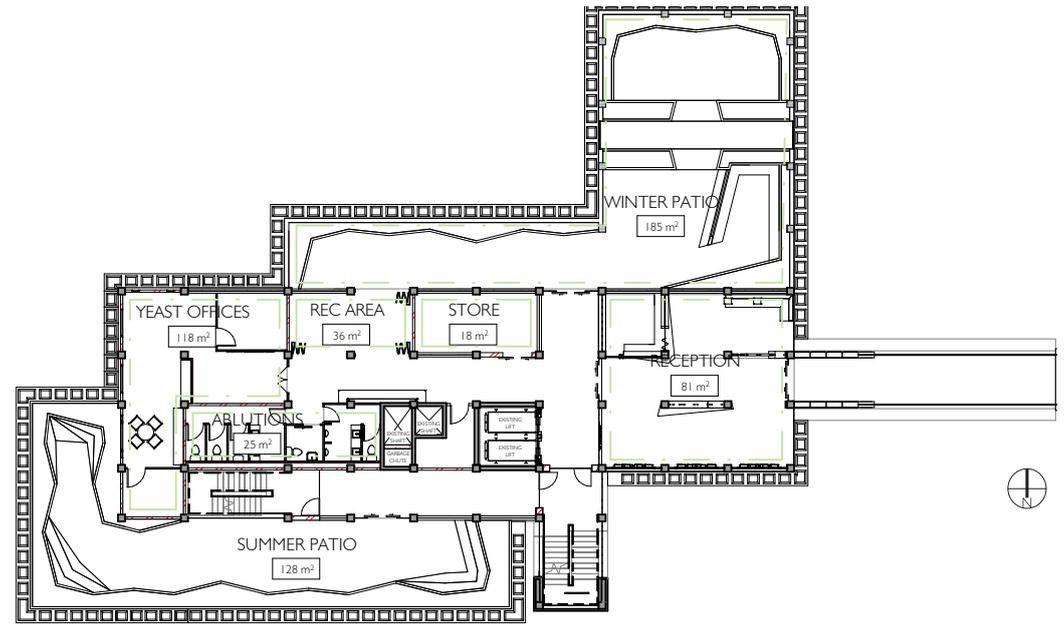


Figure 140 - Ground Floor (by Author)

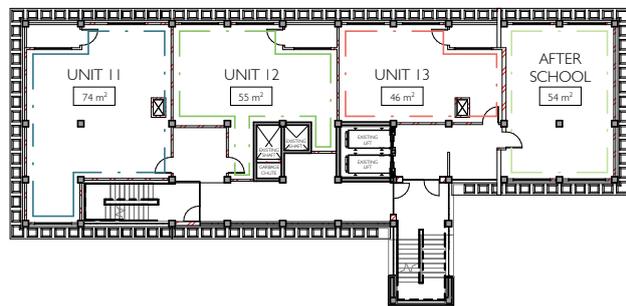


Figure 142 - First Floor (by Author)

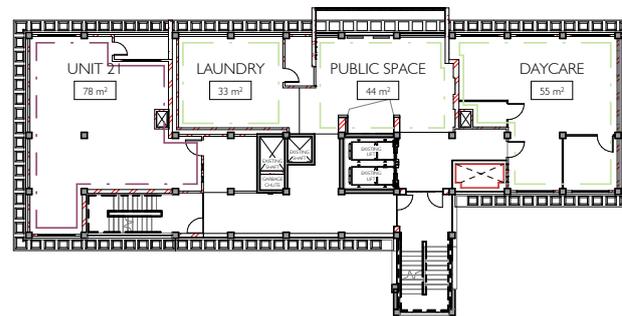


Figure 141 - Second Floor (by Author)

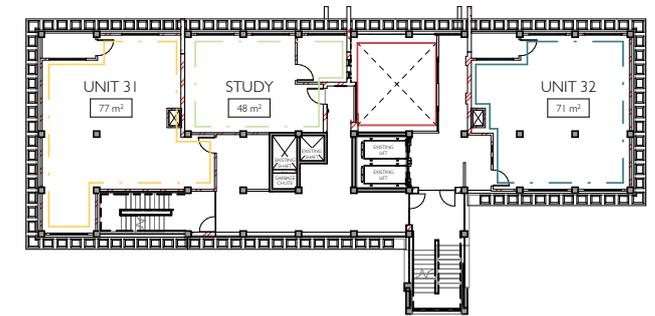


Figure 143 - Third Floor (by Author)

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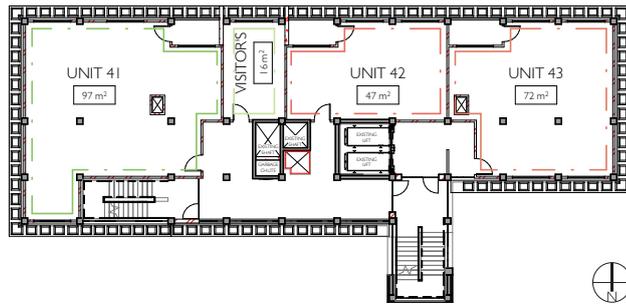


Figure 144 - Fourth Floor (by Author)

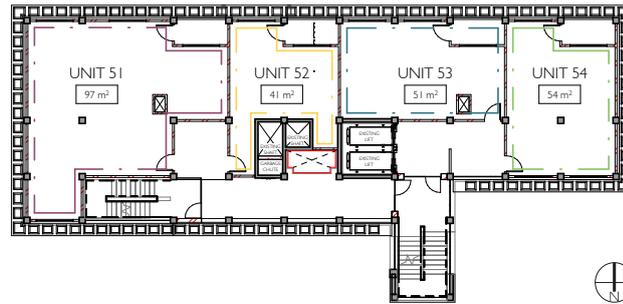


Figure 145 - Fifth Floor (by Author)

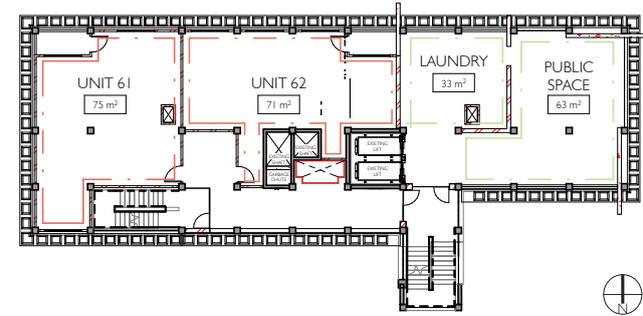


Figure 146 - Sixth Floor (by Author)

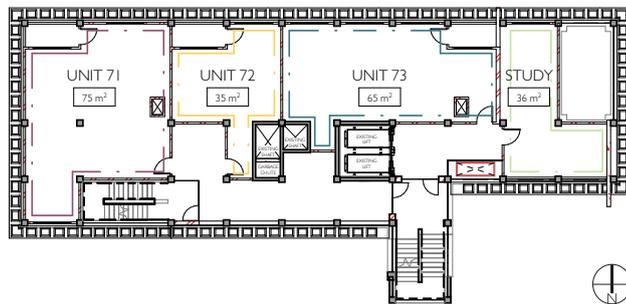


Figure 147 - Seventh Floor (by Author)

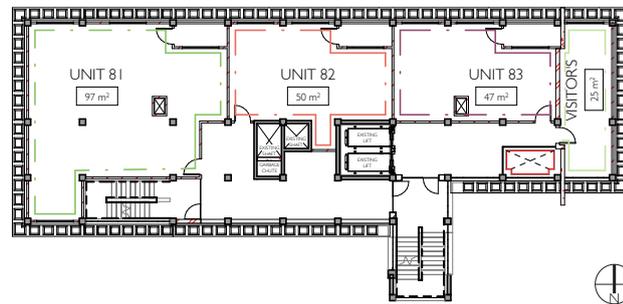


Figure 148 - Eighth Floor (by Author)

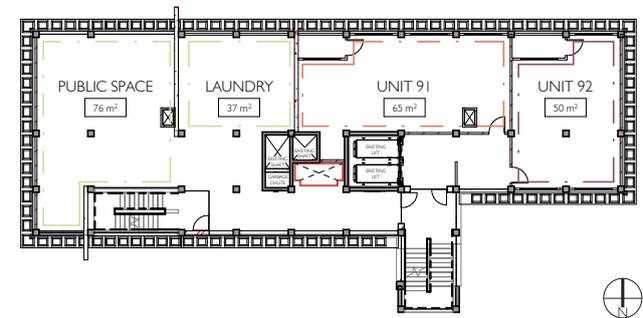


Figure 149 - Ninth Floor (by Author)

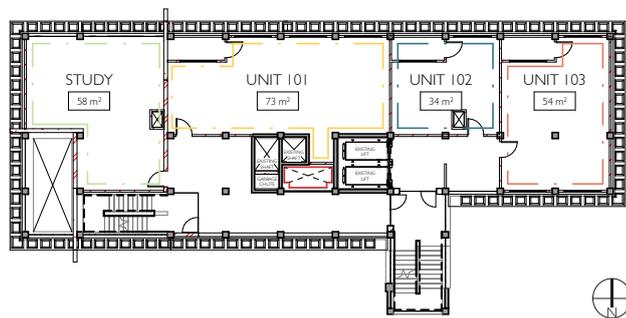


Figure 150 - Tenth Floor (by Author)

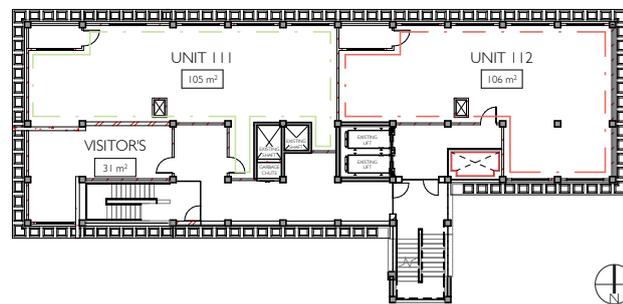


Figure 151 - Eleventh Floor (by Author)

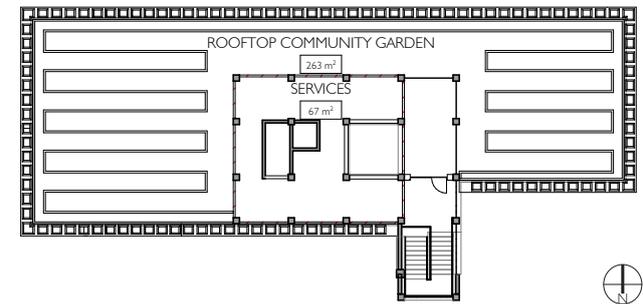


Figure 152 - Twelfth Floor (by Author)

5.7 Materiality

The materials in the building have the quality of having a smooth uninterrupted surface when viewed from far away, but the finely grained texture is revealed when the material is viewed from a close distance (Figure 138-Figure 141). The existing materials are very cold, hard, and robust, and give the building a highly institutional and clinical feeling. Although this fits with the international style architectural approach (), it does not encourage feelings of home and warmth.

The initial design proposal focused on the introduction of materials that accommodate the robust nature of the building and criteria for the building's new intervention, with textures, colours, and material connotations that evoke a feeling of warmth. The initial material palette proposed a high quantity of red clay brick, bright saturated colours, timber wall and floor finishes, and mosaic detail elements, as seen in Figure 136 and Figure 137. This material palette, although much warmer than the existing building, did not respond to the existing building's character and history. Some materials such as the timber flooring and variety of mosaics, will not respond to the high traffic and intensity of use that will be experienced in this building. A revision was necessary, and is described in c.f. 5.4.1.

"The possibilities are literally limitless, both in terms of the materials and products themselves and of the manufacturers and suppliers offering variants of them. To take control of that choice, and to avoid being overwhelmed by it, it helps to identify the qualities required of any particular material..." (Coles & House 2007:88).

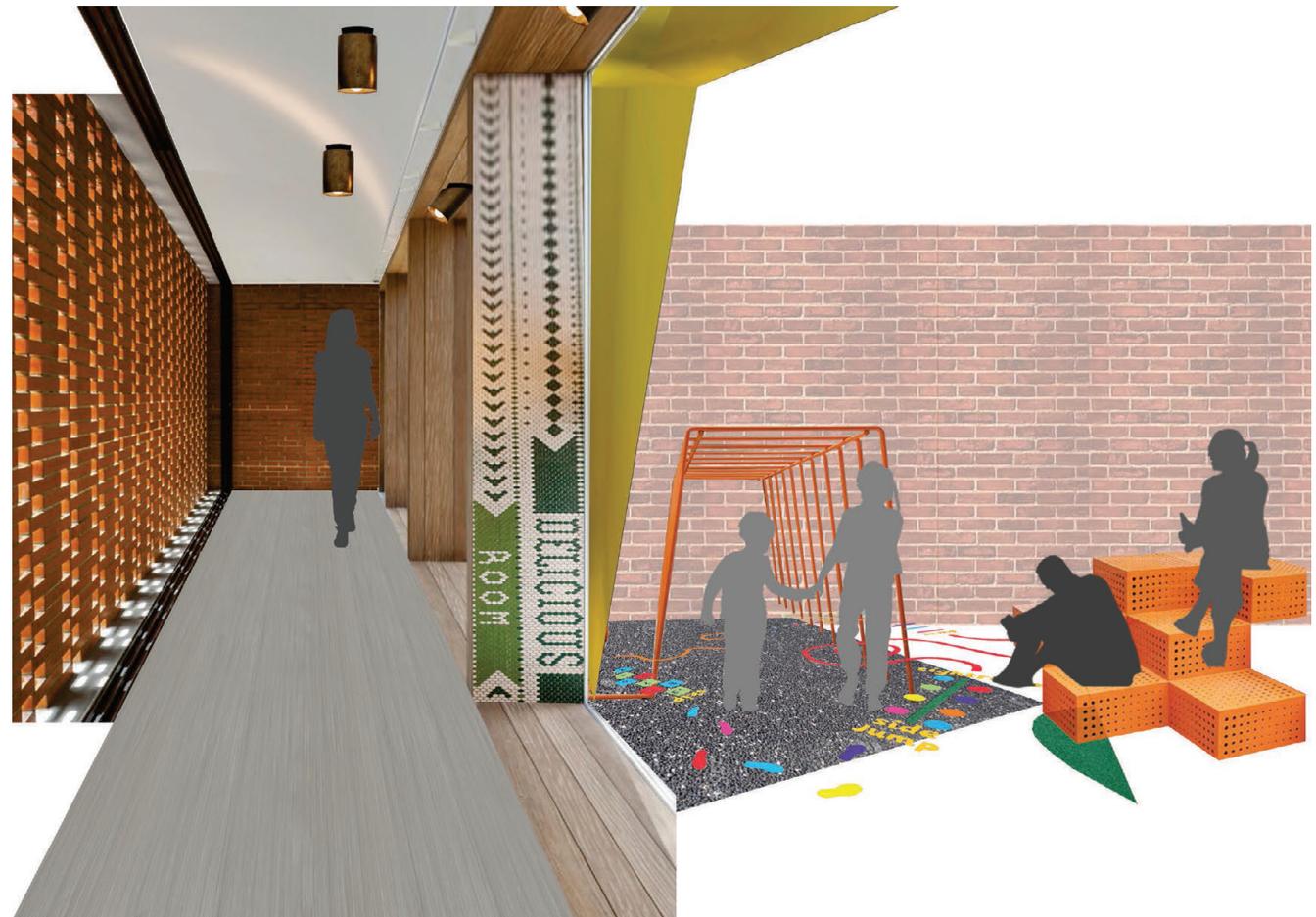


Figure 153 - Initial material and mood palette for public spaces (by Author)

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Figure 154 - Initial material section (by Author)



Figure 155 - Broken glass and material on site (by Author)



Figure 156 - Wired glass and green cladding panels (by Author)



Figure 157 - Close-up view of wired glass in main stairway (by Author)



Figure 158 - Entrance railing and paving texture (by Author)



Figure 159 - Brise soleil, existing treatment of columns (by Author)

5.8 Building Grid

The building's structure is made up of a concrete beam and column structure, which reflects a strong grid. This grid was reflected and refined in the façade treatment, in the form of small panels in white and a light green colour, to create strong vertical lines on the façade to balance the strong horizontal lines of the brise soleil.

This grid has been analysed and re-interpreted to create a design pattern and motif that is used throughout the building's public spaces in an effort to develop a strong design language that is visible throughout. The pattern/grid will mostly be used in a ceiling element, as it will be out of reach for regular contact of the residents, and will therefore be easier to maintain.

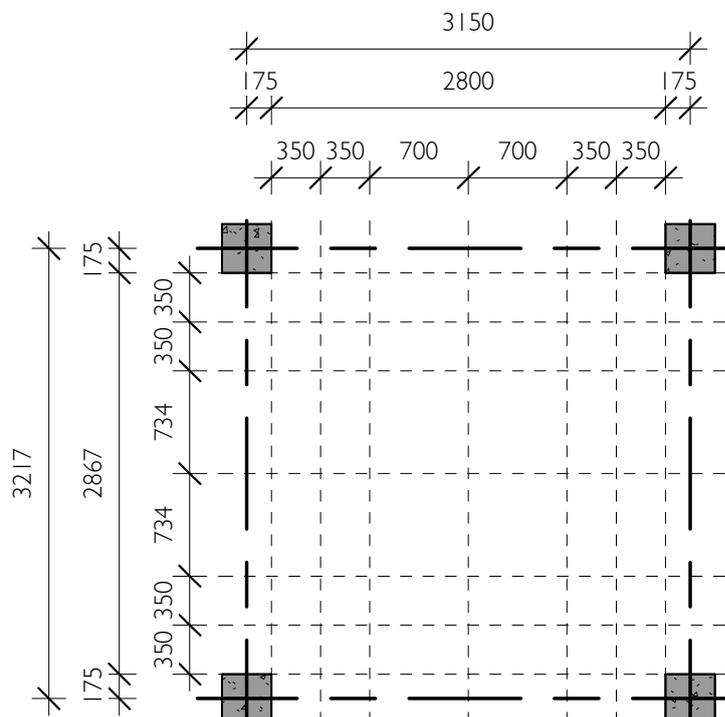


Figure 160 - Existing building and facade grid as seen on plan (by Author)

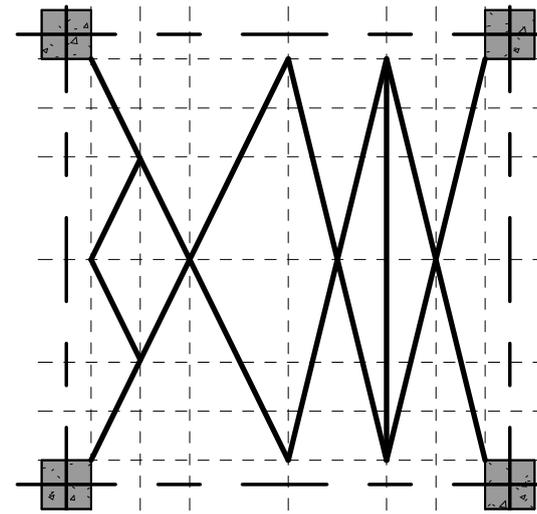


Figure 161 - Possible arrangements of using diagonal lines to interpret the grid (by Author)

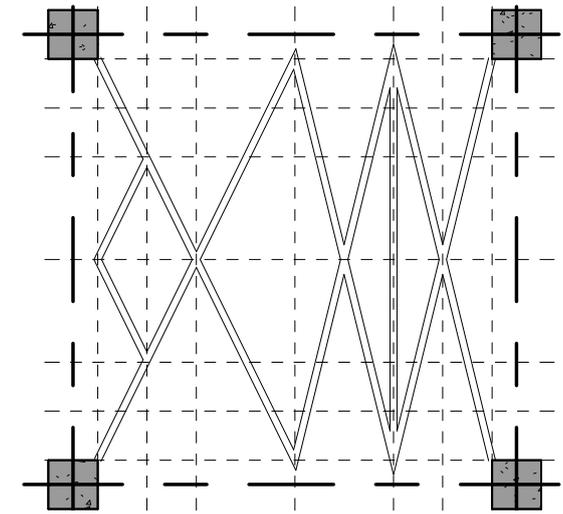


Figure 162 - Thickness applied to proposed grid, as would be experienced in the design (by Author)

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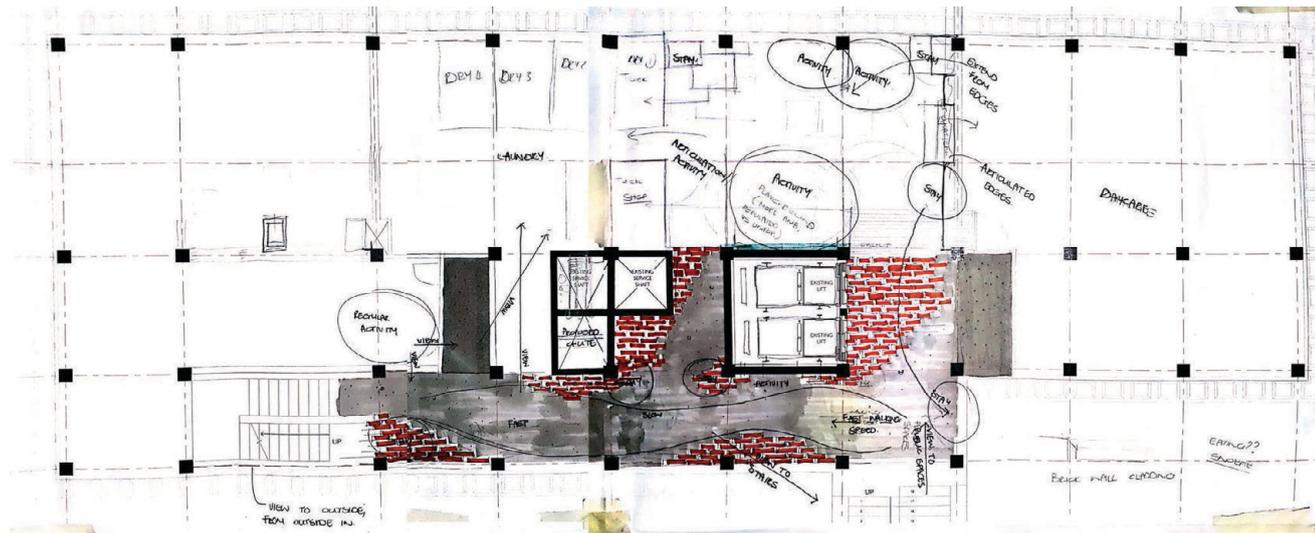


Figure 163 - Development of zoning of public spaces (by Author)

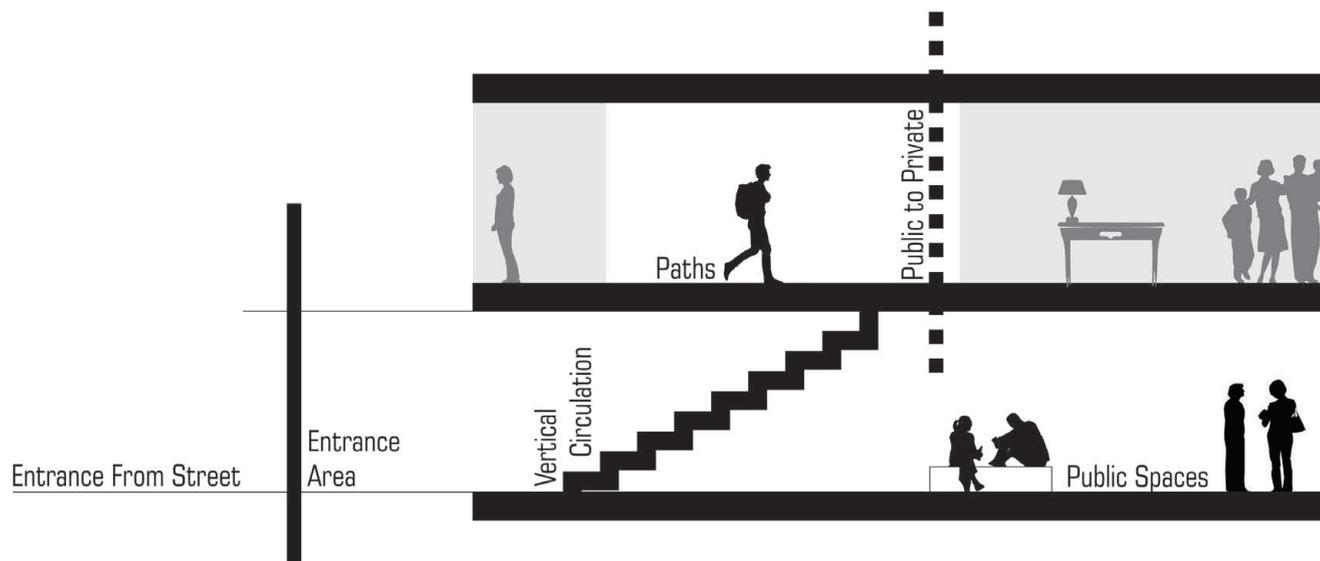


Figure 164 - Diagram of guideline focus areas (by Author)

5.9 Research

The research has given a strong base for the development of specific guidelines and approaches to the spatial design of the building.

5.9.1 Interior Public Spaces

The project's intention was to develop a new typology of public spaces in the interior. The theoretical investigation has led to the term interior public spaces. The term defines the specific role, intentions, ownership, level of public access, and functions of these spaces. With this information known, the guidelines for achieving these goals and intentions can be developed.

