

URBAN BRICOLAGE

Challenging the tabula Rasa through Reuse

Acknowledgements

My utmost appreciation and gratitude to loved ones who encouraged me to persevere through what was an arduous hill at times.

To sima and Noel for instilling new-found confidence in me to challenge the established praxis and without whom this would't all be possible.

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Preface



Fig 1

"Cities need old buildings so badly it is probably impossible for vigorous streets and districts to grow without them. By old buildings I mean not museum-piece old buildings, not old buildings in an excellent and expensive state of rehabilitation—although these make fine ingredients—but also a good lot of plain, ordinary, low-value old buildings, including some rundown old buildings." (1)

With the insatiable growth of the city prevailing through a tabula rasa method, we now run the risk of losing much of the architecture that has come to define swathes of the cityscape. These buildings represent cultural and social capital for the city, that is to say, our cultural past is embedded within the bricks and mortar of these buildings. These buildings that don't fall under the remit of protected status pose tangible connections to the past for communities that are seeing their areas re-defined by demolition and redevelopment.

However, whilst acknowledging that the practice of demolition exists and will continue to exist into the near future the question arises of what is to be done with all the material sought and salvaged from such decisions. The thesis seeks to answer these questions through the lens of urban bricolage, which will come to define my approach to critical care within architecture.

THE CITY



Fig 2

This part of the city can trace its lineage back to the beginning of the 19th-century when the land was reclaimed as part of the extension of the Liffey walls. Historically this part of the city has been predominantly working class with much of the community finding work in Dublin port and interconnected industries in the area. A widescale regeneration project beginning in 1987 has seen radical changes in the area, following the relocation and closure of many of its traditional industries. This leap from industrial to service economy has led to a dichotomy between a global architecture and the relics of a former industrial past. With the influence of a new more affluent population much of the industrial landscape that has come to define this part of the city has and will be lost. Many have little concern with the retention of former industrial buildings. But for me and many others, they have intrinsic value for the local and built fabric. Once they're gone, they're gone. It's hard to imagine a Sheriff Street without its defining claret red bricks or corrugated roof sheds. Increasingly large-scale office developments and the pervasiveness of a certain monoculture of living have now come to define the north dock and are gradually moving north embroiling the areas immediately surrounding Sherriff Street. (2) Jane Jacobs writes extensively about the failures of grand planning schemes that intend to redevelop parts of a city according to a central framework. She argues that healthy cities are those that are organic, spontaneous, messy, complex systems that evolve through years of residence and industry living in proximity.



Fig3

Instead, she espouses a more gradual redevelopment that allows for the maintenance of interpersonal ties. She argues that thriving neighbourhoods contain older buildings alongside new ones. Not just splendid old buildings but buildings in all forms and conditions of disrepair. New thriving neighbourhoods are those that locate themselves within a former industrial scape. This dichotomy between new and old largely exists within the area though much of it is segregated rather than intertwined between new and old. Preserving a range of visible architectural styles within the urban fabric affords a degree of visual interest and character along streetscapes and within neighbourhoods. The aim of Dublin North east inner city should be to create spaces that increase the material quality of life whilst maintaining the human aspects of community and a sense of belonging whilst balancing our societal need to reduce consumption. Adopting a new wave of urban renewal that focuses on regeneration and rehabilitation instead of razing

THE CITY



THE CITY



Fig 5

INTRODUCTION

The thesis will aim to investigate a sustainable approach to architecture that promotes an interpretation of resilient living through the reuse of space and material. (3)With the NEIC having experienced a 78 % growth in population in the past 20 years the pressing need to house people has more often than not taken the form of a tabula rasa approach to construction. A process that represents a literal exercise of the removal of the existing fabric and the metaphorical practice of removing the inherited history and ideologies of a place. The tabula rasa and its widescale acceptance have led to the valuation of buildings as being mono-generational. This represents an inherited expectation for the obsolescence of buildings where erasure precedes projection. I will argue that such a practice is no longer viable environmentally or socially in the age of precarity where virgin materials are becoming increasingly limited. The thesis will explore the role of the bricoleur as a master creator, maker, and doer. Through the lens of bricolage, I will cover topics such as urban mining, design for disassembly, incremental living, and adaptive reuse. It's the synergy between these topics through which my project has evolved.



Fig 6

The bricoleur



“The bricoleur is adept at performing a large number of diverse tasks; but, in contrast to the engineer, he does not subordinate each one of them to the acquisition of raw materials and tools conceived and procured for the project: his universe of tools is closed, and the rule of his game is to always make do with ‘what’s available, that is, a set, finite at each instance, of tools and materials, heterogeneous to the extreme, because the composition of the set is not related to the current project, or, in any case, to any particular project, but is the contingent result of all the occasions that have occurred to renew or enrich the stock, or to maintain it with the remains of previous constructions or destruction” (4)

Positioned on the corner of East Road and Upper sheriff street, the Castleforbes business park provides an inventory of buildings destined for demolition as part of future development plans for the city. The project will take on the role of the bricoleur. Interrogating the arsenal of the material sought and salvaged from the wreckage of past builds at hand. Setting into motion an inventory of discoveries and possibilities for future construction

The bricoleur



Fig 8

(5) Michel de Certeau refers to the work of the bricoleur as the "poetic making doing", a skilled craftsman in the making of montages and collages whose practice is to find, collect, compose and reuse. The design of the bricoleur is direct in its response to the immediate problems at hand.

Taking first from his environment the necessary tools and materials and ascribing them to the problem as needed. The only building when needed he adjusts and maintains the construct when the need arises. In his seminal work, 'The savage mind' Claude Levi Strauss compares the work of the 'engineer' to that of the 'Bricoleur'. The engineer according to Strauss creates a means for the completion of their work, in contrast, the Bricoleur redefines the means that are at their disposal. Redefining an inventory of semi-defined elements that are both abstract and concrete in their meaning. Acutely stitching together an identity from new sources, this understanding of Bricolage is counter to the ideology of the Tabula Rasa,

In that, it allows for continuity through redefining old materials as new. It is this synergy between architecture and bricolage that has come to define my project. I will argue that the figure of the bricoleur presented to use by Strauss describes a way of thinking that is rooted in materiality, and by such possess the qualities to approach architecture with sustainability as its core principle. Each new problem the bricoleur faces is a new opportunity to prescribe new uses and means to materials in a way that may never have been conceived before.

This understanding of bricolage will formulate an approach through which I tackle my design. Marrying ideas of temporality through bricolage with concrete concepts of design for disassembly and adaptive re-use.

The bricoleur

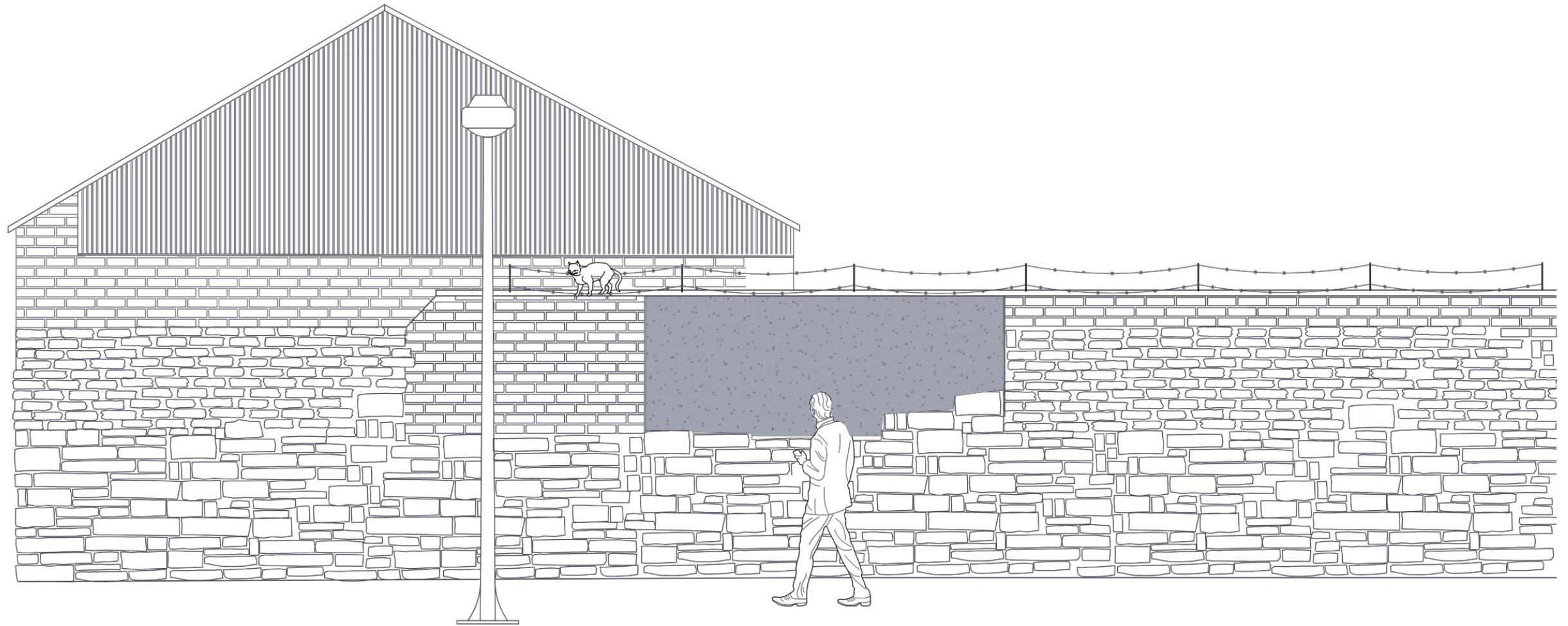


Fig 9

We can see how bricolage has manifested in the walls that bind the site of the Castlefobes industrial Park. Ad hoc in nature and piecemealed over time they represent the bricoleur's immediate response to the problem at hand, whether the need was to repair or make new.

The interventions are unconcerned with purity and as such incur a language far richer than that of the traditional construct. Prescribing universal laws through the tabula rasa the 'engineer' will arrive at its result which takes the form of events. In contrast, bricolage works oppositely, creating structure in the form of artifacts by the means of contingent events. This is what we begin to see analyzed through these drawings, bricolage as the creation of structure out of events.

The bricoleur

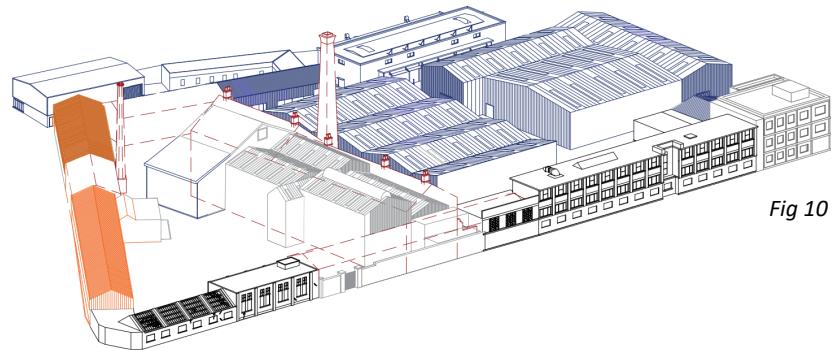


Fig 10

Through historical mapping, and contextual analysis we can begin to make informed assumptions as to the origins of the material, as artifacts from the industrial buildings that once occupied the site, which through the process of bricolage have been carefully woven back into use. This artifact which has arisen through a continuum of events takes on a language far greater than that of a traditional build.

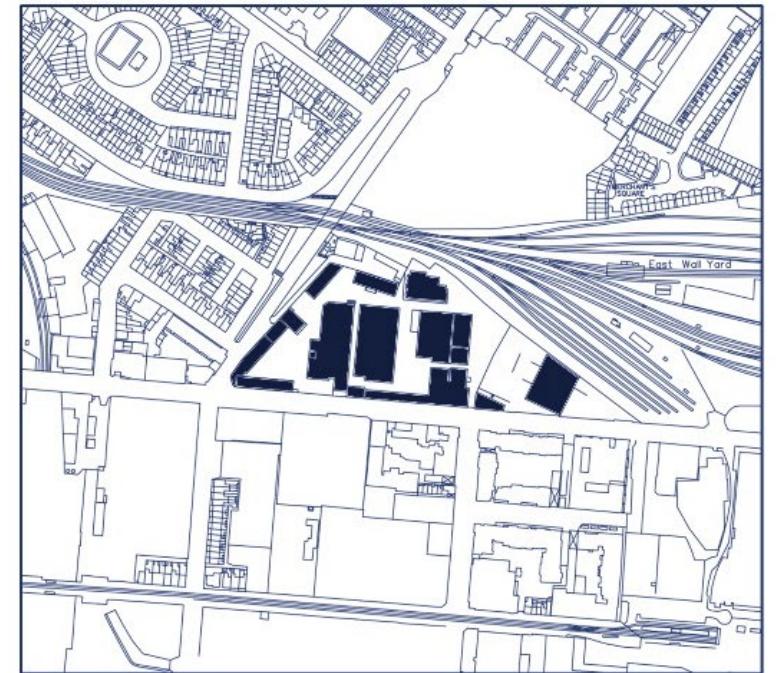
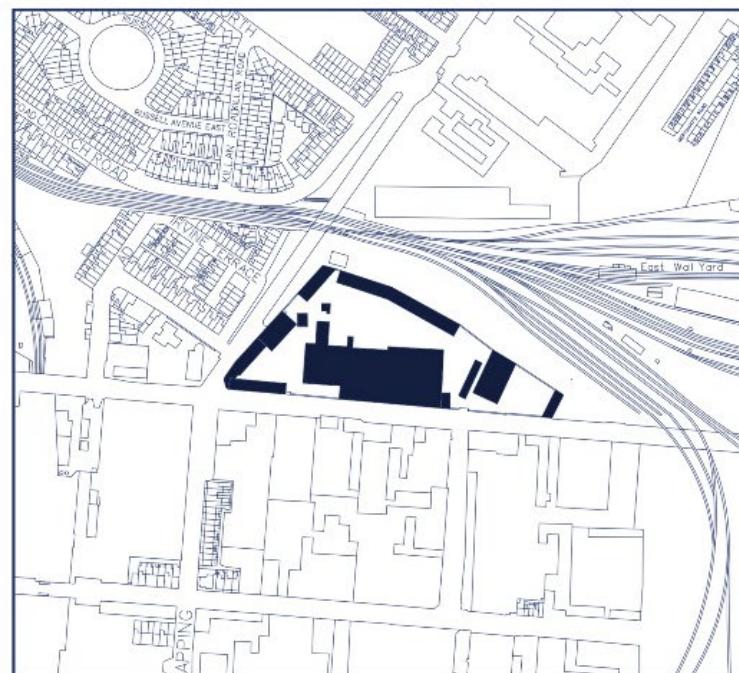
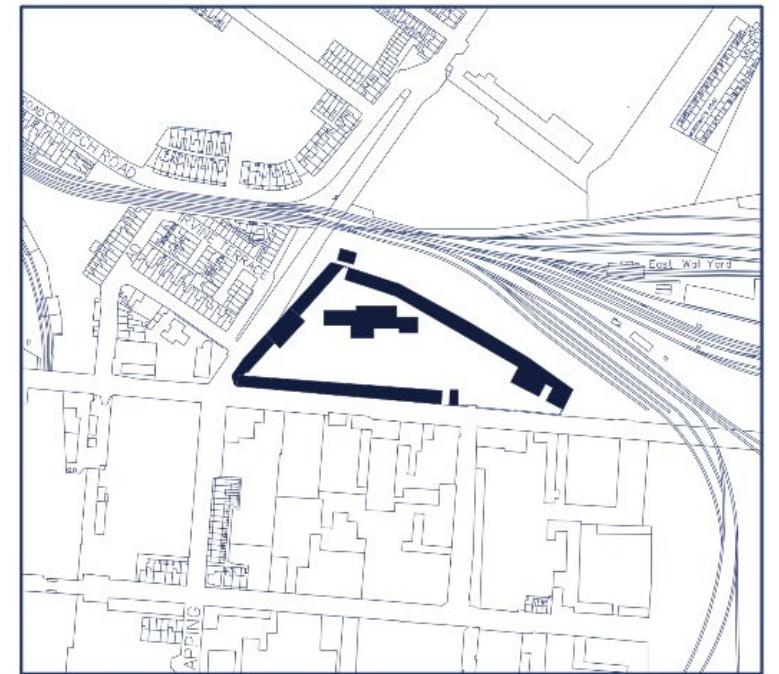


