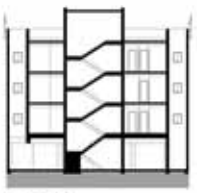
HSBC MALTA PROPERTY EXPO 2010

RODERICK BONNICI

ARCHITECTURE STUDENT COMPETITION

The Yin Yang concept has been adopted for this structure. Different and independent areas of the building are exploited to get the maximum energy recovery for the whole premises. Initially, the concept kicked start by dividing the left and the right apartments; consequently it developed by maximising the potential output by the front and back facade.


S-E View (Front facade)

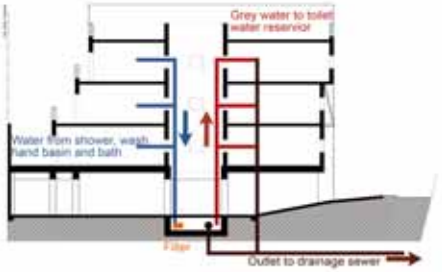

Section B-B

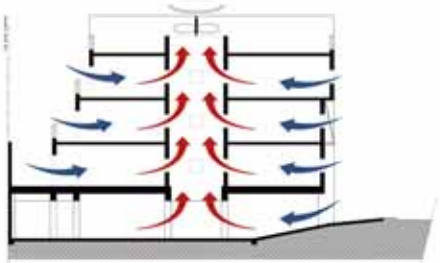

Section A-A

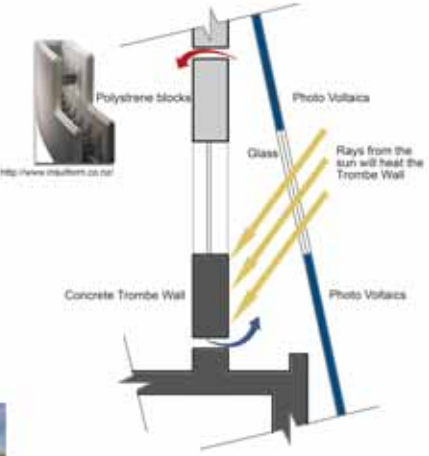
- Wind catchers installed on the back facade (facing NW) – passing through the central system to create an efficient ventilation system, subsequently creating the right indoor temperature.
- Photovoltaic cells installed on the SE façade –
  - Charge collected is stored in central repository, generating enough current to feed all apartments.
  - Positioned to create shading and helping the Trombe wall system.
- Polystyrene hollowed building blocks - increasing thermal insulation
- Photovoltaic glassing - serving as windowpanes.


Semi-Basement (Level 0) | Groundfloor (Level 1) | Elevated Groundfloor (Level 2) | First floor (Level 3) | Second floor (Level 4) | Roof Plan (Level 5)

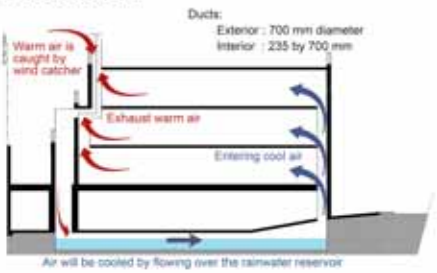
- A grey water system - already-used water is recycled to be reused for water closets.







- Alternative energy powered fan - installed in three shafts for enhanced ventilation



- Conveniences - the apartment at the elevated ground level is specially designed to be fully accessible by people with special needs.