

Vusi Ntsuntsha Development Cape Town

A settlement designed as a resources generator.

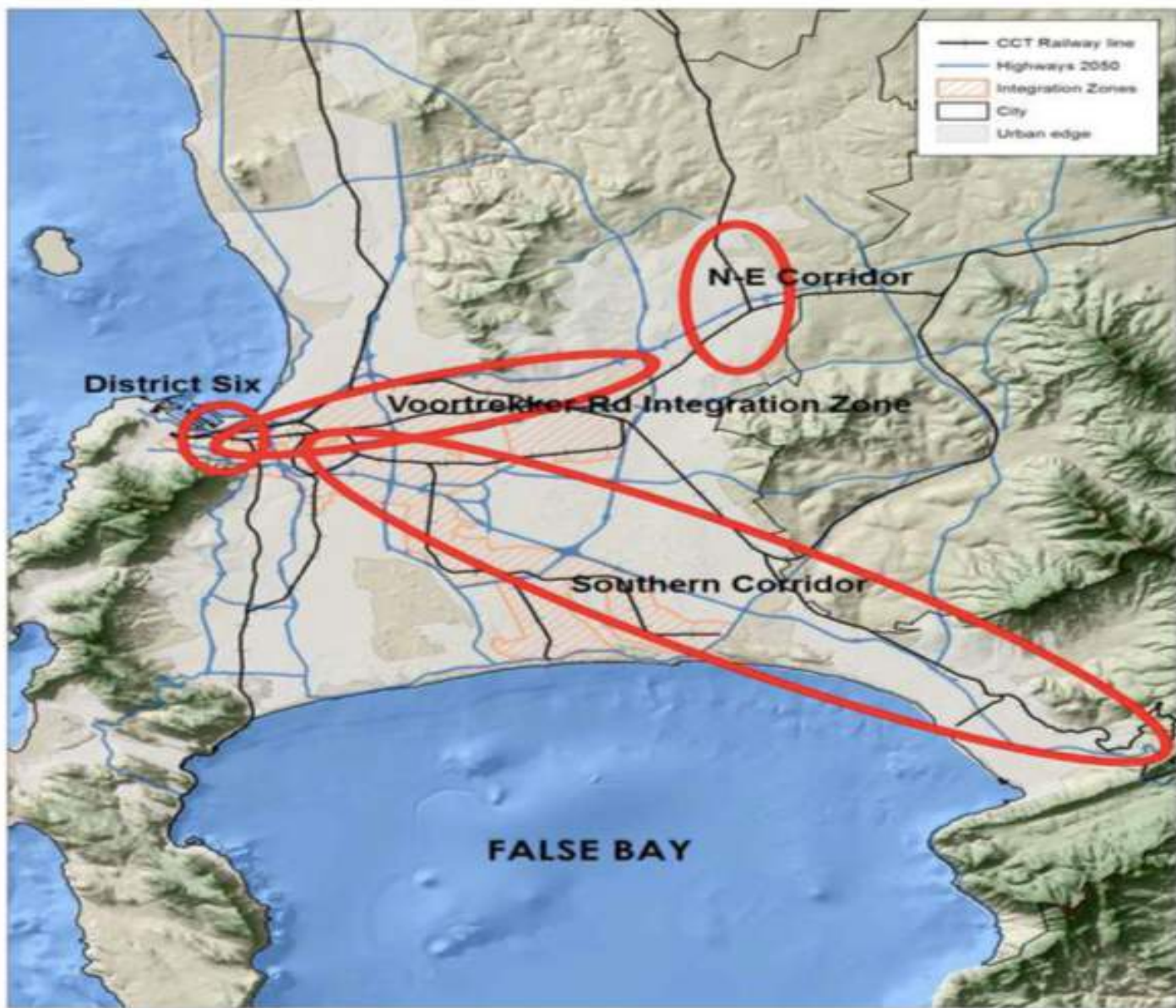
**Clients : PGWC Human Settlements
+ Vusi Nsuntsha Trust and Partners**

**Presentation to Co-Willing conference
19 Jan 2018**



Overview of presentation

- 1.Southern corridor catalytic project background : sites and numbers
- 2.Kosovo + Vusi + Farm 694= 7040 hh
- 3.Demographics and other contextual inputs
- 4.The multistory BNG and Serviced site solution
- 5.Process steps
- 6.Discussion

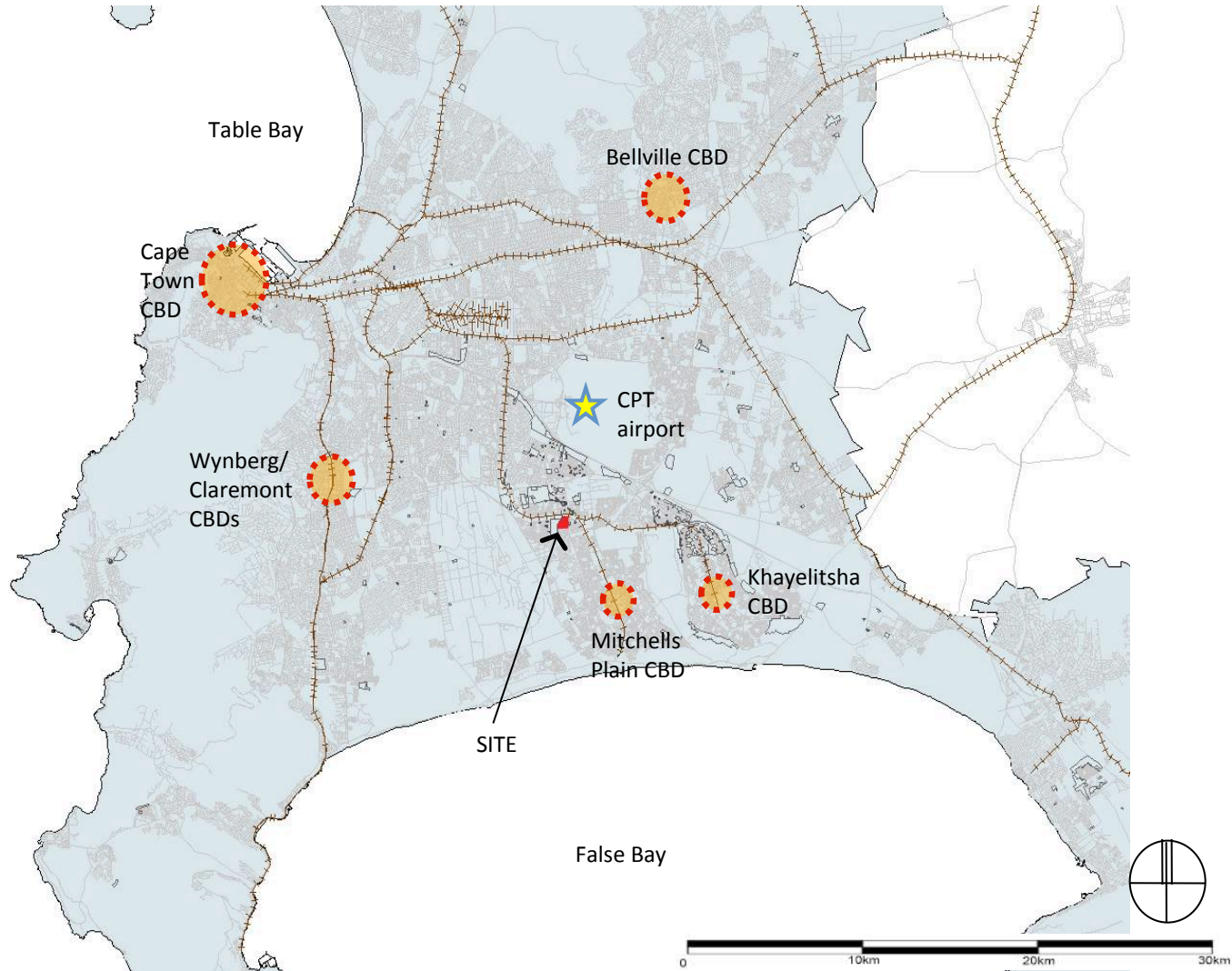


**Catalytic Human Settlement Programmes for
2015/16 (BEPP)**

Programme objective

- Core objective: *to improve living conditions of people living in selected informal settlements and over-crowding*
- To achieve “Integrated human settlements” will require indicators beyond housing such as proximity to jobs, transport, health improvements etc.
- Project expected to benefit over 28,000 households