Fig 11

The bricoleur

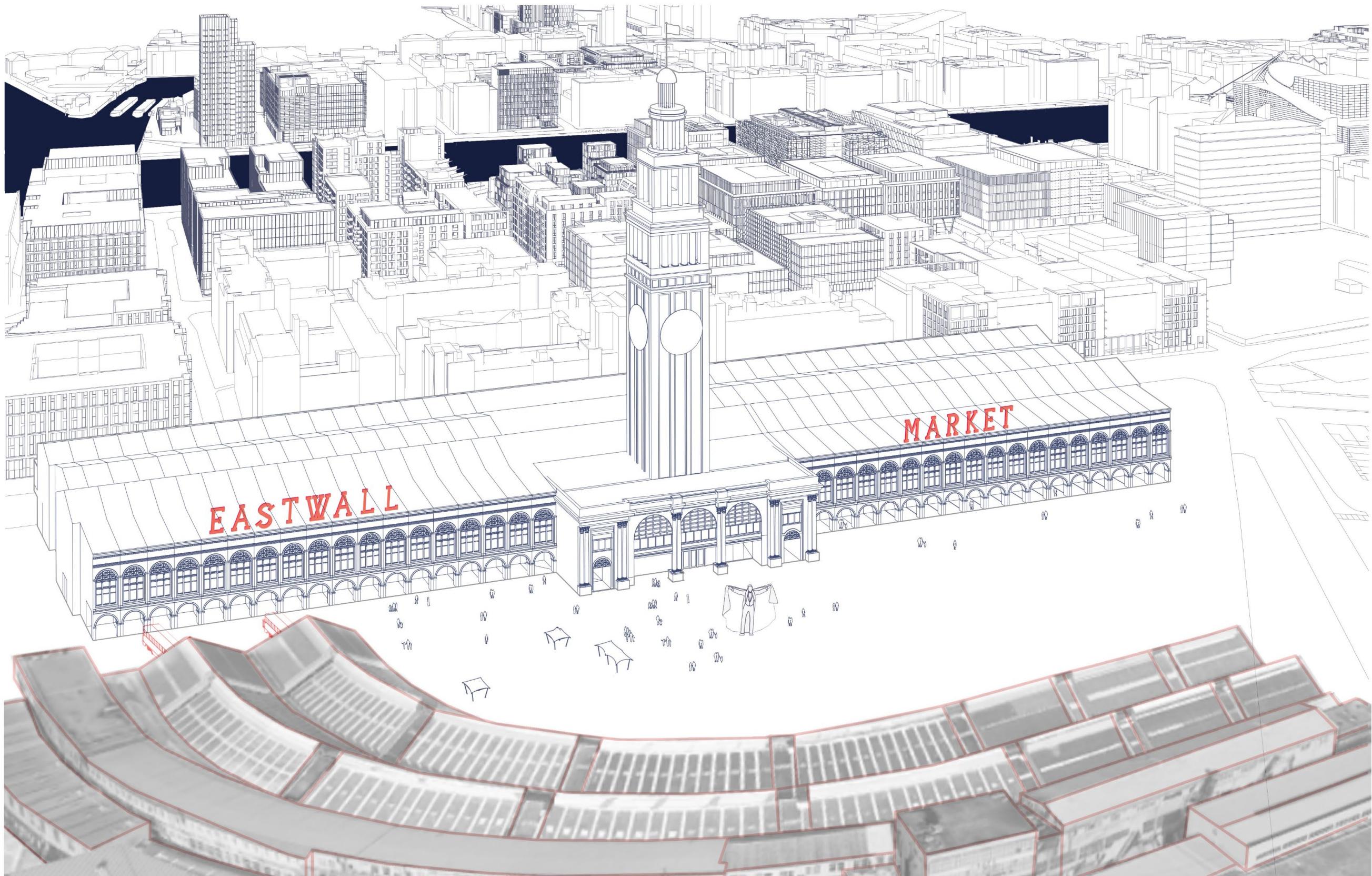
EASTWALL MARKET

Bricolage can be seen as the three-dimensional counterpart to collage, in its piecing together of various sources. It was for this reason that I chose to use collage as a preferred method for my initial revolutionary drawings that drew from an early desire to provide a fish market for the city. The process of overlaying existing structures into new settings helped me to form a methodology for bricolage that I would employ further on in the project.



Fig 11

The bricoleur



Urban mining

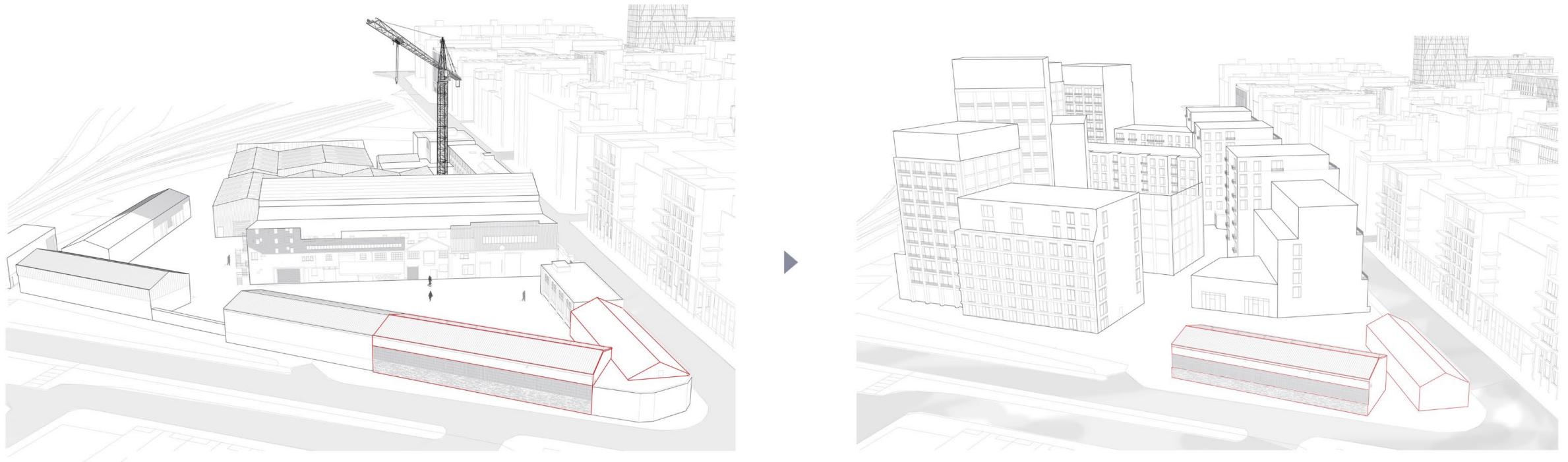


Fig 13

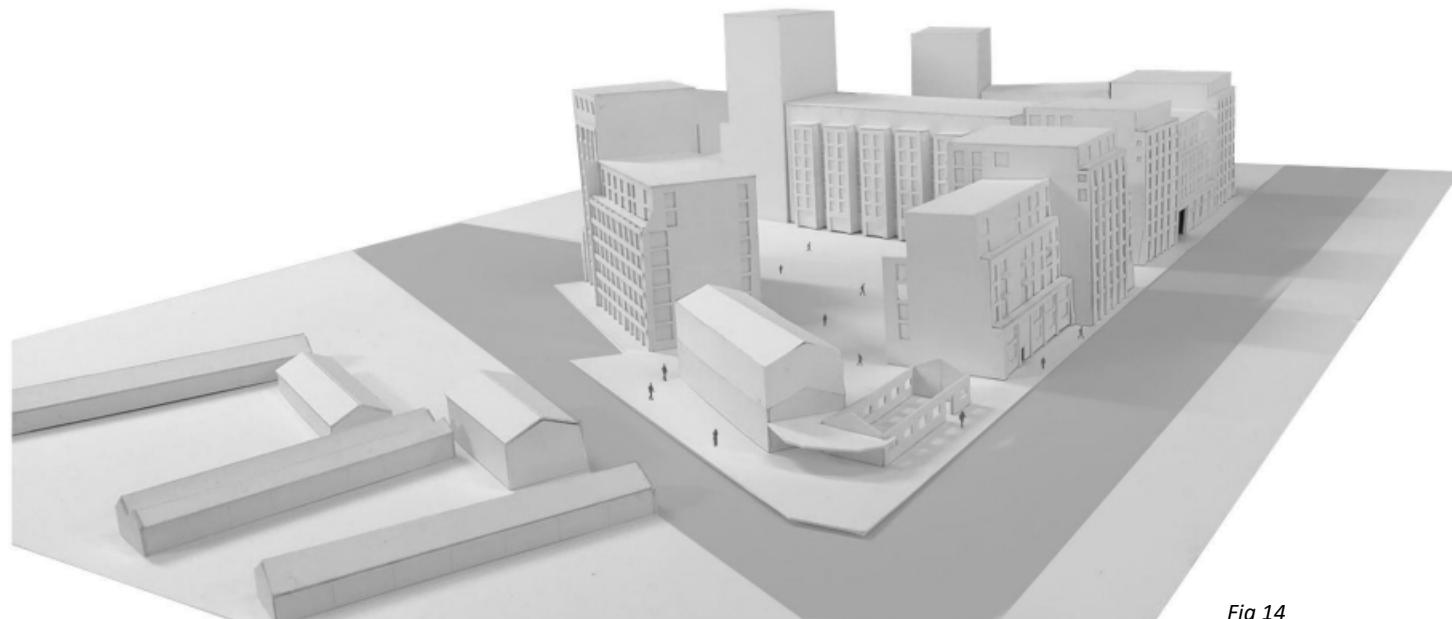
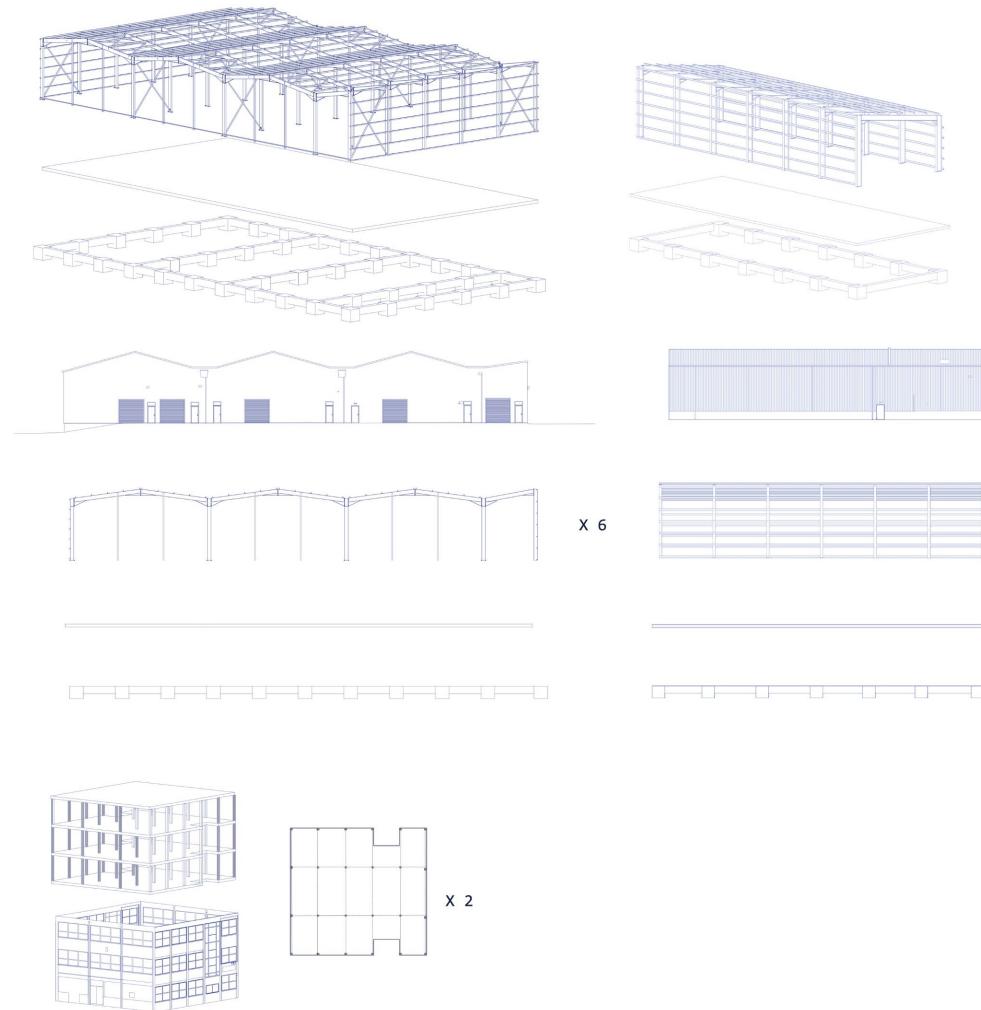


Fig 14

Urban mining

The construction industry creates an estimated third of the overall waste produced globally, with the volume of C&D waste expected to double by 2025 to an estimated 2.2 billion tonnes as reported by Transparency Market Research (6). The waste generated through a predominantly global architecture premised on the tabula rasa in urban areas has fundamentally altered the world in which we live. This cradle to the grave approach to construction has been a key factor in a formation of a new epoch of our own making dubbed the Anthropocene age. In his book *The Re-use atlas*, Baker-Brown offers a redefinition of waste as “just useful things in the wrong place”(7). He puts forth the argument that as an industry we should become ‘urban miners’ seeking to “mine the Anthropocene”. The concept of urban mining isn’t a new one Jane Jacobs discussed the potential our urban districts posed nearly half a century ago, discussing the prospect of our cities as being “huge, rich and diverse mines of raw materials these mines will differ now from any now to be found because they will become richer the more and longer, they are exploited”(8). However, those seeking to address our urban mines are often confronted with buildings not made for disassembly. These very buildings make up the near totality of the existing stock of unused or underused buildings at present. With the site destined for demolition as part of the proposed strategic housing development, I thought it imperative to the overall cohesion of my proposal to take stock of the potential material that could be salvaged from its demolition. Again, harbouring back to the role of the bricoleur who embarks on every project by first taking stock of his existing materials. Through this analysis, I was able to form an index of primary and secondary materials that could be deployed for further use later. Of those materials the most appropriate were determined for use, Steel, Brick, and concrete made the bulk of these.