5.9.2 Guidelines

The investigation into the existing public space theories has provided a significant insight in how various authors and research methods have similar and corresponding results in terms of what is defined as successful public spaces. The three sources have been used in conjunction with one another as the sources refer to all areas of investigation. The guidelines have been divided into the entrance, entrance area, vertical circulation, paths, the transition of public to private space, and public spaces (c.f.). These guidelines have been chosen to not only provide an approach to the articulation of the physical space, but also to understand how users will utilize and appropriate the spaces and what they need there.

The guidelines are interpreted and developed by applying them to the design. The guidelines are enriched by the choice

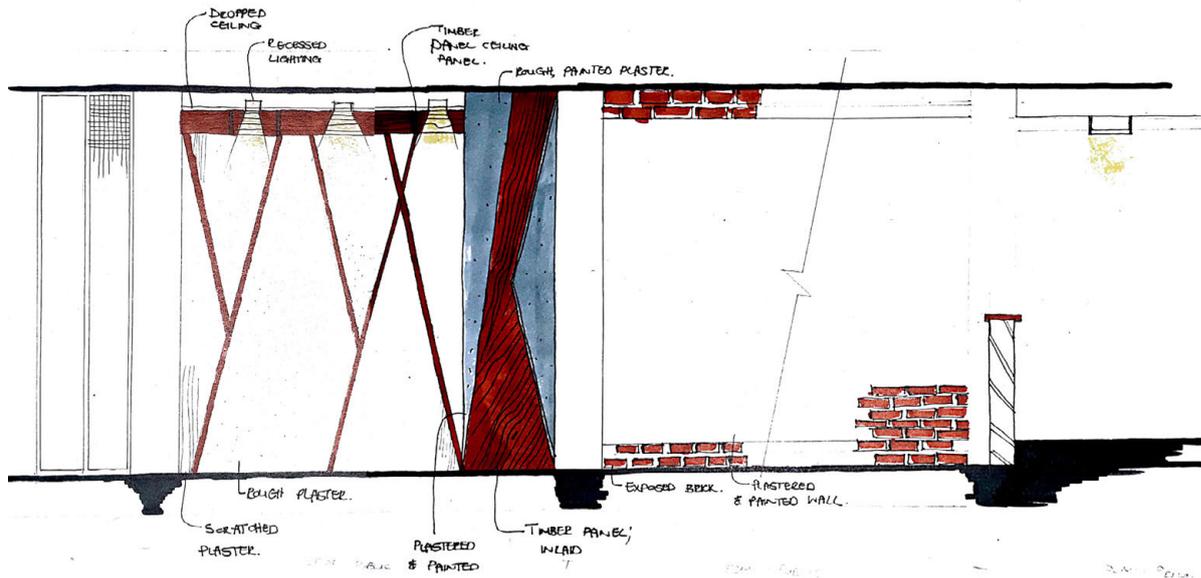


Figure 165 - Development of transitions, using symbolic barriers (by Author)

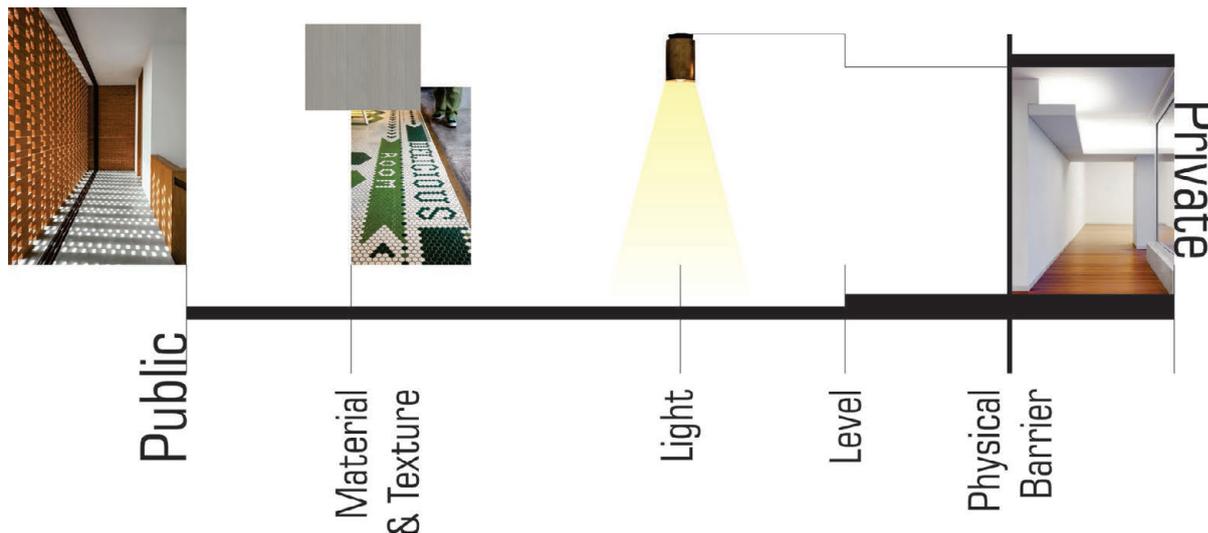


Figure 166 - Iteration of transitions, using symbolic barriers (by Author)

of materials and their applications.

With the guidelines in mind, a standard approach to the transition of public to private began to develop. The series of spaces as identified by the guidelines each required a relatively standard approach that could be applied in various areas of the building where similar transitions occur.

The current proposal is not flexible or defined enough for application throughout the whole building. The building's identity is not strong or recognisable to create a lasting impression, or to have the residents' actions to appropriate the spaces contrast sufficiently.

5.10 Building Identity

The building's identity is one that encourages the individuality of its inhabitants by providing a vibrant backdrop to their daily lives and activities – psychologically, visually, and spatially.

5.10.1 Proposal

The initial materials were chosen to reflect the robust nature of the intervention. The materials – timber, brick, and bright colours were chosen to contrast with the initial building's clinical, impersonal fit-out. However, the initial material palette would not allow the users' own appropriation to contrast with the building identity, as it contained too much detail and colour variation.

The public spaces are characterised by an urban aesthetic, with a spatial focus on framing – either views or other human

Social housing with interior public spaces

activity. The urban aesthetic is used to enhance the perception that shared areas are highly public, and to make use of the existing perception of the activities and life usually found in an urban setting.

The existing building's design and colour palette strongly reflects its history as an institutional building with hard, robust, and cold materials and strict grid structure and the only "ornament" found in the brise soleil. To create a more vibrant environment, the material and colour palette will introduce warmer elements and colours, while still remaining neutral. This is done in the selection of clay facebrick, for its warm tone and regular texture. The introduction of a natural material such as a stained pine timber contrasts strongly with the cold and robust man-made materials in the current building. In a consideration of the durability, the use of painted and plaster is proposed. To link the possible hard material of the plaster, the texture is considered and decided to make use of various texturing techniques, both to soften the visual texture of the material, but also to define and differentiate the different public spaces.

The existing building's accent colour and grid structure (both in façade and column layout) is repeated and re-interpreted in the design – taking note of and remembering the old, while still providing a new and fresh interpretation and image to the intervention. The accent colour – a mint green, is applied most visibly in the public spaces and circulation areas leading to these areas, and in focal areas such as signage leading to the public spaces.

The neutral material palette allows for the user's own appropriated spaces to be easily recognisable as different to the main building identity. The main design elements that indicate and characterise the public spaces are less visible in the more private areas of the building, allowing the appropriated spaces and reflected identities of individual residents to take precedence. Residents can appropriate the entrance areas in front of their units, both by deciding what to display there, and by selecting from a pre-selected range of unit colours, paint their front walls.

The intangible attachment to the building and functional identity will be achieved through the various types of public spaces and amenities provided to the users, which will encourage community involvement. Allowing users to appropriate their near-home space gives dedicated ownership to users. Through the theoretical guidelines, accessing the public spaces will be a gradual and almost unconscious act, linking the public spaces and more private areas in their accessibility and community focus. This would allow the user's ownership to extend to the community and shared spaces.

The building's name has been chosen as "KwilaliCity". "Kwilali", in both Xhosa and Zulu, means "village" or "in the village". "City" is taken to mean a place of situation characterized by a specified attribute.

The name has been chosen to reflect the communal spirit of the building, as well as to identify the building with a strong, unique name that is easy to remember and stands out from

the crowd.

The specific materials used will form part of the technical investigation, as the guidelines are refined and the wayfinding elements are developed in more detail.

Through the application of the theoretical guidelines, the transition between public and private spaces can be enhanced spatially and physically. This led to the development of a series of additional guidelines. Elements such as material, texture, lighting, and level changes combined with physical barriers in order to both grade the transition and indicate the changes spatially.

KwilaliCity

kwilali n. (translated from Xhosa & Zulu)

English: Village

1. A small town in the country
2. The people who live in a village

city n.

\`si-te\`

1. A large town
2. A place or situation characterized by a specified attribute (informal)



Figure 167 - Revised material palette reflecting the refined building identity (by Author)

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New screed
Supplier: Cemcrete
Product: CreteCote
Finish: Polished
Colour: Grey
Thickness: 15 mm



Accent Paint Colour
Supplier: Plascon
Product: Determined by use
Colour: Aloe Vera Leaf
Code: G2-B2-1



Feature element timber
Type: Walnut
Sealant: Clear



New wired glass glazing
Supplier: National Glass Distribution
Type: Laminated Georgian Wire Plate Clear Glass
Rating: 120 Minutes



Neutral Colour 1
Supplier: Plascon
Product: Determined by use
Colour: Fynbos Leaf
Code: 57



Neutral Colour 1
Supplier: Plascon
Product: Determined by use
Colour: To march Duram Blyde Falls
Code: E212-1

Unit Appropriation Colours



Supplier: Plascon
Colour: Summer Blush
Code: R2-C1-2



Supplier: Plascon
Colour: Chakalaka
Code: R7-B1-2



Supplier: Plascon
Colour: Alex
Code: O4-B1-2



Supplier: Plascon
Colour: Panorama Lights
Code: Y4-A1-2



Supplier: Plascon
Colour: Citrus Splash
Code: G1-A1-2



Supplier: Plascon
Colour: Atlantis Cliff
Code: B2-C1-3



Wayfinding Tile
Supplier: TileAfrica
Type: Mosaic sheet
Product: Byzance Stagger Mosaic
Colour: Bianco (T0027182)
Size (Sheet): 300x300 mm



Carpet
Supplier: Van Dyck Floors
Type: Woven vinyl carpet
Product: Athena Klassikos
Colour: Burlap
Size (Sheet): 300x300 mm



Proposed brick for intervention
Supplier: SABrix
Type: Merlot Non Face Brick Extra
Size: 220x108x70 mm



Anodised Aluminium Frames
Supplier: Hillaldam
Colour: Black

5.11 Façade

The building's existing façade (both in design and cladding) provides a strong visual impact on the skyline due to the low surrounding buildings. This provides an opportunity for the façade to reflect the interior programme and approach on the exterior of the building. Further inspiration was taken from the Roy and Diana Vagelos Education Center's reflection of the larger public spaces inside the building on its façade.

In keeping with the concept of the framing devices, an extended wall element was introduced to emphasise the public spaces. By cantilevering the wall beyond the existing façade line makes the wall visible from larger distances away, and provides a visual connection for the users from the street or other approaches to the building. Combining the protruding walls with recessed private balconies ensure the emphasis falls on the public spaces and maintains the visual privacy of the residents and their units.

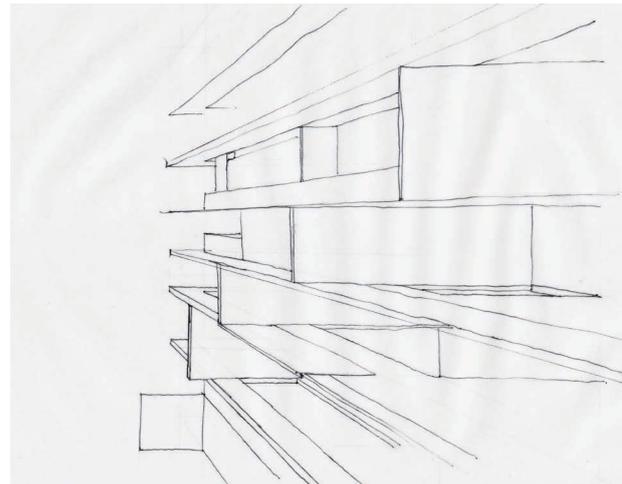


Figure 168 - Initial proposal for facade treatment (by Author)



Figure 169 - Façade treatment as developed from zoning (by Author)

Roy & Diana Vagelos Education Centre

Location: New York, USA

Completed: 2016

Architect: Diller Scofidio + Renfro

Type: Medical Education Center

Context: Urban, City Centre

The building's clear definition of more public versus more private and intimate spaces both on the interior and exterior of the building provides a successful example of articulating the life inside the building on the facade. This allows those on the outside of the building to also experience and be intrigued by the spatial experience within.



Social housing with interior public spaces

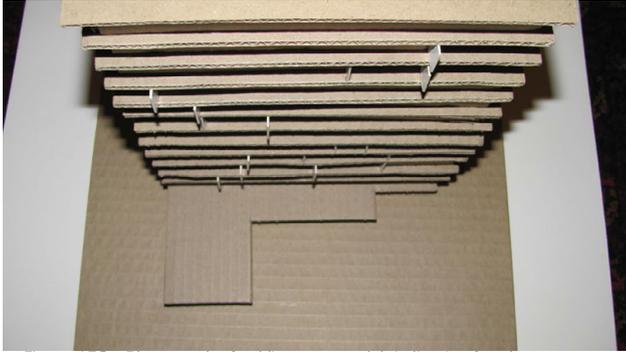


Figure 170 - Photograph of public space model, indicating facade treatment extending beyond existing facade line (by Author)



Figure 171 - Photograph of public space model, indicating uppermost public space definition (by Author)



Figure 172 - Photograph of public space model, indicating mid-level public space definition (by Author)

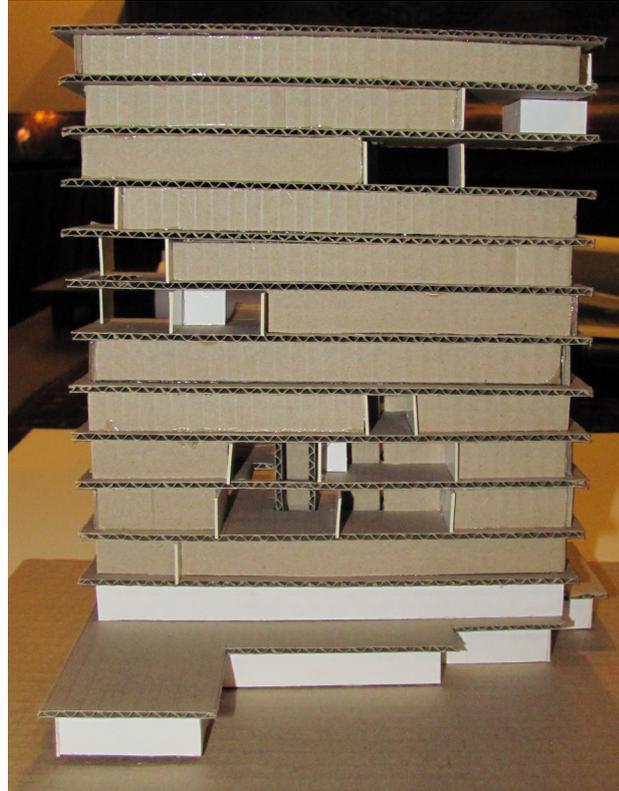


Figure 173 - Northern elevation showing permeability of facade in public spaces (by Author)



Figure 174 - Photograph of public space model, indicating focus area public space definition on northern facade (by Author)



Figure 175 - Photograph of public space model, showing southern facade with circulation and public space definition (by Author)

5.11.1 Southern Façade

The southern façade shows the prominence of the main staircase quite clearly, as well as how visually accessible this space is from the exterior. The more open nature of the public spaces as well as the overhanging facade walls can also be seen, with the material contrast emphasising these elements.



Figure 176 - Southern Elevation

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Figure 177 - Southern Elevation

5.11.2 Northern Façade

The northern façade shows the contrast between the public spaces, glazing and visual height, visible from the exterior as well as the interior. The overhanging façade walls can be seen here, as well as the thickening of some columns where the walls protrude perpendicularly to the angle of view.



Figure 178 - Initial proposal for reception design (by Author)

5.12 Entrance

The entrance area design was highly influenced by the guidelines developed from the theories consulted. This is the first public space that visitors and inhabitants encounter. This allows for full expression of the building's identity, as described above. It is also important that the space allows for some expression of the inhabitants' identity in order to create an opportunity for appropriation.

The entrance area begins to establish a building identity in the repetition of the original façade colour and the re-introduction of the cladding grid.

The first proposal (Figure 175) of the entrance area enhances the building identity in its use of colour and design elements such as the counter detail and post boxes. The revised design (Figure 176) introduces built-in seating to further emphasise the building's identity. Screens are proposed to provide some privacy, and a wayfinding flooring strip is introduced.

The reception counter has been designed to be highly inclusive and accessible to all, as an introduction into the inclusivity and design language of the rest of the building. The post boxes, the second detail-item in the space, are the first interaction with items appropriated by users. These appropriated elements are placed on display where users can easily see them and have an immediate emotional connection with the building. The further development of these elements are discussed in Part III.



Figure 179 - Revised view of reception area (by Author)

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5.13 Public Spaces

The public spaces, specifically the un-programmed spaces, have been designed to have a very direct interpretation of the building's design language and identity. The adapted ceiling/building grid is very prominent in this area, with the ceiling wrapping down to become a feature wall element, where additional functions such as a play area could directly relate to the feature wall design language, as well as indicate the public nature of the elements within the space.

The permanent elements in the space such as seating and other functions relate directly to the building's design language and have similar elements found in the main circulation areas and reception area. The arrangement of the functions themselves follow the guidelines developed from Chapter 3 closely to create a variety of seating options, with varied smaller microclimates and social seating arrangements to ensure all community members are accommodated for. The placement of necessary functions such as laundry and study areas ensure constant activity flowing through the public spaces.

In an effort to reflect the building's alternative approach to integrating public spaces into the housing development, an intervention on the façade of the building was required (c.f. 5.11). Protruding, cantilevering walls that define the edges of the public spaces serve to indicate to passersby that these areas are more public. These elements also indicate the placement of the various public spaces as being placed in different areas of the floorplate. It provides users with a more direct connection to these public spaces, as they can see them

when approaching the building, as well as experience them from outside.

From an interior perspective, the walls extending beyond the building slab enforces the concept of framing, by framing the views around the buildings, as well as providing privacy to the units adjacent to the public spaces by preventing users from looking into their units from the public balconies.

The circulation, both vertical and horizontal, forms part of the public spaces, as they are the most public spaces and used by all community members. The circulation areas are designed to be the most visually and physically accessible, with a strong design language. The circulation spaces are also designed to emphasise the users' own unit colouring and decoration.

Figure 177 indicates the design development of the public spaces and the application of the building identity. Figure 178 and Figure 179 show the section and plan of the public space as the final design proposal before technical development.

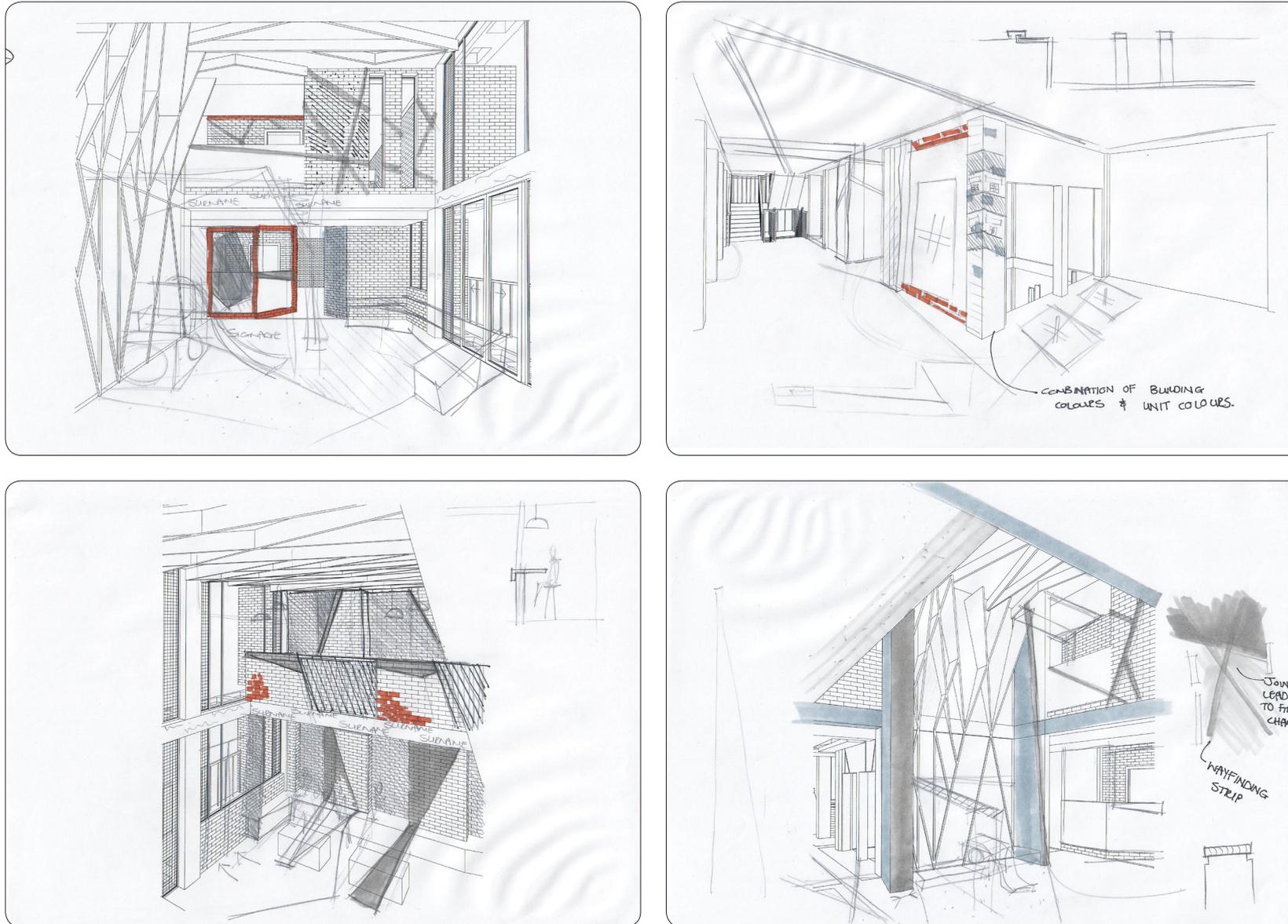


Figure 180 - Scans of development of public spaces (by Author)

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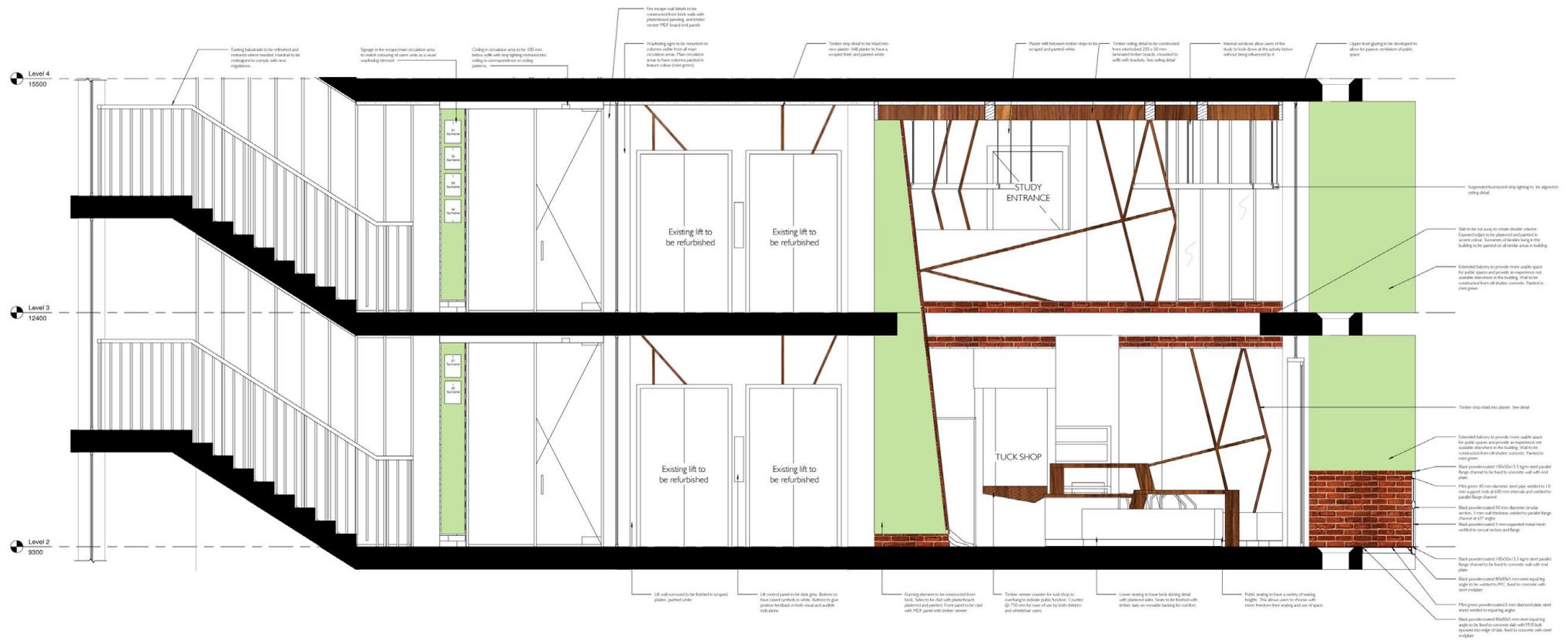


