DESIGN MAGAZINE AUG 2023

A journal on green architecture, design ideas, discovery and innovation

DESIGNING THE GREEN MASTERPLAN

ECO MASTERPLANNING

• OUR PRODUCT
design ideas & innovations

• OUR PROMISE:
- ☑ *innovation / ingenuity*
- ☑ *hypergreen / sustainability*
- ☑ *signature / style*
- ☑ *well-being / happiness*
- ☑ *cost control / viability*

design by: Winnie Soo Wei Yi

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what makes us relevant?

specialist best-in-class ecological expertise redefined as signature innovative architecture and hypergreen masterplans

...delivering **ecologically-authentic signature 'super green' architecture and masterplans** for environmentally-aware **investors**, who want **signature designs** that are aesthetically unique, identifiably world class, pleasurable to use, **super green** (beyond rating systems), innovative **& delivered professionally** on time, on budget that are durable and built with high quality...

-T. R. Hamzah& Yeang Sdn. Bhd.-

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1. premises

•What is ecomasterplanning?

It is the designing and planning of the built environment for a seamless, benign and synergistic biointegration of all human-made systems with the natural environment.

•Why ecomasterplanning?

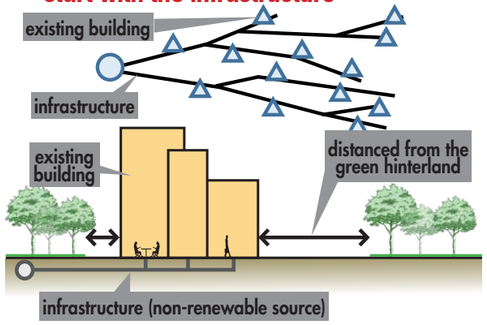
Our approach to the design and planning of our built environment must be ecology-based as we cannot continue to design, build and operate our built environment in the same way. The existing ways are the causes of the environmental crisis. Our concerted action is vital to reverse the current trend of climate breakdown, biodiversity loss ecosystems degradation and the multitude of other devastations that the environmental crisis. The imminent and crucial action is needed to deliver a carbon-neutral environmentally benign future for the planet.

Current climate record-breaking heat waves and extreme weather events have caused major disruptions to the Planet's ecological systems, biogeochemical cycles and human society across the globe. With the further risk of more environmental disruptions and devastations, the pressures on human society to act is only going to increase. These environmental disruptions are not just due to current environmental action but include accumulation of past callous action. Effective action to avert further disruptions to the planet's ecological systems can only succeed if all human society's systems align and take concerted action.

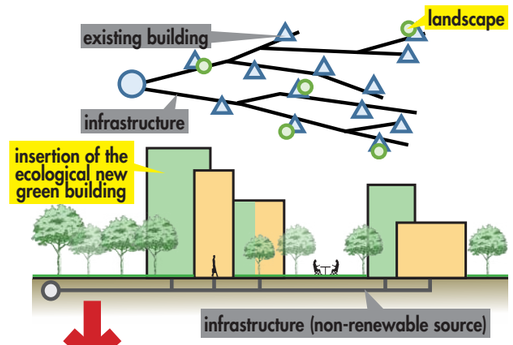
The primer provides the basis for the planning of the built environment for a resilient future for all species (including humans) and their environments on the planet.

2. start with making the infrastructures green

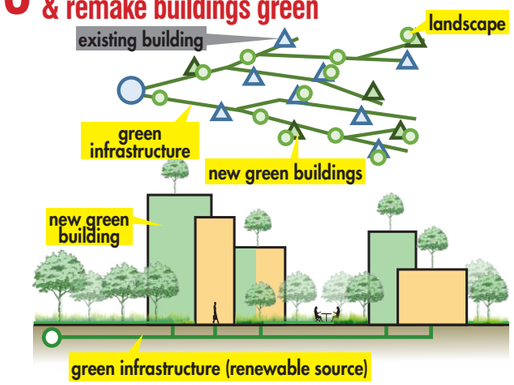
1 existing city is mostly abiotic with non-sustainable infrastructure. ecological design and planning start with the infrastructure



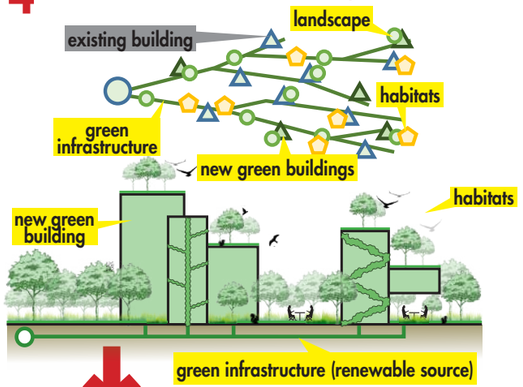
2 insertion of occasional green buildings will not make city green



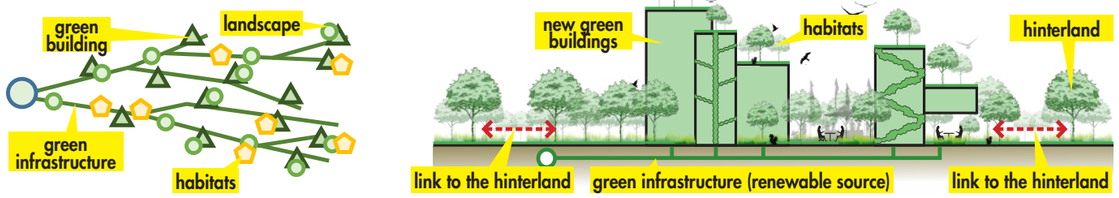
3 remake city with green infrastructure & remake buildings green



4 create habitats within built systems



5 connect constructed ecosystem with its green hinterland

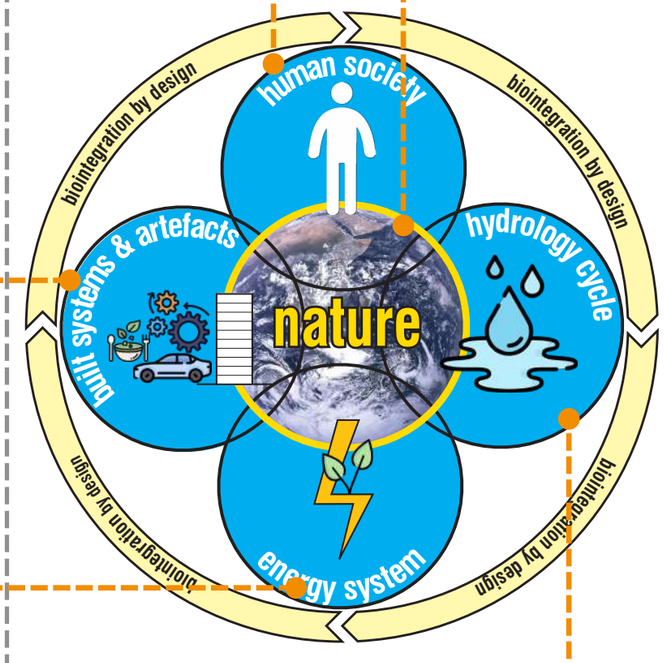


3. design the built environment as constructed human-made ecosystems by biomimicry

identify the key design factors particular to the locality and biointegrate these seamlessly & benignly into a built system

design factors	design objectives	biointegration by design
nature (ecosystems) - habitats - species - biodiversity - biomes - biosphere - ecosystems - biogeochemical cycles - abiotic constituents - biotic constituents	NPEI *(Net Positive Ecological Impact)*	
human society (well-being & happiness) - social - economic - political - institutional - culture - ecologically responsible behavior - ecological responsible diet - human health, well-being & happiness	NWS *(Net Well-being & Happy Society)*	
built systems & artefacts (zero wastes and emissions) - artefacts - recycling - reuse - carbon capture - smart systems - large scale electricity storage - zero carbon steel - zero carbon cement - zero carbon fertilizer - zero carbon plastic - low embodied energy - hydrogen production without emitting carbon	NZW/E *(Net Zero Waste / Emissions)*	
energy systems (renewable energy) - renewable - ambient - hydrogen - battery - biofuels - thermal storage - electronic systems - geothermal energy - passive mode systems - mixed-mode systems - smart full mode systems - productive mode systems	NSE/C *(Net Surplus Energy / Carbon)*	
hydrology cycle (water management & conservation, water reuse & recycling) - rainfall - waterways - seas - snow - dew - lakes - ground water	NZW *(Net Zero Water)*	

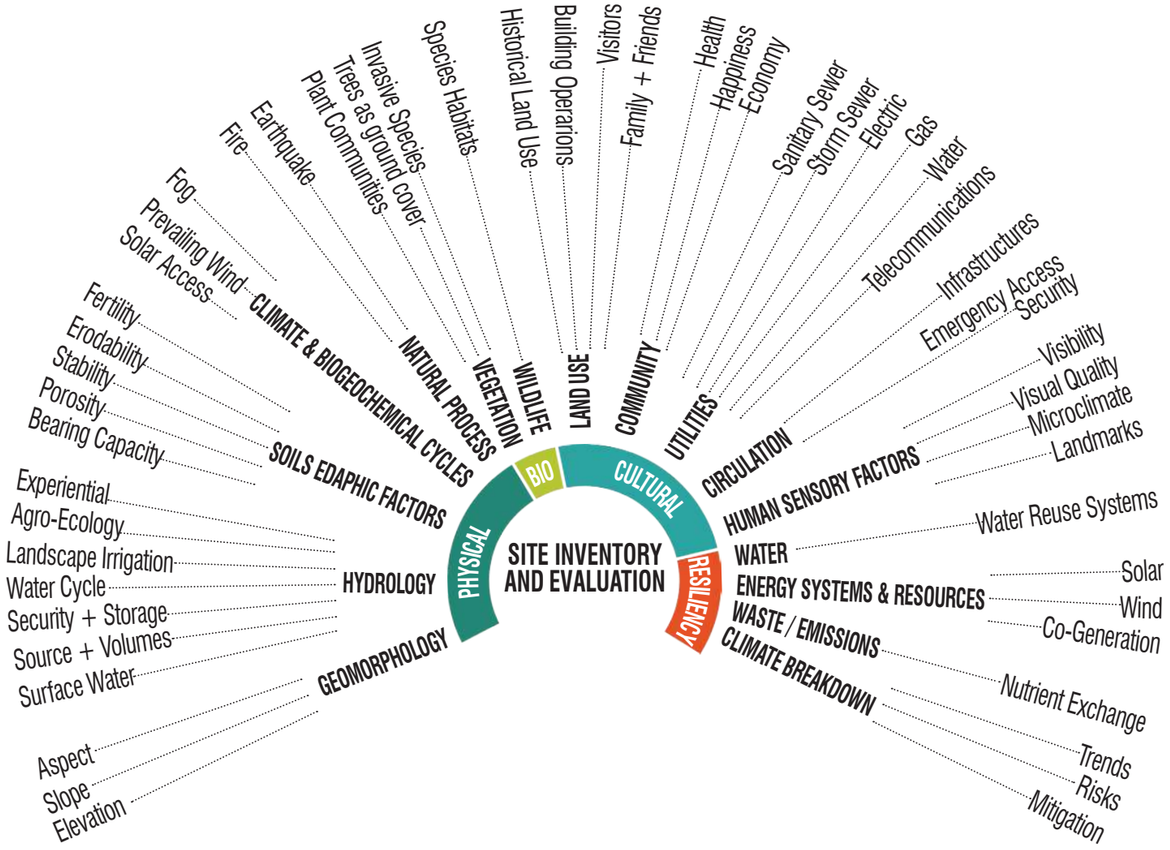
a model for the design & planning of the built environment



