MANTRALAYA Annexe - Building, Mumbai

GRIHA EB

3 STAR

Location	: Mumbai, Maharashtra
Site Area	: 7,928 sqm.
Built up Area	: 16,924 sqm.
Typology	: Commercial
Rating Category	: GRIHA for Existing Buildings (EB)
Version	: 1
Date of Award	: 10 September, 2019
Client	: Government of Maharashtra
Integrated Design Team	: Public Works Department (PWD) Maharashtra
Green Building Consultant	: Energetic Consulting Pvt. Ltd.

The following strategies were adopted by the project team to reduce the impact of the existing building on the environment:

Site Parameters:

- Preferred parking was provided for electric and pooled vehicles.
- Strategies such as soft landscape area, hard paved area with high SRI coating were implemented over 3,179 sqm. of site area to reduce the Urban Heat Island Effect.

Energy:

- Replacement of old electrical equipment and appliances with BEE star rated ones, reduced the annual energy consumption from 19,47,930 kWh/year to 17,86,284 kWh/year indicating a percentage saving of 8.3%.
- Solar photovoltaic system of 75 kWp was proposed to generate 1,17,015 kWh of renewable energy.

Water Efficiency:

- Building water consumption was reduced from 7,435.95 kl/year to 4,787.64 kl/year indicating a percentage saving of 35.6%.
- Landscape water consumption was reduced from 12.96 Kl/year to 1.14 kl/year indicating a percentage saving of 91.2%.

Human Health and Comfort:

- Indoor comfort conditions measured in summer months; Dry bulb temperature= 29.1 – 29.8°C, Relative humidity= 56% – 58%, Daylight levels= 176 - 181 lux, Artificial lighting levels= 303 - 378 lux and Indoor Noise levels: 33 - 34 dB; were complaint with benchmarks of the Indian Model for Adaptive comfort, SP 41 and NBC 2005.

Total energy offset by renewables	Total reduction in building water demand
= 6.6%	**= 35.6%**

TOTAL CARBON OFFSET BY THE PROJECT:

By planting native saplings & preserving existing trees: 0.44 ton/year

By conservation of conventional energy: 303.46 ton/year