Figure 181 - Section of public space (by Author)

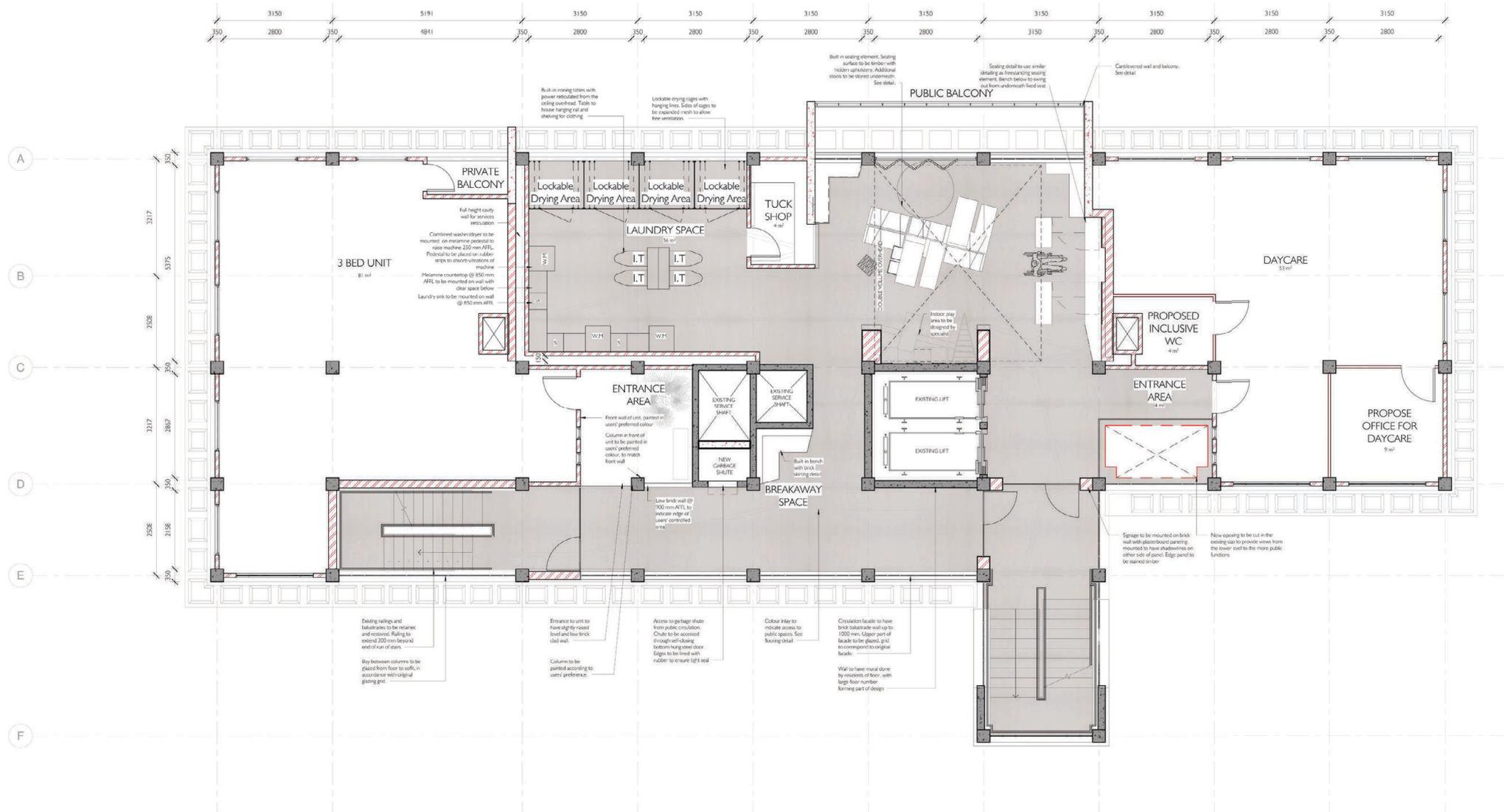


Figure 182 - Plan of public space (by Author)

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Part III: Technical Resolution

5.14 Introduction

As the legibility and accessibility of the building is highly important – both to users and visitors, the wayfinding and accessibility will become the main focus of the technical investigation. Additional detail elements focus on the entrance and reception area, specifically the reception counter and post boxes. The various seating elements and material choices for these areas will become additional design detail investigations. Elements that contribute greatly to the design language and brand of the building, such as the ceiling element and flooring details will also be designed in detail.

5.15 Wayfinding Audit

“Wayfinding is a process by which individuals navigate through unfamiliar territory... The purpose of wayfinding is to direct people through a primary circulation path, such as corridors and aisles that lead to a variety of destinations. However, successful wayfinding also provides everyone access to the same products and activities within an interior and throughout a community.”
(Nussbaumer 2009:136)

A main design informant to the project is the users of the building (c.f. 5.5). The users fall into a variety of age groups, levels of mobility and specific access requirements. With this in mind, wayfinding and inclusive design became a large determinant of the ease of use and thus success of the building. Following on the development of the guidelines developed

through the theoretical investigation (c.f. 4.3) to ensure spaces that are accessible from a psychological point of view, the issue of wayfinding and inclusive design became prominent from a detail perspective.

The exploration of wayfinding as a detail investigation has led to a deeper and stronger design language and building identity. However, no clear or comprehensive audit for inclusive design has yet been developed within the interior design field or knowledgebase. In an effort to ensure the viability of the project to a wide group of users, various sources have been consulted and an access audit developed for use in this project as well as in future projects (Appendix B).

The audit developed from an investigation into the inclusive design requirements for each of the categories within the theoretical guidelines, and was supplemented by additional regulations for signage and egress, as these categories influences all areas the building.

The audit considers requirements for specific areas of the building, as aligned with the guidelines developed in Chapter 3 (c.f. 3.4.3). Firstly, the “Entrance from the street” considers the level changes and distance of travel from the street. The “Entrance lobby and reception” consider the materials, reception counter and seating requirements for inclusive access. Thirdly, the “Vertical Circulation” outlines regulations and proposals for ease of access for level changes and handrails. “Horizontal Circulation” considers the lighting and possible barriers that users may encounter in a busy apartment

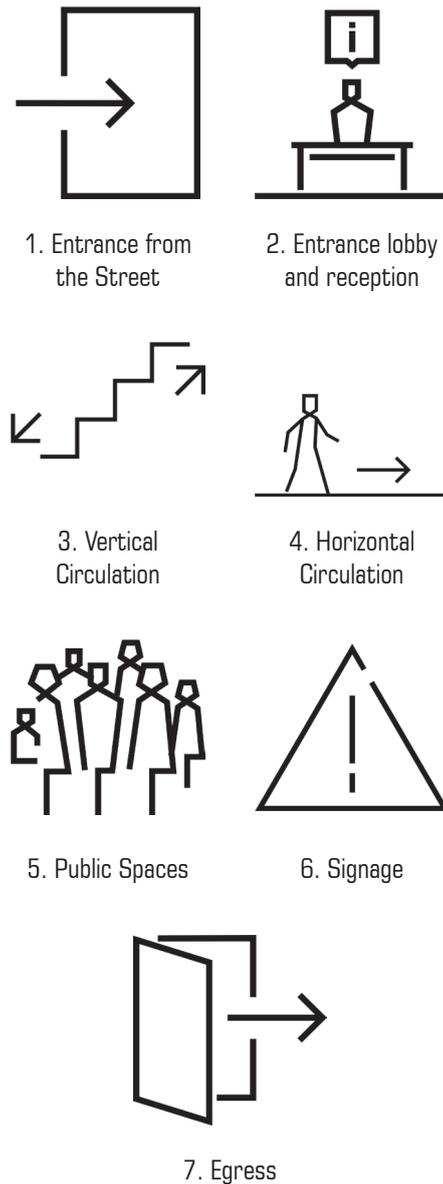


Figure 183 - Icons for Access Audit Categories (by Author)

building walkway. The “Public Spaces” category illustrates the requirements to ensure all users have equal access to use all of the interior public spaces, by considering seating and movement requirements. Some requirements apply to the whole building, such as signage and egress regulations. They ensure a safe and accessible environment for the whole building.

The audit has been used as part of the iterative simulation process. The conditions and regulations have been used to audit the design intervention at three stages.

5.15.1 Audit 1

The first audit (Appendix C, Figure 181) was done after the initial design proposal was developed. This was done to create a baseline for a typical design proposal that does not consider the inclusive design requirements.

5.15.2 Audit 2

The second audit (Appendix D, Figure 182) was completed after the first technical investigation. This indicates the improvements made to the design proposal when there is an awareness and focused approach to improve the inclusive design.

5.15.3 Audit 3

A third audit (Appendix E, Figure 183) was completed after the revision of the second technical investigation. An effort was made to apply the requirements to the letter.

5.15.4 Audit 4

A final audit (Appendix F, Figure 184) was completed after the final revision of the technical investigation. A fully inclusive building was achieved, as was the goal of the Access Audit.

5.15.5 Conclusion

The graphic summaries indicate a significant improvement from the first audit to the second, and incremental improvements after. Iterations were done to further improve the accessibility of the entire proposal. This was achieved after the fourth iteration. The access audit requirements did not influence the design negatively - on the contrary. The application of especially the finer details of the audit requirements enhanced the legibility of the design and the spaces within, and served to emphasise the building’s identity by requiring signage and the consistent application of specific elements for wayfinding purposes.

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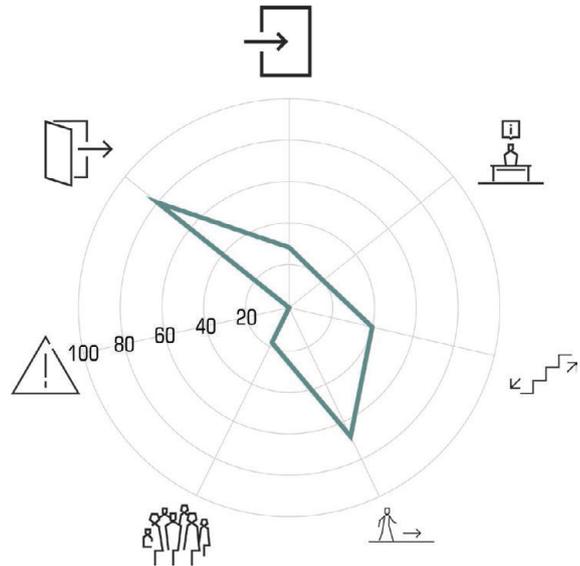


Figure 184 - Audit 1: Design Development

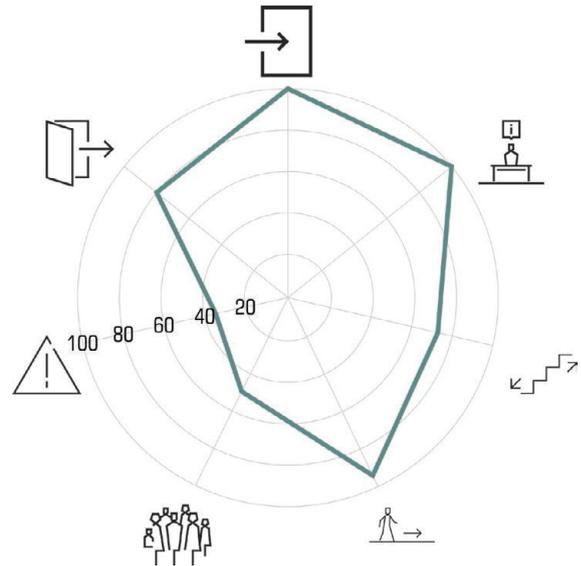


Figure 185 - Audit 2: Technical Development

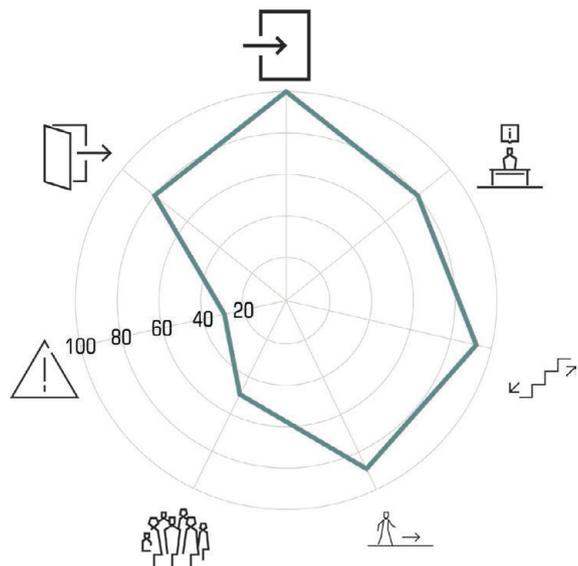


Figure 186 - Audit 3: Technical Iteration

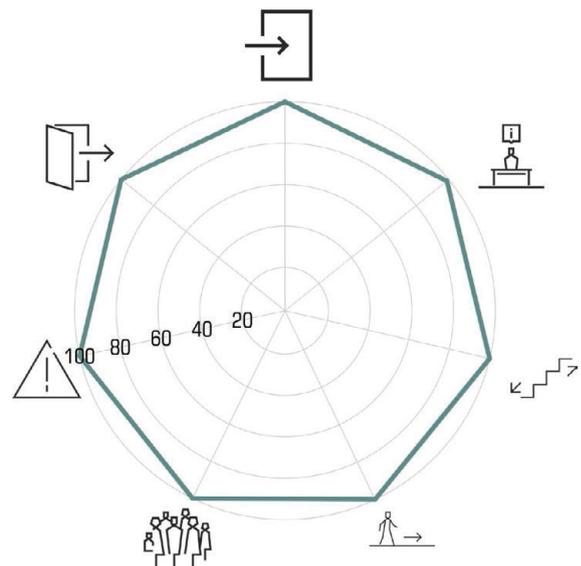


Figure 187 - Audit 4: Technical Resolution



Figure 188 - Development of reception area (by Author)



Figure 189 - Development of reception area (by Author)

5.16 Ground Floor

The reception and lobby area is the first interaction residents and visitors have with the building. It is important that the building's identity and the principles for the wayfinding used throughout the building is established in this area.

The reception desk is the main point of contact for most residents and visitors to the building. The design focuses on applying the colouring and design elements prominent in the building's identity such as the timber detailing and colouring. Security, accessibility and legibility are the main concerns for the reception counter as well as the remainder of the lobby space.

The lobby and building itself is kept safe by applying the guidelines indicating that visual connections from the street into the entrance area and vice versa are important. From an access control point of view, automatic sliding doors allow everyone to enter, within view of the reception desk. A second automatic sliding door has an access control device connected, which limits access to the main portion of the building to residents and employees in the building only.

There is a waiting area for visitors to wait for residents to come and collect them, or to wait for possible appointments with management of the building. The waiting area is comprised of a mixture of fixed and loose seating, and allows for various seating arrangements. Movable armrests, clear trafficable space and clear spaces adjacent to seats allow for users of all levels of mobility to have equal access to this area.

Specific detail items such as the reception counter and post boxes were identified as key elements and are designed in full detail.

The floor plan can be seen in Figure 187, indicating the general layout of the level, the wayfinding flooring strip and the patio areas.

The fire escape routes for the Lower Ground level (Figure 188) and Ground level (Figure 189) indicate the exits of the various fire escapes. Figure 190 indicates the service reticulation of the newly introduced service shafts to the main, existing service shaft.

The ceiling and lighting layout, as well as the specifications can be seen in Figure 191, and lighting calculations can be seen in Figure 192. The ceiling design also responds to the re-interpreted ceiling grid (c.f. 5.8), both in the designed ceiling element and in the application of the acoustic treatment and lay-in ceilings. The lighting fixtures were chosen for their simple design to not subtract from their purpose as additional wayfinding elements. The fixtures are installed to align with the wayfinding flooring strip to ease the navigation of the main circulation areas.

Social housing with interior public spaces

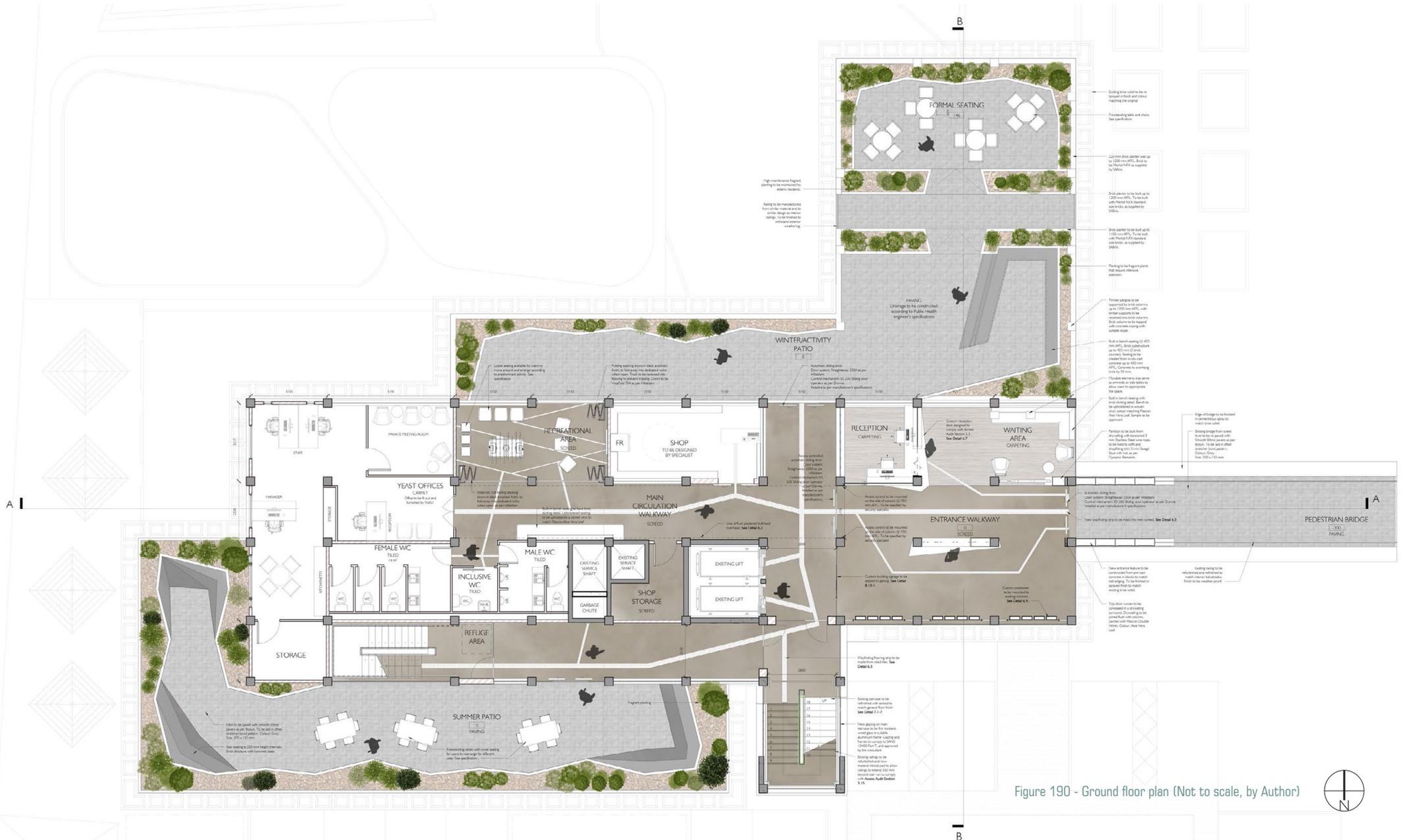


Figure 190 - Ground floor plan (Not to scale, by Author)

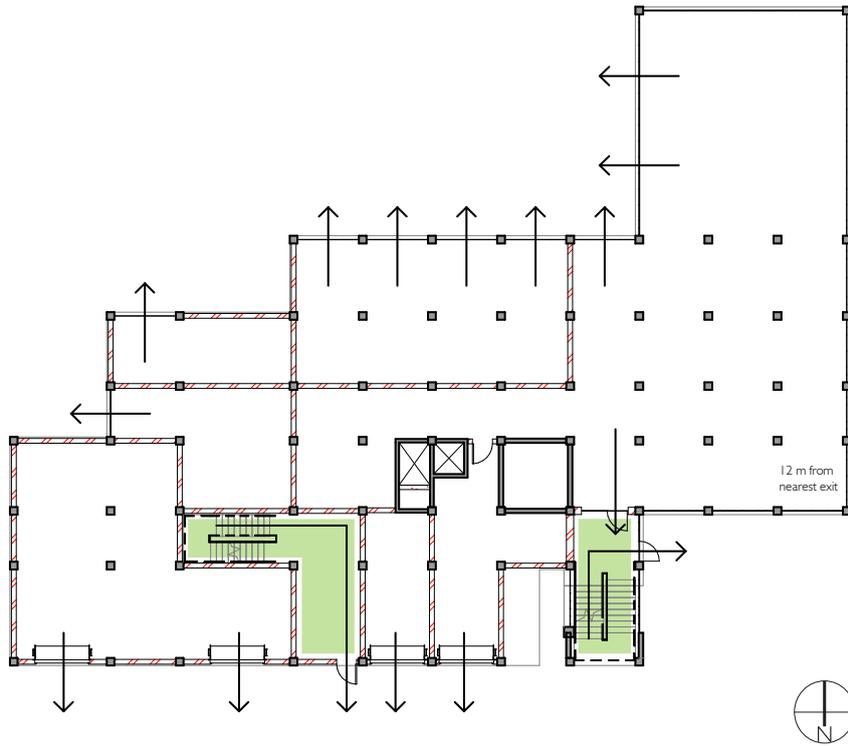


Figure 191 - Lower Ground floor plan - Fire (Not to scale, by Author)

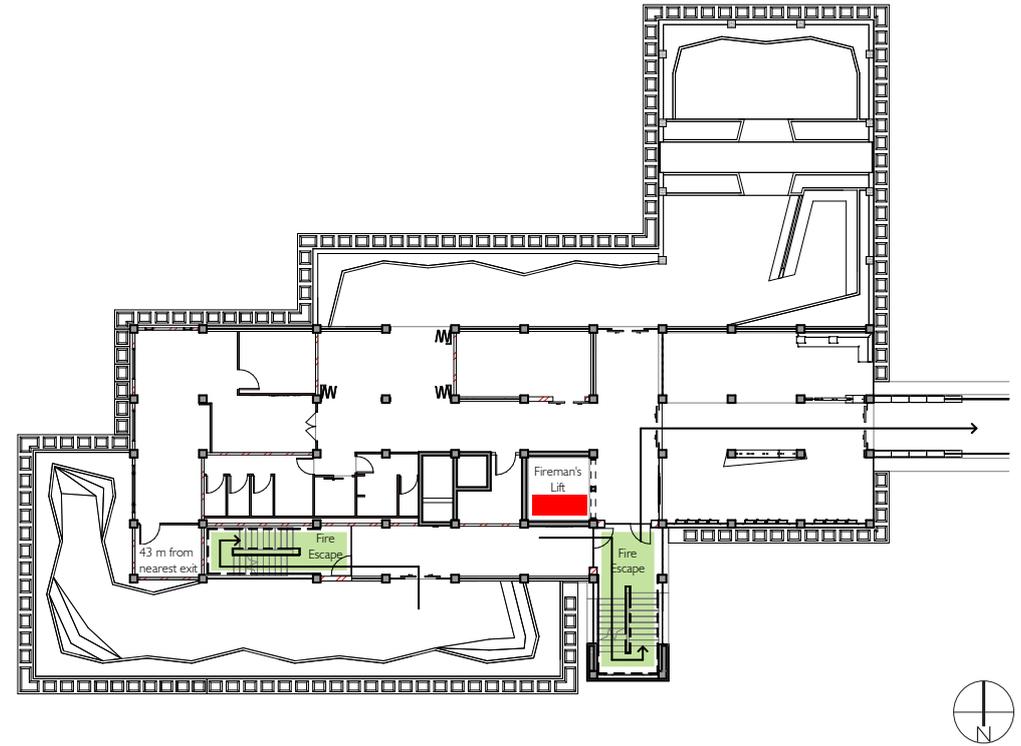


Figure 192 - Ground floor plan - Fire (Not to scale, by Author)

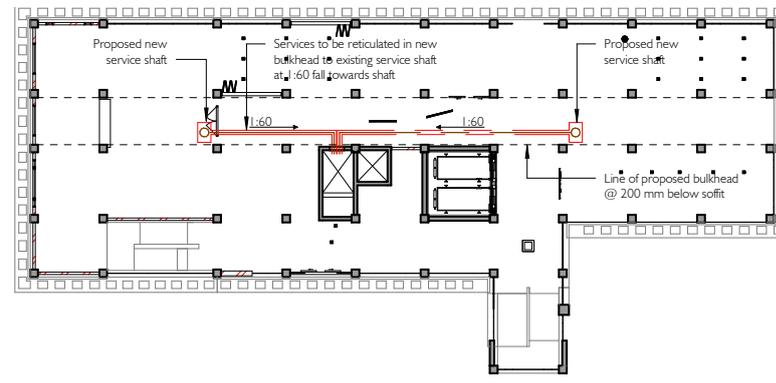


Figure 193 - Ground floor service reticulation (Not to scale, by Author)