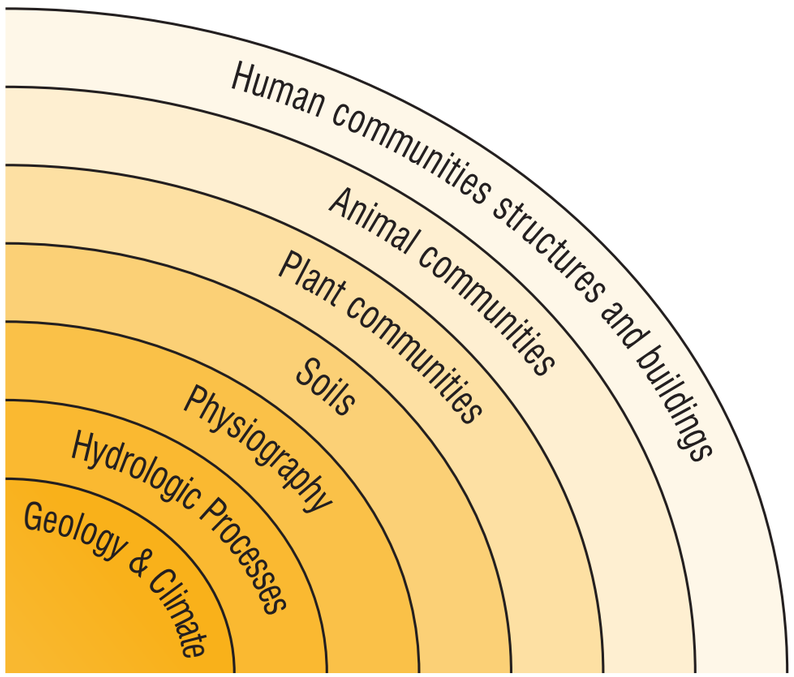
integrate the key factors to make the built environment as a constructed ecosystem

4. carry out ecological site planning

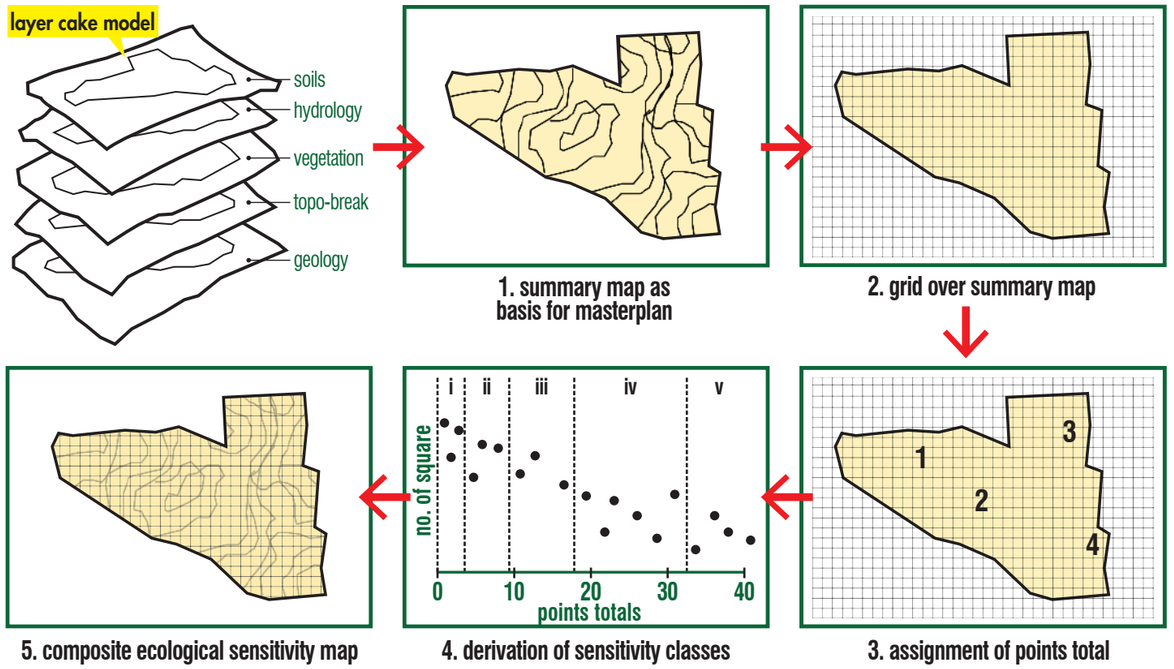
site inventory data points as basis for ecological site planning



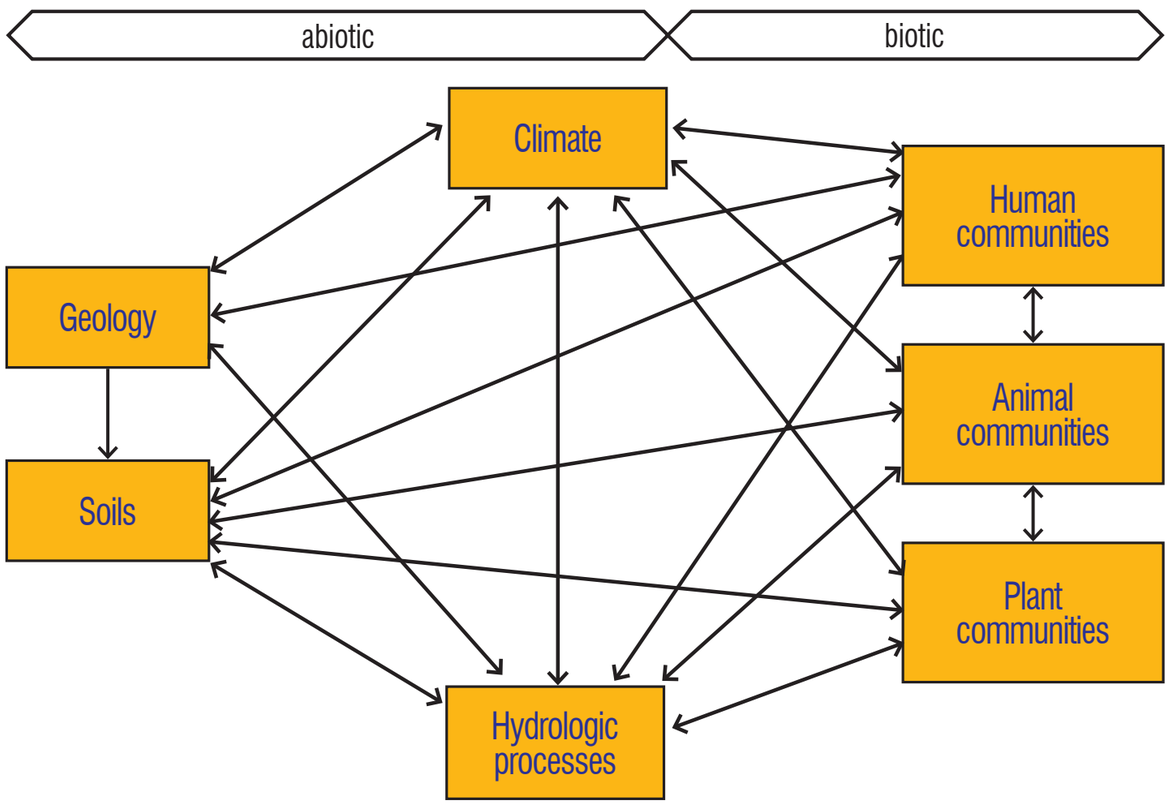
study & map the local ecology through "layer-cake" model: ecological factor maps



sieve-mapping technique for ecological land-use planning

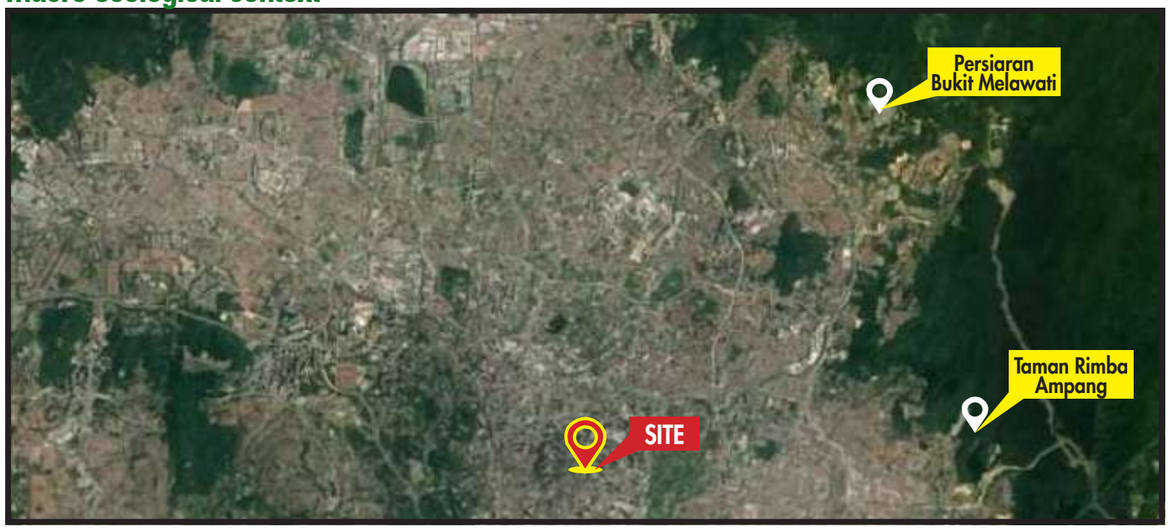


interaction between the layers from the "layer cake" model



4. ecological site planning: conserve the site's ecology by analysing the site ecological & environmental context

macro ecological context

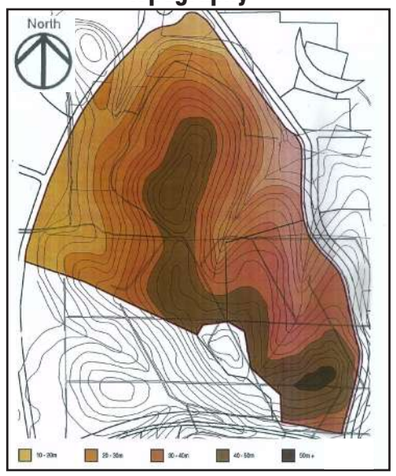


meso ecological context

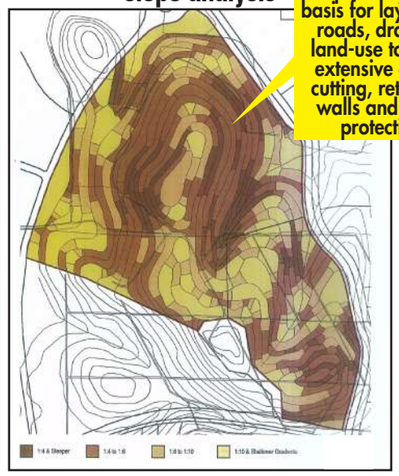
4. ecological site planning: site analysis