Urbanisation of the poor : Urban Villages Making Opportunity

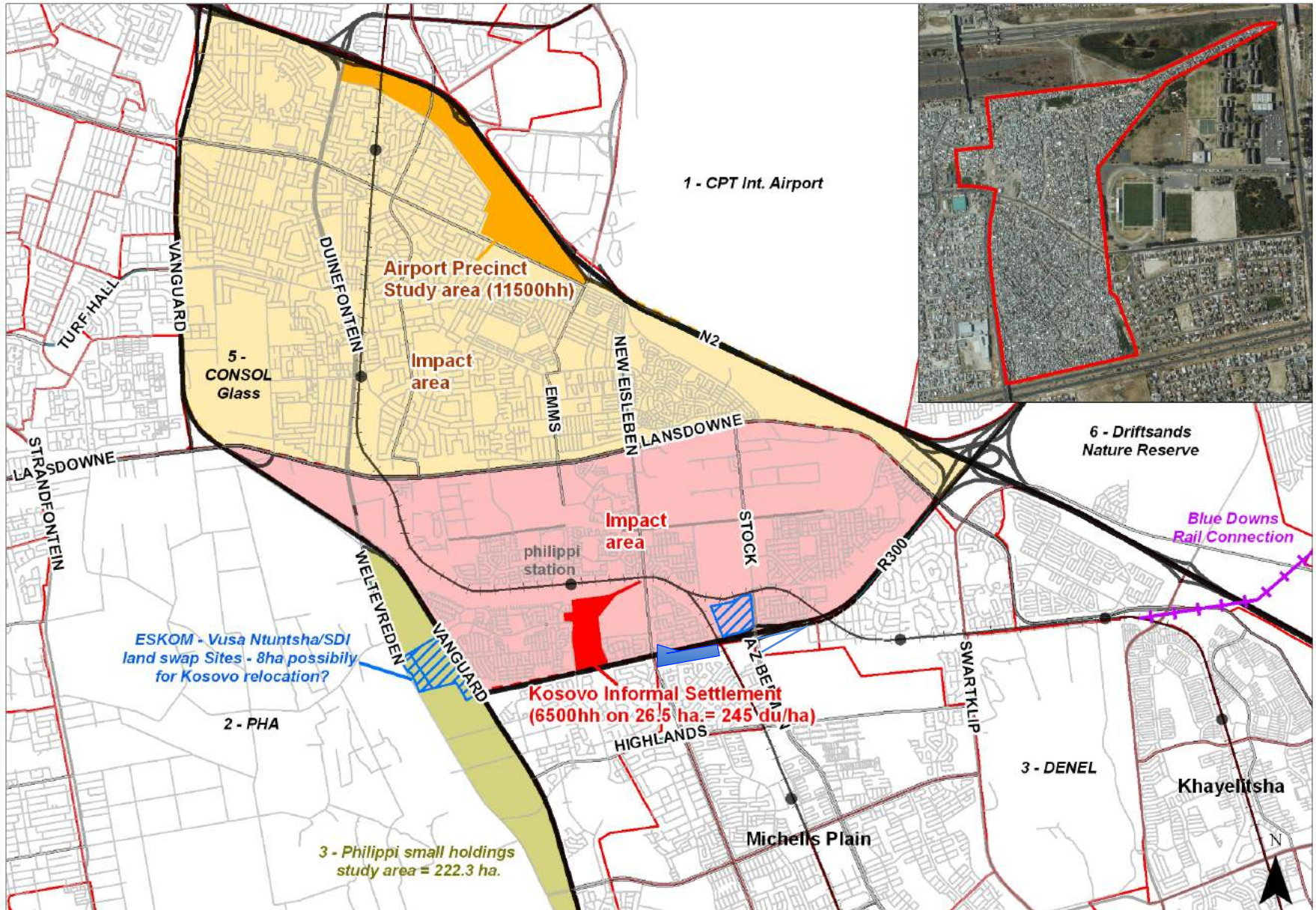


Balance urban, nature, food: new vision needed



Southern Corridor Integrated Human Settlements Programme

Existing informal settlement land development parcels





Bellville

M25

R101

31

360

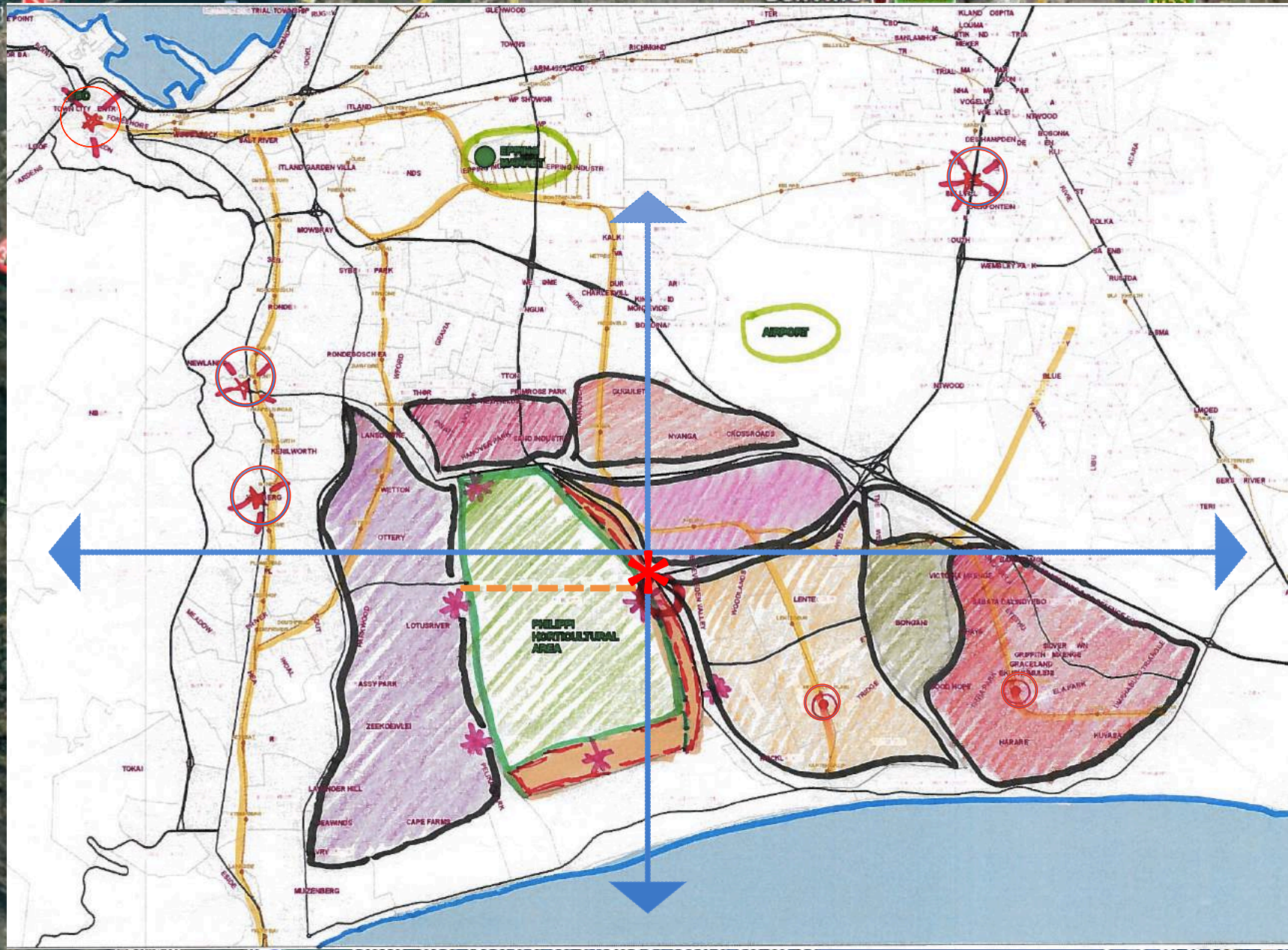
M63

M6

PHILIPPI HORTICULTURAL AREA

AIRPORT

PHILIPPI HORTICULTURAL AREA



Win - Win Solution for 7040 hh

- Meet the needs of the Kosovo project Households, and local housing need across 3 sites , Kosovo, Farm 694, Vusi site.
- Address the housing needs of the Vusi Trust beneficiaries and Kosovo households on Vusi land
- Create maximum opportunities for jobs, incomes, local access to everyday needs and savings for all.

1. WCG Kosovo Development

Kosovo
land 29 ha

Remainder
Farm 694
5,39 ha

Sub total:
34.39 ha

Vusi land
±23 ha

Total usable
57 ha

**Proposed
Average
densities
124 du/ha**



Ownership	PROVINCIAL GOVERNMENT WESTERN CAPE	Vusi Ntuntsha
CITY OF CAPE TOWN	REPUBLIC OF SOUTH AFRICA	Kosovo Proposed Boundary