Social housing with interior public spaces

Name	Image	Symbol	Specifications
Atrioza (Surface Mounted Downlight)			Lamp Type: 1 x E27, max 50 W Size: 120 (L) x 120 (W) x 130 (H) mm Warranty: 2 Years Supplier: LEDSC4 Code: IS-9558-CA-88
E27 Lamp			Lamp Type: E27 LED Lamp Power: 7 W Size: 60 Ø x 114 (H) mm Colour Temp: 3 000 K (Warm White) Lifetime: 30 000 hours Luminous Flux: 500 lx Supplier: Radiant Lighting Code: LED128
Mini (Recessed Downlight)			Lamp Type: 1 x GU10 Size: 100 (L) x 100 (W) x 140 (H) mm Warranty: 2 Years Supplier: LEDSC4 Code: DM-1106-N3-00
GU10 Lamp for Mini LED120			Lamp Type: GU10 LED Lamp Power: 6 W Size: 50 Ø x 56 (H) mm Colour Temp: 3 000 K (Warm White) Lifetime: 30 000 hours Luminous Flux: 450 lx Supplier: Radiant Lighting Code: LED120
Infinite (Linear Lighting Fixture)			Lamp Type: 2 x G5 Size: 1 200 (L) x 104 (W) x 105 (H) mm Warranty: 2 Years Supplier: LEDSC4 Code: AD-0701-N3-00
G5 Lamp for Infinite Fixture			Lamp Type: G5 Fluorescent Power: 13 W Size: 517 (L) x 16 Ø mm Colour Temperature: 4 200 K (Cool White) Lifetime: 6 000 hours Luminous Flux: 740 lx Supplier: Radiant Lighting Code: YFTL005
Custom Signage			Lamp Type: 2 x GU10s Size: 300 (L) x 300 (W) x 250 (H) mm To be custom made by appropriate contractor. See detail 8.12.
GU10s 4 Pin Lamp for Custom Signage			Lamp Type: GU10s 4 Pin Compact Fluorescent Power: 28 W Size: 195 (L) x 205 Ø mm Colour Temperature: 4 200 K (Cool White) Lifetime: 8 000 hours Luminous Flux: 2050 lx Supplier: Radiant Lighting Code: YFTL053
Custom Pendant			Lamp Type: E27 LED Lamp Size: 270 Ø x 330 (H) mm To be custom made to match previous pendants.
Lay-in ceiling			600x1200 mm Lay-in ceiling with recessed joints. Panels to be compound panels with acoustic absorptive material behind.
Acoustic Treatment			EcoPhon Focus B Tech acoustic ceiling to be glued directly onto soffit. Colour: White Frost
Ceiling Detail			See Detail 8.9

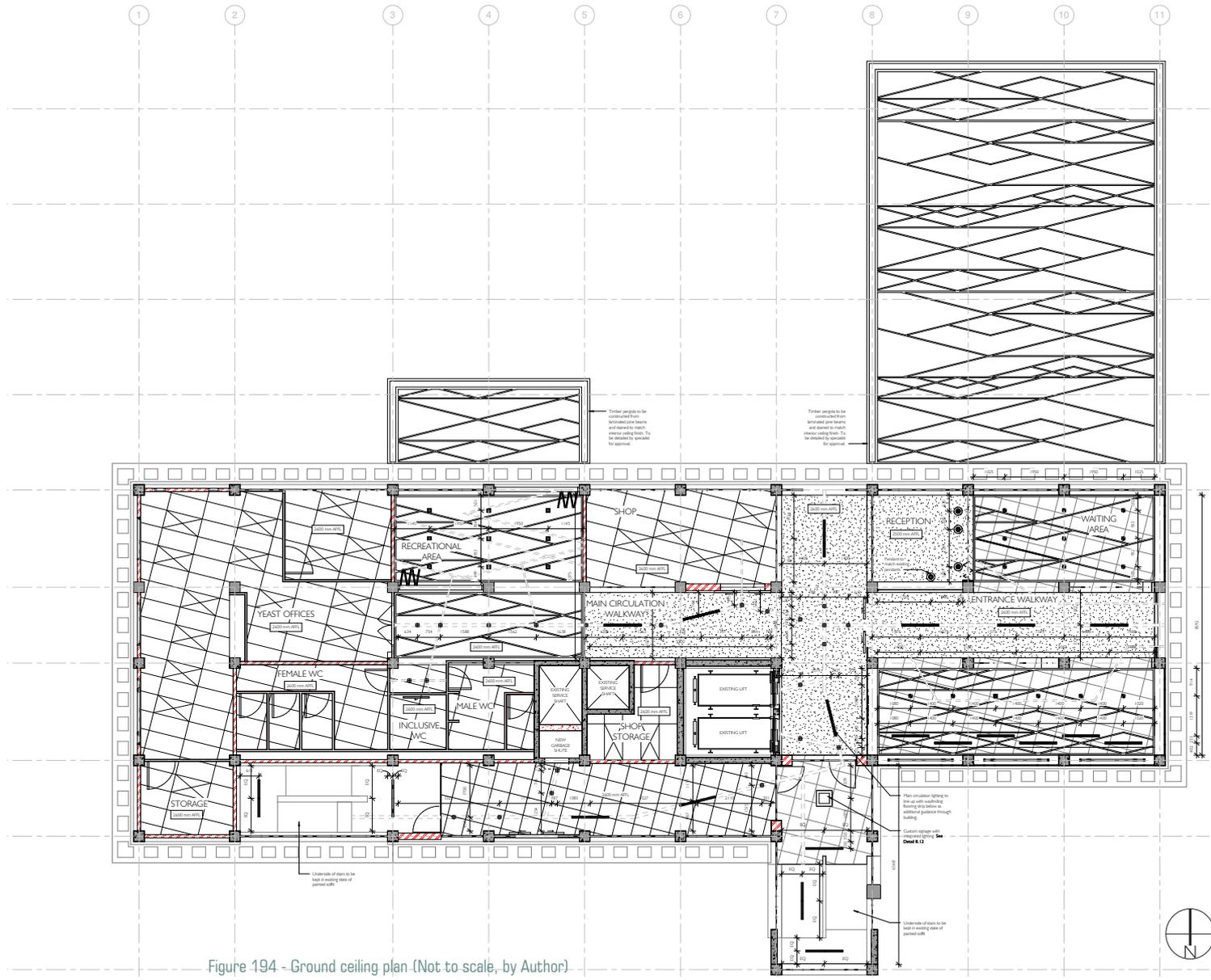


Figure 194 - Ground ceiling plan (Not to scale, by Author)

Entrance Area		Lift and Patio Circulation		Recreational Area		Main Circulation & Fire Escape	
Required Lux	500	Required Lux	200	Required Lux	500	Required Lux	200
Achieved Lux	634,8777	Achieved Lux	418	Achieved Lux	534,84	Achieved Lux	308,95
1 Luminous Flux	187100	1 Luminous Flux	37920	1 Luminous Flux	76050	1 Luminous Flux	36180
Type 1 - Surface Mounted Downlighter		Type 1 - Recessed Downlighter		Type 1 - Recessed Downlighter		Type 1 - Surface Mounted Linear	
Number of Luminaires	15	Number of Luminaires	8	Number of Luminaires	13	Number of Luminaires	4
Number of Lamps	15	Number of Lamps	8	Number of Lamps	13	Number of Lamps	8
Lumen per lamp	500	Lumen per lamp	500	Lumen per lamp	450	Lumen per lamp	740
Total	112500	Total	32000	Total	76050	Total	23680
Type 2 - Surface Linear		Type 2 - Recessed Linear		Room Index	1,053	Type 2 - Surface Mounted Downlighter	
Number of Luminaires	6	Number of Luminaires	2	Length	5,6	Number of Luminaires	5
Number of Lamps	12	Number of Lamps	4	Width	5,9	Number of Lamps	5
Lumen per lamp	740	Lumen per lamp	740	Height (Working plane height)	2,8	Lumen per lamp	500
Total	53280	Total	5920	LxW	33,04	Total	12500
Type 3 - Pendant		Room Index	1,53	L+W	11,5	Room Index	3,10
Number of Luminaires	4	Length	2,8	2 Utilisation Factor (UF) (from table)	0,35	Length	2,1
Number of Lamps	4	Width	8,6	3 Maintenance Factor (MF)	0,66389	Width	17,4
Lumen per lamp	500	Height (Working plane height)	2,8	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Height (Working plane height)	2,8
Total	8000	LxW	24,08	Lamp Survival Factor (LSF) (From table)	0,99	LxW	36,54
Type 4 - Recessed Linear		L+W	11,4	Luminaire Maintenance Factor (LMF) (From table)	0,82	L+W	19,5
Number of Luminaires	3	2 Utilisation Factor (UF) (from table)	0,4	Room surface maintenance Factor (RSMF) (From table)	0,94	2 Utilisation Factor (UF) (from table)	0,47
Number of Lamps	6	3 Maintenance Factor (MF)	0,66389	4 Working Plane	33,04	3 Maintenance Factor (MF)	0,66389
Lumen per lamp	740	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87
Total	13320	Lamp Survival Factor (LSF) (From table)	0,99	Lamp Survival Factor (LSF) (From table)	0,99	Lamp Survival Factor (LSF) (From table)	0,99
Room Index	1,579096	Luminaire Maintenance Factor (LMF) (From table)	0,82	Luminaire Maintenance Factor (LMF) (From table)	0,82	Luminaire Maintenance Factor (LMF) (From table)	0,82
Length	8,6	Room surface maintenance Factor (RSMF) (From table)	0,94	Room surface maintenance Factor (RSMF) (From table)	0,94	Room surface maintenance Factor (RSMF) (From table)	0,94
Width	9,1	4 Working Plane	24,08	4 Working Plane	24,08	Room surface maintenance Factor (RSMF) (From table)	0,94
Height (Working plane height)	2,8					4 Working Plane	36,54
LxW	78,26						
L+W	17,7						
2 Utilisation Factor (UF) (from table)	0,4						
3 Maintenance Factor (MF)	0,66389						
Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87						
Lamp Survival Factor (LSF) (From table)	0,99						
Luminaire Maintenance Factor (LMF) (From table)	0,82						
Room surface maintenance Factor (RSMF) (From table)	0,94						
4 Working Plane	78,26						

Formula:

$$\text{Average Illumination} = \frac{(\text{Total Luminous Flux} \times \text{Utilisation Factor} \times \text{Maintenance Factor})}{\text{Average Working Plane}}$$

Table 2 - Lighting calculations for ground floor

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Figure 195 - Night Rendering of reception area (by Author)

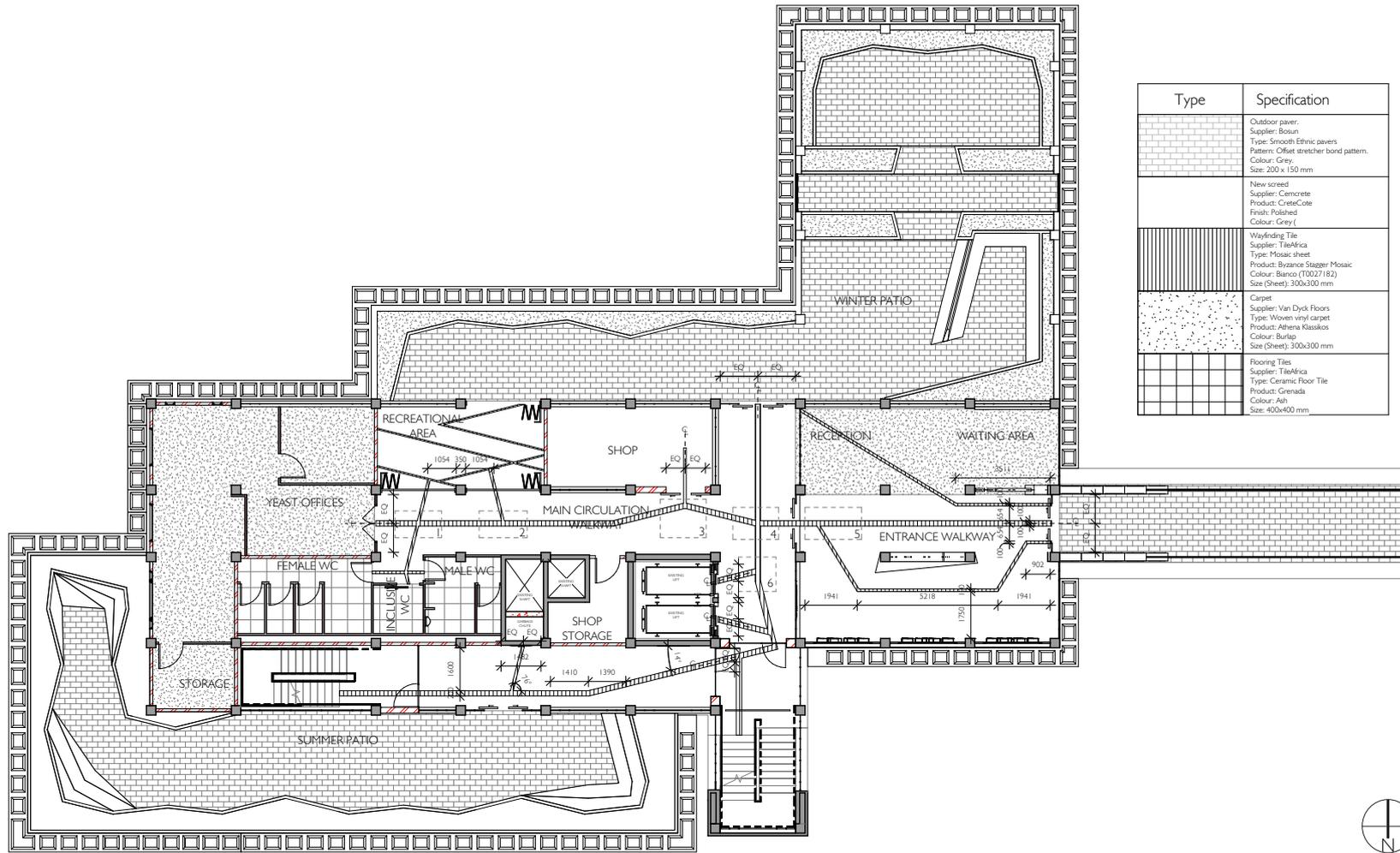


Figure 196 - Ground floor floor finishes layout (by Author, not to scale)

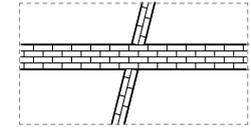


Figure 197 - Floor Finish Detail 1 (not to scale)

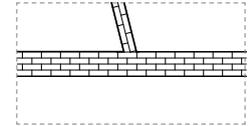


Figure 198 - Floor Finish Detail 2 (not to scale)

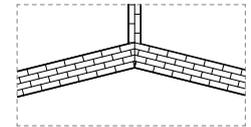


Figure 199 - Floor Finish Detail 3 (not to scale)

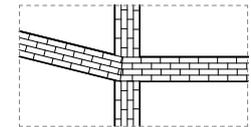


Figure 200 - Floor Finish Detail 4 (not to scale)

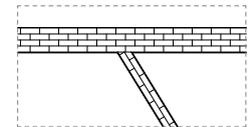


Figure 201 - Floor Finish Detail 5 (not to scale)

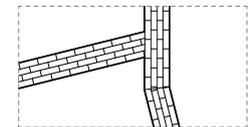


Figure 202 - Floor Finish Detail 6 (not to scale)

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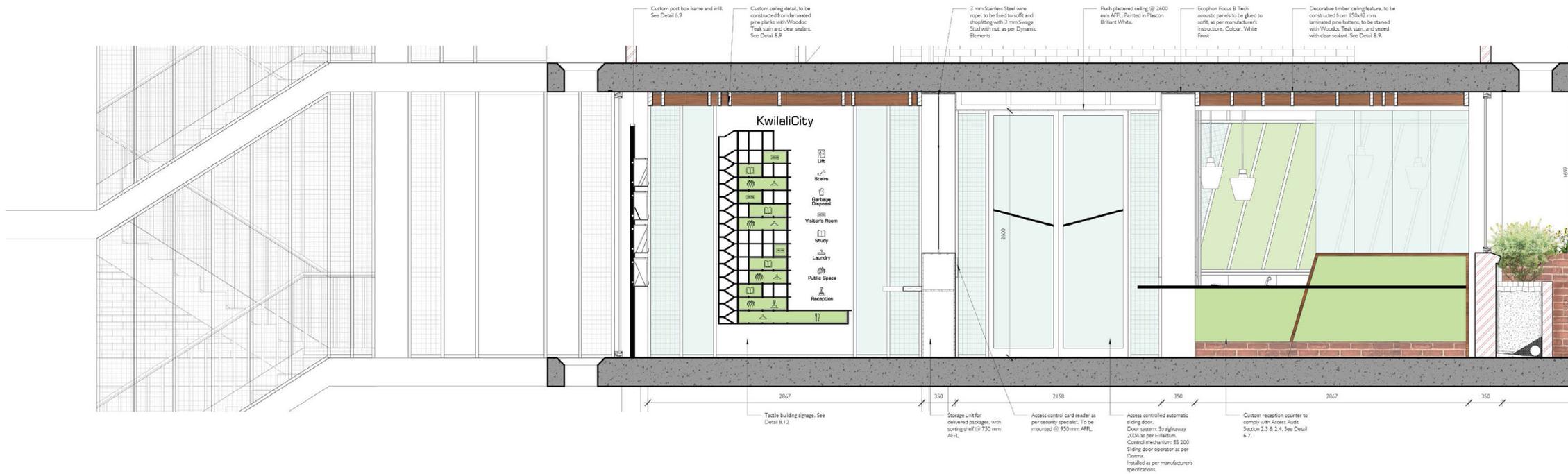


Figure 203 - Ground Floor Section A-A (, by Author, not to scale)

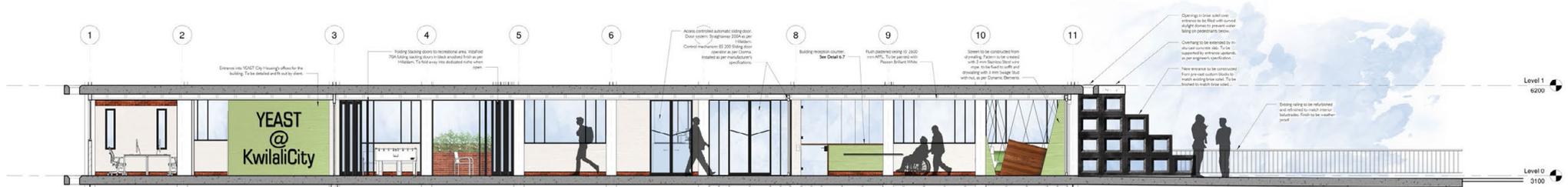


Figure 204 - Ground Floor Section B-B (, by Author, not to scale)



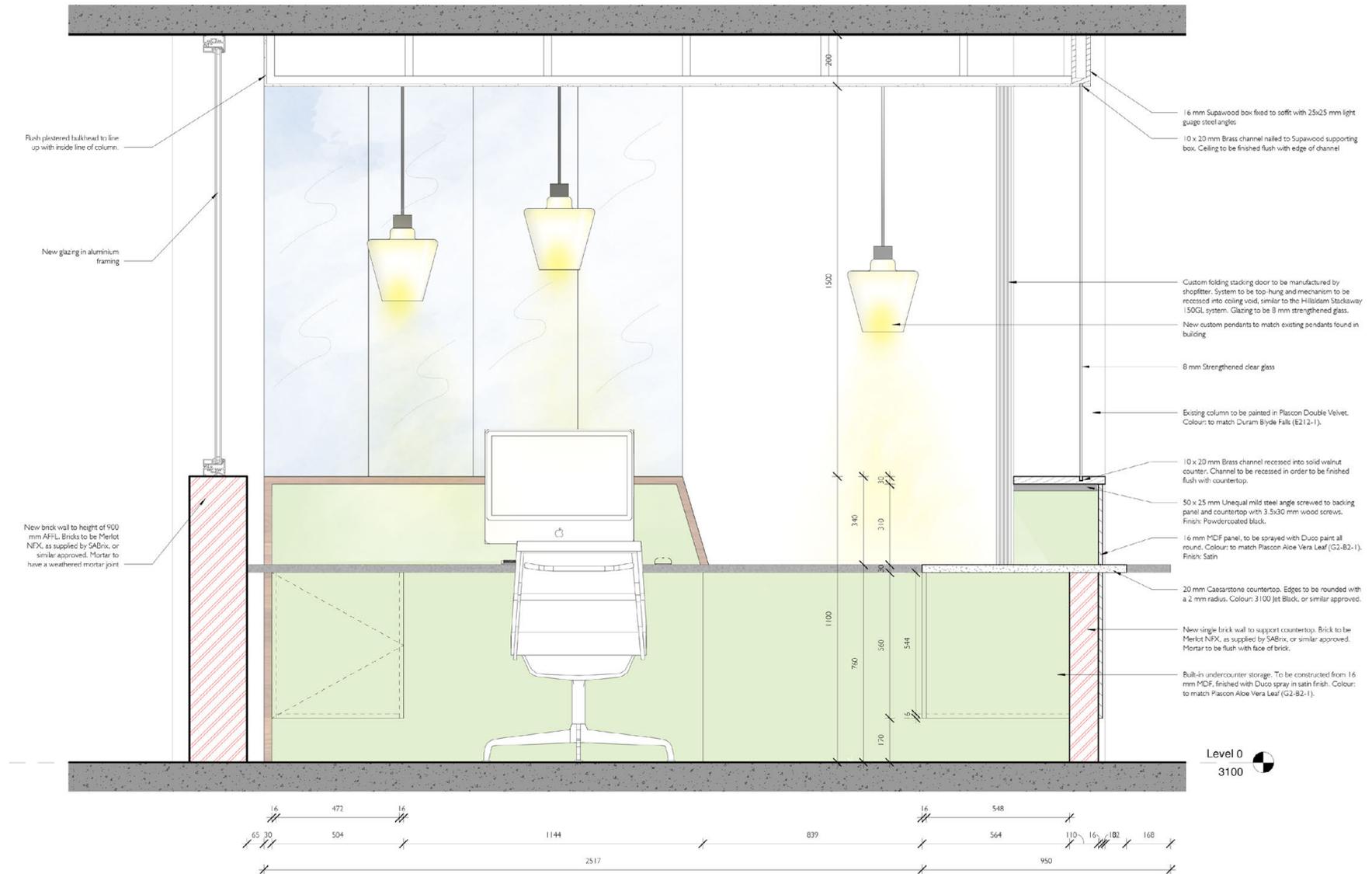


Figure 207 - Section A-A of counter, not to scale (by Author)

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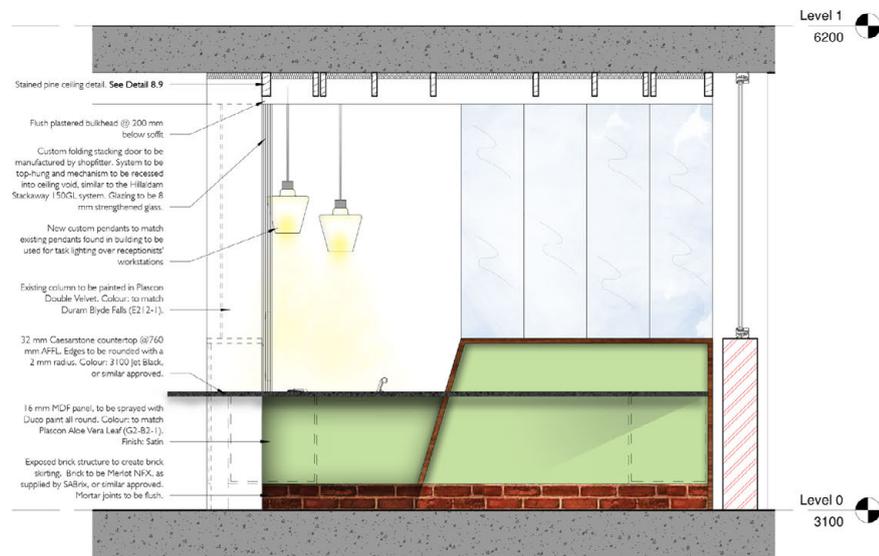


Figure 208 - Front Elevation of counter, not to scale (by Author)

