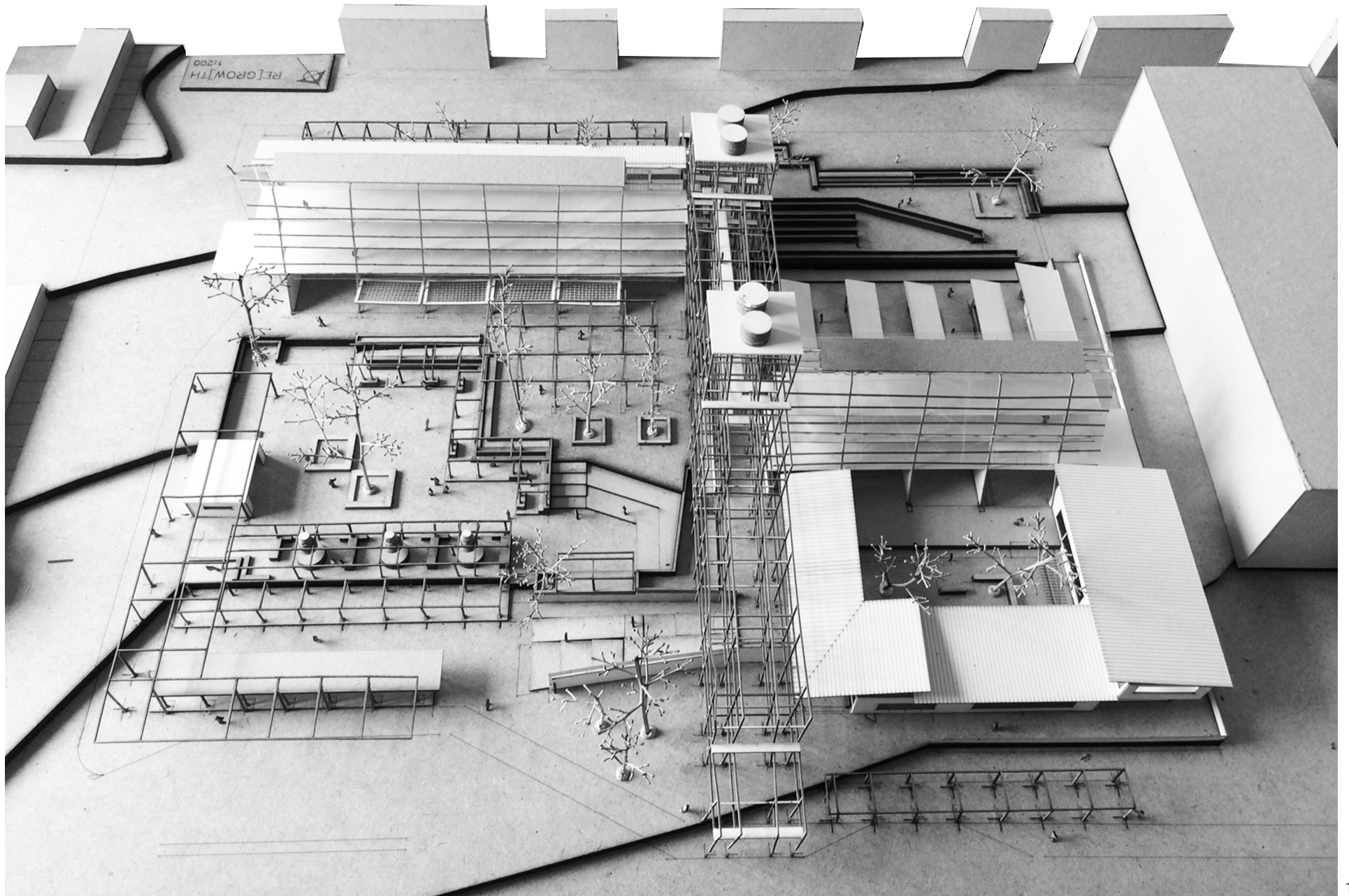
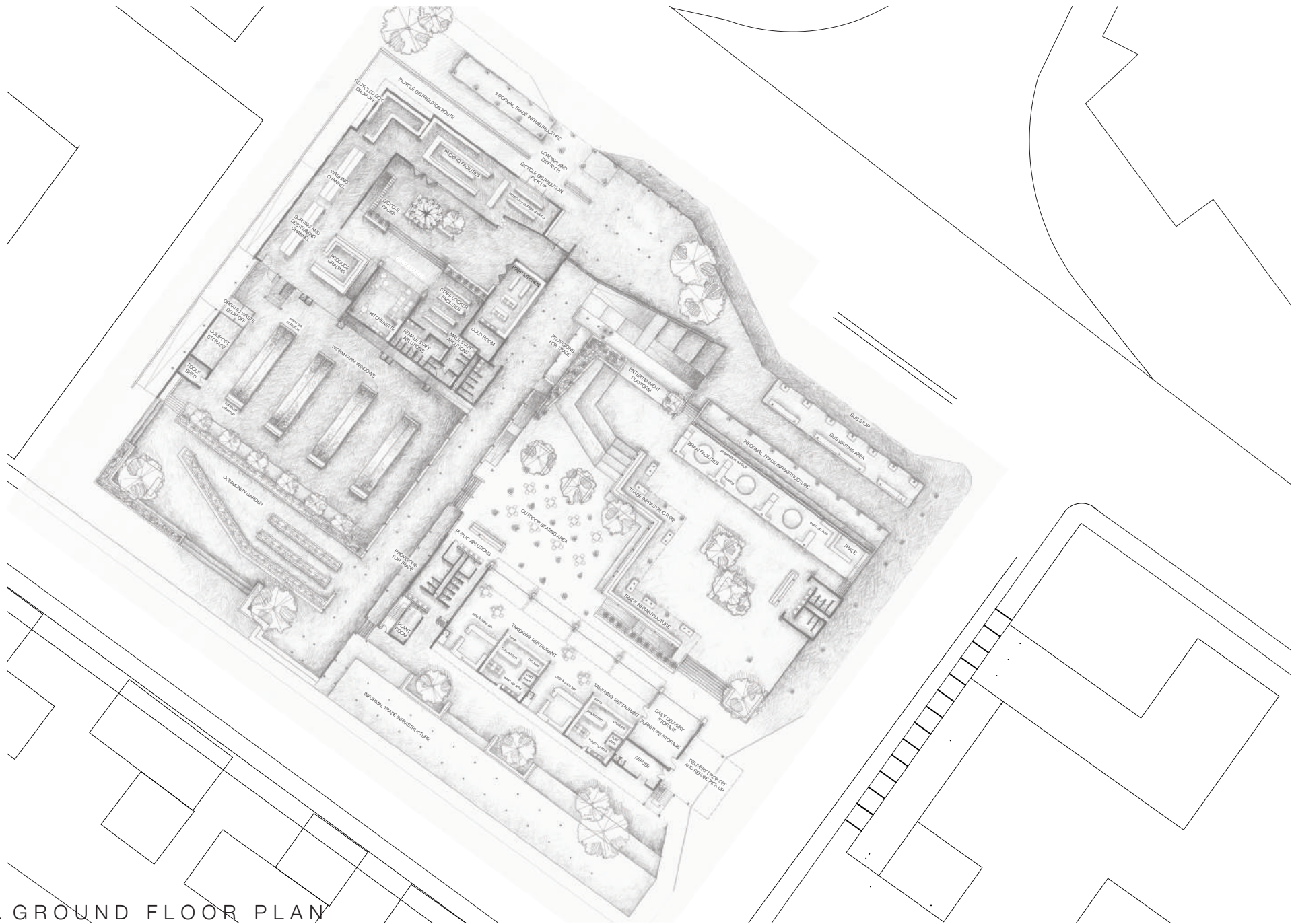