	Useable brick	450 sqm
		72
	5m	46
		86
		92
	5m	58

Fig 15

Case study : Lendager Group

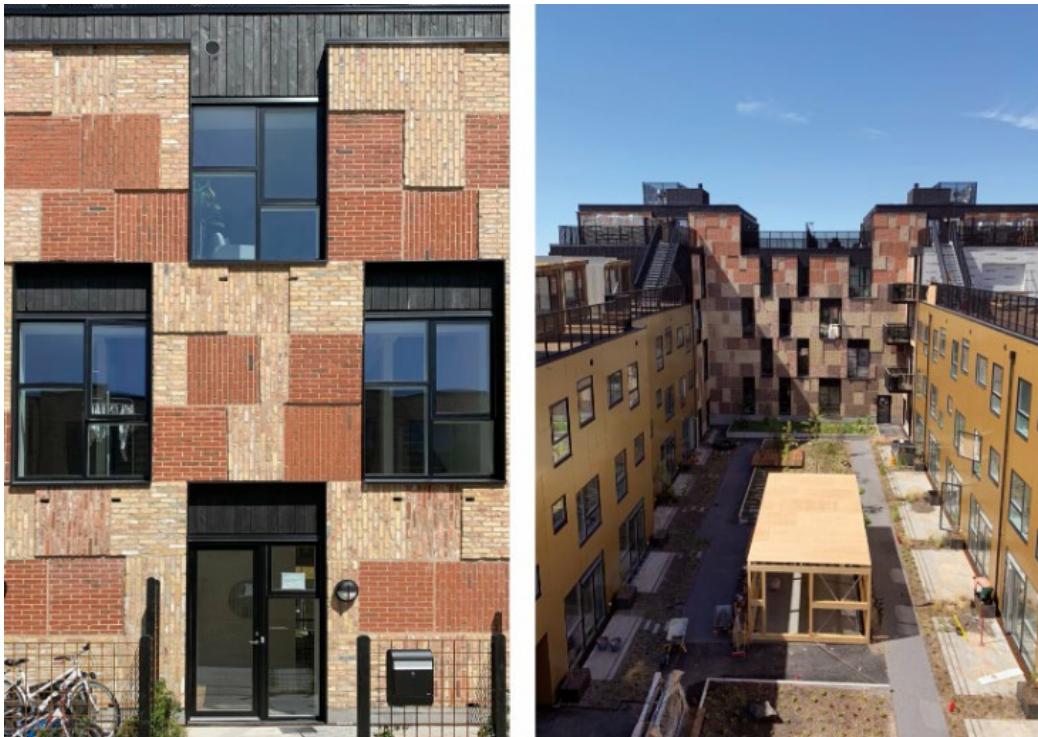
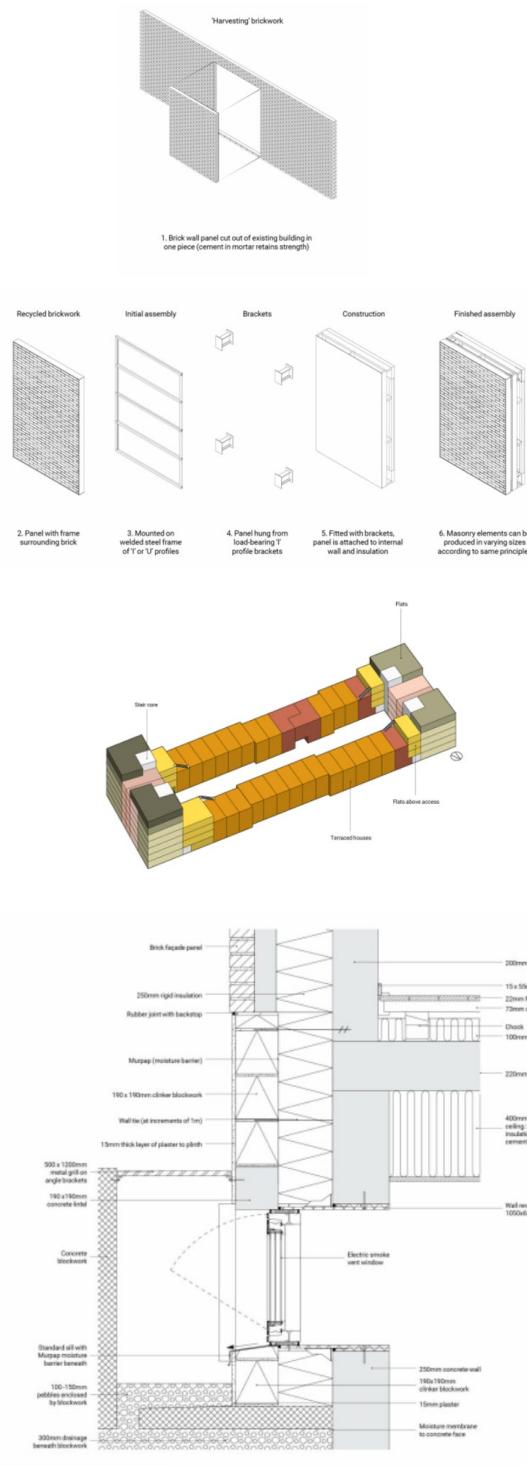


Fig 16



Whilst the quality of material reuse for steel and concrete is extensively covered, the reuse of cement-based bricks is not. Structural bricks are highly durable building products and represent a sizable portion of the potential material on site. However, the universal use of cement-based mortars replacing traditional lime meant many pose difficulties in their potential reuse. A major barrier to their reuse is the accepted belief of the difficulties in separating brick from the cement-based mortar.(9)

Lendager Group's Resource Rows project in Copenhagen showcases a radical approach to the reuse of cement-based bricks. Much like the bricoleur, the Lendager Group salvaged their index of materials from the destruction of past builds, a former Carlsberg Factory, and a Steiner School. As there are challenges to separating individual bricks, a new approach was taken, with the use of a diamond saw panels cut from the existing walls. The brick panels which we see here are in essence much a more ordered version of the walls that bound the Castleforbes site. The walls' eclectic layering of past events through reused stone and brick. It was only in years preceding the widespread use of cement-based mortars that bricks could no longer be recycled efficiently, where the bricks crack instead of the mortar.

This case study was what led to me taking a similar approach, in the construction of these panels from the salvaged brick from the destruction of masonry buildings on-site and adjacent sites.

Urban mining

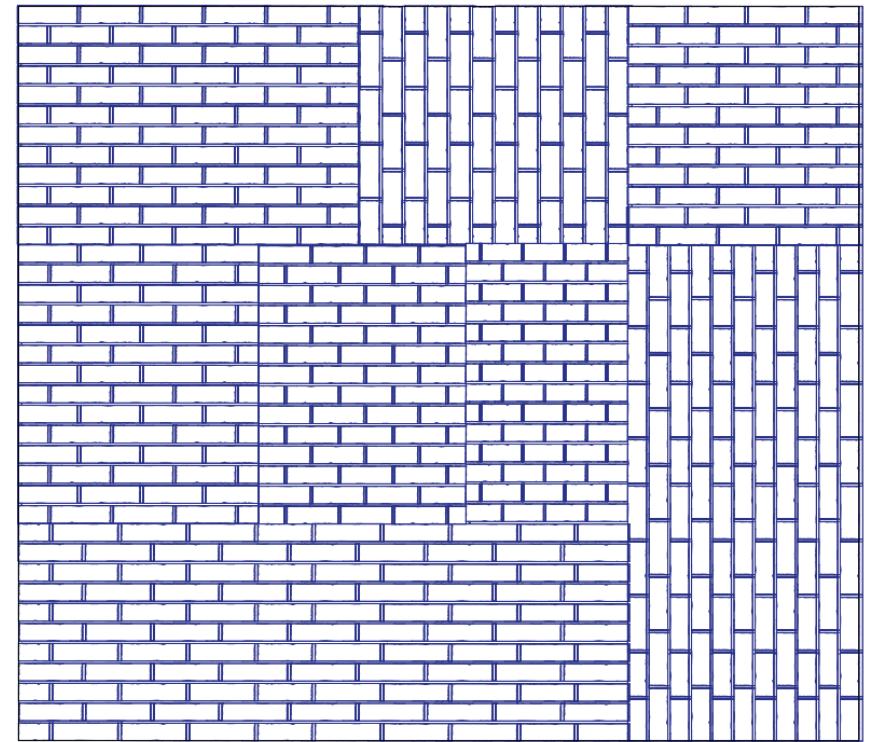
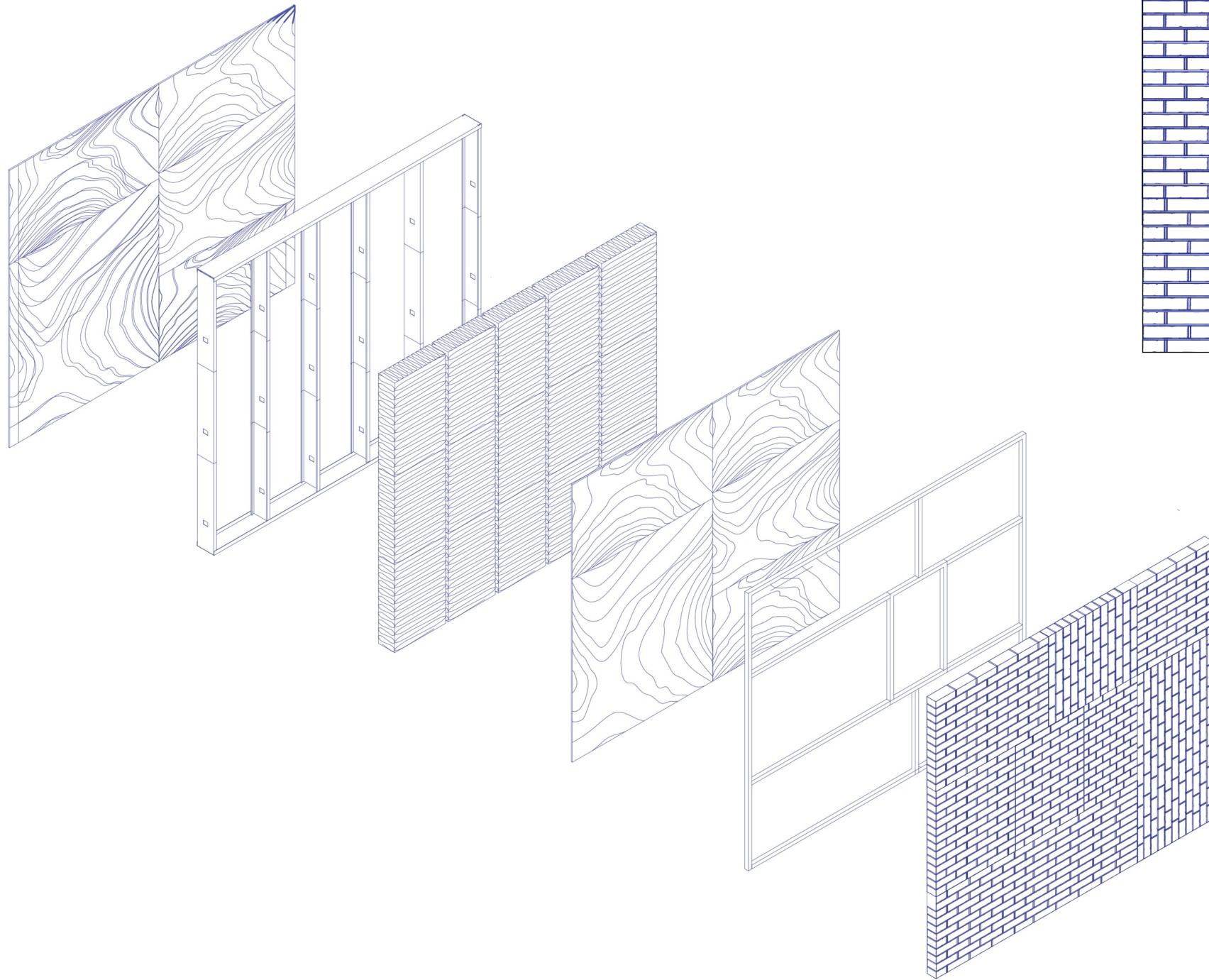


Fig 17

Adaptive Re-use

I read through your google reviews this morning. They didn't say nice things. They said you were unwelcoming, a tired place. An injecting space. Comfort for some. But you beacons the way for modernity in a city struggling with identity, you looked west instead of east. A new building for a new republic. All-encompassing. But now you stand ailing, a relic among relics in a city still struggling for identity. From limitless to limited, your function has been reduced to one. How many people know of the theatre beneath their feet, that premiered works from Friel and Keane or the nightclub that could have been. Now an idle space. What could have been, what can be. Now your Portland stone coat adorns drunk professionals, Darren loves Kelly'. But who loves Busaras? Not the city! And new bronze windows won't fix that. They won't fix the years of apathy, that have left your reputation scorned. Were you too ambitious? Maybe? Open plans, double glazing, air conditioning, you had it all. But they don't see that. They just see the sticky floors and flickering schedule boards. We need to talk about busaras. You're bound by your function. You need a new purpose. You could be anything? You could be a good time emporium with rows of glowing machines, a pleasure island for jack potts, and bingo Bettys. You could be anything? A place for haatitudes, to settle old scores, a fighting den for Brokers and accountants, you could be anything? If you don't adapt you don't endure, and the city is a testament to that. I heard your man Bannon's leading your redevelopment, the fella from the telly. Offices and conference facilities. Is that where our ambition ends? What happened to civic space, I just don't want to see you fall to the wayside. You could be anything, just don't be that.

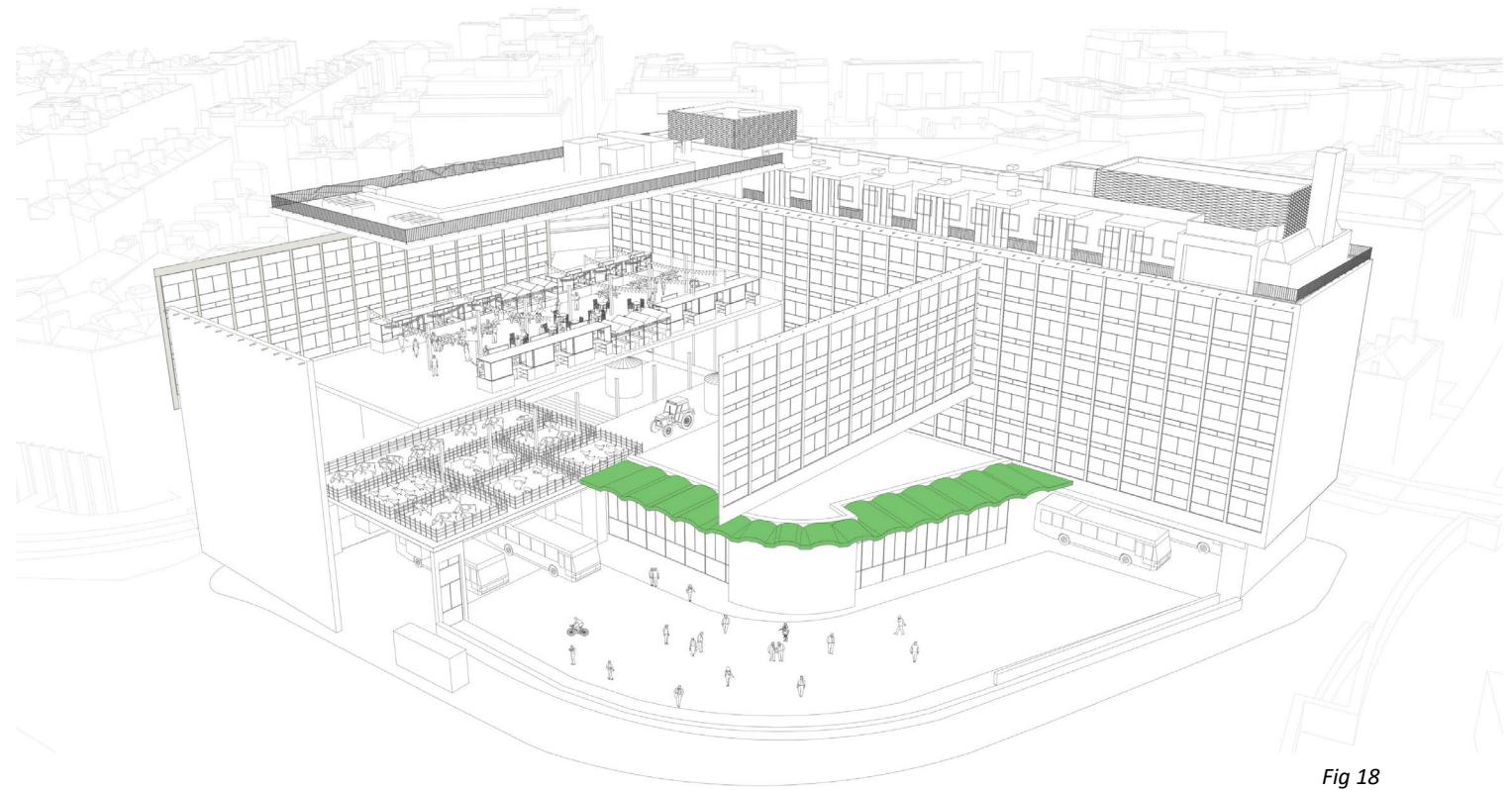


Fig 18

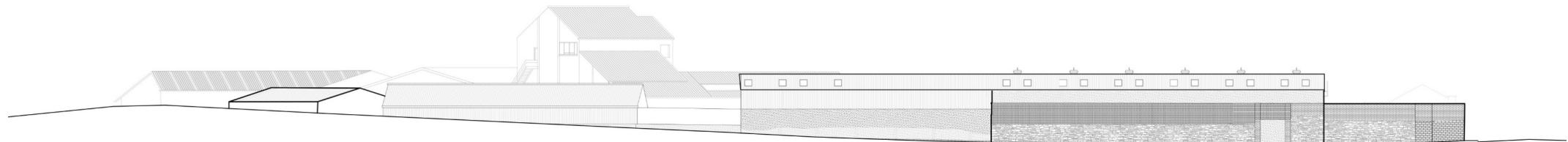
Reuse, remodelling, and adaptation are just some of the many words used to describe what is a process of working with the existing. Some are interchangeable whilst others are specific to a distinct process of work. Adaptive reuse in architecture can be seen as a change of a function. A building that for varying reasons has been deemed obsolescent is then changed to accommodate a new function, implying new occupiers with new priorities.

