
PRE-SCREENING QUESTIONNAIRE OUTCOME LETTER

STU-EBE-2022-PSQ000090

2022/11/01

Dear Humairaa Wahid,

Your Ethics pre-screening questionnaire (PSQ) has been evaluated by your departmental ethics representative. Based on the information supplied in your PSQ, it has been determined that you do not need to make a full ethics application for the research project in question.

You may proceed with your research project titled:

Re-animating the fringes and fissures of Richmond as a rural habitus.

Please note that should aspect(s) of your current project change, you should submit a new PSQ in order to determine whether the changed aspects increase the ethical risks of your project. It may be the case that project changes could require a full ethics application and review process.

Regards,

Faculty Research Ethics Committee

Exploring the fringes & issues of

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Humairaa Wahid
2022
Design Dissertation Report
Master of Architecture (Professional)
University of Cape Town
Supervisor: Alta Steenkamp

DISSERTATION TITLE: Re- animating the fringes and fissures of Richmond as a Rural Habitus

STUDENT'S NAME: Humairaa Wahid

SUPERVISOR NAME: Alta Steenkamp

This dissertation is presented as part fulfilment of the degree of Master of Architecture (Professional) in the School of Architecture, Planning and Geomatics, University of Cape Town.

DATE: September 2022

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I would like to sincerely thank Alta, my supervisor, for providing me with meaningful and valuable insights throughout this design journey. In conjunction to keeping me accountable of my deliverables you have been a pillar of immense support and encouragement throughout this year.

I would like to thank Simone Le Grange, Stella Papanicolaou and Mike Louw for their valuable guidance and encouragement in my process.

Most importantly I would like to thank my parents, Raheemah and Ashraf Wahid for their unconditional love and support throughout my educational career. Your valuable insights and unwavering support has broadened my understanding of the world, increased my resilience in the face of challenges and allowed me to manifest hope and credence in my design endeavours.

Ultimately, I give thanks to my Creator, the most Merciful.

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auto- ethnographic account

Richmond, the town within which I resided for most of my life, is located on the upper banks of the Illovo River within the Midlands region of Kwazulu-Natal. Although it is less than an hour away from the city of Pietermaritzburg, it lies within the midst of an agricultural zone. Given my secluded upbringing, the hustle and bustle of the city used to baffle me. The fast cars zipping by, the compacted structures and steady buzz of ubiquitous human interactions were all infused with a sense of urgency.

My Architectural studies were completed within the confines of the city of Cape Town which resulted in an acute sense of displacement that reverberated into the depths of my consciousness. A frequent shift, over the course of five years, between a rural and an urban living environment has culminated into a hybrid set of rural sensibilities and urban adaptations. As a female student of colour, I learnt to navigate through larger-scaled spaces, crowds of people and social settings. This was a period of mental and physical expansion; however, my highly convoluted schedule rendered my architectural visions into a myopic state.

Before proceeding with my postgraduate studies, I worked for a local firm within Pietermaritzburg. This experience had allowed me access into secondary and tertiary educational projects, located within rural areas which broadened my perspectives on the possibilities latent within these areas. I took a keen interest in the intimate social influence and participation with which all of these projects were imbued. The inception, conceptualization and construction of these projects was intricately crafted through public participation. Regarding the aspect of construction, an Early Childhood Development centre was synthesised from rammed earth by members of the community. Both the oversight and education of this type of construction was provided by appointed engineers and architects.

The principles of public participation as a rural sensibility employed within the architectural discourse has profoundly magnified the scope of knowledge, diversified epistemologies and conjured pluri-versal solutions to issues facing rural communities within South Africa. Given my personal experience and subaltern rural perspective, I plan on analysing and identifying regional developing opportunities found within my hometown of Richmond. I see a huge need for the preservation of rural sensibilities and entrepreneurial ingenuity within this town as it will counteract the current encroachment of hyper-industrialization.

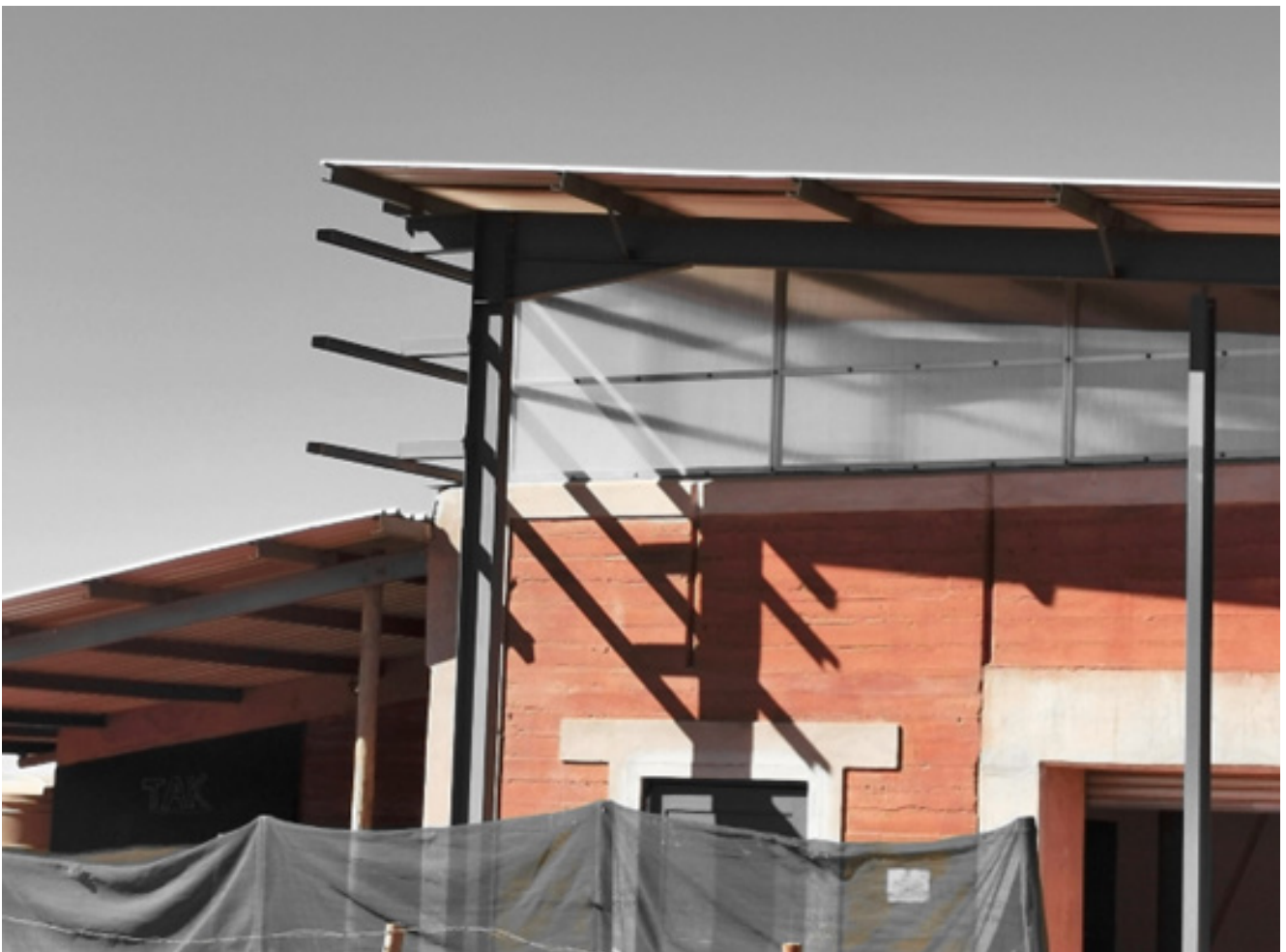


Figure 1: iThemba Projects: Rammed Earth Community Hall under construction. (Authors own)

The human occupation of space is never neutral. My architectural knowledge together with general observations of the world around me has led me to believe that we almost instinctively find the need to give meaning to the spaces that surround our existence. We neatly categorize and sequentially organize masses of the natural landscape to house, entertain and allow us to work towards a pattern of sustained development that would support generations to come. An explicable factor that is vital to this development is the availability of fertile, stable soils that enable abundant crops and houses to firmly root themselves within the earthy grasp.

In order to achieve sustainable occupation on the terrain, it is imperative that one is inserted within a favourable locale relative to the social societal system of organization as well as within the proximal bounds of the built infrastructure that support this system. The present reality within the context of South Africa is experienced as a dichotomous animation. On one hand you have the adoption of a democratic social system within a spatial organization that was historically governed by racial segregationist policies. Hence, the purpose of this thesis is to attempt to propose tangible ways of mending the rift of the dichotomise reality through design engagements with rural low-income South African proletariats.

The nature of the supporting infrastructure for these users will centre around informal vendor activities, community gatherings and sustainable low-cost housing prototypes. My aim is to diversify my response to encourage centralized mixed-use activities within the outlying town of Richmond which is situated in the Kwazulu-Natal province of South Africa. One of the advantages of working in a developing rural town is the expanse of open, left-over spaces that proliferate around the developed edges of the town and abandoned buildings and sites bestrewn within the inner compartments of the town.

My plan is to embark on a design concept that is suited to a centralised, open site which is positioned at the northern entrance of the town. In essence, I am designing a frontage to the gateway of the town which necessitates the need to sensitively generate an actively engaged edge relative to the main road and surrounding socio-economic pursuits. In my thesis I will provide historical information that will provide the necessary background of the town's development. Furthermore, empirical research combined with case study analyses of secondary source material will inform my design engagements and arguments in favour of my chosen locale, scale and overall design response to the habitus of the end-users. In order to deliver succinctly, I have divided this thesis into four parts detailed below:

Part one

Illustrates the spatial make-up of the town, its historical background and the infrastructural economic conglomerations that are presently active. I extrapolate upon my theoretical basis of the rural habitus as a mode of understanding the reasoning behind the structure of social systems. It serves as a lens that assists in my own understanding of the *why* behind the *what* in society and applying this knowledge architecturally.

Part three

Focuses on site specific analysis and conceptual interventions. Focusing on user-interfaces and tactile engagements with the systems of built infrastructure and socio-economic systems that the design attempts to sustainably incubate.

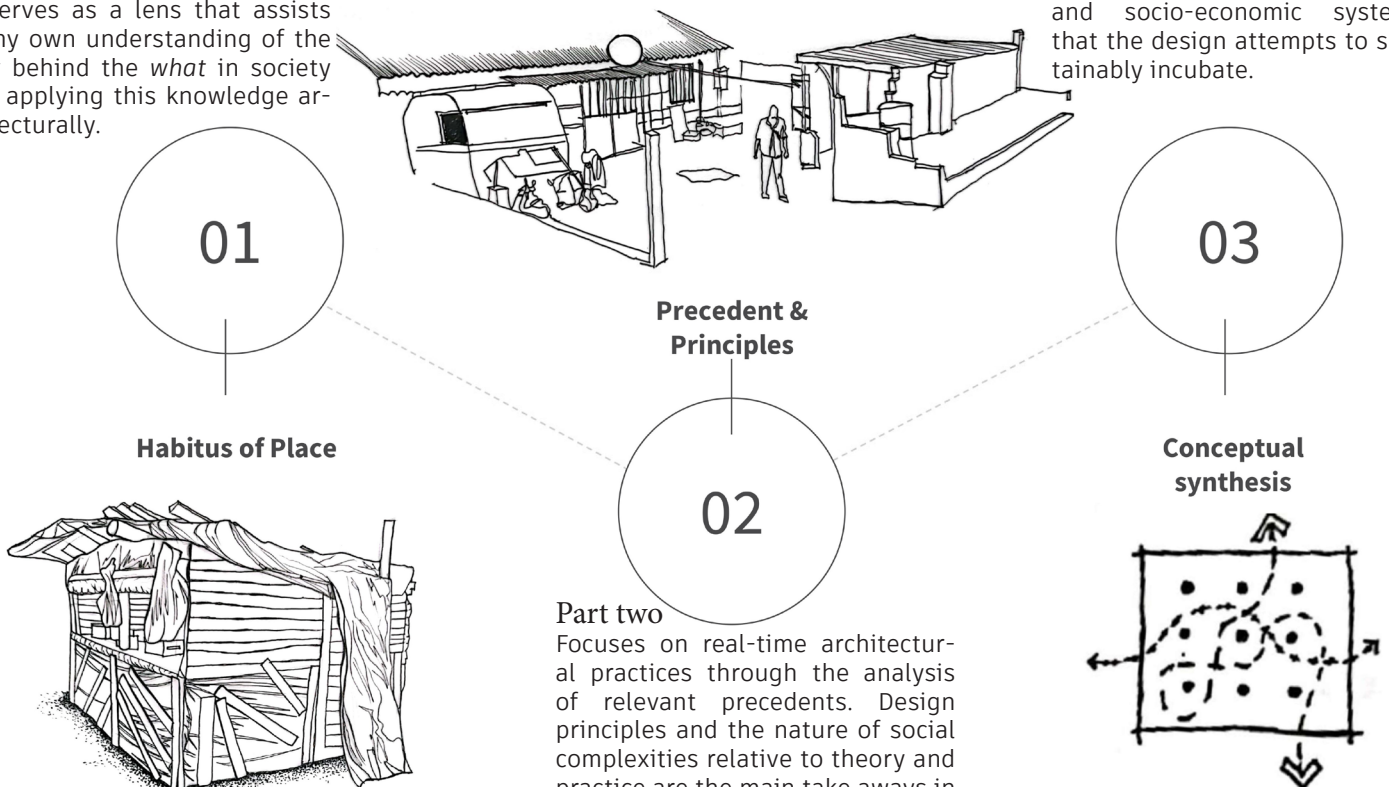


Figure 2: Sketches (Authors own)

Part two

Focuses on real-time architectural practices through the analysis of relevant precedents. Design principles and the nature of social complexities relative to theory and practice are the main take aways in this section.

Habitus

Habitus is the embodied and cognitive sense of place. The conceptual notion of the habitus can assist in understanding one's own role and place in the world in relation to other people and structures within the lived environment (Painter 2000). The habitus is a system that functions as both an adjective and verb in disseminating the interrelations between formal structures of society and the tendencies/predispositions it presupposes within the lives of the agents- in the formation of principles, practices and representations.

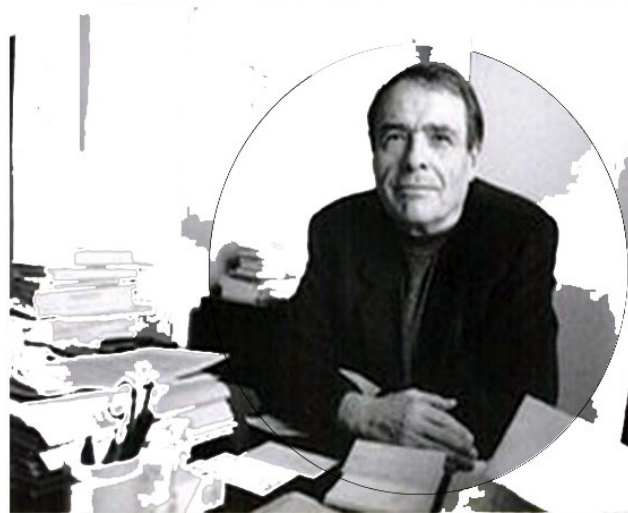


Figure 3: Image of Pierre Bourdieu (<https://www.historylearningsite.co.uk/sociology/education-and-sociology>)

Habitus definitions extrapolated

The habitus is both a verb and adjective as it seeks to describe how the likelihood of an individual to act in a certain way depends upon how we expect other agents or structures to respond. Hence, it illustrates the 'why' of action and defines the 'how' of action. The verb is expressed in the individual's inclination to act objectively within the range of possibilities and expectations. A point of contention could arise if one assumes the habitus to be prescriptive, however, Bourdieu emphasizes that the habitus is merely a mediating link between objective structures and the individual actions of its agents to only uncover patterns of behaviour and not deterministic assumptions that seeks to foretell exact actions (Lemke 1995). Hence, the habitus leaves room for social determination and individual reason-based action.

The habitus explains a person's likelihood to act in a certain way for a desirable outcome and depending on previous experiences, available resources and prevailing power relations (Bourdieu 1980). The social world is objectively riddled with a range of probabilities and expectations that make us likely to choose certain actions over others. This choice is more intuitive than rational as it is drawn from past experience, however, this intuitive embodied sensibility then gets rationalized in context to objective resources which results in a more structured realization of the action (Bourdieu 1980). Although I have described it in a sequential manner, the reality of human action is not deliberately intuitive or solely rational; instead, the resulted action taken depends on the level of interest expressed by the agent in either strategically co-ordinating one's activities in favour of survival or mere pleasure. New experiences conjure conscious survival strategies from agents but after a series of repeated experiences these strategies are more unconscious or intuitive. The habitus is activated in practice and regarded as an open concept (Bourdieu 1980). The past experience of an individual in society predisposes a range of tendencies that result in taking certain actions over others however the range dispositions is also determined by the extent of diversity in the experiences. The habitus can be modified or re-enforced in context to different experiences as an individual doesn't usually overextend past familiar tendencies, however, Bourdieu believes that one's habitus is not eternal either.

Bourdieu has been significantly concerned with what motivates human action and to what extent are we free or constrained in these actions in a sociological context? Bourdieu proposes a sociological theory of practice that connects structure and agency into a dialectic relationship that brings into focus the interrelations between culture, structure and power (Calhoun 2000). The social relations of power in society amongst various positions of class, race and gender etc. are influential in structuring the actions of agents as well as establishing structures that determine future actions of agents (Bourdieu 1987). This theory thus forms the basis of the habitus.

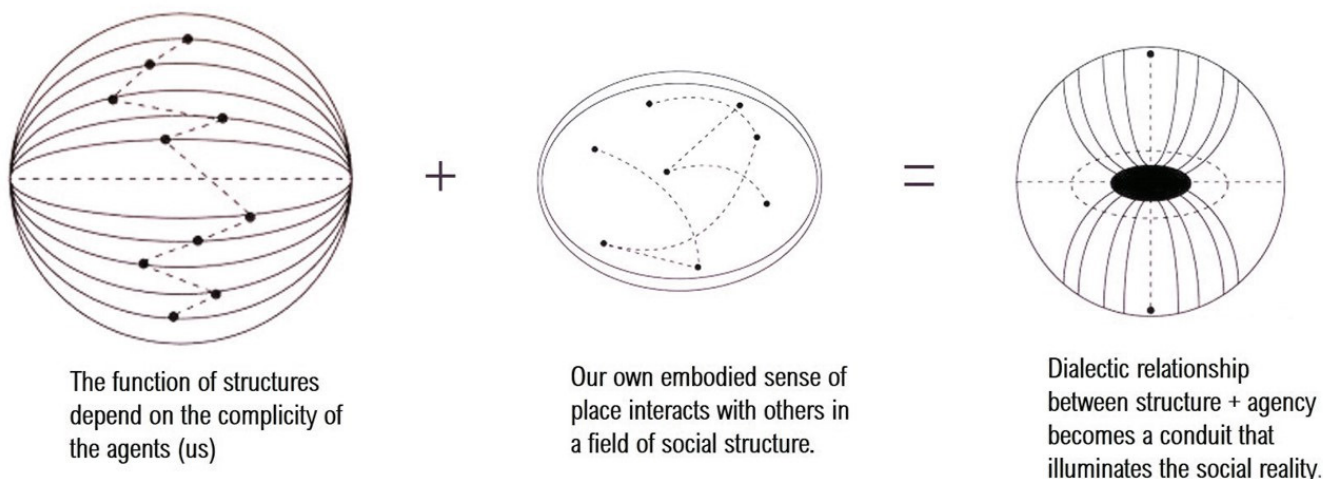


Figure 4: Diagram illustrating the structure-agency relationship(Authors own)

Theoretical Framing

Habitus: Fields and Games

The habitus is the underlying social structure that becomes ingrained into our psyche and co-ordinates our movement and actions making us more conditioned to the objective possibilities over time (Bourdieu 1980). Bourdieu describes the habitus as our own subjective expectations of objective probabilities. The range of objective possibilities is termed as the field. This field is described as being a relational configuration of social structures that facilitate engagements between actors and objects with each action holding significant weight. The field is riddled with rules and regulations and it can often be a space of struggle and conflict for the agents who want to achieve their objectives. Regardless, Bourdieu stresses that by playing by the rules or in spite of them comes with the territorial nature of the rule of the game. To partake in the field is to essentially enter into a space of play within a network of objective relations in different positions or levels. These positions differ according to the level of influence that they impose on the players, actors and institutions that led to important determinations. The position of objectives within the social structure determines the distribution of power (Bourdieu 1980). Bourdieu uses the analogy of a game when describing the activity in the field. The reason being is that one has to gain a sense of the game by studiously following the rules in order to be successful. In order for one to exercise this intuitive sense, repeated exposure together with constant awareness and active responsiveness to other players are required.

Furthermore, an acute awareness of one's own strengths, weaknesses and resources in relation to other teammates or opponents is vital as it can guide improvisation and flexibility- characteristics which Bourdieu believes to be of great importance. This can aid a player in anticipating the movements of both teammate and opponents and respond accordingly. This intuitively led sense of pragmatism extend beyond theoretical rules. The habitus in the field is established through experience (Bourdieu 1980). Through experience, the players become aware of what is possible and what is not and how to work in congruency with existing structures or find ways to modify them. The activities of all of the players are determined by a mix of the constraining rules and regulations of existing structures together with their own internalized limits and opportunities in various circumstances. All of these culminate into one's own realized sense of habitus. The habitus developed from this field can help us better understand social interactions. It can give us insight into actors' behaviours in the field (their sense of place in relation to themselves and other players) as well as behaviours related to resource availability and their views of the field. Furthermore, which future challenges they choose to face in context to their own perceptions, objective relations available relative to their range of positional power.

Habitus: Capital and Power

Capital exists in relation to the field and it is the assets or resources that players/actors bring into the field (Bourdieu & Wacquant 1992). Capital does not only have economic connotations but it is also indicative of other resources such as power, status, class, personal contacts and formal and informal knowledge scopes (Bourdieu & Wacquant 1992). The three forms of capital that Bourdieu describes are as follows:

1. Economic capital- this refers to material wealth which is accompanied by power or stature.
2. Social capital- this refers to the accumulation of resources and power derived through social networks or connections with wealthier echelons.
3. Cultural capital- this refers to skills and knowledge sets that are acquired by actors/ players through formal or informal means. This increases the degree of articulation, persuasiveness, aesthetic preferences and cultural awareness within the actors which raises their social status.

Cultural capital is said to exist in three different states:

- a) The embodied state- cultural goods can only be consumed by understanding its meaning. Cultural goods include things like art, music, religion, professional jargon, comedy, scientific formulae etc.
- b) The objectified form- this included physical objects that require cultural abilities to utilize, for example, books, scientific instruments and art.
- c) Institutionalised form- this includes educational institutions and professional credentials.

The fundamental link between architecture and habitus is evident in the space which frames social practices or the physical habitat that allows the reflection of values of one's habitus (Dovey, 2005). Bourdieu believes that physical space is directly influenced by the social arena. Hence, the presence of social division and hierarchies of the social habitus (age, class, ethnicity etc) is reflected into the physical space with noticeable divisions of space into suburbs, playgrounds, classrooms, factories, bourgeois cafes etc.

$$\left[(\text{Capital} + \text{power}) + (\text{Fields} + \text{Games}) \right] = \text{Habitus}$$

Individual cognition or free-will

Figure 5: Synopsis of Habitus Theory (Authors own)

Location

The town of Richmond is situated approximately 28.85 degrees south in latitude and 30.2 degrees east in longitude. In context to the capital city of Pietermaritzburg it is situated 38km south south west of it. The National Road links Pietermaritzburg to Richmond and extends out to the Cape via the Transkei and Garden Route. The town itself sits upon a partial hill but cumulatively within a wide valley. The altitude of town above sea level is approximately 880m with the Illovo River partially surrounding the western part and looping around the southern extent of the town.