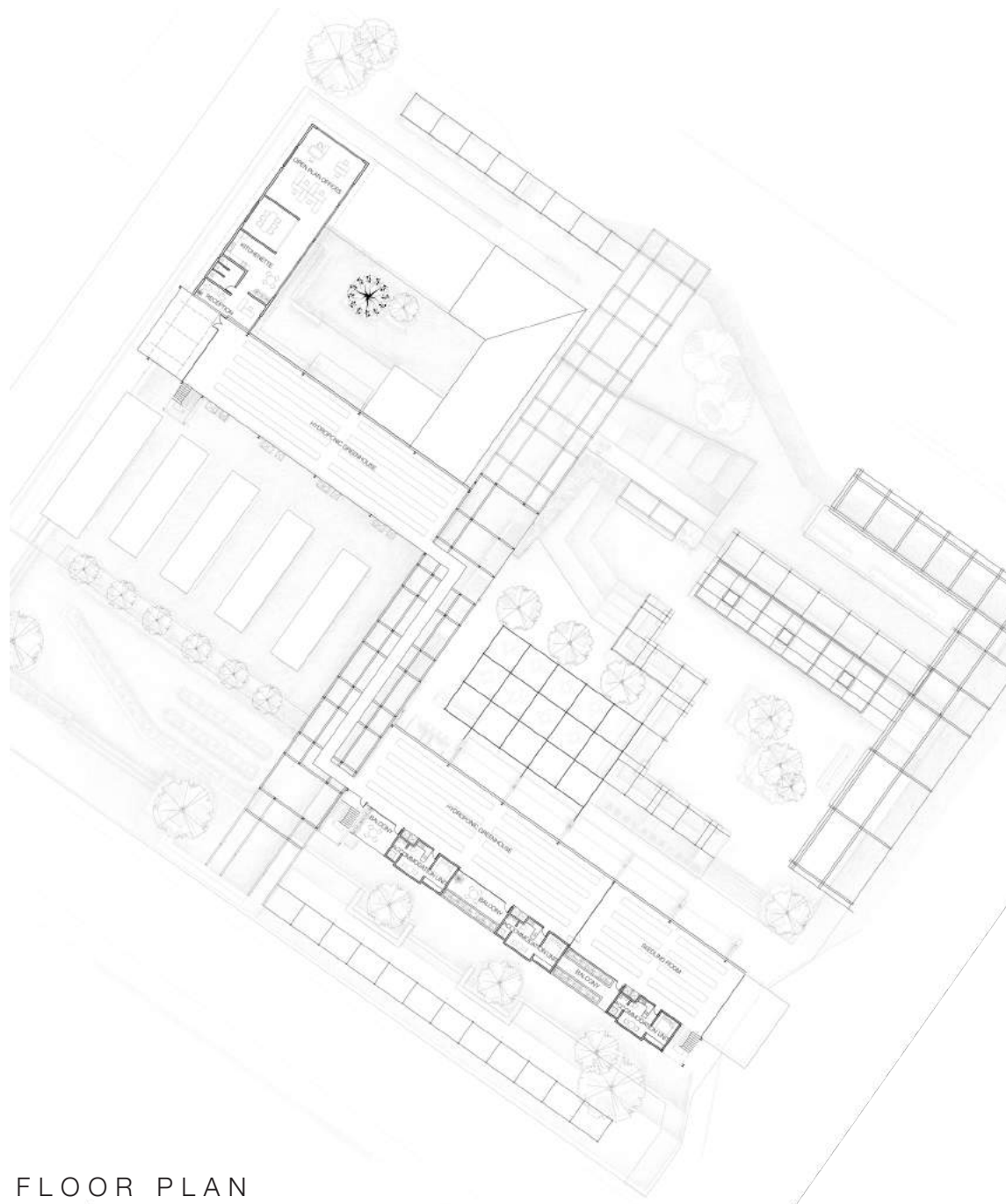
# 7 FINAL PRESENTATION

design conclusions

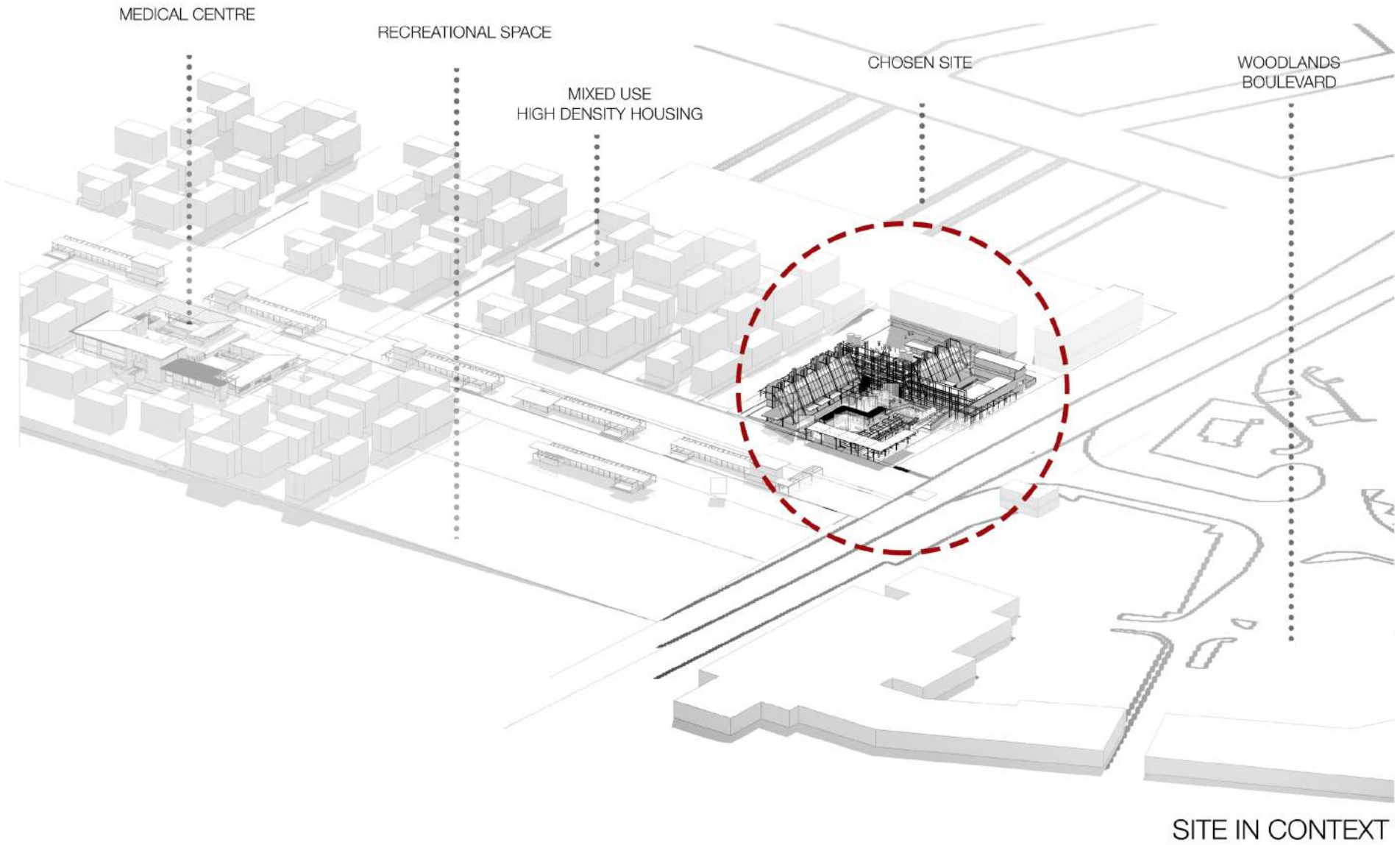


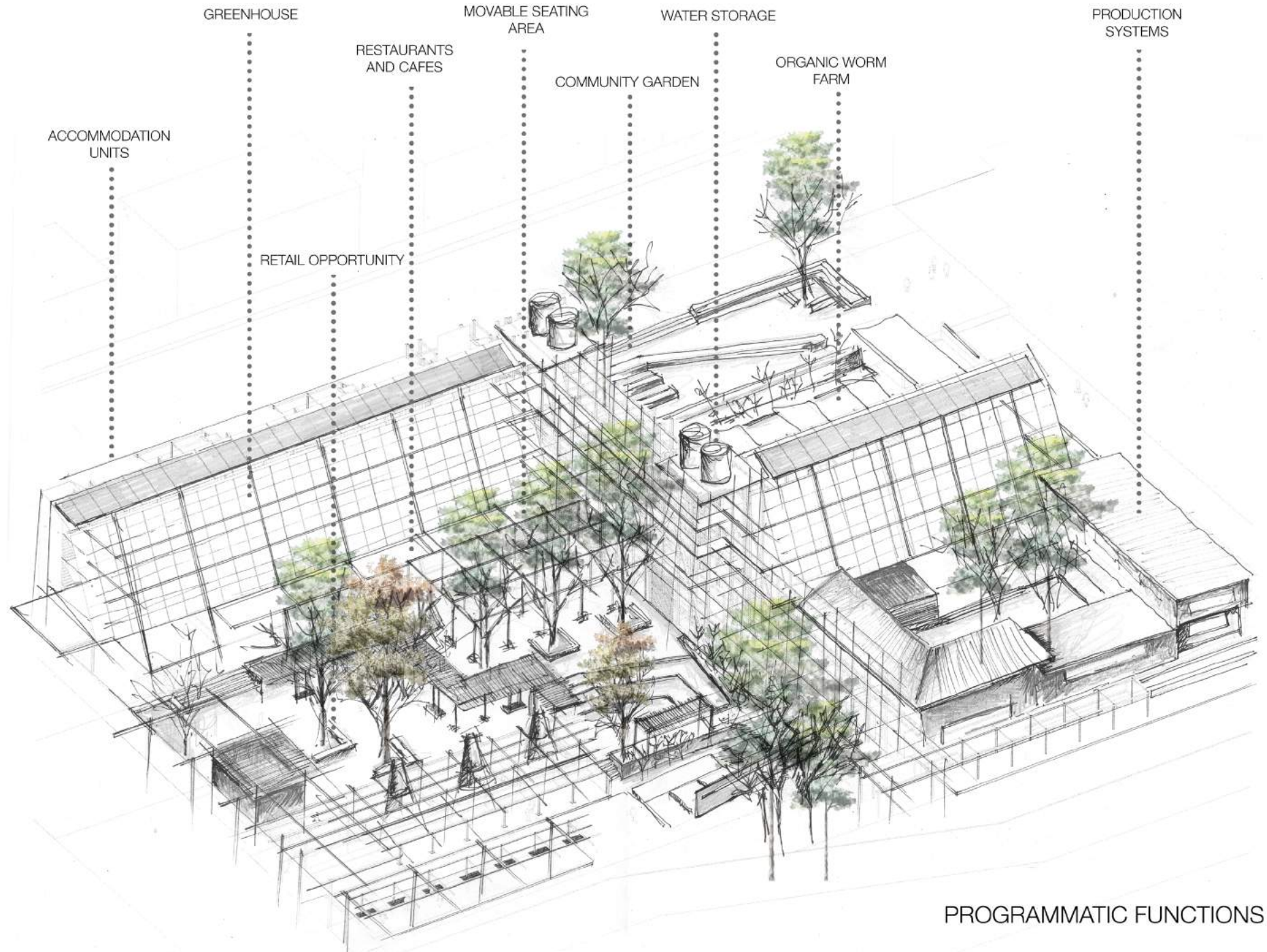


145. GROUND FLOOR PLAN



FIRST FLOOR PLAN







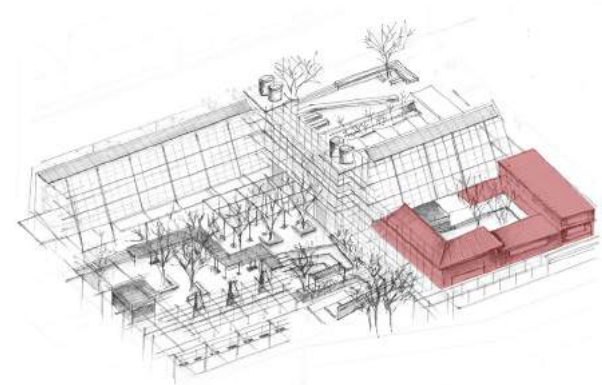
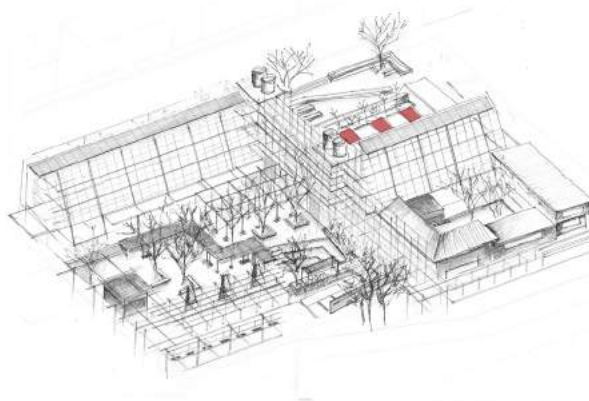
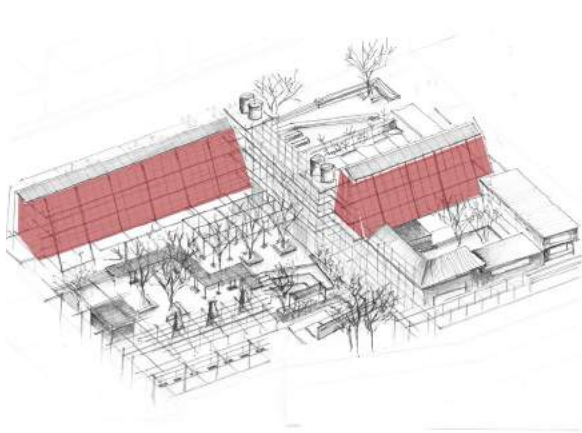
FOOD CULTIVATION



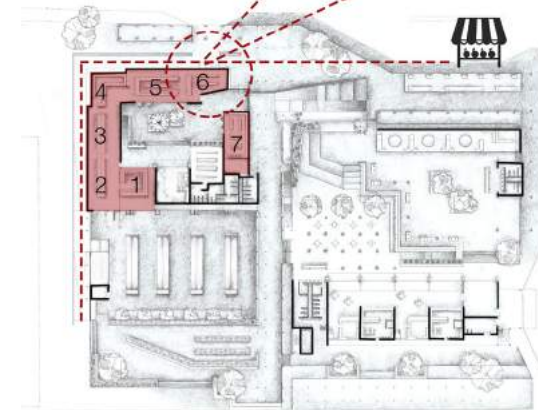
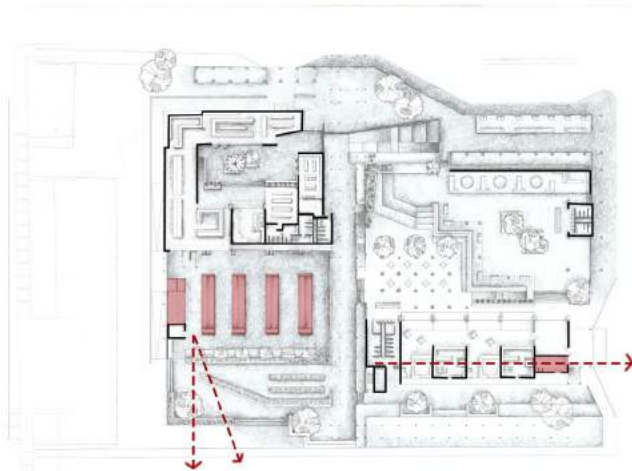
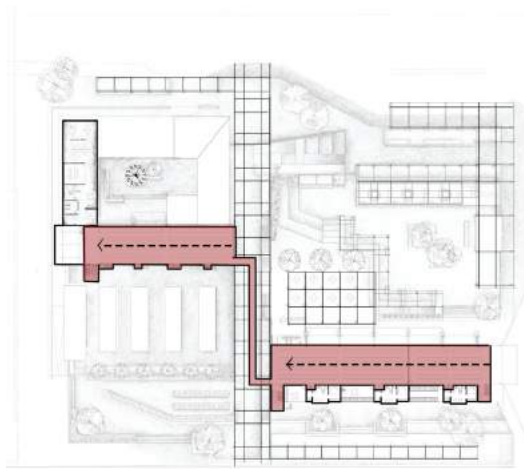
WASTE MANAGEMENT



LIGHT PROCESSING

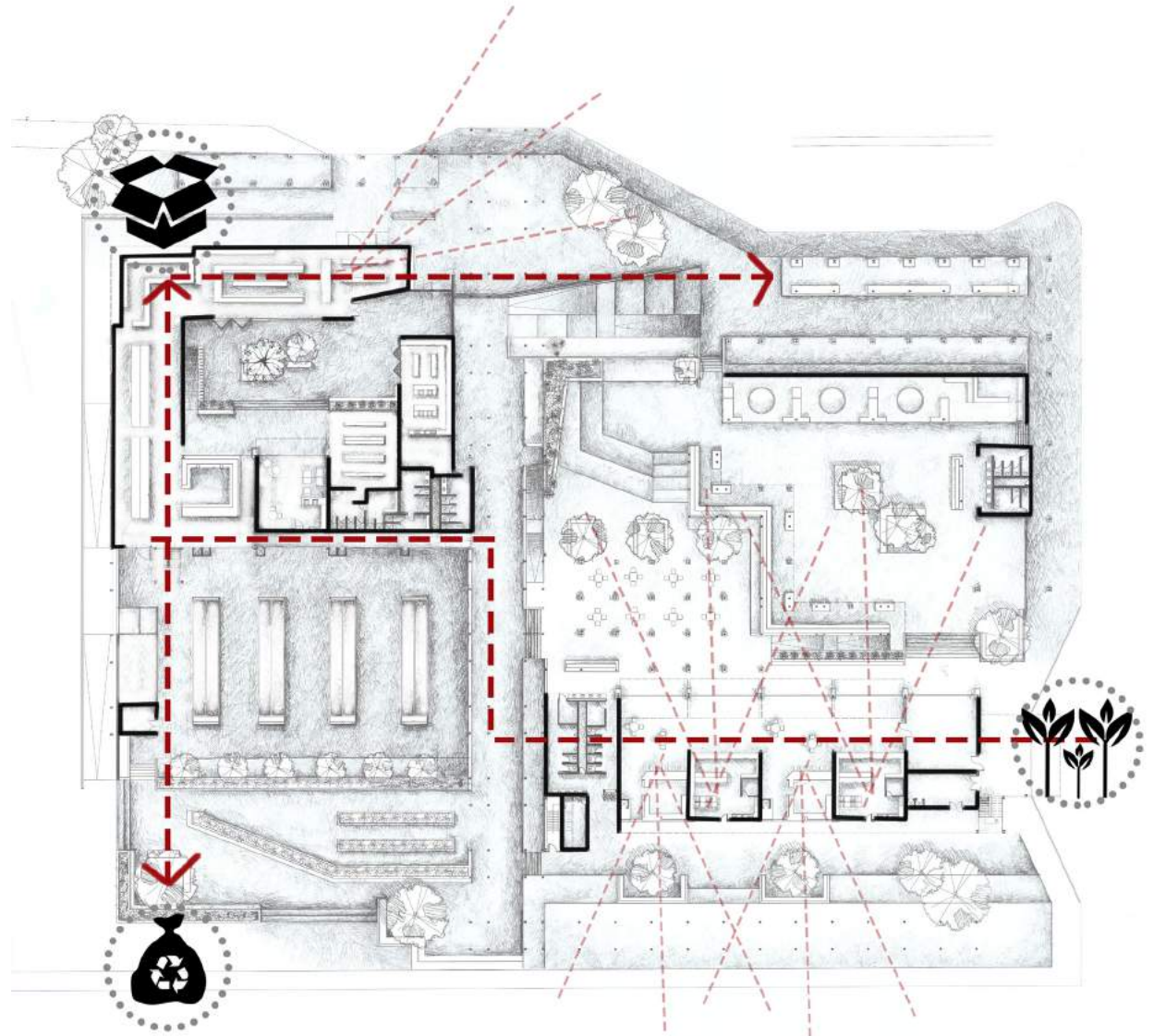
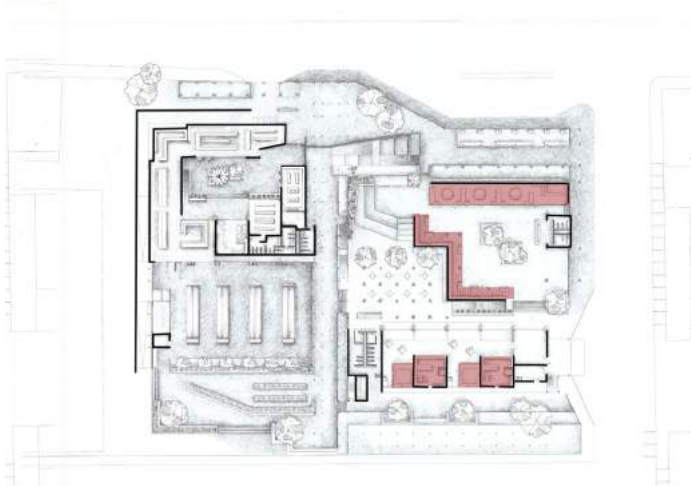
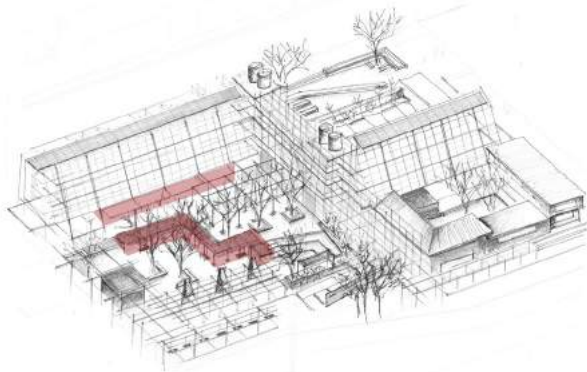


1. Sorting and grading of fruit and vegetables
2. De-stemming
3. Washing
4. Recycled box collection point
5. Packaging
6. Distribution point
7. Prep kitchen for leftovers





