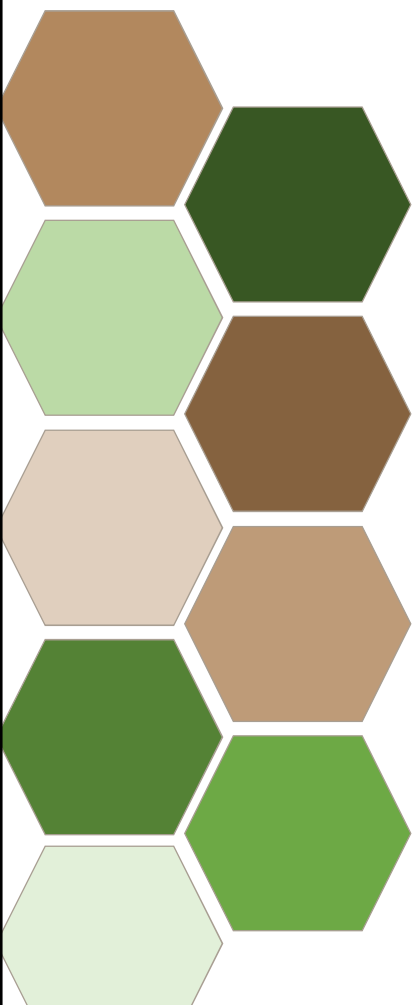


KAROO VILLAGE IN THE CITY

BALANCED | NATURE | LIVE | WORK | PLAY



KAROO VILLAGE IN THE CITY



THE SITE



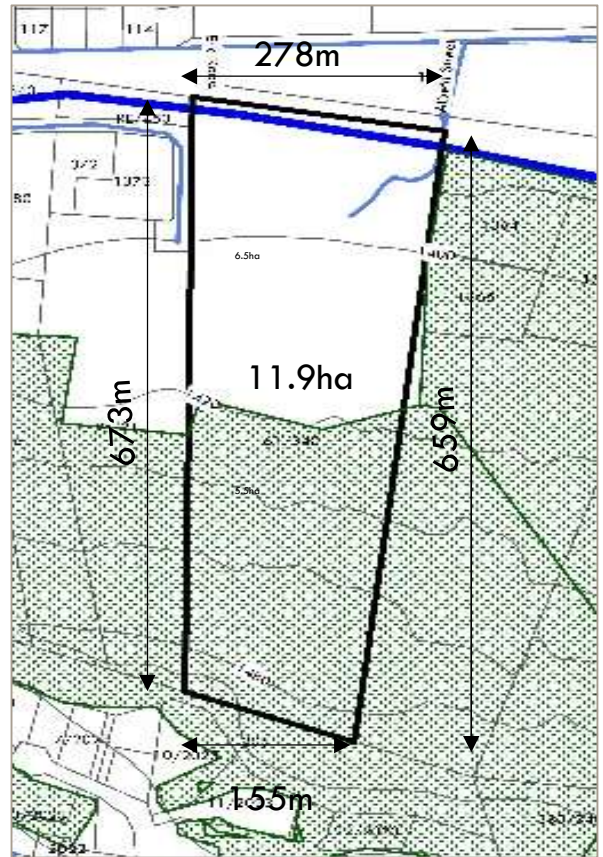
KAROO VILLAGE IN THE CITY

THE SITE



- GOOD ACCESS
- ENVIRONMENTAL PROTECTED AREA
- SURROUNDING BUSINESSES & RESIDENTS
- the grove mall
- FAERIE GLEN NATURE RESERVE
- RIDGE
- DEVELOPMENT CORRIDOR

SITE DETAILS



SITE SPECIFICS

- Total Area: ±12ha
- Developable Area: ±6.5ha

LOCATIONAL ADVANTAGES

- Identified as part of a Development Corridor by the City's Spatial Development Framework
- Good regional and local access
- Spectacular views over the city
- Facilities in surrounding area
- Already know for its unique character



ENVIRONMENTAL CHARACTERISTICS

- Protected ridge: ±5.5ha
- Juliana's Golden Mole, a red data list species

SDF



SURROUNDINGS



THE SITE PRESENTS THE OPPORTUNITY TO LINK NATURE WITH MAN MADE ELEMENTS TRANSFORMING THE ONE BY INTEGRATING IT WITH THE OTHER.



THE CONCEPT

The Helix of Sustainability



Plants grow, making sugars, starches, oils, cellulose and other complex molecules from simple raw materials, mostly water, CO₂ and sunshine.

In addition to harvesting food, people extract fuel and base materials for industry and commerce.

Manufacturers make wares, measuring profitability in environmental and social terms as well as financial.

The end-user reuses and repairs, only recycling after as long a useful life as possible.

At the end of its life the article decays, reducing large complex molecules to simple raw materials by the action of bacteria and fungi - composting

Plants grow, making sugars, starches, oils, cellulose and other complex molecules from simple raw materials, mostly water, CO₂ and sunshine.

KAROO VILLAGE IN THE CITY

PHILOSOPHY



THE PHILOSOPHY

NATURE AS A DRIVING FORCE

Nature has value beyond the material, it delivers free services, and can be self-maintaining. Natural systems will be applied as engines of positive redevelopment, because their secondary benefits are substantial.

The proposed development will use what already exist within the system, through ecologically sensitive design and sustainable building and the creation of a kind of environment, a habitat similar to that we find in nature.

ECONOMIC SUSTAINABILITY

Economic sustainability refers to the use of various strategies for employing existing resources optimally so that a responsible and beneficial balance is achieved over the longer term. This includes a bio-based economy that takes into account biodiversity, ecosystems, and their capacity for value addition. It addresses the creation of sustainable developments and the conditions for a flourishing economic life for prudent use of natural resources.

The proposed development will use the value of what's already there, to create better places with a minimum of physical investment.

SOCIAL SUSTAINABILITY

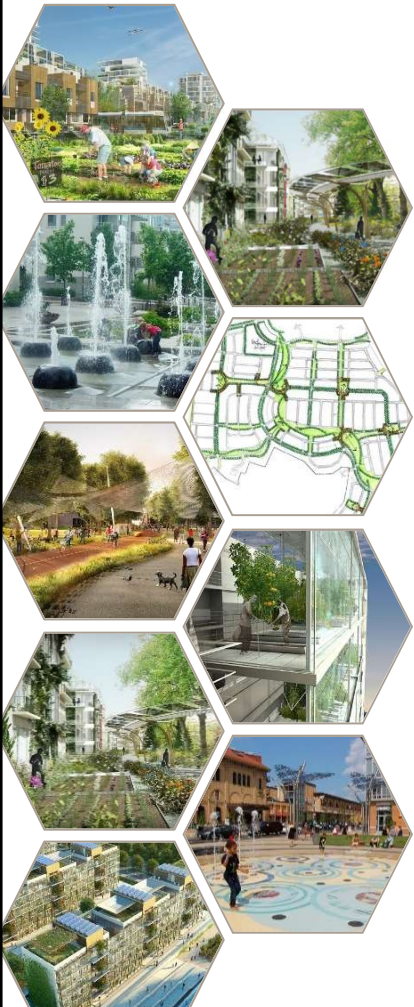
The purpose of the development is to slowly build a creative community where the members would be free to, through innovation and the pursuit of uncommon ideas, get past the perceptions that limit our notion of the possible. Once this can be achieved, there exists endless possibilities to design and create environments which are conducive to living consciously, the experience of simple beauty, culture as a way of life and ultimately personal happiness.