The above Speculative drawing depicts a reimagined Busaras. A single operational use over the years has seen its slow demise. Informed by early depictions of Busaras as an all-encompassing civic building I tried to rekindle some of these lost elements through this drawing. Representing the building with a myriad of uses, from food production to a civic space for markets to take place. The drawing is intended to be provocative and begin a discussion around the application of reuse for underutilized spaces

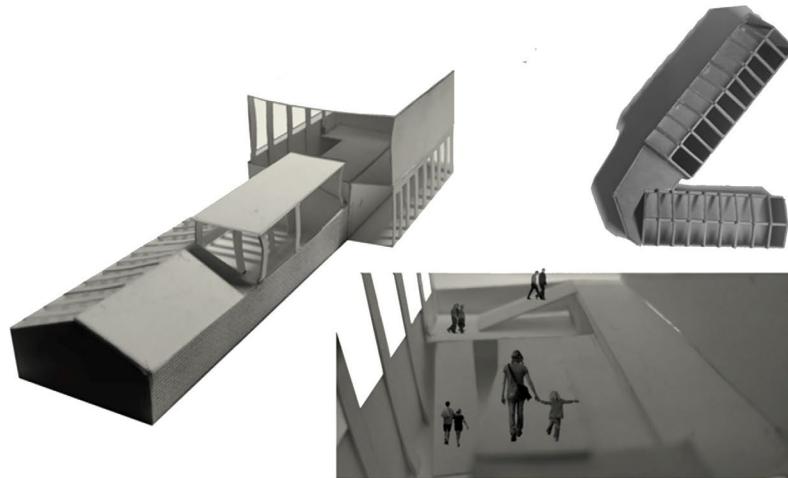
Adaptive Re-use

The design framework for adaptive reuse takes the form of 4 key elements (10) Analysis, subtraction, assemblage, and wholeness. Design framework for reuse Analysis When working within the existing the architect or planner will use his/her analysis of the context to provide an impetus for change. A garnered sensibility through examination, investigation, and analysis creates an acceptance of the existing and promotes a willingness to unveil or accentuate a narrative of found elements. This Rodolfo Machado describes in his essay 'Old Buildings as Palimpsest', as "in remodelling, the past takes on a value far different from that in the usual design process, where the form is generated from scratch" (11) Subtraction The process of subtraction should not be conflated with that of the tabula rasa. Subtraction or what could be interpreted as a process of stripping back for the most part represents the precursor to the act of intervention. Architect Fred Scott in his book 'on altering architecture describes the process as "a means by which the designer can begin a negotiation between the ideal and the actual, and also begin the process of intervention by which disparate parts must be made to cohabit". (12)

Assemblage The addition of a new, independent element for which to sit between or beside the existing can often be seen as confrontational, but yet a framework exists where possible to establish a sympathetic dialogue between the addition and the existing, The prevailing argument is that this approach is most successful when the clearest possible distinction between new work and the existing is established and therefore the style, the language, the materials and the character of each are different. In his book 'townscape' Gordon Cullen describes the process as an "art of relationship just as there is an art of architecture. Its purpose is to take all the elements that go to create the environment: buildings, trees, nature, water, traffic, advertisements ... and weave them together in such a way that drama is released".(13) Building adaptation is very much the duality of processes between the subtraction and the addition. The unveiling and the responding. Inherent within the additions is the agenda of the architect or designer. This is where they can exhibit their character, creativity, sensitivity, or intellectual judgment.



Adaptive Re-use



Using what I had learned from the above as a design framework for adaptive reuse I began the process of depicting a viable solution for reincorporating these former industrial buildings back into use. Through the process of model making, I began to test this. Trying to answer two fundamental questions How much of the original building should be saved, before compromising the success of the intervention? Should all new interventions be made distinct from the existing and if so, how should they if at all relate to the original?

The following models and drawings are products of these studies

Fig 20

Adaptive Re-use

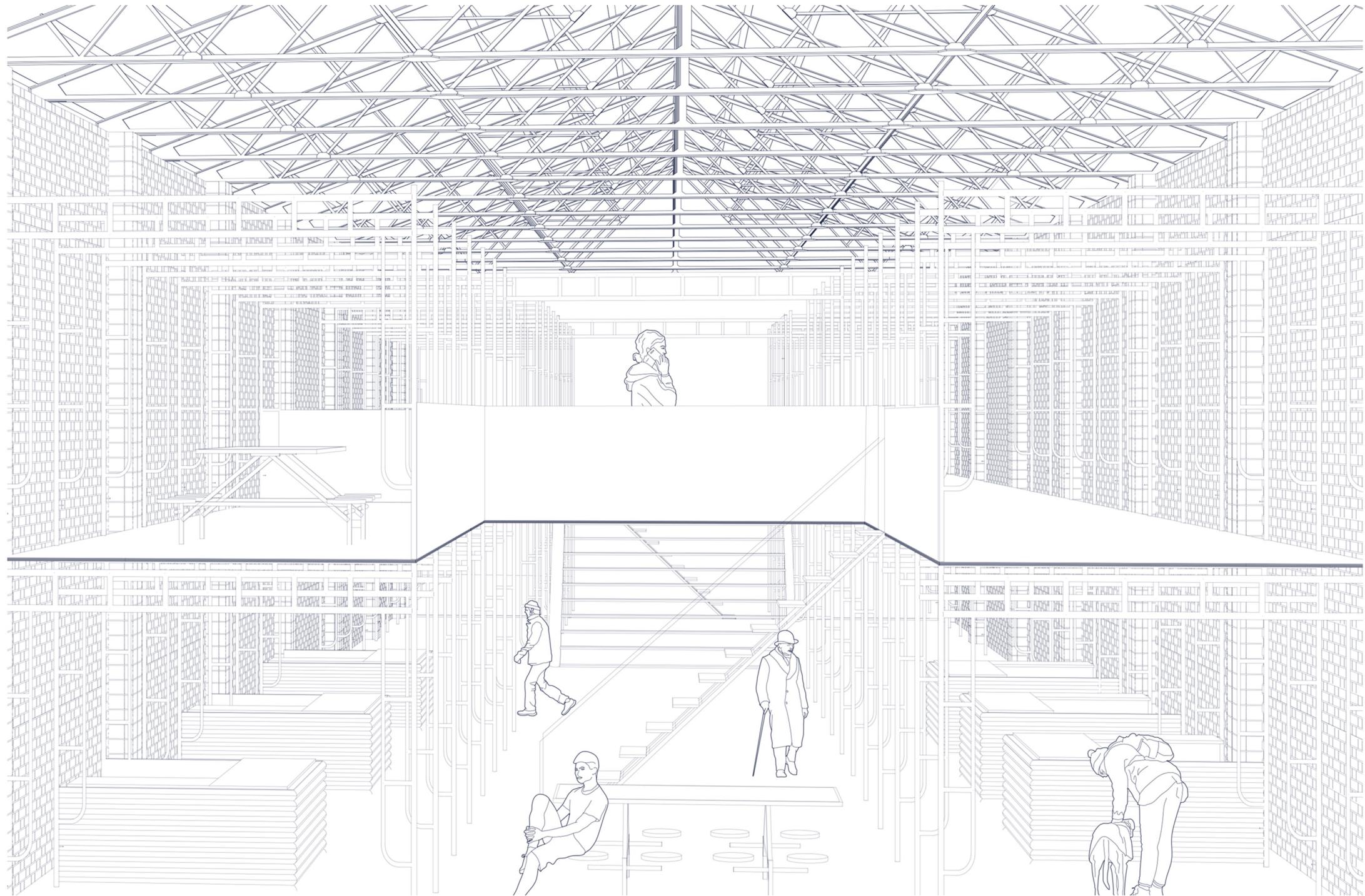


Fig 21

Adaptive Re-use



Fig 22

The initial intervention was to insert a tiered walking platform constructed from scaffolding salvaged off-site. Which would act as a temporal installation for a marketplace to take place. Very little was done in terms of subtraction of the existing, this was informed through my initial analysis of the existing building. Which concluded that virtually all of the existing structure could be retained in its current capacity. However, disrepair and the presence of asbestos made it necessary to remove the existing corrugated roof sheeting. The initial proposition for tackling the reuse of these buildings had successfully adhered to my central theme of bricolage, In that, it provided a temporal structure that was sourced locally from reused and repurposed materials in the conception of a new whole in the form of the intervention.