as basis for layout planning

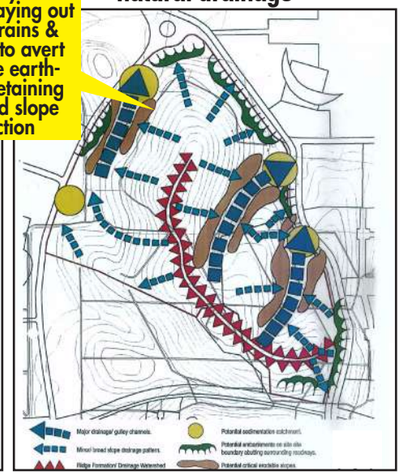
topography



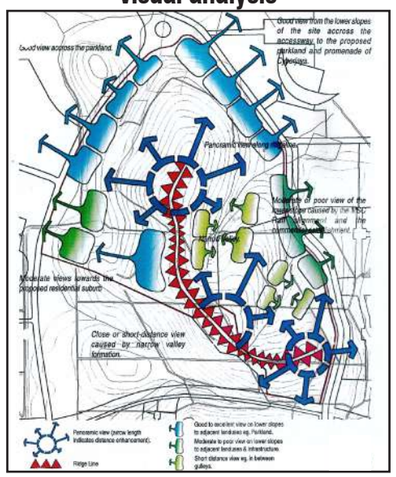
slope analysis



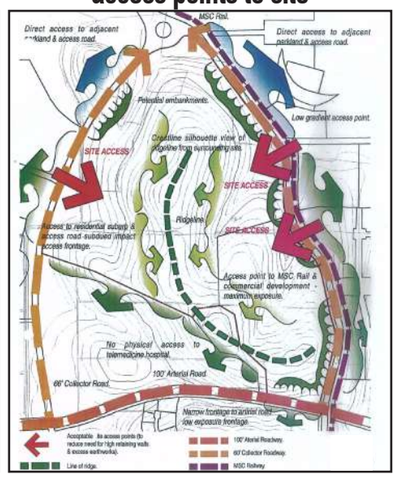
natural drainage



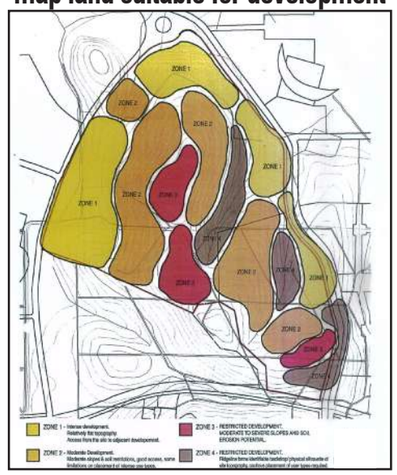
visual analysis



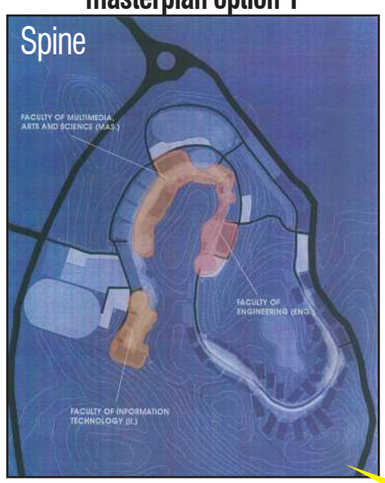
access points to site



map land suitable for development

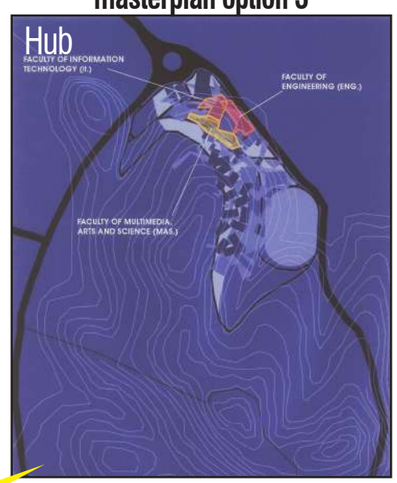


masterplan option 1



masterplan option 2

masterplan option 3



alternative masterplan design options

4. ecological site planning: species identification (example)

identify native fauna & flora species within locality

identify surrounding fauna species

- viverra tangalunga
- gerygone sulphurea
- halcyon smyrnensis
- butorides striatus
- glaucomys sabrinus
- eurasian otters
- varanus salvator
- ardea cinerea
- chimarrogale hantu
- anthreptes malacensis
- merops viridis
- bubulcus ibis
- cynopterus brachyotis
- aegithina tiphia
- megalaima haemacephala
- halcyon pileata
- nyctalus noctula
- pernis ptilorhynchus

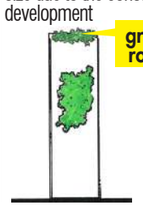
creating habitats

5. create habitats in masterplan

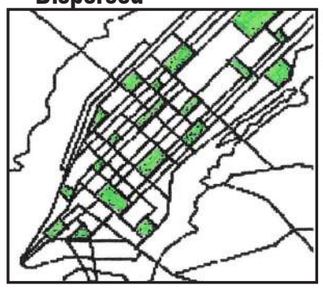
habitats creation (green patterns)

- **"Centralised"**

the green space is located only at the heart of urban areas and is isolated from the hinterland. limited in size due to the constraints of urban development

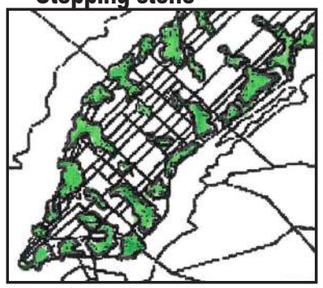


- **"Dispersed"**

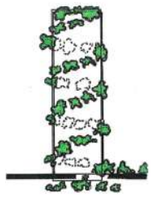


the amount of green in the development are increased, but the green areas are not connected.

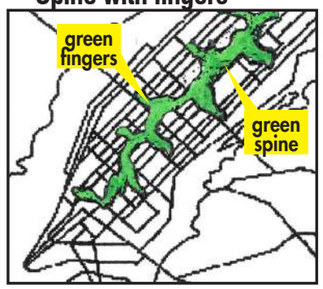
- **"Stepping stone"**



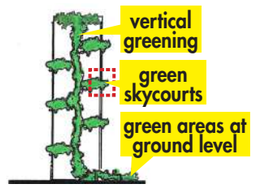
the amount of green in the development are increased, the green areas are in proximity but not connected.



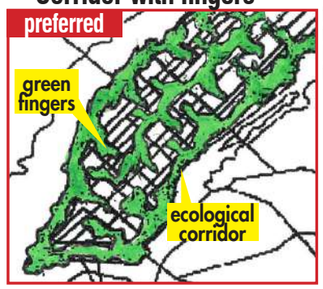
- **"Spine with fingers"**



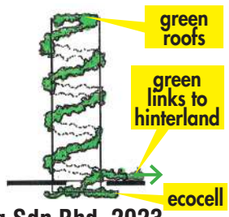
green areas are integrated into the development through a central spine and interconnected with the urban areas by green fingers



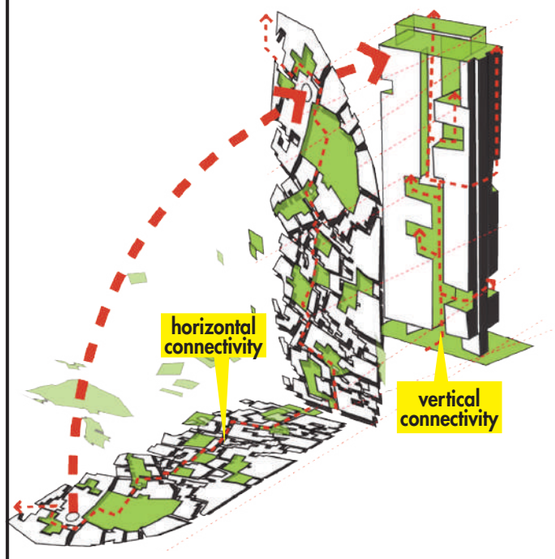
- **"Corridor with fingers"**



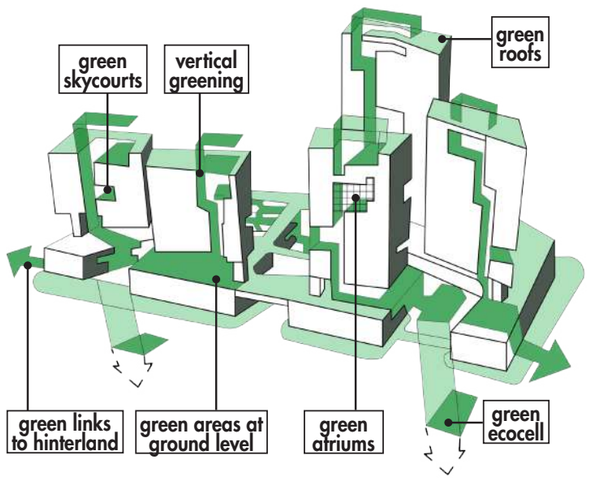
this is the preferred pattern that enhance the local biodiversity through creation of habitats within urban areas and linked to the hinterland



- **habitats to be create within built systems by horizontal connectivity (eg. masterplan) and vertical connectivity (eg. built form)**



- **potential habitats creation within built form to enhance the biodiversity of the locality**



6. create habitats within built system

enhance local biodiversity

biodiversity matrix: create habitats, identify native fauna species to be brought back, identify native flora species to attract fauna, establish interactions with habitats, create habitats

Target Fauna Species	Level 1 Promenade	Level 1 External Planters	Level 1 Trees	Level 2 Trees & Shrubs	Level 3 Shrubs	Level 6-13 Shrubs
	Shrubs/Groundcovers • *Zephyranthes candida* • *Tristellateia australasiae* • *Acalypha siamensis* • *Ficus pumila* • *Phyllanthus myrtifolius* • *Spathiphyllum cannifolium* • *Costus speciosus 'Marginatus'* • *Orthosiphon aristatus* • *Brunfelsia calycina* • *Canna indica* • *Vernonia elliptica* • *Loropetalum* • *Justicia gendarusa* • *Loro Topiary* Turfing • *Zoysia matrella* • *Axonopus compressus*		• *Caesalpinia ferrea* • *Ficus nitida* • *Eucalyptus deglupta* • *Plumeria obtusa*	Trees • *Cyathea cooperi* Shrubs • *Pisonia alba* • *Brunfelsia calycina*	• *Angelonia salicarifolia* • *Belamcanda chinensis* • *Osmoxylon lineare yellow*	• *Belamcanda chinensis* • *Osmoxylon lineare yellow* • *Pisonia alba* • *Vernonia elliptica* • *Allamanda nerifolia* • *Costus speciosus 'Marginatus'*
Cynopterus brachyotis Lesser Short-Nosed Fruit Bat (CP)			R		F	F
Streptopelia chinensis Spotted Dove	F		R	B		
Geopelia Striata Zebra Dove						
Caprimulgus macrurus Large-tailed Nightjar (IA)						F
Apus affinis House Swift (US) (IA)						F
Megalaima haemacephala Coppersmith Barbet (IA)			B		F	F
Aegithina tiphia Common Iora (IA)			F B			
Lanius schach Long-tailed Shrike (IA)						B
Pynonotus goiavier Yellow-vented Bulbul (IA)	F	F	F B	F B	F B	F B
Oriolus chinensis Black-naped Oriole (IA)	F	F	F B	F		
Copsychus saularis Oriental Magpie-robin (IA)			F B	F		
Gerygone sulphurea Golden-bellied Gerygone (IA)			F B			
Orthotomus sutorius Common Tailorbird (IA)			F R			
Anthreptes malacensis Brown-throated Sunbird (FS) (IA)				F	F	B
Anthreptes Simplex Plain Sunbird (FS) (IA)			F			F
Cinnyris jugularis Olive-backed Sunbird (FS) (IA)	F	F	F B	F	F	F
Dicaeum cruentatum Scarlet-backed Flowerpecker			F	F	F	F
Appias libythea olferna Striped Albatross (IA)	F	F		F		
Catopsilia pomona pomona Lemon Emigrant (IA)	F	F	F	F	F	F
Chilades pandava Cycad Blue (IA)	F	F				
Danaus chrysippus chrysippus Plain Tiger (IA)	F	F				
Delias hyparete metarete Painted Jezebel (IA)	F	F	F			
Euploea mulciber mulciber Striped Blue Crow (KS) (IA)	F H	F	F	F	F	
Hypolimnas bolina jacintha Great Eggfly (IA)	F				F	
Junonia almana javana Peacock Pansy (IA)	F	F	F	F		
Rapala iarbus iarbus Common Red Flash (IA)	F H					

(2) select native fauna species to be brought back to locality: for feeding, breeding, refugee from prey (based on ecological survey of site and surrounding)

(3) select non-invasive flora species to attract fauna

(4) assess interactions between flora, fauna and habitats

(5) create landscape conditions for habitats to survive over all season

Target Species

1. Priority species for nature conservation
2. Flagship species that could symbolise scheme success
3. Indicator of good populations of small mammals
4. Indicator of good population of small birds
5. Indicator of good populations of fish/amphibians
6. Indicator of good populations of invertebrates
7. Indicator of good water quality
8. Species with special aesthethis qualities or interest to man. eg. conspicuous beauty, song or tendency to use artificia refuges.