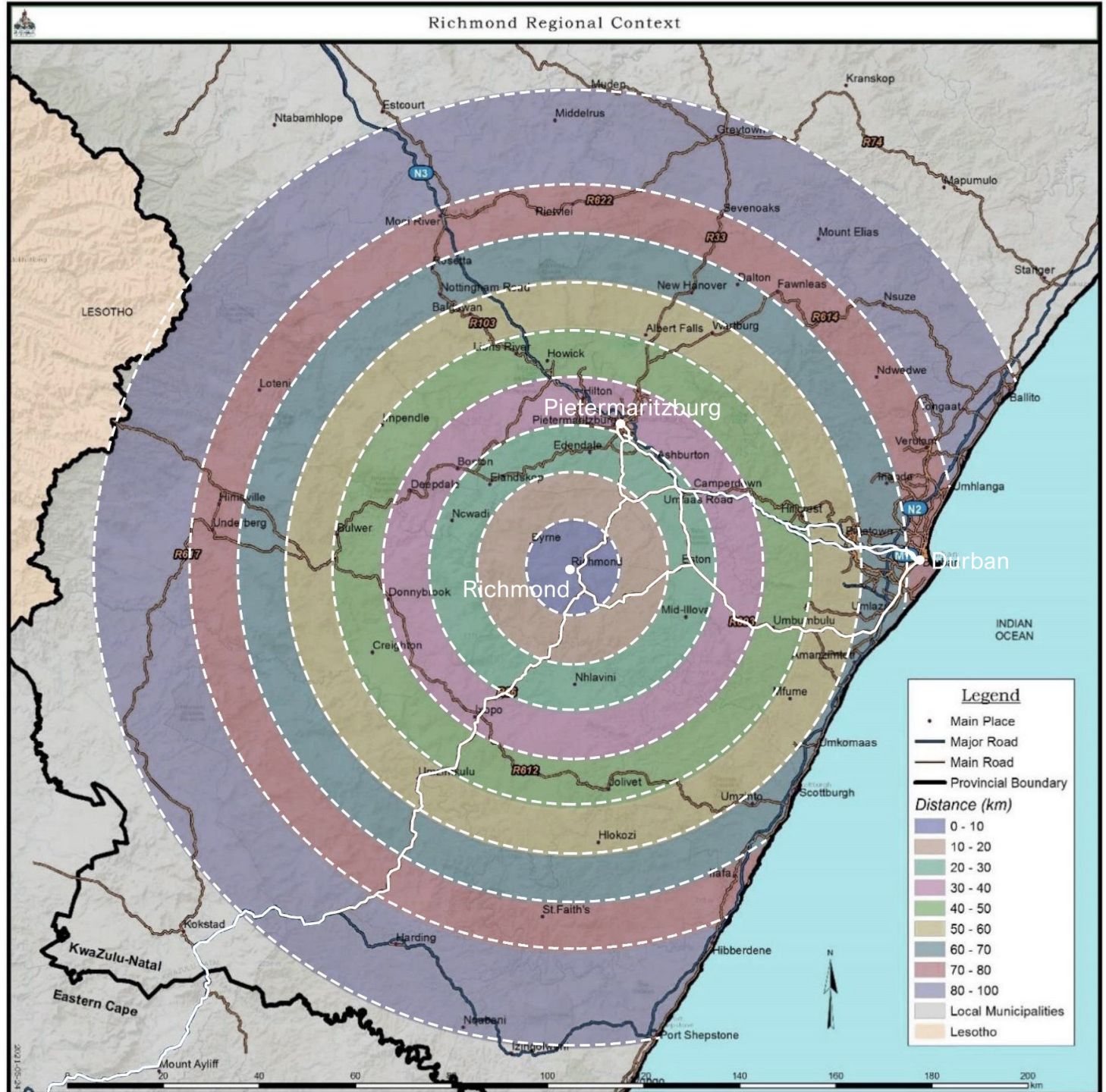


Figure 6: Map locating all major positions of well-known cities and towns surrounding Richmond. The capital city of Pietermaritzburg and the city of Durban as well as the major routes to and from Richmond are highlighted in white. Base map edited by Author (Richmond IDP 2021-22)



Introduction to Richmond

Location

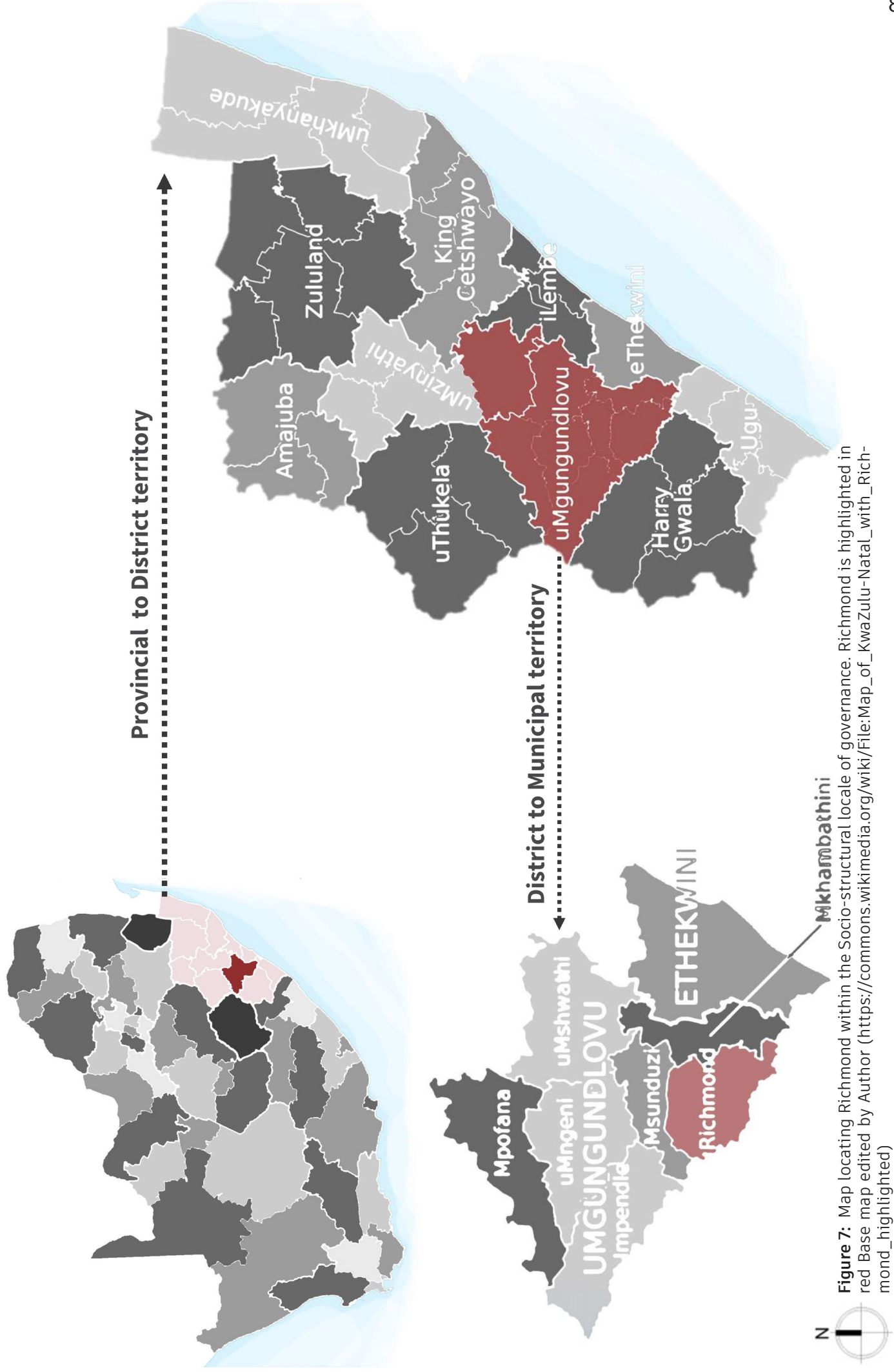


Figure 7: Map locating Richmond within the Socio-structural locale of governance. Richmond is highlighted in red. Base map edited by Author (https://commons.wikimedia.org/wiki/File:Map_of_KwaZulu-Natal_with_Richmond_highlighted)

Introduction to Richmond

Location

The town of Richmond is zoned as the central business district within the boundaries of the local municipality (Umgungundlovu). It falls within ward 1 amongst a total of seven wards. It is the main growth centre within the municipality and acts as the central business district in that it offers a range of services to a large portion of the population.



Figure 8: Map locating Richmond highlighted in red. Base map edited by Author (https://commons.wikimedia.org/wiki/File:-Map_of_KwaZulu-Natal_with_Richmond_highlighted)

Richmond CBD Position

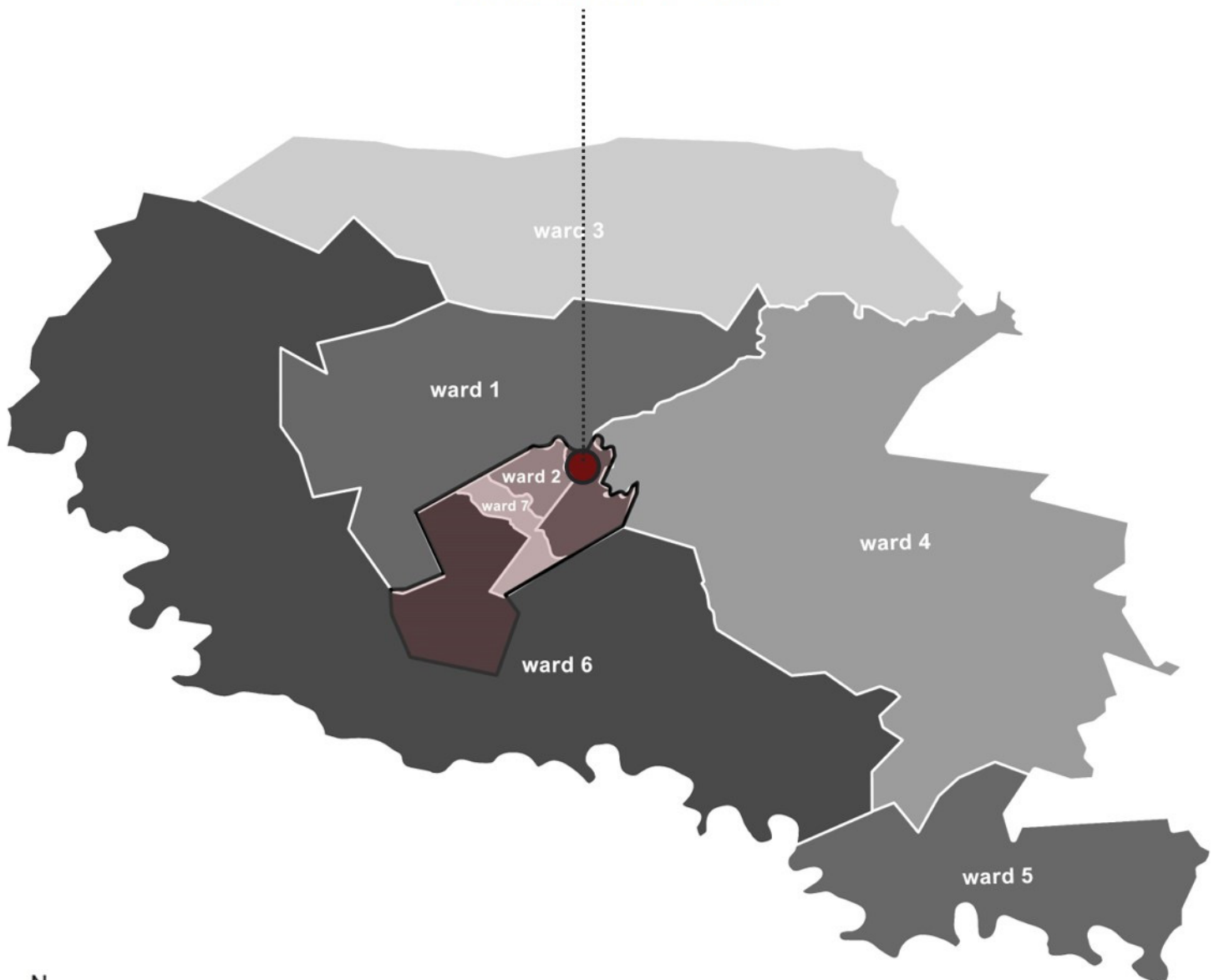


Figure 9: Map locating Richmond highlighted in red relative to all municipal wards. Base map edited by Author (Richmond IDP 2021-22)



Topography and climatic conditions

The town of Richmond falls within the upper banks of the mid-land region of natal. The natural rise of the hillscape in Richmond is congruent with Natal's rise of land above sea level to the high peaks of the drakensberg mountain range. Hence, the hills of a lower altitude of 2500ft sit in east and slowly rise to a greater altitude of 5000ft to the west. The town of Richmond sits within a well-watered district and the town itself is transversed (find synonym) by 3 major rivers namely the Umkomaas, Illovo and Umlaas River with the Illovo River being the closest the southern part of the town.

Overall, the town sits within a temperate climatic zone that experiences summer rainfall, mainly from thunderstorms. The regions is known for its sporadic and localized hailstorms as well as severe electric storms. Due to the effects of global warming, the town can experience periods of drought contrasted with sudden rainfall with an annual average of 1000mm. The town lies within the Mist belt which effects the larger district as well. During winter months, the presence of frost is common and the prevalence of snow used to occur once every three or four years in town, however, recent sporadic weather has reduced the presence of snow falling in the central parts of town but it occurs annually in Byrne Valley a few minutes out of town. The entire district experiences prevailing winds from the east which is not regarded as severe or extremely strong, however, during winter, the south westerly winds bring with it a black frost that subdued the town to a below freezing environment. In contrast to this, the summer months welcome a hot berg wind from the west.

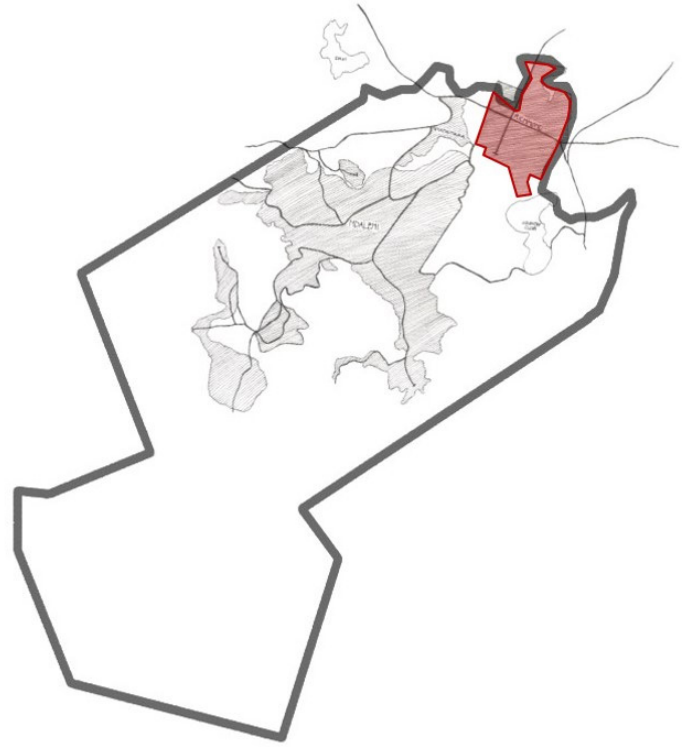


Figure 10: Thumbnail map locating the CBD of Richmond highlighted in red relative to its extent. Base map adapted by Author (Richmond IDP 2021-22)



Figure 11: Map illustrating the nature of the surrounding topography relative to the gridiron land pattern of Richmond. Grey zones represent man-made built up areas, light green zones represent the monocultural farming plots, dark green zones represent the dense spotting of vegetation and the blue represents the Illovo River looping around the southern poartion of the town. Note how the river acts as a natural barrier between the formal CBD and the areas categorized as 'township'. Base map adapted by Author (Google earth)

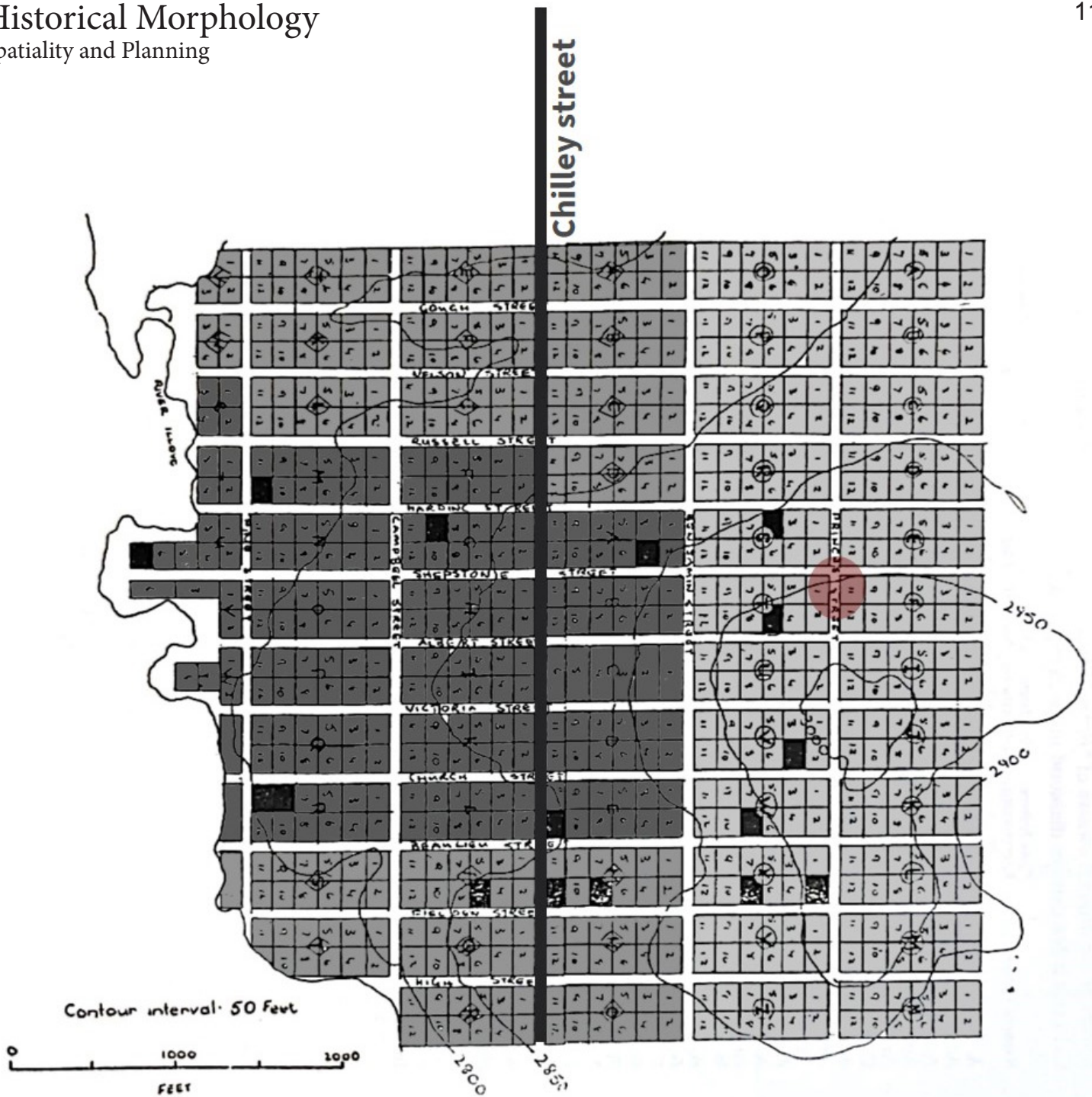


Figure 12: This is the historic map of the early 1900s which display the gridiron structure used in organising the plots. the variations of grey the display the groups of erf plots. Every rectangular town block is represented by an alphabetical letter and the divisions of private properties within each block are given numbers (erf). It is noticeable that the letters are repeated as there are more plots to organize than letters in the alphabet. Hence, some letters have a circle or diamond surrounding it. The variations of gray are congruent to this analogue organisation of private plots. The dark vertical line represents Chilley Street, the main road in the town and an important element in this thesis. The red circle represents an intersection that consists of a range of buildings that are an epitome of the vernacular buildings within the town. (Coulson, 2009)



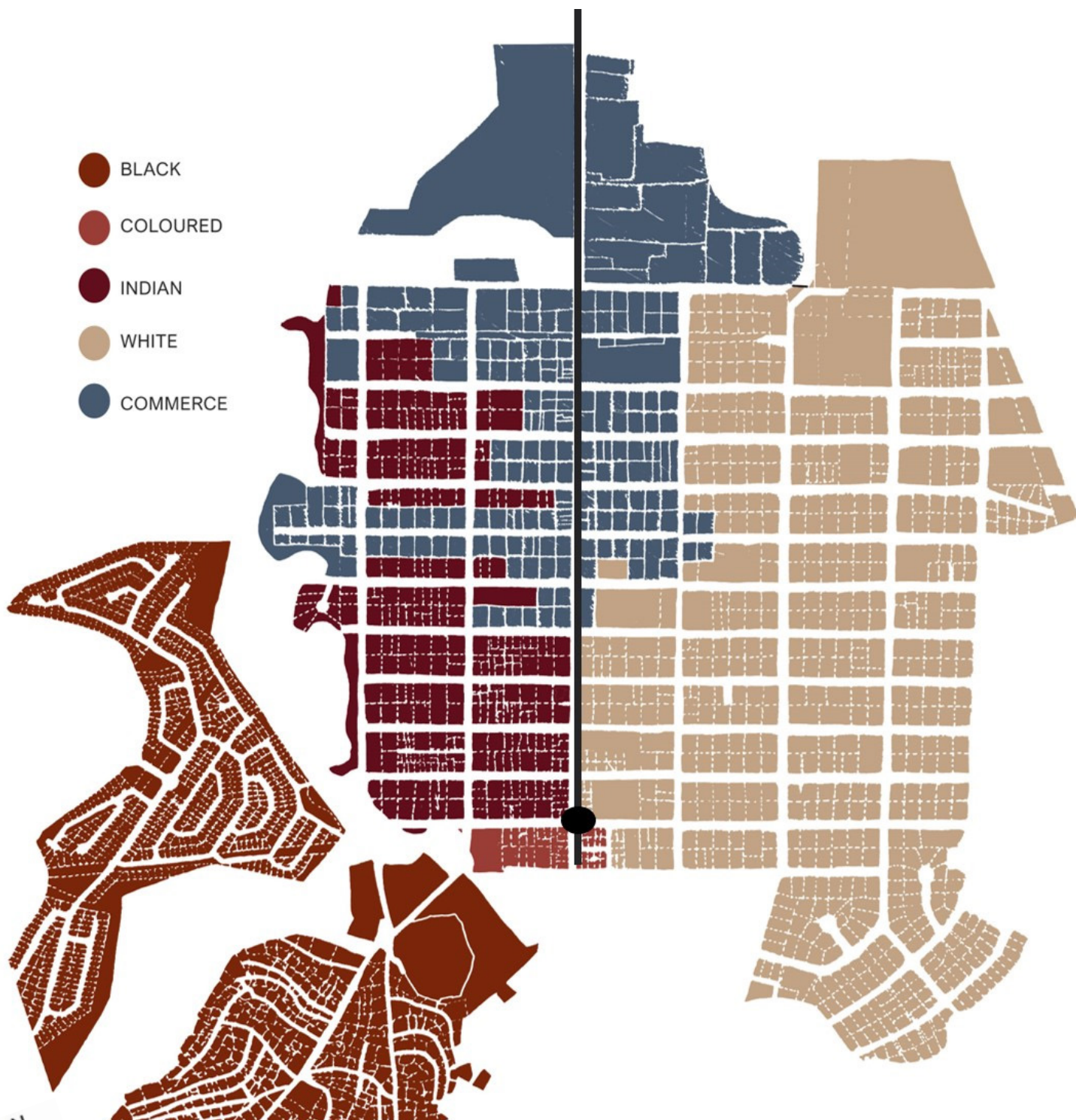


Figure 13: Map illustrating racial divide. The black line represents Chilley Street and the black dot is positioned on High street which is where the image below is taken. Map edited by Author (Richmond IDP 2021-22)

This map is drawn from the memories of local residents. Memories of segregated spaces and demarcations. The road represented in black is Chilley street. Although it was given this name due to the abundance of Indian owned stores along it, it was constantly under surveillance to ensure separation along racial difference.



Figure 14: Image of Chilley Street (Authors Own)

Historical Morphology

Architectural characteristics

Amongst the English settlers in the town were a few stone masons who constructed more notable cottages and houses within the town out of stone and green brick with thatched roofs. Over time these original homes that proliferate through the town have been altered or enlarged with brick, the stonework often plastered and painted over and the thatched roofs evolved to iron and tiles. The reason for this was partly due to the severe destruction of the pantile roofs by the forces of heavy hail storms.

During the early 1900's a fair amount of brick cottages were constructed throughout the town. Most of the cottages were arranged in a similar fashion with both front and back verandahs. The verandas have wooden post supports decorated with fretwork. The bricks used to construct these cottages came from 2 local brickyards however Overtime.due to the closure of some of the local brickyards the locals had to source bricks from the capital city of Pietermaritzburg. Hence this resulted in many of the cottages having a similar colour to the bricks used in pietermaritzburg at that period. Some of the cottages were physically positioned closer to the streets but more often than not they were set back Enclosed by flower gardens, rose bushes, fruit trees and other types of foliage. Many of the older houses that were built in the early 1900s are described as embodying characteristics of the English village vernacular or Victorian colonial vernacular style. The architectural landmark buildings of this period included the red brick courthouse built in 1903 (at the same time the post office was constructed) that had raised cement work and clerestory windows that contributed to its height. The post office and the court house were built in accordance to the colonial P.W.D(public works department) building style. Another notable landmark is the first double storey home built in 1871, situated on the corner of shepstone and chilley street (figure 16). This is one of first mixed-used buildings with the client's residence on the first floor and a shop on the ground floor. The style is Georgian vernacular with the internal plaster completed on lath work with yellow wood being the sole material used for the upstairs floors, supporting pillars and staircase. Georgian vernacular just refers to the ordinary georgian-style village house.

The center of the town is linearly arranged consisting of locally owned businesses that flank chilley street. Originally, the center of town consisted of a plethora of white owned enterprises and institutions as well as small indian owned businesses with a distinct architectural atmosphere. The stores all were diverse in expression and itinerary but they each were joined wall to wall. These stores spread across two blocks with both entrances to this indian shopping area paved with large cobblestones.

