



ENGINEERS INDIA BHAWAN

Location	: SIPCOT IT Park, Siruseri, Chennai
Site Area	: 3944 m ²
Built up Area	: 10734 m ²
Air-conditioned Area	: 5430 m ²
Non Air- conditioned Area	: 5304 m ²
Typology	: Commercial/Office
Energy Consumption Reduction	: 25.7%
EPI	: 104 kWh/m ²
Renewable Energy	: 35 kWp Solar PV Panels
GRIHA provisional rating	: 4 Stars
Year of completion	: 2014

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

📍 Sustainable Site Planning:

- Excavation and Construction activities were completed prior to monsoon season to prevent soil erosion and soil run-off from project site.
- More than 73 trees were planted though the site was bereft of trees.
- Utilities were planned in such a way that the on-site circulation efficiency was optimized.
- Grass pavers are provided to reduce imperviousness of project site.

📍 Water Management:

- High efficient drip irrigation has been utilized for irrigating landscapes which results in reduction of more than 70% of landscape water demand.
- Reduction of 67% has been demonstrated on building water Use by installing water efficient flush and flow fixtures.
- A 50 KLD capacity of Fluidized Bed Reactor is installed to treat waste water on-site and reuse for flushing, landscaping and cooling tower makeup.

📍 Energy Optimization:

- High efficacy lamps are installed for exterior lightings which have been operated by timer controller.
- Double Glazing Windows with a Solar Heat Gain Coefficient of 0.18 used as Building Envelope.
- Reduction of 25.7% from GRIHA established Energy Performance Index for office building has been demonstrated.
- Water cooled chiller with high COP of 6.05 has installed for space cooling application.
- ECBC mandatory criterions complied lighting, HVAC and electrical power system have been implemented.
- 35 kWp Solar PV panels have been installed to reduce use of electricity from fossil fuel.
- More than 50% of the living spaces is daylighted and meets the daylight factor as prescribed by National Building Code of India.

📍 Waste Management:

- Multi-coloured bins have been provided on floor level to collect and segregate waste at source.
- A dedicated place has been provided on site to store segregated waste prior to dispose of.
- Sludge from Sewage Treatment Plant is proposed to be used as fertilizer for landscapes.

📍 Low Energy Materials:

- PPC is used for structural and plaster masonry application.
- Flyash bricks and Autoclaved Aerated Concrete (AAC) blocks have been used in the project to reduce embodied energy of the building.
- Use of low energy flooring, doors and windows.

Integrated Design Team:

Client	: M/s. Engineers India Limited
Project Coordinator	: M. Rajendran, Assistant General Manager (Projects)
Principal Architect	: M/s. STUP Consultants Pvt Ltd.
Landscape Architect	: M/s. Engineers India Limited & M/s. STUP
Project Management Consultant	: M/s. Engineers India Limited
Structural Consultant	: M/s. STUP Consultants Pvt Ltd.
Electrical Consultant	: M/s. AECOM Pvt Ltd.
Green Building Design and Certification	: Air Design Engineered Solution Pvt Ltd & INNOWELL Engineering International Pvt Ltd.