Keys

R Roost · WQ Water Quality · F Feeding · DPS Dominant Plant Species · H Host · B Breeding

Species with Social/Amenity/Cultural/Educational Values:

FS 'Flagship' – species that champion the biodiversity of the wider landscape in which they are found, often because of their conspicuousness, appealing appearance/behaviour or cultural iconography

IA 'Innate Appeal' – Species of above-average value to people in terms of its aesthetic value or curiosity value: for example, a species of bird with particularly melodious song or perhaps a plant with particularly appealing perfume; or species contributing to a valued whole ecosystem aesthetic such as 'lushness' or 'multicoloured beauty' to which society responds positively

EW 'Early Warning' – species that may give an early warning of threats to our own health rather like a Canary in a coal mine. Classic examples include the Peregrine Falcon and DDT, lichen assemblages and sulphur dioxide and invertebrate populations in rivers and water pollution

Species with 'Innate' and 'Ecosystem Support' Values:

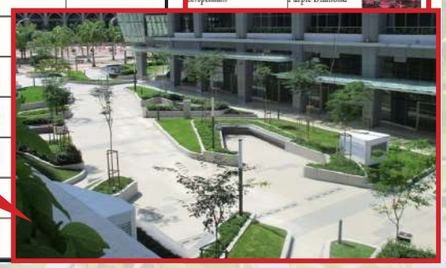
CP 'Conservation Priority'- species of innate biodiversity value which may be assessed, for example, on the basis of rarity or value as a particularly high-quality example of its kind.

KS 'Keystone' – species having a disproportionate effect in the functioning of the local environment.

US 'Umbrella' (US) – species of value in making conservation-related decisions, typically because protecting these species indirectly protects a wide variety of other species and habitats. They are species which characterise the presence of an overall balanced habitat at good conservation status.

Flora Species

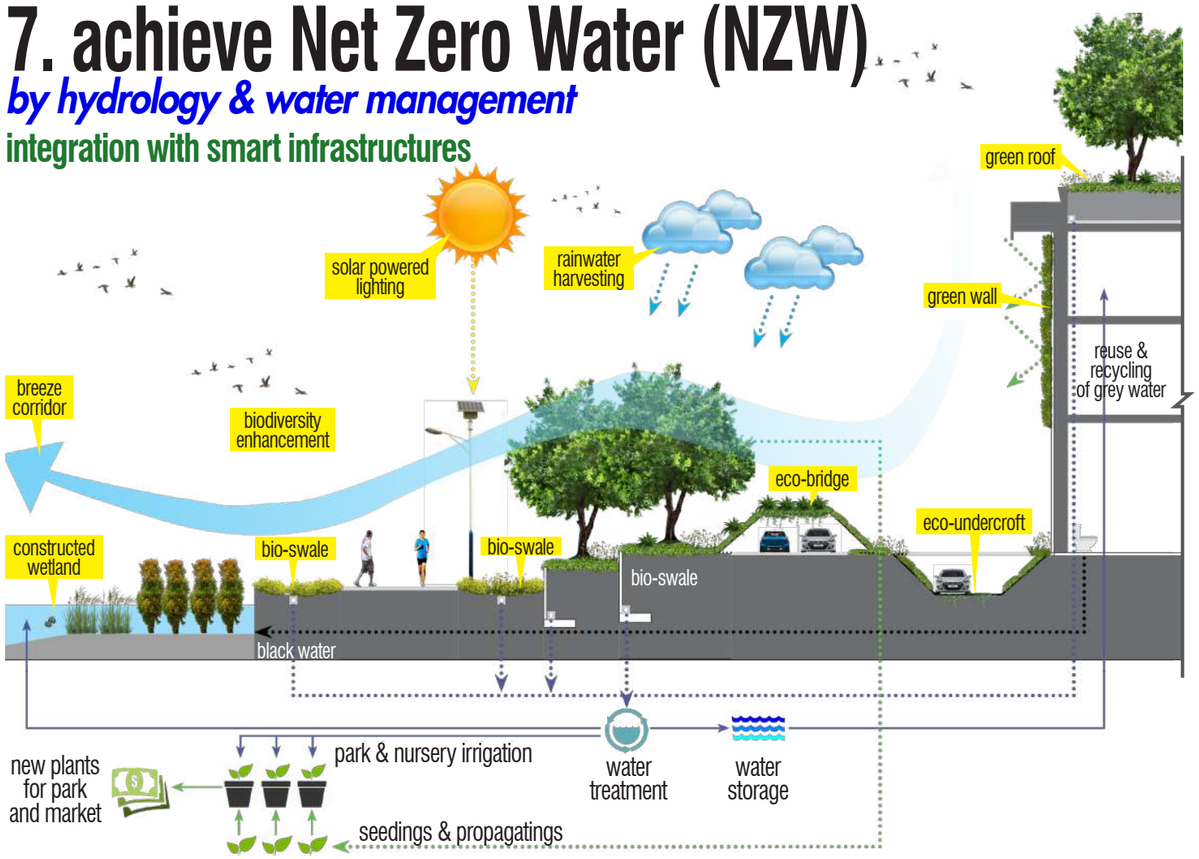
Caesalpinia ferrea	Leopard Tree
Ficus nitida	Indian Laurel Fig
Eucalyptus deglupta	Rainbow eucalyptus
Plumeria obtusa	Frangipani
Zephyranthes candida	Fairy lily
Tristellateia australasiae	New Caledonia
Acalypha siamensis	Tea leaf
Ficus pumila	Creeping fig
Phyllanthus myrtifolius	Mousetail plant
Spathiphyllum cannifolium	Peace Lily
Costus speciosus 'Marginatus'	Spiral ginger Var.
Orthosiphon aristatus	Cat's Whiskers
Brunfelsia calycina	Ystrd-Today-Tmrw
Canna indica	Bunga Tasbih
Vernonia elliptica	Curtain Creeper
Loropetalum	Purple Diamond



7. achieve Net Zero Water (NZW)

by hydrology & water management

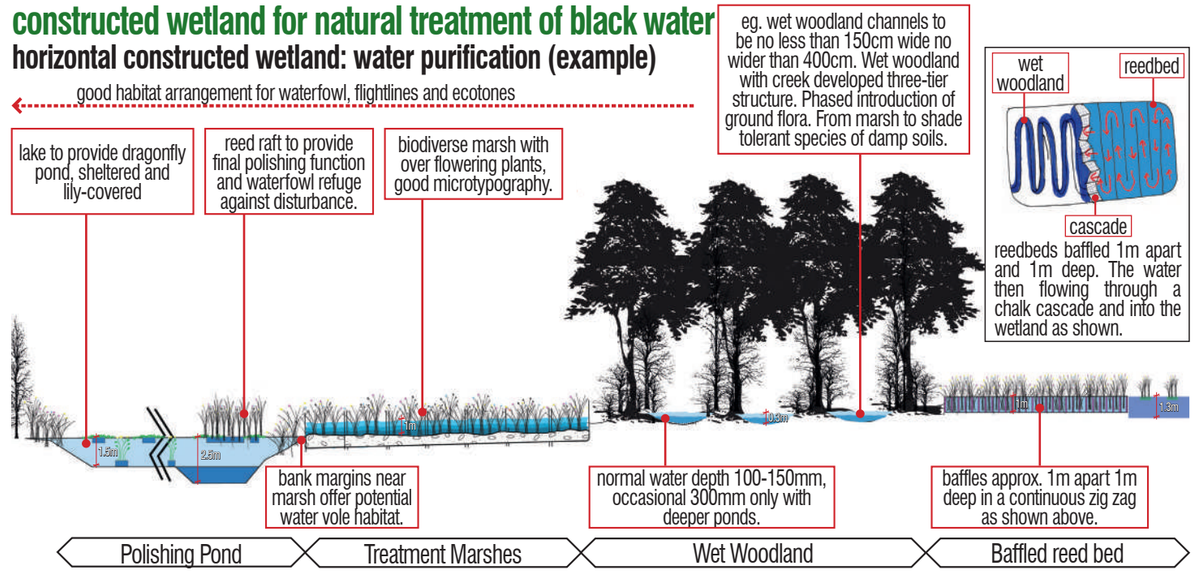
integration with smart infrastructures



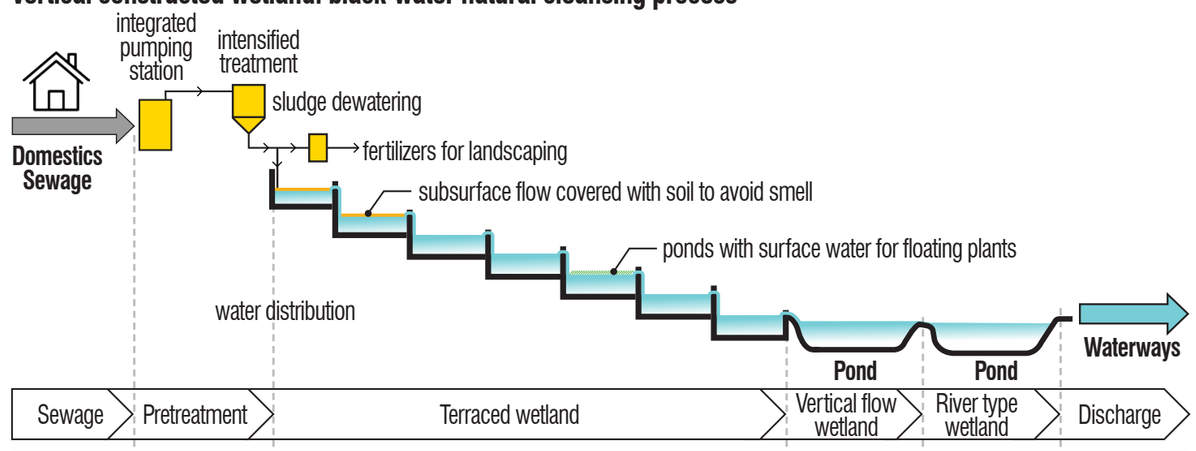
methods to reduce runoff and improve water quality

constructed wetland for natural treatment of black water

horizontal constructed wetland: water purification (example)