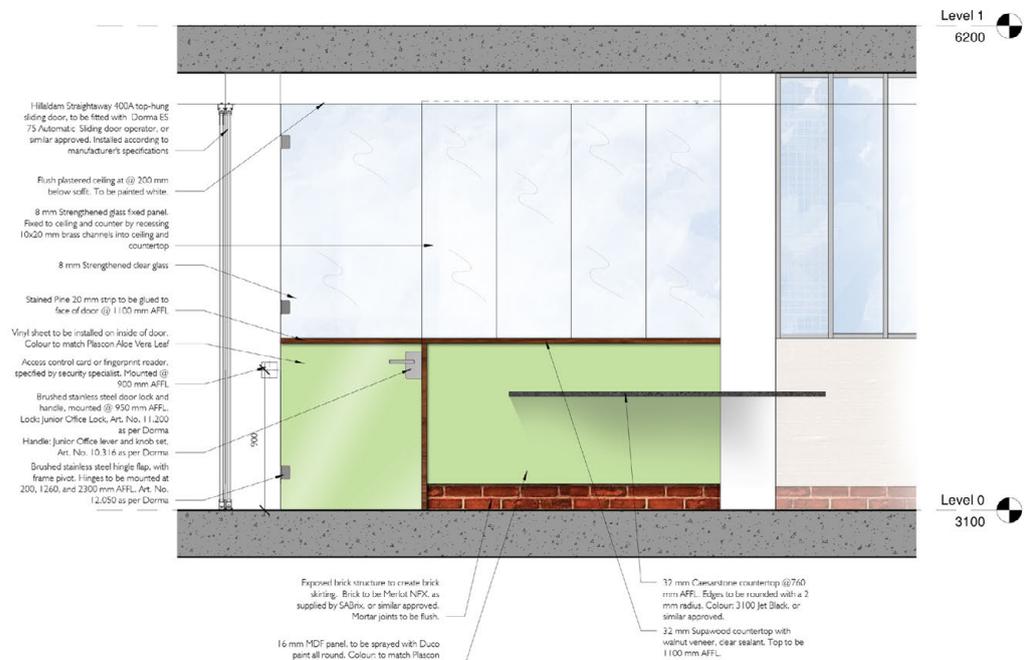


Figure 209 - Side Elevation of counter, not to scale (by Author)



Wedge Medium Back Office Chair
Supplier: Office Furniture Direct
Colour: Black base, black seat, green back



Moru Accent Chair
Supplier: Seating
Code: 99907
Colour: Oak legs with Chocolate Monocoat stain.
Fabric: Pea Green Pletha (OPL-233)

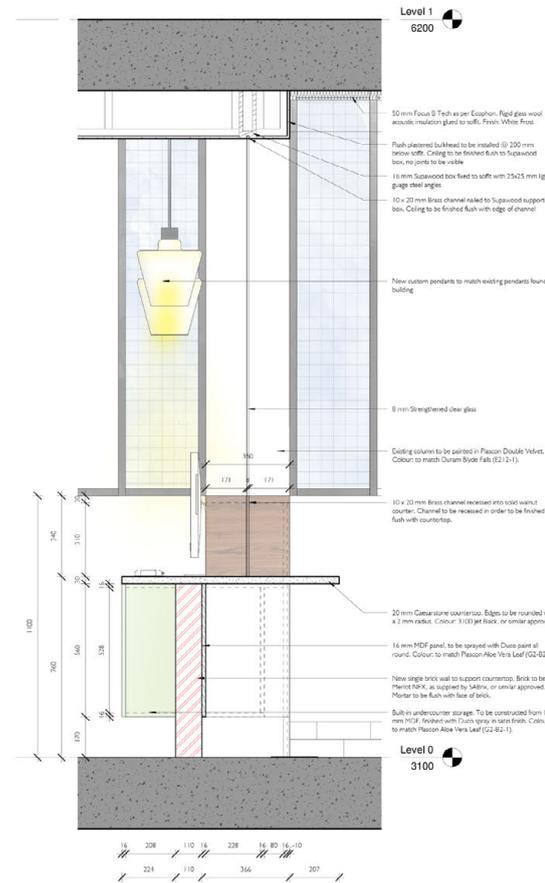


Figure 210 - Section B-B of counter, not to scale (by Author)

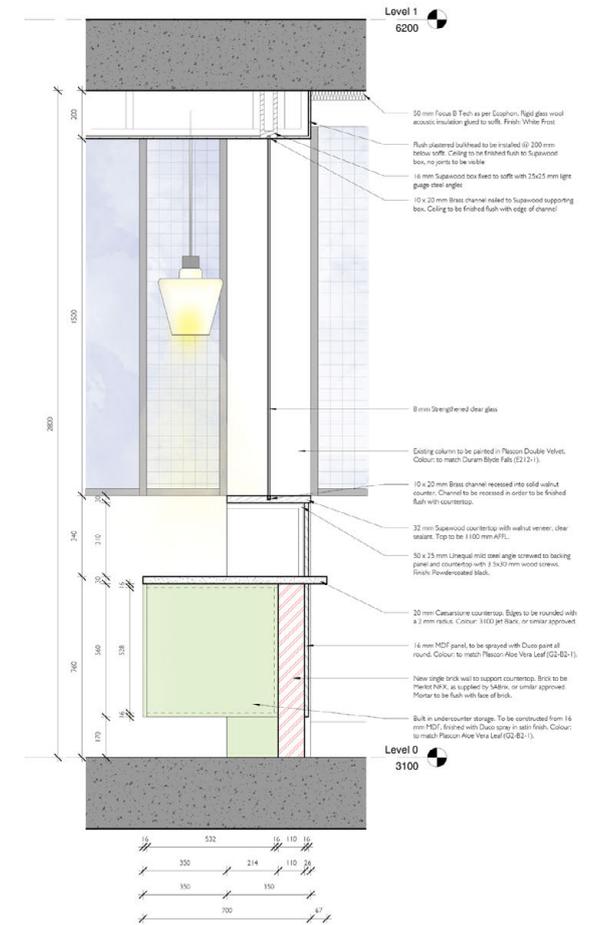


Figure 211 - Section C-C of counter, not to scale (by Author)

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New screed
Supplier: Cemcrete
Product: CreteCote
Finish: Polished
Colour: Grey
Thickness: 15 mm

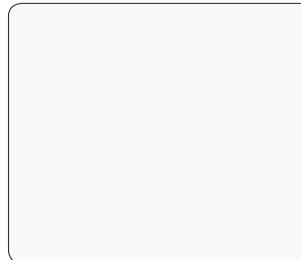


Wayfinding Tile
Supplier: TileAfrica
Type: Mosaic sheet
Product: Byzance Stagger Mosaic
Colour: Bianco (T0027182)
Size (Sheet): 300x300 mm



Carpet
Supplier: Van Dyck Floors
Type: Woven vinyl carpet
Product: Athena Klassikos
Colour: Burlap
Size (Sheet): 300x300 mm

Neutral Colour 1
Supplier: Plascon
Product: Determined by use
Colour: To march Duram Blyde Falls
Code: E212-1



Accent Paint Colour
Supplier: Plascon
Product: Determined by use
Colour: Aloe Vera Leaf
Code: G2-B2-1



Feature element timber
Type: Walnut
Sealant: Clear



Reconstituted Stone Counter
Supplier: Caesarstone
Colour: Jet Black
Code: 3100



Proposed brick for intervention
Supplier: SABrix
Type: Merlot Non Face Brick Extra
Size: 220x108x70 mm



New wired glass glazing
Supplier: National Glass Distribution
Type: Laminated Georgian Wire Plate Clear Glass
Rating: 120 Minutes

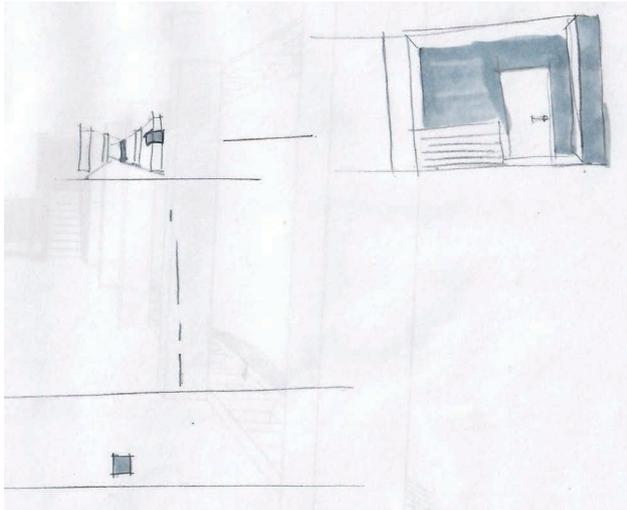


Figure 212 - Diagram illustrating the connection of appropriation of post box, signage, and front wall of unit (by Author)



Figure 213 - Proposed colour range that residents can choose from for spaces and elements they can appropriate (by Author)

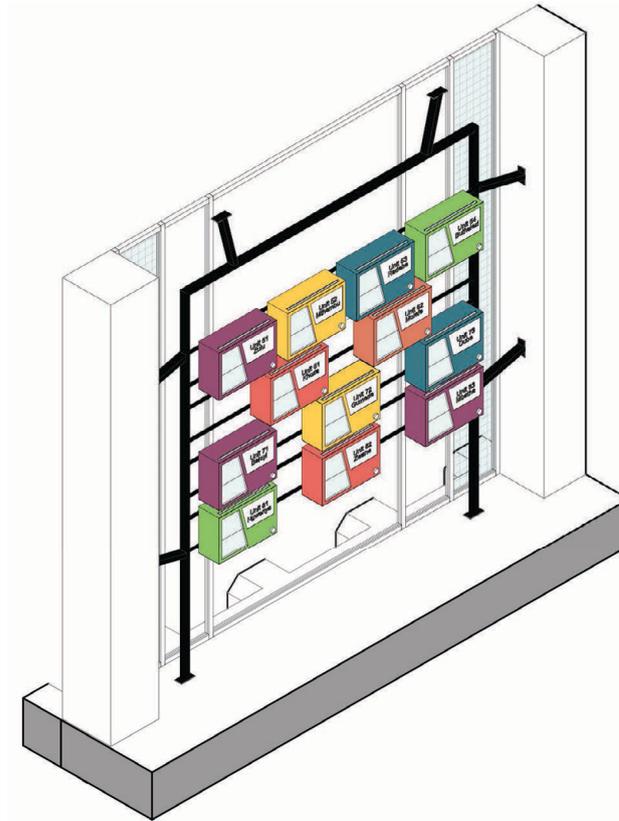


Figure 214 - Axonometric of single bay of post boxes, indicating appropriated colours (by Author)

5.16.2 Post boxes (Detail 6.9)

After a consideration of the theoretical guidelines, it was decided to introduce a series of post boxes for use by the residents of the building. The layout of the units in the levels above are purely tenant layouts (as proposed by the project), and allow for different amounts of units per level. This necessitates a post box design that can adapt to the amount of units per floor. The maximum amount of boxes are shown in Figure 214, and the appropriated bay is shown in Figure 212.

The post boxes have been chosen as a detail investigation as it provides an opportunity for appropriation. A post box is a somewhat private element in a highly public space, thus creating a strong visual representation of the resident in an area that is accessible to all. Residents will be allowed to appropriate the post boxes by painting their post box in the same colour as their unit's front wall. This is a reflection of the residents' identity and encourages attachment.

The proposal to provide a post box as its only function is limited and not as relevant in today's life as it was some years ago. However, there is still a need for a controlled area for mail delivery. Secondly, considering the need for interventions that allow for appropriation, a post box is a small intervention with a large impact. Placing the post boxes in a publically accessible place also allows for other residents to leave messages to friends or acquaintances. The small glazed opening allows residents to see whether they have mail and need to make a detour, or if they can continue straight to their units.

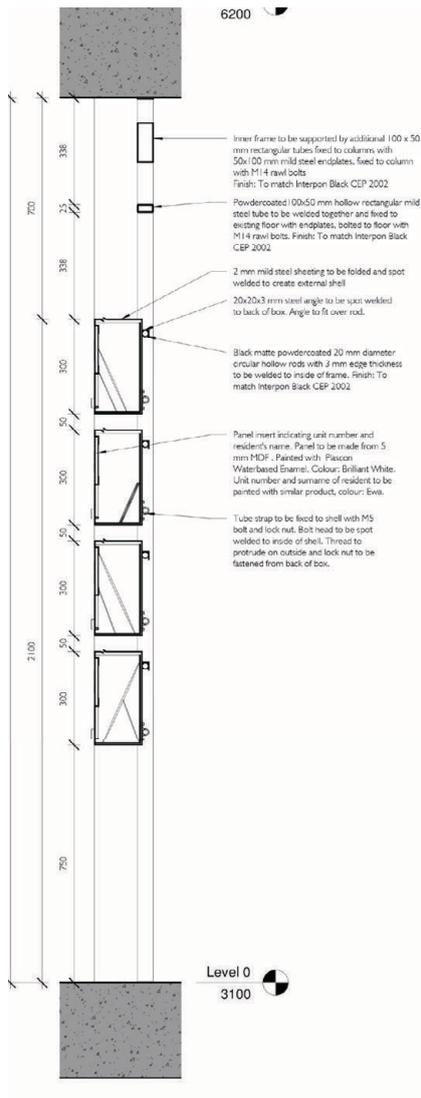


Figure 217 - Section A-A of mailbox bay, not to scale (by Author)

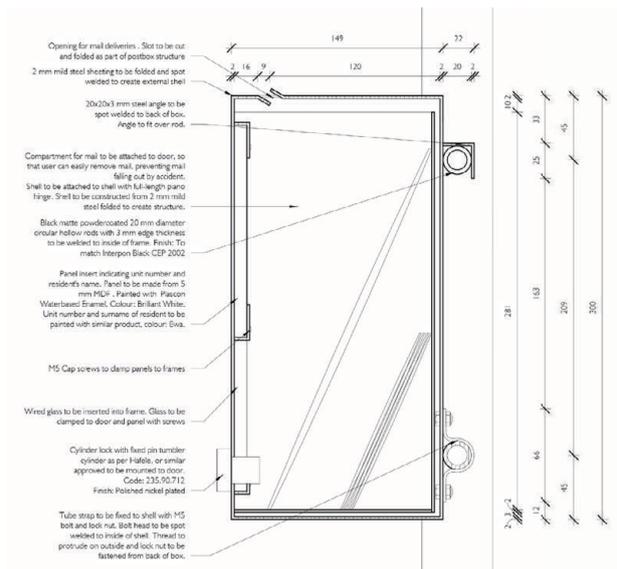


Figure 218 - Section B-B of single mailbox, not to scale (by Author)

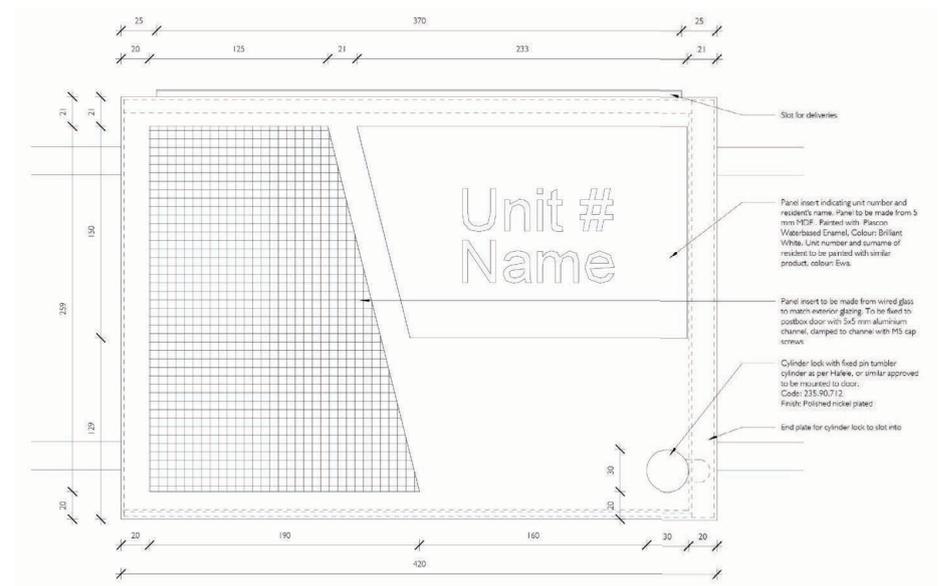


Figure 219 - Front view of single mailbox, not to scale (by Author)

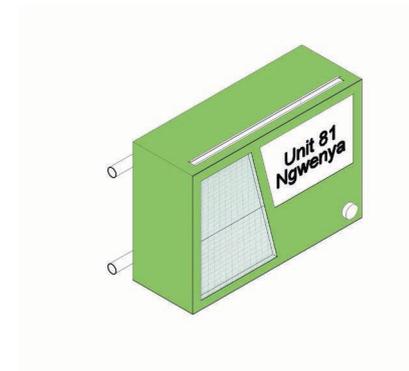


Figure 220 - Axonometric of single, appropriated mailbox, not to scale (by Author)

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Figure 221 - Rendered view of reception counter (by Author)



Figure 222 - Rendered view of postboxes (by Author)

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5.16.3 Vertical Circulation (Detail 7.1)

The Access Audit defined various requirements for the vertical circulation. The current staircase was built before the current SANS regulations were implemented. Adaptations to the balustrade and railing, as well as the floor finishes were necessary.

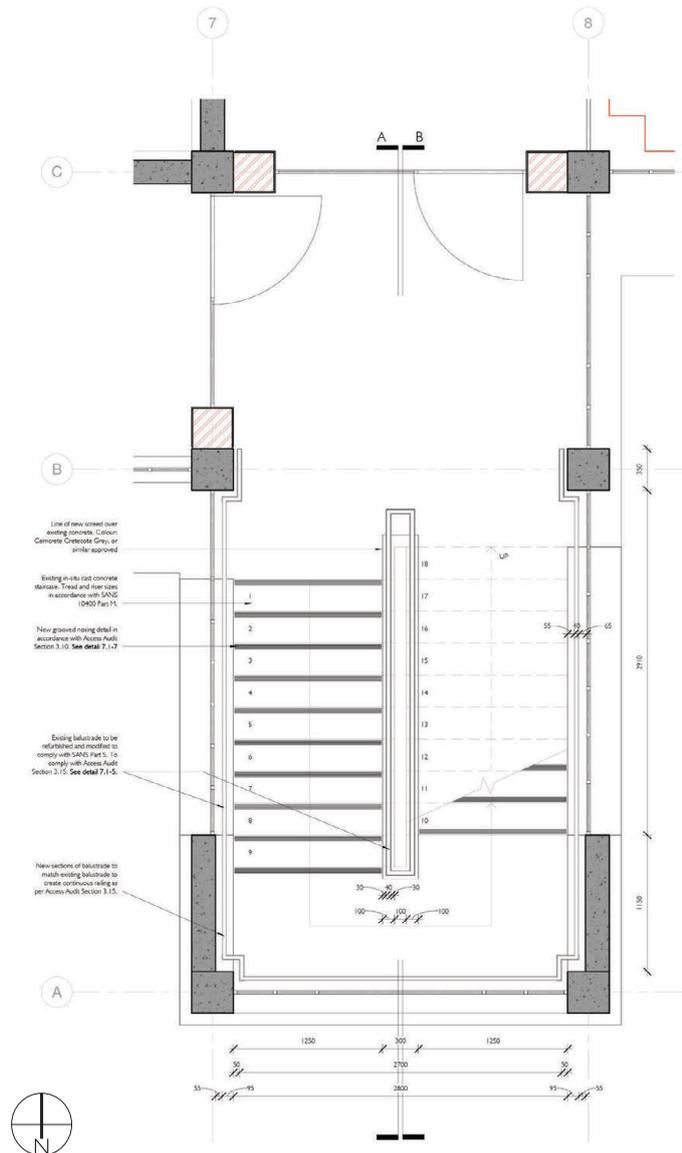


Figure 223 - Plan of main staircase (by Author)

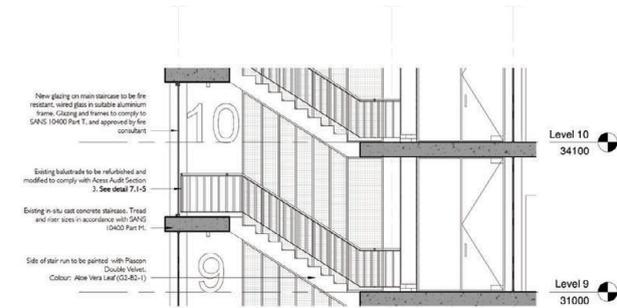


Figure 224 - Section A-A detail of single flight (by Author)

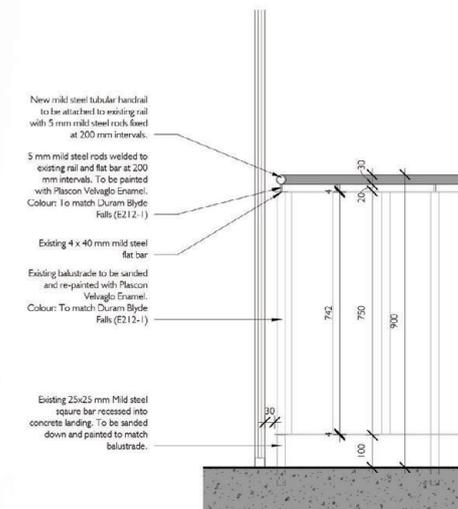


Figure 225 - Detail of balustrade and railing (by Author)



Figure 226 - Section A-A of entire staircase (by Author, not to scale)

Figure 227 - Section B-B of entire staircase (by Author, not to scale)

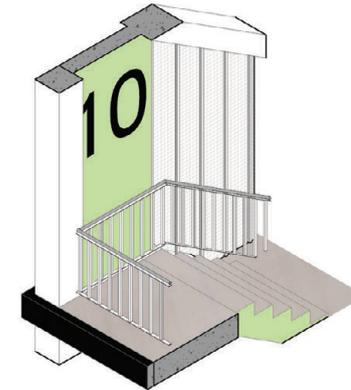


Figure 228 - Axonometric of single landing indicating colour and new railing (by Author, not to scale)

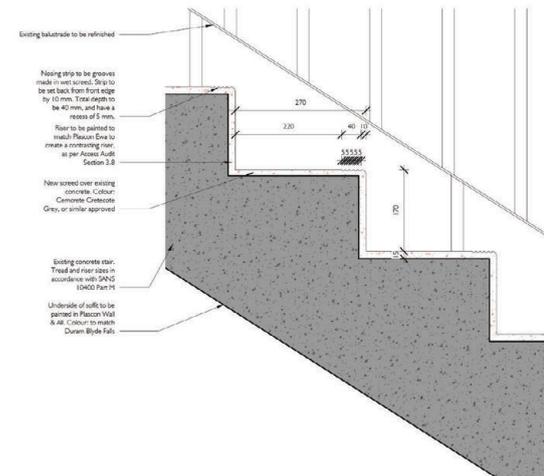


Figure 229 - Detail of stair tread and nosing strip (by Author, not to scale)

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5.17 Public Spaces

As discussed previously, a unified design was necessary to apply a consistent design language and approach to all public spaces in the building. These areas are high-traffic, and require highly robust materials that require low maintenance. There are specific elements that repeat throughout the public spaces, such as the wayfinding flooring strips, as well as the more decorative wall details, that serve to identify public spaces as such.

A recognisable ceiling feature was also developed, which will be applied in all public spaces as a visual connection between all public spaces.