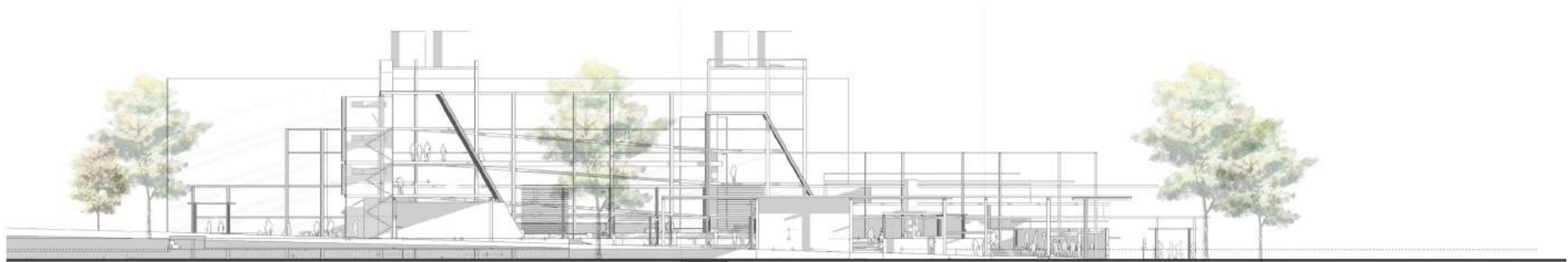
RETAIL AND CONSUMPTION



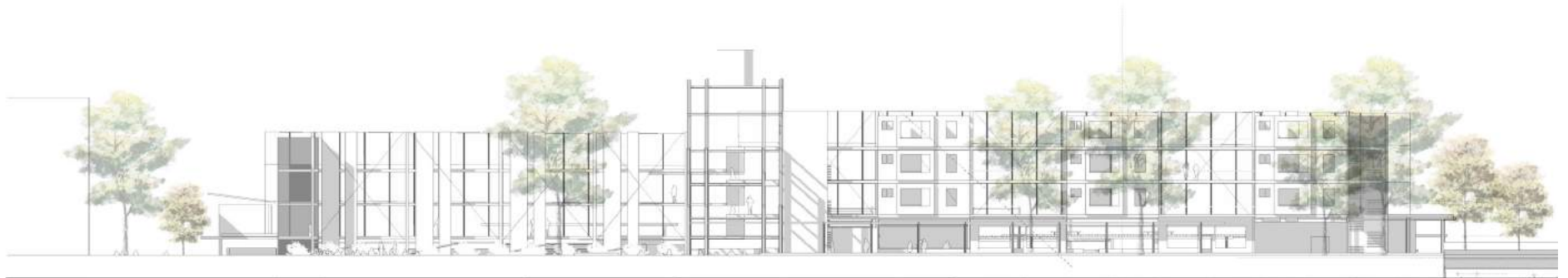




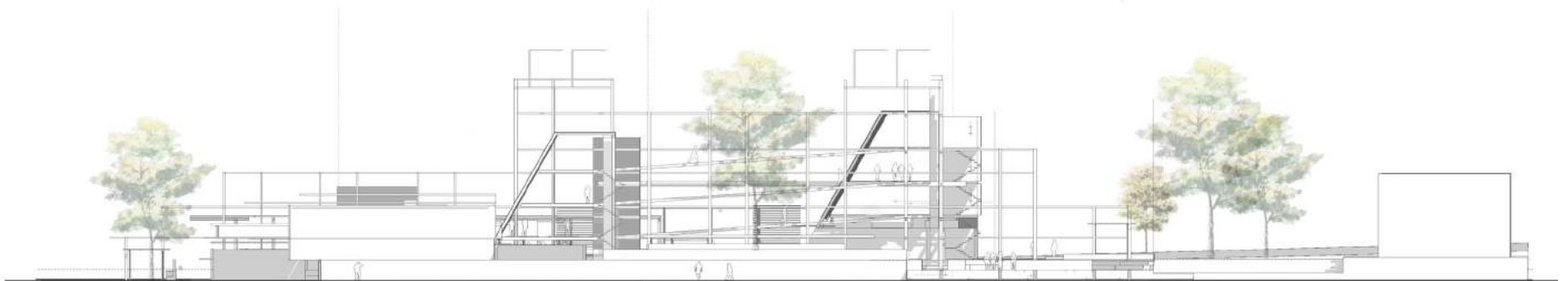
**NORTH ELEVATION**  
1:200



**EAST ELEVATION**  
1:200



**SOUTH ELEVATION**  
1:200



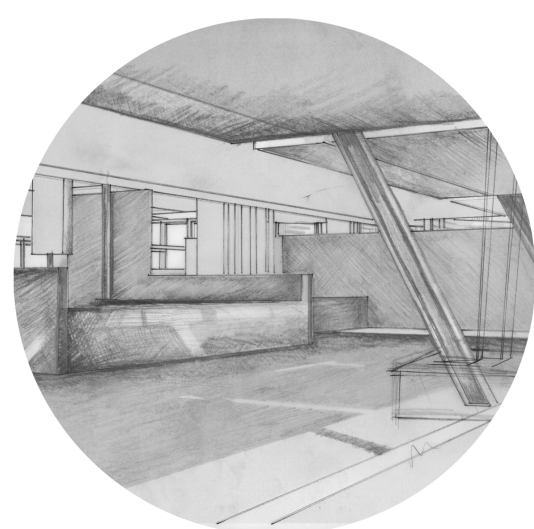
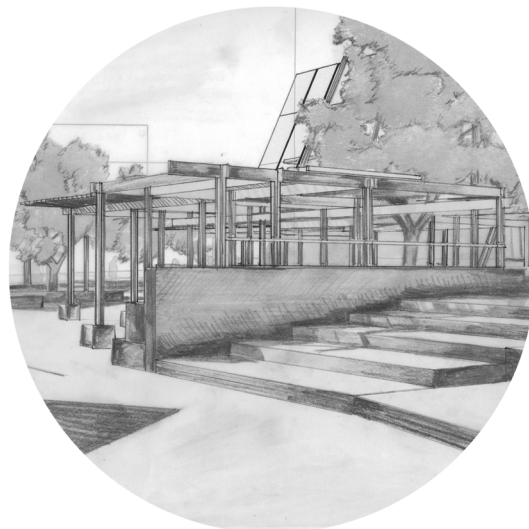
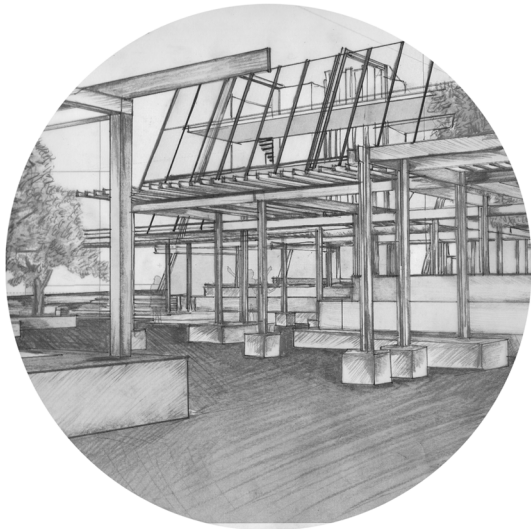
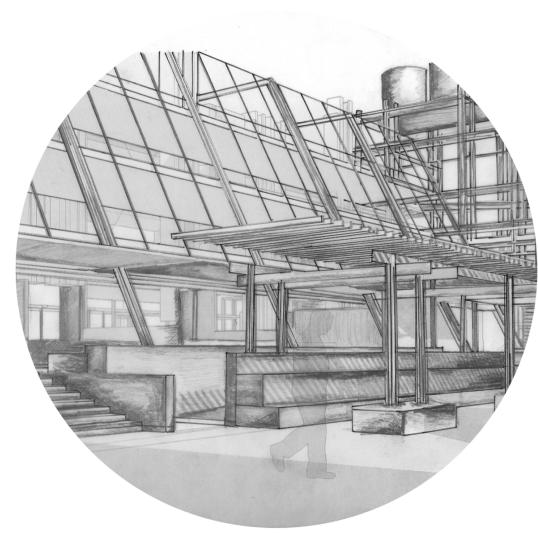
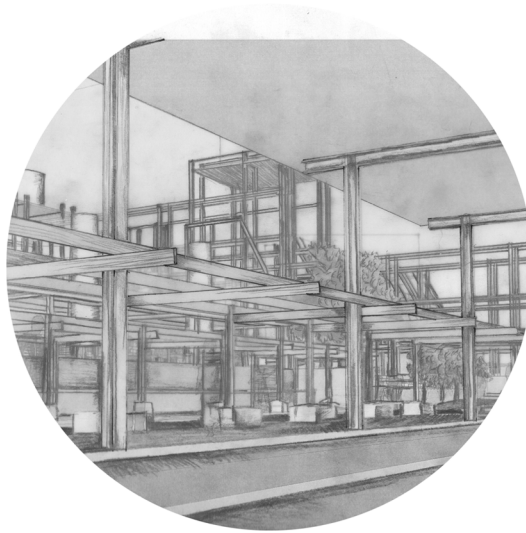
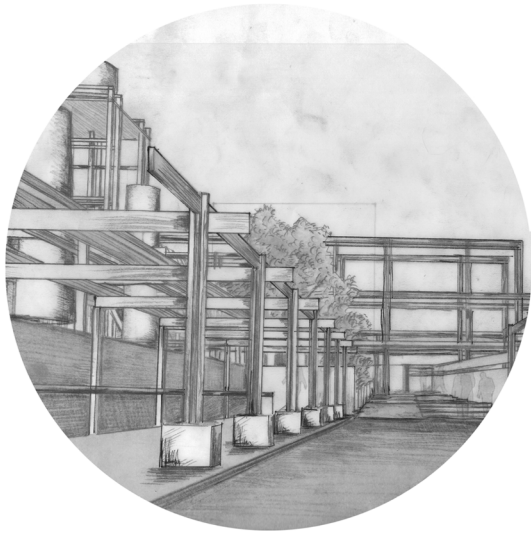
**WEST ELEVATION**  
1:200



Figure 137 : Entrance perspective (Author 2016)



Figure 138 : Accomodation perspective (Author 2016)



155. Figure 139 : Pencil sketch perspectives (Author 2016)



Figure 140 : Integrative walkway perspective (Author 2016)



157.

Figure 141 : Production courtyard (Author 2016)



Figure 142 : Inside a greenhouse (Author 2016)





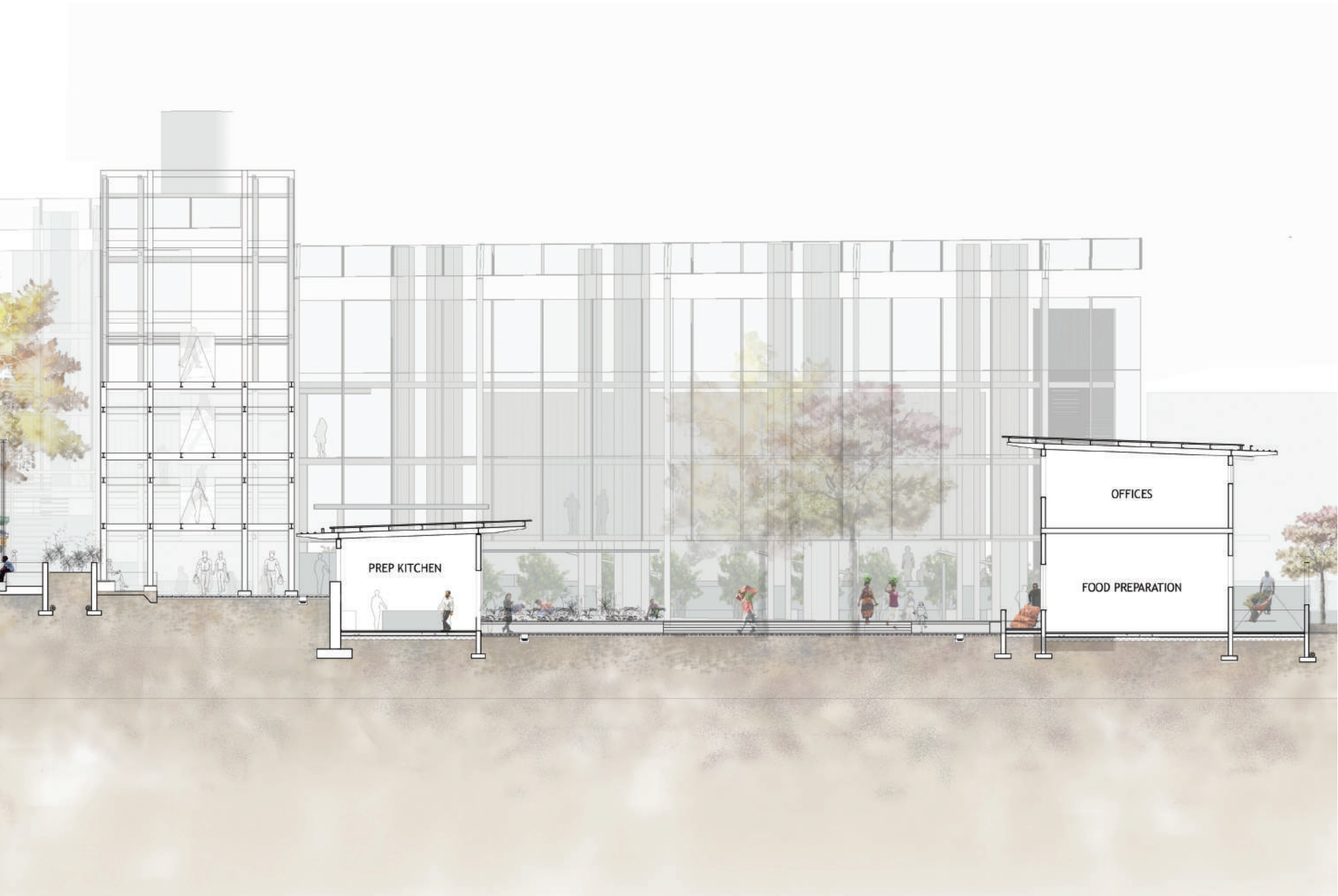
159.

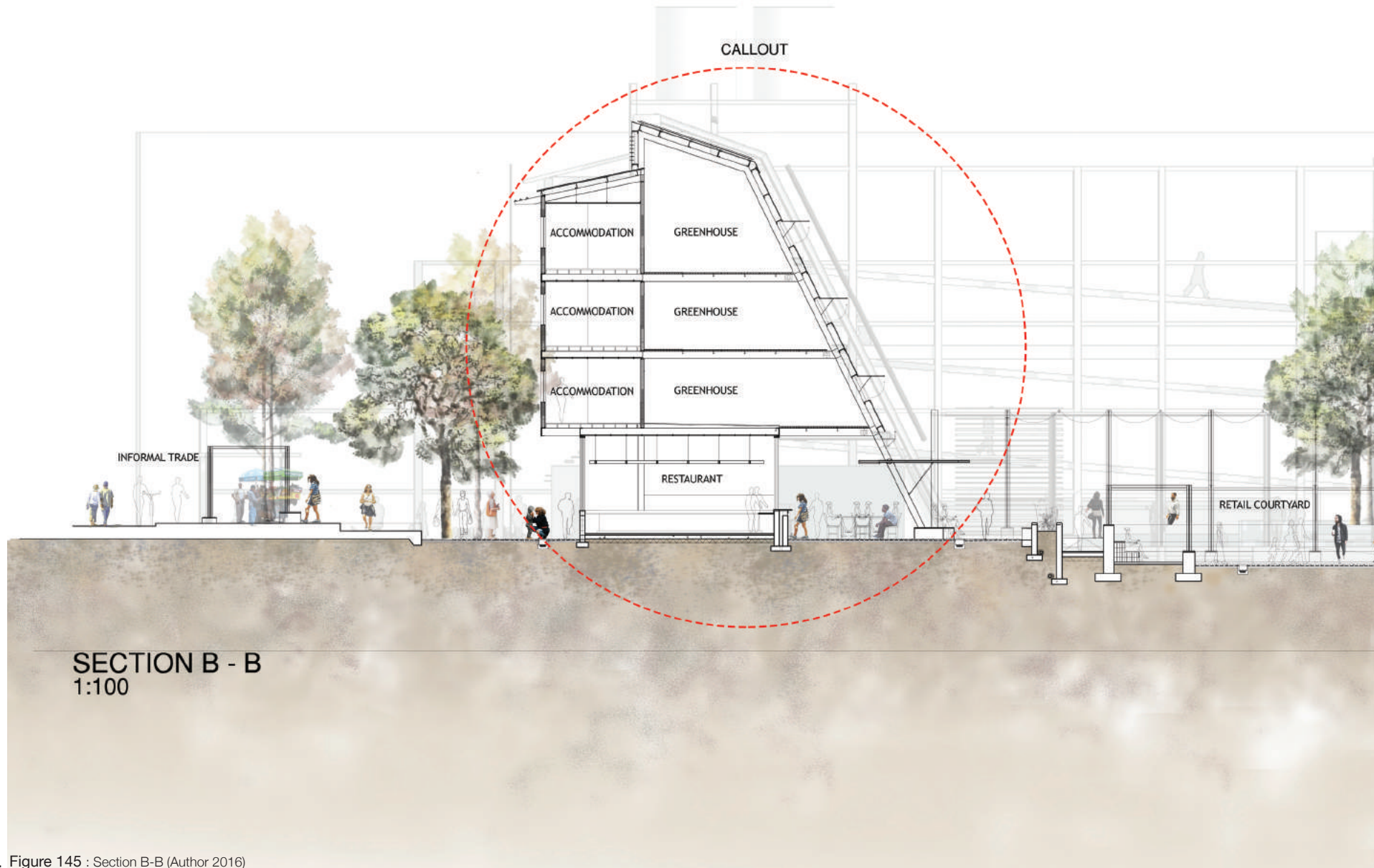
Figure 143 : Seating from within the cafe (Author 2016)