Aesthetically, Richmond has maintained the appearance of an English country village. This is due to the architectural styles of the cottages, stone-edged curbs, grass verges, rambler roses and various other hedges that enclose many gardens that surround the homes. Currently, a lot of the newer homes, supermarkets and chain-store businesses and warehouses follow a rudimentary and often unimaginative design dictated solely by economy and convenience.



Figure 15: Image of the Courthouse located on the highlighted red intersection on fig.11(<https://kznpr.co.za/richmond/nggallery>)



Figure 16: Image of a vernacular home located on the highlighted red intersection on fig.11(<https://kznpr.co.za/richmond/nggallery>)

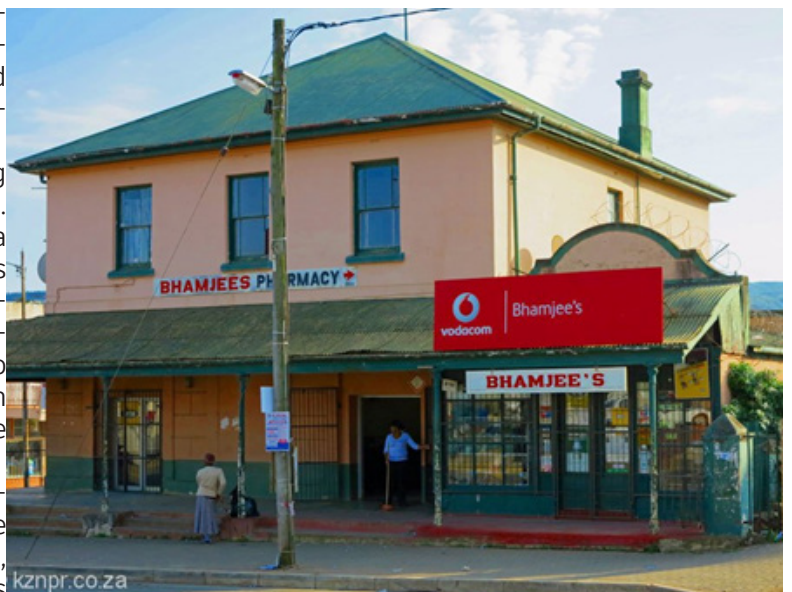


Figure 17: Image of a double storey vernacular building along Chilley street(<https://kznpr.co.za/richmond/nggallery>)

Current Morphology

Spatiality and Planning



Figure 18: Map Illustrating the building types within Richmond centre. All residential plots are represented as dark grey. (Authors Own)

Current Morphology

Socio- Spatial characteristics

The town of Richmond finds itself in a geological valley. This results in a constant feeling of containment, due to the hills that form the sides of the valley are visible from all points within the town and this view synthesizes a feeling of lateral expansion as one is able to view farming or physical development on the hills and beyond. Furthermore, the rolling hills of the valley's edges extend the horizon and horizontal perspective that is unique at every cardinal point.

Zooming into the tactile experience of the built environment, there is a constant experience with constraint and release, exposure and enclosure. This experience is visceral in the fissures between buildings and the fringes bordering them. Most buildings do not take a courtyard typology so places of exposure can also be found at breaks within the linearity of the built form or along the fringes, bordering the vehicular pathways. Despite the small-scale of the town, it is dominated by the motor-vehicle. This results in town squares existing in negative spaces while the inanimate car sits comfortably in large squares. Cullen postulates the need for an identity in relation to space- a habitus of public space. This habitus is formulated subjectively in relation to objective physical space. A person must perceive either entering a public square, being in it and leaving it (Cullen, 2015), thus for every here a person must perceive a there.

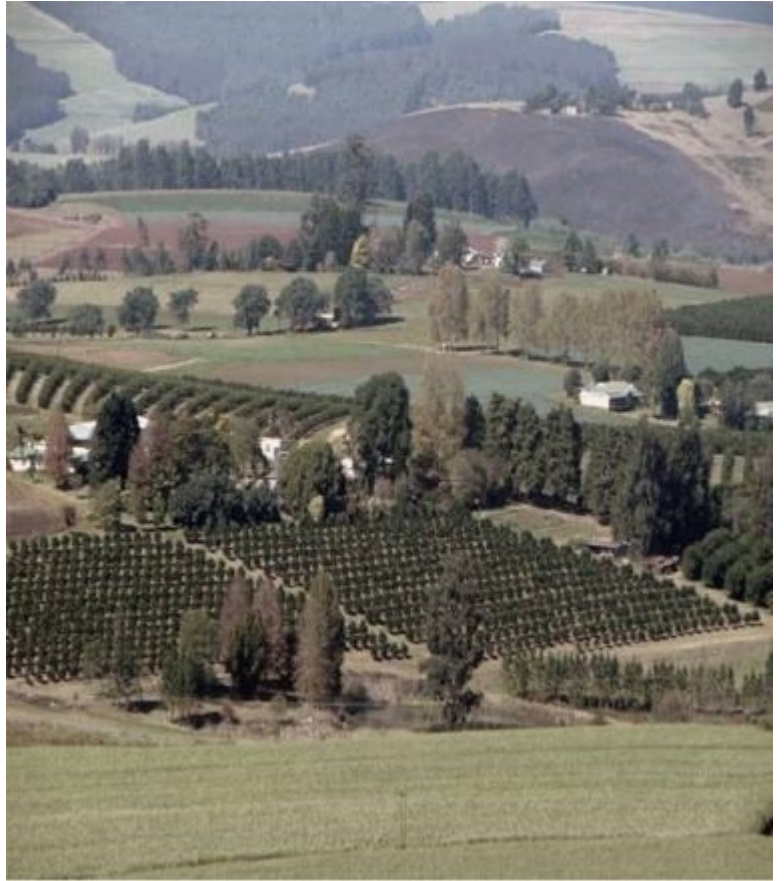


Figure 19: Image of Richmond's agricultural landscape. (Richmond IDP 2021/22)



Figure 20: Image of Chilley Street within the midst of the economic zone on a weekday. (Authors Own)

Socio- Spatial characteristics

The content of the town of Richmond is layered with uniqueness, character, texture and colour in the physical and social spheres of existence. It is layered with a mix of architectural styles and town planning structures that reflect the historic colonial habitus, the development of the post-colonial habitus of emancipation and the current democratic habitus of reclamation. This all sits within the objectively regulated conformity of a gridiron structure, divisively zoned and profit driven. The territorial and divisive nature of commodification and privatisation of the natural landscape has created a social reality of anarchy and a habitus of separation within Richmond within the context of the national struggle of Apartheid.

A habitus predicated on the notion of separation shows evidence of rapid social disintegration seen in historic political violence experienced throughout the country. This resulted in the social world of South Africa imploding but inevitably reconciling through the initiation of a socially democratic habitus. Narrowing the field of observation to the town of Richmond, its initial framework is synthesised on social insensitivity and conformity.

According to Cullen, an interplay of this and that is required to produce an environment of lucidity, manipulating the nuances of style, scale, textures, characters and individuality (Cullen, 2015). It is for this reason that I choose to explore the fissures and fringes because over time I have observed these spaces and found them to be rich in synthesizing the this and the that. This space of fringe or fissure would be socially occupied in such a manner that either juxtaposes or harmonises the that context of surrounding built form. It is in this manner that the historic habitus of conformity and concealment disintegrates. What replaces it is the amalgamation of social programmes, the habitus of everyday life, that serve as an exposé of character and social activity. I think that studying these spaces is vital due to the fervently shifting development presently within the town and alluded to in the developmental plan proposal of 2022. With the provision of more houses, amenities, industries and inevitably- motor vehicles the conservation of small-town character and social sustainability would require organizational structures that can communication and configure development forces to suit the human-scaled experience.

Possession

Even though the street is brimming with vehicular movement, it is juxtaposed with the solid built form catering to social and business transactions, the side-walks become a space of individual freedom, informal business ventures and a plethora of texture.

Occupied territory

The provision of diverse range of convenient amenities, shelter and seating are the distinctions one can make when observing the fringes in out-of-door spaces. The sidewalks don't favour streamlined or fluid pedestrian movement due to the occupation of space upon it for either leisure or business. The density of this occupied territory would intensify in sync with ubiquitous working hours/days within the labour force, however, due to higher rates of unemployment- it is busy throughout the weekend. Many textures make up the occupied territory along the fringes including temporary shaded canopies, plastic chairs, umbrellas, metal tables, portable grill stands, food items, clothing, barber equipment etc.

Possession in movement

Cullen describes this aspect as a procession through space, a temporary possession of the extent of space as one moves through it with a notable beginning and end. Within the context of Richmond, the entrance and exit of the central village space has greater nuance. Firstly, it spatially sits within the bounds of the gridiron structure making the extent of every street equal and thus repetitive. Secondly, due to presence of informal settlements that flank the edges of the town, human foot traffic is an ever-present phenomenon throughout the town. Hence, movement is constant and the gridiron land structure does not demand a certain path be taken, rather, the pedestrian has an equitable range of pathways that can be taken relative to their desired destination.



Figure 21: collage by author depicting the solid built form along the main road in Richmond. (<https://kznpr.co.za/richmond/nggallery/page/2>)



Figure 22: Collage by author illustrating the street vendors on the sidewalk along the main road. (Author's own image)



Figure 23: Collage by author illustrating permanent shelters on the sidewalk along the main road. Goods & people are in constant movement so these structures either serve as a retail space or rest stop (Author's own image)

Current Morphology

Advantage

There are notable pathways that are more favourable throughout the town as one travels from either an informal settlement or the southern end of the town towards the central village

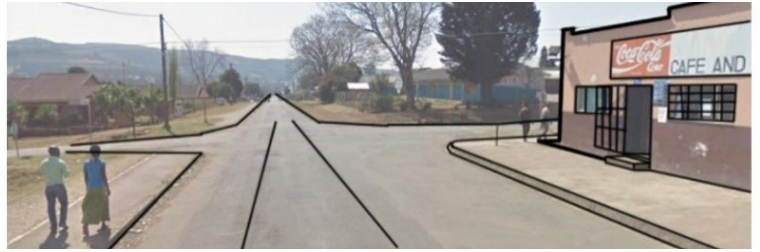


Figure 22: Collage by author illustrating the most advantageous route (Campbell street) that individuals from peripheral rural areas take to get the central village. (Google earth)

Viscosity

When the occupied territories (static possession) and kinetic possession meet up, it synthesizes a slower pace of human movement termed as viscosity by Cullen. This viscosity results in the formation of social bubbles that gather around street vendors, individuals either window shopping, entering formal shops or choosing to buy items or go to a barber on the fringes. This diversity along the fringes leads to a meandering route along a previously planned fluid sidewalk thereby breaking the conformity.



Figure 24: Collage by author illustrating a corner store that opens onto the Main road that enforces a viscose flow of people as vendors and formal business display goods all along the sidewalk. (Author's own)

Enclaves

A main room that is an extension of an existing enclosed space that caters to a mainstream public space (Cullen, 2015). This space is sheltered through a tectonic extension of a public building framing an exterior public space. It can be utilised as a place of pause in a less dense area and within the context of Richmond it occurs along the fissures between enclosed built-form. The fissures form enclaves that are off-set from the main movement along the fringes. It is a safe observational space of brief pauses that provide a commanding perspective on the busy scenes along the streets.

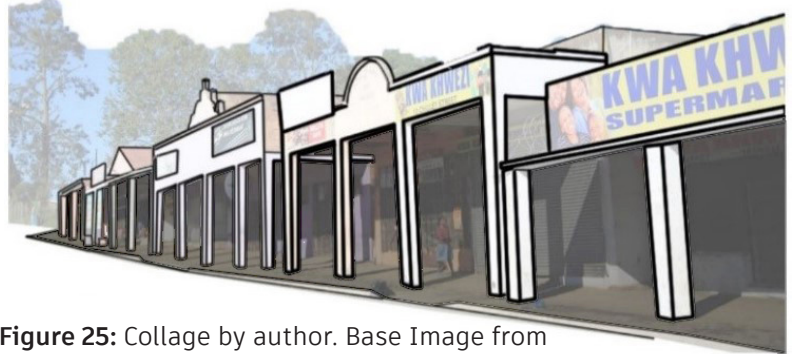


Figure 25: Collage by author. Base Image from (<https://kznpr.co.za/richmond/nggallery/page/4>)

Precincts

The village precinct includes all of the economic, educational, social and religious functions concentrated along the main vehicular pathways that connect the centre of the town to wider areas. The viscosity along the fringes is equally important as the static enclosed spaces and advantageous fissures.

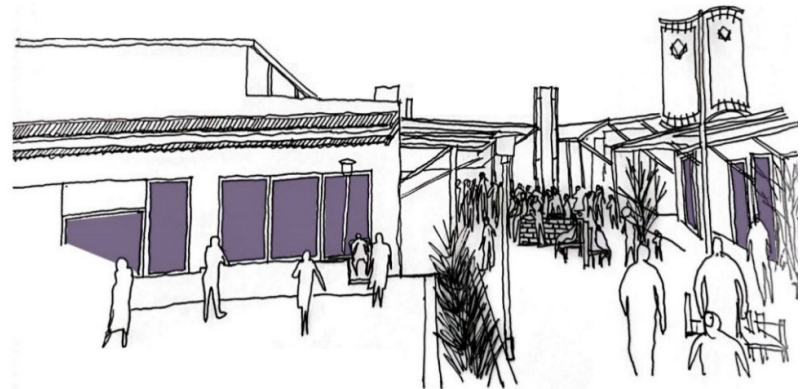


Figure 26: Sketch by author. Base Image from Google earth.

Current Morphology

Indoor Landscape outdoor room

Cullen makes it apparent that through an artful arrangement of appropriating the dramatic beauty that the outdoors offer for a human being, one can appropriate the elements of the exterior environment to create an indoor landscape and outdoor room. Both the haptic qualities and spatial elements within the architecture should be indicative of the earth and sky (natural elements) to achieve this (Cullen 2015). Stone is an element used in some of the older buildings within the town. This natural material combined with shaded walkways that are framed by a gabled front and flanked with low walls on either side create an outdoor room experience by alluding to enclosure.



Figure 27: Collage by author showing the municipal memorial hall with a central appendage that has ample visual connection to the outdoor gardens that flank it. Base Image from (<https://kznpr.co.za/richmond/nggallery/page/3>)

Focal Point

This refers to the vertical symbol of congregation amalgamated with the enclosure of private possession (enclosed built-form). It is a physical place marker within the abundant centre of the village/town visually establishing the spot for business and social ventures. Over time, this physical place marker is not a distinct architectural element with any socio-cultural significant like a minaret or church spire, instead it is replaced with the logos of various commercial franchises at the social centre of town.



Figure 28: Map of Richmond depicting the focal point of the town located at the intersection between the two main roads that are flanked with economic, educational and municipal activity. It is represented by the red dot. (Author's own)

Outdoor room and enclosure

This tool of placing an ephemeral element of enclosure in close proximity of permanent enclosed spaces is used to explore an individual's perception of their position in space relative to their identity with their surroundings. It embodies a sense of HERENESS through the affirmations of various prepositions correlating with an enclosed object in space (Cullen, 2015). For example, I am below, adjacent, in front, above this building. Complex descriptions can be indicative of the scale, positioning and objective perspective that the individual has of the enclosed structure. This, together with the habitus of hereness denotes a subjective meaning to the space in association with the individual's practically intuitive response. In retrospect, outdoor rooms represent ephemeral structures that allow us to momentarily position ourselves in new spatial positions relative to a permanent enclosed space, expanding our perceptions of it. A person's habitus of hereness could overlap with a habitus of faith if the enclosed structure is a religious edifice. Hence, the immense scale of the building could evoke a sense of humility and submission in their prepositional description relative to the physical object. Adversely, if the person's habitus of hereness intersected with the habitus of non-faith/atheism, it would be assumed that the religious edifice would conjure connotations of dominance and intimidation.

Current Morphology

Informal socio-economic characteristics



Figure 29: Sketches (Author's own)

Within Richmond, there does exist a functioning formal economy, however, I believe that the analysis of the fissure and fringes through an ethnographic perspective would shed insight into the state of the informal economy and the need to cater for its sustainability. For instance, in Zimbabwe, the informal economy fosters social cohesion (ubuntu), the preservation of indigenous knowledge systems which contribute toward economic development. Rapid urban growth, globally, in recent years has estimated that 66% of the world's population would occupy urban areas by 2030 with an astounding 90% increase in global south cities (Magidi, 2022).

The concept of the informal economy is predicated on the inability of global south industries to adequately support the massive urban populace which lead to high levels of unemployment. This development led people to create their own livelihoods and economy beyond the mainstream, in order to survive and thrive. Within Sub-Saharan Africa, the informal economy accounts for 75% of non-agricultural jobs implying that it makes up a large part of the private economy which currently is over 50% of the GDP (gross domestic product) of the entire SSA region (Magidi, 2022). The rural habitus is a habitus of informality predicated on the establishment of social cohesion to ensure food security, access to amenities and skill development. The habitus of the informal economy fosters social capital through this cohesive force of actors working together for the satisfaction of individual subjective and objective interests relative to the mutual benefit of all. The social culture that ensues in disadvantaged communities is one of deliberate cooperation fostering a social habitus of trust, reciprocity, collective belonging and willingness. Summarized as the habitus of solidarity or ubuntu, a collective practical wisdom is used within the field of informality.

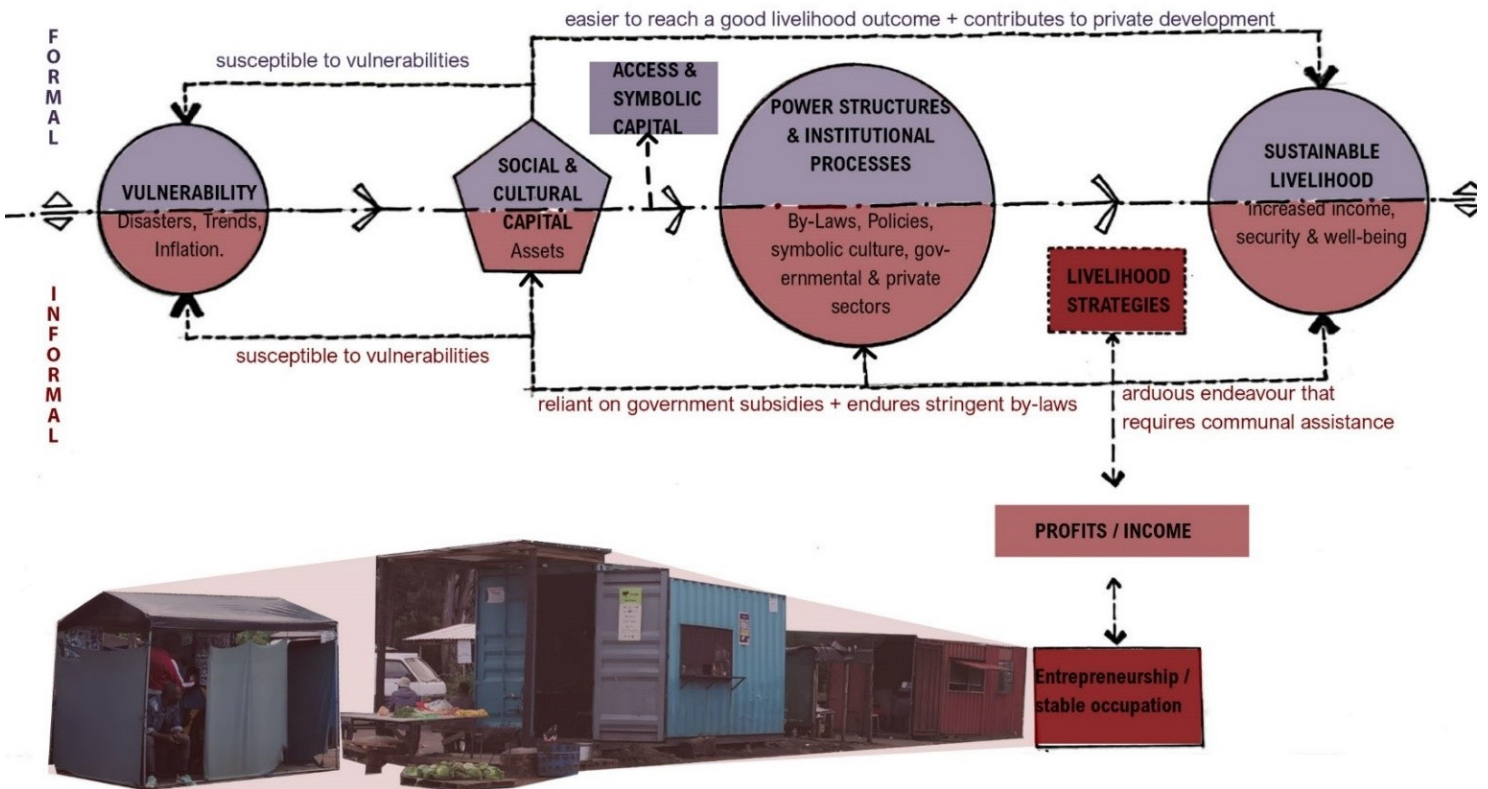


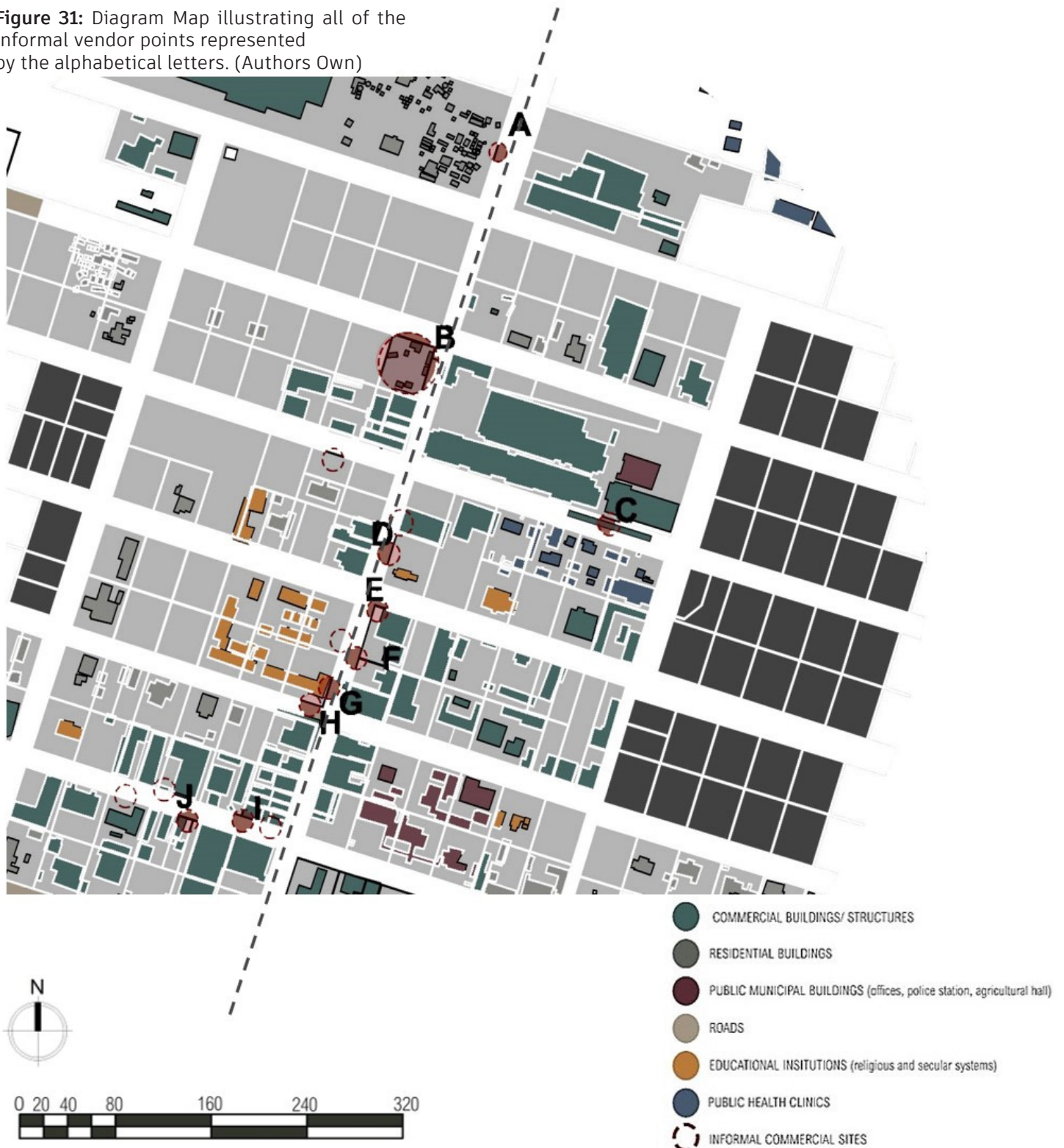
Figure 30: Diagram and Collage by Author. Diagrammatic structure is an amalgamation of the SLA (Sustainable Livelihood Approach) and the social habitus which shows the division of formal and informal livelihood realizations. Base images are Author's own. Base Diagram (Sustainable Livelihoods Guidance Sheets. London: DFID. 1999)

Vendor Assortments

The quiet encroachment of the ordinary' is a model conceived by Asef Bayat- an Egyptian sociologist. It displays how ordinary individuals can challenge formal, propertied structures/ businesses through silent, minimal but atomized actions for the sole purpose of surviving and thriving. The paradigm of top-down governmental control and order on public space is fundamentally contested through the quiet distillation of public goods settling and intermixing in formally private terrain (Bayat, 2004). The fringes (sidewalks, peripheral public spaces) and fissures (semi-public and private urban land) are quietly reclaimed by vendors and structures of the informal economy out of practical necessity over deliberate rebellious political intent.