The proposed development will always be creating and changing according to the communities needs and challenges. It will accommodate the full cycle of life.

RESILIENT SYSTEMS

Societies and cities, are all complex systems. Every action should lead to an ability of a system to handle the future better. This includes connectivity, flexibility, efficiency, awareness, diversity, transparency, social equity, and autonomy.

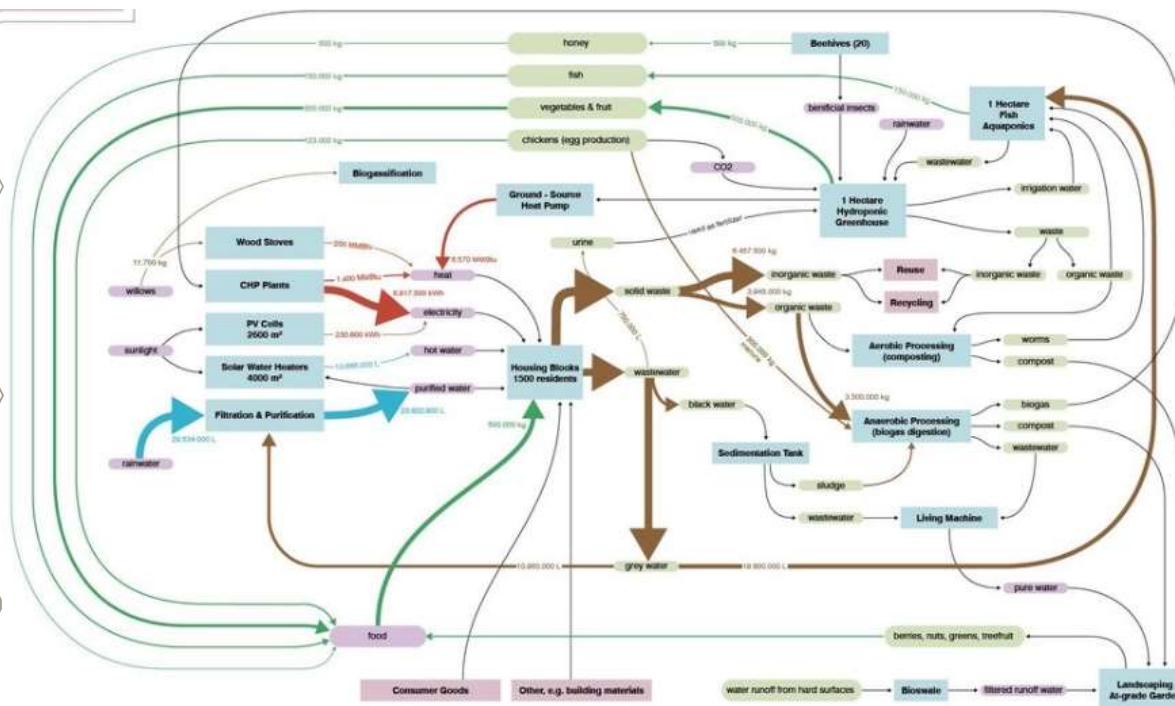
The proposed development will be fully immersed in the real world, but will be based on constant innovation to be open to systemic change.



SUSTAINABILITY



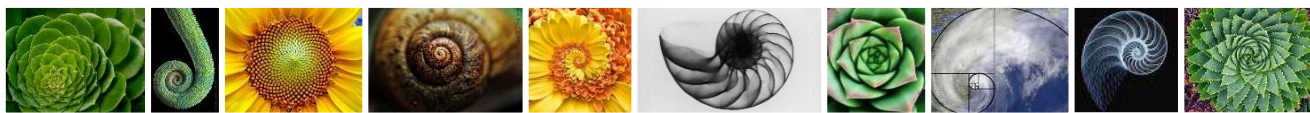
CLOSED LOOP METABOLISMS



- The proposed development will function as a closed ecological system.
- It will be dependant on and sustained by what all the components within the system create.
- The development is based on a closed loop society which will be able to function independently from outside urban influences and be dependant solely on internal natural elements and processes.
- It will use a combination of alternative energy sources to be able to be resource self-sufficient.
- Waste will be eliminated by closing loops, not just physical ones, but also economic and social loops. This leads to circular economies and results desired by the green economy.
- The aim is zero-energy, zero-waste, water-neutral and toxin free solutions.

CLOSED ECOLOGICAL SYSTEM:
A SYSTEM THAT DOES NOT EXCHANGE
MATTER WITH THE OUTSIDE WORLD.

DESIGN APPROACH



SENSE OF PLACE AND UNIQUE CHARACTER

The development will have a unique character, a sense of place, that makes it instantly recognisable. It will install pride and dignity to its residents.

PUBLIC REALM

The development will be designed around public open spaces. This includes squares, streets, and parks that link to nature. Public open spaces are important as an environment is experienced through its public spaces and these spaces connect the different parts of the settlement. The public spaces will be continuous, of a human scale, and create a sense of enclosure and a variety of experiences from bustling to tranquil.

DIVERSE AND ADAPTABLE

Diversity refers to variety and choice in experience and use: work, live and play. All spaces must be multi-functional and a variety of housing types should be available. Spaces and buildings will be adaptable to cater for different and changing needs

EASE OF MOVEMENT

The movement networks will focus on pedestrians and cyclists making it easy to move through the settlement. Vehicles will be relegated to the periphery of the development.