Adaptive Re-use – Final design



Fig 23

Adaptive Re-use – Final design

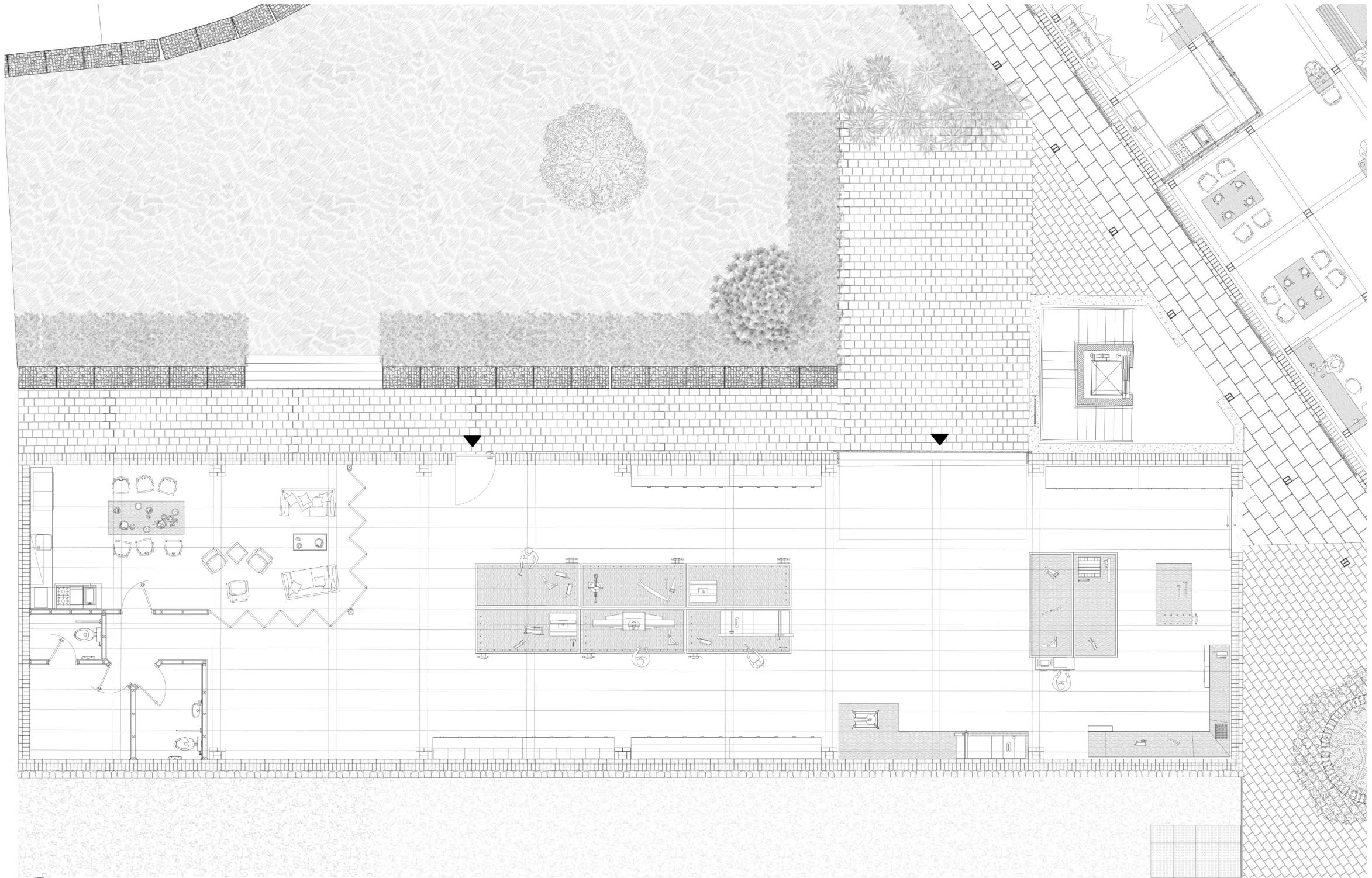


Fig 24

GROUND FLOOR Men's Shed



Adaptive Re-use – Final design

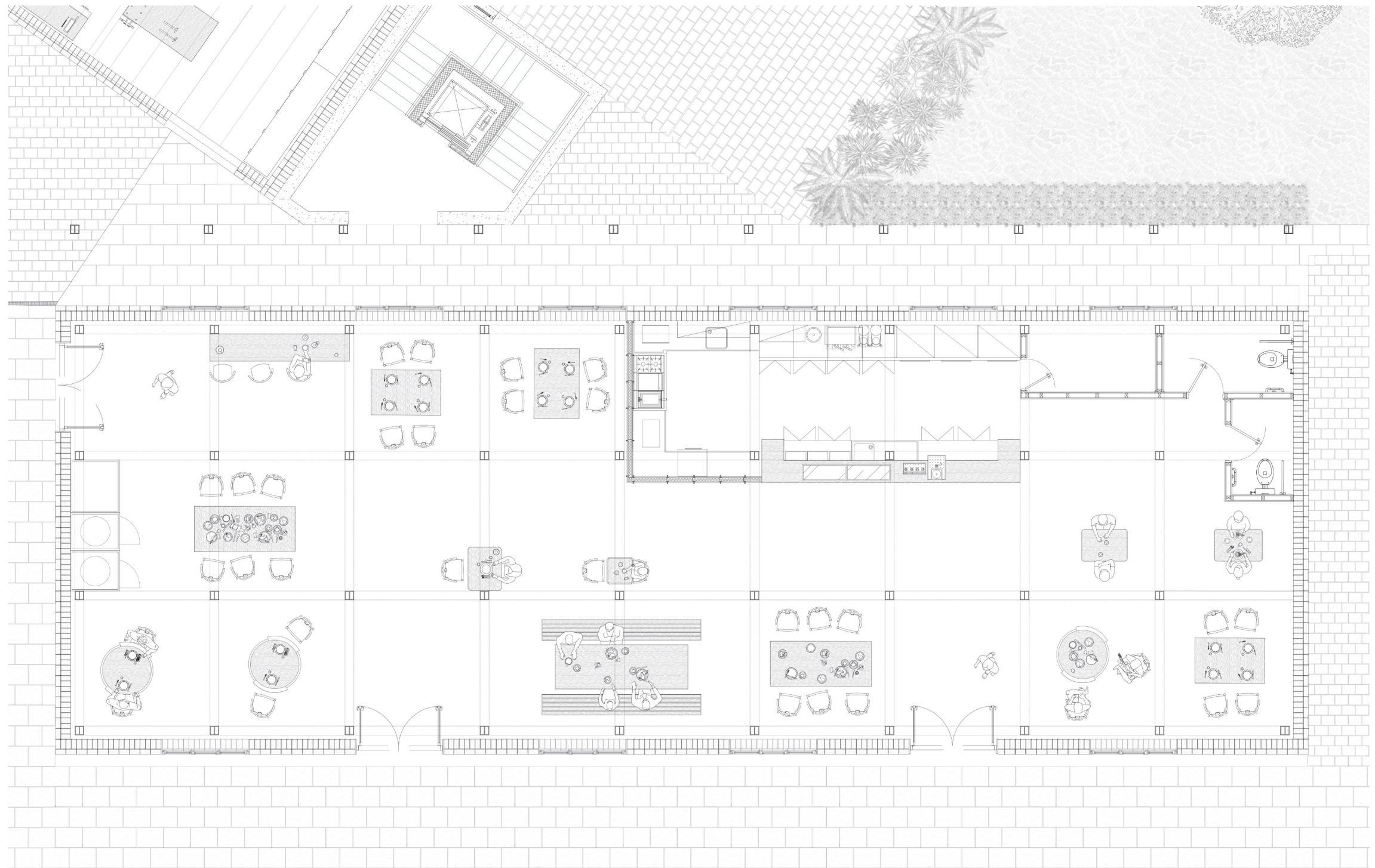


Fig 25



GROUND FLOOR CAFE

Adaptive Re-use – Final design

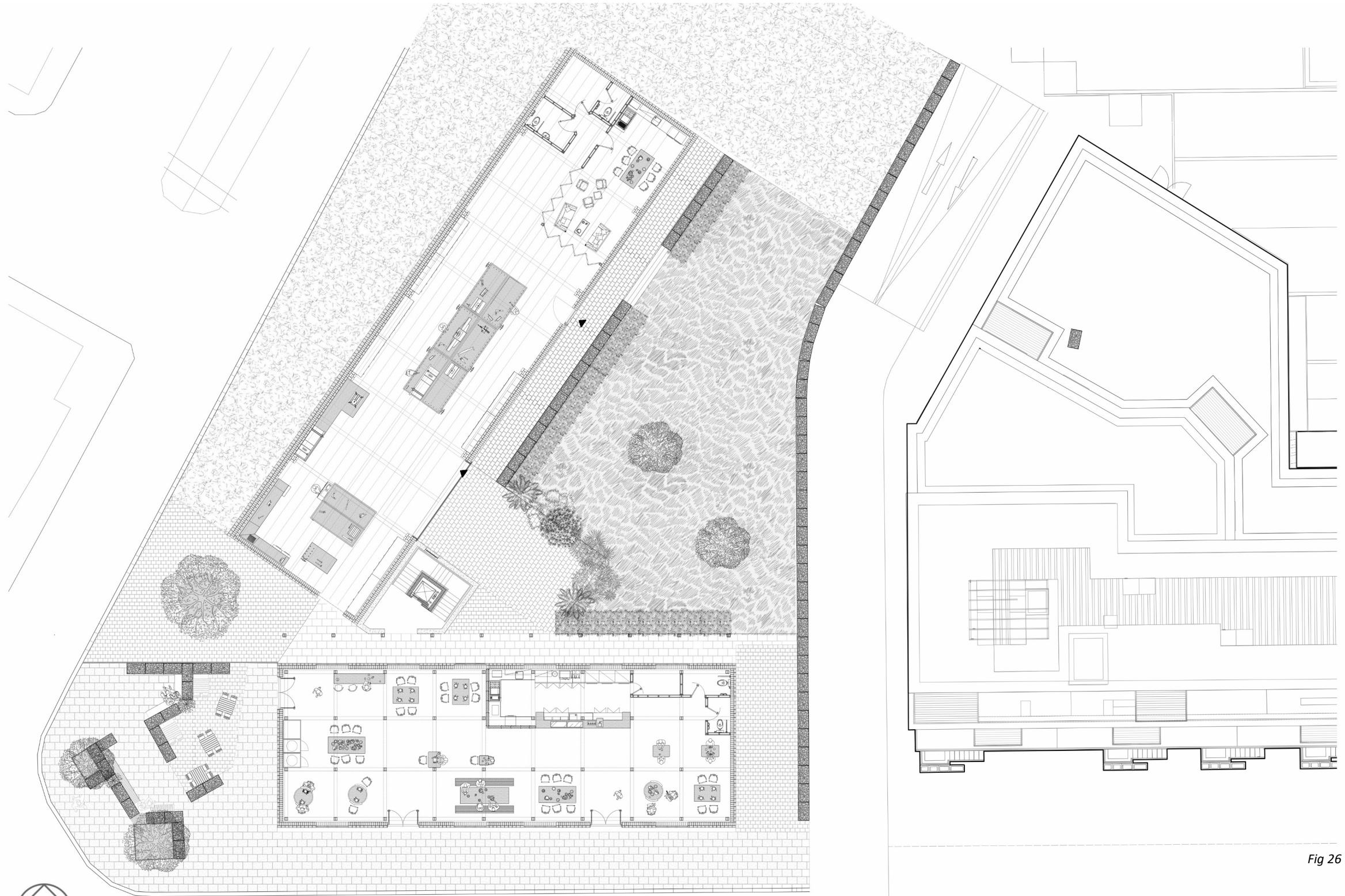


Fig 26

1.200 SITE PLAN



Adaptive Re-use – Final design

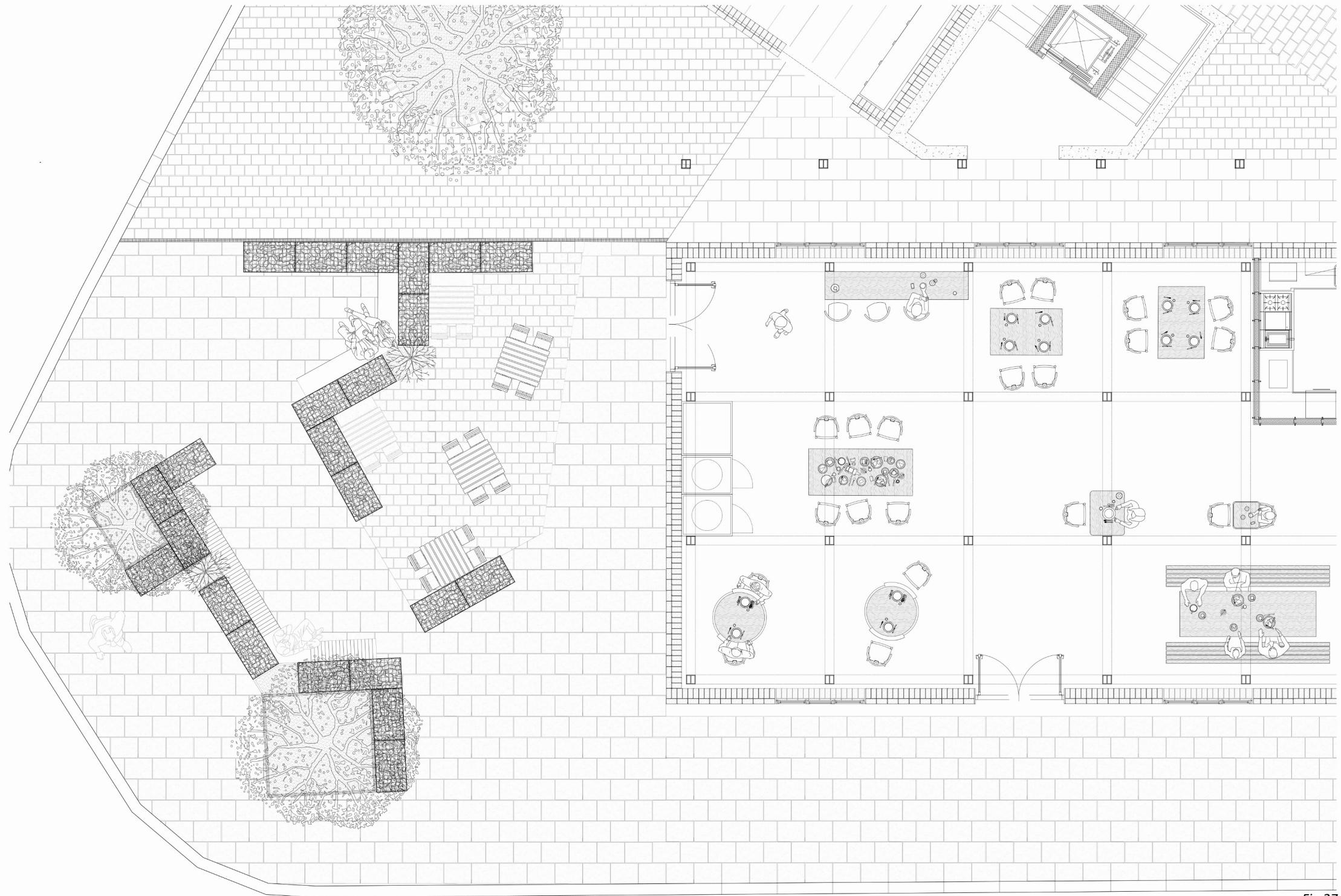


Fig 27

ROAD FACING PAVILION

Adaptive Re-use – Final design

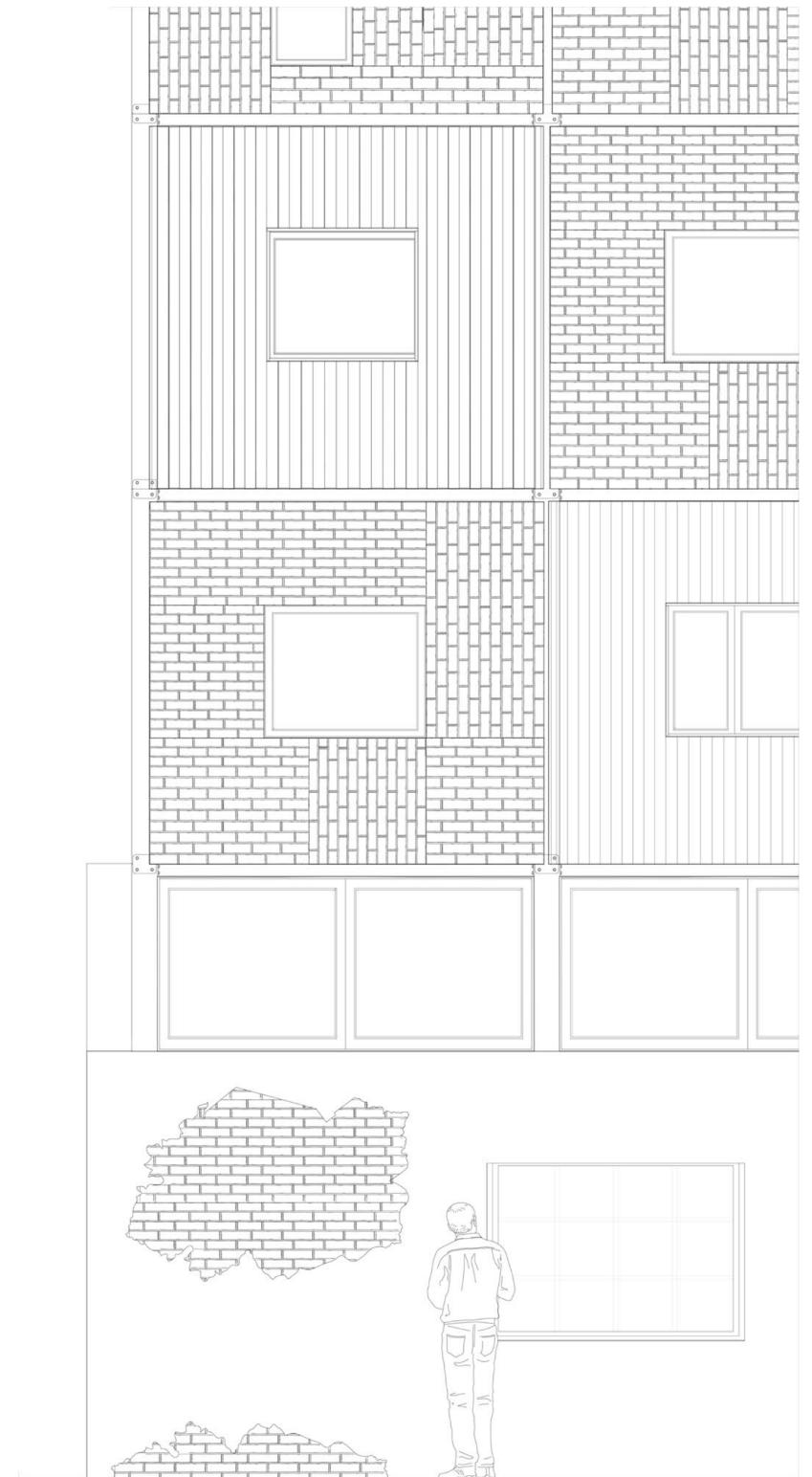


Fig 28

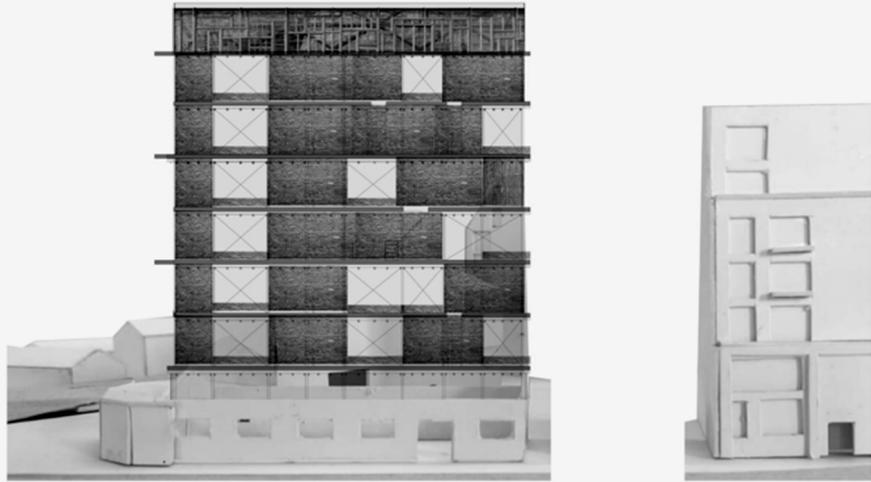


Fig 29

Fig 29



Fig 29

SKETCH AND STRUCTURAL MODELS

Incrementalism and Bricolage

Where the 'engineer' concerns himself with the immutable the bricoleur fashions his constructs to be temporal, always changing. *Through this understanding of bricolage, I explored ELEMENTALS Quinta Monroy's social housing project. Two types of houses were provided, both of which could be expanded into allocated spaces as the resident's resources permitted. The low-rise blocks were porous and designed so the residents could supplement the structure with self-built extensions or increments (bricolage). Through this, the formality of the building is mutable. Never fixed. As addressed in Revisit: Quinta Monroy(14), the aspirations of the project failed to appreciate the perils of the informal. Its mutable nature ultimately led to its regression back to a state associated with slum dwellings that it was intended to replace. The founding principles of incrementalism in social housing were made popular by a 1972 Essay, 'Housing is a verb' by John F.C Turner(15). In his opening statement, he remarks that the most common objection to changes in public policy that would increase the user's control in housing at the expense of local government bodies is that standards would be lowered as a result. Whilst this became true as highlighted by Revisit Quinta Monroy, my project seeks to resolve this issue by offering a hybrid level of incrementalism that allows for the accretion of space but through the means of a select limited number of panels.*