The disjuncture lies in the effect of this encroachment on formal businesses and the perceived 'disorder' of informal structures jeopardizes the level of security the state or municipality is able to provide, for example, the provision of adequate surveillance and control over a space that is sporadically populated with goods, people and structures. In the IDP of Richmond the future structures of support for the informal economy are alluded to but only at strategic points instead of allowing limitless space along the sidewalks solely afforded to informal trade. These decisions could be directly linked to the aspect of security and realistically it serves as social pro-forma that seeks to strategize and redress urban notions of social autonomy and integration.

Figure 31: Diagram Map illustrating all of the informal vendor points represented by the alphabetical letters. (Authors Own)



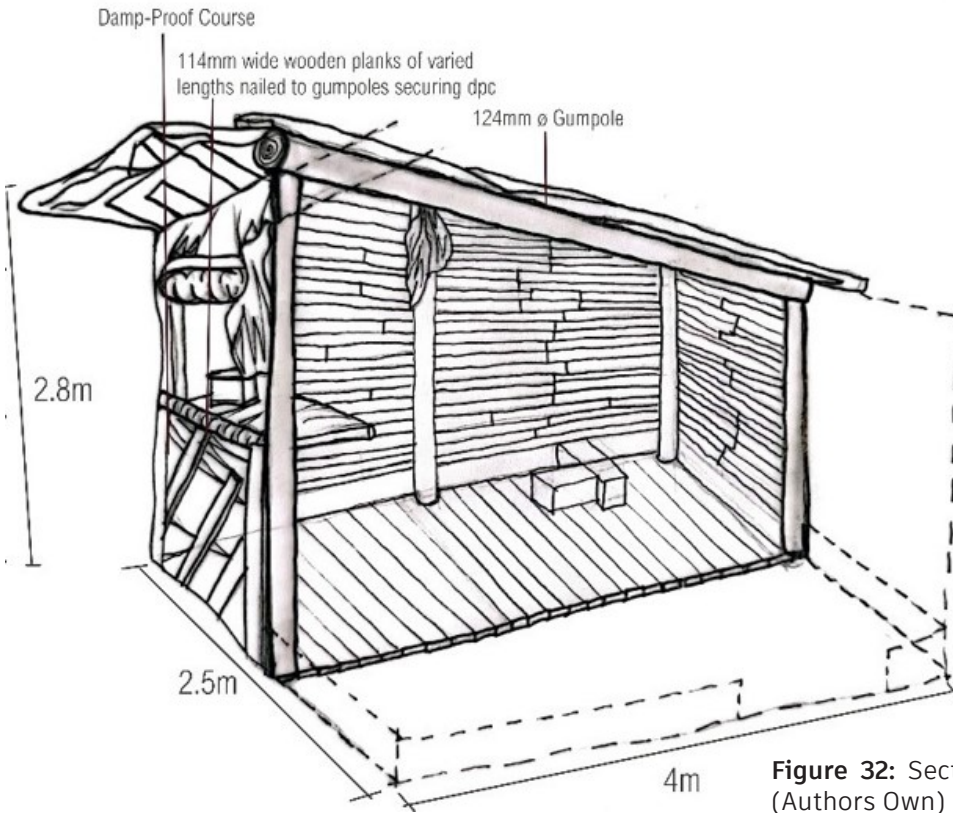


Figure 32: Sectional perspective of the shelter. (Authors Own)



Figure 33: 3D of the shelter. (Authors Own)

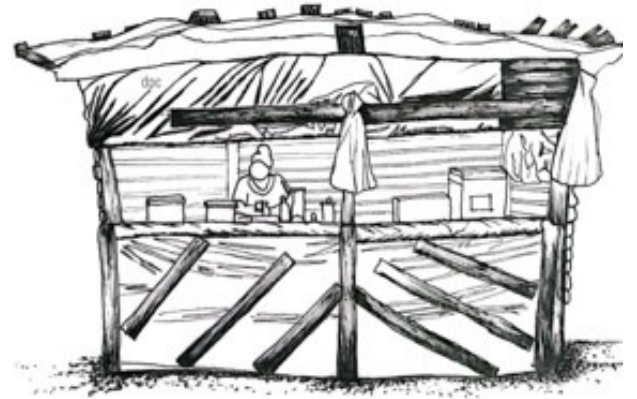


Figure 34: Eastern Elevation of the shelter. (Authors Own)



Figure 35: Image of vendor structures (Authors Own)

A- Informal Vendor situated on a wide verge between the informal settlement of Bhongoza and Chilley Street. Type of stock being sold: food goods. This shelter is constructed by locals and utilizes materials that are sourced from a local timber treatment plant that mass produces treated gumpoles for the primary structure. The cladding with wooden planks are usually sourced from wooden palettes or industrial offcuts/extras.

B- Assemblage of informal vendors combined with a public taxi rank situated on the corner of Chilley Street and the now demolished railway site. Type of stock being sold: fruit, vegetables, hot meals made on site, clothing, household items and barber services. These vendors re-purpose a 20ft steel shipping container and organically adapt it to suit their needs. There is a frequent use of tarp, opaque netting and timber gumpoles for the additions. Cuts made to the sides of the containers are for light, ventilation and functional purposes.

Figure 36: Image of formal vendor space (Google earth)



C- Formal enclosed shelter made to accommodate street vendors which is located along Nelson Street- opposite a social grant collection office and the Richmond Clinic, funded and built by the local municipality. Type of stock being sold: mainly food and car wash services. These vendor spaces are partially enclosed and consist of loadbearing brick-work for the columns and low wall/ tabletop slab. The metal roofing blends in with the roofing of the commercial mall that it is attached to.

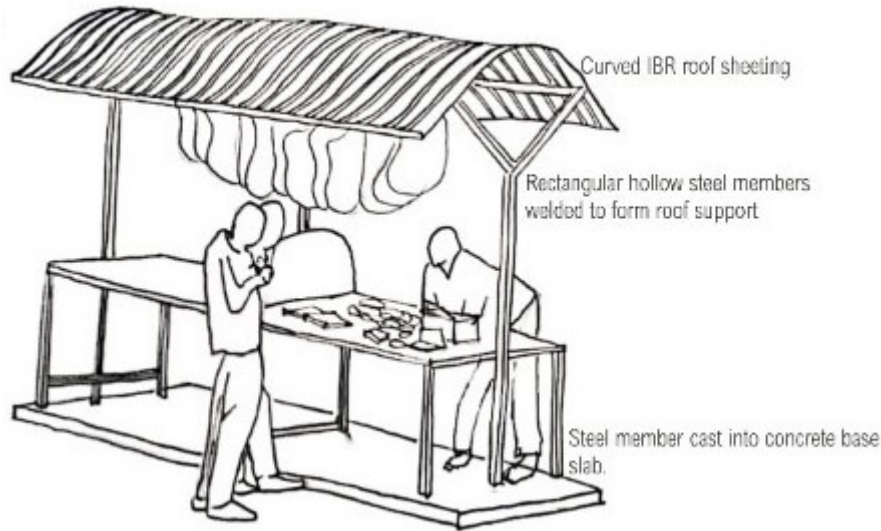


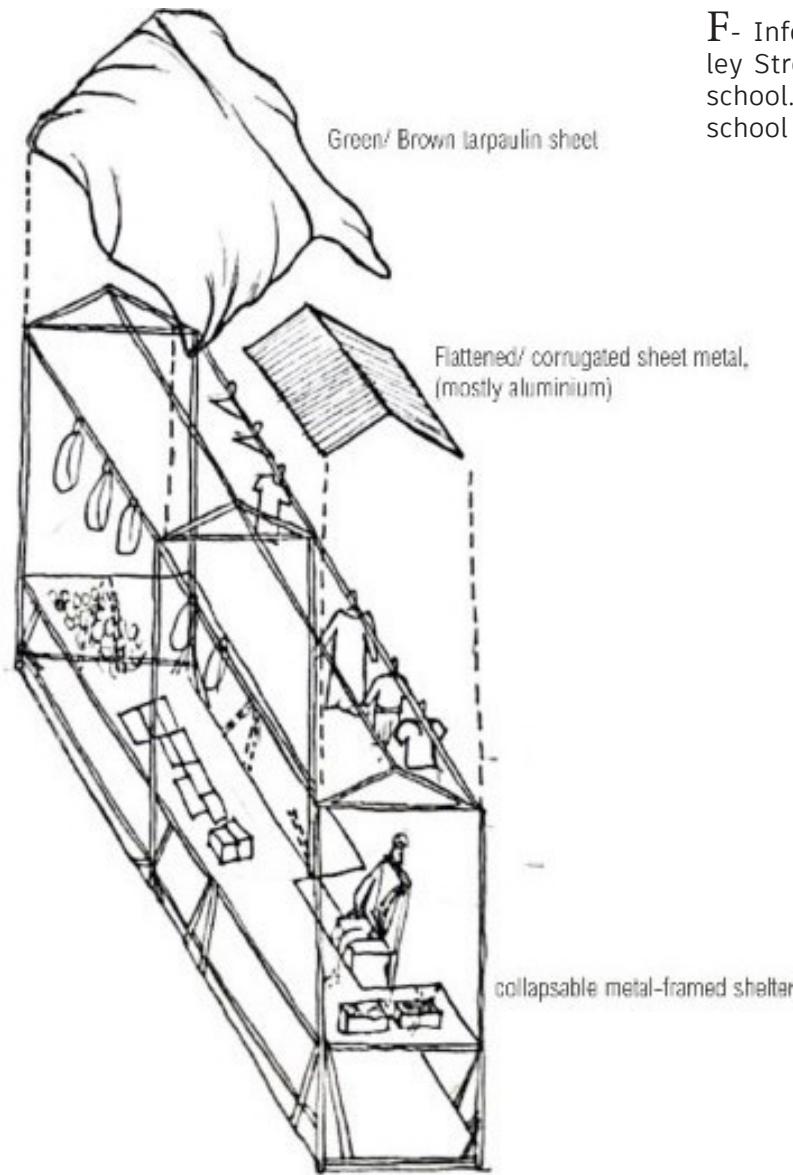
Figure 37: Sketch of the public, formal shelters (Authors Own)

D- Formal, open shelters made to accommodate street vendors or as a temporary rest stop for travellers, situated alongside Chilley Street in front of the local Presbyterian church. Type of stock being sold: fruits and vegetables, miscellaneous goods.



Figure 38: Image of informal vendor space. (Authors Own)

E- Informal Vendor situated at the corner of Chilley and Russell Street. Type of stock being sold: Clothing. Instead of timber, the primary structure that holds the netting up is a range of steel rods.



F- Informal Vendor situated alongside Chilley Street, Opposite the Richmond combined school. Type of stock being sold: clothing, school bags and miscellaneous goods.

Figure 39: Sketch of informal vendor space along Chilley Street (Authors Own)



Figure 40: Image of informal vendor space along Chilley Street (Authors Own)

Vendor Assortments



Figure 41: Image of informal vendor space. (Authors Own)

H- Mixed between informal vendors alongside Harding Street, opposite the school and a few formal shelters accommodating vendors along a small fringe of the school. Type of stock being sold: shoes, barber services and cooked meals. This extends to vendors along Chilley street right next to H.



Figure 42: Image of vendors at formal storefronts. (Authors Own)

These vendors are not housed within an ephemeral structure, rather, they rely on the sheltered fringe provided by the formal design of the buildings they border. Type of stock: mainly fruit and vegetables.



Figure 43: Image of vendors along Shepstone Street. (Authors Own)

I and J - Informal vendors alongside Shepstone Street next to a fuel station. Type of stock being sold: fruits, vegetables, flu masks, barber services, cooked meals.



Figure 44: Image of vendors along Shepstone Street. (Authors Own)



Figure 45: Conceptual perspective of the Casa Familiar site. The aim of this project was to enable the maximum performance of a small land parcel. Image source: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html)

Living rooms at the border is mainly a housing project on a micro-scale, however, it serves as a catalyst that aims to initiate denser and more mixed-uses into the San Ysidro area. Furthermore, it seeks to transcend the rigid zoning regulations through the input of constructive ambiguity within the social programs and future functions of the site (Cruz, 2008). This is visible in the purposeful division of the site into slivers of land upon which different social, living and economic engagements could be supported and the complex relationship between these entities could be incubated over periods of time (Cruz, 2008). Notions of ‘mixed-use’ and ‘density’ are extrapolated through social choreographies of communal collaboration, hence, the social systems that enable organization and social encounters imbues this static structural urban land parcel with a tactical purpose therefore promising a tactile reality of a better neighbourhood.

Living rooms at the border is located in San Ysidro, San Diego, within which it lies in the midst of area rich with history and community values. The demographics of the majority of people in this community are of Latino descent. The physical extent of this project exists within a 13, 469 square foot (1251,31 meters squared) accommodating a mixed-used programme. The social extent of this project intends to strengthen cross-border relations between the San Ysidro and Tijuana borders through the unique socio-cultural programmes offered by this project (Living Rooms at the Border, 2022). This project was designed by Architect Teddy Cruz, a professor of public culture and urbanism at the University of California in San Diego. Through the design input of the Architectural practice (Estudio Teddy Cruz + Fonna Forman) and various forms of funding (civic tax, private, non-profit, state funding) the project is currently in construction in San Ysidro. My analysis will focus on the integral social structure that forms the basis of the physical architectural metamorphosis on site.

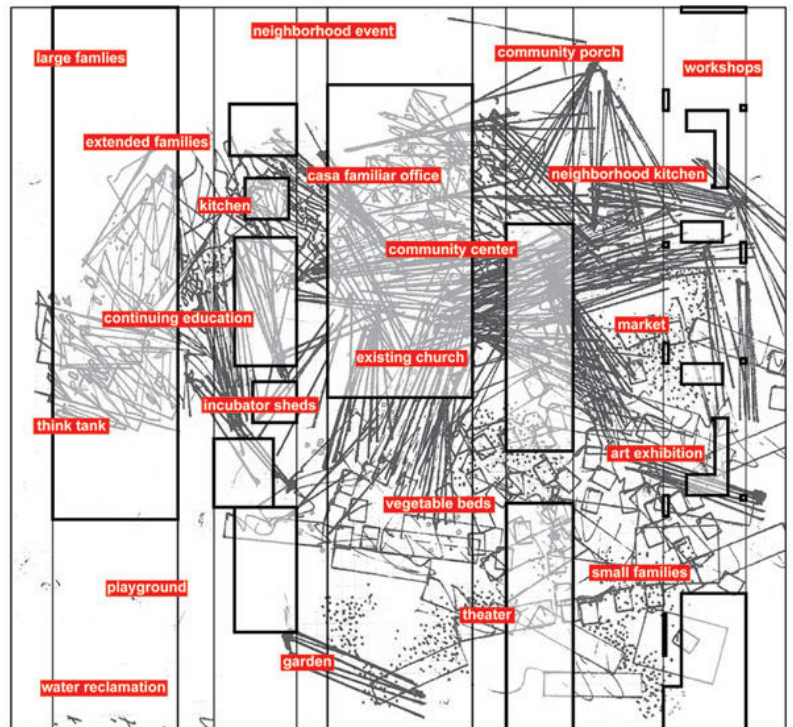


Figure 46: Conceptual idea generator in a plan overlay that explores the potential social and cultural capital generation. Image source: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html)

Casa Familiar

Casa Familiar was founded in 1973 is a community-based organisation that caters to the residents of the South San Diego County. It became noticeable that the low-income residents had a range of complex and consistently shifting needs. Hence, the mission of Casa Familiar was to address this directly through the goal of, "enhancing the quality of life for low-income individuals and families through Advocacy, Social Services, Education, Affordable Housing, Arts and Culture, and Community and Economic Development." (Casafamiliar,2022).

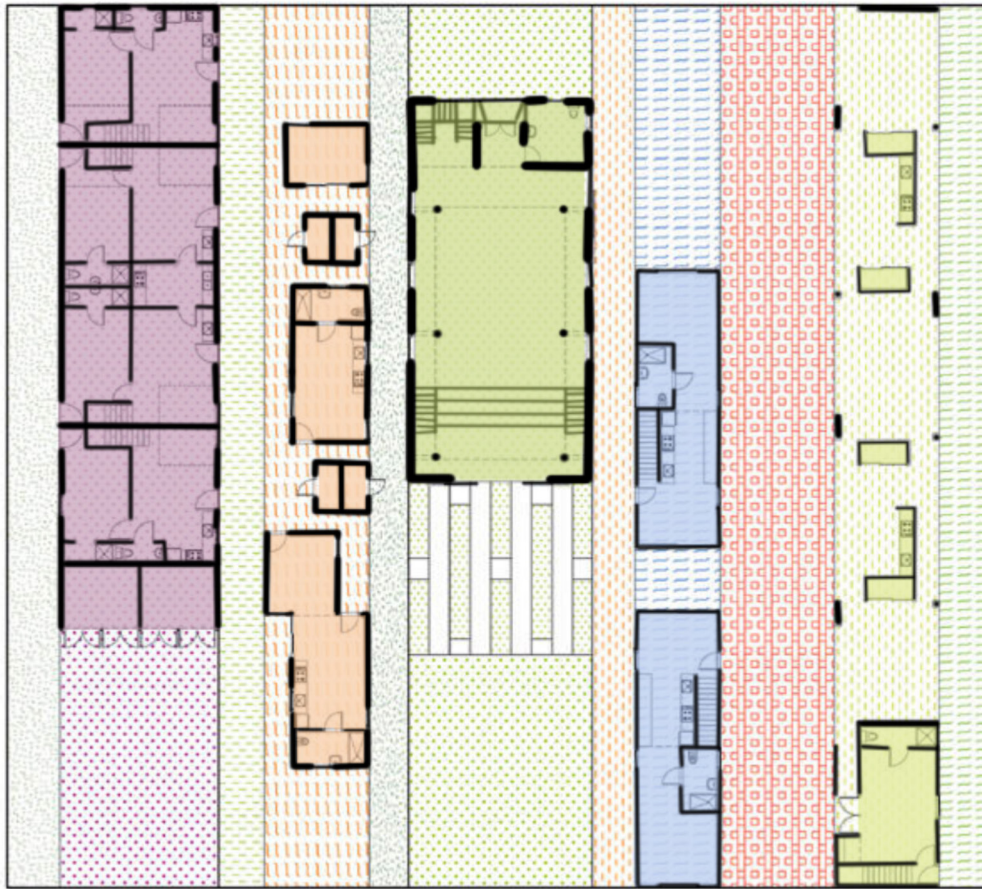
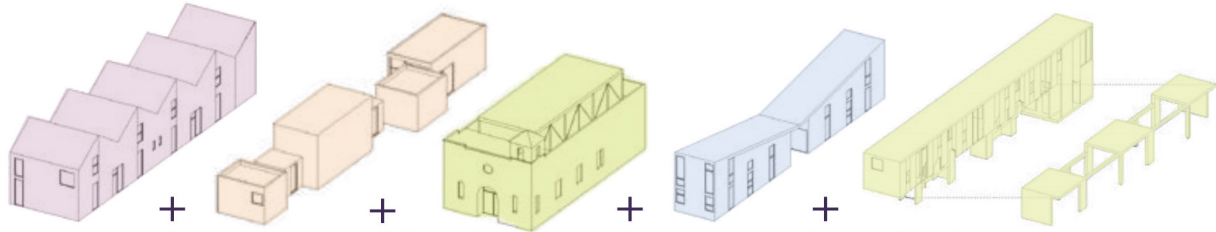


Figure 47: All collages are Author's own. This plan displays the various linear segments that have diverse spatial allocations. Read from left to right: general apartment units, studio apartment units, local church, artistic studios on the ground & apartments above, outdoor living rooms and kitchens on the ground & family apartment units above. Base Image sources: Plan+ typologies: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar) 3D render: (<https://www.casafamiliar.org/livingroom-sattheborder/>)



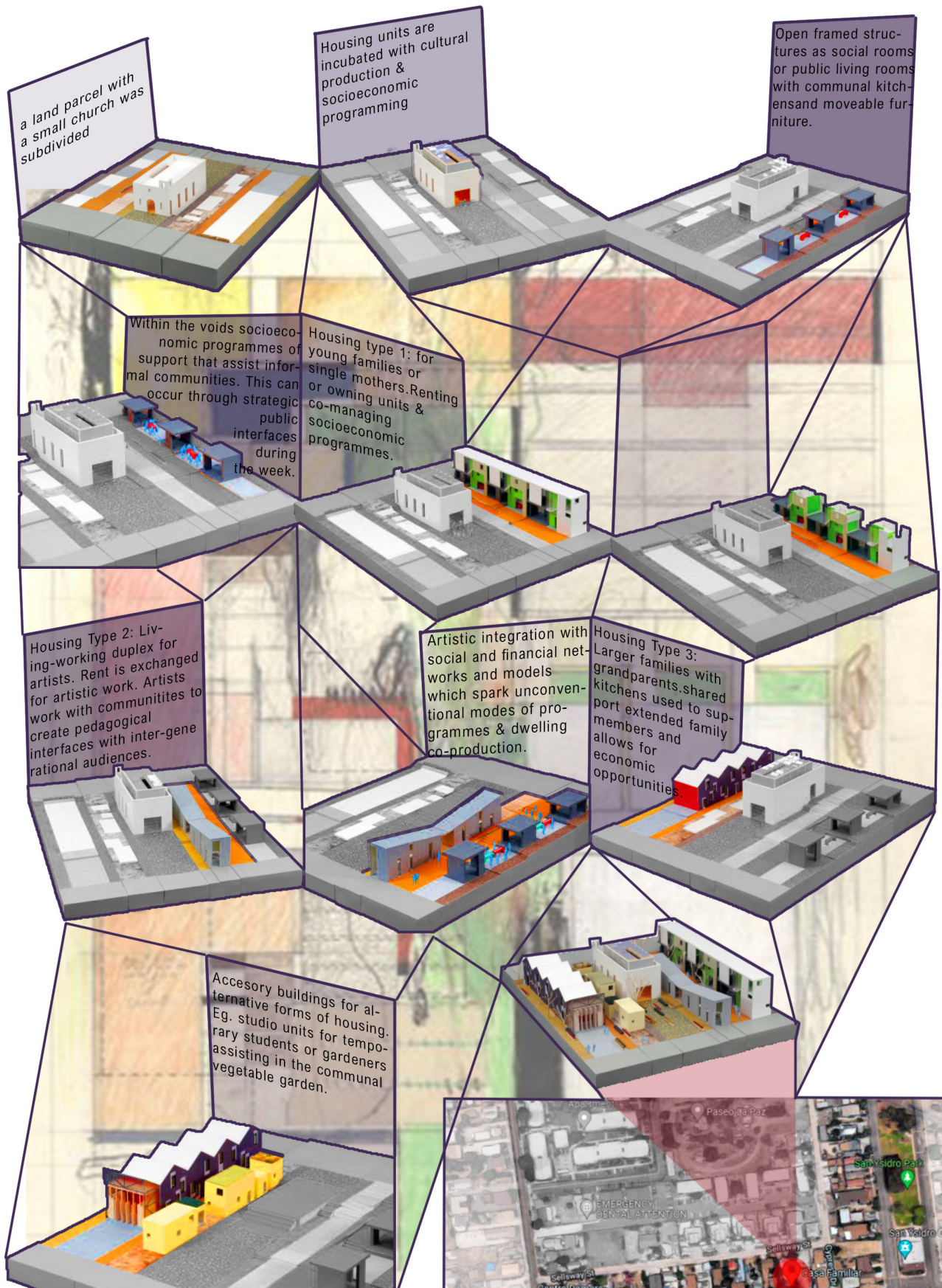


Figure 48: Collage by Author. Base image sources (google earth + https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html + Cruz, 2011)



Precedents

Homes that grow along the fringe of urbanity: PREVI- Lima

The reason for choosing the Previ-lima social, low-cost housing as a useful case study to implore is due to it been regarded as an epitome of perfection as a concept in the academic realm but with many shortcomings in its realistic manifestation. The disparities mainly lie in the formal constraints of the housing market and the need for economic capital that perceived informal organic freedom of the inhabitants would not be entirely realized. Regardless, within the academic architectural discourse, vital practical design decisions are taken in direct response to the social and cultural capital of the informal, rural habitus. The Previ-lima housing of the urban poor is unique as it is not a traditional top-down, entirely state-run operation, rather, it is a bottom-up evolutionary design response that ensures human prosperity through the allowance of organic evolution relative to human livelihoods.

Project Background



Figure 49: Image illustrating the shanty town infrastructure in peripheral, rural Lima. Image Source: (<https://www.sciencephoto.com/media/182806/view/shanty-town-peru>)

During the 1950s within Peru's capital of Lima, there was a rapid emergence of informal settlements or *barriadas* (shanty towns) in rural peripheries of the city (Kahatt, 2011). In order to overcome or control its physical sprawl, a Peruvian government initiative called PREVI (proyecto experimental de vivienda) was conceived upon which the United Nations funding and recognition from international communities was realized soon after (Kahatt, 2011). The overlapping informal sprawl of settlements was due to a housing shortage, especially amongst the lower social class therefore appointed architects and anthropologists (CRAV) alike, concluded that directly tackling the *barriadas* was the most practical way in order to inhibit further depreciation.