vertical constructed wetland: black-water natural cleansing process

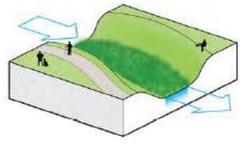


returning storm water back into the ground

1. Green street infiltration planter

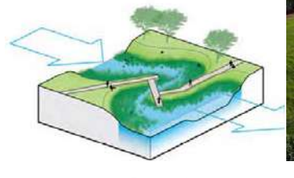
2. Permeable paving & rain garden

3. Infiltration swale



4. Infiltration basin

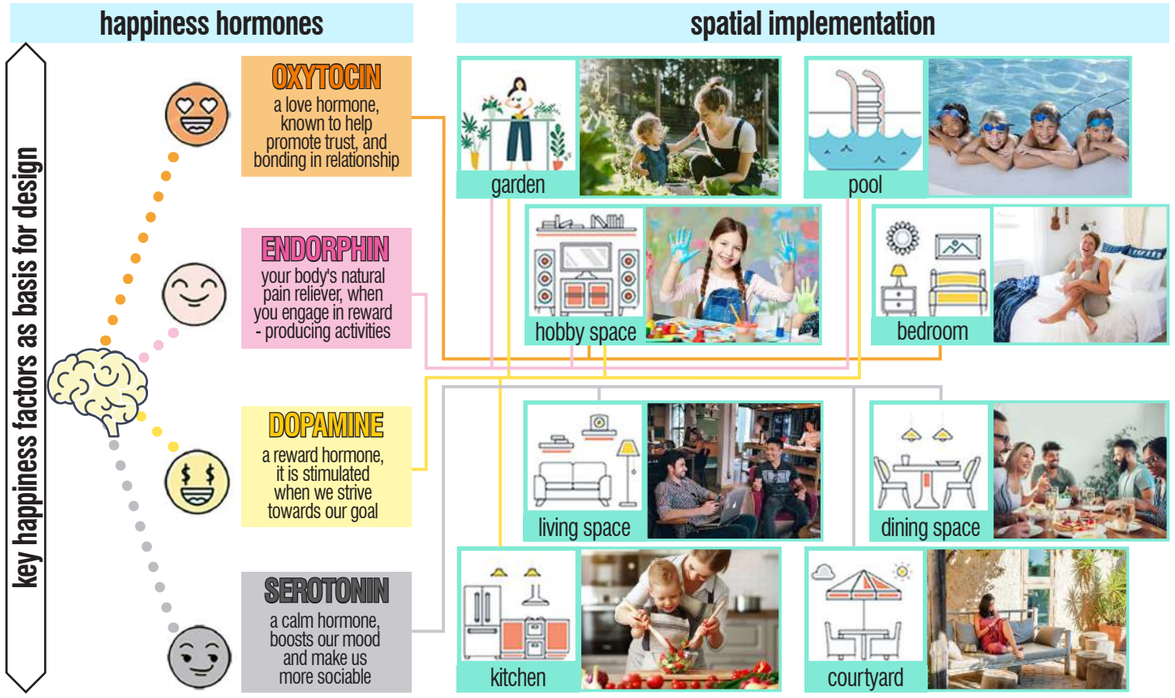
5. Storm water wetland canal



8. design for Net Positive Well-being & Happy Society (NPW&HS)

enhancing happiness, healthy & well-being of the human society

what makes people happy?



create pleasurable public realms and public community space


good accessibility


active edges

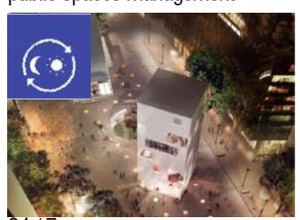

food & beverage


public spaces management


seating


art & culture

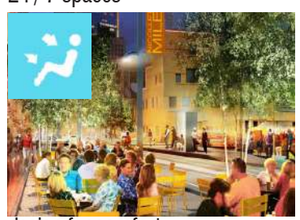

shade


24 / 7 spaces


all ages spaces


water

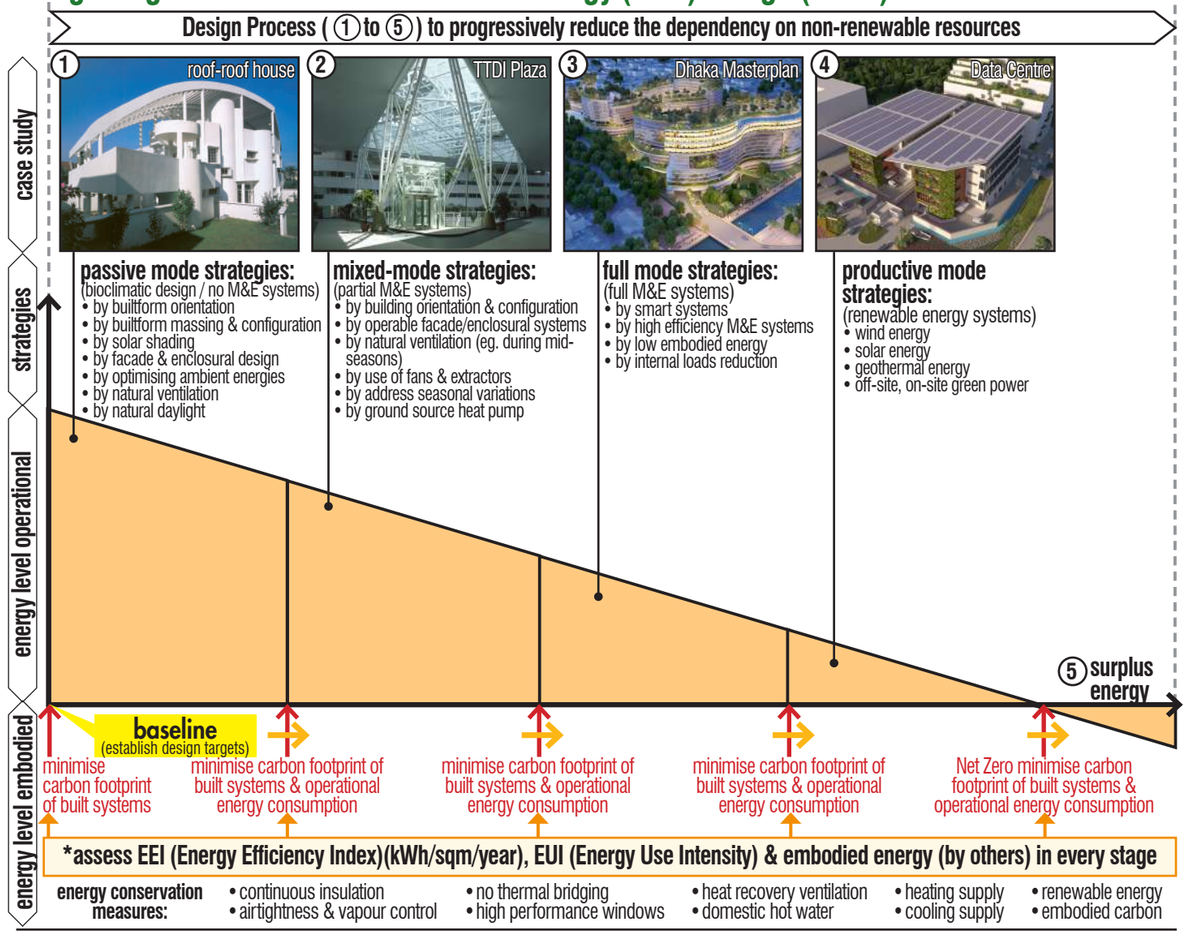

human scale


design for comfort

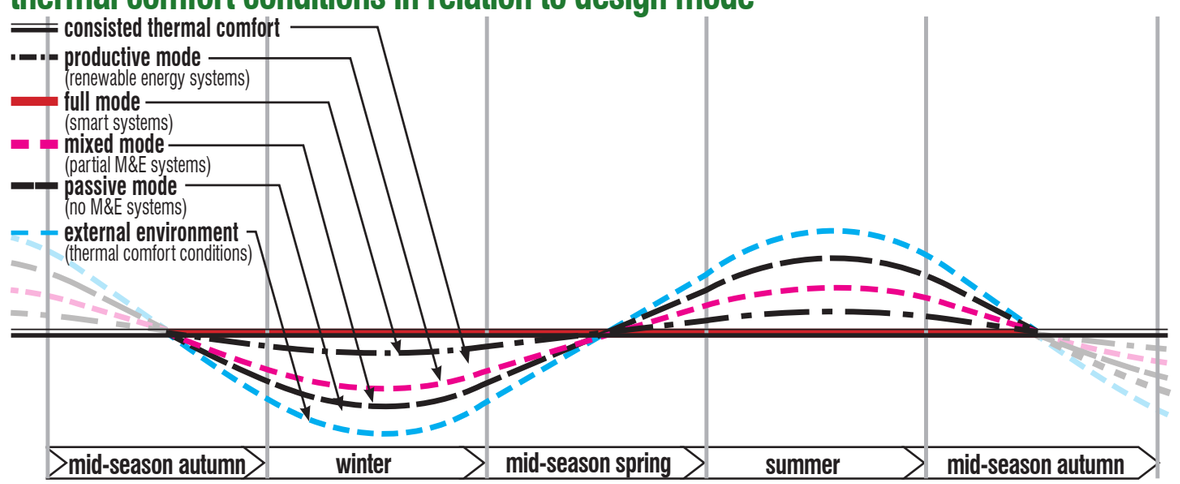
9. design for Net Surplus Energy (zero non-renewable energy) / decarbonisation(NSE/D)

by progressive energy reduction

design stage modes to achieve Net Zero Energy (near) Design (NZED)