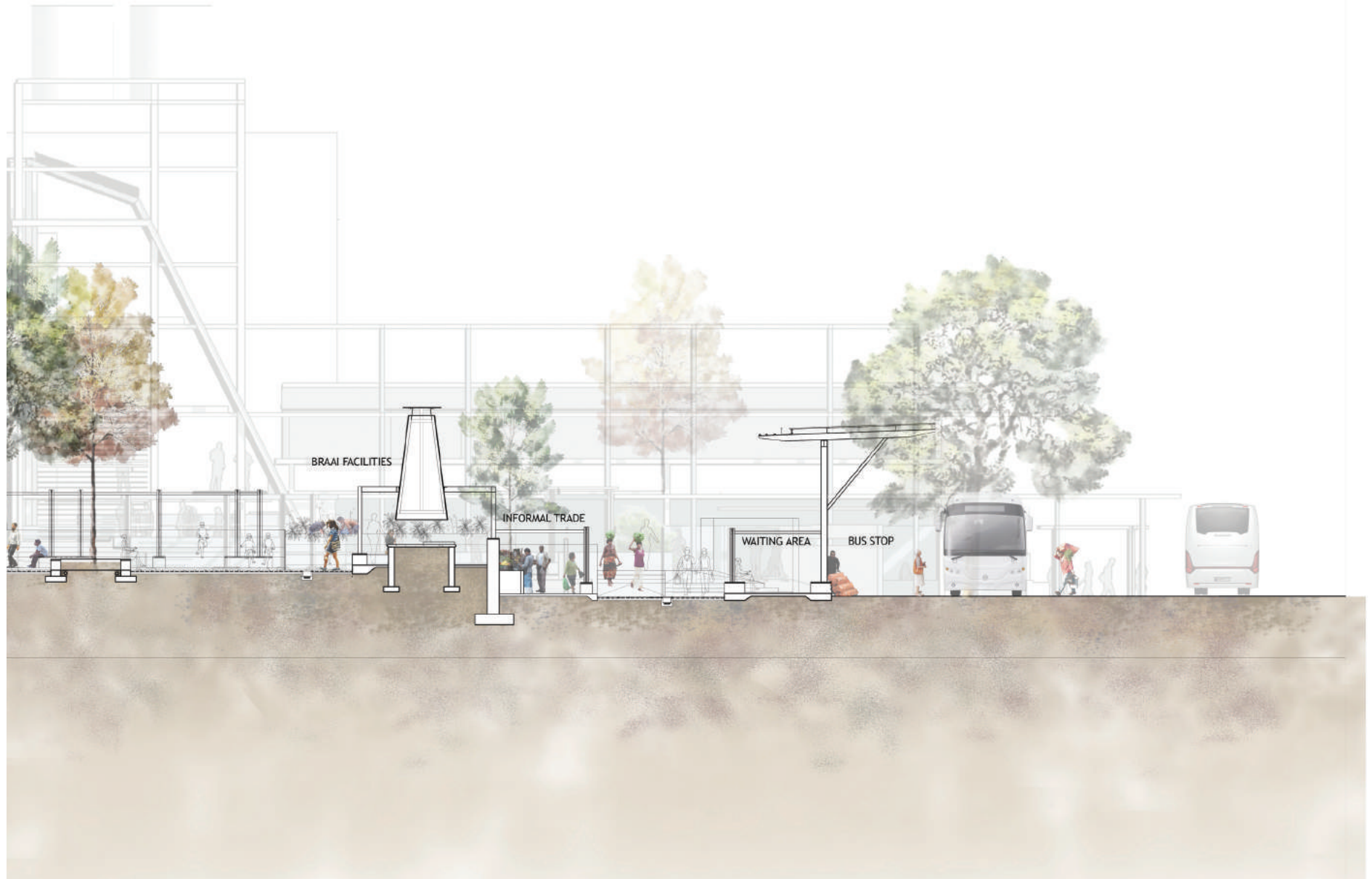


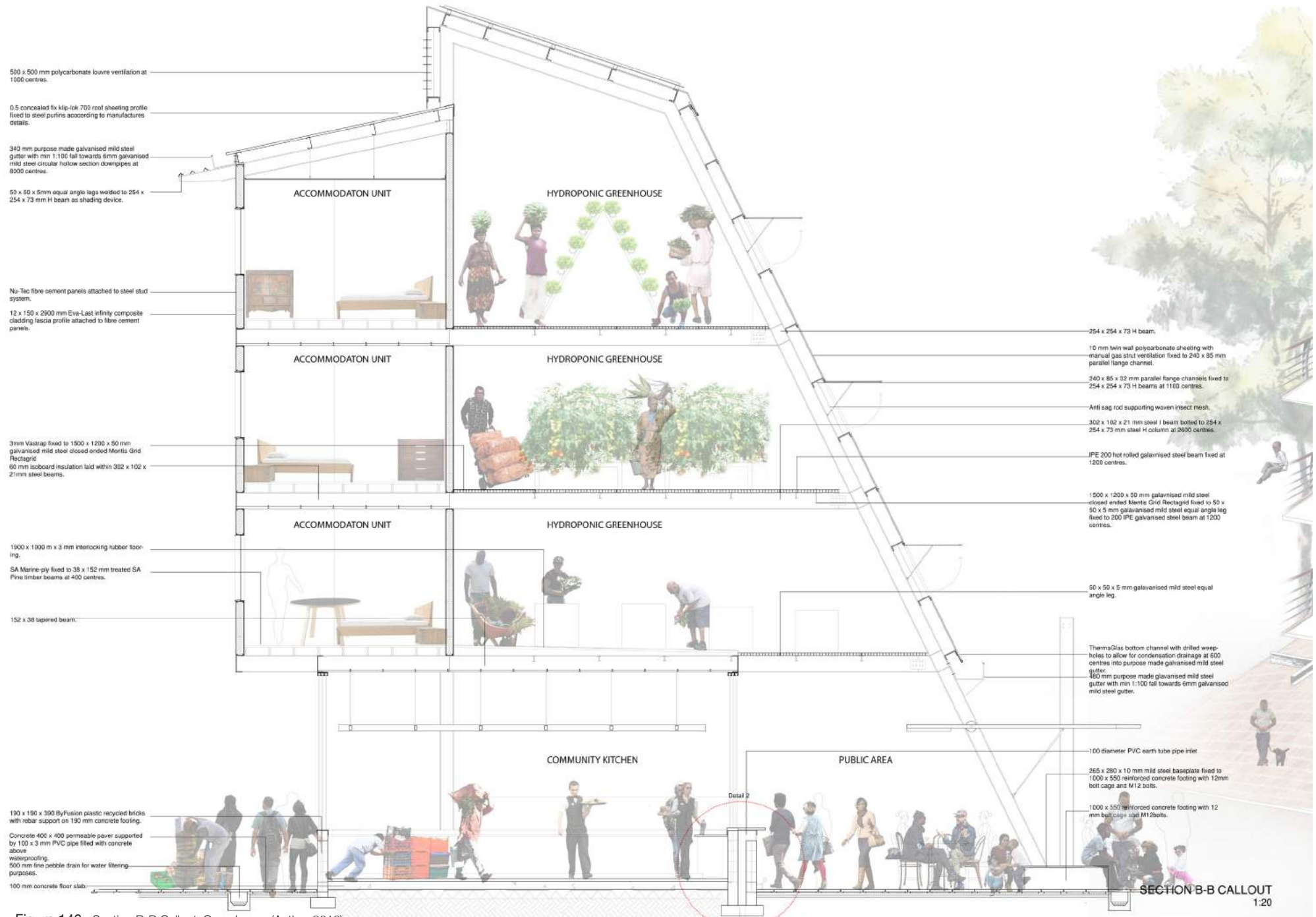
161. Figure 144 : Section A-A (Author 2016)





163. Figure 145 : Section B-B (Author 2016)



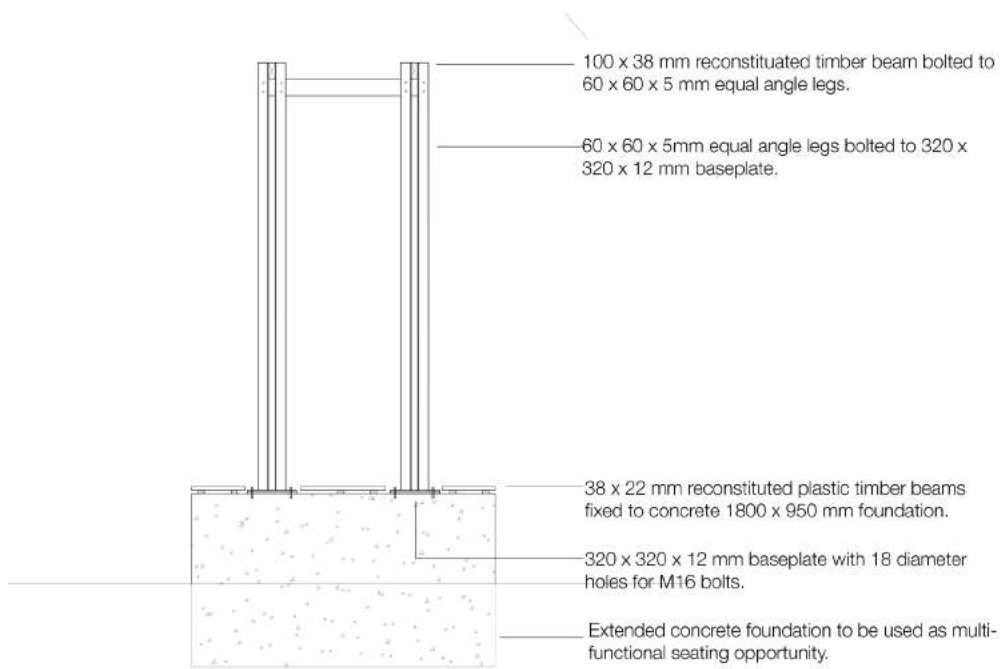


165. Figure 146 : Section B-B Callout\_Greenhouse (Author 2016)

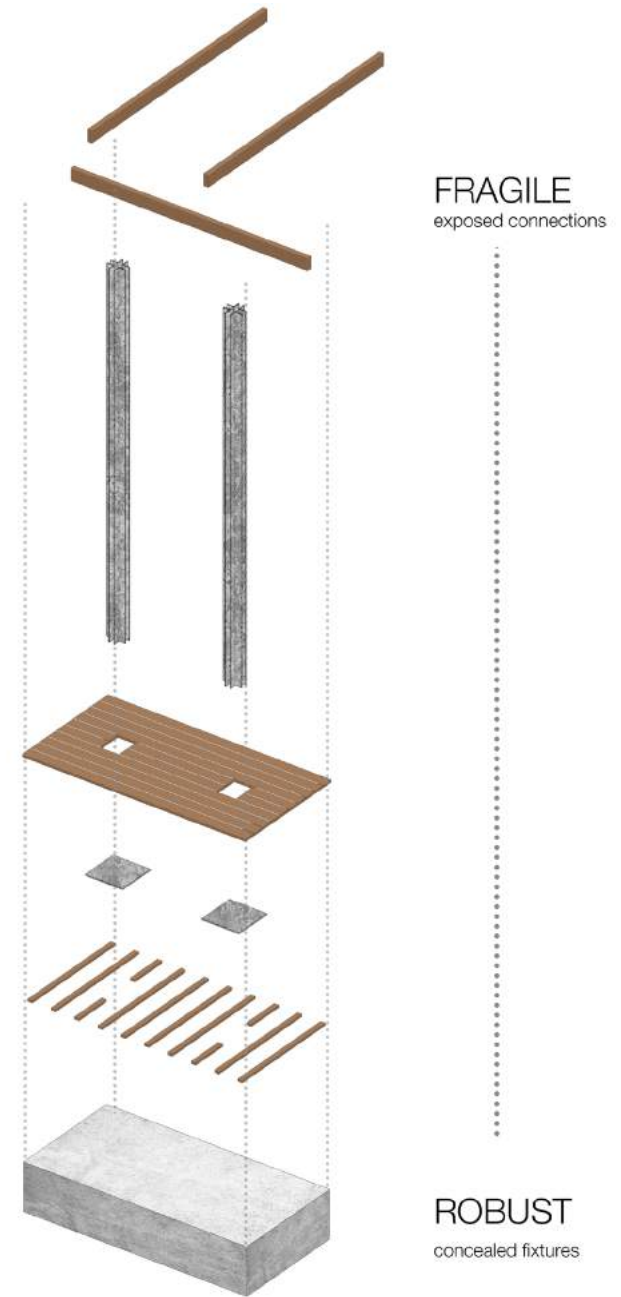


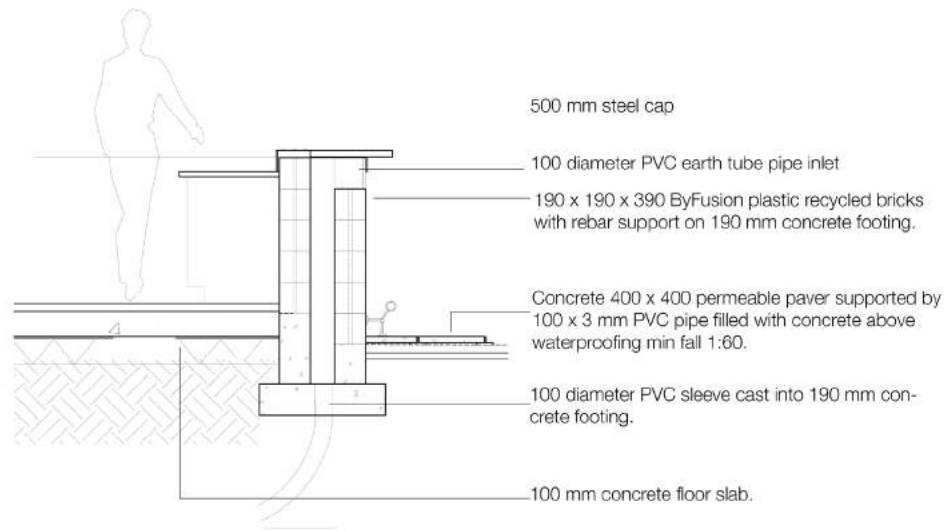
Figure 147 : Sectional perspective (Author 2016)



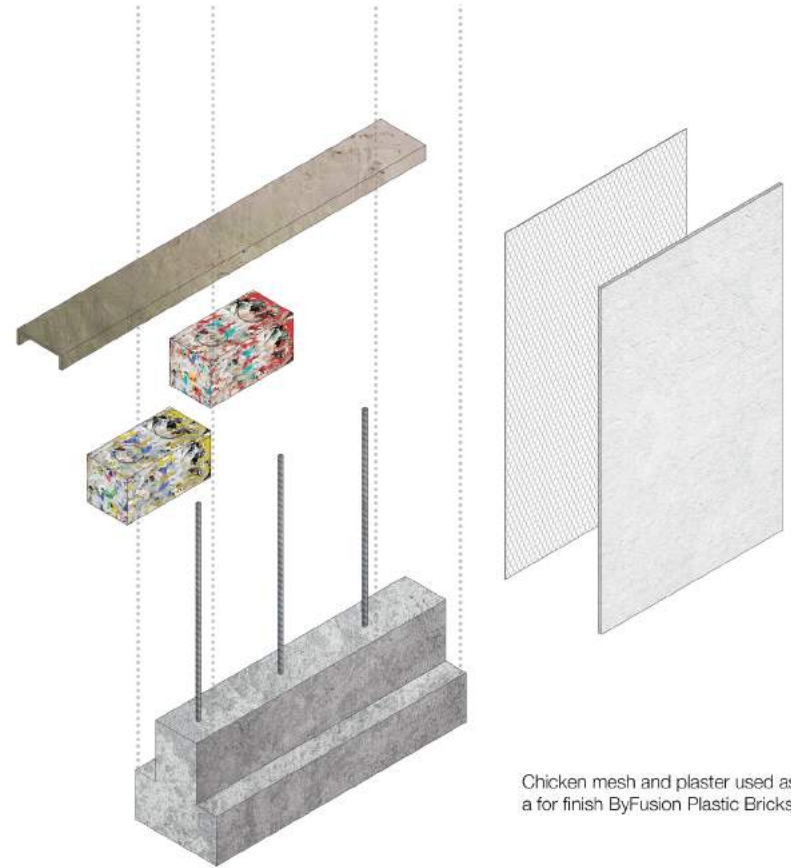


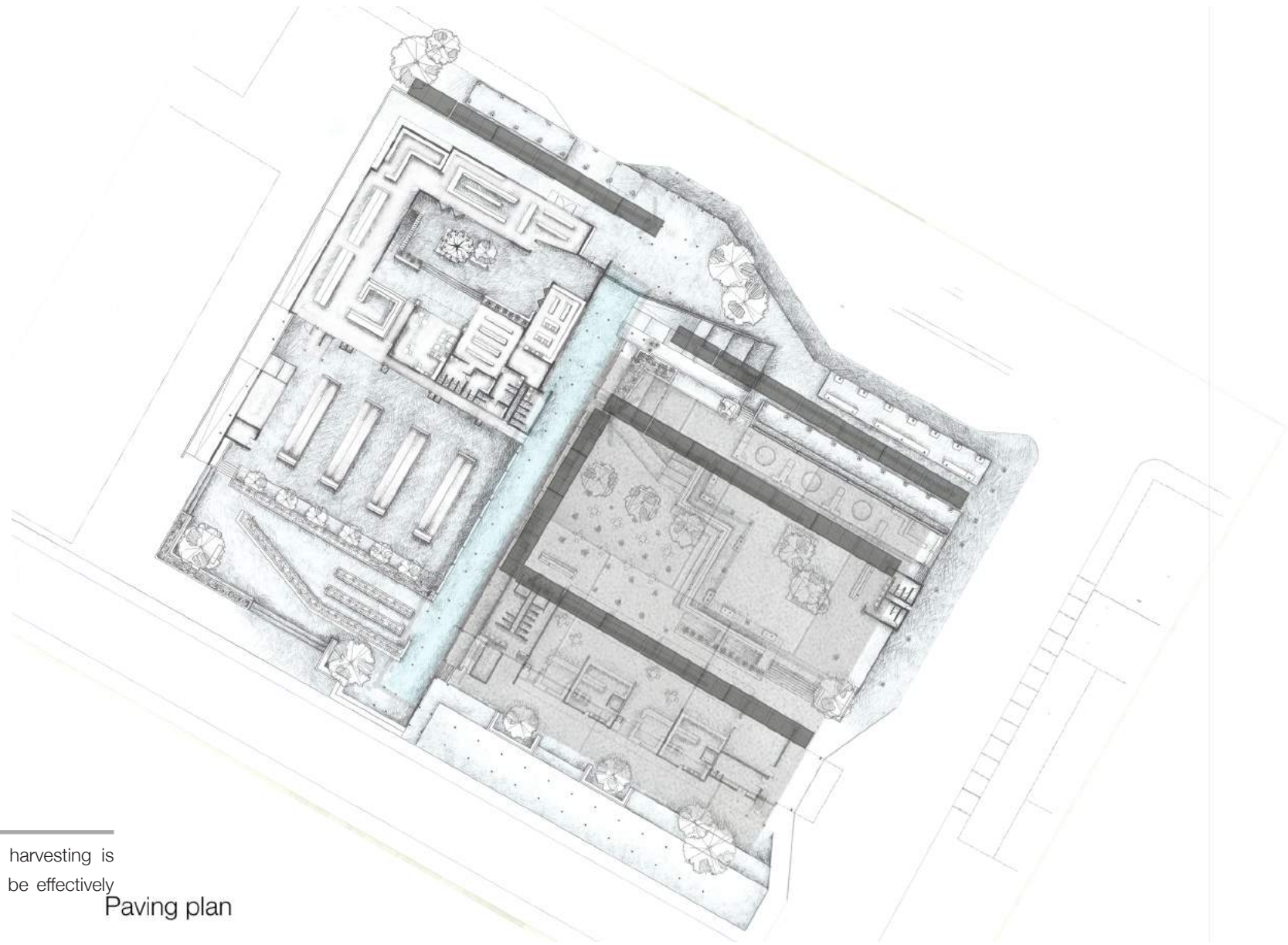
Detail 1.  
Equal angle columns on a multifunctional concrete base.