The CRAV team advocated for site and service developments together with self-help construction as innovation solutions to the government's inability to provide substantial economic capital to the initiative. As a result, the site development included the basic provision of water, electricity and perimeter walls. The conceptual approach was termed *vivienda elemental* (elemental houses) that was self-constructed by the citizens and future owners with technical support provided by the government through CNV (Kahatt, 2011). Hence, the principals of participatory design and collaboration was core in the practical wisdom used in responding to the informal habitus.

Precedents

Design Variables

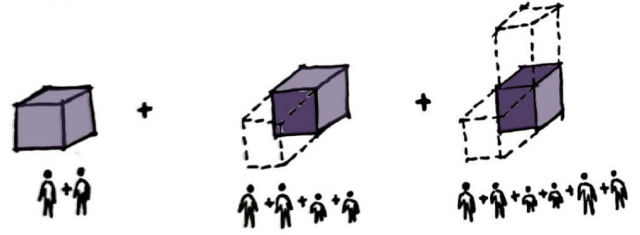
Previ-lima social housing design was put forward as a design competition and networked to architects nationally and internationally in order to get many design proposals. The constant design variables necessary in the proposals included mass housing, prefabrication for ease of construction and reduced economic expenses as well as the design's ability to adapt to diverse, interchangeable socio-cultural terrain (Kahatt, 2011). Furthermore, the building footprints were encouraged to be as minimal as possible to counteract excessive foundational costs, the design was to be modular in nature to allow for vertical additions on the base structure over time making it either a one or two storey building (Kahatt, 2011).

Overall, 6 fundamental requirements were brought forward by PREVI that were vital to the architectural response and were derived from the research conducted within the informal habitus and the subsequent socio-cultural capital that either exists or needs to be enhanced for sake of sustainable human longevity.

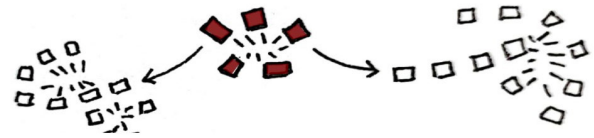
1. The typology of low-rise urban buildings



2. The design should allow for technical expandability that caters for organic growth of the family over time.



3. The buildings should form clusters for micro-communal engagements and these clusters should form larger and more connected communities.



4. Pre-fabricated low cost materials are to be utilized for affordability, ease of construction and replicability.



5. A garden or patio is vital to allow for timeouts growth and positive outdoor spaces.

6. The space between the buildings should also be vital in the proposal through landscaping design, street furniture and pathways that are solely for pedestrians and removed from vehicular congestion.



Figure 50: Drawings corresponding with design requirements on the left. Drawings: Author's own

In order to ensure cultural and environmental contextual sensitivity, frameworks for were derived from traditional public spaces found in Lima and passive design strategies in tandem with the climatic zone. The public spaces included plazas, church atria and other frequented public spaces while the passive design measures were things like natural light, ventilation, building orientation and noise abatement (Kahatt, 2011). There were countless proposals by well-known architects in which 23/24 housing models were physically implemented. However, I am going to be focusing on James Stirling's design contribution to this initiate given his unorthodox design that caters for physical expansion over time and the complex local informal conditions.

Precedents

Organic Housing Model

His house design follows a growth model that allows for organic growth of the familial unit. Historically, housing is seen as a living organism that evolves synchronously with communities or families. Within modern society the capitalistic liberal economy reigns with symbolic capital that favours value of growth in design over value of use. Hence, what would have the best return on investment with a stark disconnect to the organic nature of communities (Fabrizi, 2021). In many ways, spatial allocations to certain uses also influence the growth pattern over time. When domestic space is perceived as an enclosed vernacular entity without designing for future reconfigurations, it inhibits the mere innate nature of the home as an organic form of shelter for social structures. Bourdieu believes that the habitus of an individual is an extension of the phenomenological understanding of one's home. The notion of home is expanded upon to cater for additional activities and added uses which compose the rest of built environment. Although the typologies are different and levels of comfort and formality may change, we inhabit multiple reconfigurations of home within our built environment.

Houses on the market is sold as a finished product without offering malleability in form to suit the future needs of the inhabitants (Fabrizi, 2021). These needs are linked to modifications in the family system, so the addition or subtraction of family members and the space needing to shift to suit psychological or medical needs over time within the family. Economic profitability is the pinnacle influence in both the spatial and structural characteristics thus the sociological needs and unforeseen familial situations are secondary. Housing in the informal habitus is synthesized in a field of little to no resources, a high degree of precariousness and in the external arena on the peripheries of the housing system. The impossibility to get decent housing has let to in-situ construction of informal dwellings composed of a simple material palette but with greater evolutionary potential over time compared to fixed housing models in the system. The immediacy of social and cultural needs in the informal habitus leads to the creation of swift organic modules that develop greater complexity in sync with the needs of the inhabitants. Lima neighbourhoods exist in this precariousness informal area so design opportunities that embody notions of growth, flexibility, evolution and versatility all become structural vocations in the architectural proposals.

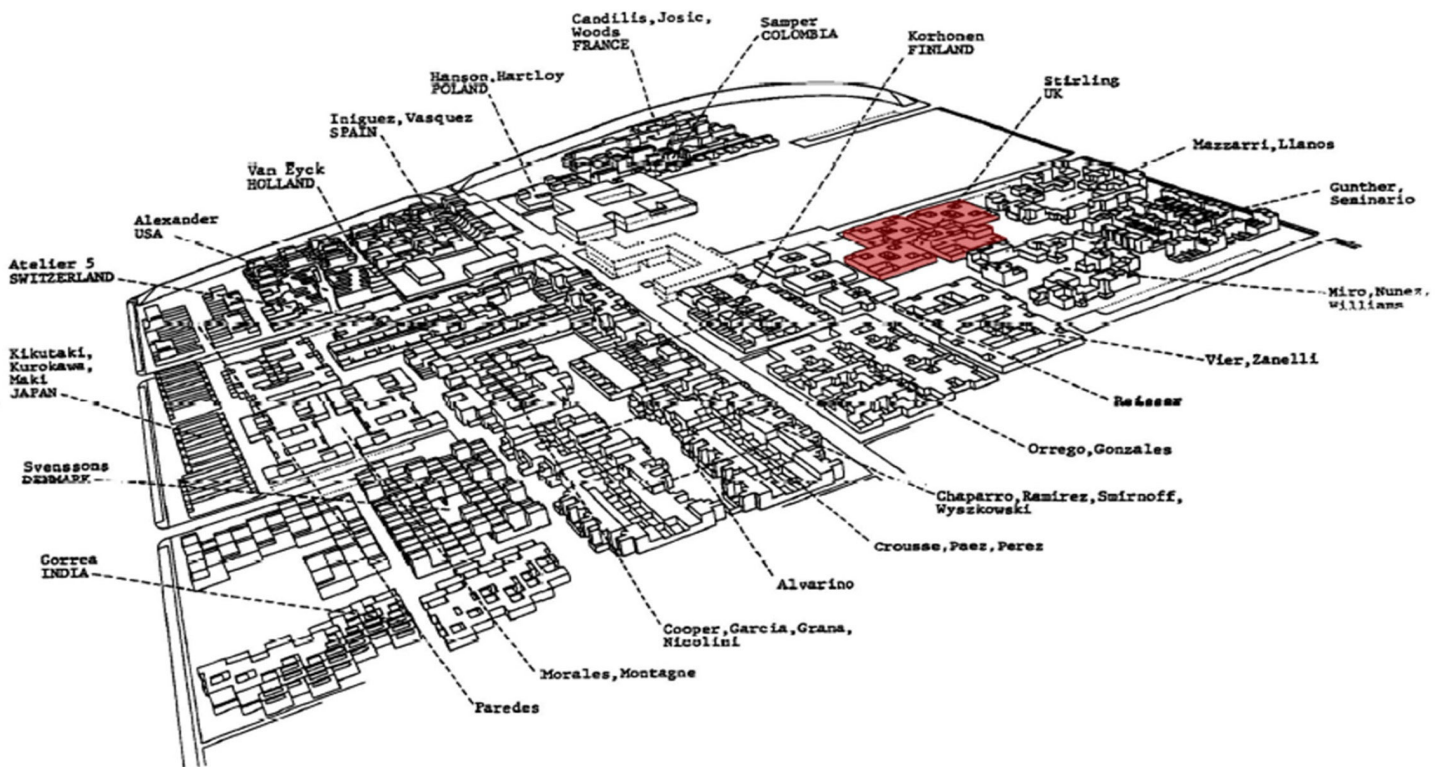


Figure 51: Image illustrating James Sterling's growth housing cluster (highlighted in red) in context to the diverse approaches of other well renowned architects. Image source: (Land, N.D.)

Elements

Foundational cell/module

James Stirling's housing proposal embodies these aspects quite well in relation to structural flexibility over time.

Hence, his proposals were regarded solely as a base upon which the home owners would make additions congruent to their familial structures and styles. The foundational cell created by Sterling was intended to be diluted by layers of social input but had to govern the growth to insure structural modality (Fabrizi, 2021).

The base structure is the controlled variable and the reason for its importance is due to the findings made by Sterling through his analysis of the Lima neighbourhood in which he found that uncontrolled growth led to the detriment of quality public urban space. In order to guarantee spatial integrity and the preservation of comfortable space despite the growth factor over time, courtyards were utilized as a strategic design tool (Fabrizi, 2021).

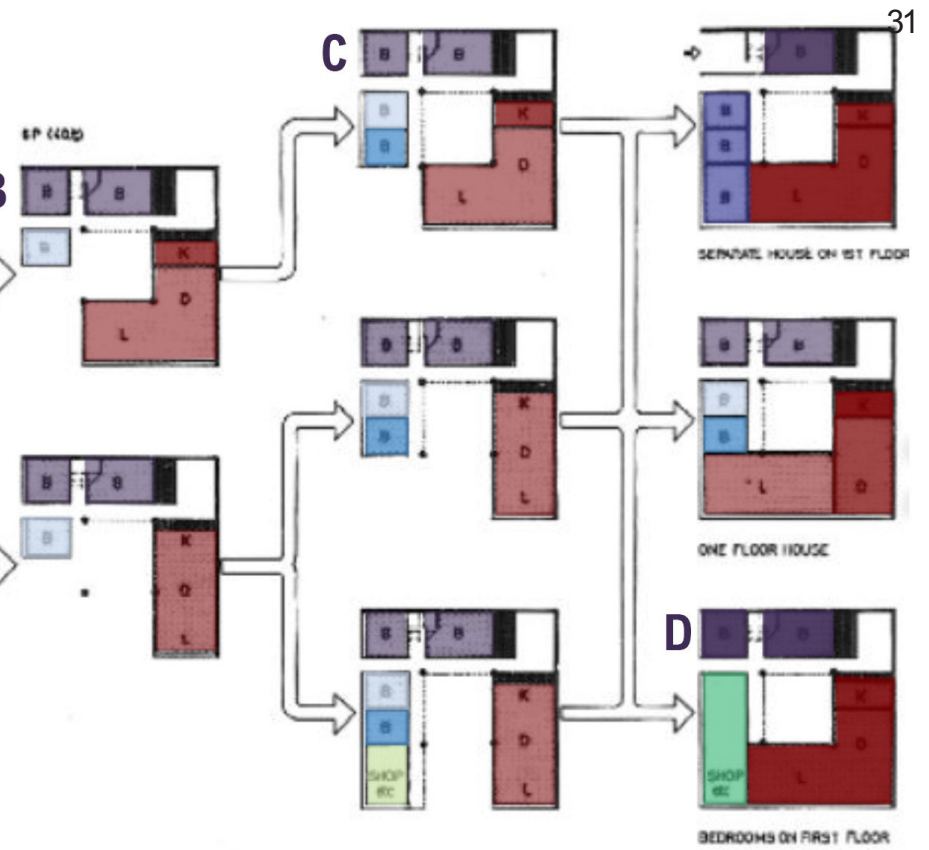


Figure 52: This diagram should be read from left to right. It begins with a simple L-shaped spatial assemblage within a square shaped, courtyard module. The arrows represent shifts in spatial numbers and possible arrangements. Colours: Indigo (bedrooms to the north), blue (bedrooms to the west), Red (Kitchen, Dining & Living), Green (Store space). As the more spaces of the same type are added to the plan, the degree of colour darkens. Collage by Author. Base Image source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

Commonly rooted in majority of vernacular architecture, the courtyard housing typology acts as a catalyst and controller for further growth. It ensures that passive design elements like natural light and ventilation remain pertinent to future growth through the ability of both elements to reach future interior rooms of the building. This would remain constant even if the building grew in height through the addition of another storev.

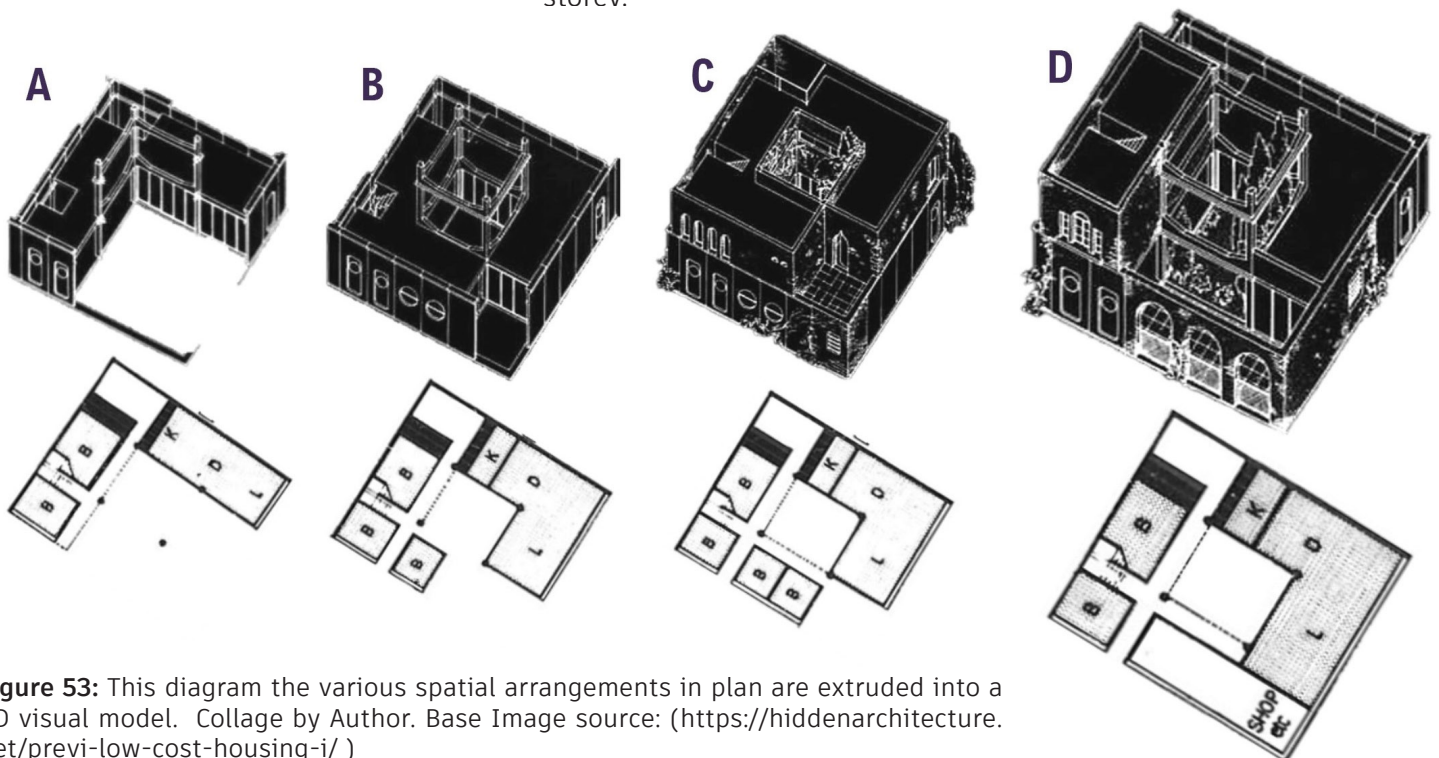


Figure 53: This diagram the various spatial arrangements in plan are extruded into a 3D visual model. Collage by Author. Base Image source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

The relationship between each individual housing model was to orientate all of them to form a central patio at the epi-centre of the housing cluster. Cumulatively each model takes in a courtyard typology and when grouped, the cluster becomes a courtyard typology which is composed of all the patios in from individual modules. The patios in the central position is framed by a prefabricated concrete structure and is defined as the heart of a micro-community.

Horizontal growth is contained from the perimeter of the patios to the perimeter of the plot itself maintaining infrastructural order in this domestic typology. The firm base enables appropriation that changed the facades over time, however, the base spatial framework of interior and public exterior space remains constant. The patio spaces are incredibly versatile and open to interpretation of the inhabitants.

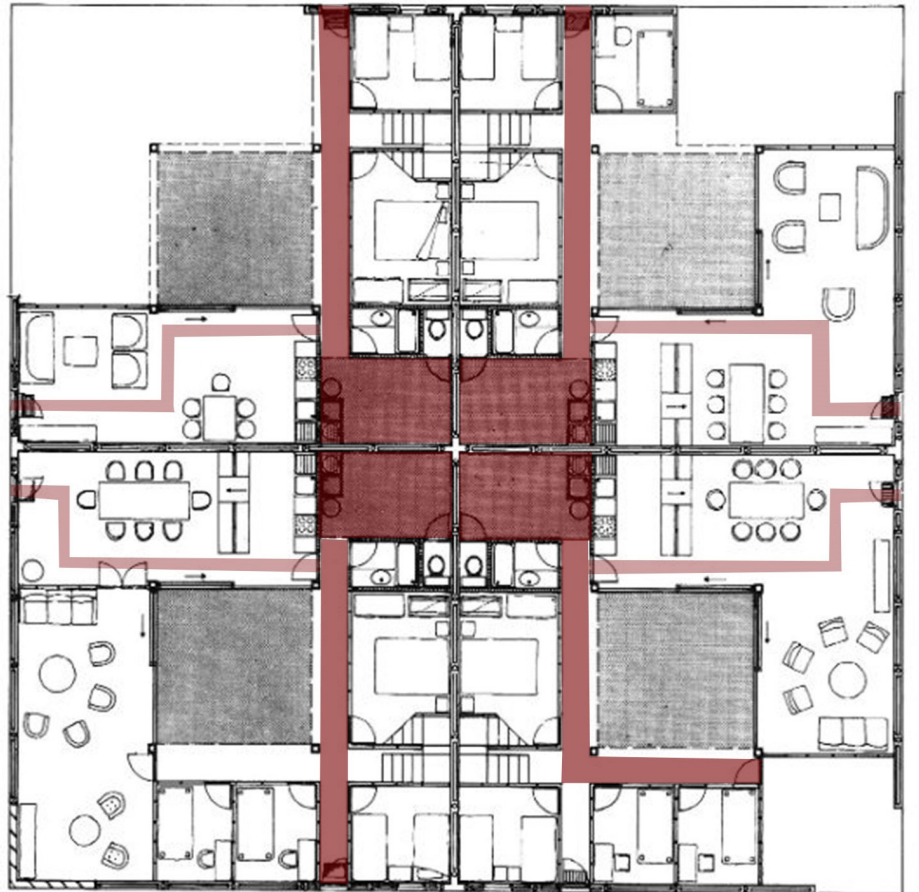


Figure 54: Ground Floor plan of a Growth cluster connected by the patio highlighted in red. Routes to excess the patio (service & living space routes) highlighted in red. Base

Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

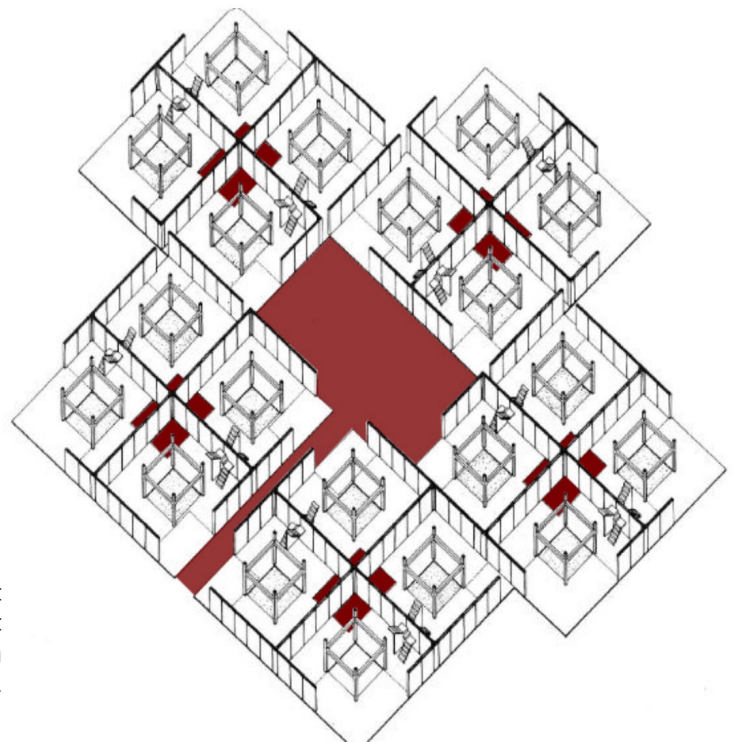


Figure 55: Multiple Housing cluster around a public communal patio area highlighted in Red. Semi-public patio between the 4 modules are also highlighted in red. Base Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

This type of housing is called the growth type method and the 'growth' aspect refers to the self-construction of the inhabitants (Fabrizi, 2021). For example, a constructor will lay out the foundational works and the perimeter walls on the ground floor. The extent of formalized input on the ground floor is unclear, however, home owners would be allowed to make additions to this floor relative to their taste. Horizontal extensions within the perimeter walls on the ground floor, vertical extensions to form the first floor and horizontal extensions within the perimeters of the first floor would all be self-constructed by the inhabitants. Numerically a 4-person family would be comfortably accommodated on the ground floor with a spatial programme of a combined living, dining room and kitchen.

As the family increases, by a factor of 2 for instance, a wall divides the kitchen and dining or shifts to make the living room bigger to adjust to a larger family (Fabrizi, 2021). Each housing module as two entrances, the traditional one allows direct access to the living room while the service entrance leading into the courtyard of the module, the staircase to access the floor above and the communal patio which has no door. The initial base work of the builder as a formal systematic inception to the house module utilizes larger-scale construction methods and pre-fabrication. Both the walls and floor slabs are prefabricated concrete structures with interior and exterior walls alike consisting of a sandwich type precast module that leans on beams that carry forces directly to the ground (Fabrizi, 2021). The window and door openings are pre-cut prior to in situ assembly.

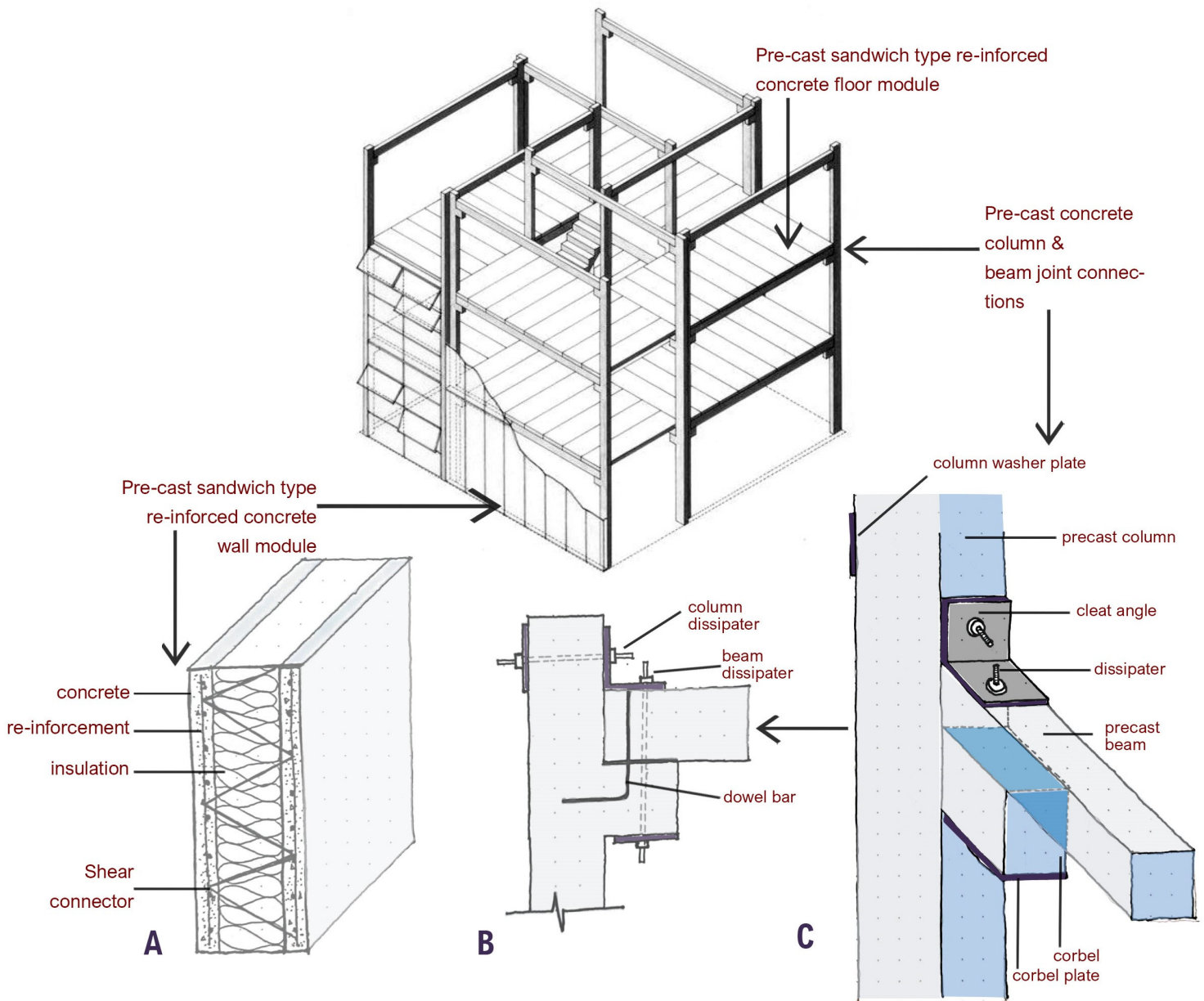


Figure 56: 3D Structure of the Growth housing model unit.

