Kota Kemuning Wetland Park

Natural & Sustainable

by Gamuda Land
When Nature Take its course....
Data

• 27 acres of land

• Award winning project
  - Landscape planning award’ International award (2003) - Singapore Institute of Landscape Architects.
  - ILAM MLAA Honour Award – Developer Category Kota Kemuning Wetland 2015

• Engineered drainage transformed into wetland system.

• Economically and environmentally sustainable

Challenges

We set ourselves a challenge that was three pronged:

• How can we change the common perception of undesirable infrastructure into something the public will appreciate and enjoy?

• How do we transform contextual disadvantages, which would normally be a visual blight, into a value-add element?

• How do we ensure whatever we build requires minimum long term maintenance?
Kota Kemuning

Master plan

LEGEND:
- Kolam Tadahan Air (KTA)
- Sungai Klang
Project History

- Land jurisdiction under 4 State agencies:
  - Tenaga Nasional Berhad
  - Jabatan Parit dan Saliran
  - Petronas Land reserve
  - Majlis Bandaraya Shah Alam

- Merging different objectives, priorities & compliances into one seamless design entity.

- A Scenic Waterway (with natural bank treatment) and adjacent recreational park VS. a typical concrete based drainage.

- Natural retention based drainage provides several benefits:
  - The open channel system with its capacity to flood within controlled parameters provides a huge retention capacity way above a concrete ‘U’ drain.
  - More environmentally sensitive providing a long term sustainable drainage system
Land ownership

LEGEND:

- Wetland park
- Canal garden
- Central park

Kota Kemuning Master plan
Kota Kemuning Masterplan

Land ownership

LEGEND:
- TNB reserve

- Wetland park
- Canal garden
- Central park

labuhaya jaya Alam
LEGEND:

- Wetland park
- Canal garden
- Central park
- Petronas reserve

Kota Kemuning Masterplan
Land ownership

**LEGEND:**
- Wetland boundary

**Kota Kemuning Masterplan**

- Wetland park
- Canal garden
- Central park
The landscape approach was to reform land oil palm to a natural retention area that support the richness of biodiversity and may also provide a recreational place within the development in the form of a rich wetland.

**Benefits of Wetland**

- **Habitat**
  Habitat for a diverse range of animals including water fowl, amphibians, reptiles and fish species.

- **Diversity**
  Provide refuge in times of drought, often supporting the biomass interaction between plants and animals.

- **Flood Mitigation**
  Detain flood waters and runoff. This reduces downstream flood peaks which could cause erosion and flood damage in the catchment.

- **Groundwater recharge**
  Water infiltrate from the surface to the water below. Wetlands helps to top up groundwater because a wetland drains slowly.

- **Recreation**
  Potential for bird watching, fishing, jogging, cycling and picnic.

- **Education**
  Wetlands provide excellent sites for the study of biology and ecology.
How a wetland works?

**Wetland zone 1: Upland**
Upland are the driest and furthest from water bodies where it provide vital food and shelter

**Wetland zone 2: Riparian**
Interface between land and the water bodies. The vegetation is characterized by plants habitats and communities along the river margins and banks.

**Wetland zone 3: Emergent**
Emergent is a shallow water wetland along the shores of the water bodies. It is generally cover with emergent plant species and ideal habitat for animals including dragonflies, butterflies amphibians and reptiles.

**Wetland zone 4: Aquatic**
This is an area below the high water mark. There are 3 distinctive types of plants grow which are sub-emergent and floating plants
Wetland Park

Overall Master plan

LEGEND

1. Water cascade
2. Rock weir
3. Lookout deck
4. Entrance Signage

Jalan Anggerik Vanilla 31/95

PETRONAS LAND RESERVE

1

2

3

4

LEGEND

- Jogging track
- Pylon station
**Project Chronology**

- **Project start**
  - April 2002
  - Conceptual and design development stage

- **Construction stage**
  - Sept 2003

- **Wetland Park handed over to MBSA**
  - Nov 2004

- **Project Completed**
It’s not meant to be pretty, it’s meant to be Natural & Sustainable......

we purposefully flipped infrastructure that would otherwise de-value the development into one that contributes positively to the built environment, the open spaces and the community as a whole.
Thank you