Detail 2.  
ByFusion Plastic Brick counter top





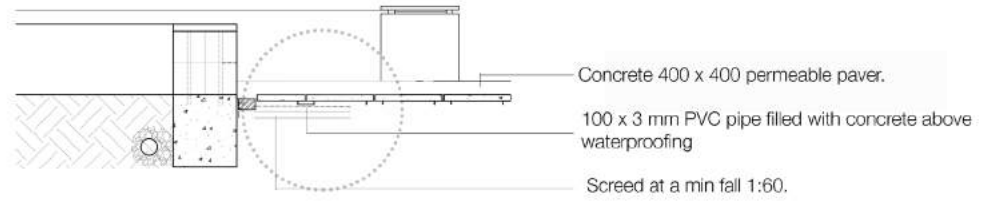
## WATER

### on site collection

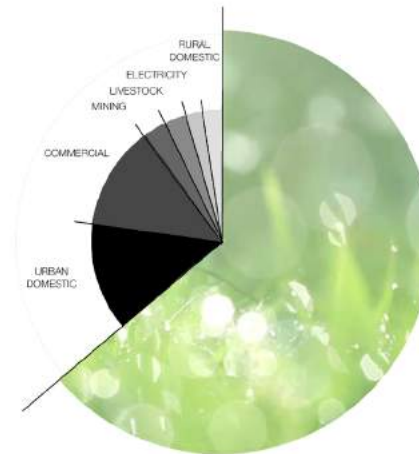
Due to the nature of the project, water harvesting is an important consideration and needs to be effectively collected.

### Paving plan

The paving sits at a Min fall of 1:60. Storm water is collected in the main drainage channels and collected in catchment tank.



Detail 3.  
Permeable paving for effective water collection



63% water is lost to irrigation thus water collection and the efficient use there of is important.

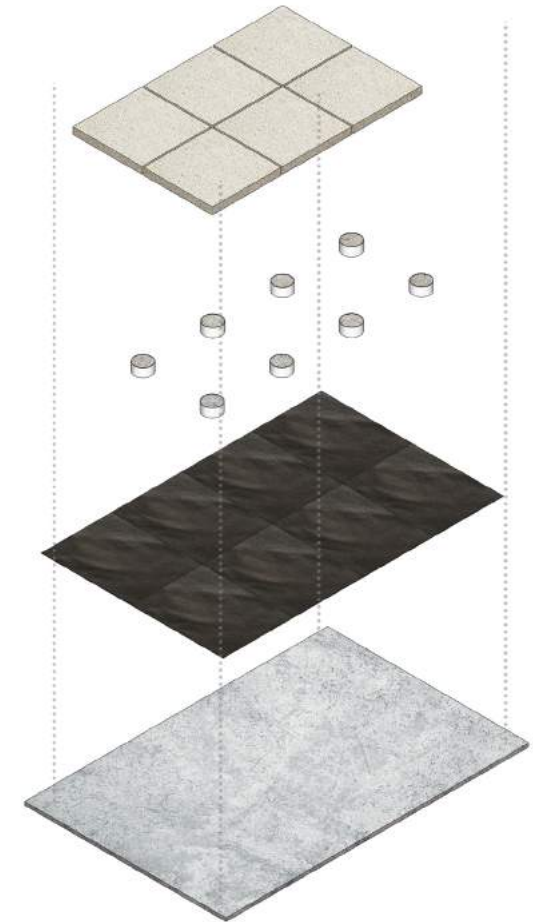
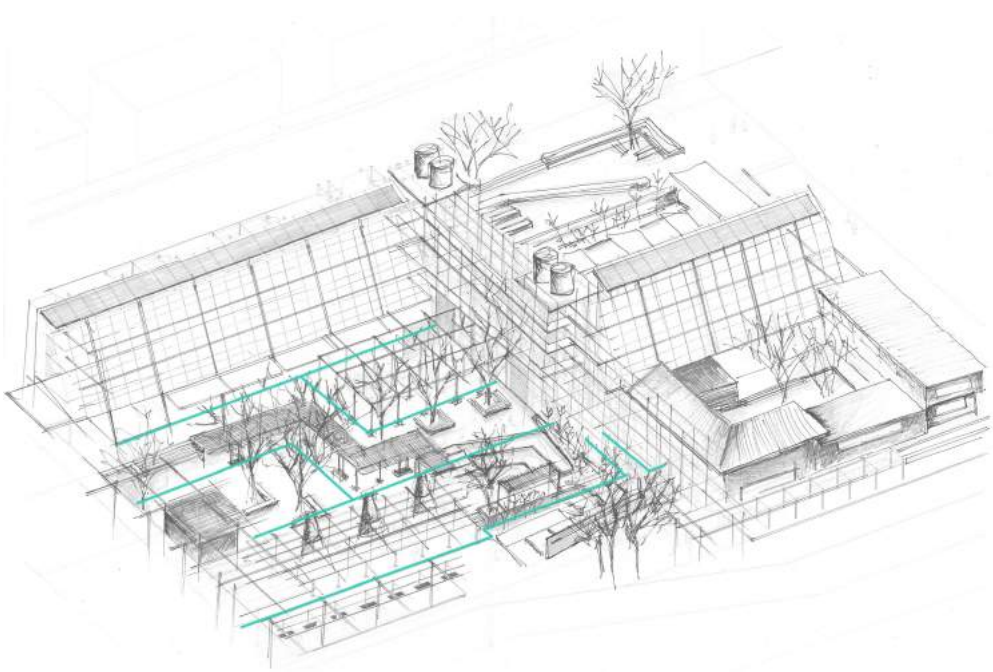
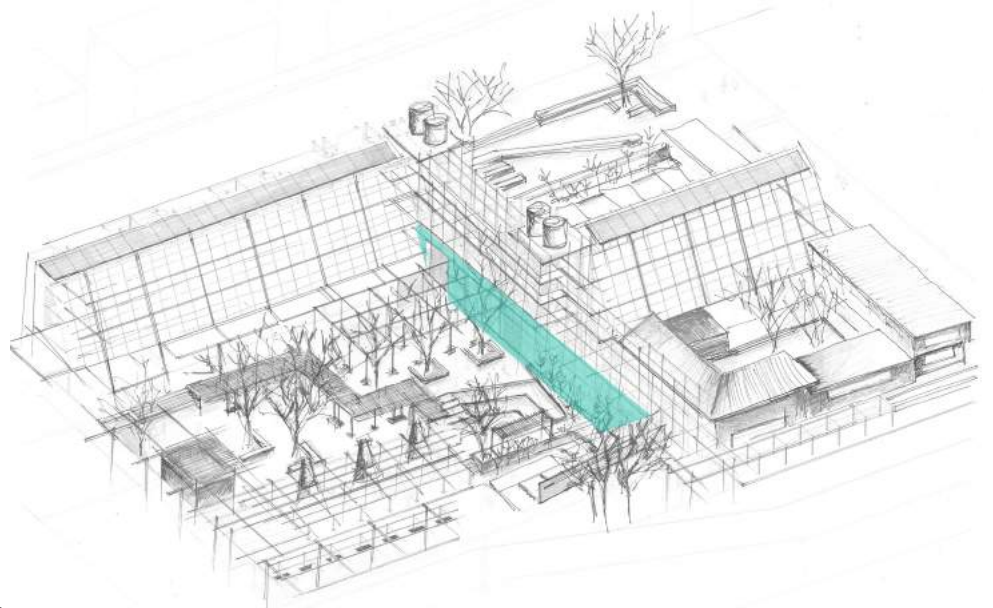


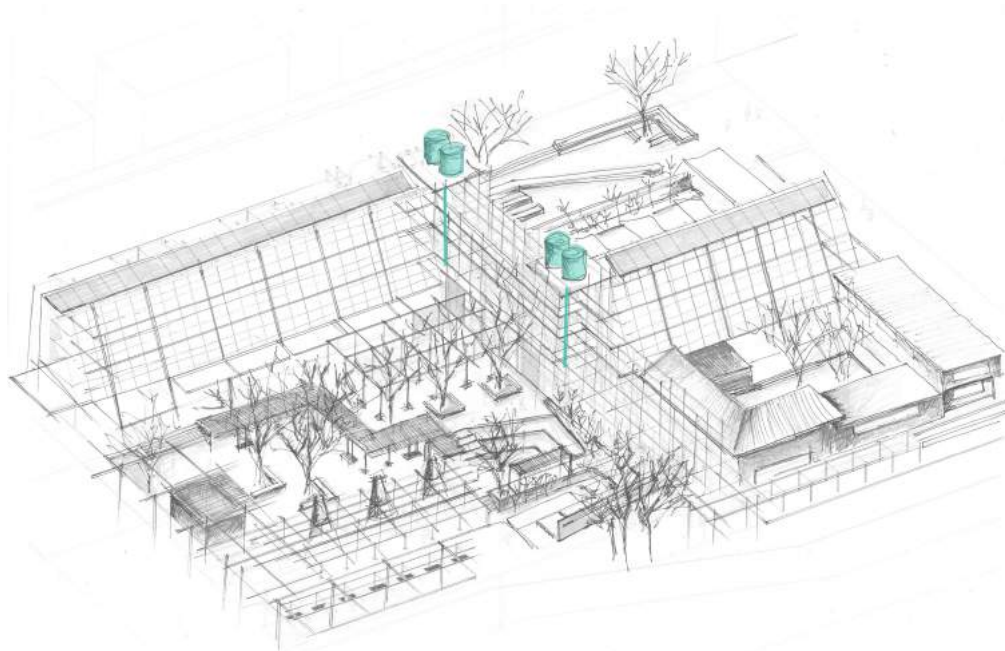
Figure 148 : Paving detail (Author 2016)



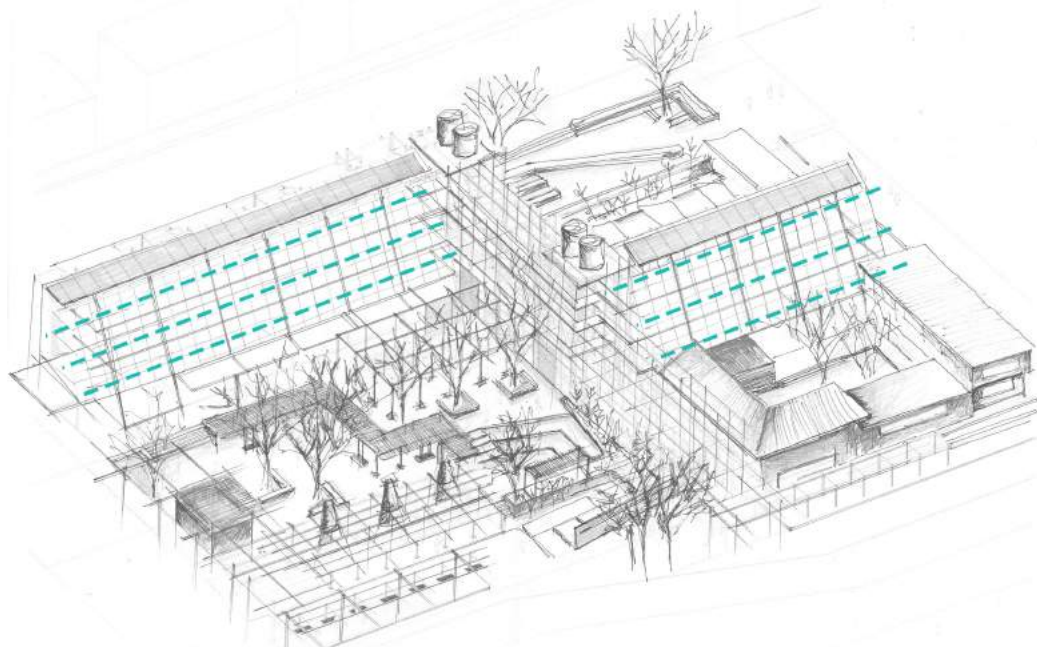
WATER RUNOFF COLLECTION



WATER COLLECTION TANK



WATER STORAGE TANKS



HYDROPONIC DISTRIBUTION



SOLAR PANEL

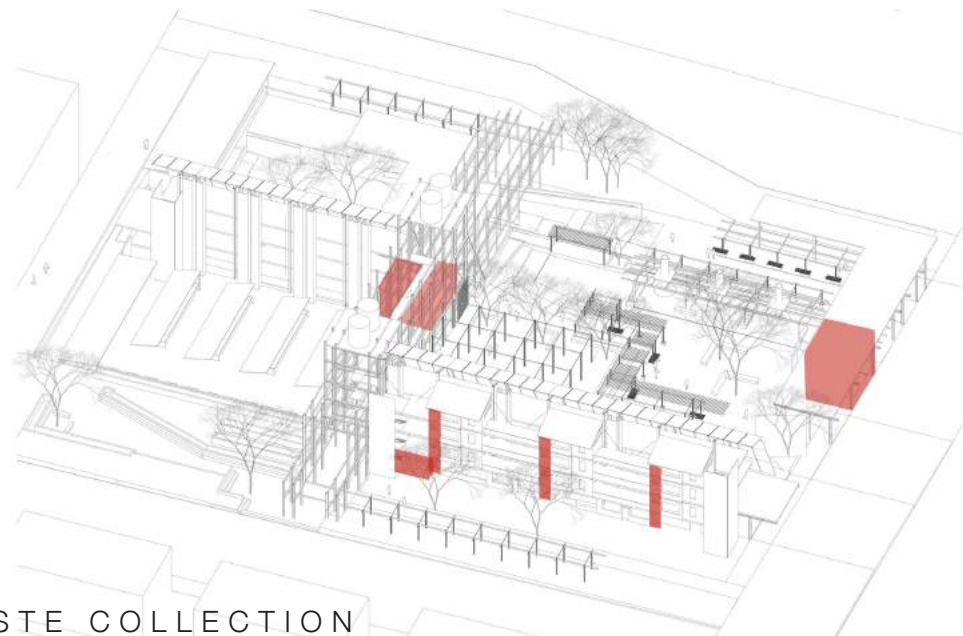
## ENERGY

### on site

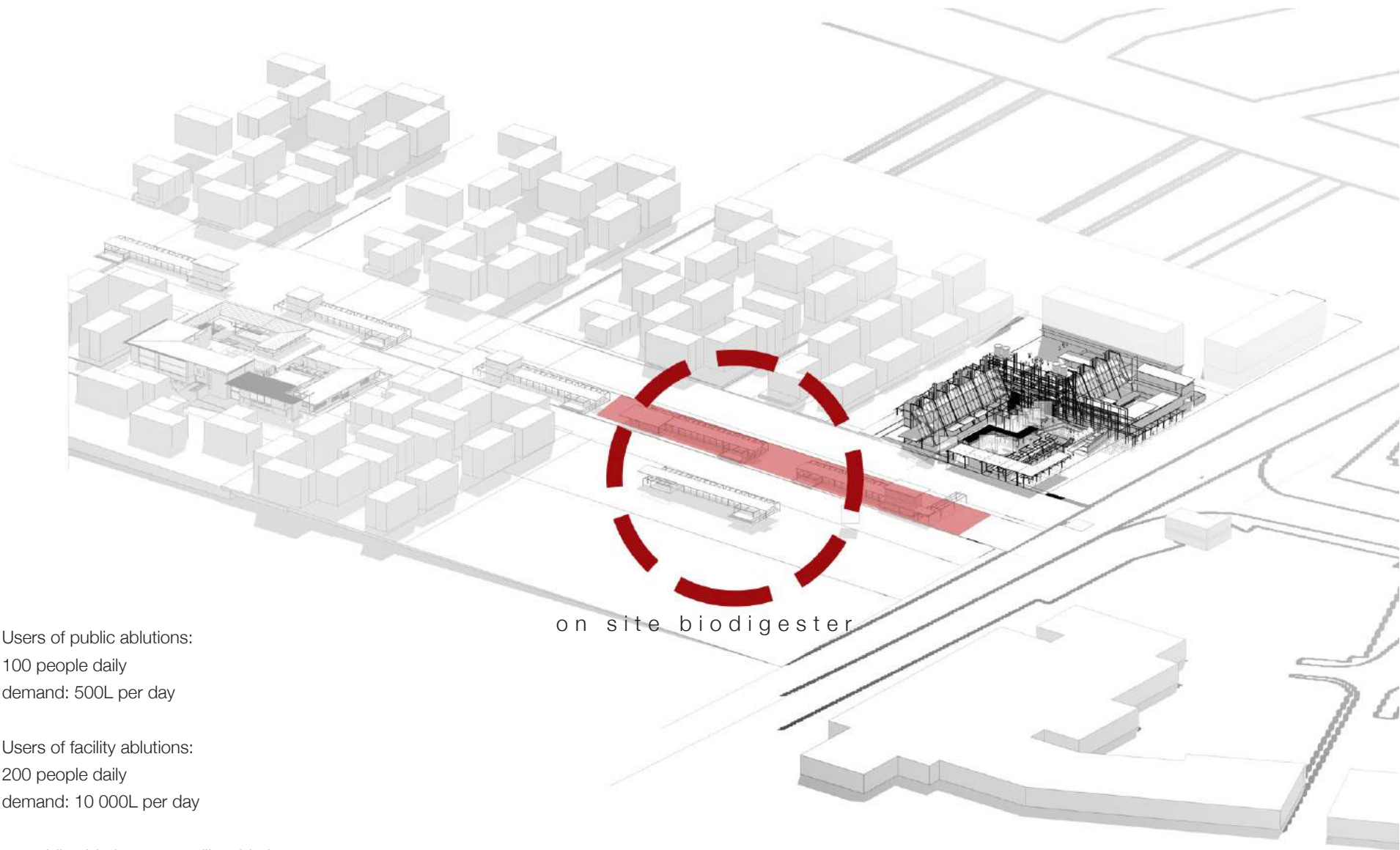
The design incorporates solar panels on the roof of the greenhouse. Solar energy gain from the panels: 357 kwh

Used to heat water for residential units and power lights for office.