Base Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>) figure

A) Author's own drawing (not to scale) Base Image Source: (Preprints.org)

B & C) Author's own drawing (not to scale. Base Image Source: (<https://link.springer.com/article/10.1007/s42107-020-00281-9>))

The growth model ensures that entire neighbourhoods are inset within many series of courtyards. Each module is congregated in groups of four with all modules spliced at the position of the patios, forming a cluster with an internal micro-community. Every cluster of four is positioned around a larger courtyard space that serves as a public macro-communal space that serves 20 or 21 households.

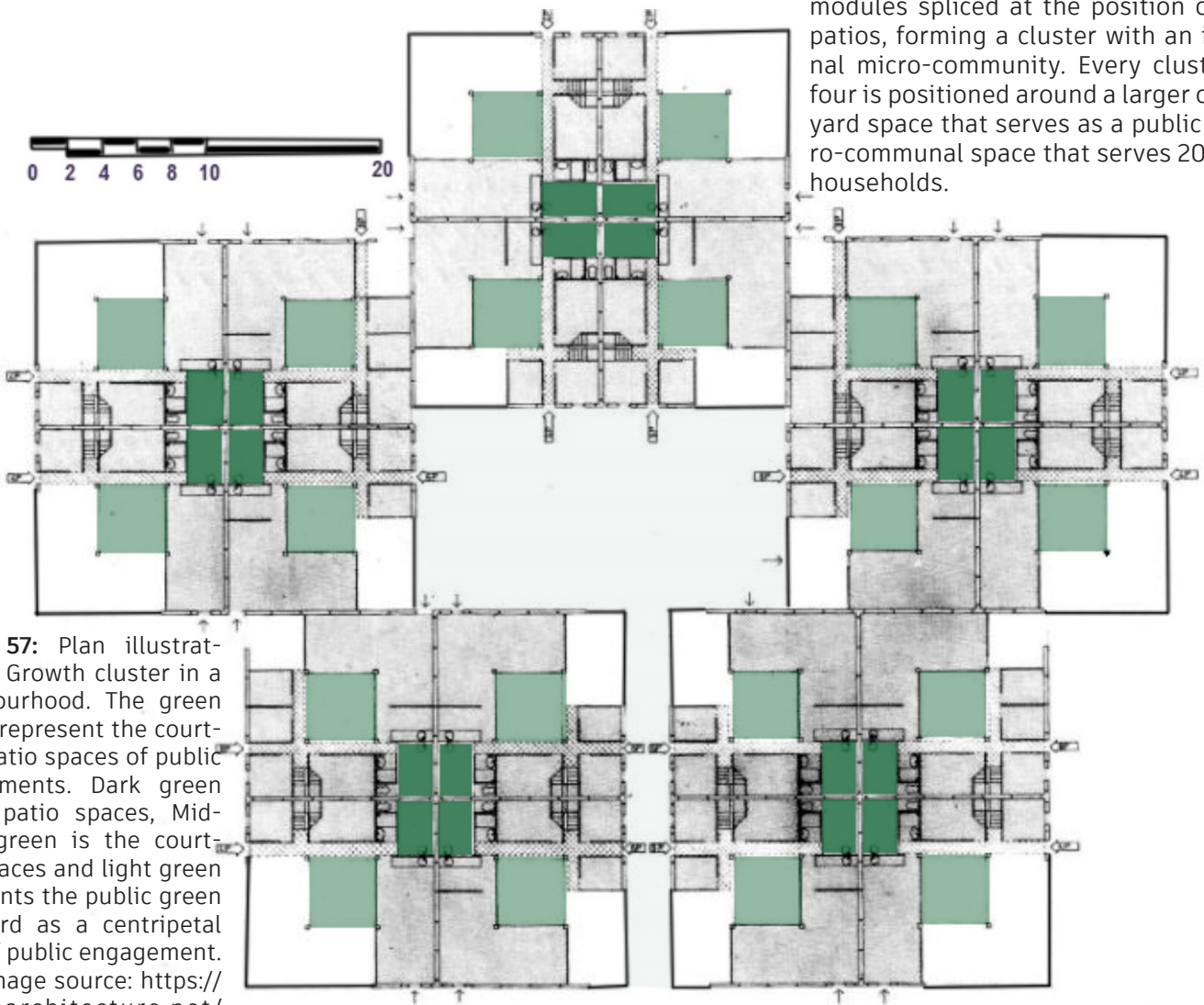


Figure 57: Plan illustrating the Growth cluster in a neighbourhood. The green spaces represent the courtyard/ patio spaces of public engagements. Dark green is the patio spaces, Mid-toned green is the courtyard spaces and light green represents the public green courtyard as a centripetal force of public engagement. Base Image source: <https://hiddenarchitecture.net/previ-low-cost-housing-i/>



Figure 58: Sectional elevation cutting through the courtyard and home spaces. Collage by Author. Base image source: <https://hiddenarchitecture.net/previ-low-cost-housing-i/>

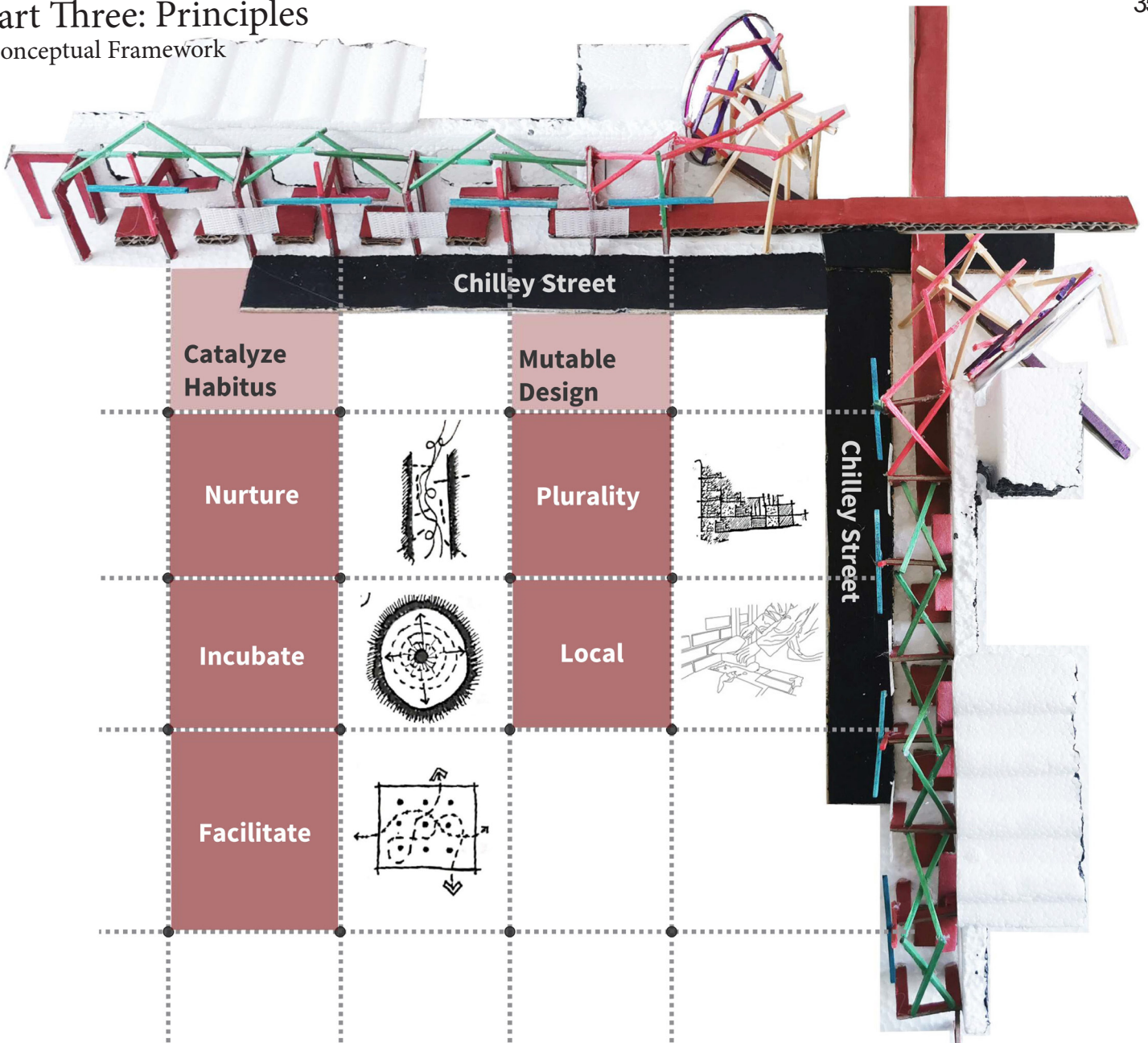
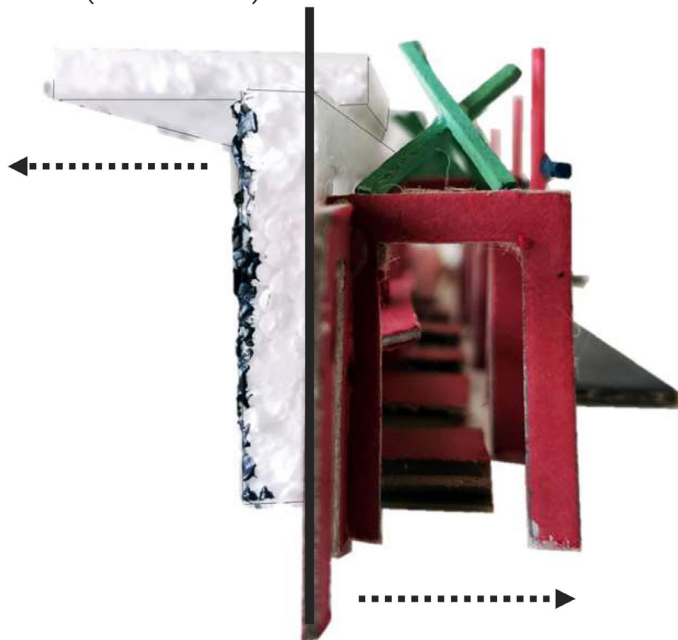


Figure 59: Conceptual model & sketches that display an option of dealing with vendor activities along the fringes of formal buildings. The red structure and green sticks all allude to a tectonic, framed and open approach. (Authors Own)



In context to the public housing and informal economic sector, the governing principles that guide the formation of strategies to deal with these sectors highlight the need for self-sufficiency, cross boundary linkages and the evolution of human capital in the town. To ensure strategic feasibility, development should be contained within the financial, institutional and physical resources available. The principle of self-sufficiency is underpinned by equitable social access to centralised resources, reducing the need to travel while also identifying the unique competencies that are organically distributed along the fringes of the town and building upon its inherent human skill, infrastructure and capital. (Richmond IDP, 2022) Hence, with this in mind my design focuses on two main intentions. The first is to catalyze the idiosyncratic traits of the rural habitus. The actions to achieve this would be to:

1. Nurture organic activity along the fringes
2. Incubate small business ventures
3. Facilitate a range of diverse activities and micro-practices.

The second intention is to employ mutable design strategies. Acheiving this would include:

1. Plurality in use of built structure to allow users to augment spaces to their needs.
2. The use of local materiality and craftsmanship.

Conceptual Synthesis

The Gateway Site

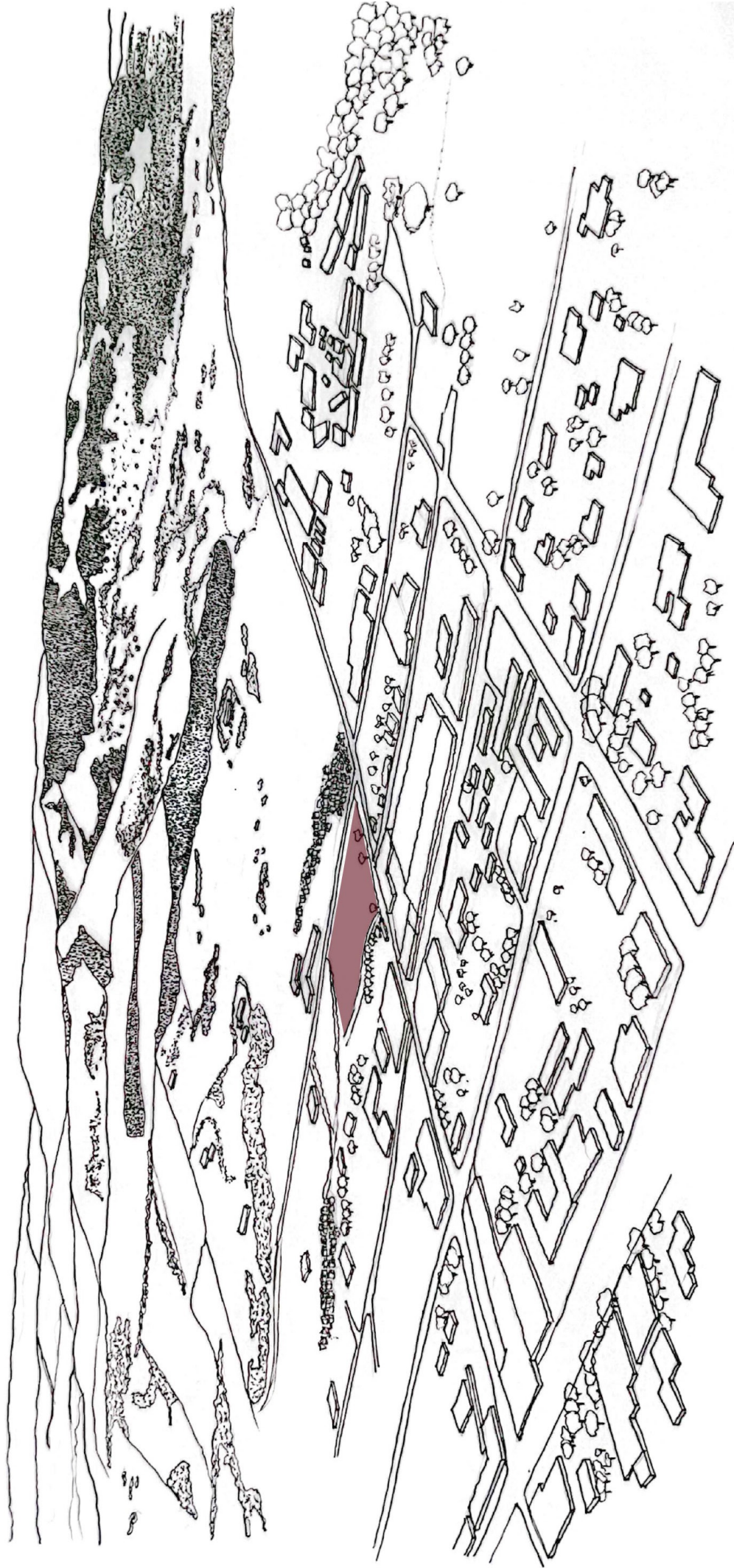


Figure 60: Sketch of an Aerial view of Richmond with my site of inquiry highlighted in red. This Gateway site is positioned at the entrance to the town. The reason why I chose to locate my site here is due to the fact that it provided greater space and a longer fringe area that will allow me to configure extensive centralised vendor activity while still maintaining enough space to add in low-cost housing modules. (Authors Own)

Conceptual Synthesis

Site Interfaces: Informal housing



Figure 61: Image of the Informal housing settlement that is located north relative to the Gateway site. It sits adjacent Chilley street highlighted in a dark line on the map to the right. This settlement is formally known as Bhongoza. (Google Earth)

Notes on Bhongoza: The current dilemma surrounding the fate of this informal settlement served as a contributing factor to my site choice and nature of my inquiry. This informal settlement is well-established socially and sits adjacent to a factory and the main road or Chilley Street. Although it sits on land zoned for agriculture it has sufficiently densified within the last decade. Currently housing an enumerated amount of 149 households it has sprawled quite deep into a privately owned agricultural zone. This settlement is currently prioritized under the provision of basic interim services due to a lack of appropriate infrastructure on site. This includes a lack of a stormwater drainage system, no formal sewerage system as the locals utilize non-ventilated pit latrines and no formal electrical connection. Hence, the provisional strategy proposed by the municipality is to make the necessary connections to bulk infrastructure and services for temporary sustenance. The long-term plan is a residential relocation of this informal settlement to an open area along the southern border of the CBD. This is due to the fact that the factory is planning to expand its infrastructure. The strategy is a result of desensitized top-down governance that places greater importance on private interests of expansion over the local needs. Although, the landowner has legal control over the informal infringements on the agricultural land, the manner in which the informal housing is addressed is the main issue.

As part of my design response, my intention is to add housing modules to the site as an alternative to the current development plan of relocation. Accessibility and well-located housing is important and the main reason why this settlement is thriving in its current location.

Site

Informal housing

Informal housing

Elevations



Conceptual Synthesis

Site Interfaces: Immediate context

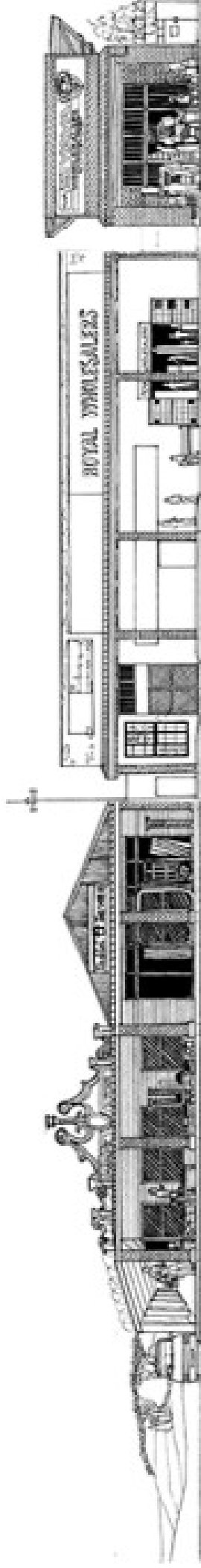


Figure 62: Sketch of the Eastern Elevations that are adjacent to my site. All the buildings are single-storey. Elements that are continuous include gable elements and a covered walkway supported by load-bearing brick columns. (Authors Own)

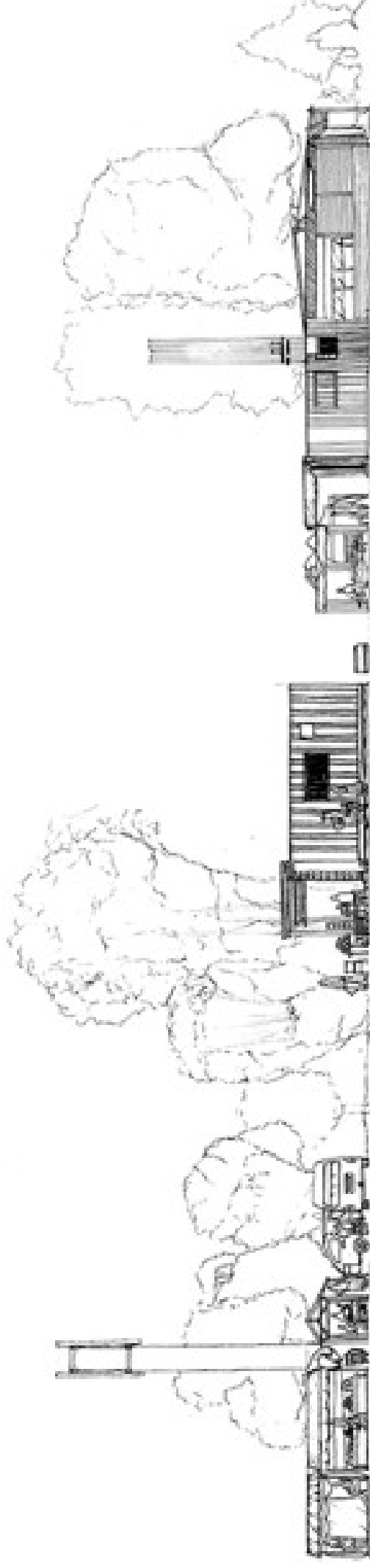
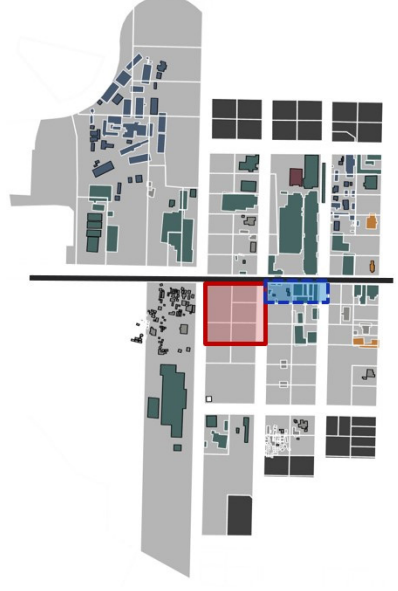


Figure 63: Sketch of the Eastern Elevations of the informal vendor and public taxi rank area directly adjacent to my site. **My site would sit to the right of this image.** (Authors Own)



Conceptual Synthesis

Site Interfaces: Immediate Context

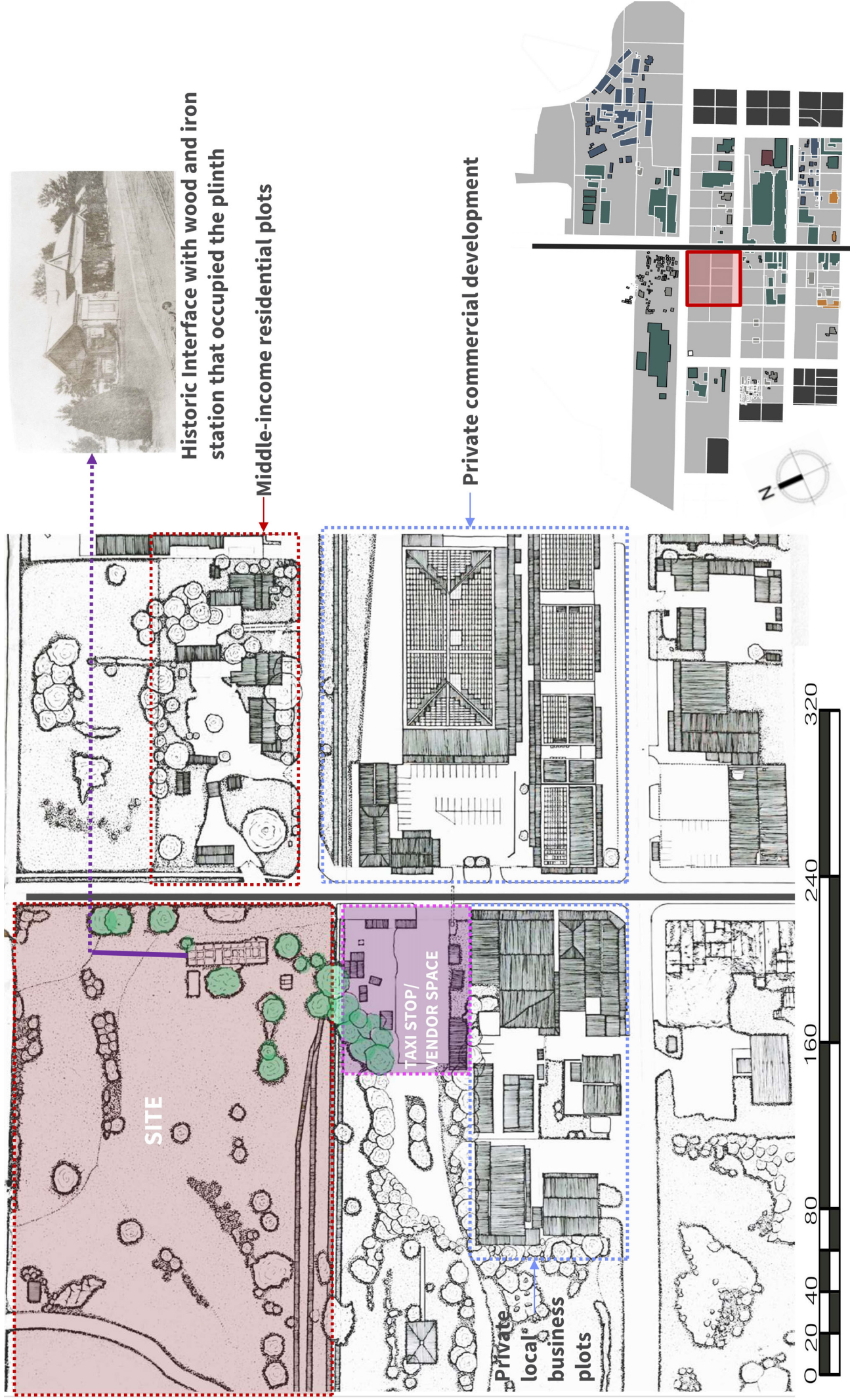


Figure 64: Plan drawing of my site and the immediate surrounding context (Authors Own)