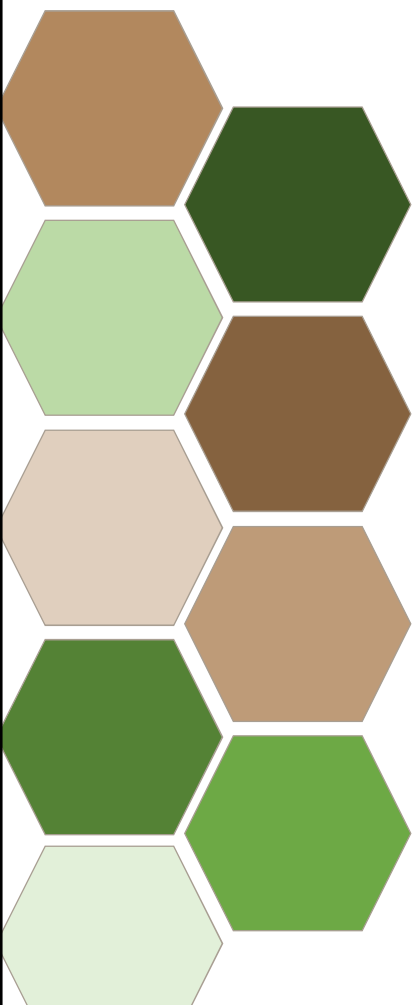


FARMSTEADS 1 DU/lacre	SMALL FARMSTEADS 2 DU/lacre	YARD GARDENS 4 DU/lacre	FRONT GARDENS 15 DU/lacre	KITCHEN GARDENS 16-24 DU/lacre	COMMUNITY GARDENS 16 DU/lacre	ROOF GARDENS 32 DU/lacre	COMMON GARDEN 40 DU/lacre	BALCONY GARDENS 126 DU/lacre



GOOD URBAN DESIGN IS ESSENTIAL IF WE ARE TO PRODUCE ATTRACTIVE, HIGH-QUALITY, SUSTAINABLE PLACES WHICH PEOPLE WILL WANT TO LIVE IN AND RELAX

DESIGN APPROACH



URBAN DESIGN

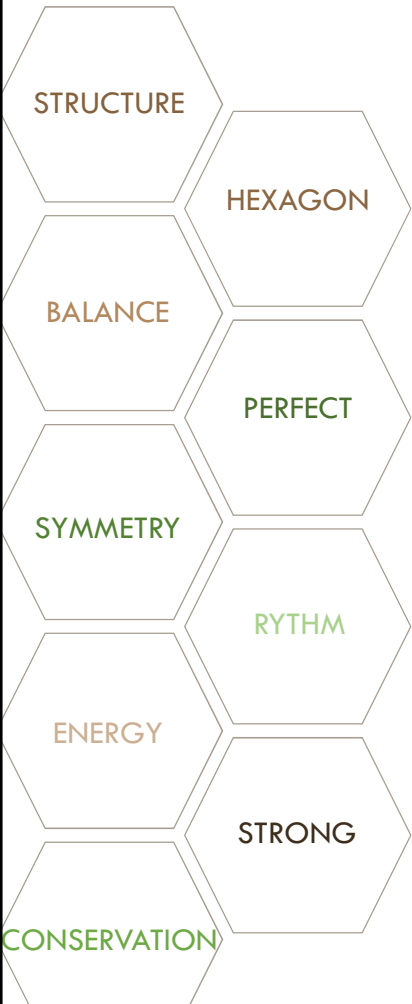
PATTERNS FROM NATURE

_ HEXAGON
_ FIBONACCI
_ FRACTALS



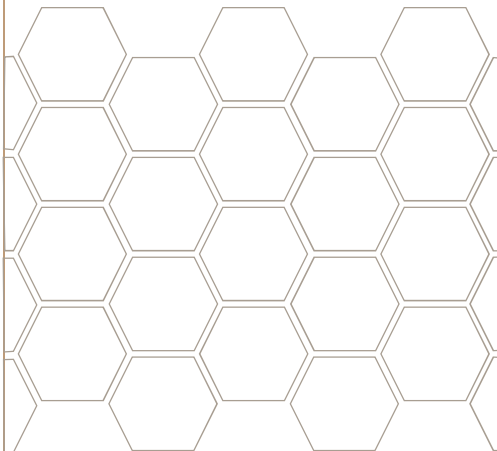
KAROO VILLAGE IN THE CITY

THE HEXAGON



THE HEXAGON IS NATURES PERFECT SHAPE — BEE HIVE

CONCEPT



DESCRIPTION

The hexagon is argued to be nature's perfect shape. It is used to structure various natural materials ranging from molecular structures, to snowflakes and beehives.

Hexagons form in nature for various reasons including symmetry, energy conservation and balance.

The hexagon as part of a beehive can be used as a structuring element to concentrate human activity in the natural environment – single cells forming part of a unit.

From an urban design perspective it can be used to structure a settlement in line with the magic of nature.

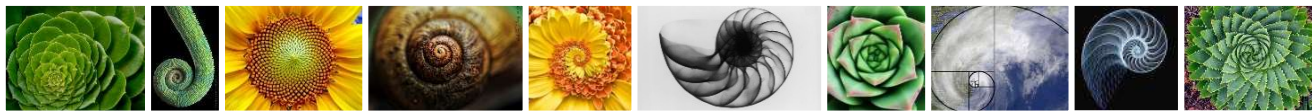
EXAMPLE



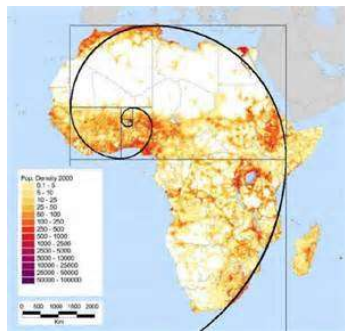
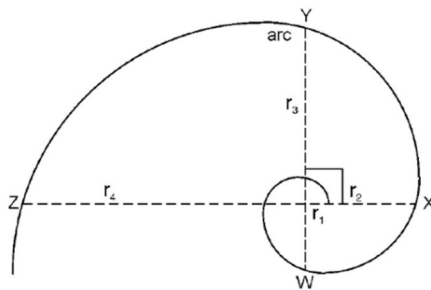
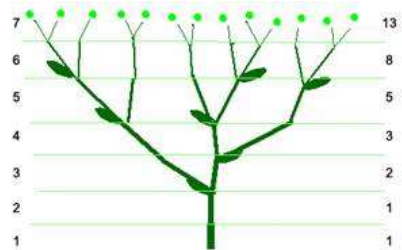
SYMMETRY IN DESIGN
STRIVING TOWARDS NATURAL PERFECTION
ENSURING RHYTHM
REPLICATING NATURES BEST
ACHIEVING BALANCE

URBAN DESIGN

FIBONACCI PATTERN



CONCEPT



ONE BECOMES TWO BECOMES THE SUM OF EVERYTHIN G BEFORE FIBONACCI TREE

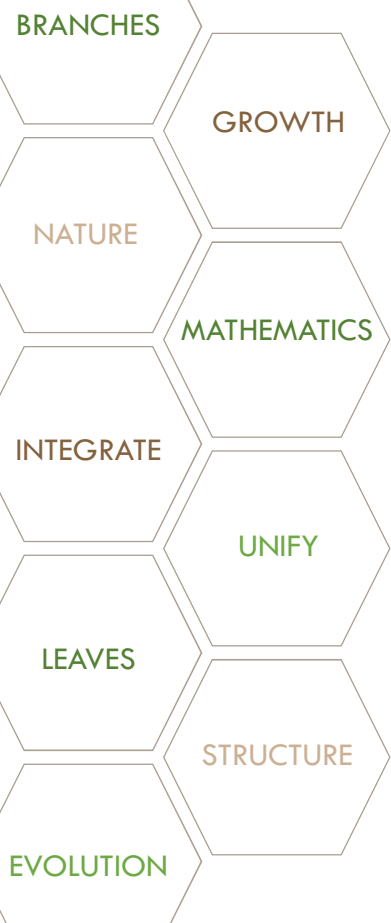
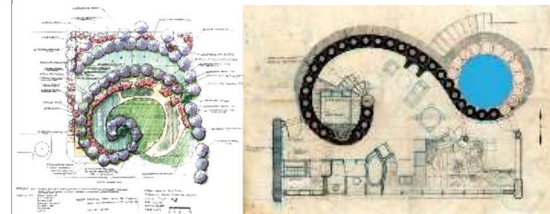
DESCRIPTION

The Fibonacci sequence is the series of numbers built on the rule that the following number is calculated by adding up all the numbers before it.