A biodigester is used for all human waste on site as well as in the public restrooms from the urban vision. Highlighted are the sources of waste to be used for the biodigester.



WASTE COLLECTION



on site biodigester

Users of public ablutions:  
100 people daily  
demand: 500L per day

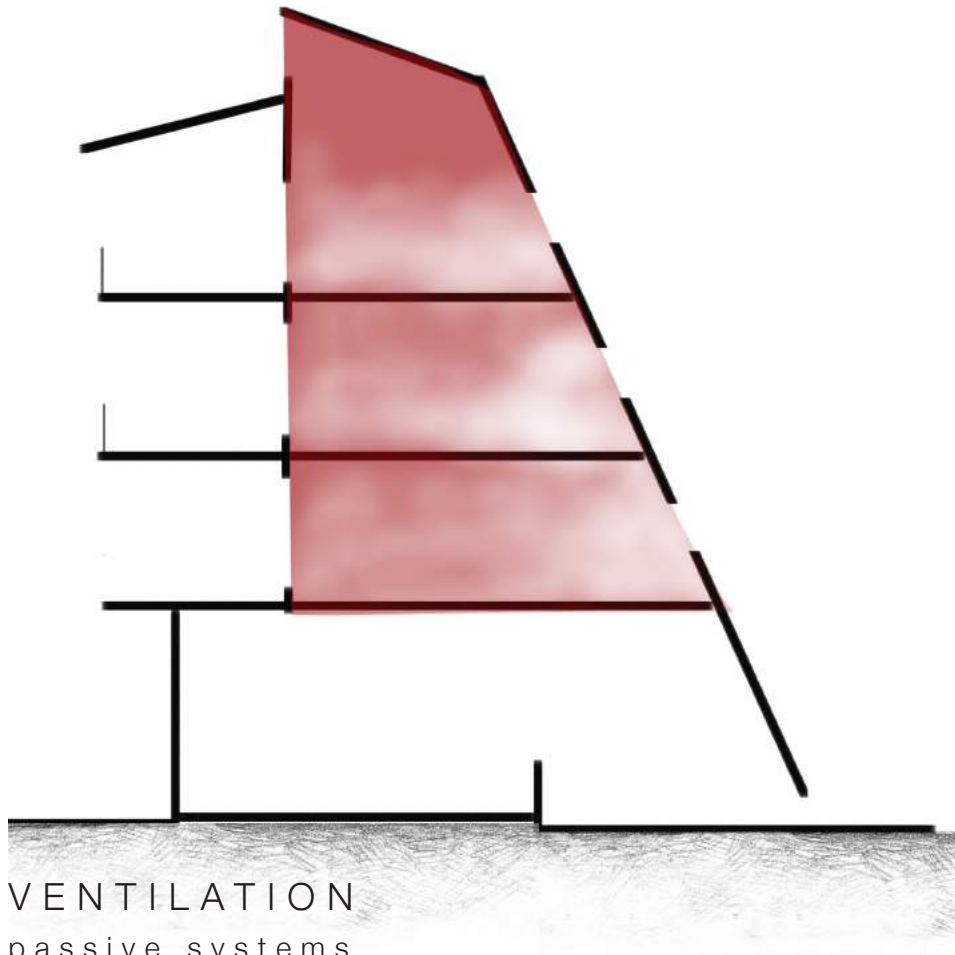
Users of facility ablutions:  
200 people daily  
demand: 10 000L per day

20 public ablutions, 32 facility ablutions:  
as per urban framework

140 kWh/daily electricity  
199 kWh/ daily heat



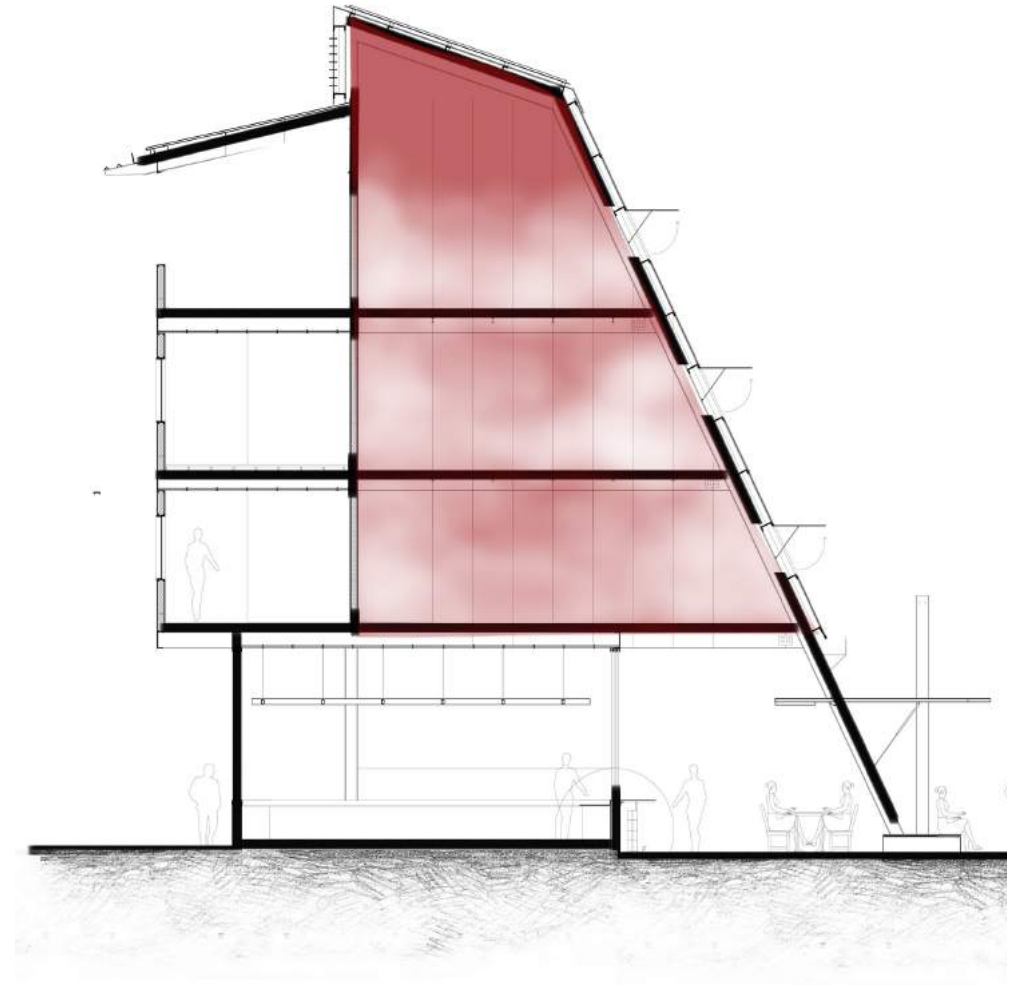
## LOUVRE VENTILATION



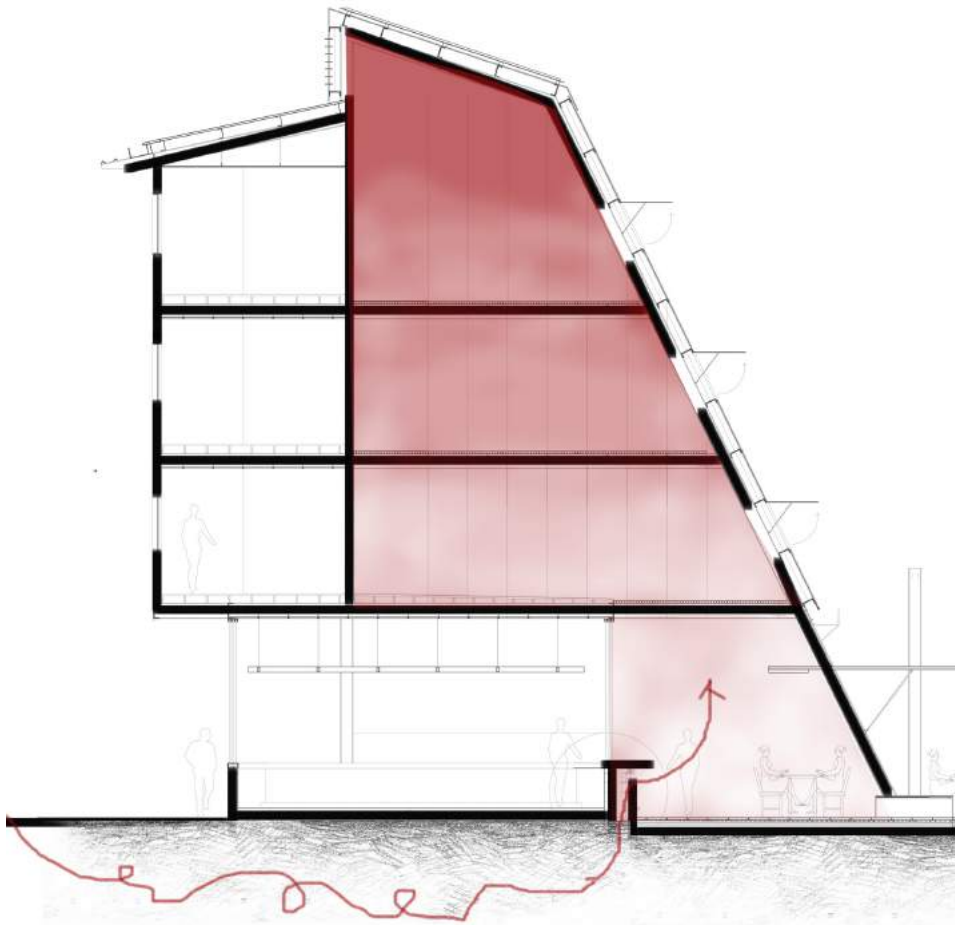
### VENTILATION passive systems

Due to the nature of the greenhouse in the South African context, ventilation becomes an important consideration in order to prevent the overheating of the plants within during summer months. Ventilation is also important with regards to restaurants and cafes sitting below the greenhouse.

## LOUVRE AND BALCONY VENTILATION



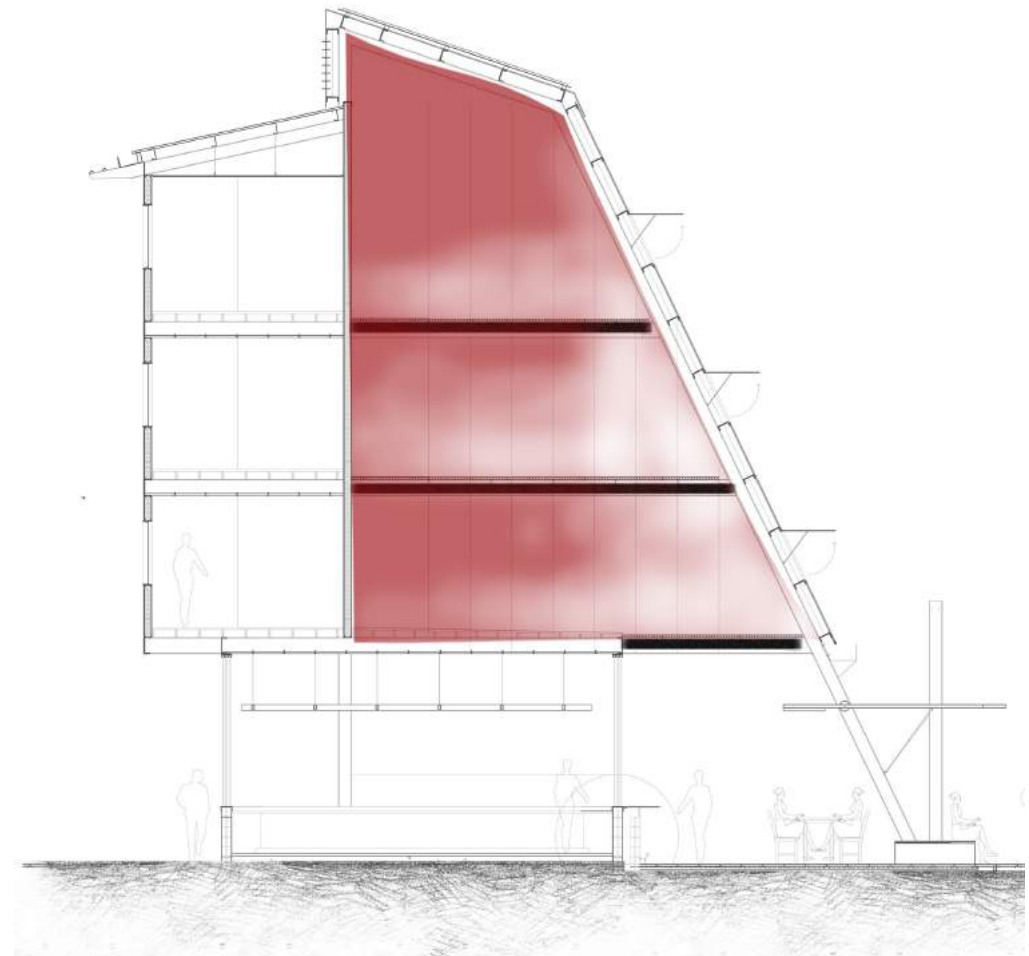
## EARTH TUBE VENTILATION



The earth tubing brings in cool air from the inlet on the southern side into the space beneath the greenhouse. This creates the movement of air and enhances passive ventilation.

The earth tubing also creates an opportunity in winter, whereby it is used as a method to bring warm air into the building and moderate temperature.