Conceptual Synthesis

Site Interfaces: Railway station remnants



Originally, my site of intervention housed the Richmond railway station. Before its demolition in the 1990s, it was considered as the last remaining wood and iron station left in the province. As with most buildings in the town, there was alterations made to it. For experimental reasons, the original iron was removed from the framework and replaced with imitation bricks as a form of renovation. However, this method together with the firm in charge resulted in the renovation taking more time to completed rendering the contract insolvent. Nevertheless, despite this obstacle it blended in seamlessly with the architectural style of the town with its veranda posts and decorative fretwork on the posts

Figure 65: Sketch of Stone plinth on the Gateway site. (Authors Own)

Figure 66: Sketch of Stone plinth on the gateway site with the railway tracks to the left of the image. These tracks are no longer in use as the railway system in the town has been discontinued. These tracks are surrounded by low concrete walls that is around half a meter (Authors Own)

Conceptual Synthesis

Site Interfaces: Fringes

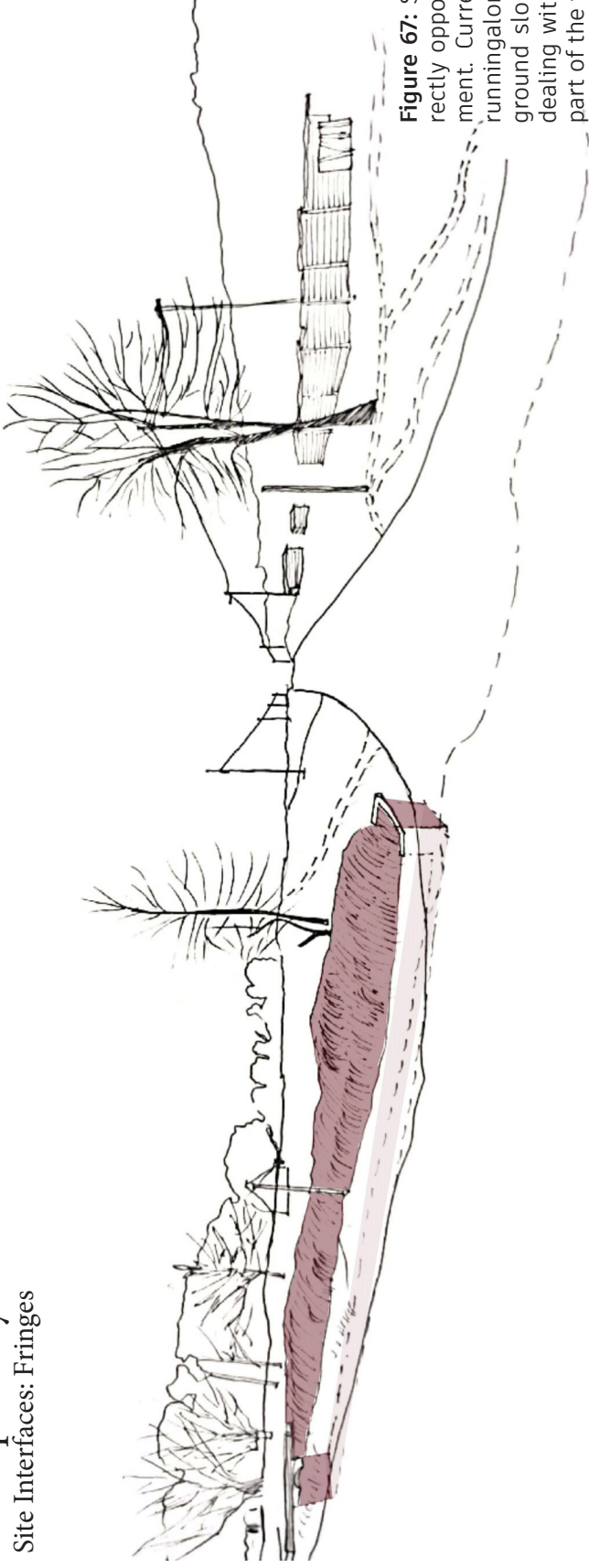


Figure 67: Sketch of the corner of the site directly opposite the Bhongoza informal settlement. Currently, there is quite a large drain running along the edge highlighted in red. The ground slopes quite steeply into it therefore dealing with this edge is paramount as it forms part of the fringe space. (Authors Own)

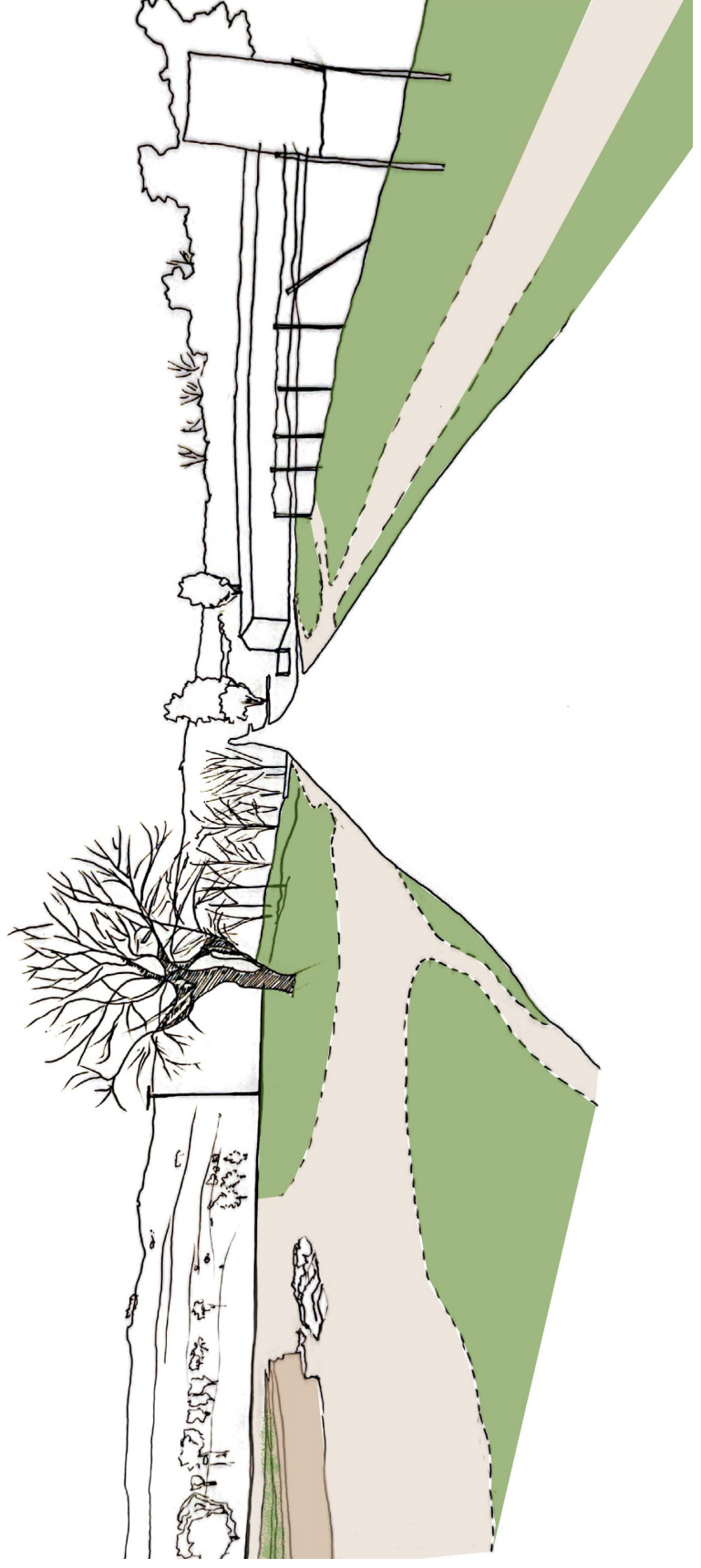


Figure 68: Sketch of the hillside street with my site to the left. The highlighted edges just display the green edges that meet the road instead of a formal sidewalk. This pattern of properties set back quite far into the sites and away from the street occurs throughout the town. This is an advantage as I have ample space to design a very organic, active edge. (Authors Own)

Conceptual Synthesis

Initial Site Response

- Purple- communal rooms & associated services
- Red- public stoep areas
- Grey- Market spaces
- Grey vertical- sidewalk
- Black vertical- Chilley Street

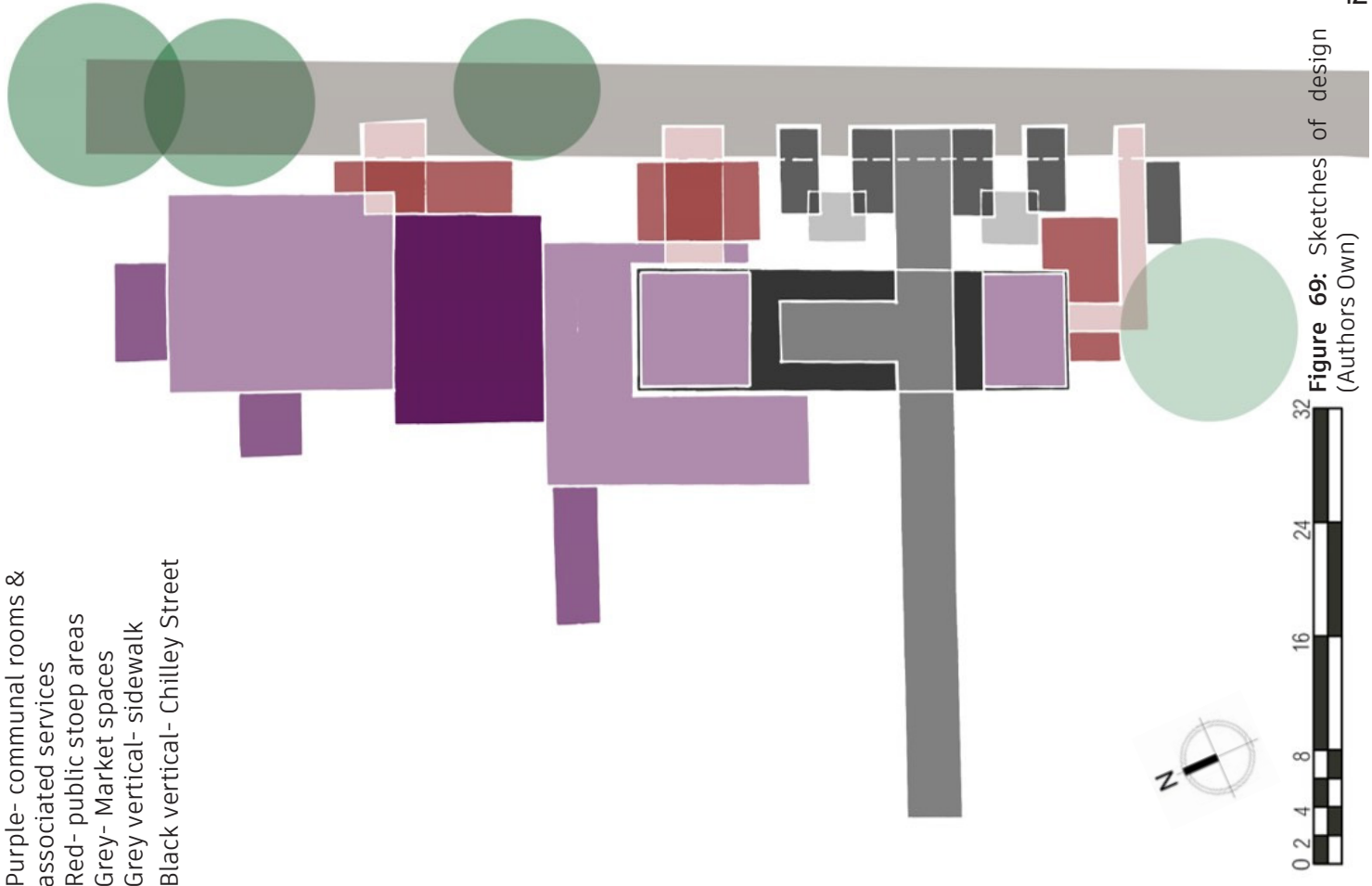


Figure 69: Sketches of design (Authors Own)

Conceptual elements Community Hall

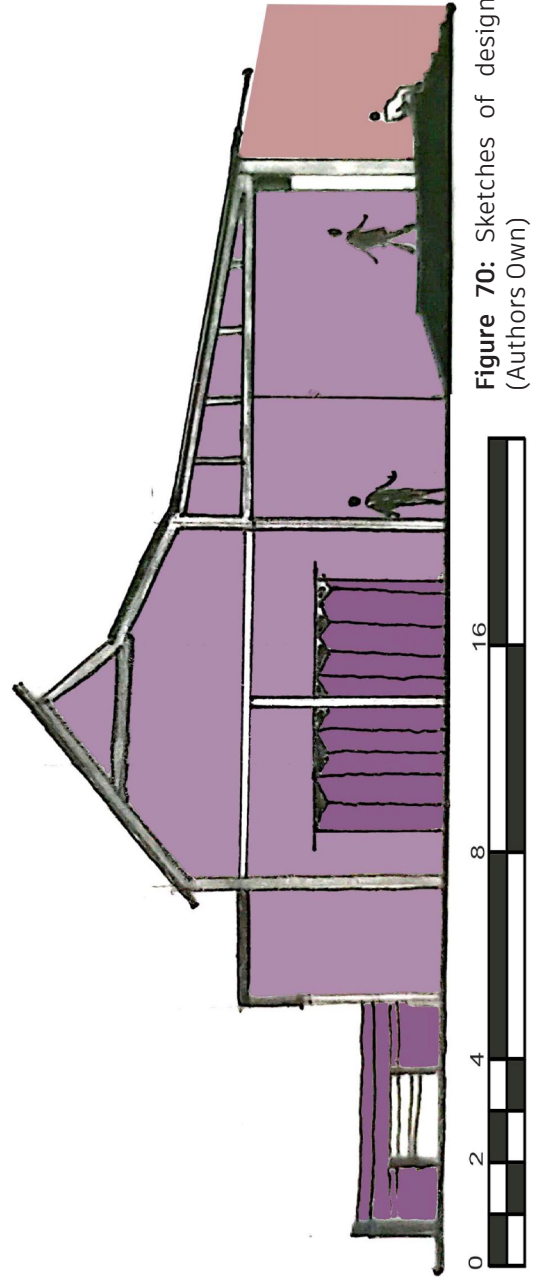
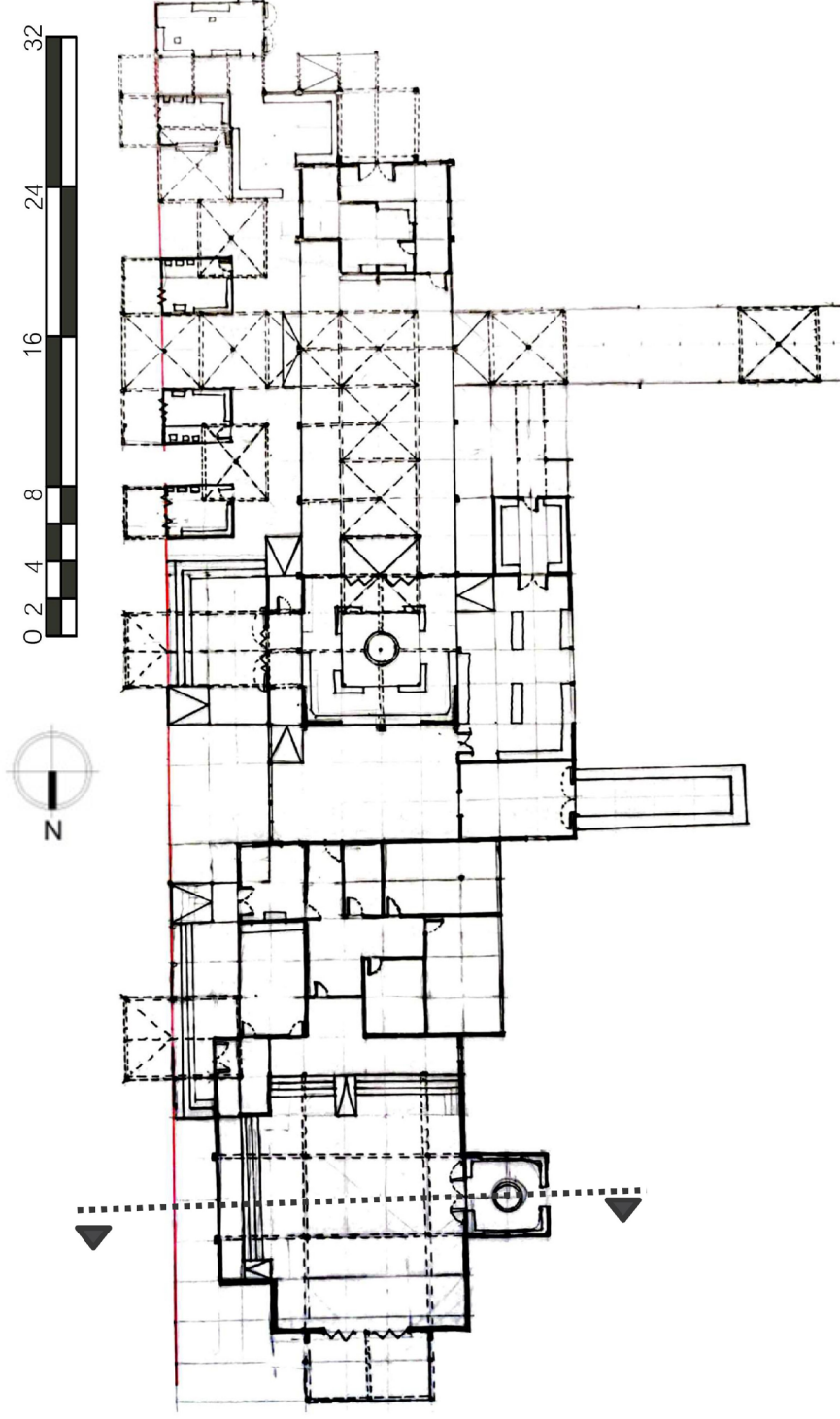
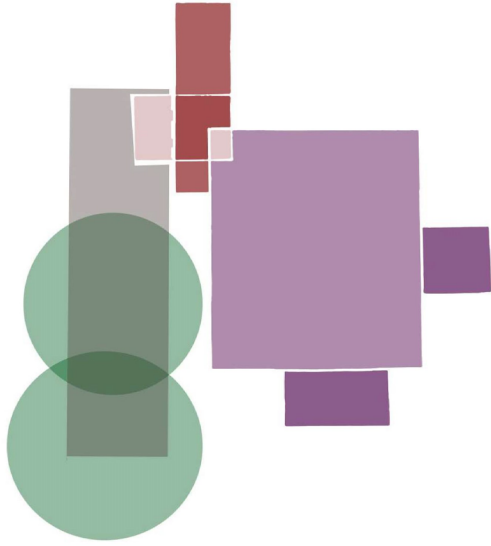
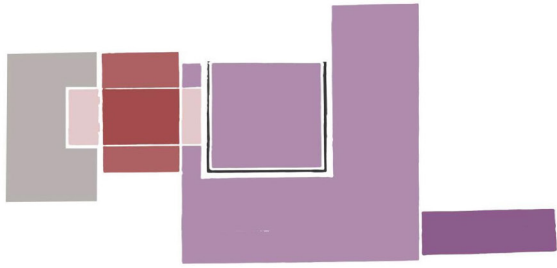


Figure 70: Sketches of design
(Authors Own)

Conceptually I plan on making the built system appear heavy to emphasise the light weight, tectonic pop-outs that extrude the hall space or over the steep area that allow for states of pause visually accessible social engagements. The materiality of the tectonic elements would consist of treated gumpoles as the primary structure and wooden elements for strategic shading. The nature of the verandah/steep areas are taken from vernacular cues identified in previous local analyses.

Conceptual elements

Community Kitchen



The kitchen is positioned on a 64sqm portion on the northern end of the plinth. This square area is designed symmetrically with a structurally accentuated chimney chute over an indoor fire pit stove. Around this central stove/ braai area exists regulated kitchen use at a variety of stations. The idea is to have the kitchen as a central hearth space of function and communal congregation. The structure should form around a circular, focal cooking space and radiate outward.