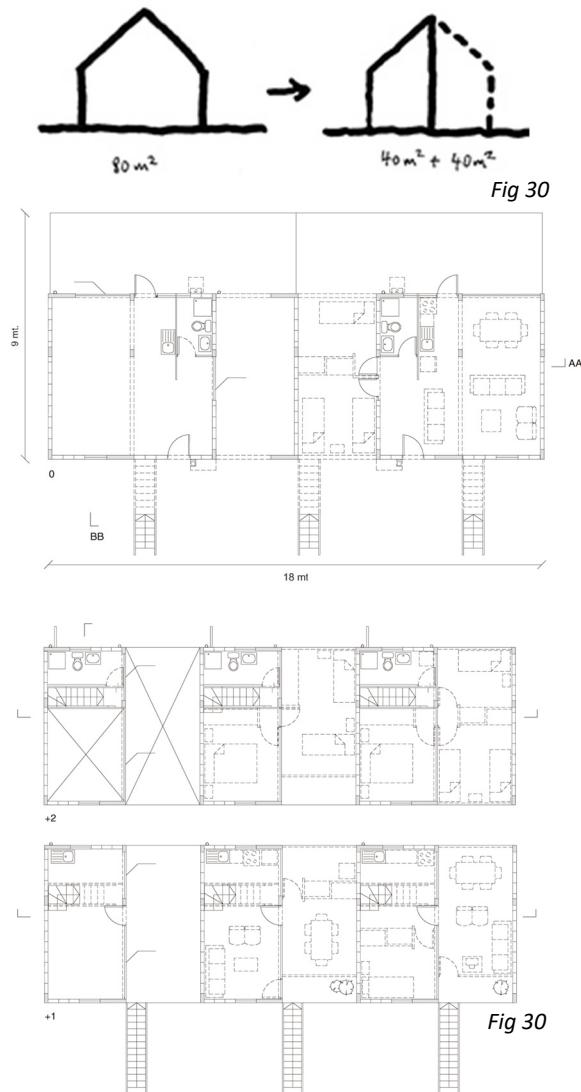


Fig 30

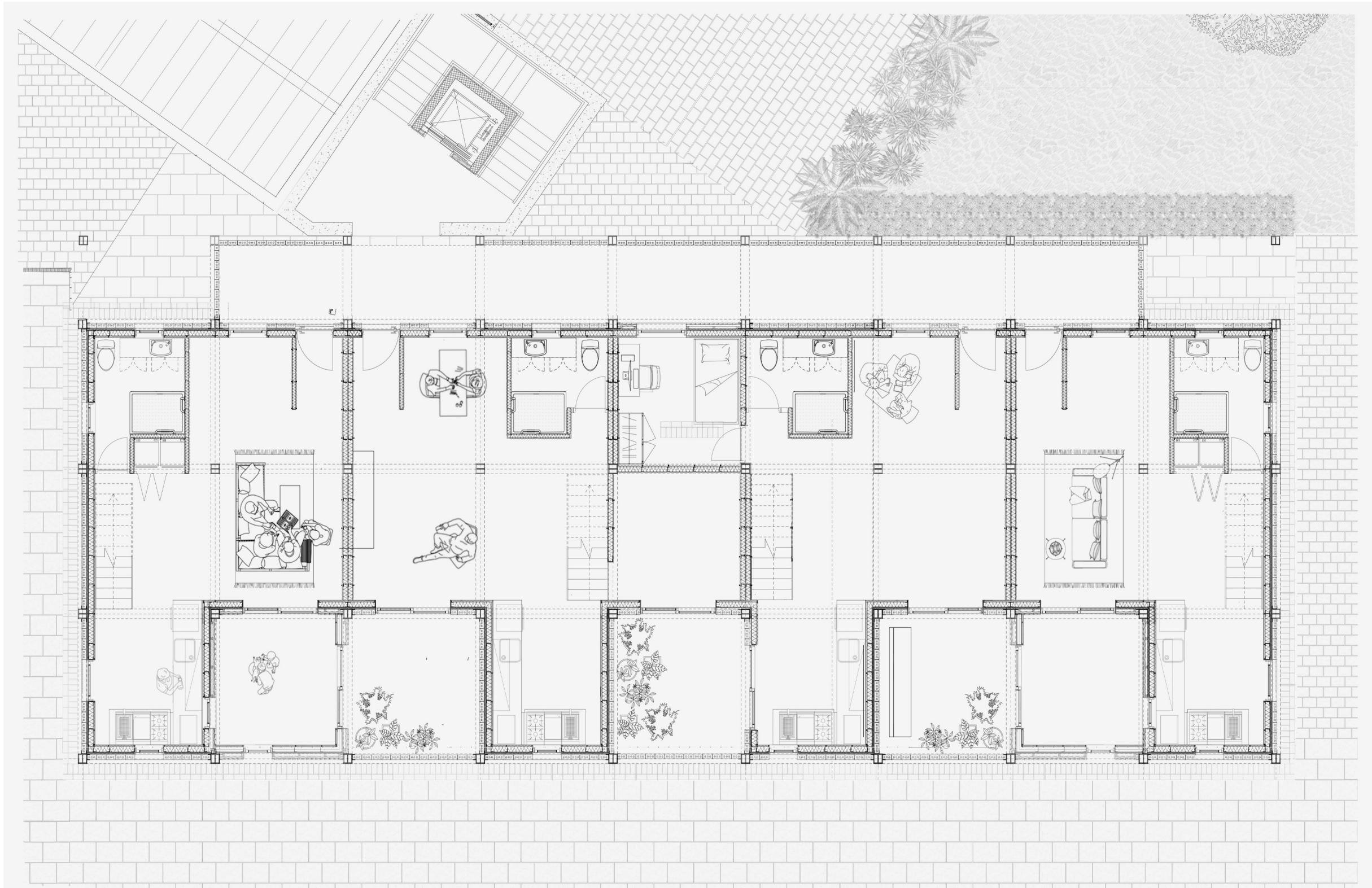


Fig 31

Ground floor Duplex



In his essay Turner makes the case that housing should not be a static unit that is packaged and handed over to the people. But rather housing should be conceived as an ongoing project wherein the users are co-creator, this lends itself to the bricoleur whose project is never fully conceived, always in a state of flux. The hybrid deployed in my scheme allows the user occupier the opportunity to accrete space as their household dynamics change. The employment of a 3 x 3 m grid means each unit can acquire an additional 18sqm. As represented in the floor plans of the duplex units these increments come in the form of external terraces. The demountable panel walls, allow the user the opportunity to alter these terraces to internal spaces as required.