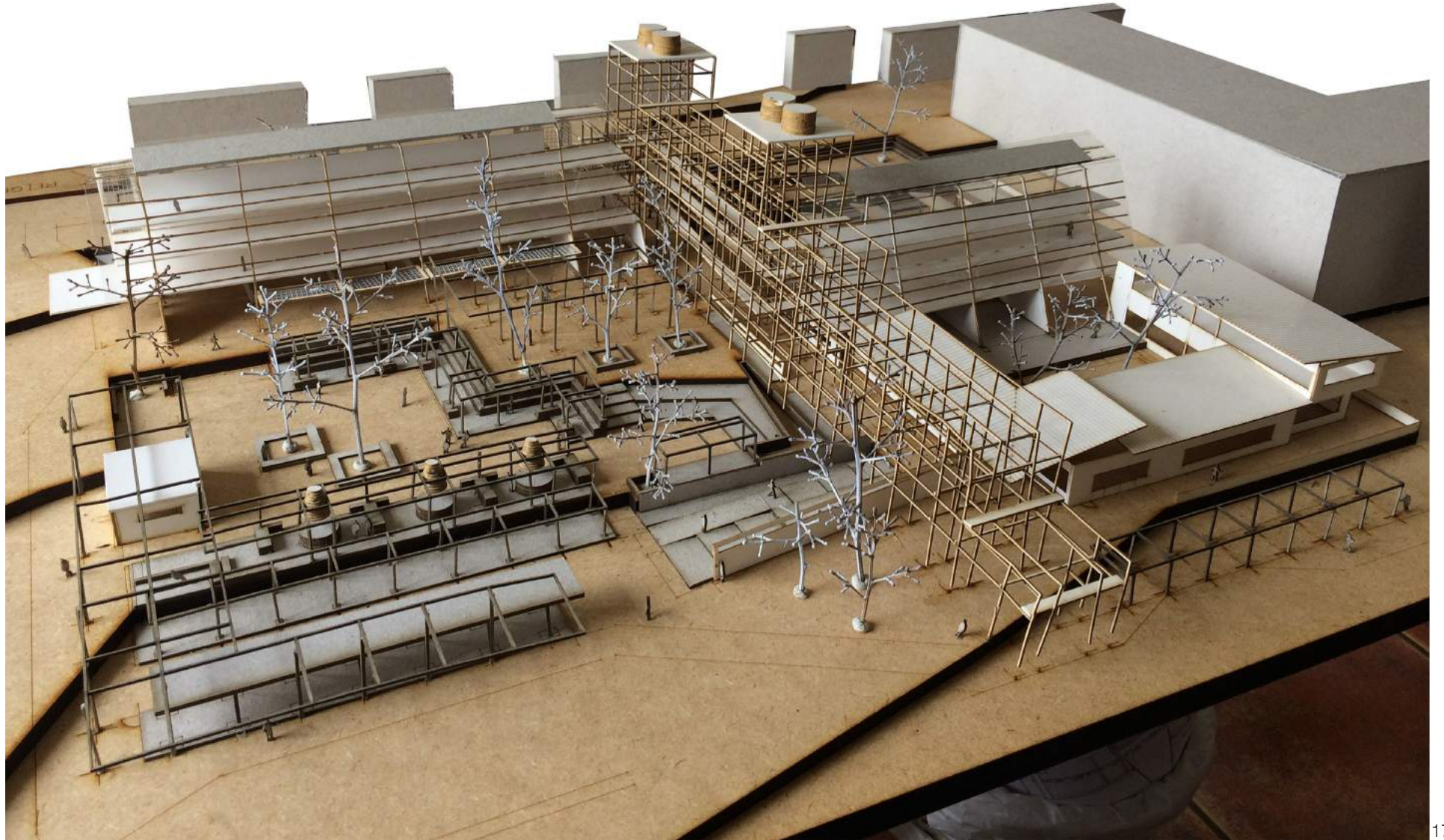
## MENTIS GRATING VENTILATION

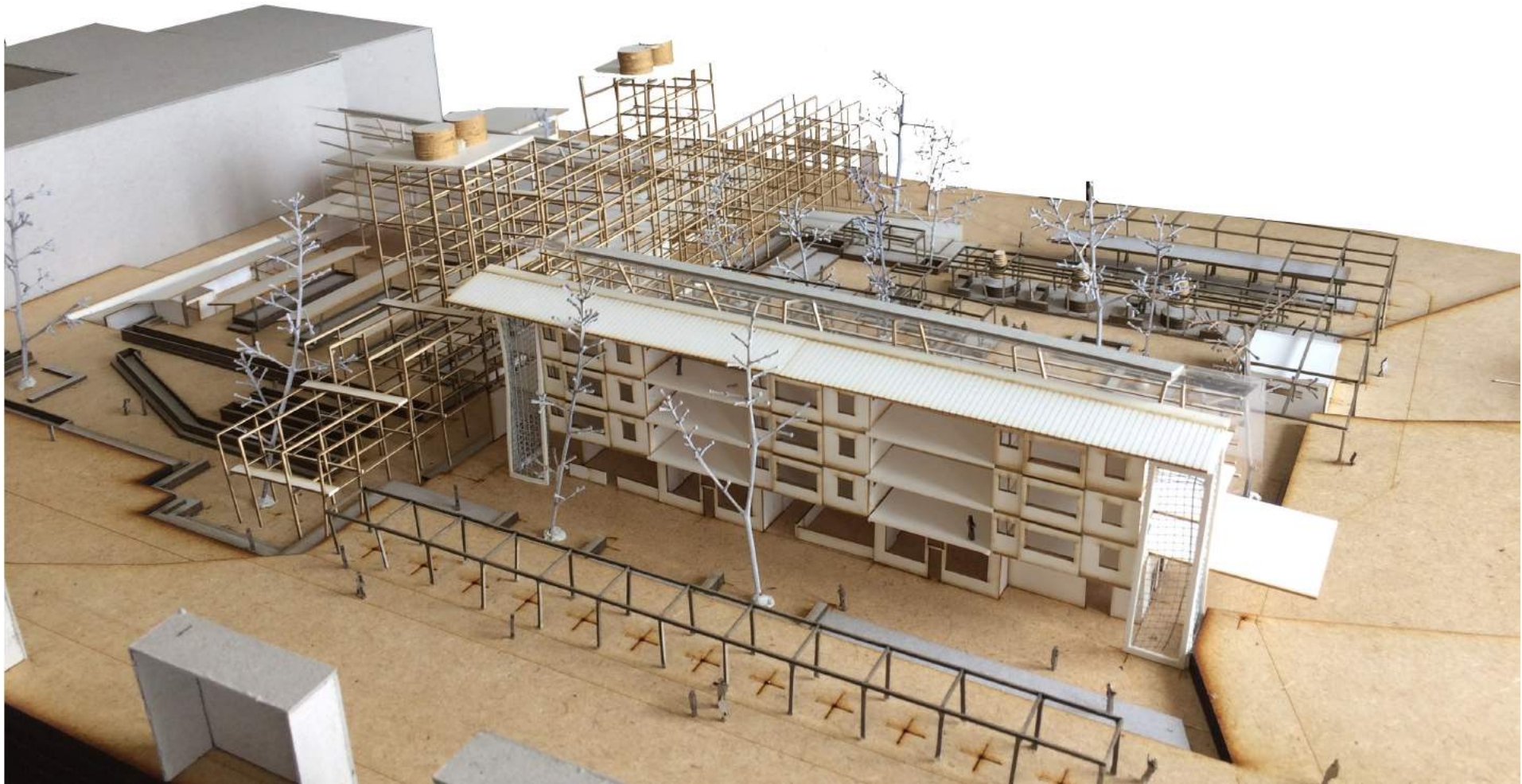


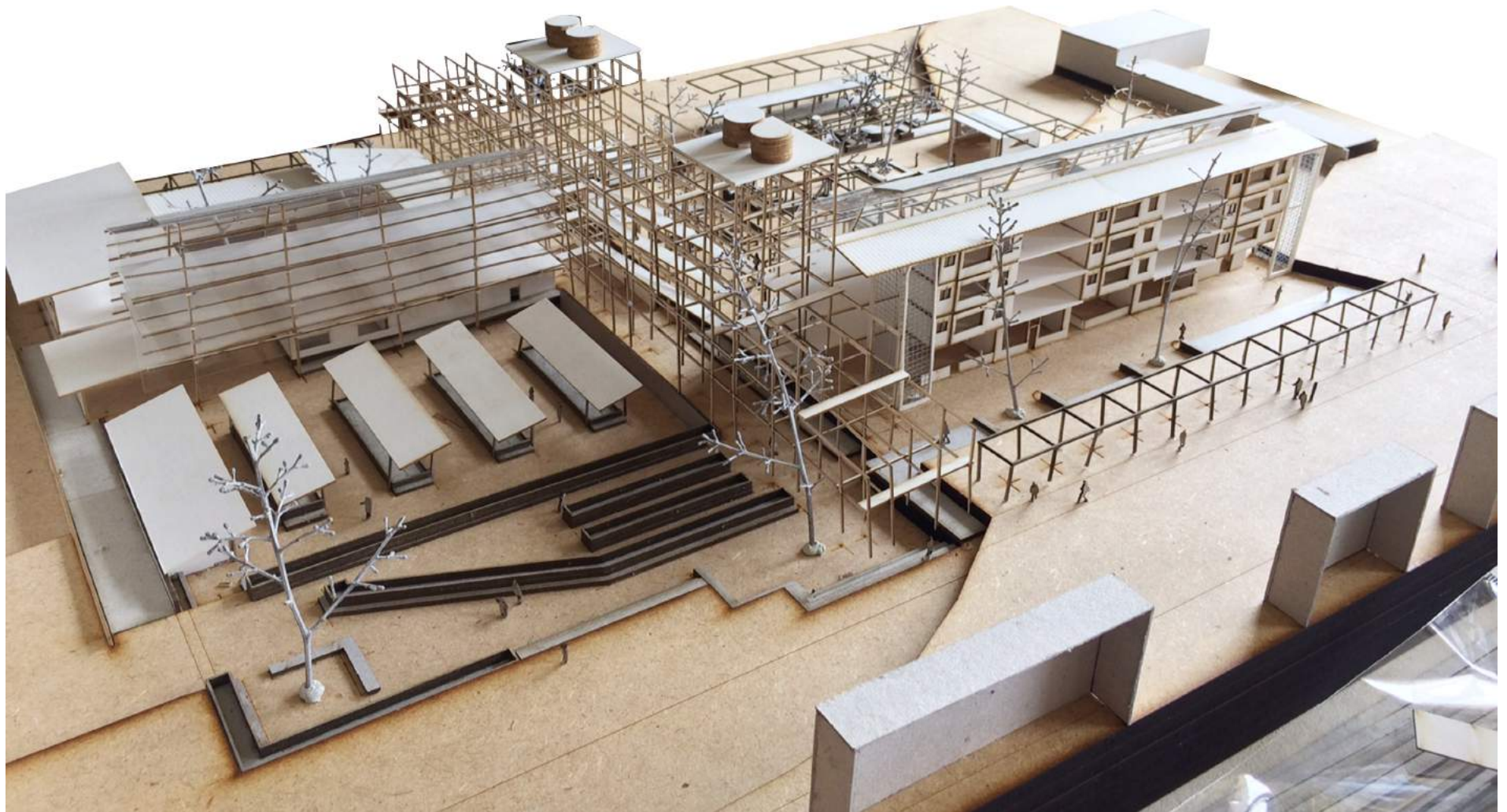
The mentis grating allows for easy flow of air through the floors of the greenhouse and create greater opportunities for passive ventilation.

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A GASTRONOMIC QUARTER  
final model exploration



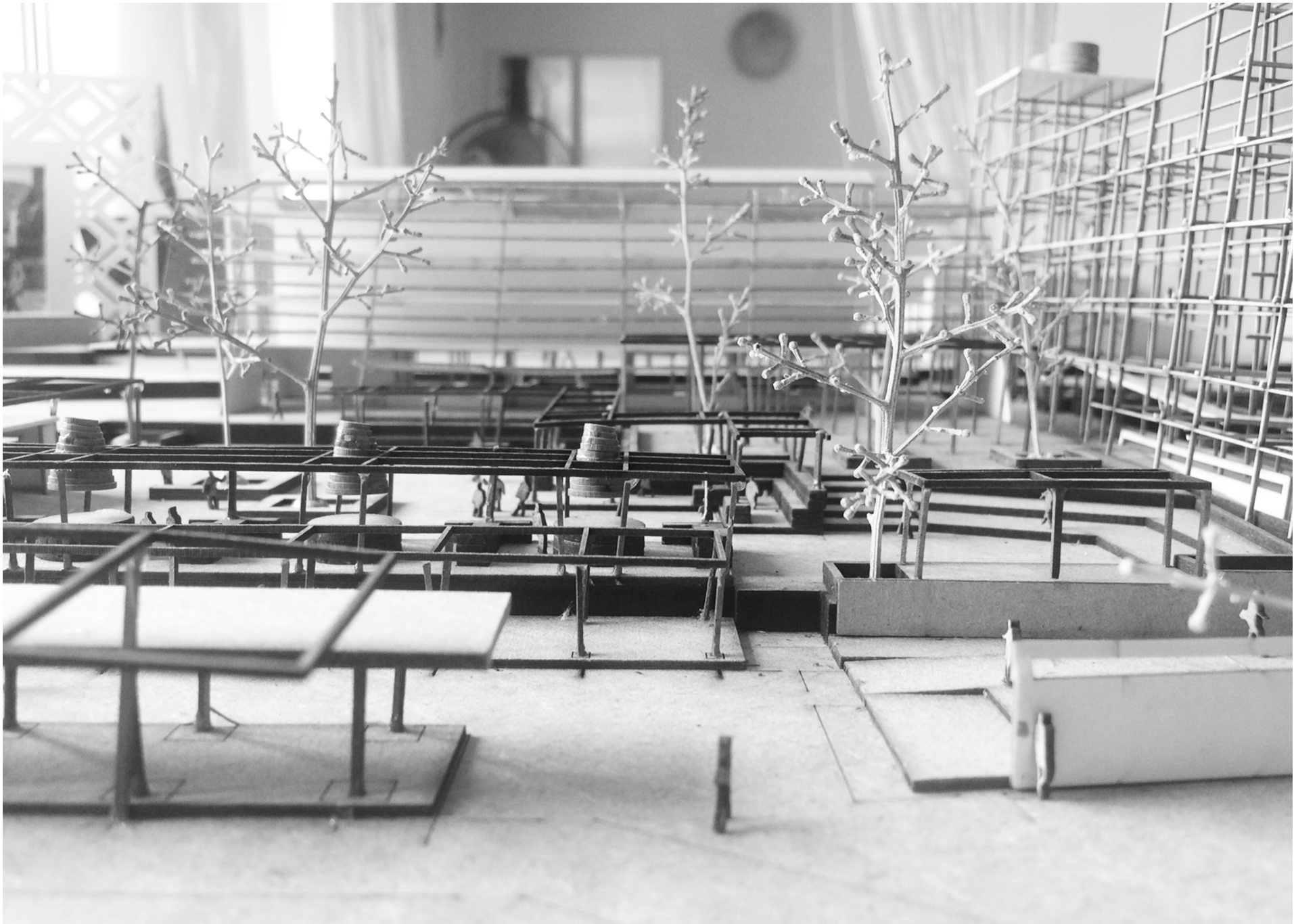


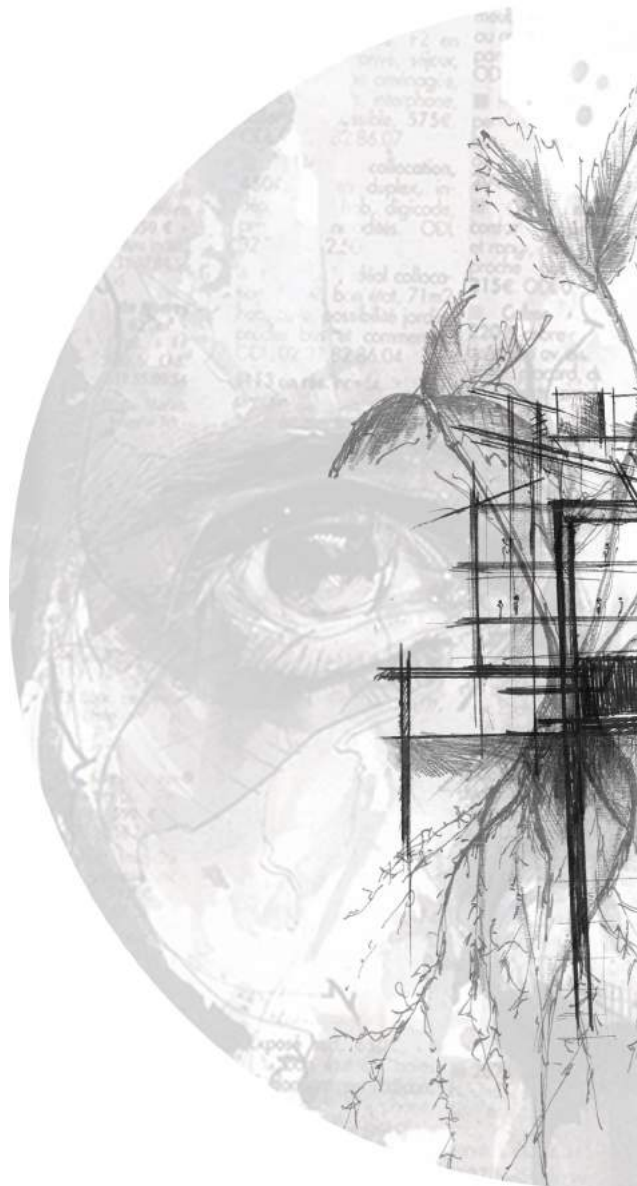












## overarching conclusion

This dissertation was an investigation into how architecture could facilitate the regrowth of broken networks that have led to a highly contested site due to the increase of the socio-economic barrier.

The concept of growth is physically manifested in the form of vertical production, through a greenhouse, which sits as beacon within the urban context. It is from this production core that various activities stem and link to the existing urban fabric.

The main programme, a gastronomic quarter, responds directly to the needs on site by not only providing infrastructure that enables the physical growth of food but creating spaces that allow for positive growth in terms of livelihood through economic and social sustainability. Effective incorporation of formal and informal trade, as sub programmes, offers a variety of opportunities for the immediate community and thus creates an overall inclusive environment. Through the localisation of the food network, basic service provision and the multi functionality of the spaces, provisions are made for the ease of adaptability and growth of the intervention.

The intervention responds to the urban scale and density through the transition and variation of scale and density. Transitions and hierarchy of the spaces allow for greater understanding of the food process network and the endless opportunities it provides. Due to the nature of the site and the urban proposal the ease accessibility to food, not only in terms of affordability, was a large consideration. The bus stop being an existing node of energy is an important informant on which to base the design. Successful pedestrian movement is vital to the space in order to maintain energy within the space and aid in encouraging social interactions amongst various economic and social groups.

With regards to interactions, an important aspect of the design is the principle of engagement, using architecture to create a point of acupuncture that facilitates the participation, of people and food, and of people with each other. Through various thresholds, the hierarchy and transition of spaces from one space to another allows for the understanding of the food process network as well as our direct influence thereof.