PRIVATE	SUID-AFRIKAANSE SPOORPENDELKORPORASIE LTD	Other Sites

0 400 Meters
1:10,000 @ A3



Capacity of all 3 sites.

Total Households that WCG needs to accommodate

Kosovo: **6000 hh total on all sites**

• New Woodlands : **240 hh - on Farm 694**

• **Vusi Nsuntsha : 800 hh –Vusi site**

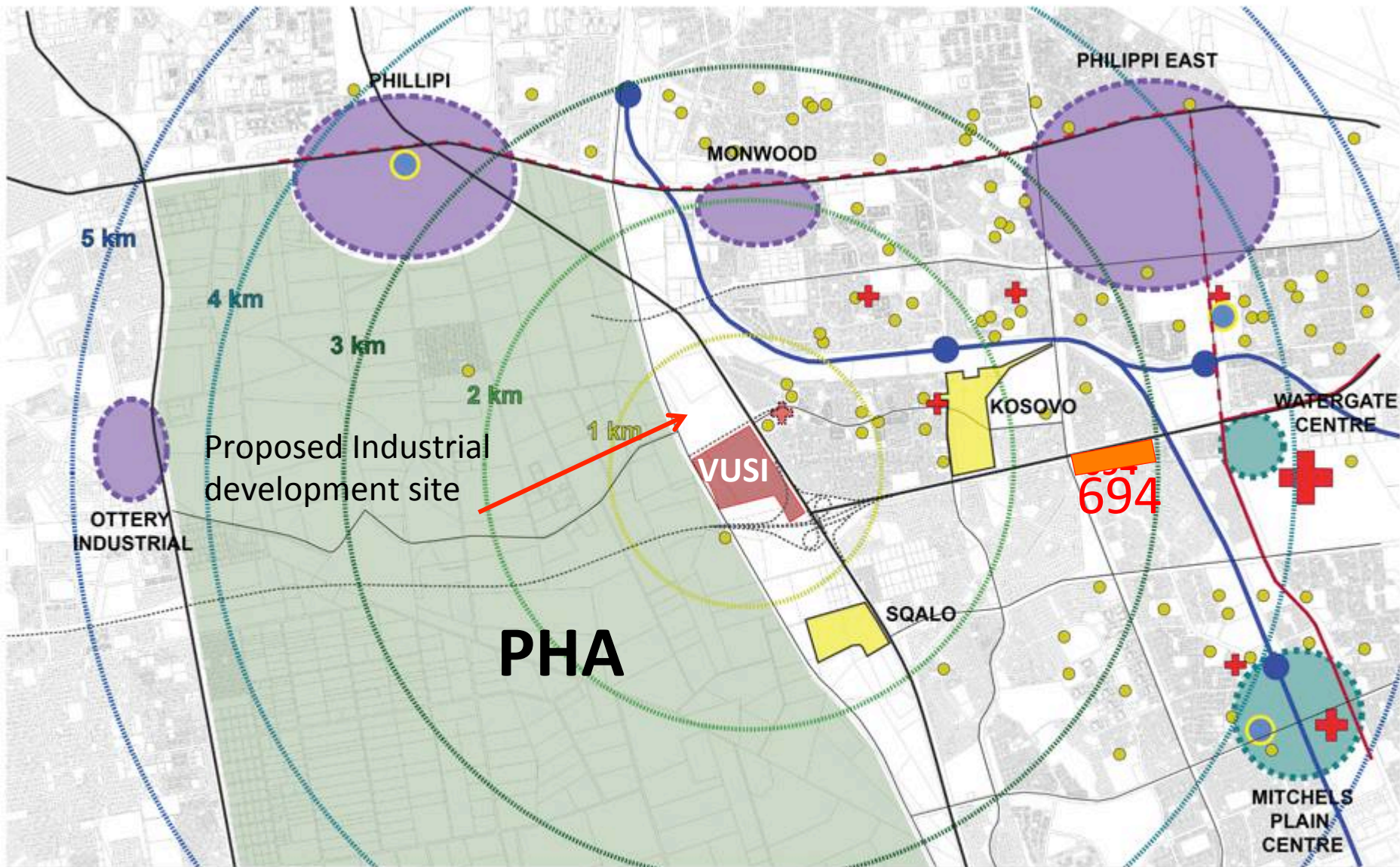
-Total 7040 households

• **Total land available = 57 ha**

• **Average Density therefore must be 124 du/ha**

WCG Kosovo upgrade possibilities

Site	Area	Households
Kosovo Main	29 ha	3596
Farm 694 R (70/30 split)	5 ha	620
Vusi Nsuntsha	23ha	2852
Total		7040



Planning Sustainable infrastructure

Compact

Transit oriented

Affordable

Safe

Connected

Sustainable

Services

Energy

Water

Waste

Local jobs

Food

Gateway site : Unique locational opportunities

Urban food & nutrition, learning and resourcing
centre to support local production and consumption

Unique Site- Based Opportunities

- VUSI – an Agri – Hub
- Kosovo – Urban Management Training Hub
- Woodlands - better joint value and Toe-nadering for coloured and African communities in joint housing solution.