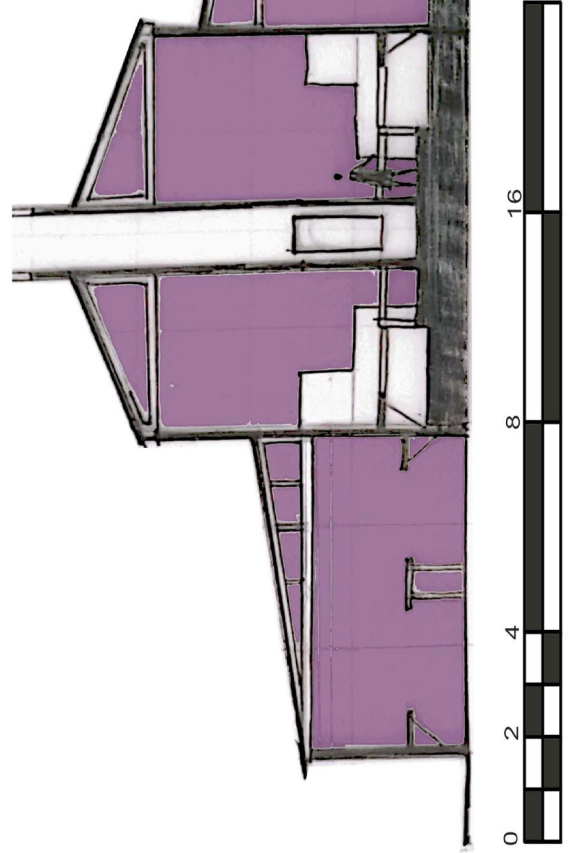
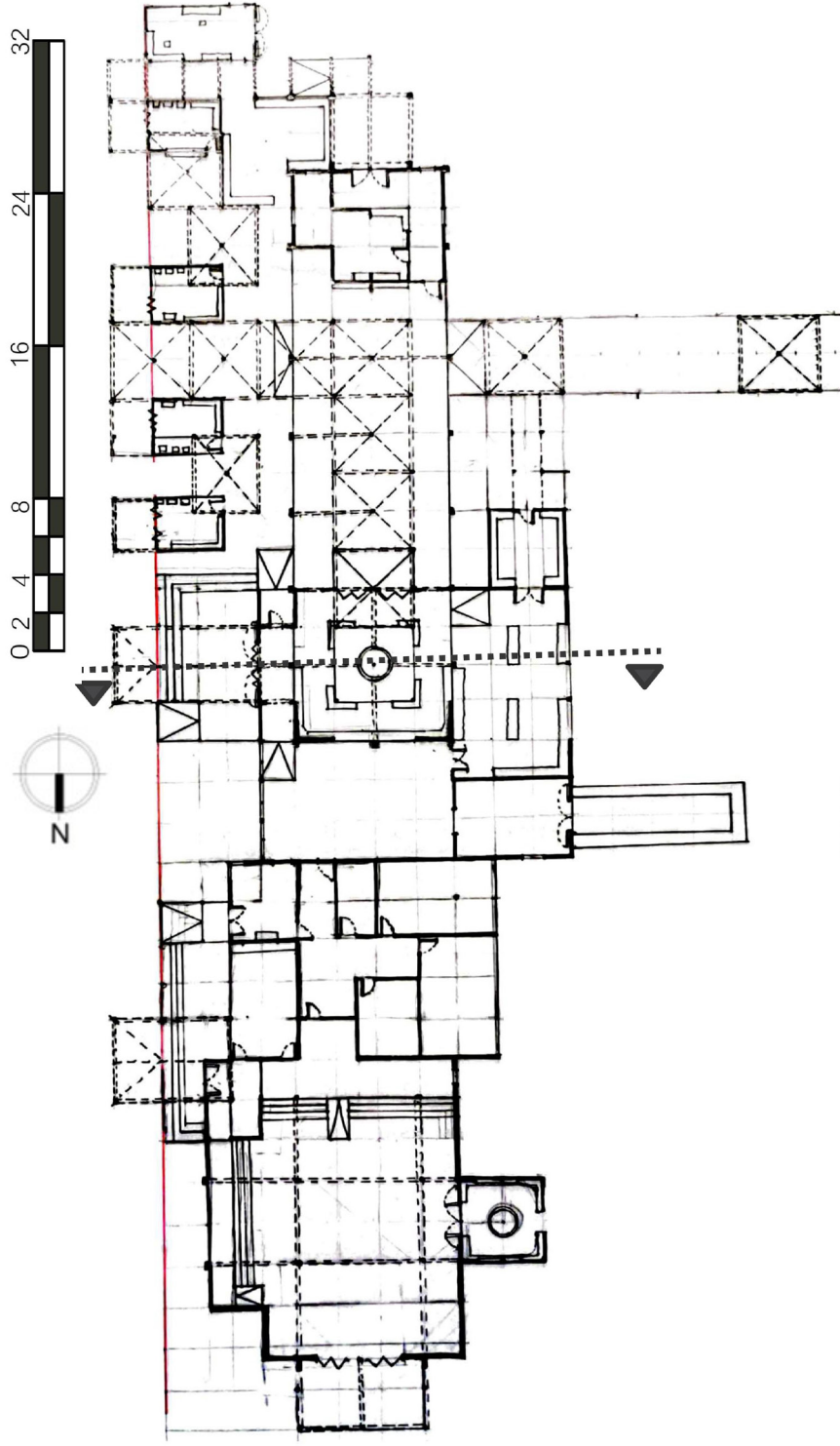
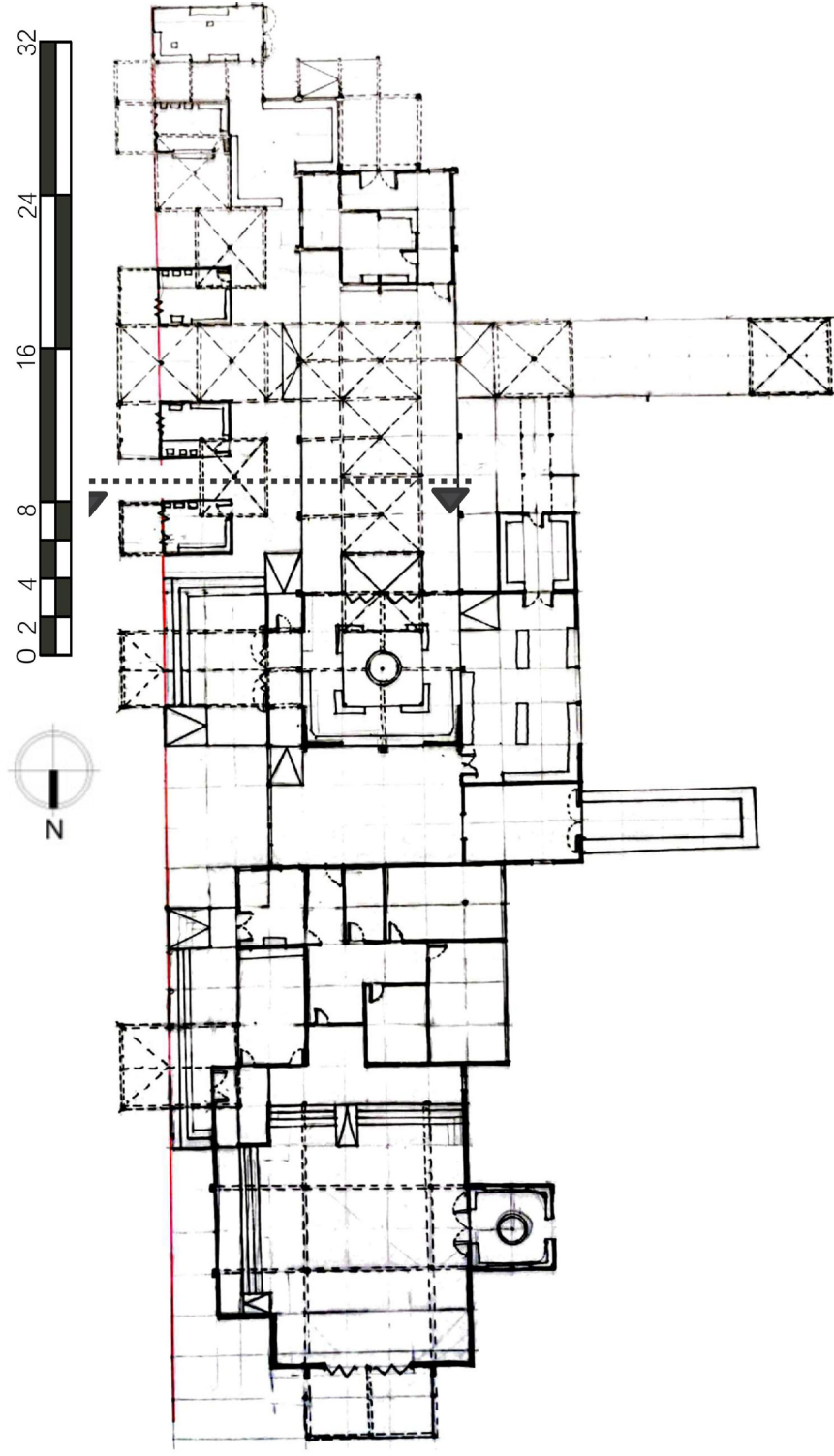
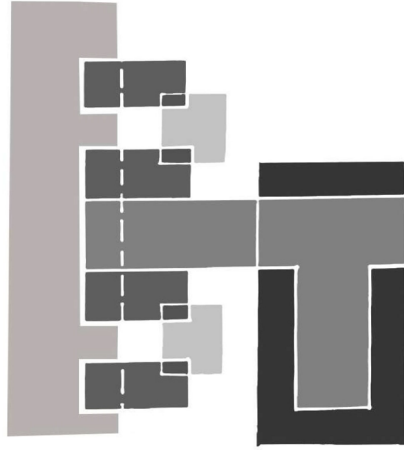


Figure 71: Sketches of design (Authors Own)

Conceptual elements

Market Space



The market takes up the remaining portion of the plinth and extends horizontally towards the sidewalk. The market spaces along the plinth could support the distribution of goods.

The market space along the plinth is partially enclosed with the application of a pre-fab agricultural shed system. this system will have a facade that opens up along the east toward the street.

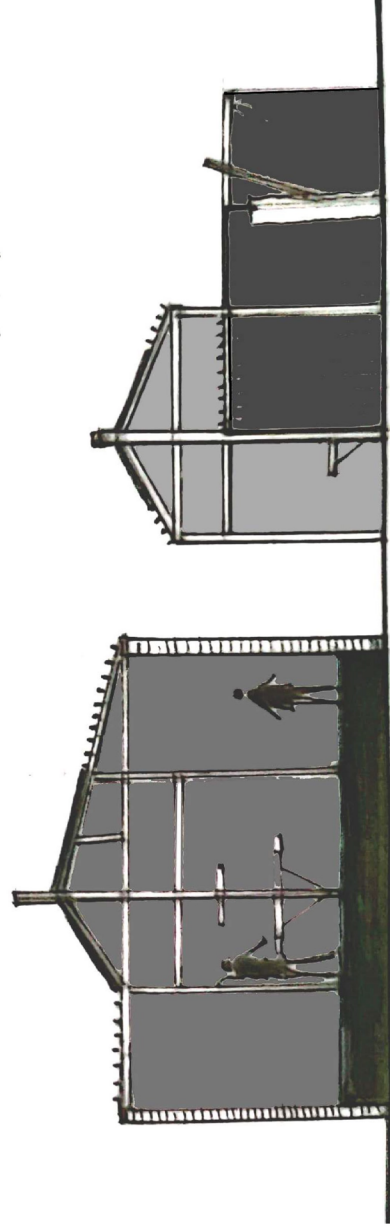
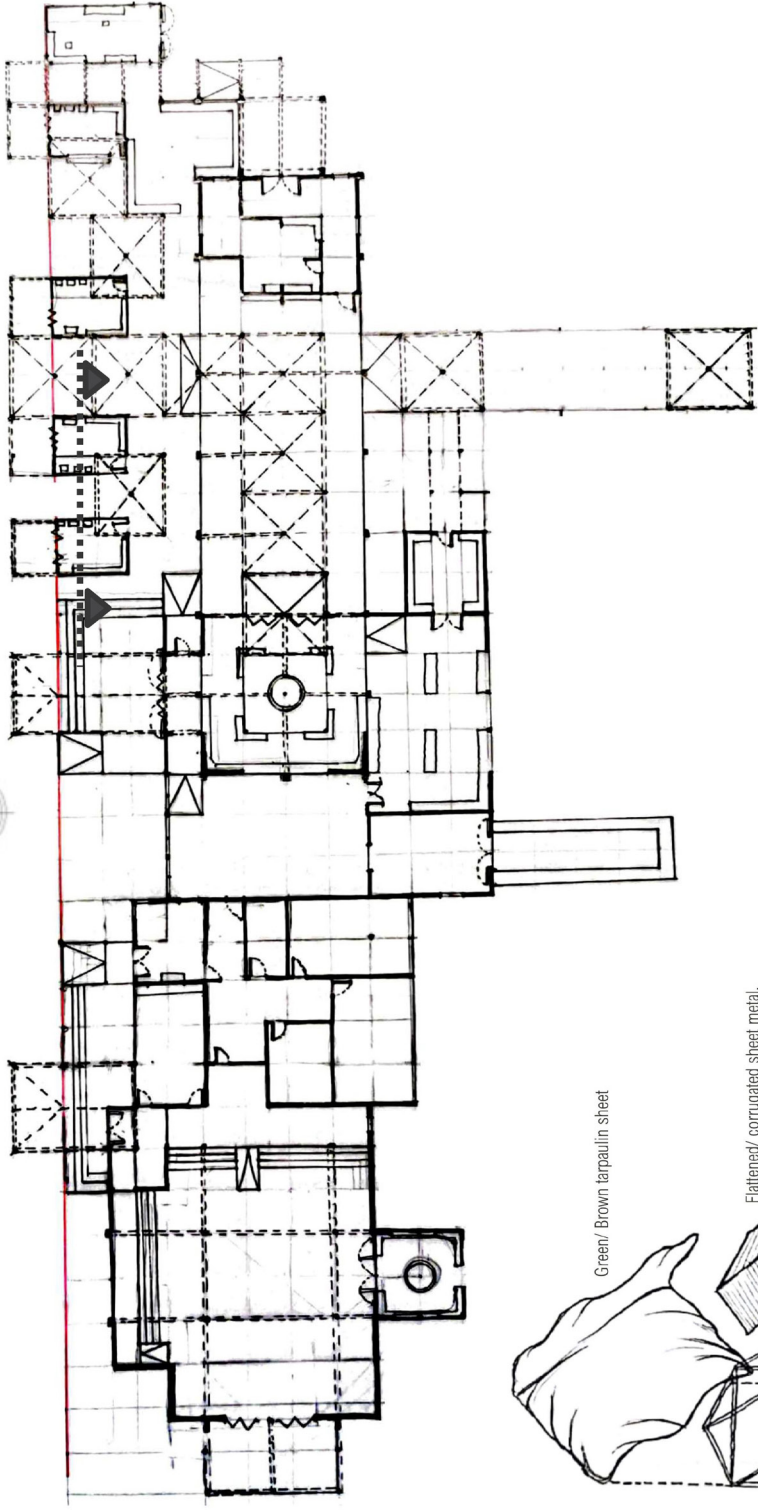
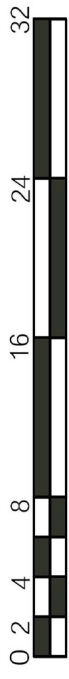
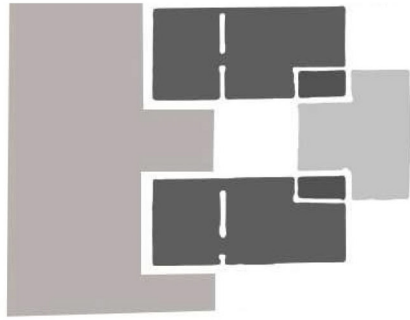


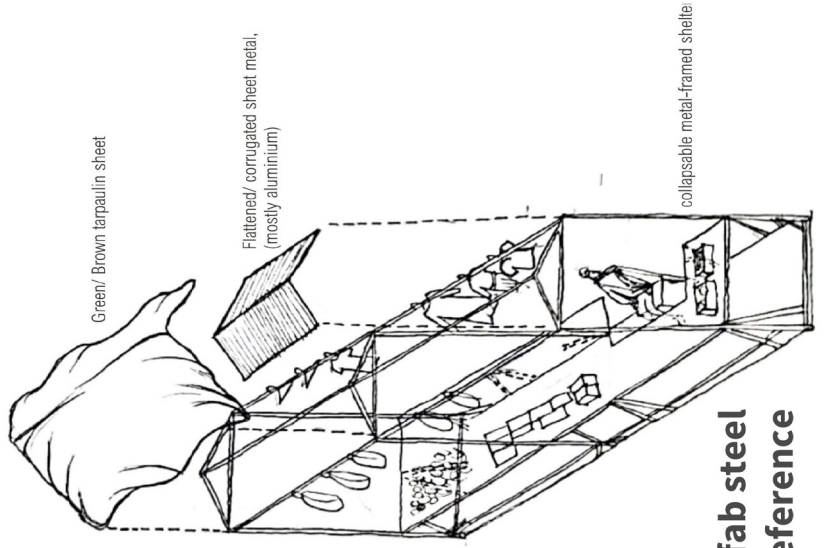
Figure 72: Sketches of design (Authors Own)

Conceptual elements

4-square x contained service



The four-square intersecting with a contained service are terms that refer to a 4 by 4m market square that structurally interweaves with a 20 foot or a 18sqm shipping container that supports small service-based businesses.



Precedent: local pre-fab steel reference

Figure 73: Sketches of design (Authors Own)

Exploratory model

Exploded model of contained service

This model is explorative in nature as I actively try to understand the components on a steel container and ways of extruding this and inserting additional elements that could cater to informal vendors and allow more sustainable flows of light and air. This model represents only half of the length of the container and not the entire container in order not to jeopardize the structural integrity and overall aesthetic of the container. This is a process model and serves as an exercise in exploring various timber components that could be attached to a 20ft steel container. These components could be created with gumpoles, timber planks and various opaque surfaces and textures that could serve as shading(tarp or perspex).



Figure 74: 1:20 model of a conceptual approach to the contained service space. Interior view(Authors Own)

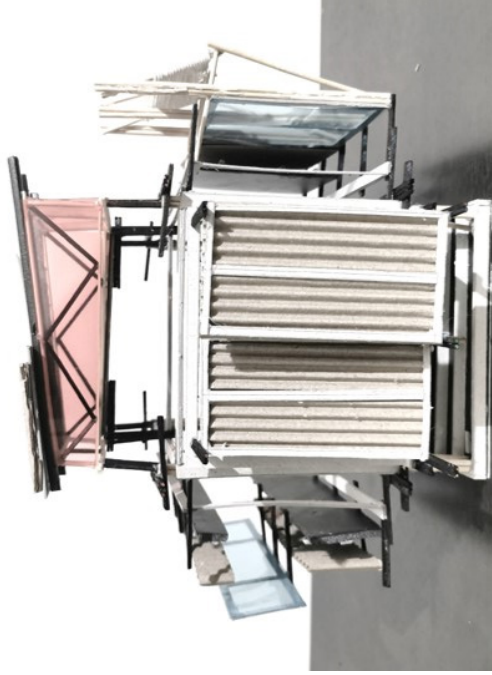


Figure 75: 1:20 model of a conceptual approach to the contained service space. Side view(Authors Own)



Figure 76: 1:20 model of a conceptual approach to the contained service space. (Authors Own)

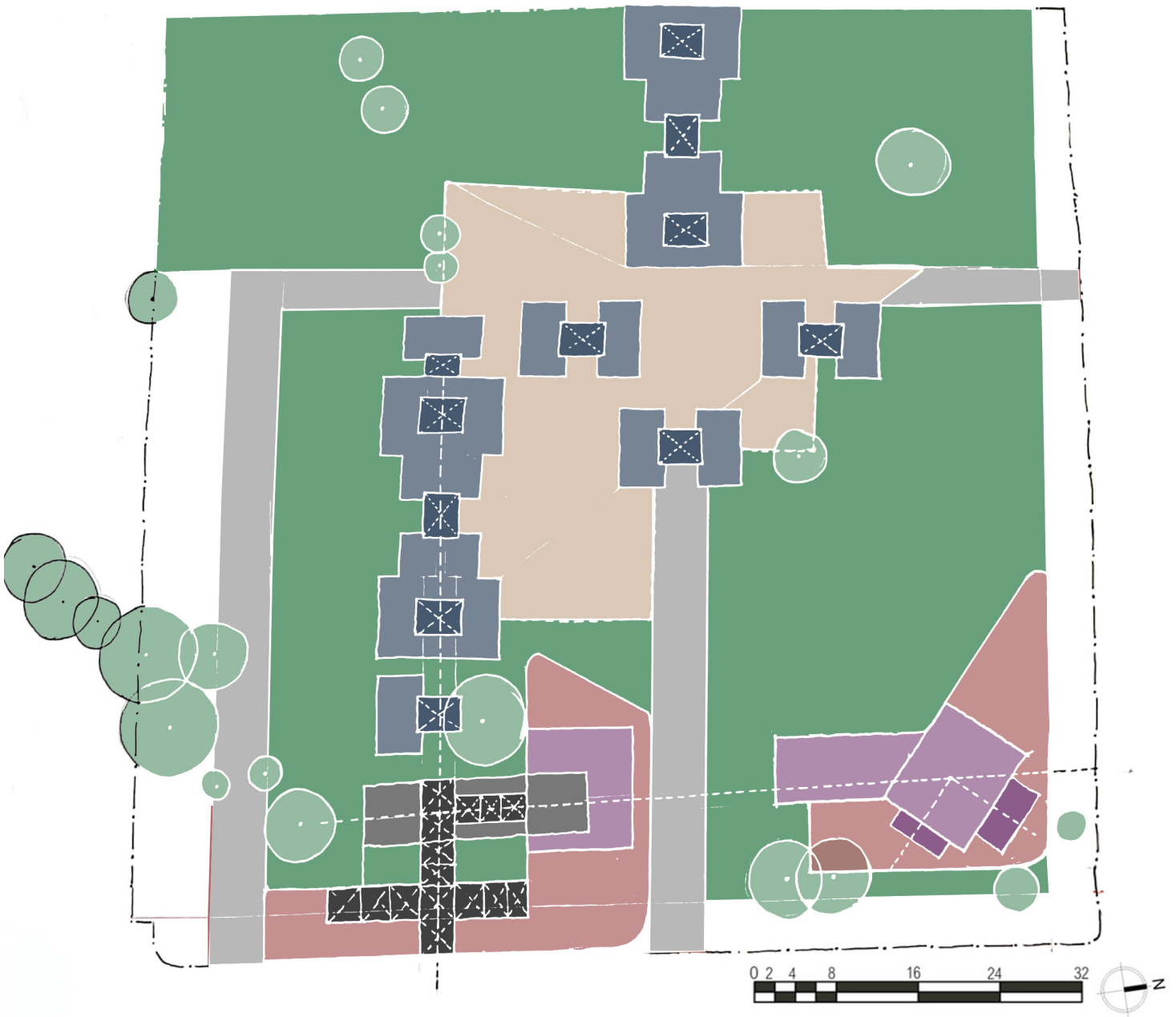


Figure 77: Colour block plan of the entire site and first attempt at organizing the diverse spaces on site. (Authors Own)

- | | | | |
|--|---|---|--|
|  | Community hall |  | 4x4m market square arrangement |
|  | Tectonic public appendage |  | accessible footpaths/vehicular paths |
|  | Raised stoep area: Public area |  | positive outdoor space |
|  | Low-cost 2-storey walk uphousing blocks |  | Existing trees on site with the gum trees reaching approx 10m. in height |
|  | Public space with tectonic similarity to the 4x4 square |  | Green/ grassy outdoor space |
|  | | | |

The informal economy and its proximity to natural rural landscapes has produced more organic and naturally existing fruits and vegetables that have more health benefits compared to mass, modified produce. This economy has provided regionally traditional foods and medicines for individuals, thereby making it a repository for the continuation of African Indigenous Knowledge Systems (IKS) (Magidi, 2022). Similar to the perpetuation of indigenous knowledge, this economy has promoted previously disadvantaged able-bodied people to a skilled craftsman, entrepreneur or skilled labourer through the social distribution of practical wisdom passed down to the youth.

The support of the informal economy is vital due to the immense sustainable influence that it has on the economy. The socio-economic contributions include the creation of consistent revenue for local authorities, providing social actors with practical skills that increase their employability, initiate creative entrepreneurship and enhance their livelihoods. The pressure through social mobilisations initiated by informal economies results in constructing affordable housing, ensuring cleanliness in the rural towns and developing sustainable restoration of green areas-therefore collectively contributing to sustainable urbanism.

The provision of a diverse range of convenient amenities within the rural habitus is entirely possible. Furthermore, architecture can be a medium for social change within any habitus. The habitus of rural informality is intricately entangled with the social circumstances of a particular group of people, its essence is context specific therefore it has no generalized definition. However Dovey expresses the need to bring awareness to the silent complicity of symbolic architectural domination and acknowledge the realistic, noisy complicity of its physical manifestation in habitats. Architecture frames the habitat therefore it becomes a representational framework that border the narratives of place and everyday lives. Hence, architecture is always political without an autonomous or neutral mode of practice as there are always intended uses, agendas and goals of built works (Bourdieu, 1987).

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Figure 33: 3D of the shelter. (Authors Own)

Figure 34: Eastern Elevation of the shelter. (Authors Own)

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Figure 36: Image of formal vendor space (Google earth)

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Figure 39: Sketch of informal vendor space along Chilley Street (Authors Own)

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Figure 44: Image of vendors along Shepstone Street. (Authors Own)

Figure 45: Conceptual perspective of the Casa Familiar site. The aim of this project was to enable the maximum performance of a small land parcel. Image source: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html)

Figure 46: Conceptual idea generator in a plan overlay that explores the potential social and cultural capital generation. Image source: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html)

Figure 47: All collages are Author's own. Base Image sources: Plan+ typologies: (https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar) 3D render: (<https://www.casafamiliar.org/livingroomsattheborder/>)

Figure 48: Collage by Author. Base image sources (google earth + https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/casa_familiar.html + Cruz, 2011)

Figure 49: Image illustrating the shanty town infrastructure in peripheral, rural Lima. Image Source: (<https://www.sciencephoto.com/media/182806/view/shanty-town-peru>)

Figure 50: Drawings corresponding with design requirements on the left. Drawings: Author's own

Figure 51: Image illustrating James Sterling's growth housing cluster (highlighted in red) in context to the diverse approaches of other well renowned architects. Image source: (Land, N.D.)

Figure 52: This diagram should be read from left to right. Collage by Author. Base Image source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

Figure 53: This diagram the various spatial arrangements in plan are extruded into a 3D visual model. Collage by Author. Base Image source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

Figure 54: Ground Floor plan of a Growth cluster connected by the patio highlighted in red. Base Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

Figure 55: Multiple Housing cluster around a public communal patio area highlighted in Red. Base Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>)

Figure 56: 3D Structure of the Growth housing model unit. Base Image Source: (<https://hiddenarchitecture.net/previ-low-cost-housing-i/>) figure A) Author's own drawing (not to scale) Base Image Source: (Preprints.org) B & C) Author's own drawing (not to scale). Base Image Source: (<https://link.springer.com/article/10.1007/s42107-020-00281-9>)

Figure 57: Plan illustrating the Growth cluster in a neighbourhood. The green spaces represent the courtyard/ patio spaces of public engagements. Dark green is the patio spaces, Mid-toned green is the courtyard spaces and light green represents the public green courtyard as a centripetal force of public engagement.

Base Image source: <https://hiddenarchitecture.net/previ-low-cost-housing-i/>

Figure 58: Sectional elevation cutting through the courtyard and home spaces. Collage by Author.

Base image source: <https://hiddenarchitecture.net/previ-low-cost-housing-i/>

Figure 59: Conceptual model & sketches that display an option of dealing with vendor activities along the fringes of formal buildings. The red structure and green sticks all allude to a tectonic, framed and open approach. (Authors Own)

Figure 60: Sketch of an Aerial view of Richmond with my site of inquiry highlighted in red. This Gateway site is positioned at the entrance to the town. The reason why I chose to locate my site here is due to the fact that it provided greater space and a longer fringe area that will allow me to configure extensive centralised vendor activity while still maintaining enough space to add in low-cost housing modules. (Authors Own)

Figure 61: Image of the Informal housing settlement that is located north relative to the Gateway site. It sits adjacent Chilley street highlighted in a dark line on the map to the right. This settlement is formally known as Bhongoza. (Google Earth)

Figure 62: Sketch of the Eastern Elevations that are adjacent to my site. All the buildings are single-storey. Elements that are continuous include gable elements and a covered walkway supported by load-bearing brick columns. (Authors Own)

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Figure 64: Plan drawing of my site and the immediate surrounding context (Authors Own)

Figure 65: Sketch of Stone plinth on the Gateway site. (Authors Own)

Figure 66: Sketch of Stone plinth on the gateway site with the railway tracks to the left of the image. These tracks are no longer in use as the railway system in the town has been discontinued. These tracks are surrounded by low concrete walls that is around half a meter (Authors Own)

Figure 67: Sketch of the corner of the site directly opposite the Bhongoza informal settlement. (Authors Own)

Figure 68: Sketch of the chilley street with my site to the left. (Authors Own)

Figure 69: Sketches of design (Authors Own)

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Figure 74: 1:20 model of a conceptual approach to the contained service space. Interior view(Authors Own)

Figure 75: 1:20 model of a conceptual approach to the contained service space. Side view(Authors Own)

Figure 76: 1:20 model of a conceptual approach to the contained service space. (Authors Own)

Figure 77: Colour block plan of the entire site and first attempt at organizing the diverse spaces on site. (Authors Own)