The Fibonacci spiral is an approximation of the golden spiral created by drawing circular arcs connecting the opposite corners of squares in the Fibonacci tiling. Fibonacci numbers and the golden spiral is found in nature, art, geometry, architecture, and music.

From an urban design perspective it can be used to integrate and structure human activity with natural activity on the site bringing together man made and natural elements.

EXAMPLE



LENDING FROM NATURE
 CONVERT IT TO SOMETHING USABLE BY MAN
 MERGING NATURE AND MAN
 STRUCTURING THE PROCESS
 INTEGRATING NATURE AND MAN

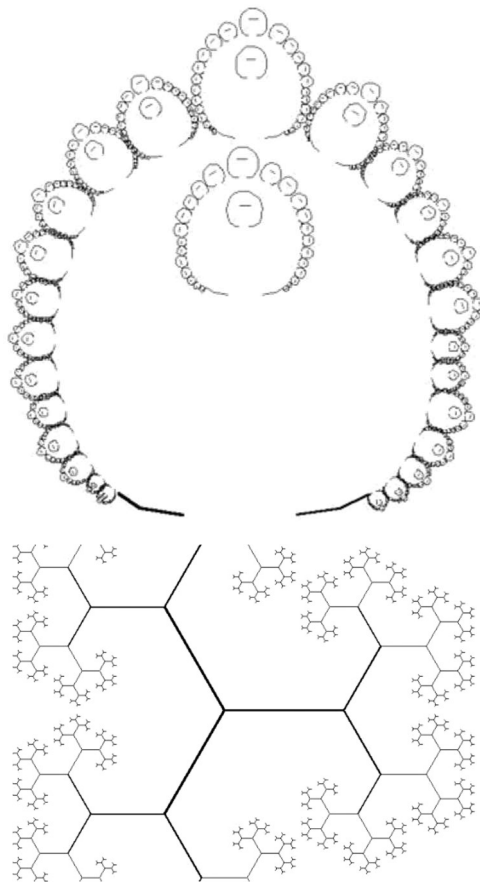
URBAN DESIGN

FRACTALS



CIRCLES WITHIN CIRCLES (Fractal) VILLAGE

CONCEPT



DESCRIPTION

A fractal is a natural phenomenon or a mathematical set that exhibits a repeating pattern that displays at every scale. It is also known as expanding symmetry or evolving symmetry. If the replication is exactly the same at every scale, it is called a self-similar pattern.

It is created by repeating a simple process over and over in an on-going feedback loop – similar to the concept of a sustainable closed system.

Traditional village structure and growth is guided by a fractal guided algorithm. This can be applied to urban design patterns.

EXAMPLE

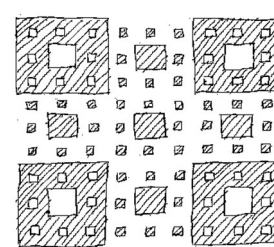
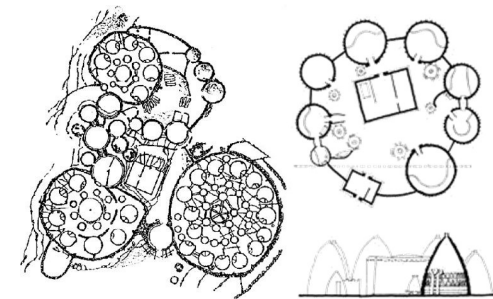


Figure 2

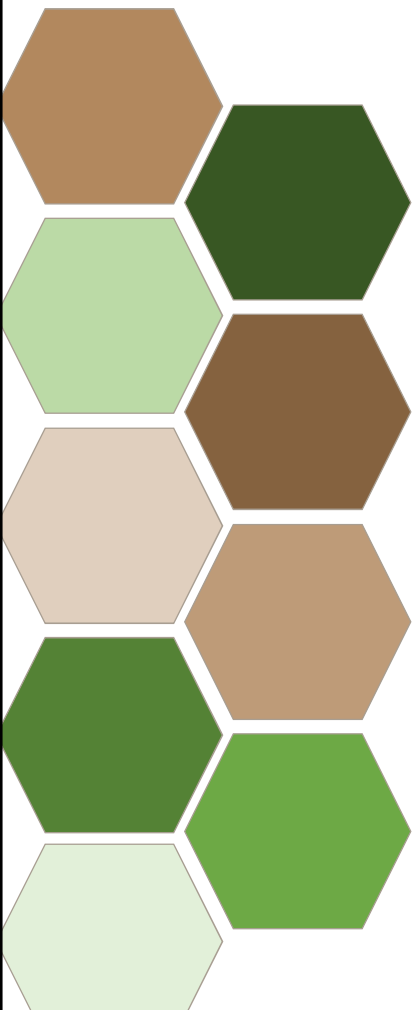


INDIPENTANT CELLS FORM PART OF A UNIT
 HIERARCHY STRUCTURE
 UNITY THROUGH DESIGN
 ONGOING PROCESS OF SELF GROWTH
 SUSTAINABLE FEEDBACK LOOP