Medium density = Enough people to support

- **Housing, Education, Commercial, Retail and Services** and **new school on the site.**
- **Children will not have to walk or drive** to school.
- Saving on transport costs to households
- More retail, services and local production and consumption – **local income and savings to monthly budget**
- **More local jobs**

6 Local resources, income & savings strategies

1. Market hub- local fresh food at lower costs.

1. Market
2. ProcessingPackaging
3. Vocational training
4. Resource centre and Co-op shops

2. Energy

3. Waste, Water

4. Waste to nutrients

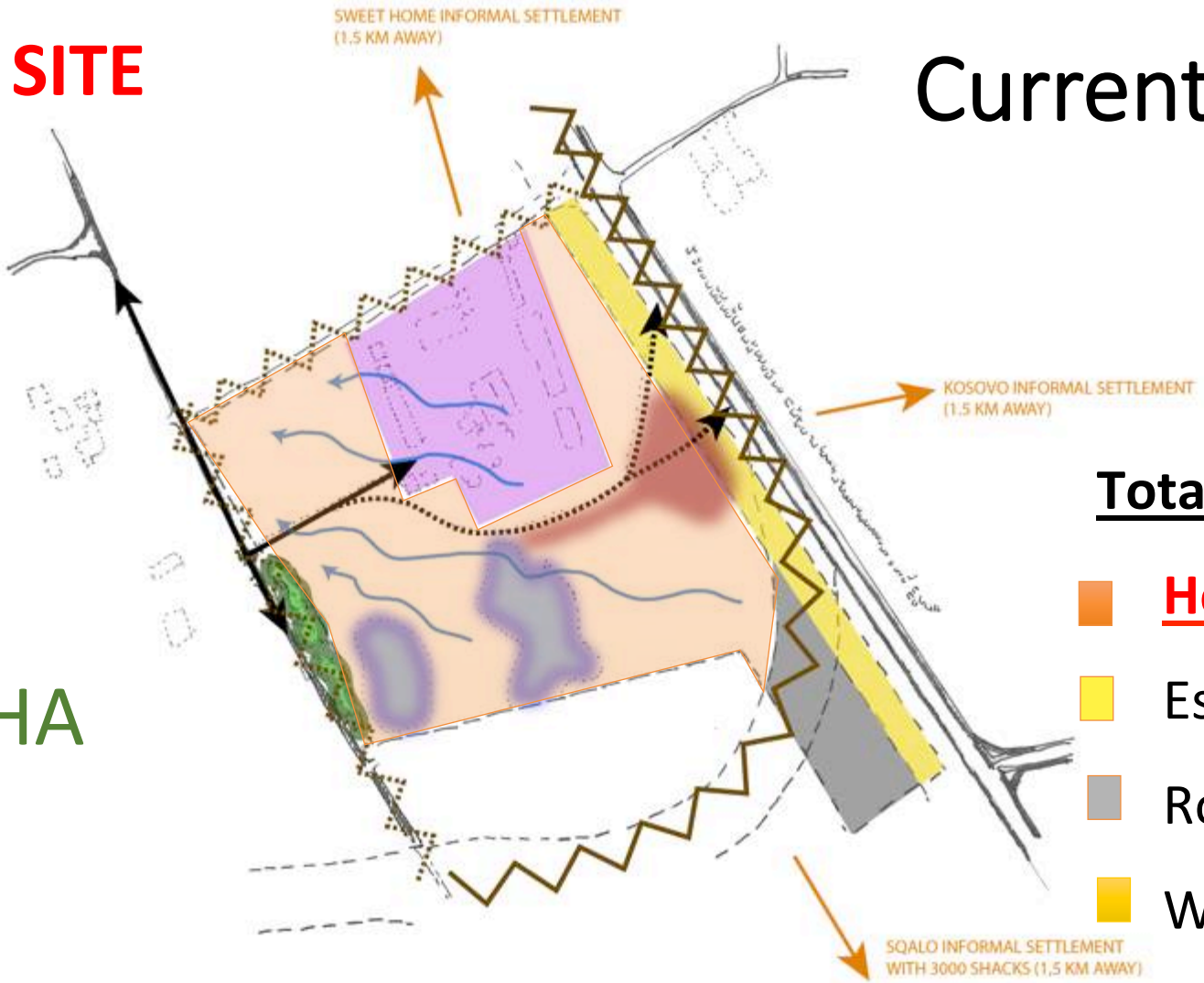
5. Nutrients to food

6. Rental income

USI SITE

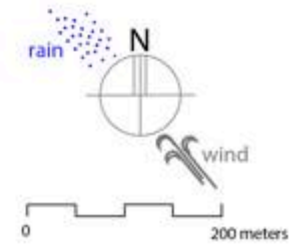
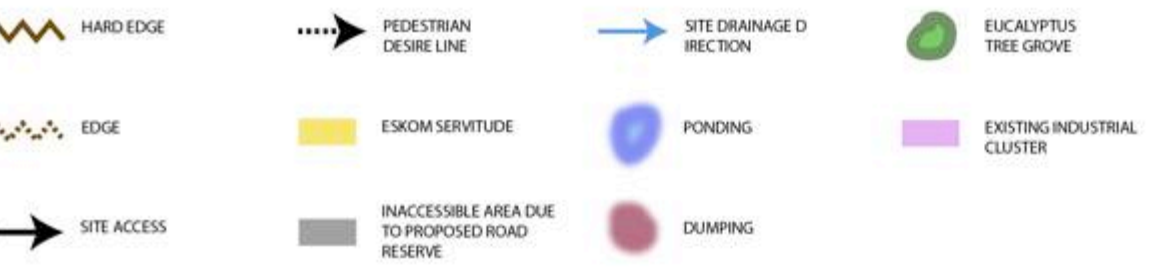
Current land uses

PHA



Total land 27.8 ha

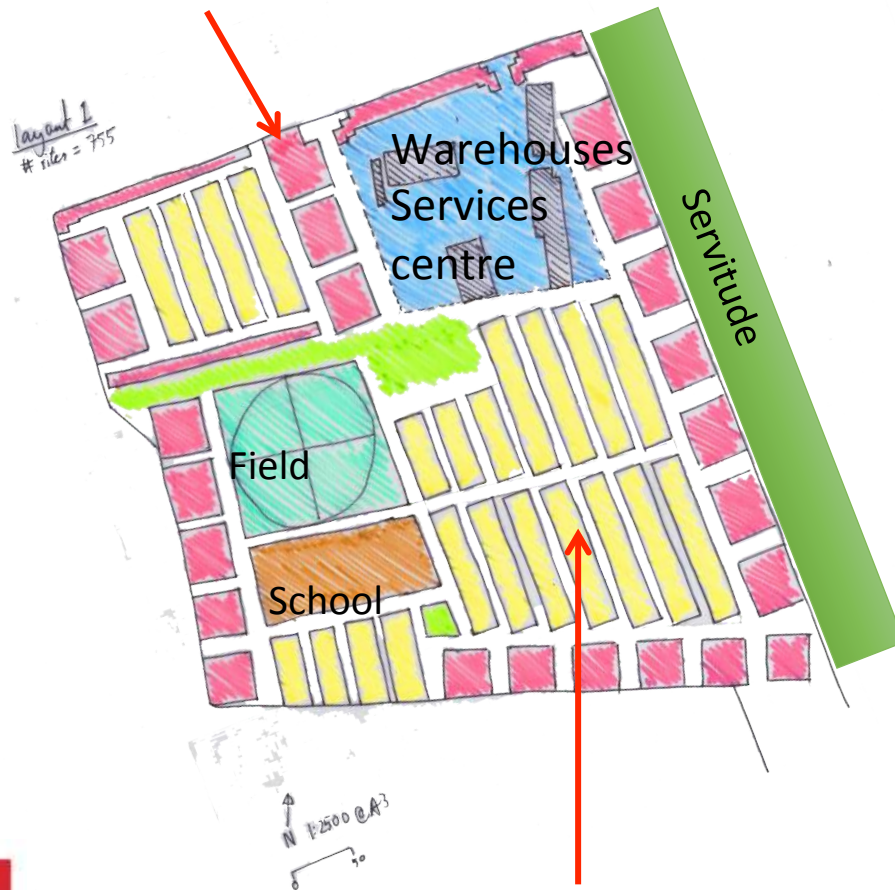
- Housing 17 ha**
- Eskom servitude +**
- Road reserve - 5 ha**
- Warehouses - 5.8ha**



Layout 2 a-Keep some warehouses

Apartment blocks

- 824 BNG
- 528 small apartments



Row housing
755 BNG houses for Vusi

Total households : 1 907/ hh

Total people : ± 4 386 people.