The theoretical premise of place through systemic approach, as well as the precedents investigated, indicate that social spaces, economic opportunities and food production should be layered to generate community support through a place devoid of intangible barriers. The proposed design therefore functions as a social system, based on the optimisation of the food network, that encompasses various activates and programmes that would generally be isolated from each other.

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List of Figures

Figure 1 : Locality images. Google Maps. (MArch)Prof and Up Hons 2016)	4	Figure 17 : Urban theoretical informants (UP Arch (MProf) 2016). Individual image resources from left to right: (GWASstudio 2007), (Salat 2011) & (Steyn 2005)	18	Figure 34 : Spatial analysis (MArch(Prof) and UP Hons 2016)	30
Figure 2 : A contextual introduction to Plastic View's locality. MArch(Prof) 2016.	5	Figure 18 : Thorntree View Precedent images. (GWA Studio 2007)	20	Figure 35 : Spatial analysis photographs from Plastic View (MArch(Prof) and UP Hons 2016)	30
Figure 3 : Elevational context images. Woodlands Boulevard (UP Arch Hons 2016)	6	Figure 19 : Conceptual collage_mixed density and multifunctional space (Author 2016)	22	Figure 36 : Urban framework: spatial analysis implementation (MArch (Prof) 2016)	31
Figure 4 : Elevational context images. NG Moreleta Gemeente. (UP Arch Hons 2016)	6	Figure 20 : Urban site vision plan (MArch(Prof) 2016)	23	Figure 37 : Urban framework: spatial analysis conceptual collage exploration (MArch (Prof) 2016)	32
Figure 5 : Plastic View (Author 2016)	6	Figure 21 : Zoom in of boulevard_Urban site vision plan (MArch(Prof) 2016)	23	Figure 38 : Urban framework: spatial analysis conceptual sketch exploration (MArch (Prof) 2016)	32
Figure 6 : Development of settlement from its establishment in 2008, to its present day confinement. Author 2016. (Base image courtesy of Google maps)	7	Figure 22 : Urban framework accessibility (MArch(Prof) 2016)	24	Figure 39 : Urban framework: materiality analysis (MArch (Prof) and UP Hons 2016)	33
Figure 7 : Locality map showing contextual support (Author 2016).	8	Figure 23 :Urban framework pedestrian route (MArch(Prof) 2016)	24	Figure 41 : Urban framework: materiality analysis photographs (MArch (Prof) and UP Hons 2016)	33
Figure 8 : Timeline of urban planning approaches in South Africa (UP MArch (Prof) 2016).	10	Figure 24 : Urban framework pedestrian radius (MArch(Prof) 2016)	24	Figure 42 : Urban framework: materiality and structure implementation (MArch (Prof) 2016)	34
Figure 9 :Cosmo City precedent study. Challenges of Implementing BNG Policy, 2013.	11	Figure 25 : Urban framework density increase (MArch(Prof) 2016)	25	Figure 43 : Urban framework: conceptual collage (MArch (Prof) 2016)	35
Figure 10 : These illustrations depicts the density, size and location of the informal settlements in Pretoria East mapped by the UP Arch M(Prof) research group 2016 to support the arguments made on the previous page (UP MArch(Prof) 2016). Map courtesy of Google Maps.	12	Figure 26 : Urban framework density (MArch(Prof) 2016)	25	Figure 44 : Identification of trading opportunities (Author 2016)	37
Figure 11 : Location	12	Figure 27 : Urban framework density and accessibility (MArch(Prof) 2016)	25	Figure 45 : Identification of food retail within Parkview Centre (Author 2016)	38
Figure 12 : various levels of education_macro scale MArch(Prof) 2016)	13	Figure 28 : Urban framework recreational space (MArch(Prof) 2016)	26	Figure 46 : Identification of food retail within Woodlands Boulevard (Author 2016)	38
Figure 13 : greater food network_macro scale MArch(Prof) 2016)	13	Figure 29 : Urban framework ecological mapping (MArch(Prof) 2016)	26	Figure 47 : Identification of food retail within Plastic View (Author 2016)	39
Figure 14 : public and private health care_macro scale (MArch(Prof) 2016)	13	Figure 30 : Urban framework relocation (MArch(Prof) 2016)	26	Figure 48 : Identification of food retail within Plastic View (Author 2016)	39
Figure 15 : current access to basic ammenities (MArch(prof)2016)	14	Figure 31 : Urban framework municiple connections (MArch(Prof) 2016)	27	Figure 49 : Identification of food retail within Plastic View (Author 2016)	40
Figure 16 : Location	16	Figure 32 : Urban Vision Perspective (MArch(Prof) 2016)	28	Figure 50 : Identification of food retail within Plastic View (Author 2016)	40
		Figure 33 : Spatial analysis (MArch(Prof) and UP Hons 2016)	29	Figure 51 : Identification of crop growth within Plastic	

View (Author 2016) 40

Figure 52 : Informal takeaway (Author 2016) 42

Figure 53 : Wasted resources infographic (Author 2016) 43

Figure 54 : Waste[d resources] statistic graphically represented (Author 2016) 45

Figure 55 : Food waste in South Africa graphically represented (Author 2016) 47

Figure 56 : Families in South Africa\_overall average budget expenditure (Author 2016) 48

Figure 57 : Families in South Africa: Poorest 10% of Population budget expenditure (Author 2016) 48

Figure 58 : Families in South Africa: Richest 10% of Population budget expenditure (Author 2016) 48

Figure 59 : European food production and waste (Author 2016) 49

Figure 60 : Sub-Saharan Africa food production and waste (Author 2016) 49

Figure 61 : Developing countries: food loss vs food waste (Author 2016) 49

Figure 62 : The Idaho Plate Method graphically represented (Author 2016) 51

Figure 63 : Large scale food delivery as an isolating factor (Author 2016) 53

Figure 64 : Sketches of shopping mall development through the ages (Author 2016) 55

Figure 65 : Sketch of the interior of a typical shopping mall (Author 2016) 58

Figure 66 : Trading at the Asiatic Bazarre (Author 2016) 58

Figure 67 : Informal retail in Plastic View (Author 2016) 58

Figure 68 : Tshwane Fresh Produce Market (Tshwane) 59

Figure 69 : Exterior of Joburg Market (Sherry 2012) 59

Figure 70 : Interior of Woodlands Boulevard (LP Architects) 59

Figure 71 : Graphical representation of the *systems view of life* (Capra & Luigi Luisi 2014) (Author 2016) 61

Figure 72 : Drawing in energy and resources from gated communities (Author 2016) 62

Figure 73 : Drawing in energy from enclosed malls, shopping centres and informal trade from Plastic View onto proposed site (Author 2016) 62

Figure 74 : Amalgamation of energy and resources onto the new site to create an integrated community (Author 2016) 62

Figure 75 : Position of site within urban vision (Author 2016) 65

Figure 76 : Mixed-use high density photo collage (MArch(prof)2016) 65

Figure 77 : Position of mixed-use high-density building (Author 2016) 66

Figure 78 : Position of main vehicular routes (Author 2016) 66

Figure 79 : Position of bus stop (Author 2016) 66

Figure 80 : Energy within site boundaries (Author 2016) 67

Figure 81 : Vital energy nodes within the site (Author 2016) 67

Figure 82 : Energy surrounding bus stop (Author 2016) 68

Figure 83 : Potential energy release (Author 2016) 68

Figure 84 : Potential energy transfer (Author 2016) 68

Figure 85 : Residential density on chosen site (MArch (Prof) 2016) 69

Figure 86 : Environmental reservation on chosen site (MArch (Prof) 2016) 69

Figure 87 : Ecological sensitivity (MArch (Prof) 2016)

70

Figure 88 : Confines of chosen site (Author 2016) 70

Figure 89 : Conceptual sketches (Author 2016) 72

Figure 90 : The Moshav conceptual layout (Author 2016) 73

Figure 91 : The Moshav urban layout (amusingplanet.com) 73

Figure 92 : Cuba Havana urban agriculture initiatives (Clouse 2014). 74

Figure 93 : Cuba Havana urban agriculture initiatives (Clouse 2014). 74

Figure 94 : Conceptual collage\_community orientated food production (Author 2016) 75

Figure 95 : Conceptual diagram\_community orientated food production based on the Moshav (Author 2016) 76

Figure 96 : Conceptual collage\_community orientated food retail and trading opportunities (Author 2016) 77

Figure 97 : Conceptual diagram\_community orientated food production based on the principles of Cuba Havana (Author 2016) 78

Figure 98 : Conceptual design sketch (Author 2016) 80

Figure 99 : Food network system graphical representation (Author 2016) 81

Figure 100 : Government priorities\_graphical representation (Author 2016) 87

Figure 101 : local production base\_graphical representation (Author 2016) 87

Figure 102 : linkages potential rating\_graphical representation (Author 2016) 88

Figure 103 : opportunity analysis results\_ graphical representation (Author 2016) 89

Figure 104 : Hydroponic wick system (Author 2016)  
91

Figure 105 : Hydroponic NFT system (Author 2016)  
91

Figure 106 : Hydroponic drip system (Author 2016)  
92

Figure 107 : Hydroponic aeroponic system (Author 2016) 92

Figure 108 : Hydroponic aquaponic system (Author 2016) 92

Figure 109 : Gugulethu central meat market sketch (Author 2016) 94

Figure 110 : Boeremark photo collage (Author 2016)  
95

Figure 111 : Hazelwood food market photo collage (Author 2016) 96

Figure 112 : Window sketch and dimensioning (Author 2016) 100

Figure 113 : Worm photo edited by Author (Maher 2016)  
100

Figure 114 : Food production and processing movement (Author 2016) 101

Figure 115 : Pedestrian traffic movement (Author 2016)  
101

Figure 116 : Points of interaction between food and people (Author 2016) 102

Figure 117 : Where both systems come together (Author 2016) 102

Figure 118 : Images of seating opportunities taken from *Convivial Urban Spaces: Creating Effective Public Places*. (Shaftoe 2008) 104

Figure 119 : Model iterations (Author 2016) 105

Figure 120 : June final exam model (Author 2016)  
110

Figure 121 : Perspective from underneath water towers (Author 2016) 111

Figure 122 : Perspective looking into production courtyard (Author 2016) 113

Figure 123 : September crit elevations (Author 2016)  
121

Figure 124 : Sketch of a plant (Author 2016) 131

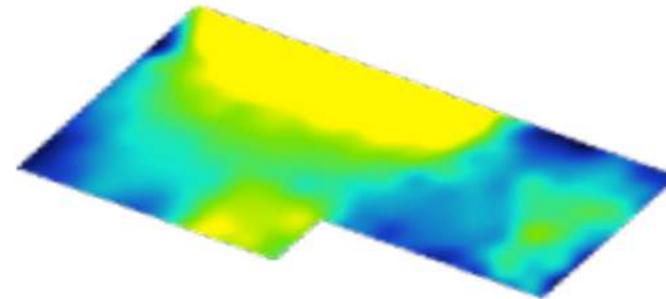
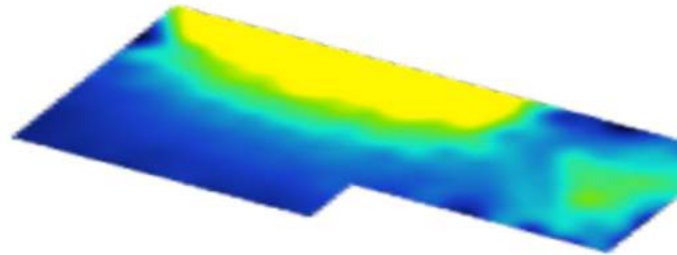
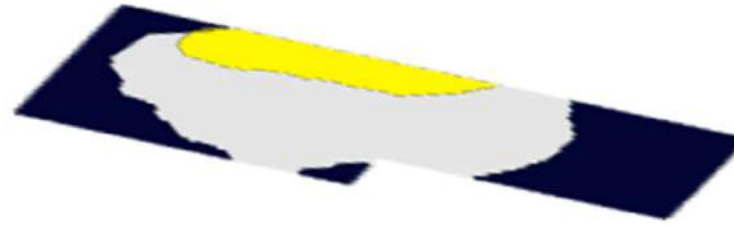
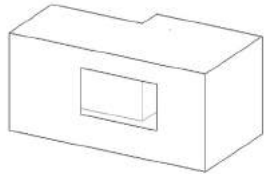
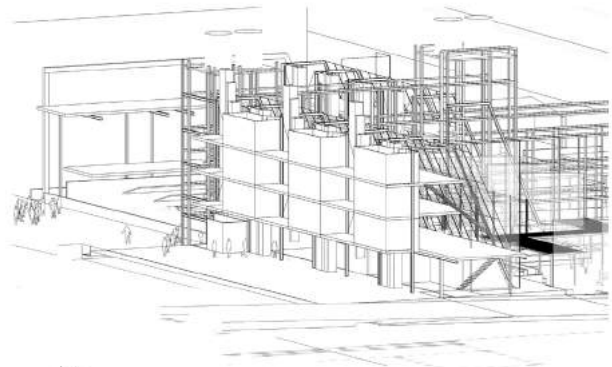
Figure 125 : On site materiality photos (Author 2016)  
135

Figure 126 : Unrecycled plastic waste at a global scale (Author 2016) 139

Figure 127 : ByFusion bricks manufacturing (ByFusion 2016) 142



appendix

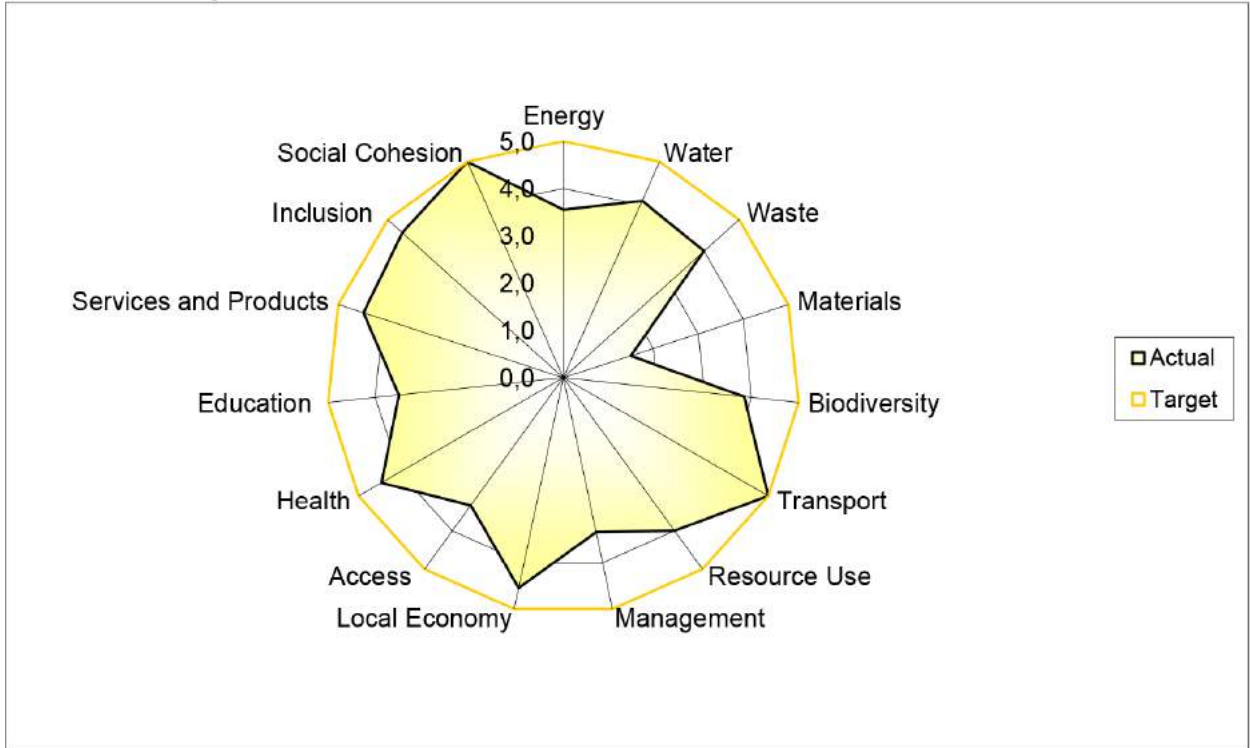


Percentage of Floor Area where Daylight Factor (DF) is measured at 0.85 meters above the floor plate.

Uniformity Ratio: 0.36



**SB3 SBAT Graph**



<b>SB4 Environmental, Social and Economic Performance</b>	<b>Score</b>
Environmental	3,4
Economic	4,0
Social	4,4
<b>SBAT Rating</b>	<b>3,9</b>

<b>SB5 EF and HDI Factors</b>	<b>Score</b>
EF Factor	3,8
HDI Factor	4,3

<b>SB6 Targets</b>	<b>Percentage</b>
Environmental	68
Economic	81
Social	88