thermal comfort conditions in relation to design mode

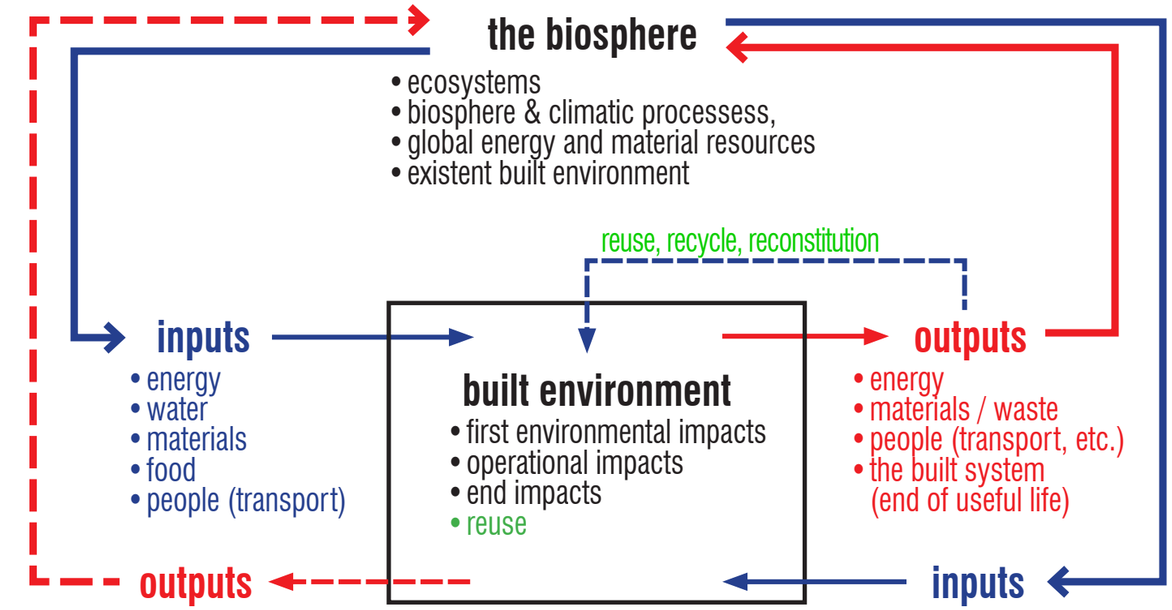


season: temperated & cold climates

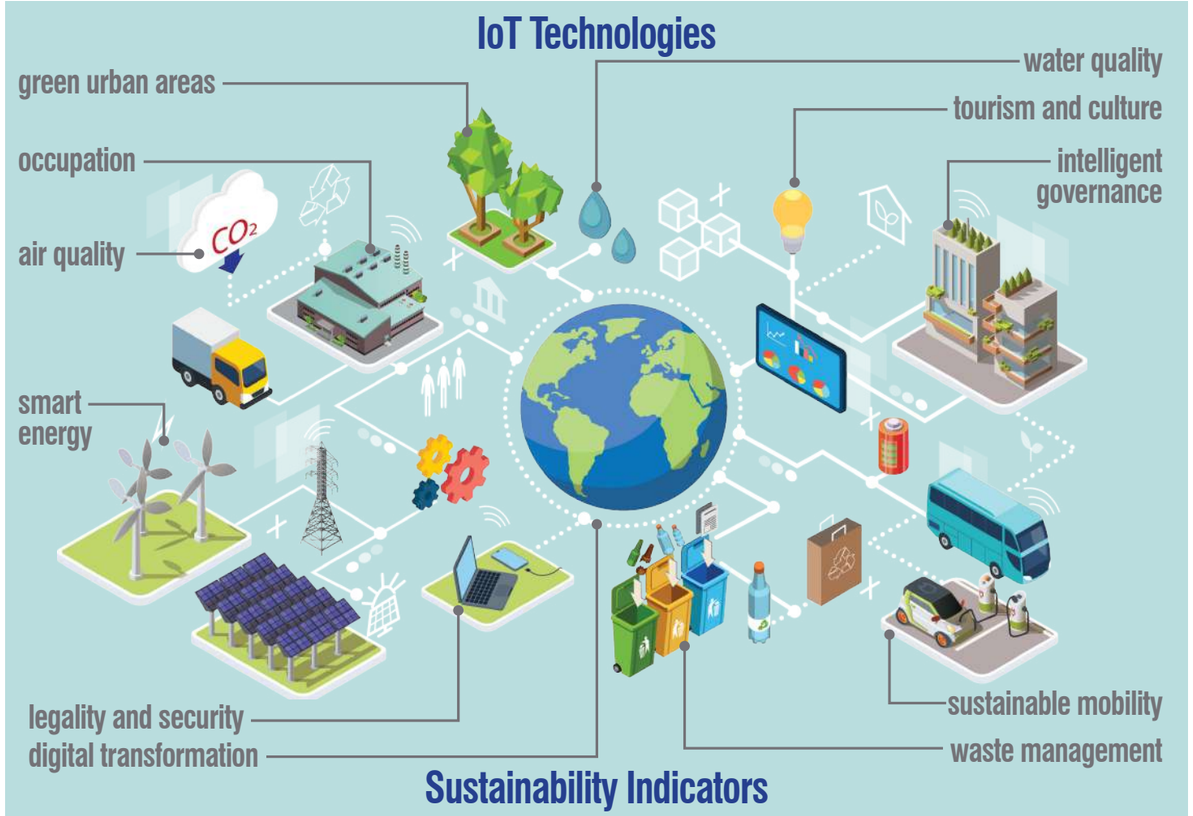
10. design for Net Zero Waste/Emission (NZW/E)

by circular use & recycling of material

emulates and replicates the constructed ecosystem by material recycling



smart systems (5G, WiFi 6, AI, IoT systems)



11. masterplan examples


KEY ECOMASTERPLAN FEATURES


LA REUNION MASTERPLAN


WEST KOWLOON WATERFRONT


UM MASTERPLAN


NEOM MASTERPLAN


GANGXIA MASTERPLAN


MACAU WATERFRONT


NORTH CYBERJAYA MASTERPLAN


DUBAI WATERFRONT


VANCOUVER WATERFRONT


SOMA MASTERPLAN


DHAKA MASTERPLAN

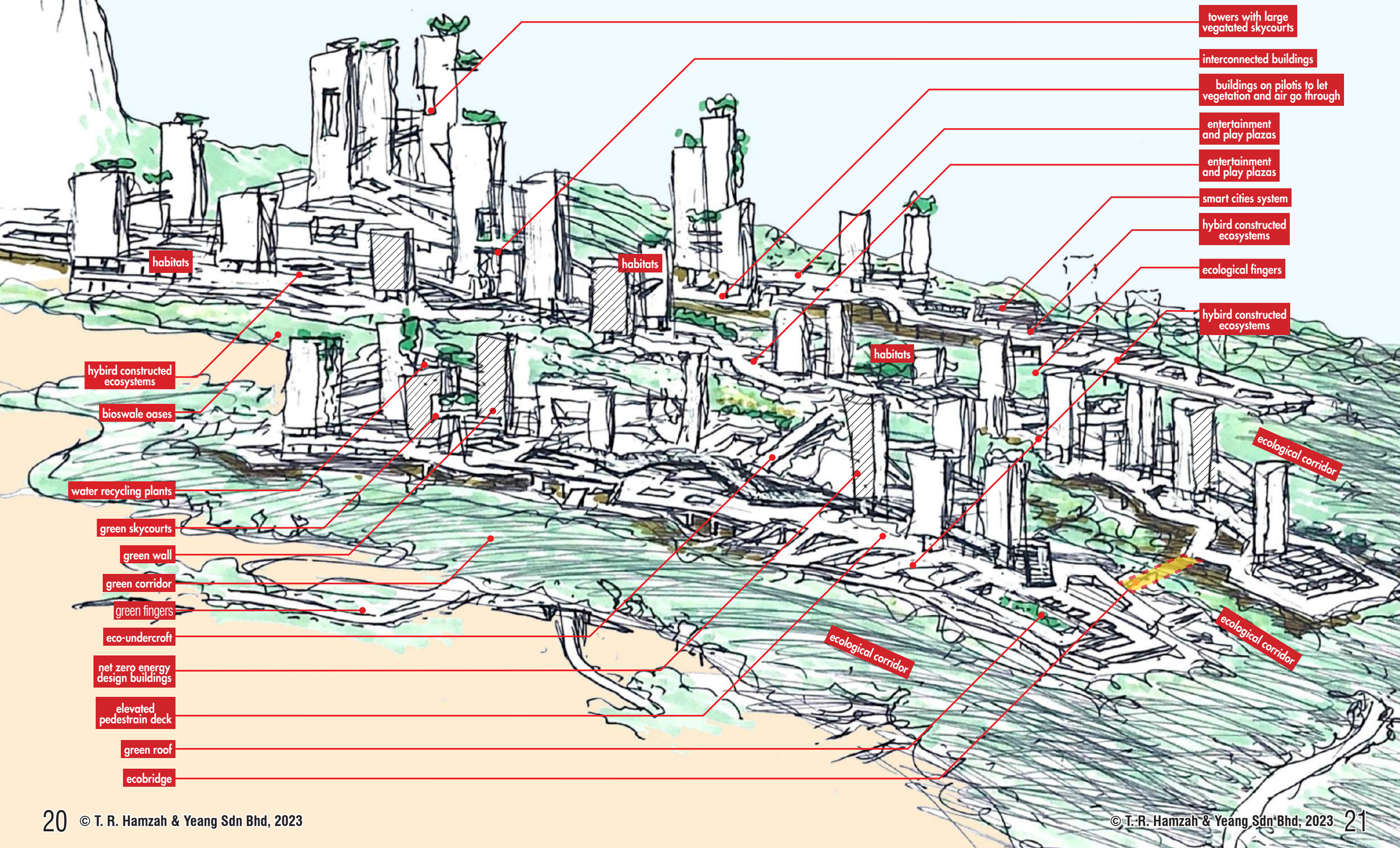

"R" UNIVERSITY MASTERPLAN


NITTE UNIVERSITY MASTERPLAN


SEPANG WATERFRONT

11. masterplan example: some key features of the ecomasterplan

an ideogram to illustrate ecological features

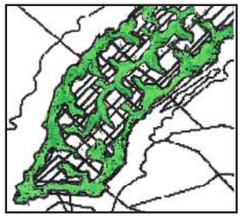


11. masterplan example

INNOVATION

- **Interweaving nature with urban area**

corridor with fingers

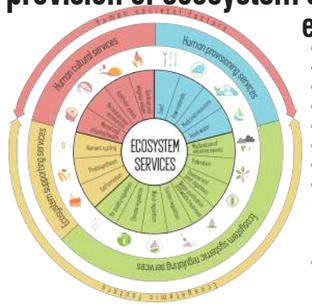


"..creation of green fingers interwoven with urban areas.."

close weaving of nature into the urban environment to augment the provision of ecosystem services to urban areas.

INNOVATION

provision of ecosystem services



ecosystem services include:

- production of oxygen
- maintenance of biological and genetic diversity
- purification of water and air
- storage, cycling and global distribution of fresh water
- regulation of the chemical composition of the atmosphere
- maintenance of migration and nursery habitats for wildlife
- decomposition of organic wastes
- sequestration and detoxification of human and industrial waste: (phytoremediation)
  *natural pest and disease control by insects, birds, bats, and other organisms
- production of genetic library for food, fibers, pharmaceuticals, and materials
- fixation of solar energy and conversion into raw materials
- management of soil erosion and sediment control
- flood prevention and regulation of runoff
- protection against harmful cosmic radiation
- regulation of the chemical composition of the oceans
- regulation of the local and global climate
- formation of topsoil and maintenance of soil fertility
- production of grasslands, fertilizers, and food
- storage and recycling of nutrients
- others.