Education: allows for a primary school and creches.

A small service centre for shops, doctors , dentist, lawyers, chemist/ cipla outlet

Income generation and jobs in servitude

- **Waste to nutrients** – 1/3 usable servitude area of **approx 0.5 ha**
- **Urban Agriculture** – 2/3 usable servitude area of **approx 1.0 ha**

Possible partnered projects
Nutrients to food

apartment roofs 2.9ha

row housing roofs 3 ha

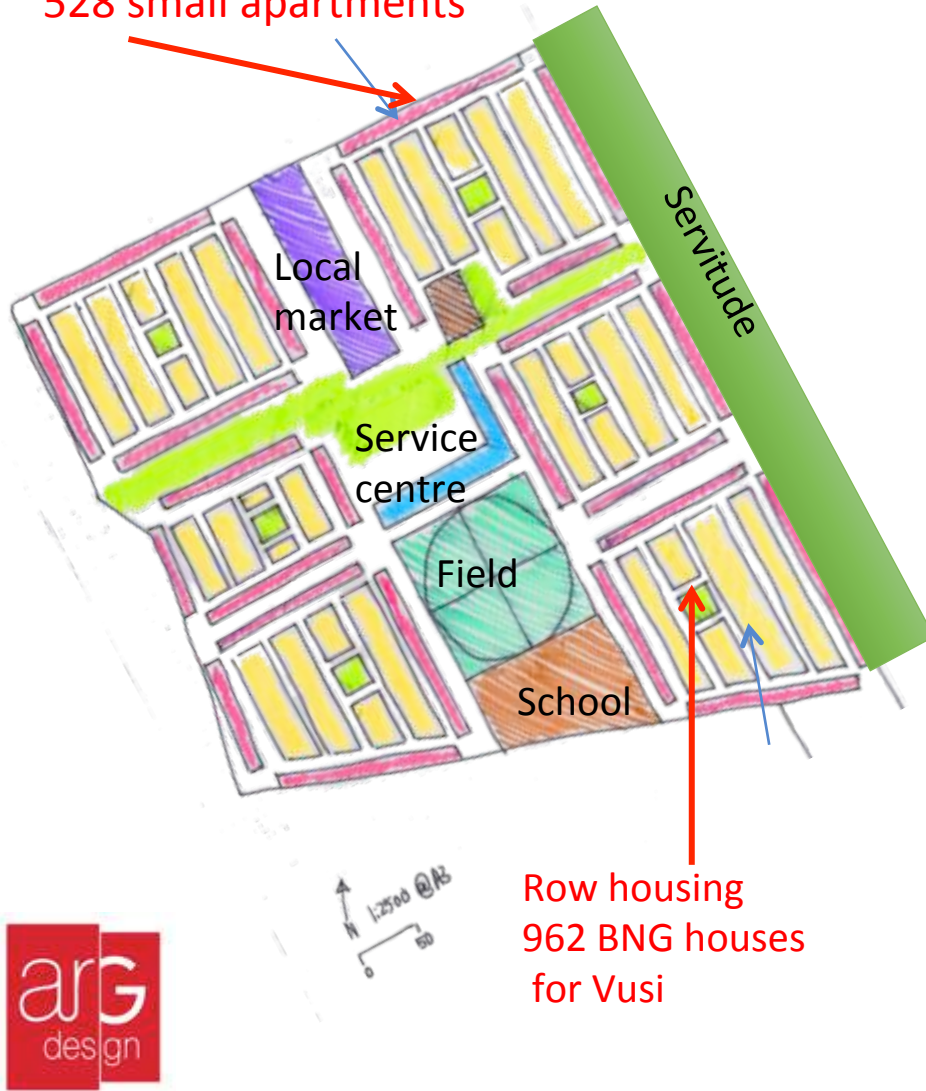
total roof area 5.9 ha

Solar energy IPP producer -
rooftop for PV 5.9 ha

Layout proposal no. 2b

Apartment blocks

- 816 BNG
- 528 small apartments



Row housing
962 BNG houses
for Vusi

Total households : 2 306/ hh

Total people : ± 5 303 people.

Education: allows for primary school, creches and high school

A small service centre for shops, doctors , dentist, lawyers, chemist/ cipla outlet

Income generation and jobs in servitude

- **Waste to nutrients** – 1/3 usable **servitude** area of **approx 0.5 ha**
- **Urban Agriculture** – 2/3 usable **servitude** area of **approx 1.0 ha**

Possible partnered projects

Nutrients to food

apartment roofs 2.7ha

row housing roofs 3.8 ha

total roof area 6.5 ha

Solar energy IPP producer

total rooftop PV 6.5 ha

Additional costs with owning own house.

- Rates
- Services costs- water, energy waste , sewerage
- Small loan for extra building for tenants,
- Maintenance and management

What helps the household budget to pay for above and potentially save:

- Local schools, local food , cheaper energy, more local jobs, local shopping and services
- Rental income from tenants

6 resources, savings, income, jobs strategies

1. Rental accomodation income
2. Rooftop food
3. Rooftop PV, Hot water,
4. Sustainable water
5. Agrihub
6. Waste processing and food production in servitude

Strategies 1 -3 : Housing as an income generator - rent, energy, food, jobs

build to future middleclass housing DNA

Govt funds 40 m2 and rental income funds 40 m2

Example of 40 m2 owned unit that is designed for possible rental infill for tenant income to BNG owner : Elemental South America