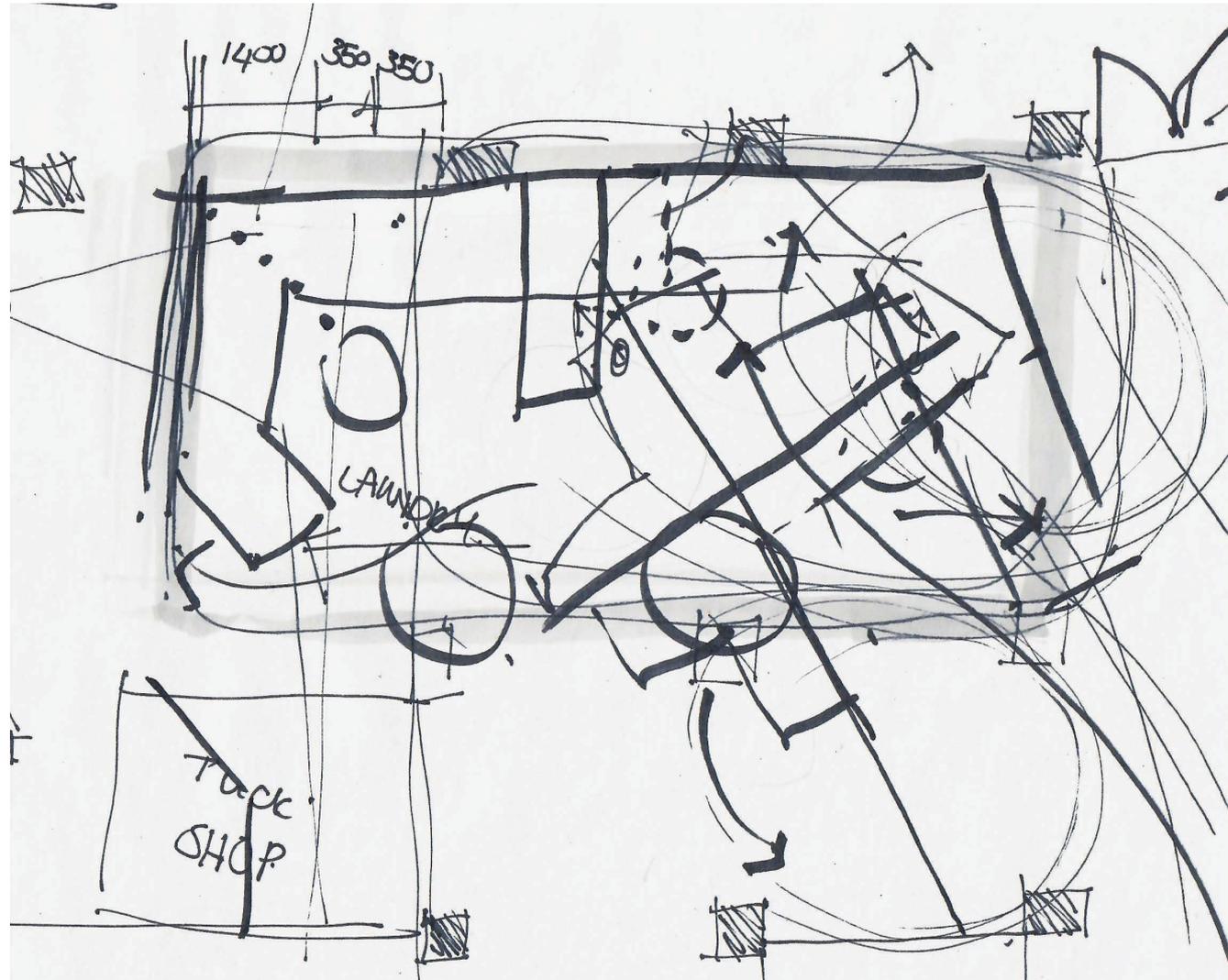


Figure 230 - Development of public seating (by Author)

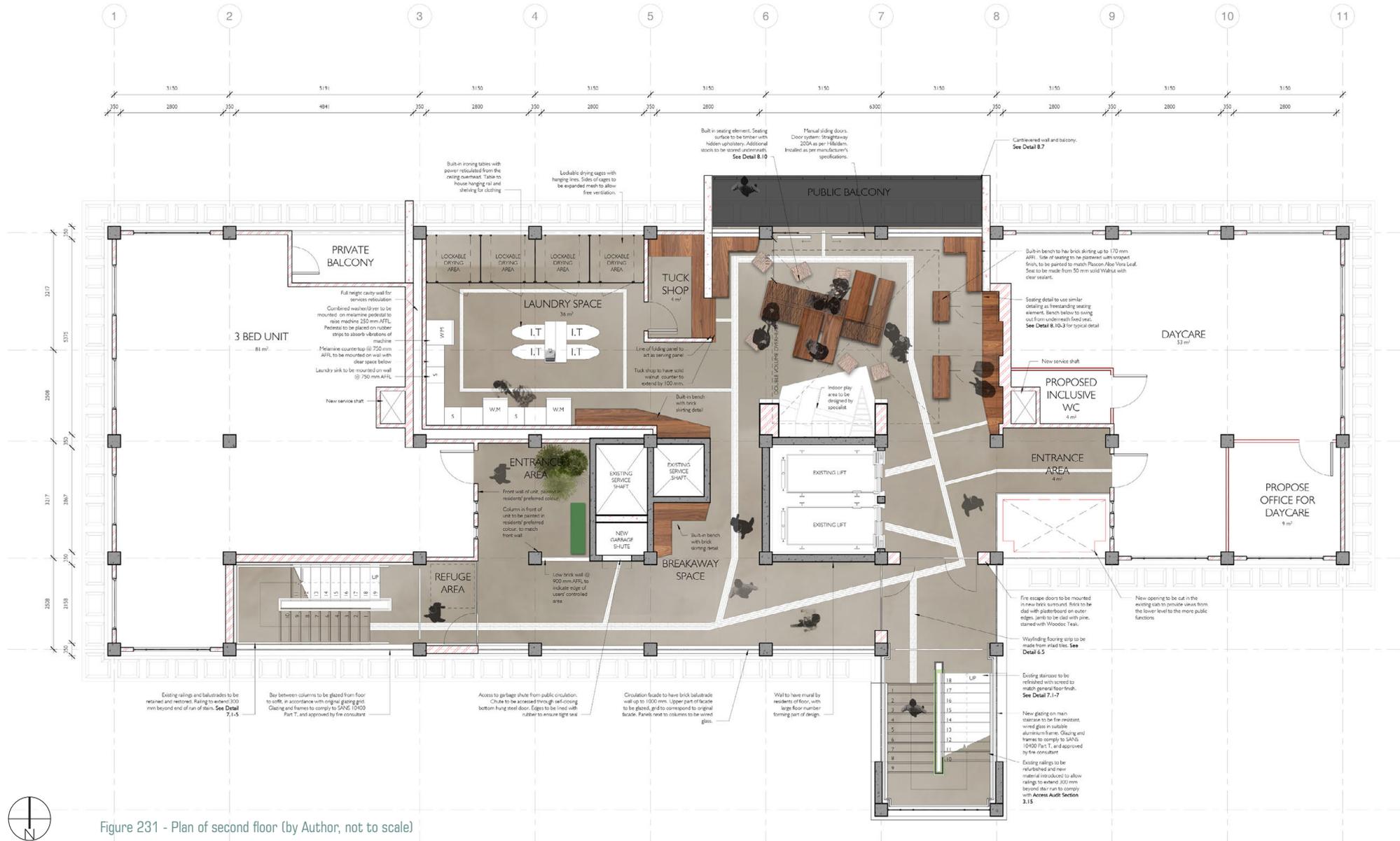


Figure 231 - Plan of second floor (by Author, not to scale)

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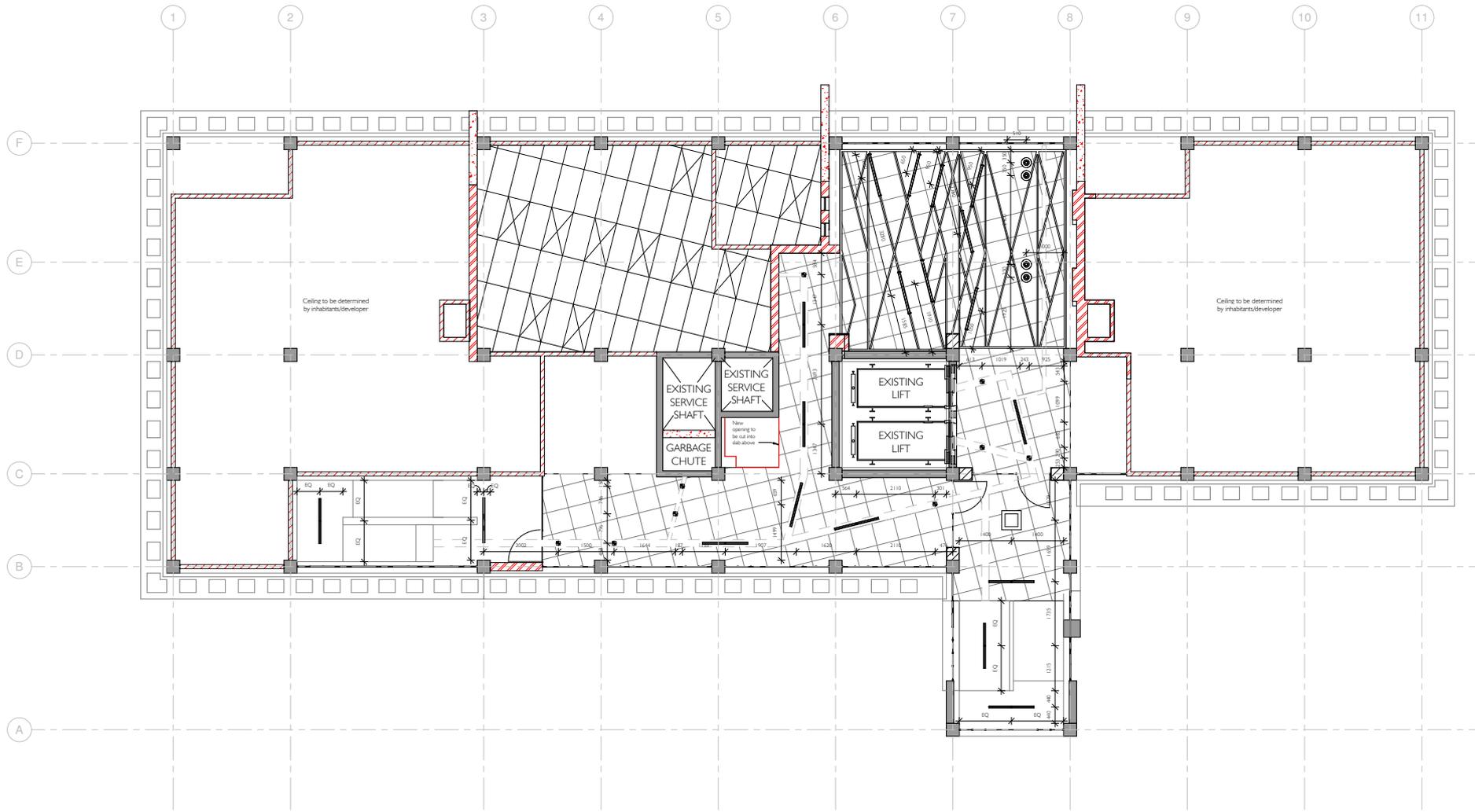


Figure 232 - Third floor ceiling and lighting layout (by Author, not to scale)

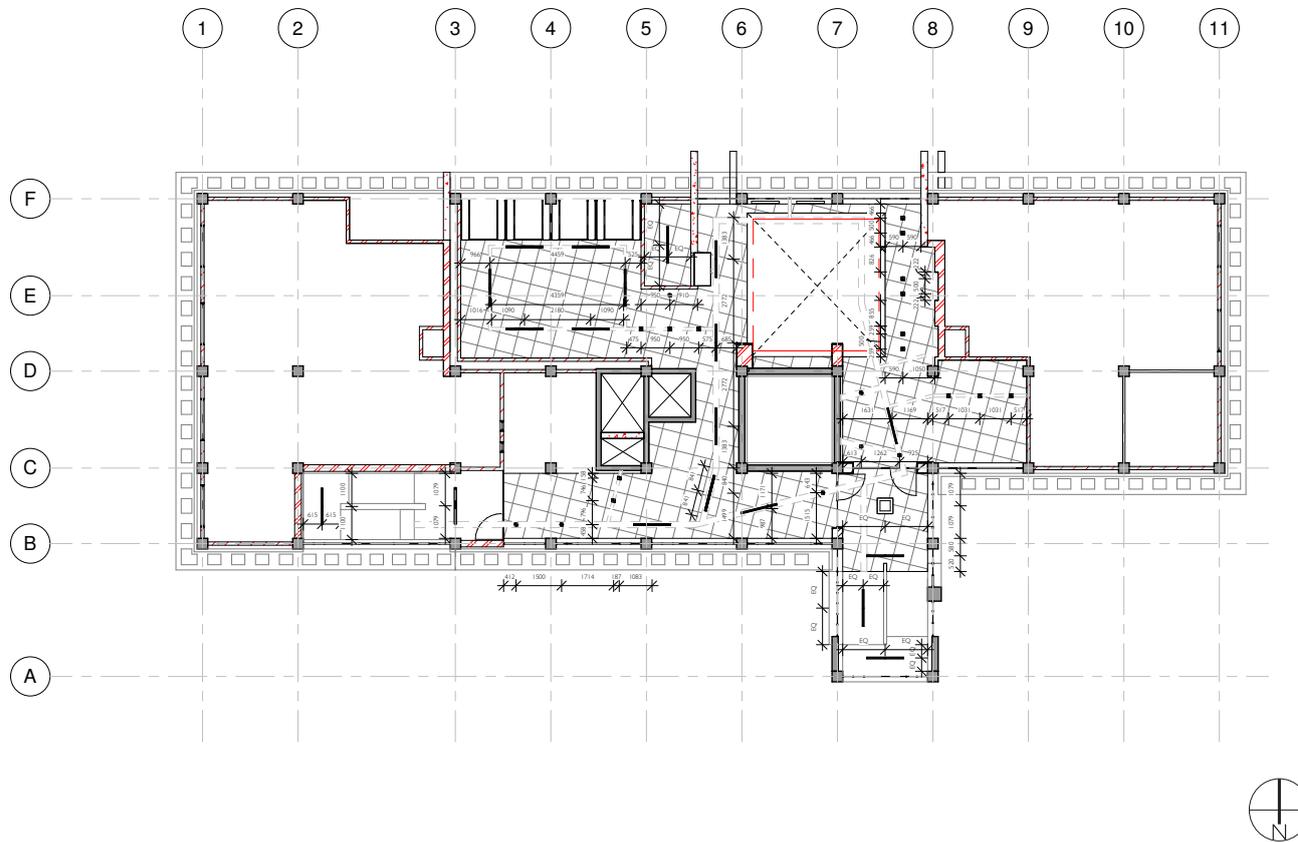


Figure 233 - Second floor ceiling and lighting layout (by Author, not to scale)

Name	Image	Symbol	Specifications
Afrodita (Surface Mounted Downlight)			Lamp Type: 1 x E27, max 30 W Size: 120(L) x 120 (W) x 130 (H) mm Warranty: 2 Years Supplier: LEDSC4 Code: IS-9558-CA-B8
E27 Lamp			Lamp Type: E27 LED Lamp Power: 7 W Size: 60 Ø x 114 (H) mm Colour Temp: 3 000 K (Warm White) Lifespan: 30 000 hours Luminous Flux: 500 lx Supplier: Radiant Lighting Code: LED128
GU10 Lamp for Mini: LED120			Lamp Type: GU10 LED Lamp Power: 7 W Size: 50(L) x 56 (H) mm Colour Temp: 3 000 K (Warm White) Lifespan: 30 000 hours Luminous Flux: 450 lx Supplier: Radiant Lighting Code: LED120
Infinite (Linear Lighting Fixture)			Lamp Type: 2 x G5 Size: 1 200 (L) x 104 (W) x 105 (H) mm Warranty: 2 Years Supplier: LEDSC4 Code: AD-0701-N3-00
G5 Lamp for Infinite Fixture			Lamp Type: G5 Fluorescent Power: 13 W Size: 517 (L) x 16 Ø mm Colour Temperature: 4 200 K (Cool White) Lifespan: 6 000 hours Luminous Flux: 740 lx Supplier: Radiant Lighting Code: YFTL005
Custom Signage			Lamp Type: 2 x G10q 4pin Size: 500 (L) x 300 (W) x 250 (H) mm To be custom made by appropriate craftsman. See detail 8.12.
G10q 4 Pin Lamp for Custom Signage			Lamp Type: G10q 4 Pin Compact Fluorescent Power: 28 W Size: 195 (L) x 205 Ø mm Colour Temperature: 4 200 K (Cool White) Lifespan: 8 000 hours Luminous Flux: 2050 lx Supplier: Radiant Lighting Code: YFTL003
Custom Pendant			Lamp Type: E27 LED Lamp Size: 270 Ø x 330 (H) mm To be custom made to match previous pendants.
Lay-in ceiling			600x1200 mm Lay-in ceiling with recessed joints. Panels to be compound panels with acoustic absorptive material behind
Acoustic Treatment			Ecophon Focus B Tech acoustic ceiling to be glued directly onto soffit. Colour: White Frost
Ceiling Detail			See Detail 8.9

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Figure 234 - Rendering of night scene in public space (by Author)

Public Space		Intimate Seating		Main Circulation & Fire Escape		Laundry Area	
Required Lux	500	Required Lux	200	Required Lux	200	Required Lux	500
Achieved Lux	585	Achieved Lux	337	Achieved Lux	308,95	Achieved Lux	511
1 Luminous Flux	53280	1 Luminous Flux	18000	1 Luminous Flux	36180	1 Luminous Flux	57780
Type 1 - Suspended Linear		Type 1 - Recessed Downlighter		Type 1 - Surface Mounted Linear		Type 1 - Surface Mounted Linear	
Number of Luminaires	6	Number of Luminaires	6	Number of Luminaires	4	Number of Luminaires	6
Number of Lamps	12	Number of Lamps	6	Number of Lamps	8	Number of Lamps	12
Lumen per lamp	740	Lumen per lamp	500	Lumen per lamp	740	Lumen per lamp	740
Total	53280	Total	18000	Total	23680	Total	53280
Room Index	0,5	Room Index	1,05	Type 2 - Surface Mounted Downlighter		Type 2 - Surface Mounted Downlighter	
Length	4,5	Length	2,1	Number of Luminaires	5	Number of Luminaires	3
Width	4,7	Width	5,9	Number of Lamps	5	Number of Lamps	3
Height (Working plane height)	4,7	Height (Working plane height)	2,8	Lumen per lamp	500	Lumen per lamp	500
LxW	21,15	LxW	12,39	Total	12500	Total	4500
L+W	9,2	L+W	8	Room Index	3,10	Room Index	1,2
2 Utilisation Factor (UF) (from table)	0,35	2 Utilisation Factor (UF) (from table)	0,35	Length	2,1	Length	5
3 Maintenance Factor (MF)	0,66389	3 Maintenance Factor (MF)	0,66389	Width	17,4	Width	6
Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Height (Working plane height)	2,8	Height (Working plane height)	2,1
Lamp Survival Factor (LSF) (From table)	0,99	Lamp Survival Factor (LSF) (From table)	0,99	LxW	36,54	LxW	30
Luminaire Maintenance Factor (LMF) (From table)	0,82	Luminaire Maintenance Factor (LMF) (From table)	0,82	L+W	19,5	L+W	11
Room surface maintenance Factor (RSMF) (From table)	0,94	Room surface maintenance Factor (RSMF) (From table)	0,94	2 Utilisation Factor (UF) (from table)	0,47	2 Utilisation Factor (UF) (from table)	0,47
4 Working Plane	21,15	4 Working Plane	12,	3 Maintenance Factor (MF)	0,66389	3 Maintenance Factor (MF)	0,66389
				Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87	Lamp Lumen Maintenance Factor (LLMF) (From table)	0,87
				Lamp Survival Factor (LSF) (From table)	0,99	Lamp Survival Factor (LSF) (From table)	0,99
				Luminaire Maintenance Factor (LMF) (From table)	0,82	Luminaire Maintenance Factor (LMF) (From table)	0,82
				Room surface maintenance Factor (RSMF) (From table)	0,94	Room surface maintenance Factor (RSMF) (From table)	0,94
				4 Working Plane	36,54	4 Working Plane	30

Table 3 - Lighting calculations of public space (by Author)

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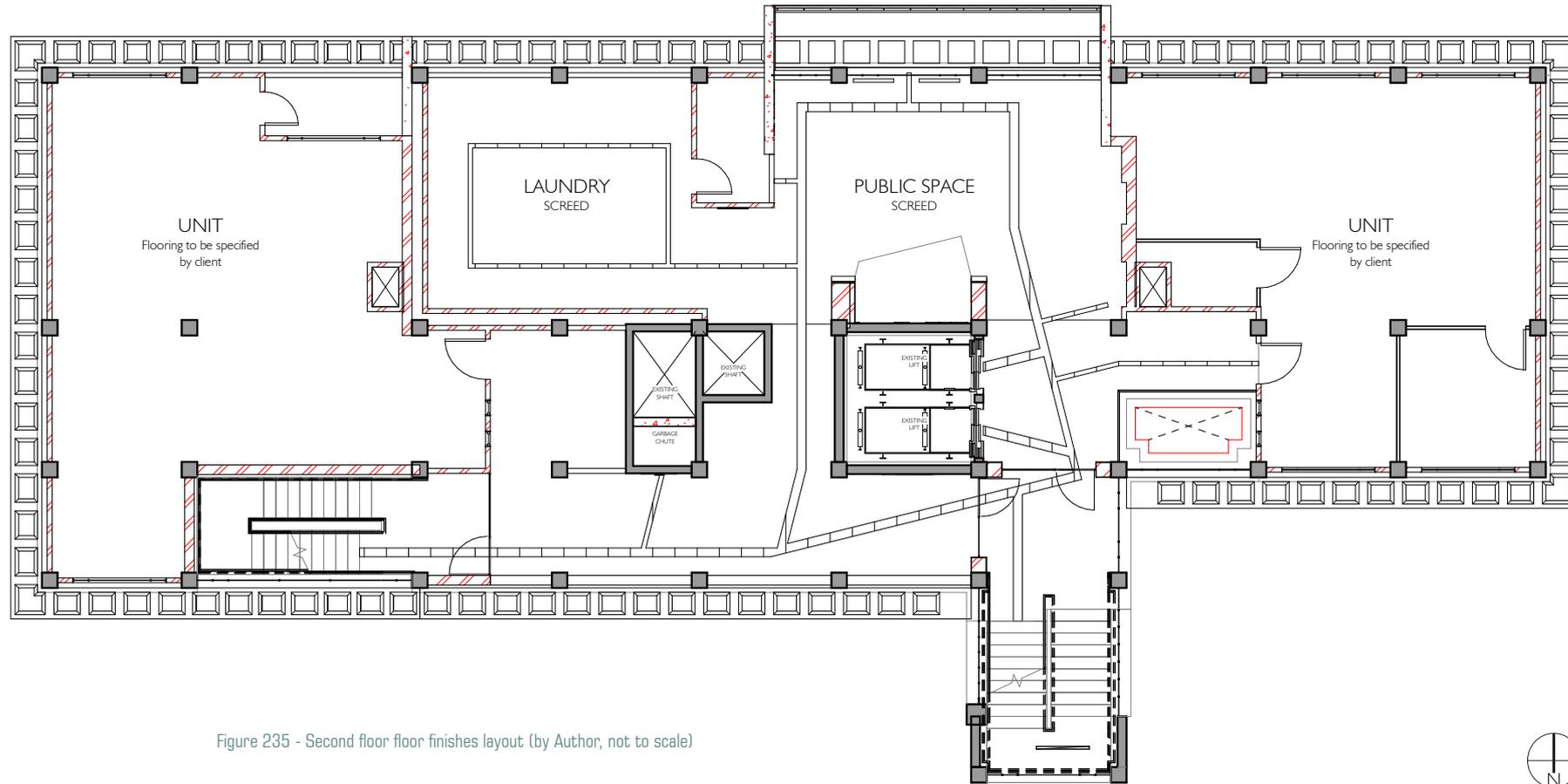


Figure 235 - Second floor floor finishes layout (by Author, not to scale)

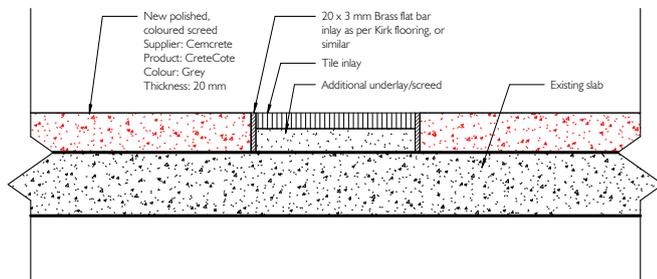


Figure 236 - Flooring inset strip detail (by Author, not to scale)

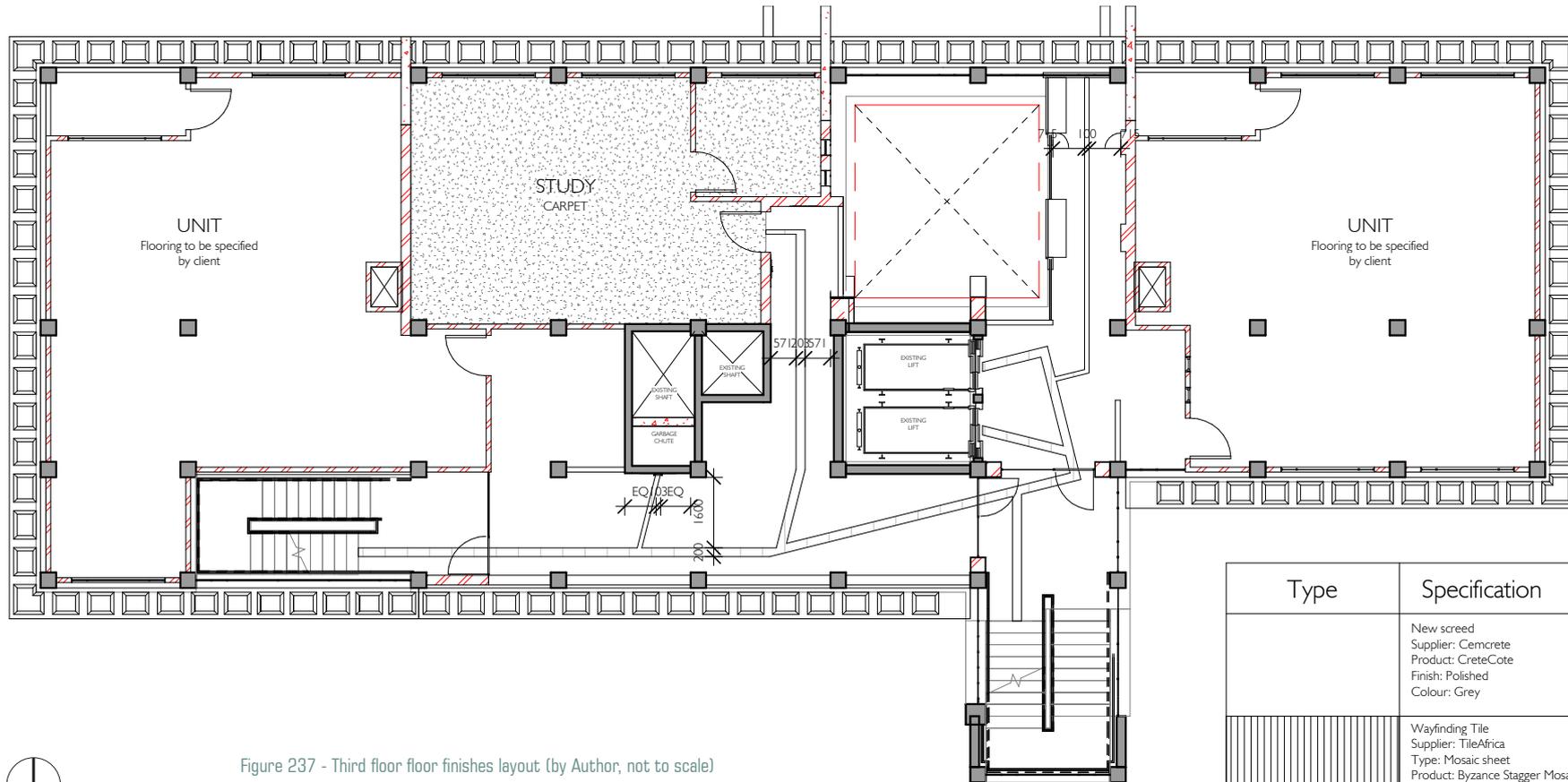


Figure 237 - Third floor floor finishes layout (by Author, not to scale)