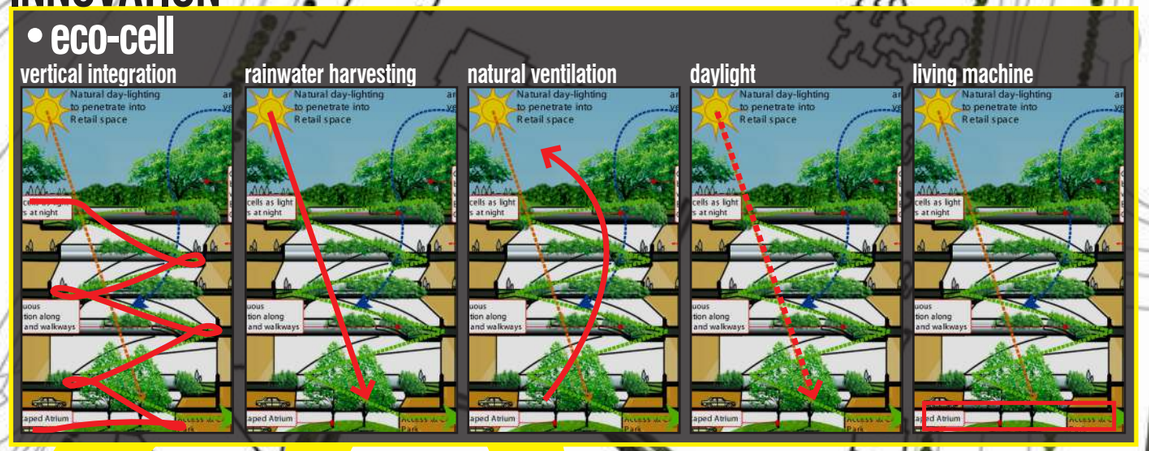
LA REUNION WATERFRONT MASTERPLAN

LA REUNION, FRANCE

11. masterplan example

INNOVATION

• eco-cell



pier tower

roof garden

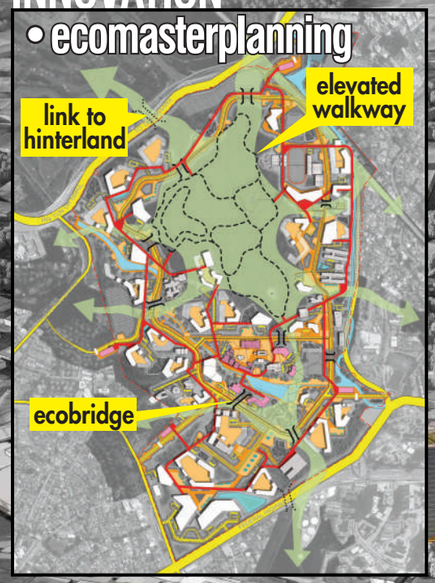
WEST KOWLOON WATERFRONT

HONG KONG, CHINA

MASTERPLAN

11. masterplan example

INNOVATION



elevated walkway

fritted glass canopy

university hub

student hub

staff residences

air gaps in between for ventilation

UNIVERSITY MALAYA MASTERPLAN

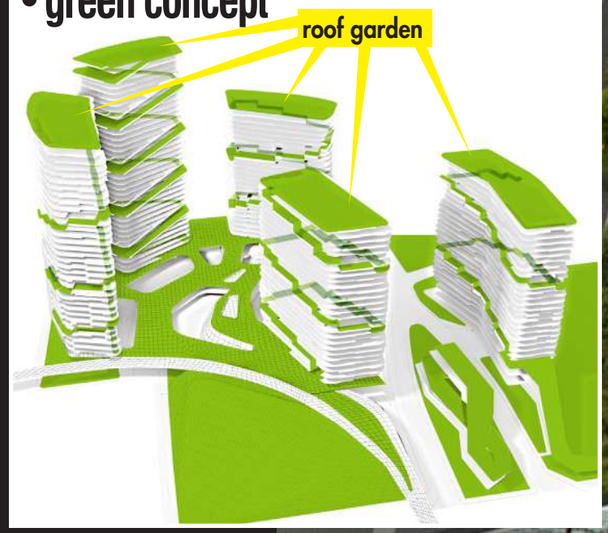
MALAYSIA

11. masterplan example

INNOVATION

• the ecomasterplanning

• green concept



GANGXIA

SHENZHEN, CHINA MASTERPLAN

11. masterplan example

pier

pier

urban fingers

water fingers

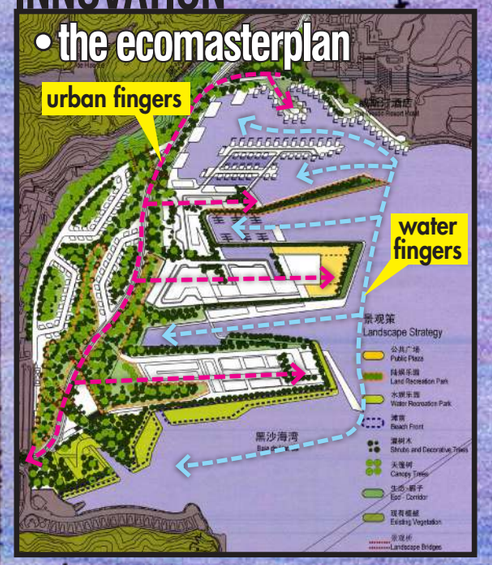
public plaza

landscape bridge

beach front

INNOVATION

• the ecomasterplan



MACAU WATERFRONT

CHINA MASTERPLAN

11. masterplan example

louvered roof canopy

podium roof garden

roof garden

skybridge

continuous green

elevated walkway

skycourt

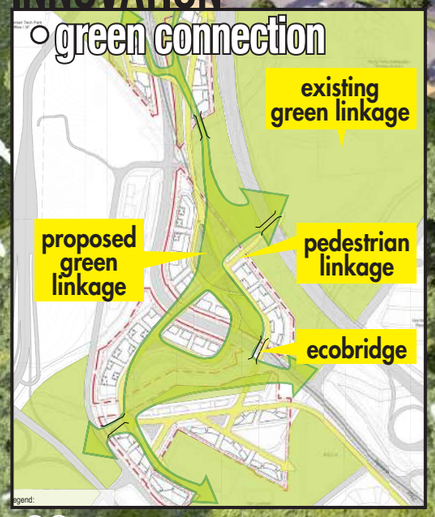
mid level roof garden

activity plaza

vertical green

public realm

INNOVATION



NORTH CYBERJAYA MASTERPLAN

MALAYSIA

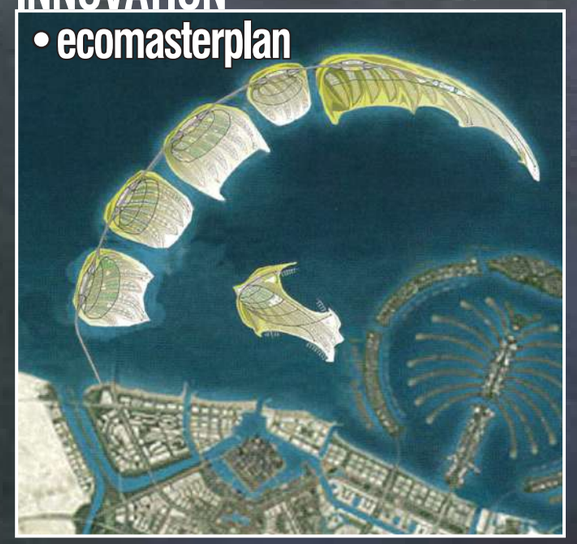
11. masterplan example

green fingers

urban fingers

INNOVATION

• ecomasterplan



DUBAI WATERFRONT MASTERPLAN

DUBAI

11. masterplan example

INNOVATION

central promenade

waterfront plaza

mid roof garden

roof garden

continuous green

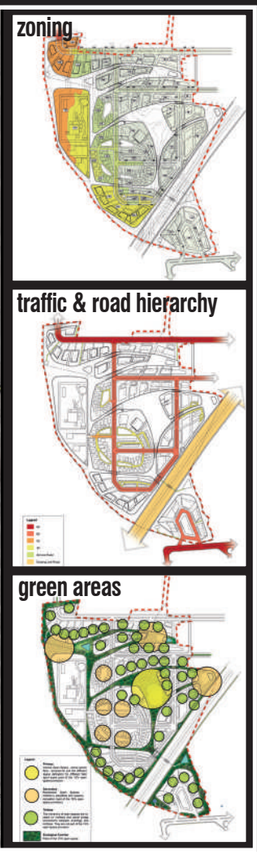
VANCOUVER WATERFRONT

BRITISH COLOMBIA, CANADA MASTERPLAN

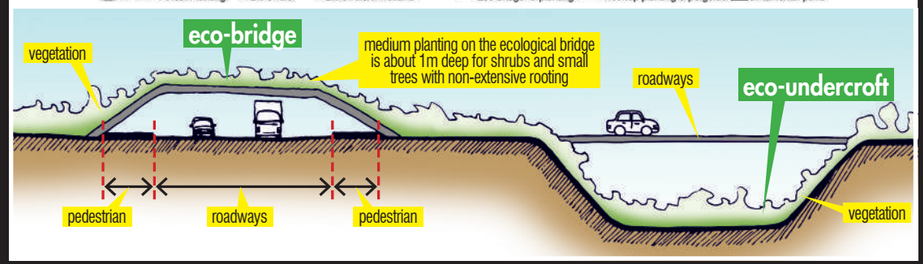
11. masterplan example

INNOVATION

• the ecomasterplan



• ecological connectivity (green fingers, ecobridges & eco-undercroft)



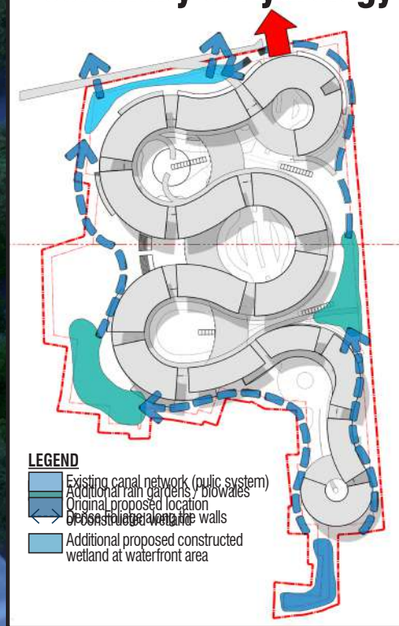
SOMA
MASTERPLAN
BANGALORE, INDIA

11. masterplan example

INNOVATION

• continuity of greenery

• continuity of hydrology



roof garden

skycourt

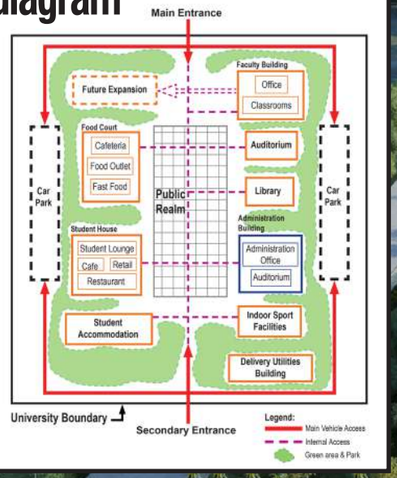
DHAKA

BANGLADESH MASTERPLAN

11. masterplan example

INNOVATION

• spatial relationship diagram



continuous green

ecobridge

public realm

roof garden

green roof

"R" UNIVERSITY

MASTERPLAN

JOHOR, MALAYSIA

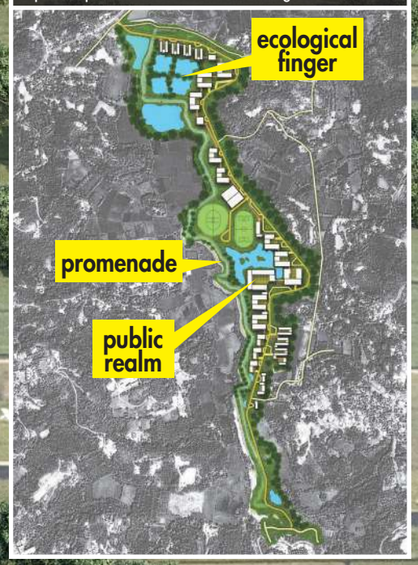
© T. R. Hamzah & Yeang Sdn Bhd, 2023

11. masterplan example

INNOVATION

• the ecomasterplan

The masterplan the recommended ecological design approach is one of working with the natural gradients of the site which underpin its biodiversity and to create enriched habitats on the land, not occupied by buildings, with a higher carrying capacity for valued species per unit area than the existing lands.



existing pond

ecological corridor

roof garden

elevated walkway

public realm

- **Project Type:** University
- **Masterplan Area:** 125 acres
- **Approx. Built-up Area:** 7.5mil sqft
- **Population Size:** 25,000 students
- **Facilities:**
  - student & faculty housing
  - student recreation area
  - sports
  - convention center
  - super-specialty hospital
  - other ancillary supporting services

NITTE UNIVERSITY

MANGALORE, INDIA MASTERPLAN

11. masterplan example

industrial park

resort island

shopping promenade

central park

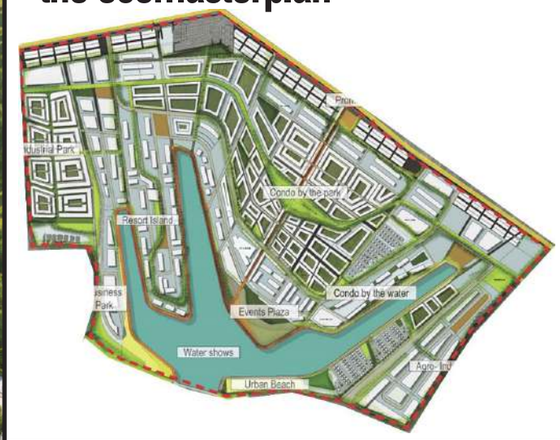
waterfront events

waterfront plaza

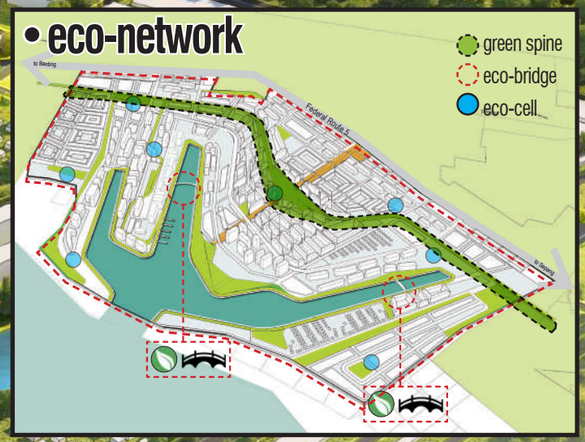
urban beach

INNOVATION

• the ecomasterplan



• eco-network



SEPANG WATERFRONT MASTERPLAN

MALAYSIA

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12. create high-value products

these are the characteristic of a high-value product to be designed

Well-designed, refined, elegant and exquisitely beautiful

Design that gives the **highest level of pleasure**

Exclusiveness of product that many others cannot have or enjoy

Product possession by purchasers as **reward of their personal success**

Possession of well-designed exclusive product as **proof of financial standing**

Product possession as by owner's **recognition of status**

Accompanying **privileges and service** created for the designed product

Functional rationale for ownership of designed product

13. about us

T. R. Hamzah & Yeang Sdn. Bhd.

An experienced **architecture**, **masterplanning** and **interior design** company with demonstrated history of skills in designing and delivering signature award-winning super-green solutions.