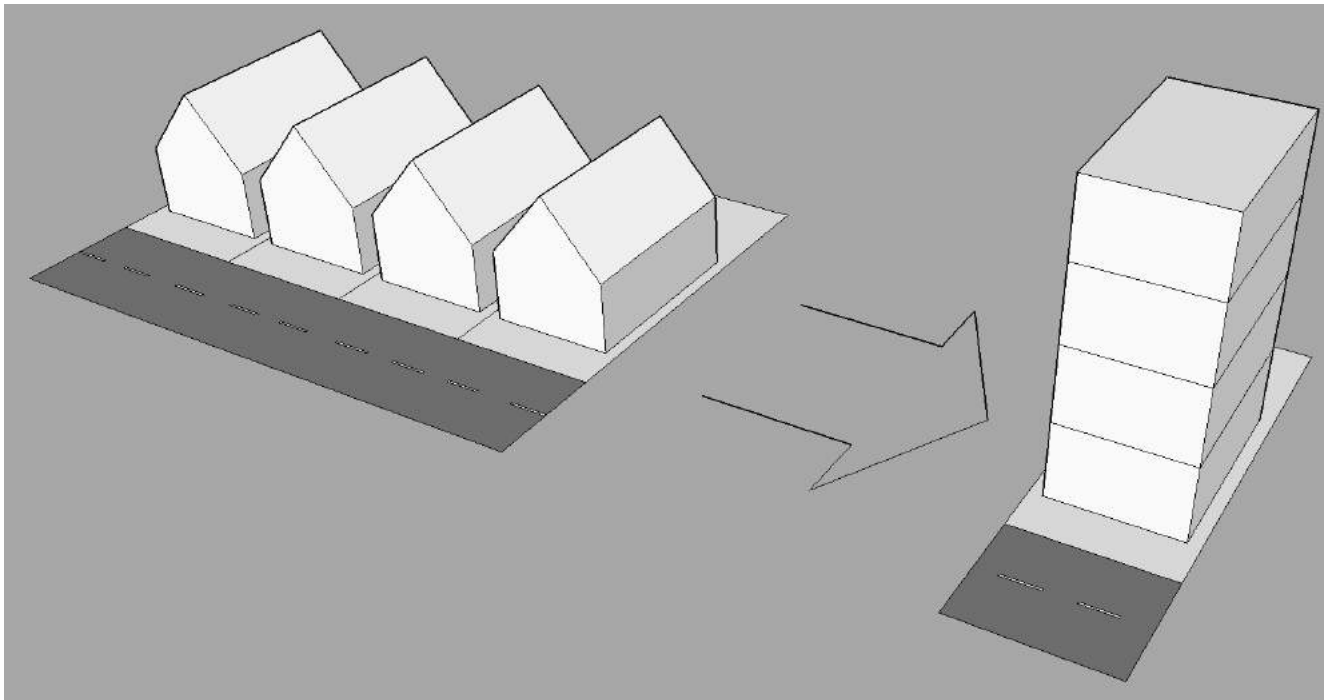
govt funds $\frac{1}{2}$, owner funds $\frac{1}{2}$

4. Square lot inefficient but T



Apply for full funds funds for beneficiary then allocate to site

- 4 subsidies worth of funding to be allocated to one site.



3 Storey BNG Sectional Title

PV, Solar, Water Harvesting

6.5 ha total roof area

6.5 ha Food, Water Harvesting

3 BNG Duplex + 3 private rentals

2 BNG units + 2 private rentals



Subsidies applicable : 5 BNG and 5 hh services subsidy on average of 18 m²
Assignable land and 1,6 m assignable frontage



★ Private Rental Supports BNG income / levies and maintenance

4 Storey Sectional Title BNG Sustainable Living

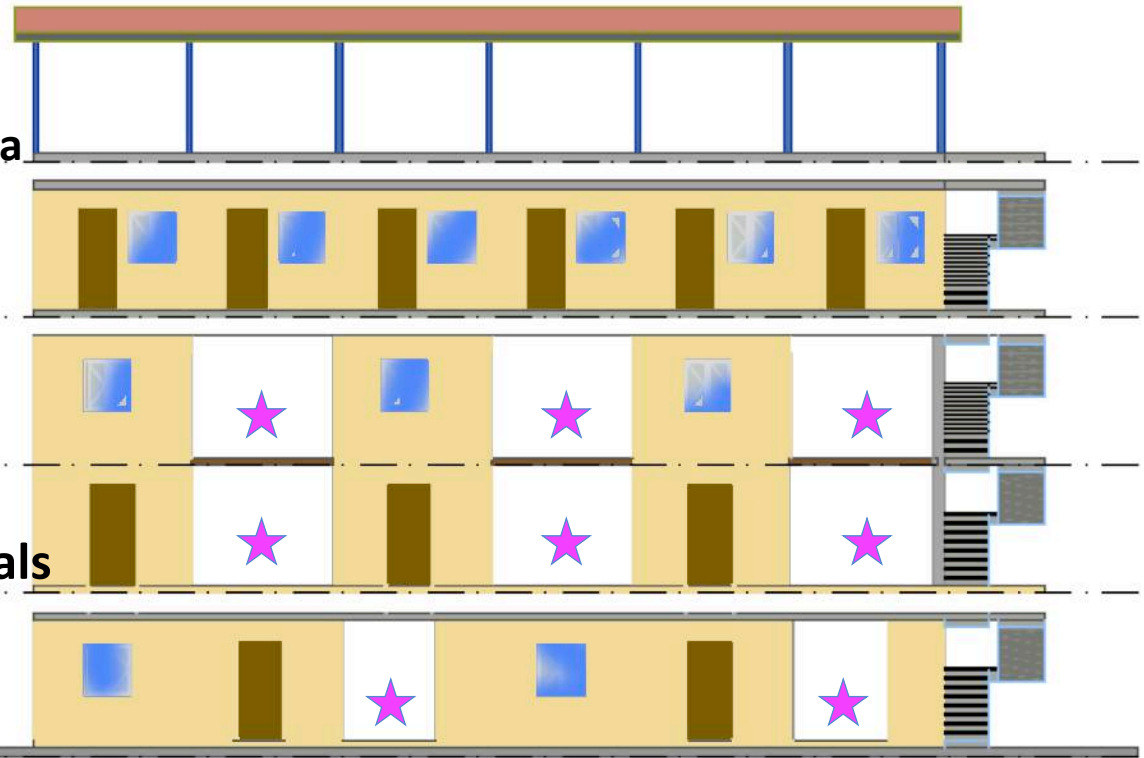
PV, Solar, Water Harvesting
6,5 ha total roof area

Food, Water Harvesting 6.5 ha

6 rent/ equity or subrental
vs 6 serviced sites

3 BNG Duplex + 3 private rentals

2 BNG units + 2 private rentals



- Subsidies applicable : 5 BNG and 11 hh services subsidies on average of 11.25 m² assignable land and 1,6 m assignable frontage
- 4 ha watersink , ± 3 ha trees and green productive uses in Green Squares