URBAN DESIGN



LAYOUT DESIGN



- _ BASIC STRUCTURE
- _ MOVEMENT NETWORKS
- _ PUBLIC SPACES
- _ LAND USE
- _ NEIGHBOURHOODS

KAROO VILLAGE IN THE CITY

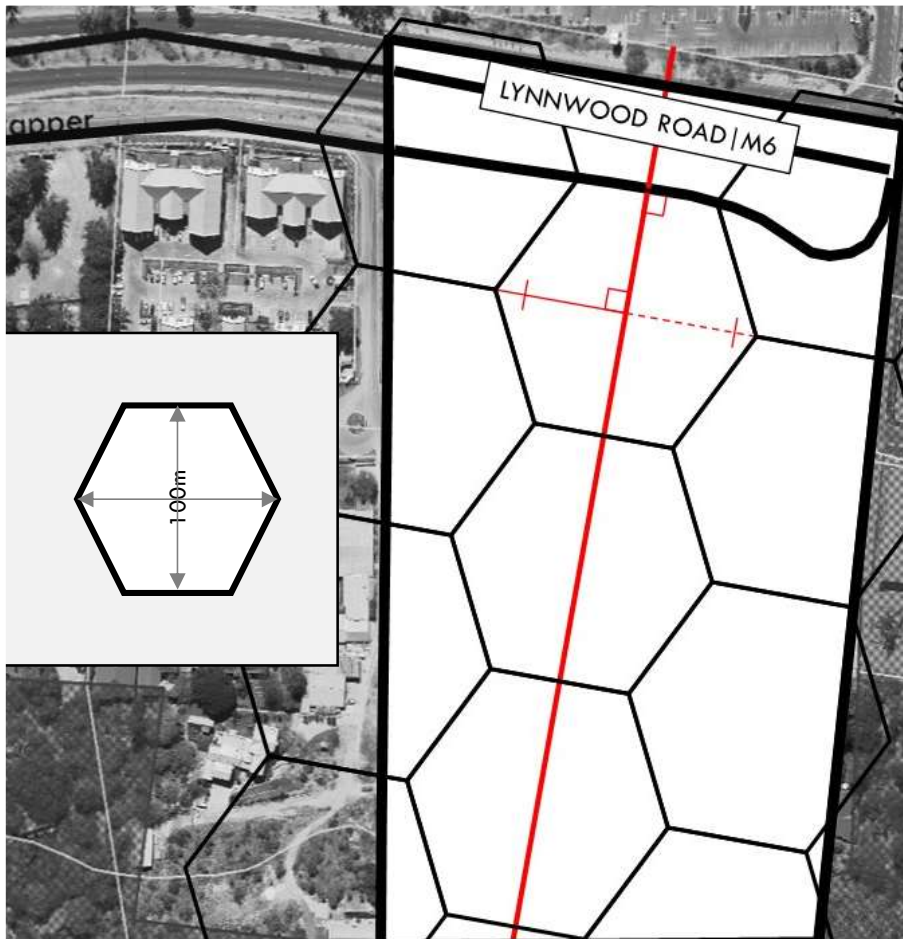


BASIC STRUCTURE



LAYING THE BASE STRUCTURE TO GUIDE THE LAYOUT — THE HEXAGON

A P P R O X . S I Z E



THE HEXAGON APPLIED

The hexagon is used to structure the proposed development. It provides for a movement network and divides the site into different precincts that can each develop individually while still connected through the network of hexagons.

The basic hexagon used is approximately 100m in height and width, keeping it within a human scale and convenient for all users.

The hexagon is placed in the middle of the site, creating three blocks of approximately 1ha. Adjacent to the central blocks are 'half-hexagons' on the edge of the site.

INDIPENTANT CELLS FORM PART OF A UNIT
 HIERARCHY STRUCTURE
 UNITY THROUGH DESIGN
 ONGOING PROCESS OF SELF GROWTH
 SUSTAINABLE FEEDBACK LOOP

URBAN DESIGN

MOVEMENT NETWORKS

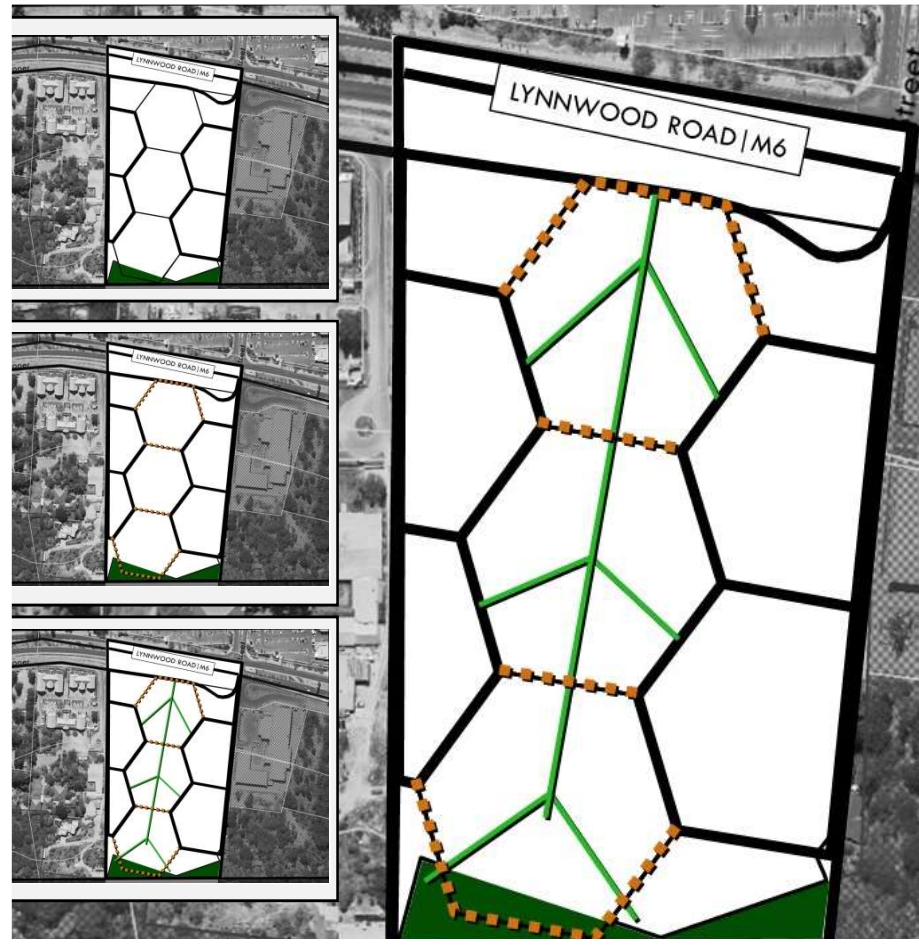


THE MOVEMENT NETWORK — HEXAGON

VEHICULAR

COMBINED

PEDESTRIAN



MOVEMENT NETWORK

The hexagon is used to structure the proposed development and forms the basis for the movement network.

Vehicular traffic obtain access from a service road parallel to Lynnwood Road. Access to the site is along two roads on the boundary of the site. Access to each precinct is obtained from the hexagons on the side of the site. The central part of the site is kept free from vehicular traffic and reserved solely for pedestrians.