Type	Specification
	New screed Supplier: Cemcrete Product: CreteCote Finish: Polished Colour: Grey
	Wayfinding Tile Supplier: TileAfrica Type: Mosaic sheet Product: Byzance Stagger Mosaic Colour: Bianco (T0027182) Size (Sheet): 300x300 mm
	Carpet Supplier: Van Dyck Floors Type: Woven vinyl carpet Product: Athena Klassikos Colour: Burlap Size (Sheet): 300x300 mm

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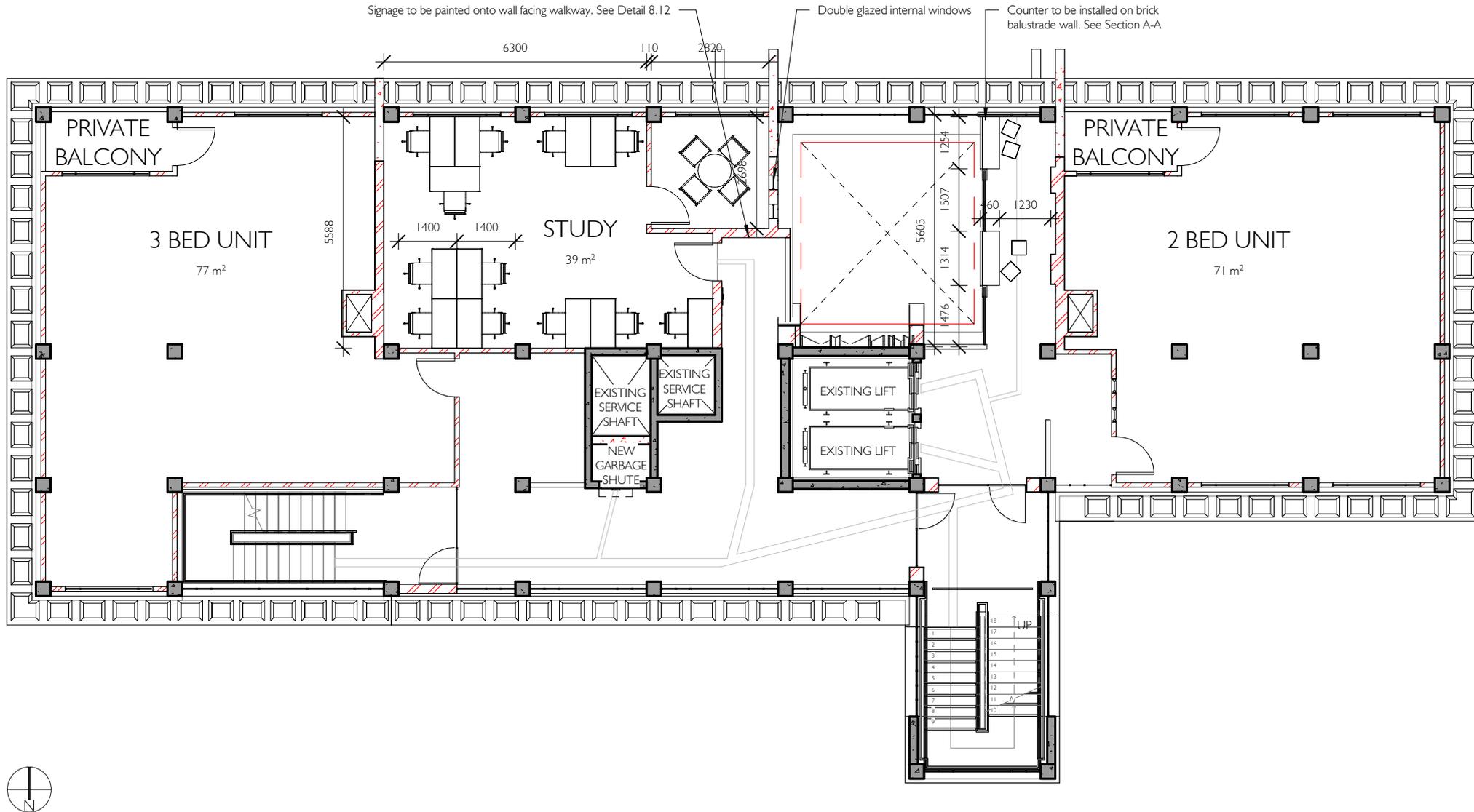


Figure 238 - Third floor layout (by Author, not to scale)

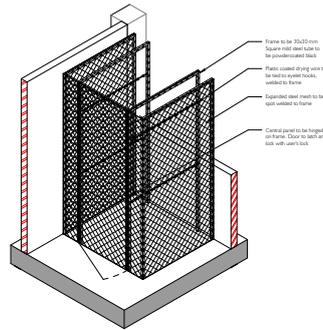


Figure 239 - Axonometric of laundry drying areas (by Author, not to scale)

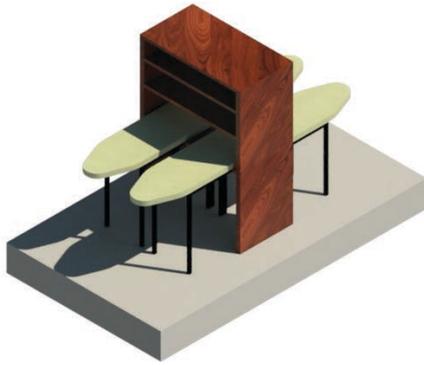


Figure 240 - Axonometric of laundry ironing tables (by Author, not to scale)

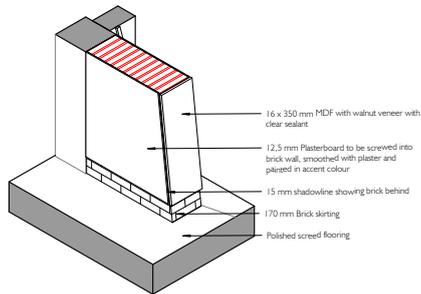


Figure 241 - Wall framing detail (by Author, not to scale)

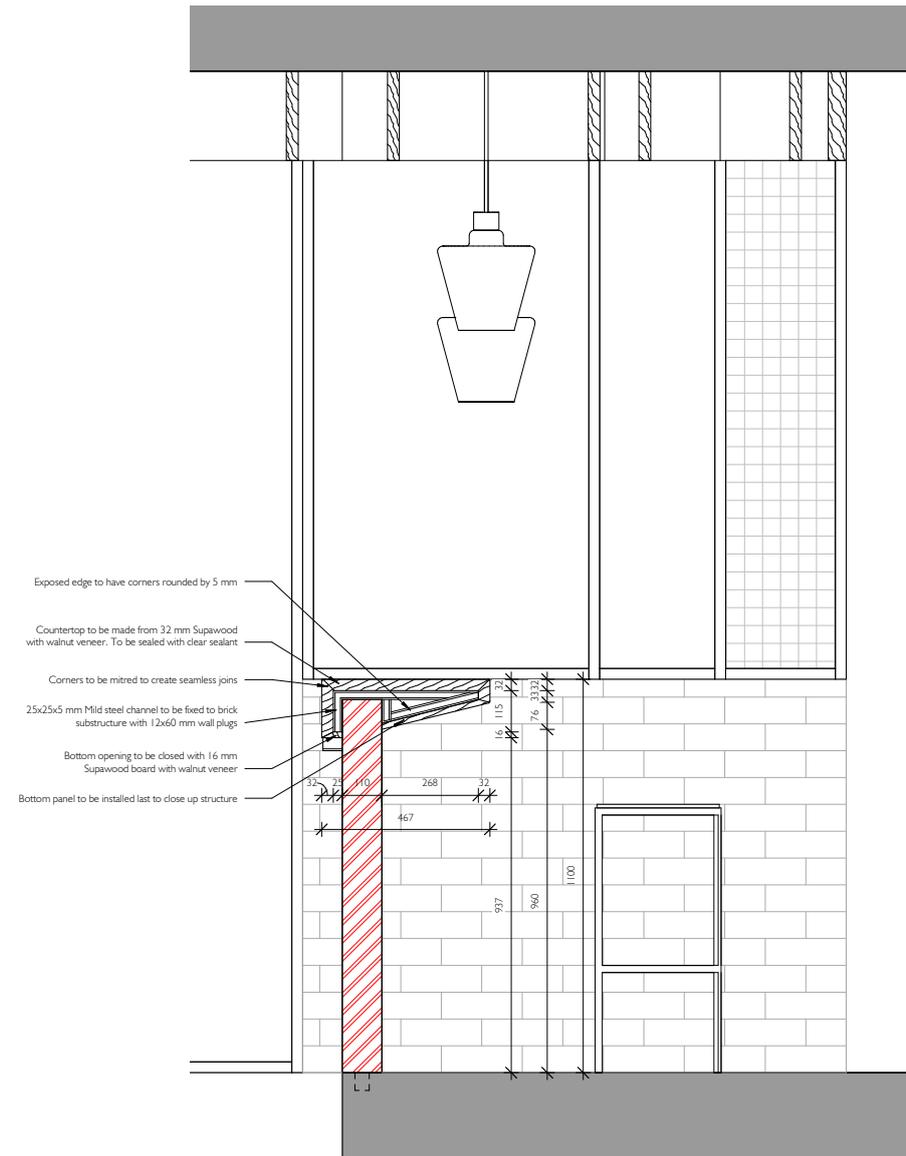


Figure 242 - Section of overhead balcony (by Author, not to scale)

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5.17.1 Ceiling Detail (Detail 8.9)

In the development of the building identity, it was necessary to design a feature element that can be repeated in all public spaces to establish a consistent identity and language. It was decided to apply this feature as a ceiling element. Applying the intervention to the ceiling allows for a more intricate design. It will be out of reach for regular contact, and will not be as maintenance-intensive.

The ceiling detail was developed by re-interpreting the existing building grid (Figure 158 to Figure 160). The ceiling detail comprises of heat-treated pine beams mounted on edge to the existing soffit. The mountings are then covered by the acoustic glass wool insulation. The acoustic treatment is necessary to provide a comfortable environment for all users, as well as residents living adjacent to the public spaces.

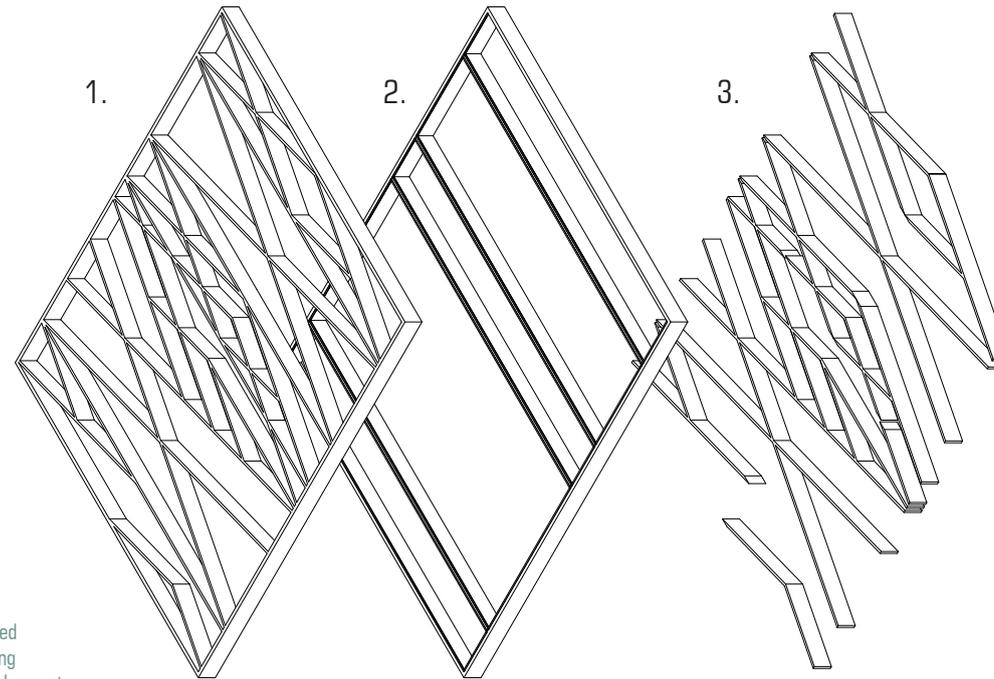
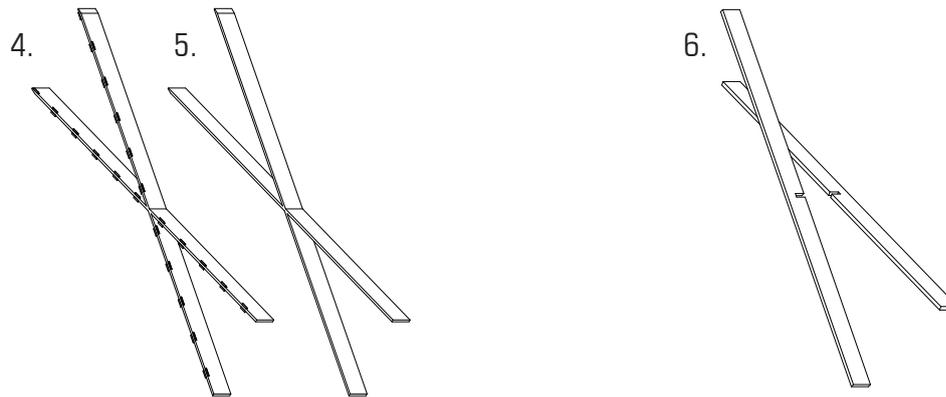


Figure 245 - Exploded axonometric of ceiling intervention (by Author, not to scale)

1. Final Product

2. Frame to be attached to soffit with 20x20x5 mm Aluminium equal angles, to be shot nailed with a Hilti gun into soffit above. Channels to run the length of frame

3. Internal angles to be arranged within frame as per design



4. Internal angles to be made from 250x50 mm heat-treated laminated pine beams, as per Rhinowood. To be fixed to soffit with 100mm lengths of 20x20x5 mm aluminium equal angles, at 500 mm centres.

5. Internal angles to be pre-manufactured to fit into frame

6. Internal angles to join to one another with cross halving joints, to limit the amount of fixings required.

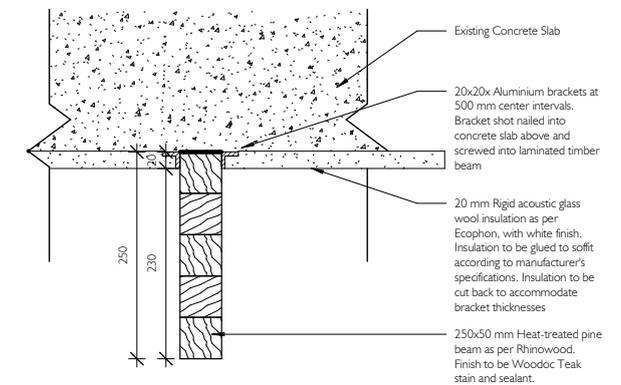


Figure 246 - Detail of fixture to ceiling (by Author; not to scale)

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5.17.2 Flooring Details

With the introduction of dedicated wayfinding flooring strips, a hard-wearing floor surface and insert was necessary. The flooring surface was chosen to be a coloured screed to accommodate the hard-wearing and cost requirements. A flooring detail was developed to allow a clean and easily installed wayfinding texture. The floor finishes layout can be seen in Figure 194 for the ground floor, Figure 234 for the second floor and Figure 236.

5.17.3 Wall Details

In conjunction with the floor wayfinding strips, wall inlays were developed. The wall inlays will serve to connect the ceiling detail and pattern with the wayfinding flooring detail. To link the ceiling and wall detail, a stained pine strip was the material of choice. For this detail, the installation process was of concern. The timber strip will be inlaid into a plastered wall. The wet nature of the plaster application will warp the timber if installed simultaneously. To resolve this, an aluminium channel will be mounted to the wall before the plaster is applied. This will allow the plaster to be applied neatly and finished before the strip is inlaid. The strip will also serve to protect the plaster if the timber strip needs to be replaced.



The main floor finish will be a new screed that will even out the irregularities of the existing floor.

Supplier: Cemcrete
Product: Cretecote
Colour: Grey



As wayfinding detail, small tiles will be inlaid into the screed to provide a tactile but hazard-free wayfinding method.

Wayfinding Tile
Supplier: TileAfrica
Type: Mosaic sheet
Product: Byzance Stagger Mosaic
Colour: Bianco (T0027182)
Size (Sheet): 300x300 mm



Supplier: Plascon
Colour: Summer Blush (R2-C1-2)



Supplier: Plascon
Colour: Chakalaka (R7-B1-2)



Supplier: Plascon
Colour: Alex (O4-B1-2)



Supplier: Plascon
Colour: Panorama Lights (Y4-A1-2))



Supplier: Plascon
Colour: Citrus Splash (G1-A1-2)



Supplier: Plascon
Colour: Atlantis Cliff (B2-C1-3)



Material: Pine
Stain supplier: Woodoc
Colour: Teak
Finish: Satin/Waxed

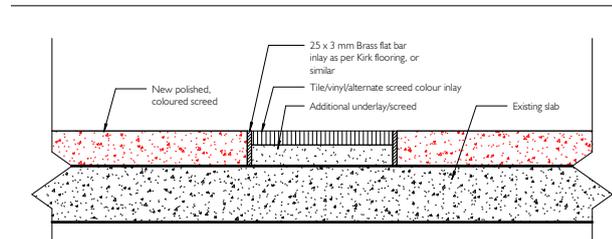


Figure 247 - Flooring detail and material specifications (by Author)

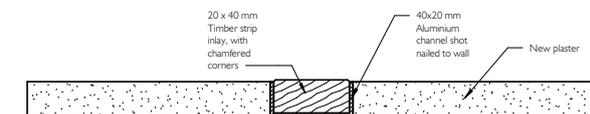
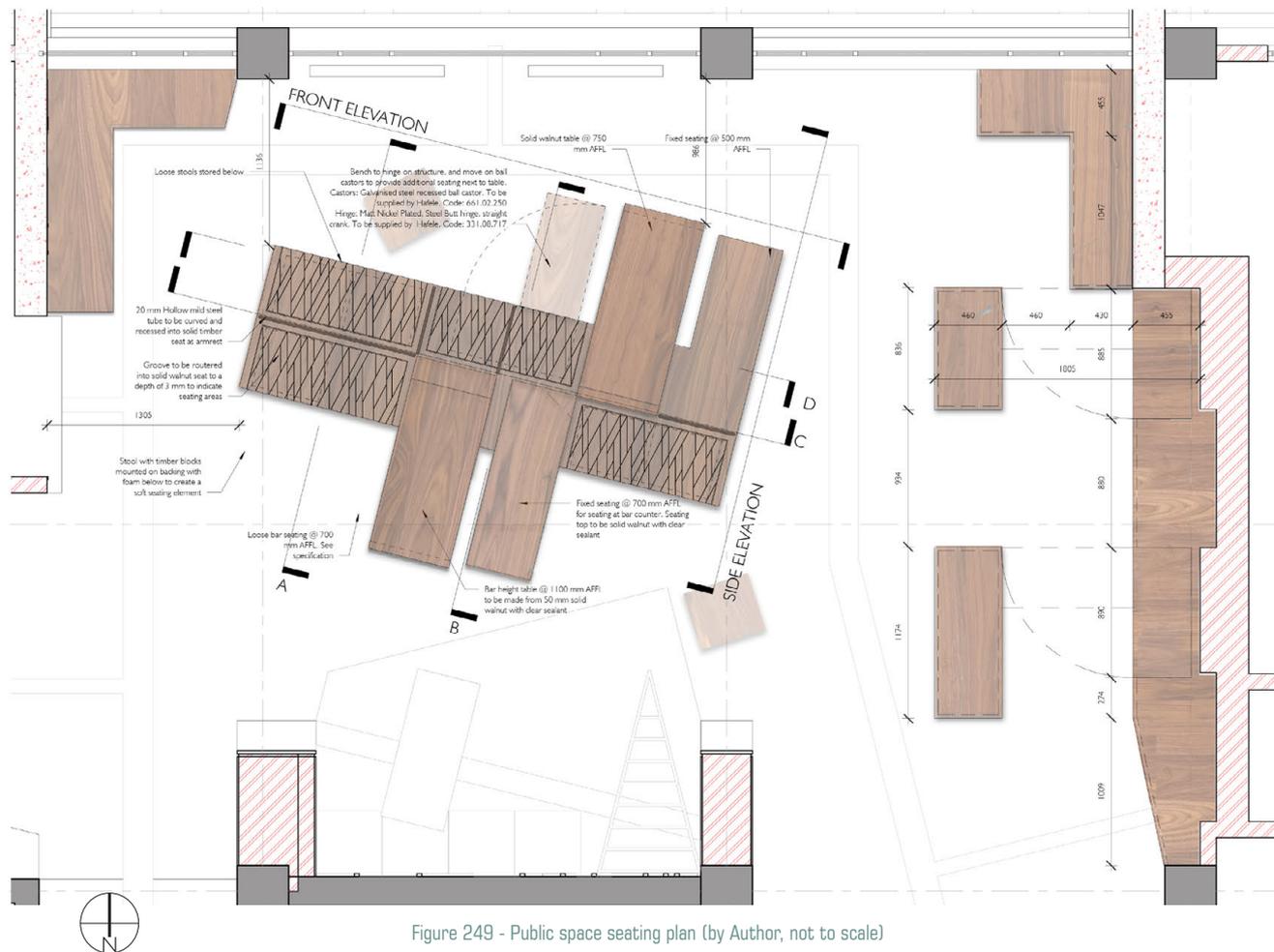


Figure 248 - Flooring detail and material specifications (by Author)

5.17.4 Public Seating Elements (Detail 8.10)

Providing a variety of seating is necessary to ensure all users of the public spaces with a choice of seating in different microclimates and views. The seating must accommodate for small to large groups of people, as well as, where possible, some appropriation of the seating itself. This appropriation is manifested by moving selected seating elements into more comfortable locations. This adaptation and appropriation will also encourage a sense of ownership in these spaces, and residents will hold one another accountable for the care of these elements.

The seating element has a fixed table height counter with fixed bench, as well as a swing out bench on the opposite side to provide additional seating if required, while allowing for a wheelchair user to sit opposite the fixed seating. Bent steel tubes provide arm and backrests, while recessed grooves indicate the suggested seating areas. The side closest to the play area has a bar height counter with fixed seating, with an open area opposite for standing use. The element provides a variety of views within the public space, as well as out of the space.



