7 FINAL PRESENTATION
design conclusions
PROGRAMMATIC FUNCTIONS

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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
Figure 137: Entrance perspective (Author 2016)
Figure 138: Accommodation perspective (Author 2016)
Figure 139: Pencil sketch perspectives (Author 2016)
Figure 141: Production courtyard (Author 2016)
Figure 142: Inside a greenhouse (Author 2016)
Figure 143: Seating from within the cafe (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
Due to the nature of the project, water harvesting is an important consideration and needs to be effectively collected.

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 thereof is important.

Figure 148: Paving detail (Author 2016)
WATER STORAGE TANKS

HYDROPONIC DISTRIBUTION
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.
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
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.
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.

The mentis grating allows for easy flow of air through the floors of the greenhouse and create greater opportunities for passive ventilation.
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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appendix
### SB3 SBAT Graph

![SBAT Graph Image]

### SB4 Environmental, Social and Economic Performance

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### SB5 EF and HDI Factors

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