



CASE STUDY: BBCL NAVARATNA



KEY PARAMETERS

Occupancy Type	Residential Apartments
Built up area	158683.7 Sq. ft
Completed	April 2013
Location	Chennai
Green consultant	En3 Sustainability Solutions
Rating System	GREEN HOMES
Rating Achieved	Pre-Certified GOLD

LEED SCORES



BBCL Navarathna, Chennai, is an environment friendly apartment complex, which not only saves energy and cooling costs but also gives more lung space and natural light for all residents. En3 has done innovative work to help the project get greener and achieve its **LEED GOLD** pre-certification from the Indian Green Building Council.



SITE SUSTAINABILITY FEATURES

- The project is in an ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure.
- Protection of soil and ecosystems during construction including preserving high quality topsoil to reuse the same for landscaping, protecting existing trees etc.
- Provision of battery charging stations and in an effort to promote use of alternative and low emitting vehicles and to reduce transportation pollution.
- Covered car parks in order to reduce local heat island effects and provide more comfort for all the occupants.
- 100% parking facilities for visitors as per local norms
- Building design to cater to differently abled people
- Green roofs / reflective roofs have been planned for the project to reduce heat islands and to minimize impact on microclimate and also reduce heat ingress into the building.



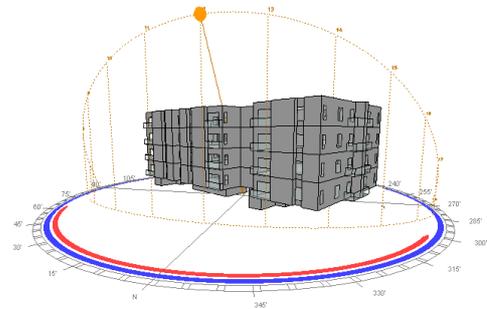
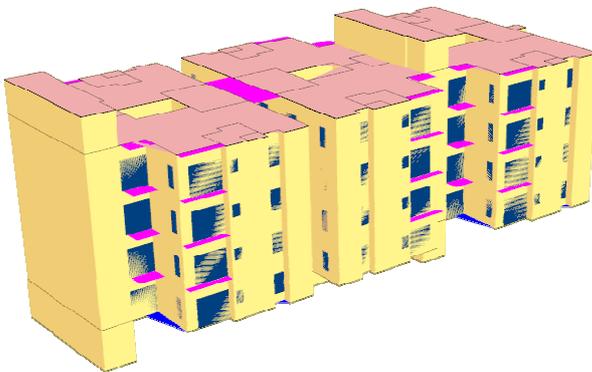
WATER EFFICIENCY

- The rainwater harvesting designed for the project will capture 100% of runoff volumes from roof surfaces.
- 100% of the waste water generated on-site is reused within the site itself for landscaping, flushing and other custodial purposes
- Rain water harvesting tank and pits have been provided to harvest water on-site and conserve water
- All landscaping areas have been planned with native / adaptive species of vegetation which require little or no irrigation after few years thereby reducing the water requirement significantly
- High efficient Irrigation systems
- Low flow and efficient water fixtures such as low flow dual-flush toilets, showers and sinks to reduce potable water consumption of about 48.4%
- Continuous monitoring and enhance the performance of the residential dwelling unit through water meters



ENERGISING THE BUILDING

- The project used CFC-free HVAC equipments.
- The building is well designed to harvest natural lighting such that over 65% minimum and 100% maximum of each apartment will be well lit and will not require artificial lighting during the day time to provide a nicer environment and save on energy
- High Performance Building envelope i.e., with Aerocon blocks. This reduces the overall heat ingress and hence reduces the overall building electricity power consumption to 18.15% against IGBC base case.
- Use of efficient lighting systems to reduce the overall energy consumption.
- Provision of a detailed metering system to ensure that adequate measurement and monitoring of all systems in the building has been done to continuously monitor the building
- Provision of 11600 liters solar hot water system. This accounts to 100% of the entire solar hot water requirement as per IGBC.



RESOURCE MANAGEMENT

- Provision of space for storage and collection of recyclable materials such as paper, glass, plastic, metals and establishment of contracts with recycling agents.
- Efficient waste management during construction
- Use of materials such as materials with a high percentage of recycled content, materials that are locally available and responsibly harvested wood products such as plywood and veneer to reduce exploitation of virgin materials

INDOOR ENVIRONMENTAL QUALITY

- Smoking will be prohibited in all common areas of the building
- Adequate fresh air ventilation & natural lighting such that over 65% minimum and 100% maximum of each apartment will be well lit and will not require artificial lighting during the day time to provide a nicer environment and save on energy.
- Low emitting adhesives, paints and sealants have been used to enhance the indoor environment for its residents.

En3 would be glad to answer any queries or questions you have on any green or sustainability related topics. Feel free to contact us at info@en3online.com and for more information visit us at www.en3online.com.