★ Private Rental Supports BNG income / levies and maintenance

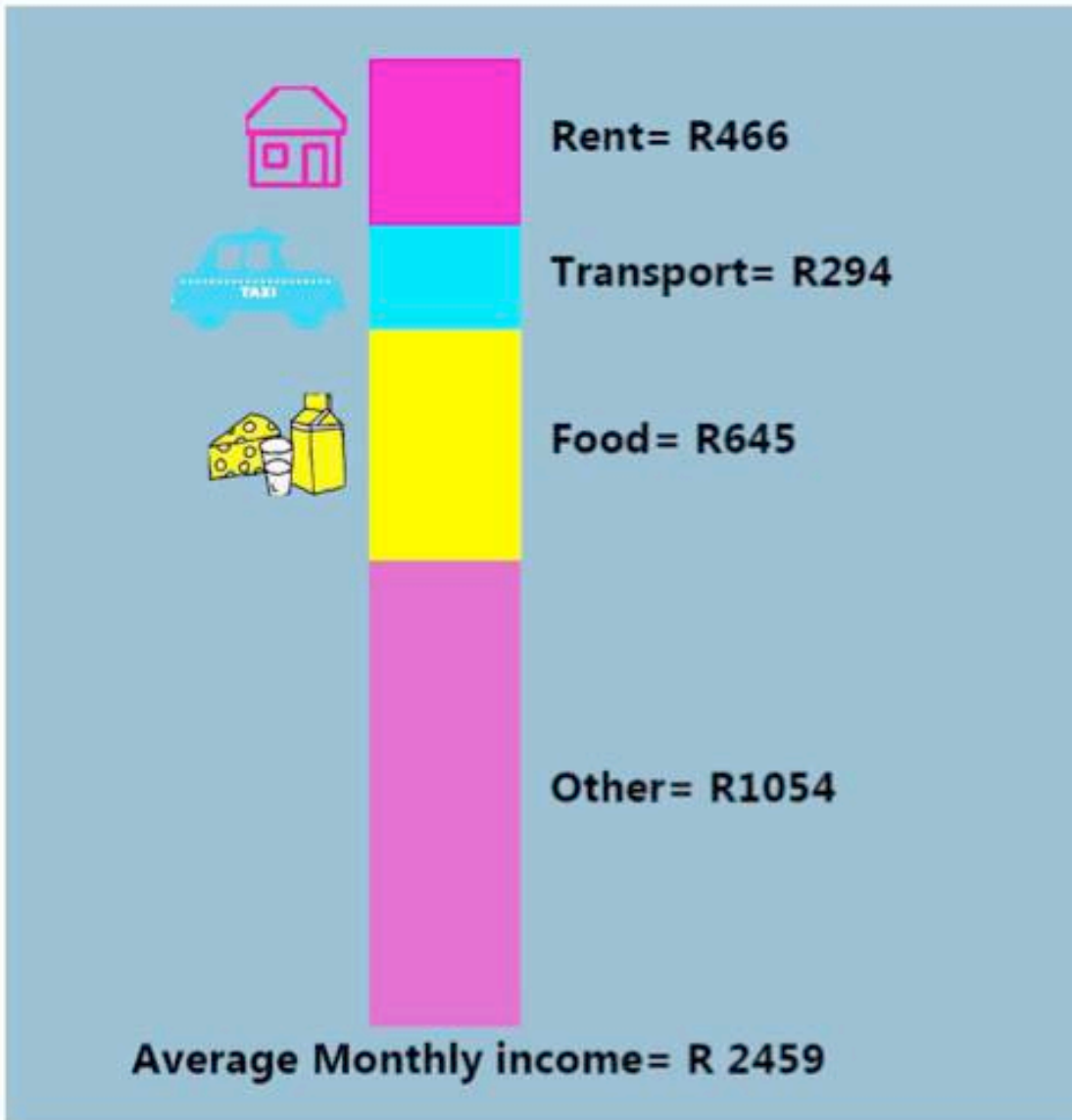
Example: N2 Gateway Housing



Example: Row housing



Savings and Household budget optimisation; Average monthly spend (From Dunoon comparable 2015)



< avoidable costs

< underspending on food

buy local

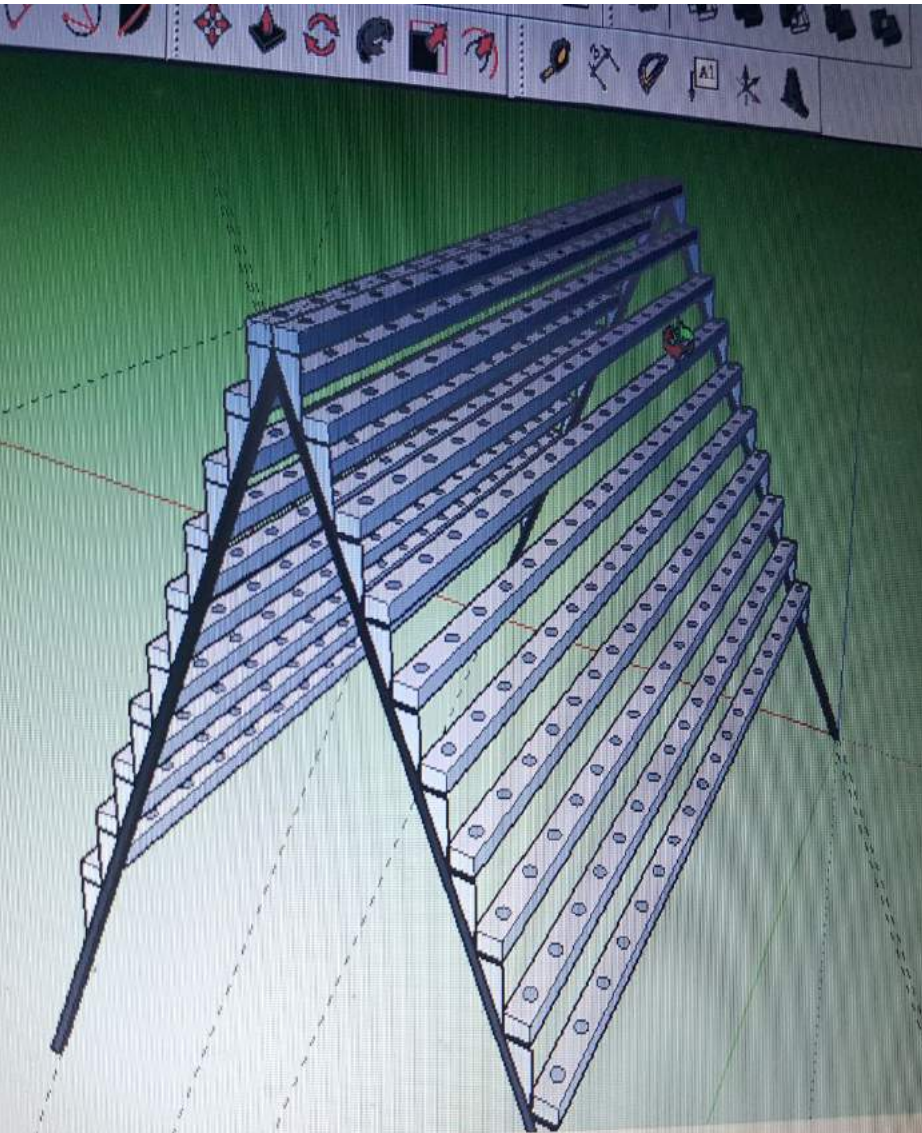
prioritise spending

health and wellbeing costs?

combine PVs with water harvesting
and roof garden underneath



Rooftop Food : Optimise space , resources and cost



Hydroponic A-Frame

360 plant spaces

- 9 square metres.
- Space requirements: 9 m²
- Water consumption: 85 L
- Electricity : 250W frame

Option: organic nutrients

6ha can hold 1.8 mill plants

(.75% productive space)

2. Roof gardens- **Nutrients to food**



Possible partnered projects

Nutrients to food

apartment roofs 2.9ha

row housing roofs 3 ha

total roof area 5.9 ha

Solar energy IPP producer

| rooftop for PV 5.9 ha

3a. Market/Green hub

- Local food market- distribution
- Processing and Packaging
- Vocational training
- Resources centre +Co-op shops



Figure 1 Interrelationship between food and nutrition security

Dimension	Food Security (Food as commodity)		Nutrition security (Humanist perspective)	Stability
	Availability	Access	Utilisation	Governance
Description	Adequate supply of food at the national or sub-national levels including levels of production, stock levels and net trade	Ability of individuals and households to acquire food, generally relating to income, expenditure, markets and prices	The way the body makes the most of the various nutrients in food, relating to nutritional content of food, storage, hygiene, feeding practices, food preparation, dietary diversity, intra-household distribution of food, life stage, social behaviours and health status	Ensuring the optimal availability, access and utilisation of food at all times for all people associated with government programming and planning and the attitude and behaviours of people



Source: Adapted from the FAO

5.5 Agro processing and local and nonlocal markets : Vegetables grown in PHA

General Horticultural Products Grown in the PHA				
Cabbage	Green Peppers	Leeks	Spring Onions	Broccoli leaves
Potatoes	Broccoli	Lettuce (variety)	Celery	Kohlrabi
Carrots	Cauliflower	Turnip	Peas	Artichokes
Squashes (variety)	Cucumbers	Celery	Parsley	Pak choi
Beetroot	Maize	Strawberries	Fennel	Tat soi
Spinach	Onions	Eggplants	Basil	Rocket
Beans	Watermelons	Covo	Patty pans	Rhubarb
Swiss chard	Radishes	Rape	Coriander	Chilli
Tomatoes	Baby Marrows	Kale		

Source: Battersby-Lennard and Gareth Haysom April 2012

4-5 Urban agriculture in the servitude.