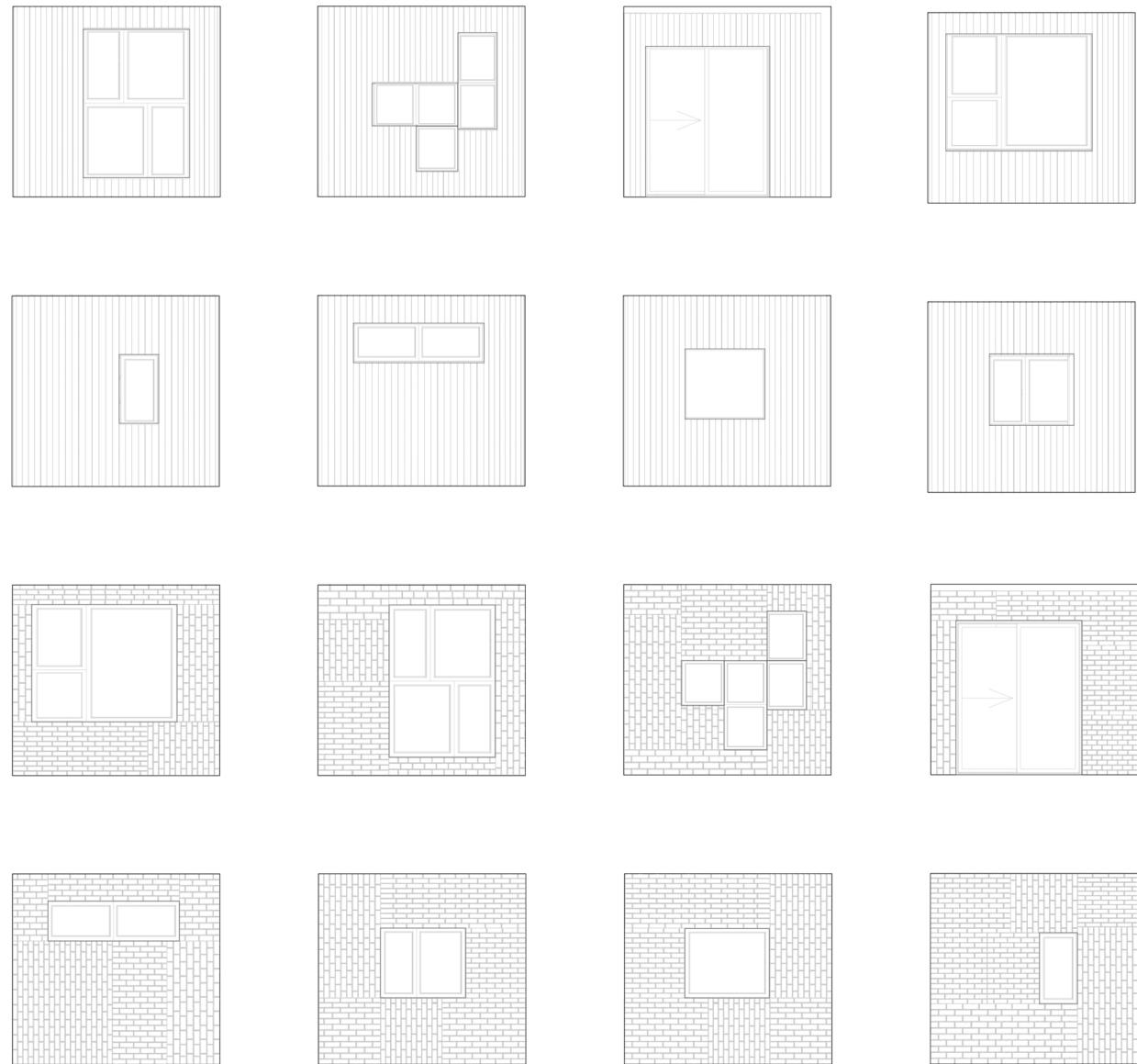


Fig 32



Fig 33

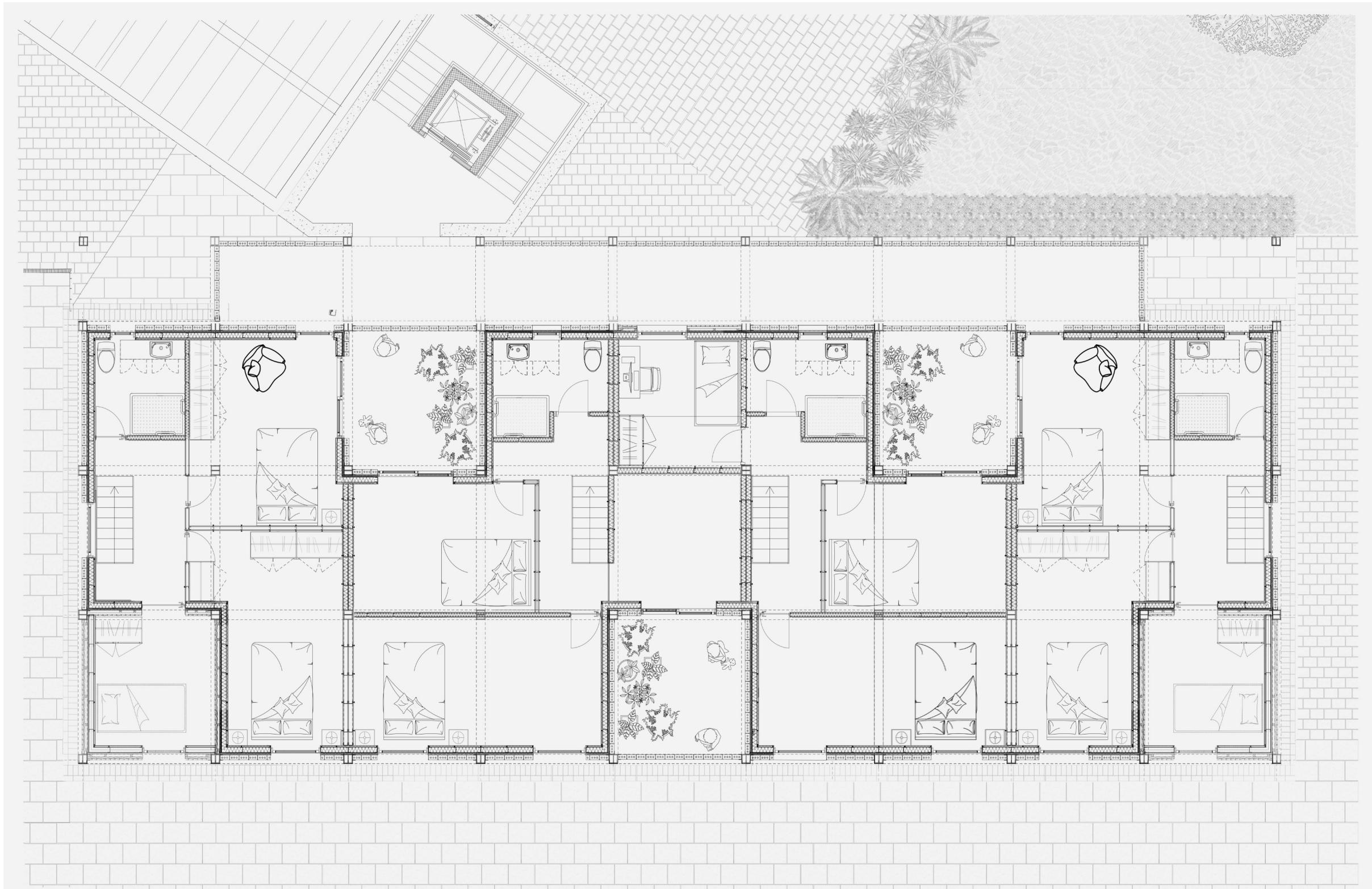


Fig 34

Second floor Duplex



Adaptive Re-use

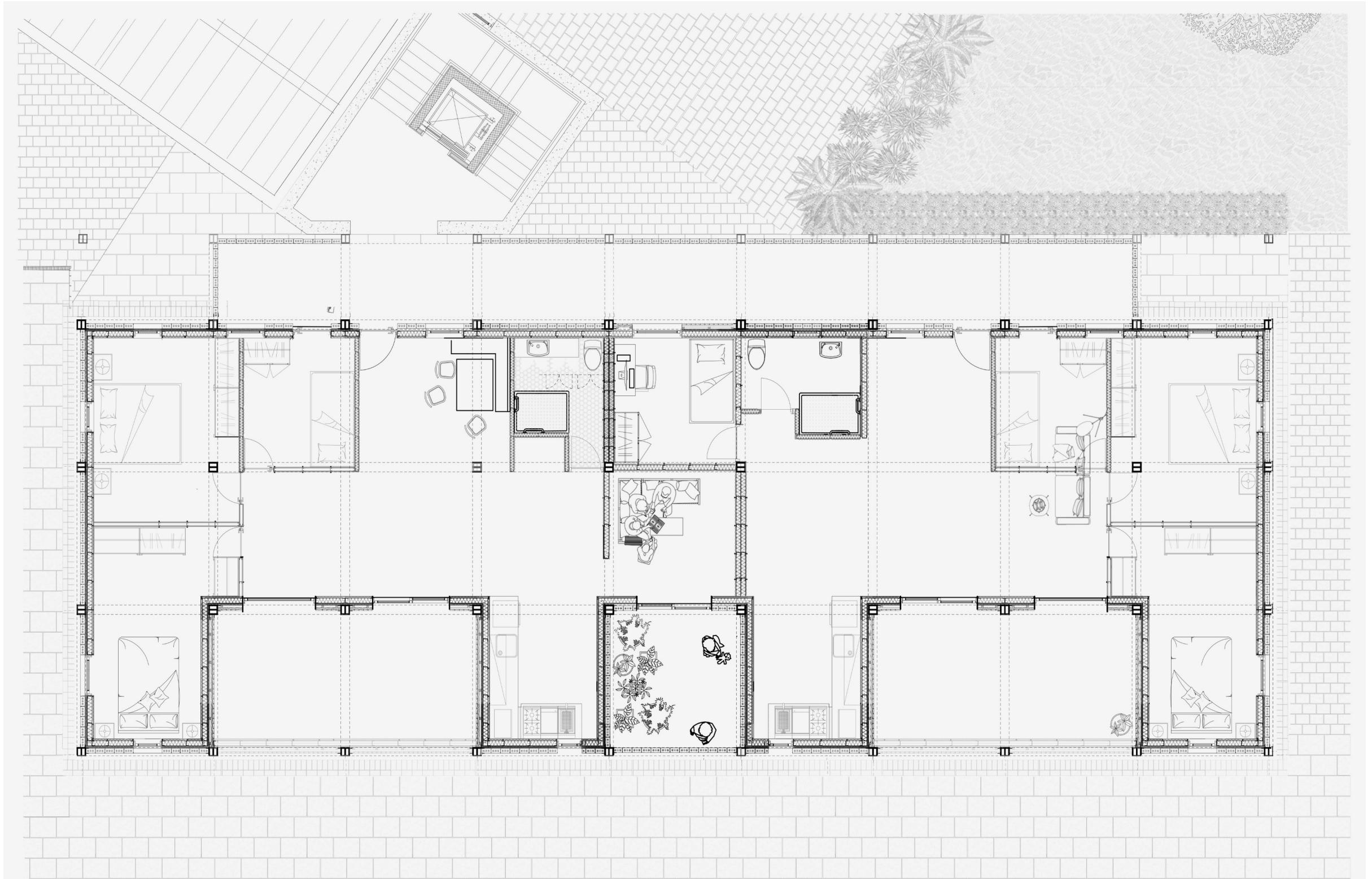


Fig 35

Single storey Apartments
Horizontal increment





Fig 36



We can see how this manifest in the evolution of the façade as represented in these drawings, the gradual infill of these permitted increments means the façade is always changing, much like the bricoleur who builds as required. The inclusion of permanent terraces shared between neighboring units was intended to force interactions between users.



Fig 37

FRONT ELEVATION



Fig 38

FRONT ELEVATION



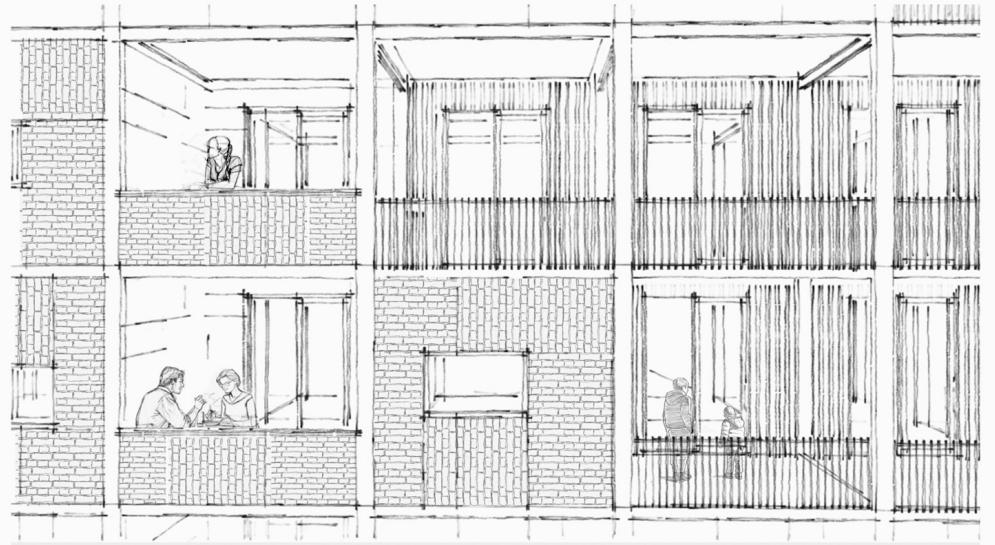
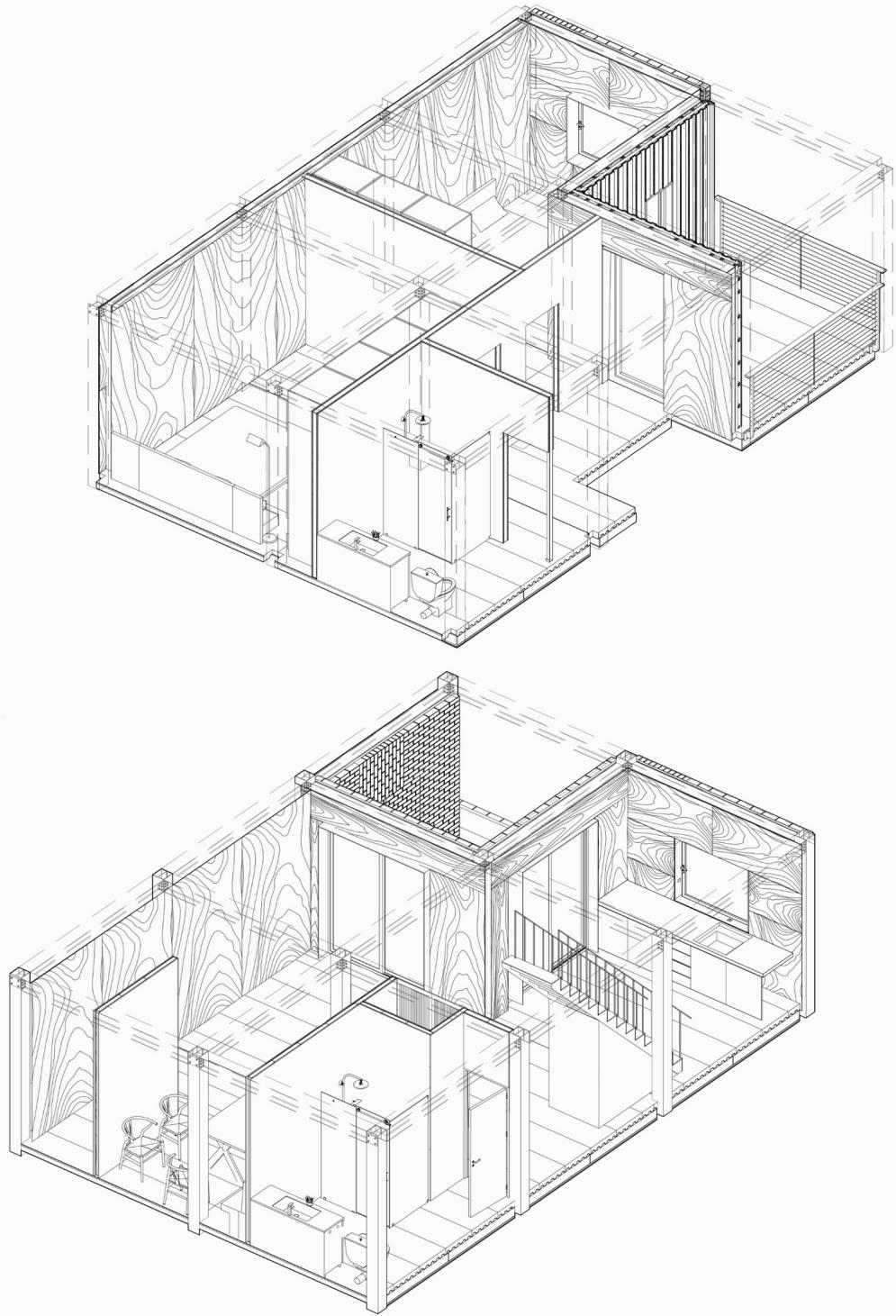
Fig 39

