



## Expansion and Modernization of the British School

<b>Location</b>	: New Delhi
<b>Site Area</b>	: 21521.0 m <sup>2</sup>
<b>Built-up Area</b>	: 19625 m <sup>2</sup>
<b>Air-Conditioned Area</b>	: 9990.25 m <sup>2</sup>
<b>Non-Air-Conditioned Area</b>	: 8917.51 m <sup>2</sup>
<b>Typology</b>	: Institutional
<b>Energy Consumption Reduction</b>	: 73% reduction in energy consumption compared to GRIHA benchmark
<b>Energy Performance Index (EPI)</b>	: 37.44 kWh/m <sup>2</sup> /year
<b>Renewable Energy</b>	: Rated capacity of solar PV installed is 40 kWp
<b>GRIHA Provisional Rating</b>	: 5 Stars
<b>Year of Completion</b>	: 2016

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

#### 📍 Sustainable Site Planning:

- 5 trees existed on site and all were preserved. In addition, the project planted 292 native trees to enhance microclimate of the area.
- Air pollution control measures such as site barricading, coverage of dusty material, wheel washing and water sprinkling were implemented during construction.

#### 📍 Water management:

- Reduction of more than 56.05% from the GRIHA base case has been demonstrated in landscape water demand by use of sprinklers.
- Reduction of 65.3% from the GRIHA base case has been demonstrated in building water use by installing water efficient flush and flow fixtures.
- Construction water requirement was minimized to large extent by adopting curing through gunny bags.

#### 📍 Energy Optimization:

- EPI reduction of 73% from GRIHA benchmark has been demonstrated.
- 62% of the habitable spaces are day lit and meet the daylight factors prescribed by the National Building Code of India.
- 12.54% is the window to wall ratio of the project.

#### 📍 Renewable Energy Technology installed on site:

- 40 kWp rated capacity solar PV panels have been installed on site.
- Rated capacity of solar PV meets more than 30% of internal lighting and HVAC load of the project.
- Solar water heaters have been installed to meet hot water requirement.

#### 📍 Sustainable Building Materials:

- 92% of ceiling materials used in the project which include Gypsum, Bison Board, and Perforated Gypsum Board are low-energy materials.
- Kota stone and terrazzo flooring have been used for more than 70% of flooring in the school.

### Integrated Design Team:

<b>Client</b>	: The British School, Chanakyapuri, New Delhi
<b>Principal Architect</b>	: Sonali Rastogi, M/s Morphogenesis
<b>Landscape Architect</b>	: Savita Punde, M/s Design Cell
<b>Structural Consultant</b>	: Vinay Salpekar, M/s Optimal Consultancy Services Pvt. Ltd
<b>Electrical Consultant</b>	: Indranath Tripathi, M/s AECOM
<b>Green Building Design and Certification</b>	: Disha Sharma, The Energy and Resources Institute Anurag Bajpai, GreenTree Building Energy Pvt. Ltd. Sonali Rastogi, M/s Morphogenesis