START

Since 1971 research on Ecological Design (Cambridge University)

1976 **establishing of company**, over 5 decades of experience & dependability brought to benefit the development

Principals:

Tengku Robert Hamzah

Ken Yeang (Dr. Dato')

Experience: over **500** completed projects (since 1976)

Differentiation:

*** design innovation**
*** specialist in ecological design (pioneered in 1971)**
*** signature aesthetics**
*** over 70 design awards**
*** design for human society's high livability & well-being**

Our values: **excellence in everything we do**
we are committed to do work in the pursuit of excellence.

Our mission: **'Saving the Planet by Design'**

Our vision: **develop architectural and planning solutions to fight climate change to address the environmentsl crisis**

Offices:

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UK:
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4A Avery Row, London, W1K 4AL

China:
North Hamzah Yeang Architectural Engineering Design Co. Ltd.
Guide International Centre B-10F,
Nanbine Road 27 Beijing, 10055

see our website: https://trhamzahyeang.com/

14. what others say about us?

third party endorsement

Archute

"..a champion of the green design movement, Yeang was largely seen as a pioneer who was way ahead of his time.."

"..Ken Yeang has developed a distinctive architectural vocabulary that extends beyond questions of style.."

Lord Norman Foster
(British Architect, Foster & Partners)

(1 November 2022) RIBA Royal Institute of British Architects

"..Ken Yeang is an architect and ecologist with a wealth of experience in ecological design and planning for over 50 years. He has pioneered the field of biophilic design and his 'bioclimatic skyscraper', is a type of high-rise now used in various cities that performs as a passive low-energy building, designed according to the location's local climate.."

BUSINESS & INVESTMENT WEEKLY THE EDGE MALAYSIA
(City & Country | 12 December 2022)

"..The firm's ethos is "innovation, hyper-green, signature and people's happiness-focused design", which are its signature aesthetics and what make its work compelling.."

ARCHITECTURAL RECORD

"..probably no individual is more important in the development of ecodesign's theory and practice than the London and Kuala Lumpur-based architect Ken Yeang.."

"..Ken, how many of these have you built?.."
(at conference (UK) sponsored by Infosys)

"..a few.."

Ken Yeang

King Charles III

The Guardian

"..one of the 50 people who could save the Planet.."

15. award winning experiences to benefit the project

..over 70 awards in 25 years..

2022 **Australian Institute of Architect - 2022 Leadership in Sustainability Prize**
2021 **The Edge Malaysia-PAM Green Excellence Award** (Honorary Mention) - Putrajaya Suasana (2C5)
2021 **PAM** Gold Medal Award 2020: Commercial (High Rise) Category - Putrajaya Suasana (2C5)
2020 **ASA Gold Medal**
2020 **Global Forum on Human Settlements (supported by UN Environment Sustainable Development)** Planning and Design for Putrajaya Suasana (2C5)
2020 **Global Forum on Human Settlements (supported by UN Environment Sustainable Development)** Outstanding Contribution
2020 **Malaysia Green Building Council** Best Research
2018 **Malaysia Green Building Council** Best Commercial Building Putrajaya Suasana (2C5)
2017 **Cityscape Award** for Putrajaya Suasana 2C5
2016 **Liang Sicheng** Architecture Prize, China
2016 **FIABCI** World Prix d' Excellence Awards: Solaris (Fusionopolis)
2016 **PAM** Award Commendation: Single Residential - R-House
2015 **40th Most Famous Architects** of the 21st Century
2015 **The Malaysian Construction Industry** Excellence Awards: Prominent Player
2015 **BCA-SGBC** Green Building Individual Awards: Green Architect Lifetime

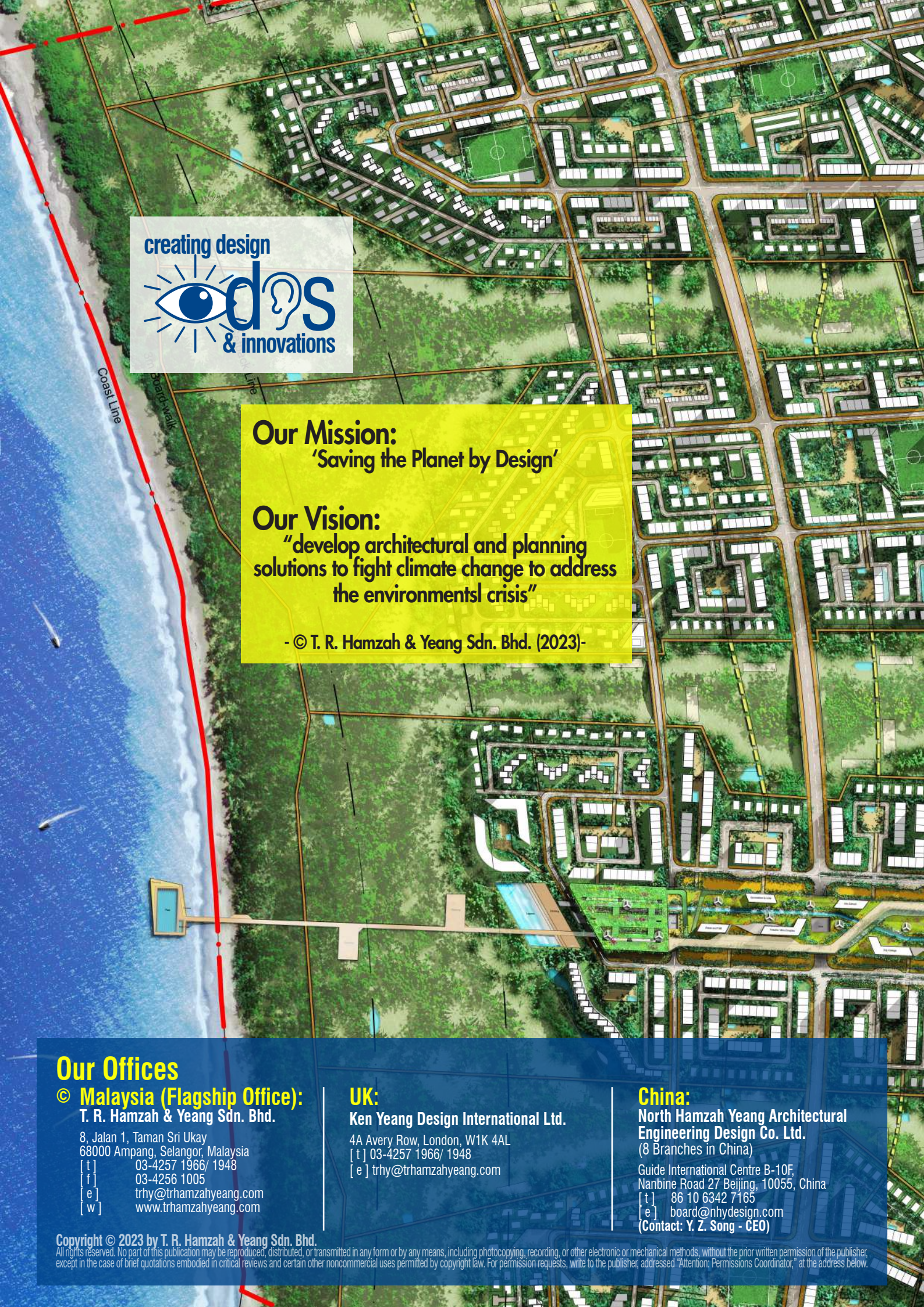
"..you deserve the award.." Receipt of Merdeka Award (2011) from Prime Minister (Malaysia)

Architectural Society of China Liang Sicheng Award 2016 received from Minister of Construction, China

2014 **FuturARC** Green Leadership Award: Solaris (Fusionopolis)
2014 **World Alliance of Sustainable Cities Design**: Design Master
2014 **AIA IR** Design Awards, Hong Kong: Solaris, Fusionopolis
2014 **NPark Leaf** Certificate Awards: Solaris, Fusionopolis
2013 **MGBC** Excellence & Leadership in Sustainability Award
2013 **ARCASIA** Award: Honorary Mention, Industrial Building - DIGI
2013 **Universiti Malaya** - Honorary Doctorate in Architecture
2012 **Green Building Index**, Malaysia - Plaza VADS (Annex Block)
2012 **RAIA** International Architecture Award: Finalist - Solaris (Fusionopolis)
2012 **Green Building Index**, Malaysia: Gold - DiGi
2012 **Council on Tall Buildings and Urban Habitat**: Finalist
2011 **RIBA** International Award: Solaris, Fusionopolis
2011 **Regional Holcim** Award for Sustainable Construction: Putrajaya Lot 2C5
2011 WACA Gold Medal Award: Solaris (Fusionopolis)
2011 **LEEDS** Platinum status on the pre-certification for Spire Edge, India
2011 **PAM** Gold Medal Award: Solaris (Fusionopolis)
2011 **PAM** Award Commendation: Ganendra Art House
2011 **Fast Company**, March Issue: TOP 10 Most Innovative Architect Firm
2010 **Green Good Design** Awards - Solaris (Fusionopolis)
2010 **MATRADE** Export Excellence Award: Services

2009 **CNBC Asia Pacific Property** Award: Spire Edge, Manesar, India
2009 **BCA Green Mark** Platinum Award: Solaris & Singapore National Library
2009 **CNBC Asia Pacific Property** Award: Best Residential Apartment - TTDI Plaza
2008 **MARTRADE** Export Excellence Award: Winning Entry - Solaris (Fusionopolis)
2007 **ASEAN** Energy Efficient Building Awards: 1st prize - 'New & Existing' Buildings
2007 **BCA Singapore** Silver Award: Universal Design
2006 **Royal Institute of Chartered Surveyors** (RICS) Award
2006 **SIA** Facade Design Excellence Silver Award: Singapore National Library
2006 **MCIEA (Malaysian Construction Industry Award)**
2005 **BCA Singapore Green Mark** Platinum Award: Green and Sustainable Building
2005 **World Association of Chinese Architects** (WACA): Gold Medal Award
2001 **Hunter Douglas** Competition (Open), Malaysia: Winning Entry
2000 **Beijing World Science & Trade Centre** Competition (Invited): Winning Entry
2000 Huannan Masterplan Competition for **Hopsons** Award, China: Winning Entry
1996 **RAIA** International Architecture Award: Menara Mesiniaga
1996 **Aga Khan** Award for Architecture, Switzerland: Menara Mesiniaga

Putrajaya Suasana (2C5) is used as the backdrop for Honda's advertisement for their latest model.



creating design
dos
& innovations

Our Mission:
'Saving the Planet by Design'

Our Vision:
"develop architectural and planning solutions to fight climate change to address the environmentsl crisis"

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Our Offices

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[e] board@nhydesign.com
(Contact: Y. Z. Song - CEO)