- **Waste to nutrients** – 1/3 usable **servitude** area of approx **0.5 ha**
- **Urban Agriculture** – 2/3 usable **servitude** area of approx **1.0 ha**
- **Issues:** Intensity of use, fencing, ownership (ESKOM servitude), management (private, community run etc)

Benefits of integrated , mixed use development



“Hunger is not a natural phenomenon. It is a man made tragedy. People do not go hungry because there is not enough food to eat. They go hungry because the system which delivers food from the fields to our plates is broken.”



ECD : 0-6 YEAR OLDS

PROTECTING OUR FUTURE LEADERS

- OPTIMISING SPACE
- SMALL AND COMFORTABLE
- LEARN AND PLAY
- SAFE SPACES
- CONNECTED TO RESOURCING CENTRE:
 - TOY LIBRARY
 - BOOKS LIBRARY
 - CLOTHING BANK

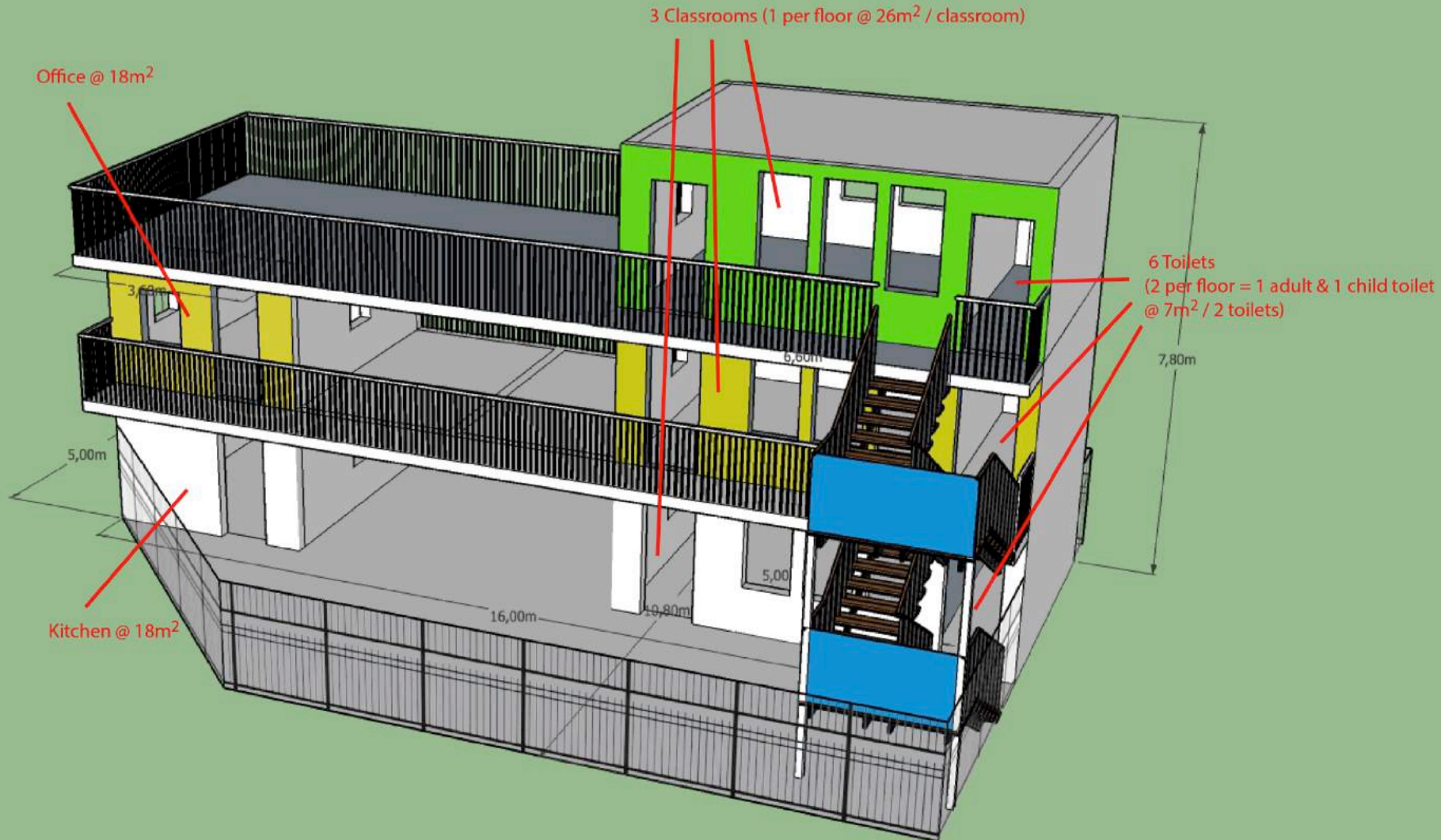
3d perspective facing west



Google Earth

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ECD centre option



GREENLITE CONCRETE MATERIALS



Registered supplier on the National Treasury Supplier Database



100 % BLACK OWNERSHIP
CONSTRUCTION DEVELOPMENT
CONSTRUCTION MANAGEMENT
DEVELOPMENT
GREEN MATERIALS
FRANCHISE
CIDB RATING 6
BBBEE LEVEL 1

70% BLACK, FEMALE
OWNERSHIP
ARCHITECTS
URBAN DESIGN
CITY PLANNING
LANDSCAPE
ENVIRONMENTAL
MANAGEMENT
BBBEE LEVEL 2

VISION

- Provide products that impact & improve the quality of lives for the disenfranchised masses.
- Clean up our environment through recycling hazardous waste materials and create lightweight concrete building blocks, panels and screed
- Satisfy our customers' needs
- Conduct our business in an ethical manner
- Produce financial returns that encourage and reward our stakeholders and investors.

OBJECTIVES

- Accelerated housing delivery strategy for poverty alleviation
- Utilise housing delivery as a major job creation strategy
- Create asset value in housing product.
- Leverage growth in the local economy
- Combat crime, promote social cohesion and improve quality of life for the poor
- Clean up our environment through using recycled material use to create light weight concrete products .
- Utilize housing as an instrument for the development of sustainable integrated human settlements, in support of spatial restructuring.

Jumbo Block

600mm x 300mm x 200mm
600mm x 300mm x 140mm
600mm x 300mm x 100mm
Water Resistant
Fire Resistant
Insulated
Sound Proof
16.6kg
1.94 R-Value

Used for internal nonloadbearing walls and offers a 2hr SABS fire-rating. It is a very good alternative to drywall, offering outstanding insulation and sound proofing.



Private Residential Home: Kommetjje, Cape Town
Double Storey.

Panel

600mm x 75mm x 2400mm
600mm x 75mm x 2700mm
600mm x 75mm x 3000mm
Water Resistant
Fire Resistant
Insulated
Sound Proof
60kg
1.94 R-Value



Emergency Homes:
394 x 32m2 walk-up units developed for City of Cape Town (under construction).

Commercial Mall
Project: BayWest Mall
Application: Light-Weight Walling



Lightweight Screed

Project: V&A Waterfront Hotel
Application: 120mm screed
Floor Insulation
Sound Proofing
Water Proofing
1.23 R-Value



Student accommodation





