Administrative building for Pimpri Chinchwad New Town Development Authority

Location	:	Akurdi, Pune
Site Area	:	20344 sqm
Built-up Area	:	10835sqm
Air-conditioned Area	:	607 sqm
Non Air-conditioned Area	:	10228 sqm
Energy consumption reduction	:	46% from GRIHA benchmark
Water consumption reduction	:	71.30% from GRIHA benchmark
EPI	:	17 kWh/sqm/year
Occupancy hours	:	8 hours
Renewable energy installed on site	:	100kWP
GRIHA rating	:	5 Stars

The following strategies were adopted to reduce the impact of the proposed building on natural environment:

- **Sustainable Site Planning**:
  - Barricading of the site to prevent air pollution.
  - Existing trees are preserved and 247 trees of native and naturalized species are planted
  - Top soil is preserved and protected for later use
  - Minimum damage to the existing topography of the site
  - Natural contours of site are retained, creating stilt parking on the lower level, avoiding construction of basement.
  - Net paved area is 17.20% of total site area and perviousness percentage of site is 56.46 %
- **Reduction in water consumption (compared to GRIHA benchmark):**
  - Reduction in building water consumption by use of low-flow fixtures :71.30 %
  - 56.34% reduction in landscape water consumption by using native species and efficient irrigation systems
  - Capacity of Sewage treatment plant installed on site is 50 kl/day.
  - 50.11% of annual water demand is met by reusing treated wastewater for flushing and landscaping.
- **Reduction in energy consumption (compared to GRIHA benchmark) while maintaining occupant comfort:**
  - 46% reduction in annual energy consumption as compared to a conventional building
  - 63.2% of the total area is day-lighted
  - External shading and efficient glazing systems to reduce solar heat gain and glare-free day-light
  - ECBC compliant energy efficient artificial lighting system
  - ECBC Compliant envelope to reduce space conditioning loads
- **Renewable energy technologies installed on site:**
  - Total installed rated capacity of renewable energy system is 100kWp. The annual power generated by the system is 156670 kWh
  - 82% of annual energy requirement for space conditioning and indoor artificial lighting met by solar energy.
- **Use of low-energy/green materials:**
  - 74% of total quantity of material used for subassembly, internal partitions, false ceiling and in built furniture is low energy material having recycled content.
  - 62% of total flooring used is low energy material.
  - Project has used flush doors and granite doorframes in order to reduce usage of hard wood in interiors.

Integrated Design Team:

Client	: Pimpri Chinchwad New Town development Authority
Architect	: Landmark Design Group, Pune
HVAC System	: Federal Consultant, Pune
Electrical Consultant	: Federal Consultant, Pune
Interiors	: Landmark Design Group,Pune
GRIHA Rating Consultant	: The Energy and Resources Institute, New Delhi