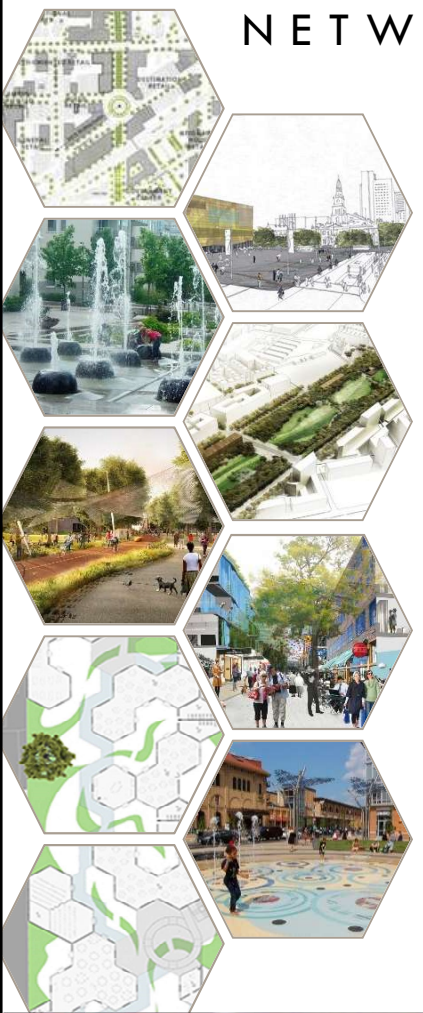
Pedestrian links are created through the central part of the site. These can be used for limited vehicular access, but the pedestrian function should dominate.

A tree (Fibonacci inspired pattern) connects the site from north to south and links to all precincts as well as to the protected ridge.

INDIPENTANT CELLS FORM PART OF A UNIT
HIERARCHY STRUCTURE
UNITY THROUGH DESIGN
ONGOING PROCESS OF SELF GROWTH
SUSTAINABLE FEEDBACK LOOP

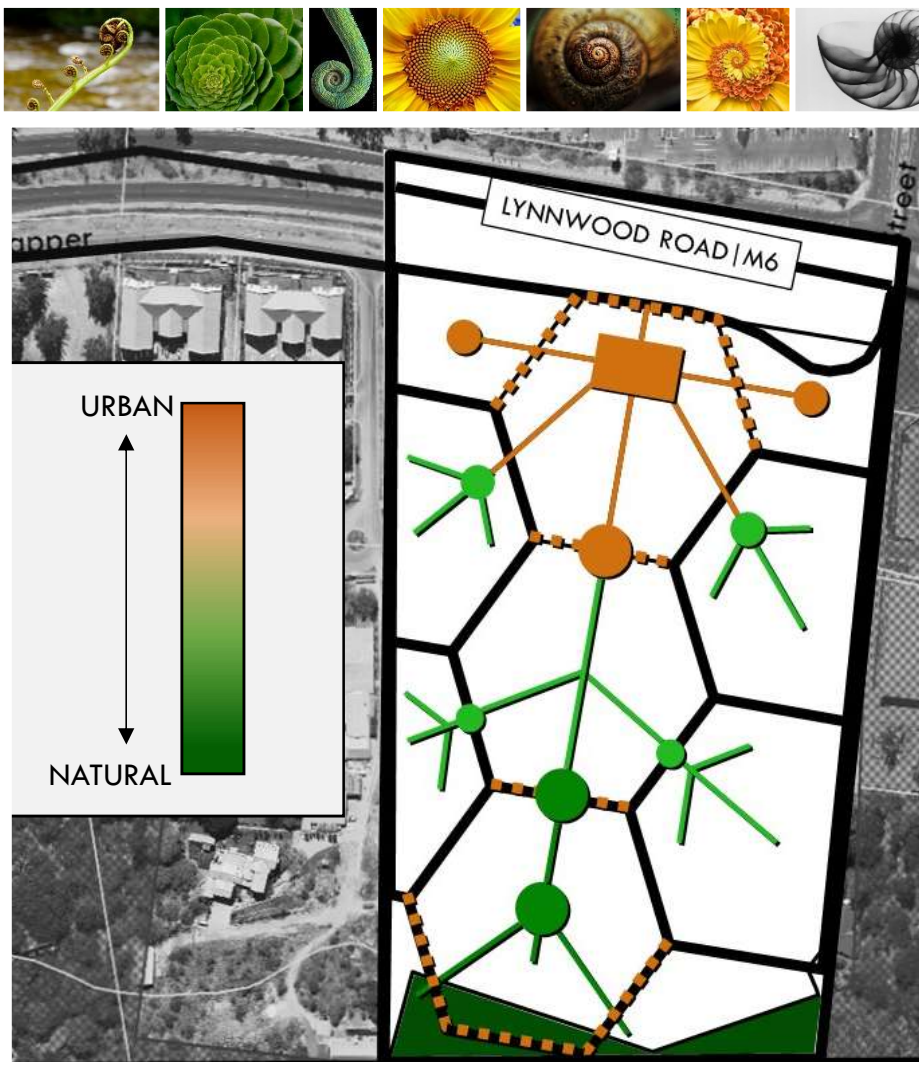
URBAN DESIGN

PUBLIC SPACE NETWORK



creating an open space network that connects the different parts **TREE**

SYSTEM OF PUBLIC SPACES



PUBLIC SPACES

The entire development is constructed around an open space network, that consists of public squares, parks and streets.

On the northern part of the site are hard public spaces or squares that are used by the entire community and visitors. It is multi-functional and can accommodate a variety of activities, e.g. markets, theatre productions, exhibitions and exercise classes. It is designed in such a way that building front onto the space with restaurants and shops lining the edges.

A series of public spaces are located to the south of the site where the central spine (the tree) intersects with semi-pedestrian routes (the hexagon). With increasing distance from Lynwood road, the spaces become more green in nature to create a transition to the natural space.

In addition semi-private spaces are located in each of the precincts. These will be used by residents of the precinct.

INDIPENTANT CELLS FORM PART OF A UNIT HIERARCHY STRUCTURE
UNITY THROUGH DESIGN
ONGOING PROCESS OF SELF GROWTH
SUSTAINABLE FEEDBACK LOOP

URBAN DESIGN

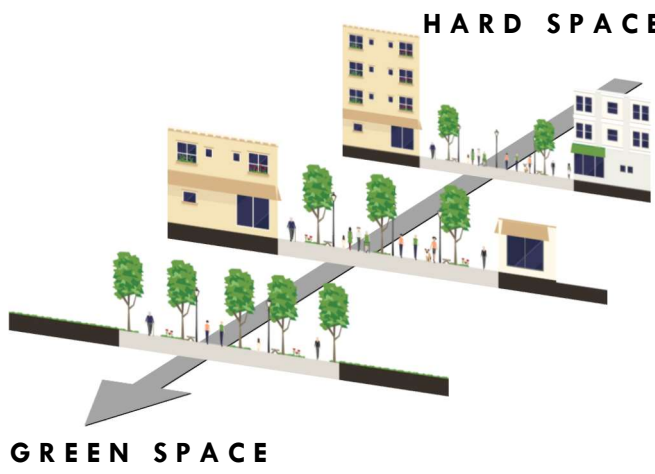
PUBLIC SPACE NETWORK



creating an open space network that connects the different parts **TREE**



THE CENTRAL WALKWAY SHOWING PROGRESSION FROM HARD SPACE TO GREEN SPACE



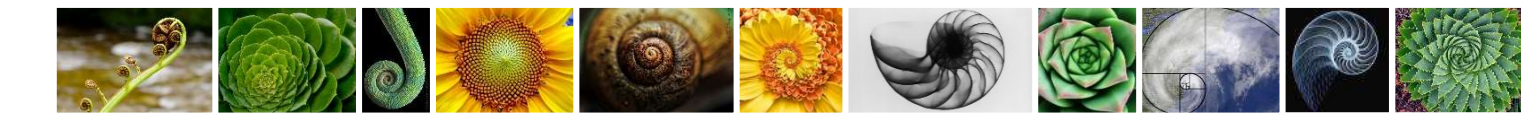
INDIPENTANT CELLS FORM PART OF A UNIT
 HIERARCHY STRUCTURE
 UNITY THROUGH DESIGN
 ONGOING PROCESS OF SELF GROWTH
 SUSTAINABLE FEEDBACK LOOP