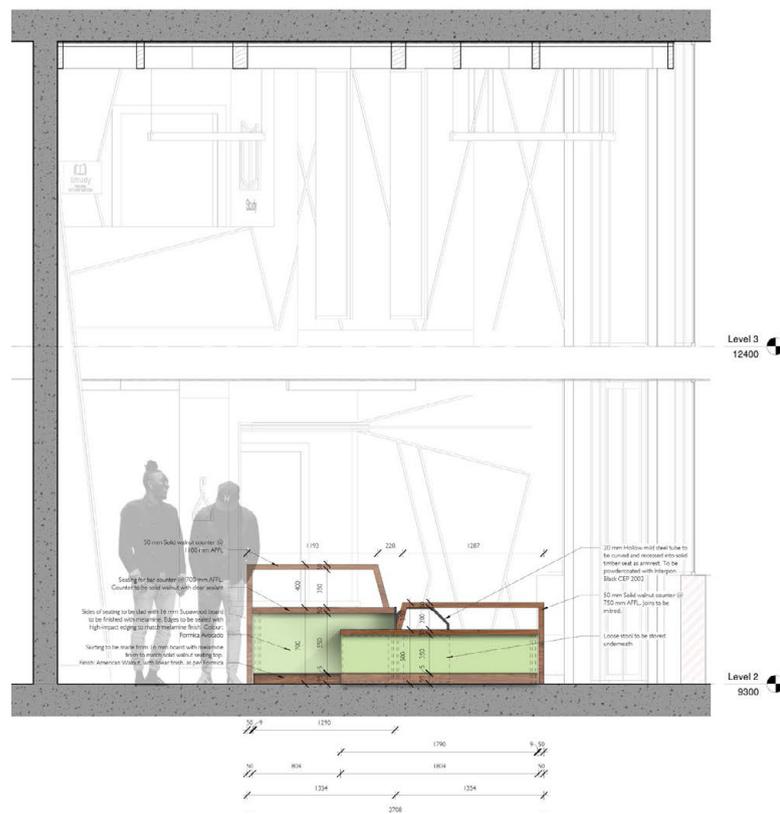


Figure 252 - Public space seating side elevation (by Author, not to scale)

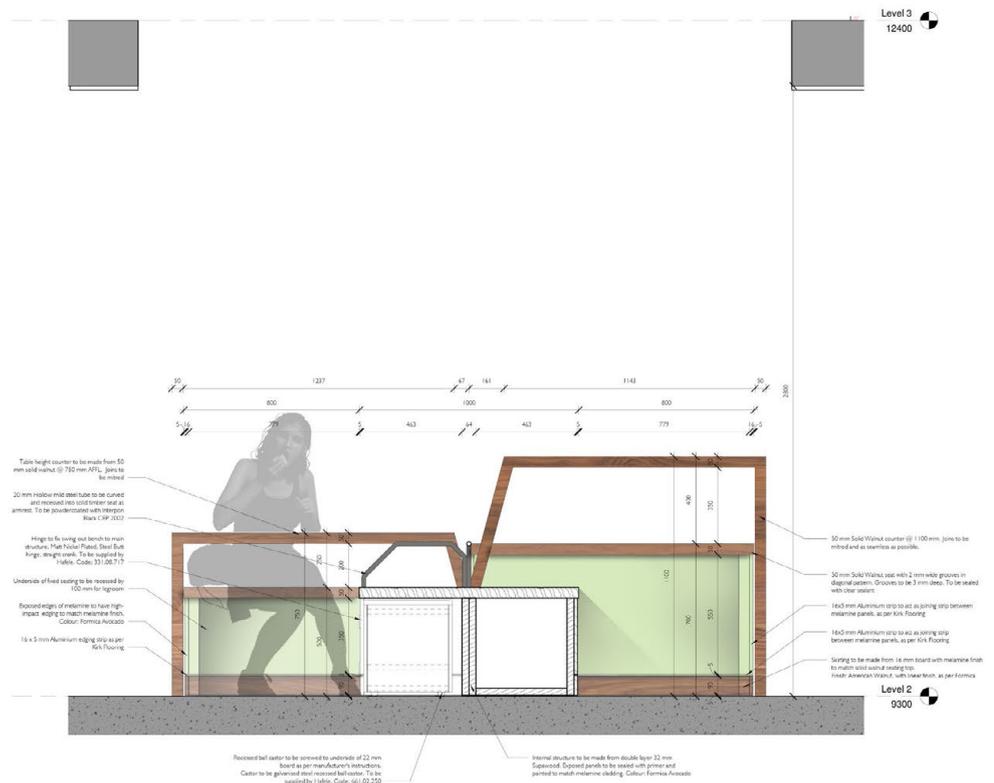


Figure 253 - Public space seating section A-A (by Author, not to scale)

Social housing with interior public spaces

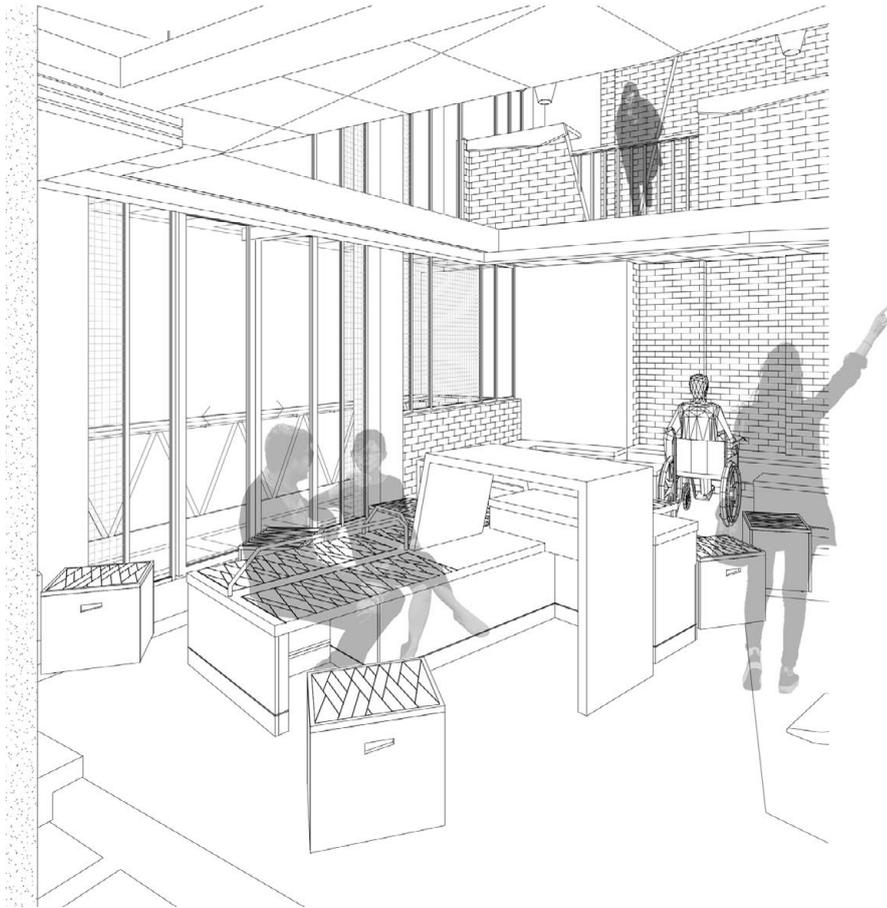


Figure 254 - 3D view of use of public space seating (by Author)

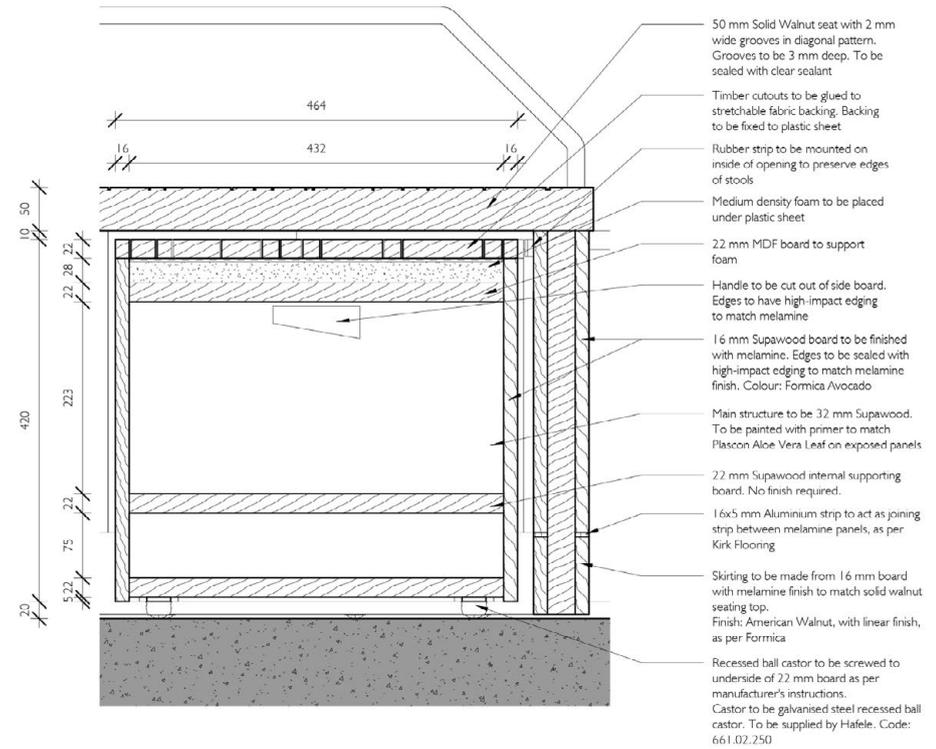


Figure 255 - Sectional detail of loose seating element (by Author, not to scale)



Figure 256 - Photograph of public seating model, front view (by AE Hejdenrych)



Figure 258 - Photograph of public seating model, back view (by AE Hejdenrych)



Figure 257 - Photograph of public seating model, front view with seating exposed (by AE Hejdenrych)



Figure 259 - Photograph of public seating model, back view with seating exposed (by AE Hejdenrych)

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Figure 260 - Photograph of public seating model, close-up, front view with seating hidden (by AE Hejdenrych)



Figure 261 - Photograph of public seating model, close-up, front view with seating exposed (by AE Hejdenrych)

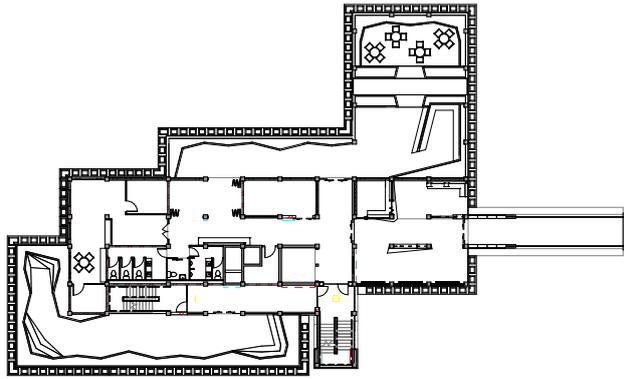


Figure 262 - Layout of signage on Ground Floor (by Author)

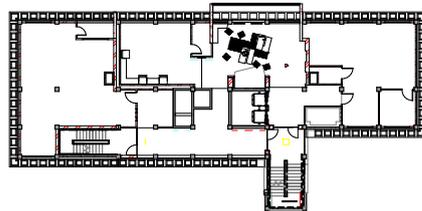


Figure 263 - Layout of signage on Second Floor (by Author)

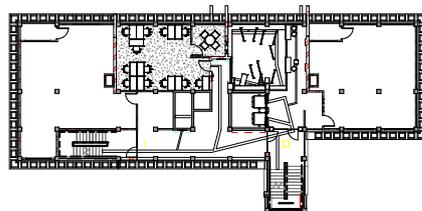


Figure 264 - Layout of signage on Third Floor (by Author)

Legend

	Building Signage - Layout and Numbering
	Emergency Signage (Ceiling Mounted)
	Amenity Signage
	User Appropriated Mural

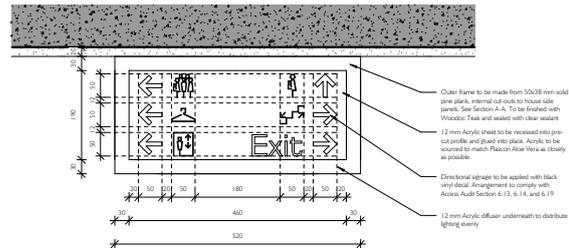


Figure 265 - Side Elevation of fire escape signage (by Author, not to scale)

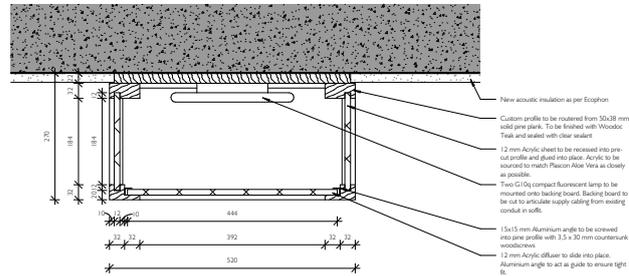


Figure 266 - Section A-A of fire escape signage (by Author, not to scale)

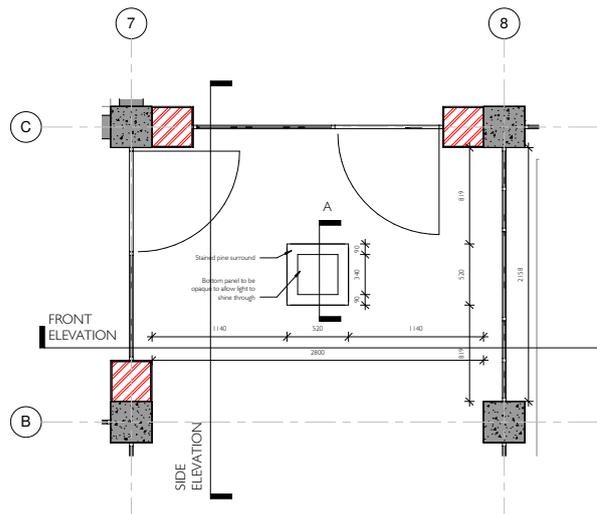


Figure 267 - Ceiling layout of fire escape signage (by Author)

5.17.5 Signage (Detail 8.12)

The signage for the building was identified as a detail investigation after the compilation of the access audit. The signage enables the identity to be seen throughout the building not only in the aesthetic interventions, but also in the integral wayfinding elements. Easily recognisable icons are used consistently, and the development of a lighting fixture that incorporates the signage in the safety aspects of the building.

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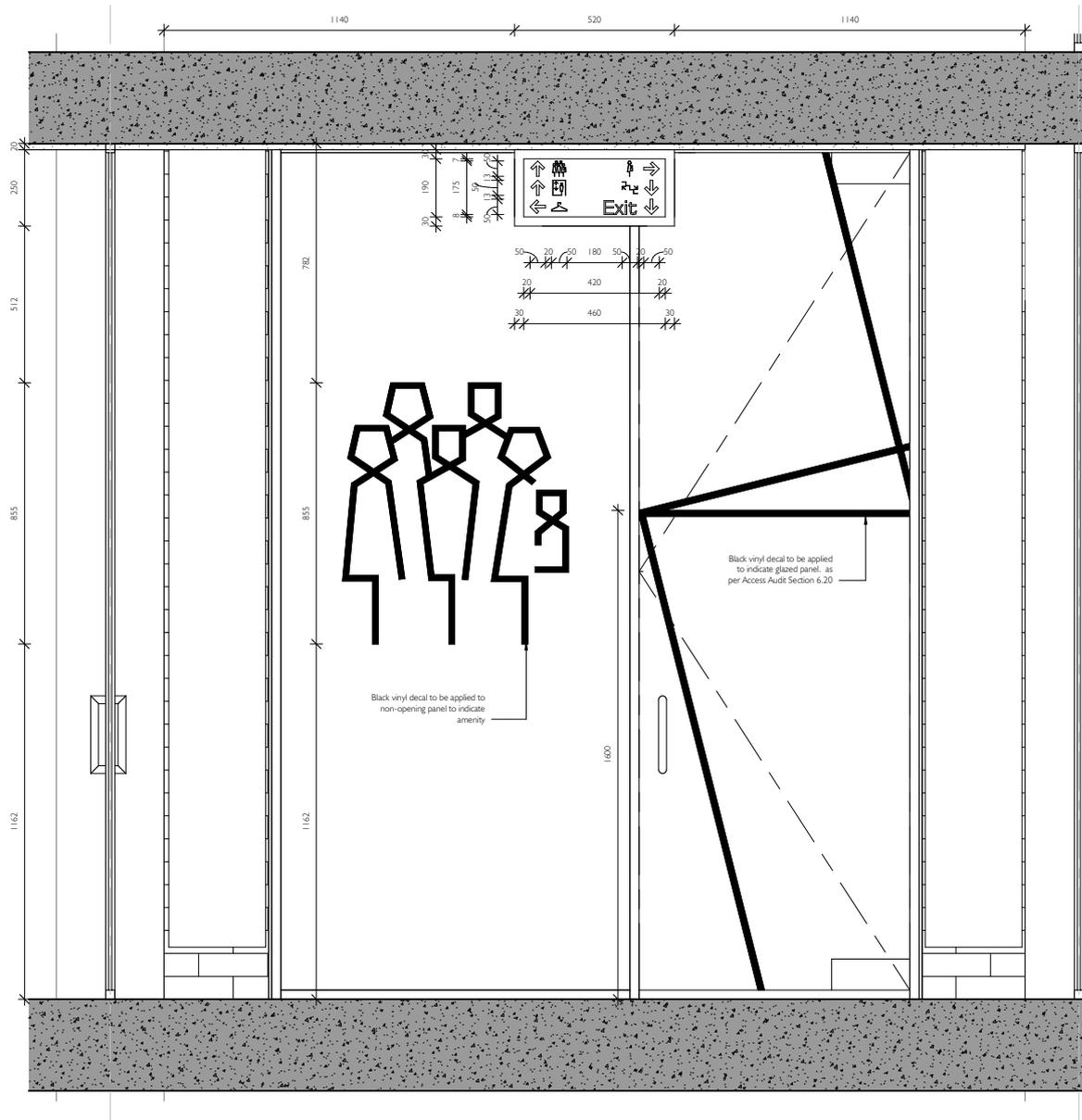


Figure 268 - Front elevation of fire escape signage (by Author, not tot scale)

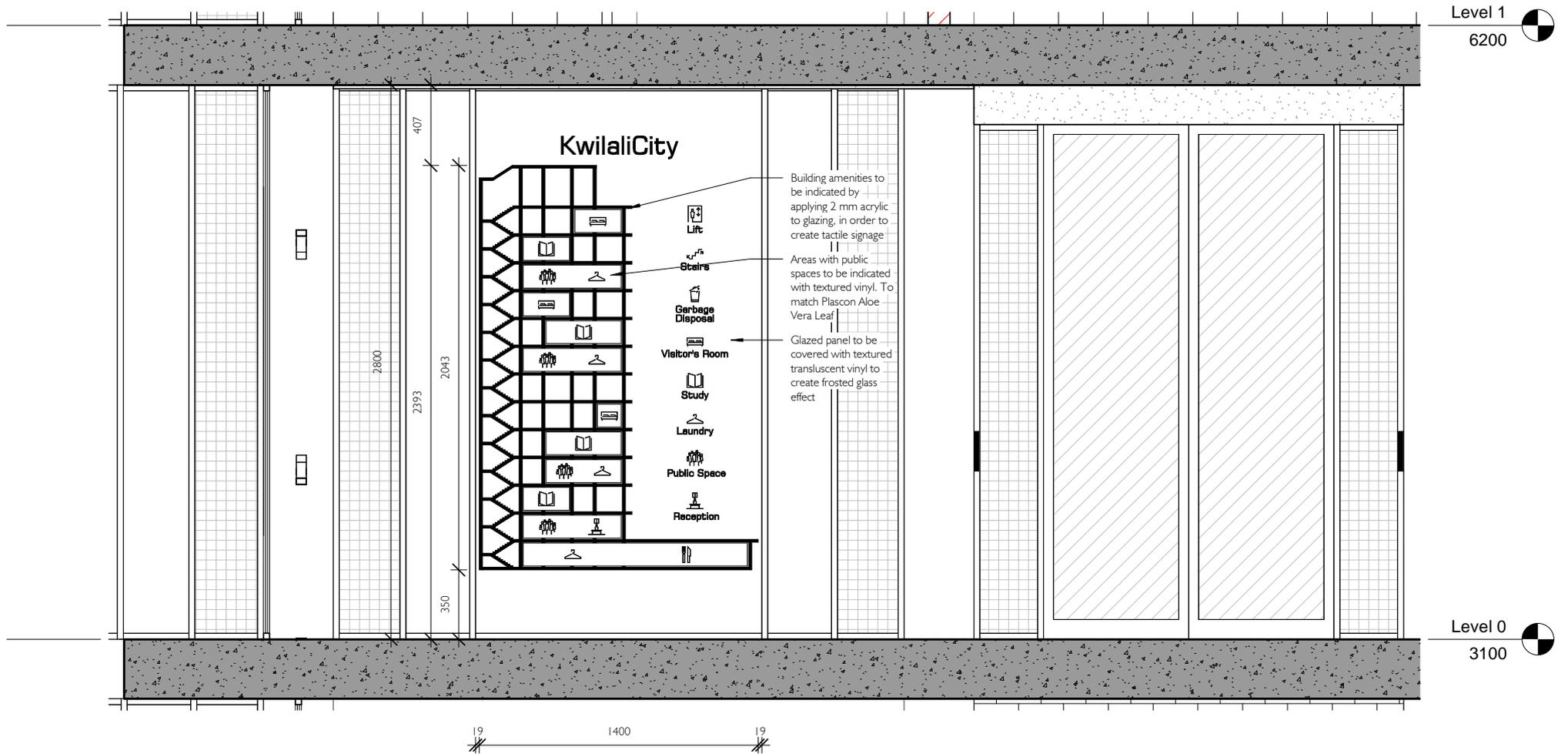


Figure 269 - Elevation of building wayfinding signage (by Author, not tot scale)

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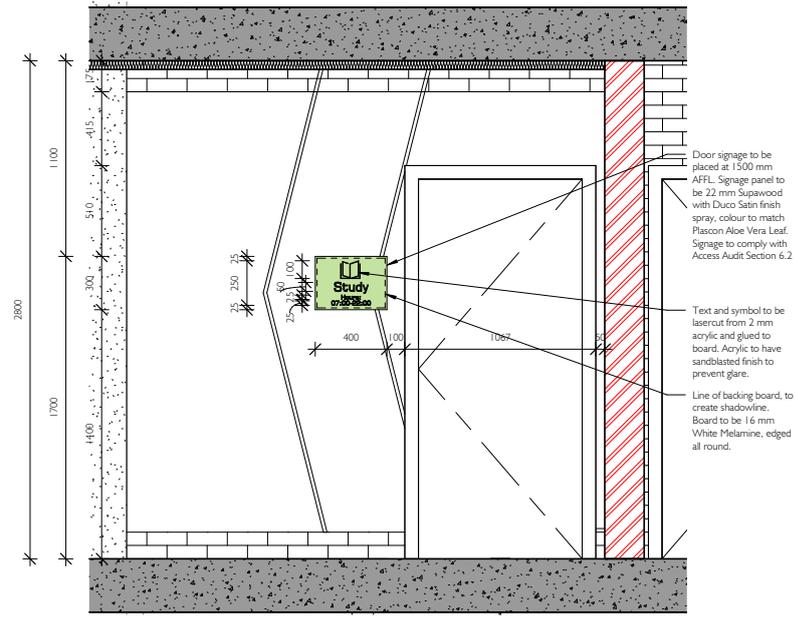
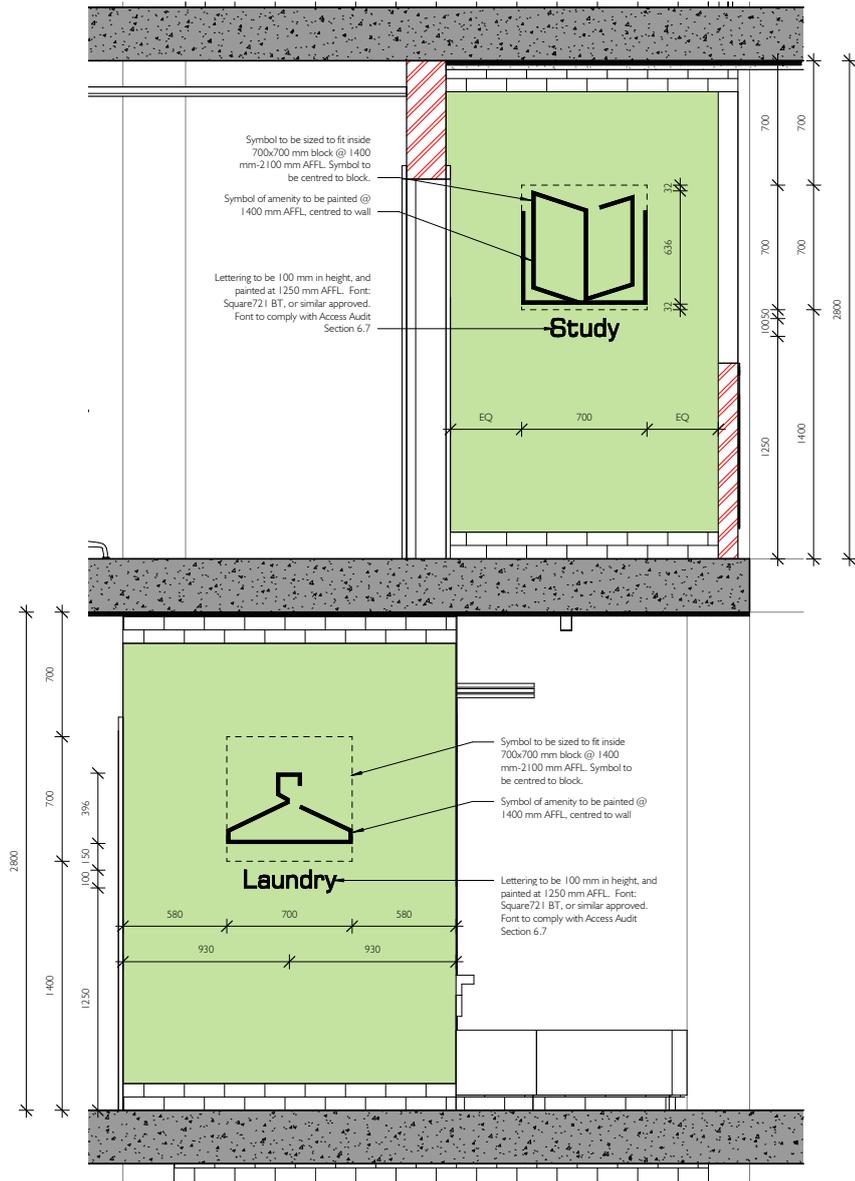


Figure 271 - Elevation of amenity door signage (by Author, not tot scale)

Figure 270 - Elevation of amenity signage (by Author, not tot scale)



Figure 272 - Render of fire escape lobby and signage (by Author)

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Figure 273 - Render of study area entrance (by Author)



Figure 274 - Render of entrance to unit, indicating appropriated colour use (by Author)

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Figure 275 - Render of entrance to public space (by Author)



Figure 276 - Render of entrance to public space with view to laundry space (by Author)



Figure 277 - Render of KwilaliCity
(by Author)

5.18 Conclusion

The concept was strongly influenced by the building's characteristics and existing finishes. This led to a highly place-sensitive concept that consistently relates the design to the existing building. The development of a strong design language aids in making strong design choices that can be repeated throughout the building to create a uniform image and brand for the building.

The chosen technical details serve to ease the use of the building and its public spaces. The audit developed for the purposes of the project tested and applied inclusive design responses to ensure all users can use the building with relative ease and without assistance. The other details were developed to enhance the application of the building's identity and develop standard details that can be applied throughout the building.
