



Construction of New Government Medical College, Balasore

Location	: Balasore
Site Area	: 1,06,837 m ²
Built up Area	: 58,824 m ²
Air-Conditioned Area	: 7,970 m ²
Non-Air-Conditioned Area	: 50,401 m ²
Energy Consumption Reduction	: 70% reduction in the energy consumption compared to GRIHA benchmark
EPI	: 34.9 kWh/m ² /year
GRIHA provisional rating	: 4 Star Rating (Version: 3.1)
Year of completion	: 2018

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

📍 Sustainable Site Planning:

- Out of 197 existing trees, 120 trees were cut, and 537 new trees were planted.
- The utility services are consolidated and are planned along the roads for preventing unnecessary cutting and trenching of the site.
- To reduce the heat island effect, roof and hardscape areas were treated with heat reflective paints.

📍 Water Management:

- Reduction of 53.82% from the GRIHA base case has been demonstrated in building water demand by installing water efficient fixtures.
- Reduction of 47.28% from the GRIHA base case has been demonstrated in the landscape water demand through use of native, adaptive and drought tolerant species along with drip irrigation system.

📍 Energy Optimization

- EPI reduction of 70% from the GRIHA benchmark has been demonstrated.
- 52.9% of the total living areas is day-lit and meets the SP 41 prescribed daylight factors.
- Artificial lighting design has been done as per NBC 2005.
- Astronomical timer based control has been installed for external lighting.

📍 Renewable Energy Technology installed on site:

- Rooftop solar photovoltaic system of capacity 16.75 kWp is installed on the site.

📍 Sustainable Building Materials:

- More than 15% of the cement is replaced with flyash by weight for structural concrete application.
- Materials with industrial waste such as fly ash bricks have been used for walling.
- Gypsum plaster boards and material fiber boards have been used for false ceiling.

Integrated Design Team:

Client	: R&B Division, Puri
Principal Architect	: L&T construction
Landscape Architect	: L&T construction
Structural Consultant	: L&T construction
Electrical Consultant	: Mr. Ramesh Ramasubramanian, EDRC
Green Building Design and Certification	: Mr. Wilson Rajasiga