URBAN DESIGN

LAND USE



RESPONSIVE TO THE NEEDS OF THE COMMUNITY — LIVE, WORK AND PLAY



CENTRAL NODE

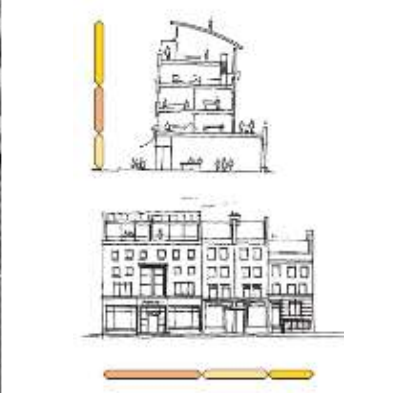
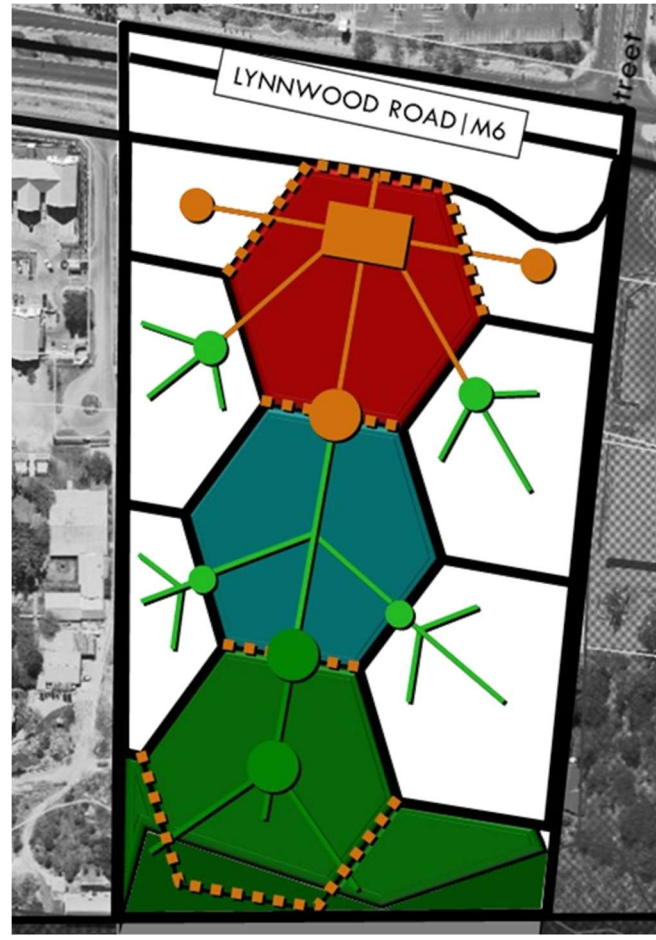
Developed around a large public square defined by interactive buildings. This is the commercial heart of the development and can contain shops, restaurants, cafes, workshops and offices. Goods produced in the settlement can be sold here. Small residential units can be accommodated on the upper floors.

SOCIAL NODE

The social node will contain all social facilities as needed by the community. This can include educational and health facilities.

GREEN PRODUCTION SPACE

In this area food will be cultivated, waste recycled and energy generated, based on alternative green technologies.



INDIPENTANT CELLS FORM PART OF A UNIT
HIERARCHY STRUCTURE
UNITY THROUGH DESIGN
ONGOING PROCESS OF SELF GROWTH
SUSTAINABLE FEEDBACK LOOP

URBAN DESIGN

NEIGHBOURHOODS



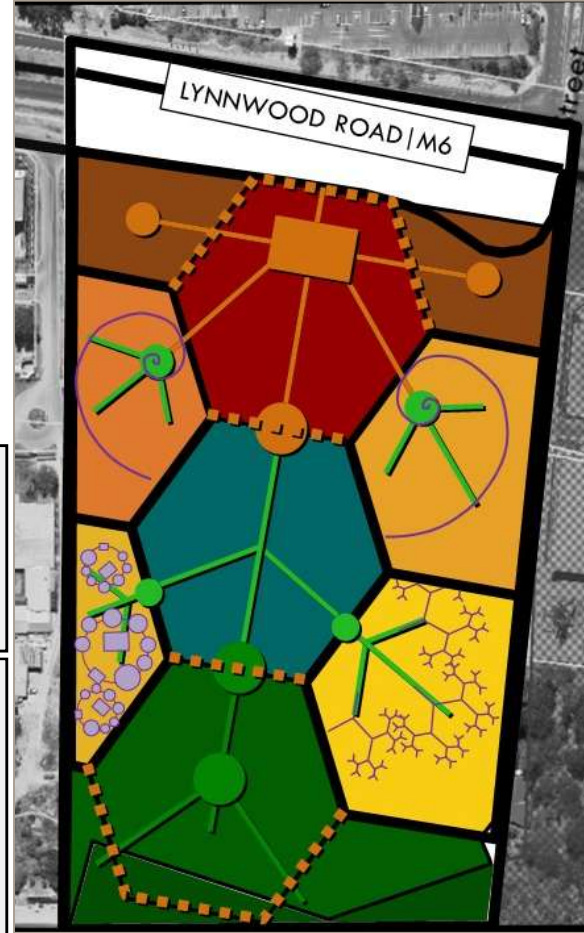
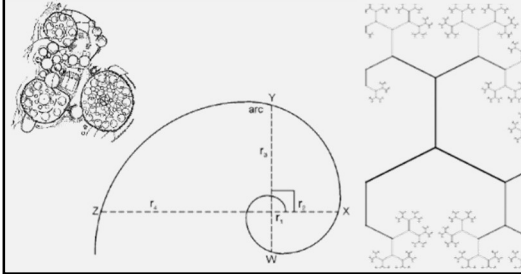
RESPONSIVE TO THE NEEDS OF THE COMMUNITY — LIVE, WORK AND PLAY

RESIDENTIAL NEIGHBOURHOODS

Different residential neighbourhoods are created, from high density live-and-work precincts, walk-up flats, clusters and detached housing to an old-age home, thus catering to all family types. Residential precincts are centred around a communal central space. Each has a different layout, based on patterns from nature, to enhance their uniqueness.