FRONT ELEVATION



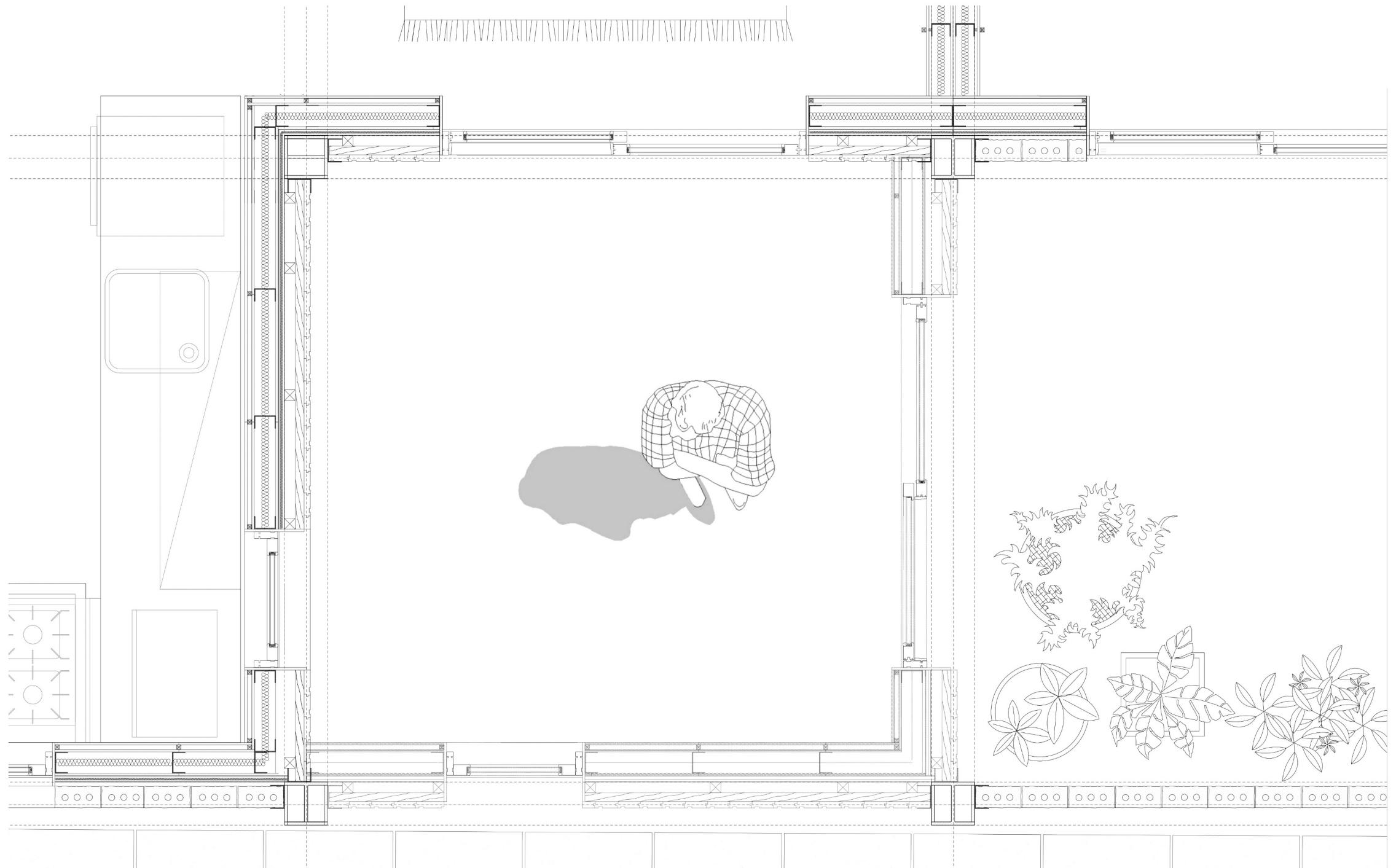
Fig 40

FRONT ELEVATION



POST AND BEAM RELATIONSHIP

Fig 41



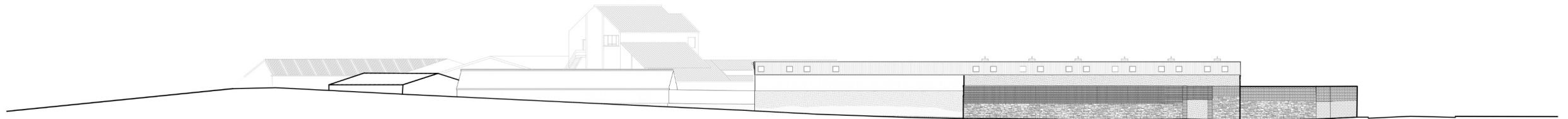
PANEL CONSTRUCTION

Fig 42



SIDE ELEVATION

Fig 43



EXISTING CONDITION



FUTURE CONDITION



Fig 44

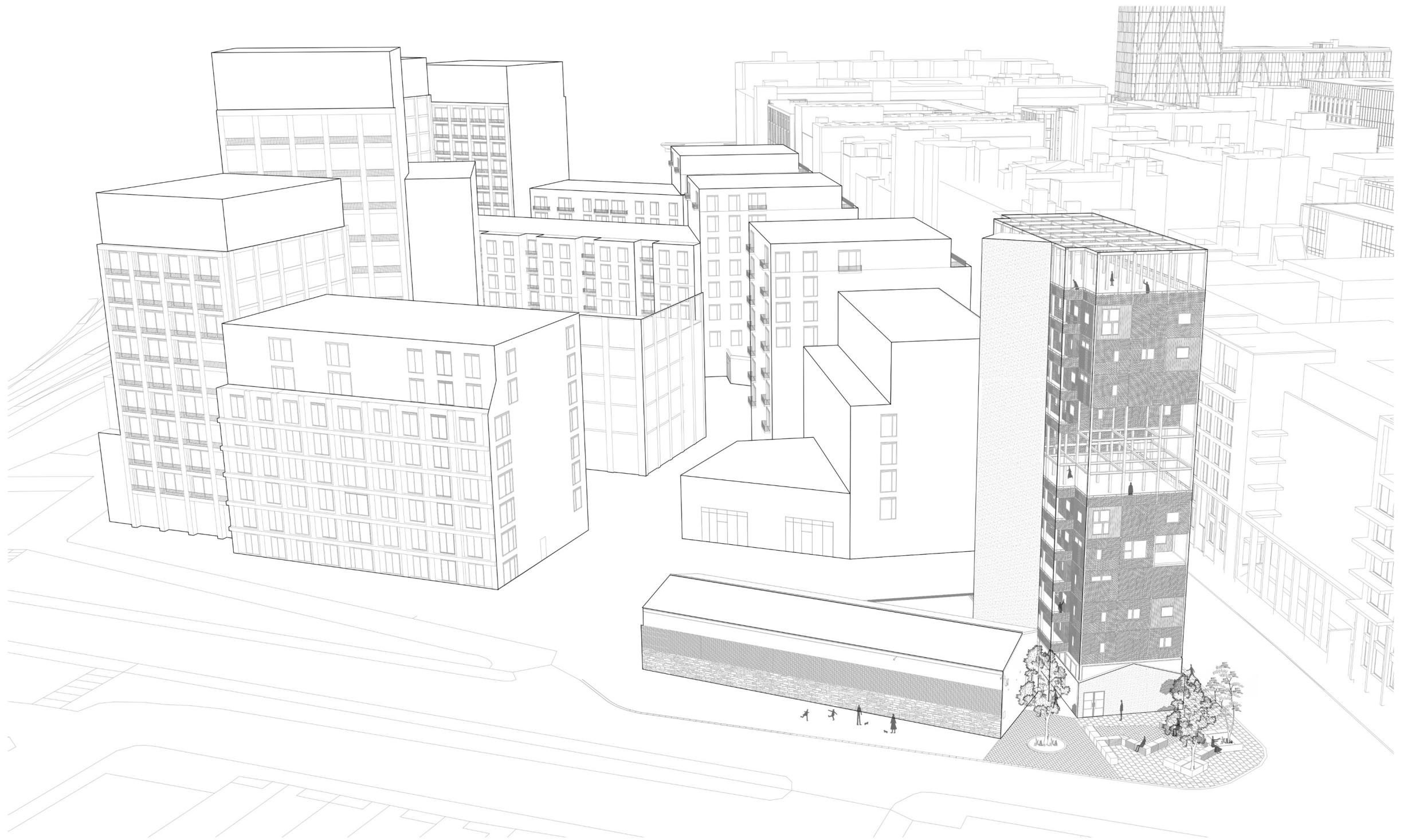


Fig 45

3D ISOMETRIC



EXISTING



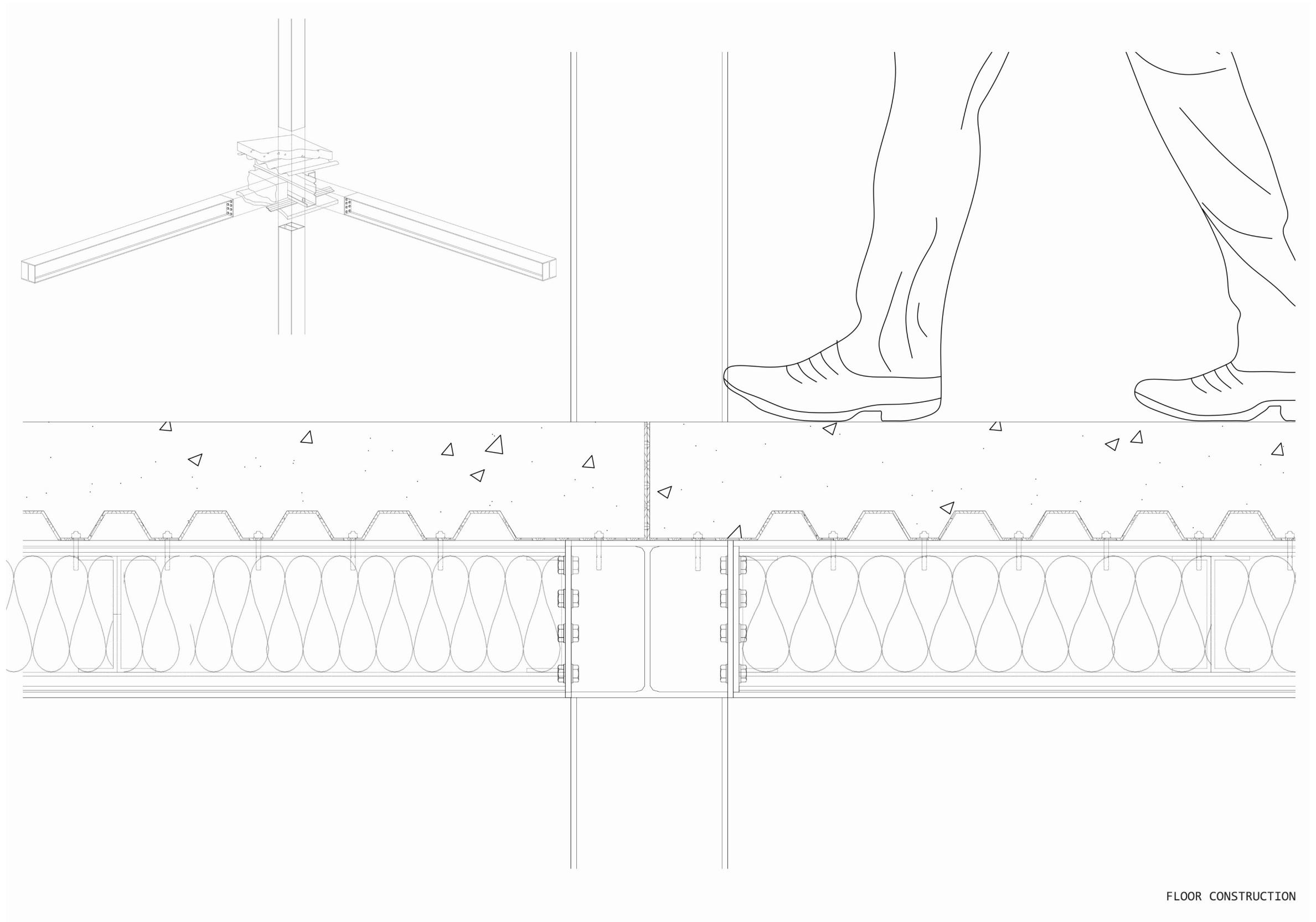
FUTURE SHD



FUTURE PROPOSAL

LONG SECTION EXISTING & FUTURE

Fig 46



FLOOR CONSTRUCTION

Fig 47

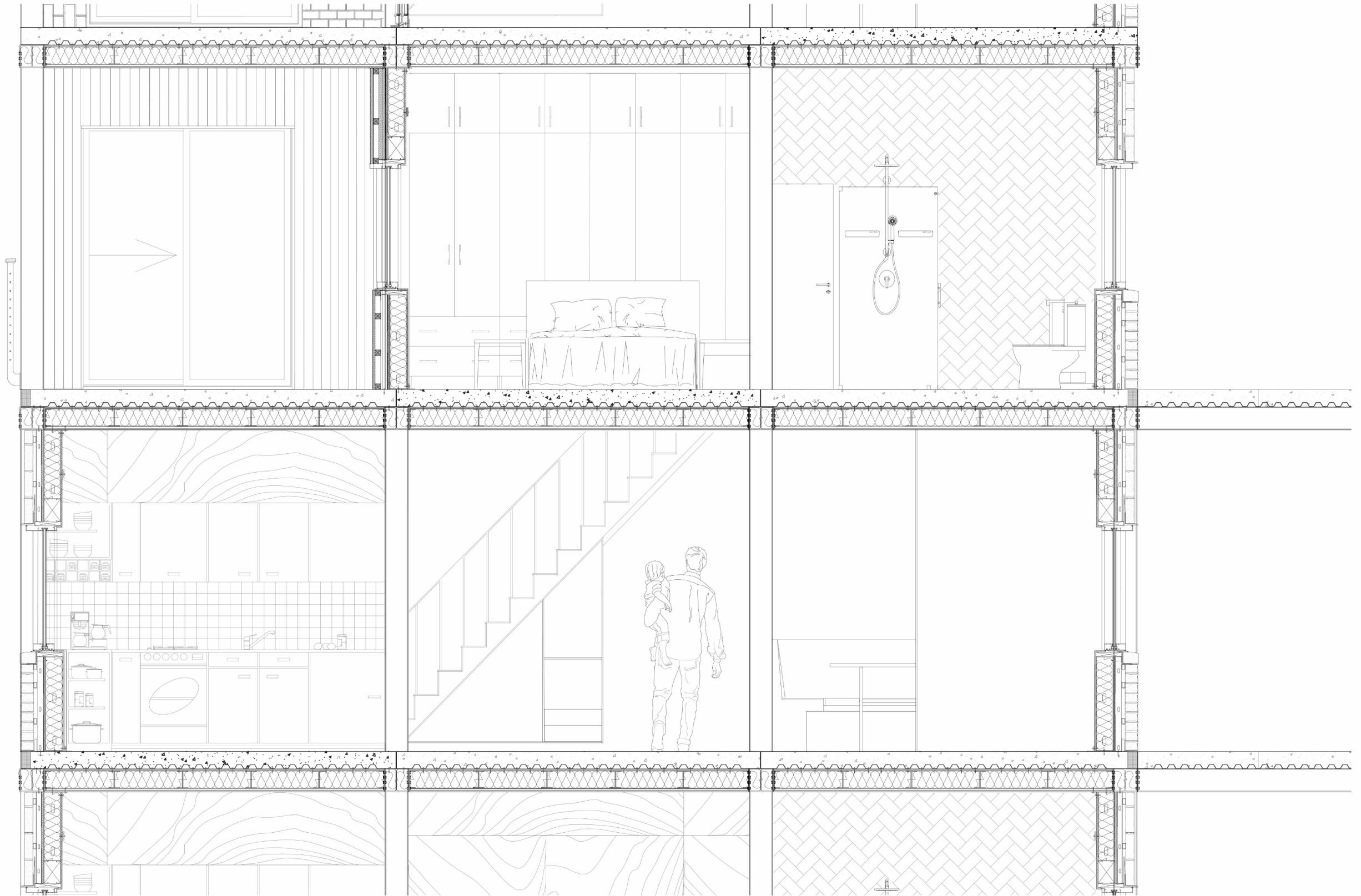



Fig 48

INCREMENT

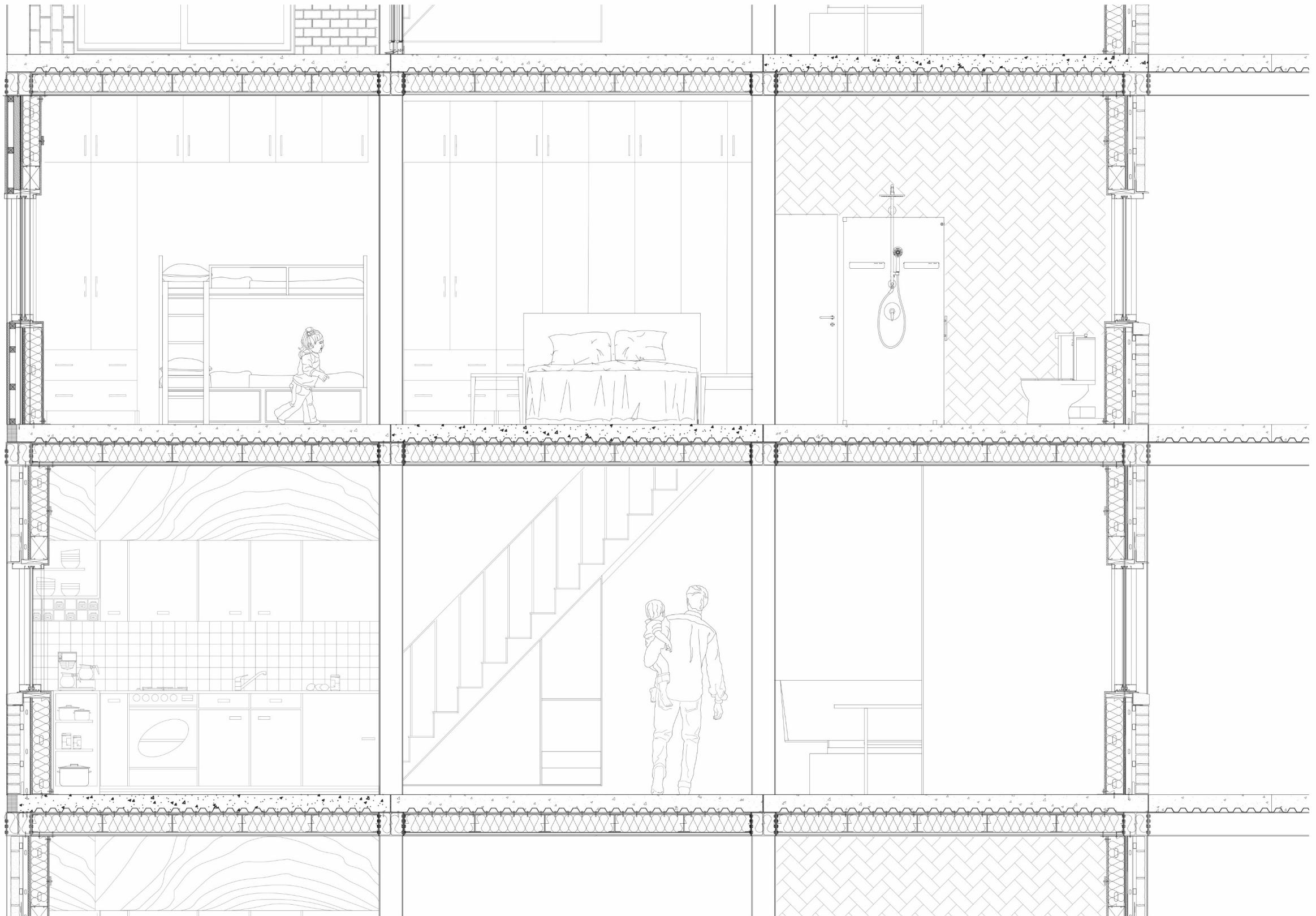



Fig 49



Fig 50



Adhering to the Parmenides's expression of "Nothing comes from Nothing" I took now the opportunity to tackle the built environment of my chosen site as a protean of palimpsests of history, material, use, and culture that references and respects past and present. My intentions were to challenge antiquated notions of reuse as cheapening the act of architectural production, and instead see it as a way of implementing a critical care approach to the project. This study has demonstrated how an introduction of new function to post-industrial buildings through adaptive reuse can contribute to the development, redevelopment, maintenance, and rehabilitation of an area. The research conducted has allowed me to evaluate the existing praxes of design approaches for the reuse of unused buildings. The success of the project relied on an understanding of the formal parameters of the complexity of the site. It was imperative that a dialogue with the past was maintained and strengthened. The greenest buildings are those that are already built, and adaptive reuse was at times a complex strategy though necessary. The selected brief has shown the potential of adaptive reuse to produce culturally sensitive spaces. As the area or the northeast city changes at rapidity so too does the dialogue and the relationship between the architecture and its surroundings, the adaptive reuse of my chosen building showed the potential to accurate this dialogue. A truly sustainable building is not only defined by its materials and energy use, but also by its ability to serve the changing needs of its users over time. This paper will hopefully have demonstrated the need to challenge the tabula rasa whilst identifying a framework for the implementation of adaptive reuse that further demonstrates its associated opportunities. A truly sustainable building is not only defined by its materials and energy uses but its ability to serve a community over time. My exploration into flexible incremental housing will have demonstrated the potential for such housing in the city that much like the wall of the bricoleur will evolve and take on new meaning through time and the changing needs of its occupiers.

Fig 51

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