Gandhi Research Foundation

Location	:	Jain Hills, Jalgaon
Site area	:	9000 m^2
Built-up area	:	6,000 m^2
Air-conditioned area	:	4,600 m^2
Non Air-conditioned area	:	1,400 m^2
Energy consumption reduction	:	65% reduction in energy consumption compared to GRIHA benchmark
EPI	:	41 kWh/m2/year KWh/ m2/year
Renewable Energy	:	Rated capacity of solar PV installed on site is 20.24 kWp
GRIHA provisional rating	:	5 Stars
Year of completion	:	2013

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

Sustainable site planning:

- The building blocks have been designed in accordance to the terrain of the site ensuring that there is minimum site disturbance.
- All existing trees have been retained on site and are a part of the building post occupancy.
- Minimum impact on environment is ensured by planting native trees, employing efficient storm water management, installation of pervious paving on site for more than 60% of the paved area, use of e-vehicles on site.

Reducing water consumption:

- Native plantation and use of efficient irrigation system
- Use of low flow and flush fixtures
- Use of non potable water for landscaping

Reducing energy consumption (compared to GRIHA benchmarks) while maintaining occupant comfort:

- For achieving visual comfort:
  - Passive techniques like appropriate orientation of building, highly efficient envelope and mutual shading reduce the external heat gains
  - Integration of daylight in design reduces the requirement of artificial lighting. An overall of LPD of 0.4 w/sqft has been achieved in the building resulting to 61% savings.
  - Onsite renewable energy generation contributes to around 8% of total connected load of air conditioning and lighting.
  - Efficient day lighting design provides thermal and visual comfort levels in the building.
  - Good quality day lighting and views in classrooms and administration area.
  - Museum has been designed as per the special lighting requirements.
- For achieving thermal comfort:
  - The building HVAC systems are designed to maintain thermal comfort conditions based on the design criteria of NBC standards.

Renewable energy technologies installed on site:

- Solar PV panels installed at GRF have an installed capacity of 20.24kWp, with an annual generation of 26199kWh.
- 100% external lighting demand is catered by installed RE
- 60% internal lighting demand is catered by installed RE

Use of low energy materials:

- Natural stone along with on site manufactured sun dried fly ash brick have been used for the block work.
- The roof of the museum building is a pre-fabricated structure which has largely reduced the amount of concrete used in the building.

Integrated Design Team:

Client	:	Gandhi Research Foundation, Jain Hills Jalgaon
Project Coordinator	:	Ms Dipti Talwar
Principal Architect	:	A Mridul
Project Architect	:	Mr Prashant Patel
Landscape Architect	:	Mr Ajay Kale
Project Management Consultant	:	Mr. Narayan Lalwani
Structural Consultant	:	Mr Narayan Lalwani
Electrical Consultant	:	Mr Vikrant Bhangale
Green Building Design and Certification	:	Ms Dipti Talwar