CRADLE TO GRAVE

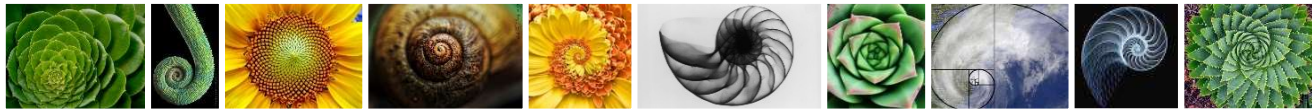
Different housing typologies to accommodate families in different phases of the lifecycle.



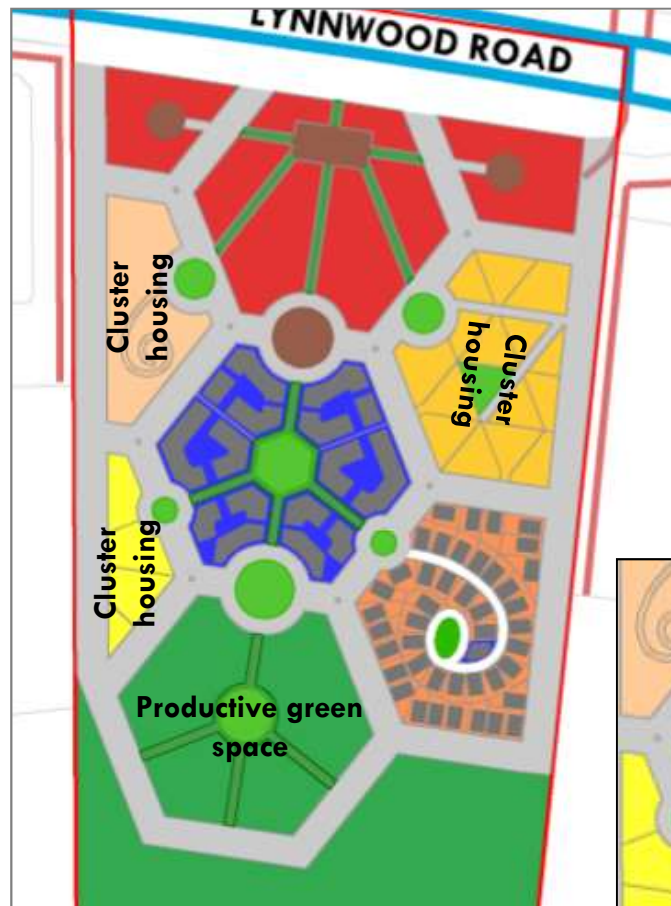
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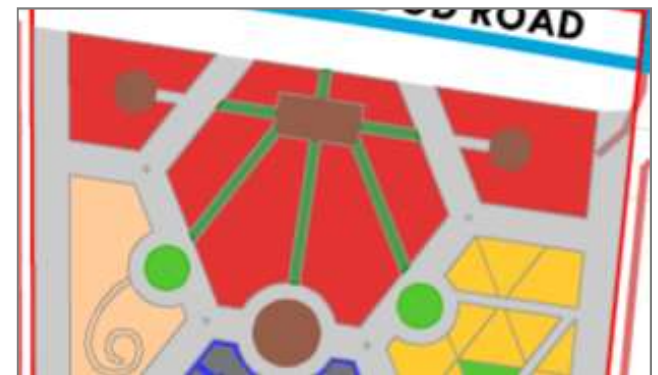
NEIGHBOURHOODS



RESPONSIVE TO THE NEEDS OF THE COMMUNITY — LIVE, WORK AND PLAY



Commercial with flats



Social node

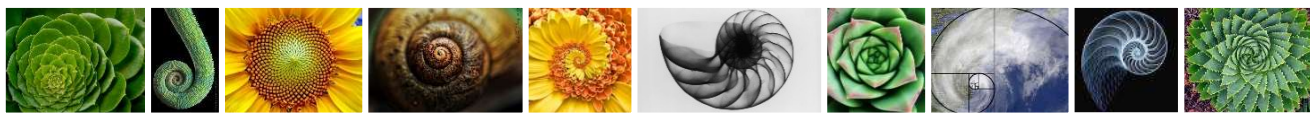


Retirement village



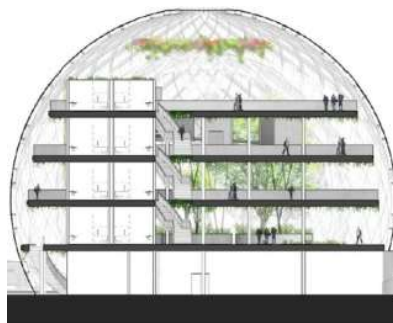
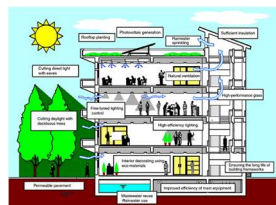
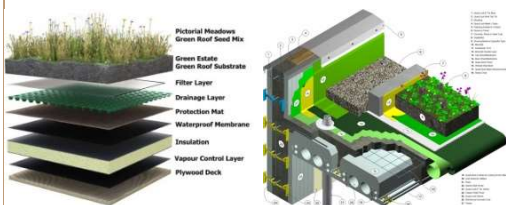
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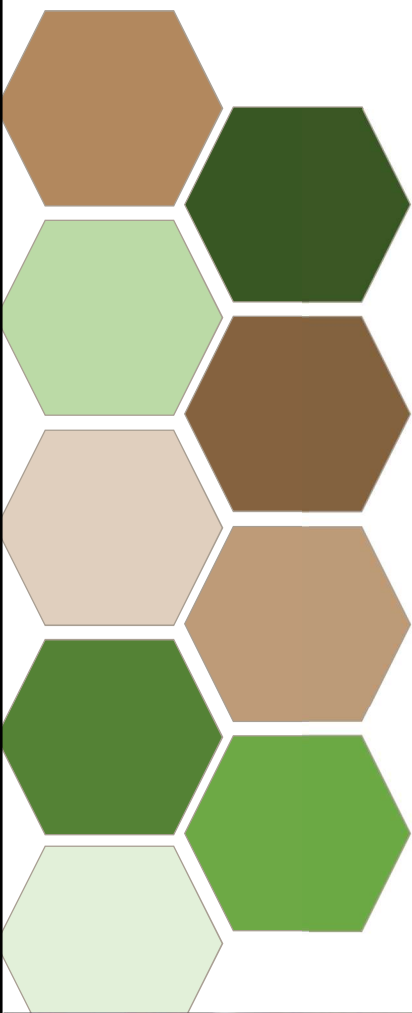
GREEN CONSTRUCTION



WORKING WITH NATURE — SUSTAINABLE LIVING

Sustainable building methods will be used and all buildings will be constructed from natural materials using traditional and alternative methods and technology.





KAROO VILLAGE IN THE CITY



KAROO VILLAGE IN THE CITY