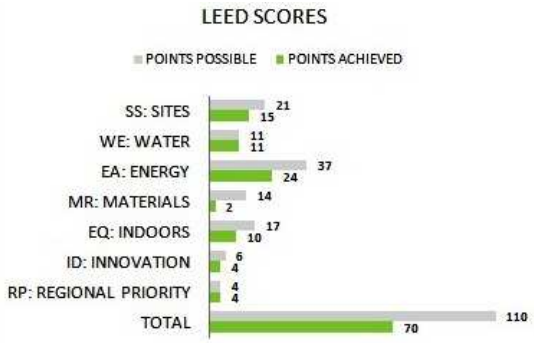
CASE STUDY: FLSMIDTH

KEY PARAMETERS

Occupancy Type	Office Space
Built up area	26693 Sq ft
Completed	November 2011
Location	Thane, Mumbai
Green consultant	En3 Sustainability Solutions
Rating System	USGBC LEED ID+C
Rating Achieved	GOLD



FLSmidth is an environmentally responsible organization and are always striving to protect the environment. En3 has done sustainable work to help FLSMIDTH to achieve LEED Gold certification under Interior Design and Construction ID+C rating system from the US Green Building Council for the new office in Thane, Mumbai.

SITE SUSTAINABILITY FEATURES

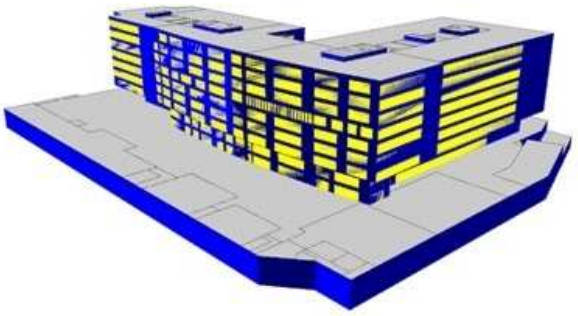
- The project is in ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure, protects green-field site and preserve habitat and natural resources.
- Provision of Bicycle and Shower facility for their staff reduces pollution and land development impacts from automobile use.
- Preferred parking for car/vanpools is provided for 12.6% of LEED-CI project FTE occupants in an effort to promote ride sharing to reduce transportation pollution as well as strain on the local infrastructure.
- Car parks in the basement to create more open spaces on the ground and also reduce the local heat island effect.

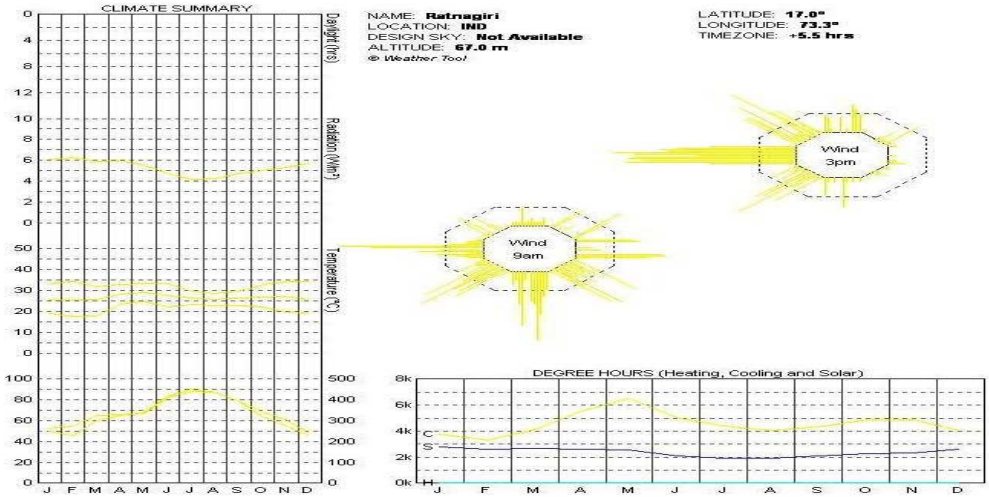
WATER EFFICIENCY

- Low flow dual-flush toilets, sensor based urinals and other low flow fixtures have installed reduced potable water consumption by over 4**5 %.**
- Wastewater will be treated onsite to tertiary standards and the treated water is being reused for landscaping purposes

ENERGISING THE BUILDING

- Provision of high performance glazing, efficient HVAC design and air distribution and lower HVAC loads due to excellent interior lighting designs have contributes to energy savings of about **15.7%** over conventional building and HVAC systems.
- Selection of CFC free and HCFC free refrigerants avoids global warming and ozone depletion.
- Excellent interior lighting design with energy efficient Light fixtures and sensors contribute to **36.32%** of reduction in connected lighting power density over the base case of ASHRAE standards.
- About **97. 51%** of the equipment and appliances such as Monitors, CPU, Projectors, Refrigerators, Printers, plotters are ENERGYSTAR rated.
- Metering equipments have been installed for monitoring the energy use in the building such as EB and DG energy monitoring, individual meters for common area lighting, lifts, chillers, pumps, office area lighting, power and AHUs independently for each tenant, measuring chilled water consumption for each tenant using BTU meters for the ongoing accountability and optimization of building energy and water consumption performance over time.





RESOURCE MANAGEMENT

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- Use of materials with recycled content and locally manufactured materials to reduce virgin material exploitation
- Rapidly Renewable materials account for 17% of the project's material cost.

INDOOR ENVIRONMENTAL QUALITY

- In order to support enhanced IAQ and long-term well-being of all occupants, 30% more than the minimum ventilation rates as per ASHRAE standards have been provided.
- The entire building is a non-smoking building thereby ensuring the health and safety of all its occupants.
- Low emitting adhesives, paints, carpets and composite wood products have been used to enhance the indoor environment and provide superior workplace for all employees.
- All system seating and furniture used in the project reduce indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants
- The project conducted a flush-out prior to occupancy by supplying a total air volume of 14,000 cubic feet of outdoor air per square foot of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%.
- Provision of MERV13 filters and 3M dust removal mats at all building entrances minimizes the exposure of building occupants to potentially hazardous particulates, biological contaminants and chemical pollutants that adversely impact air and water quality.
- Provision of a thermally comfortable environment that supports productivity and well-being of all building occupants.

NOVELTIES

The project has installed ENERGY STAR-rated equipment and appliances equal to 97.51%, by rated power, which meets the exemplary performance requirements. 17.03% of the total building materials value includes building materials and products that are from rapidly renewable sources, which meets the exemplary performance requirement.

This green building has been designed by En3 to showcase various green and sustainability measures and practices and the effort is to create greater awareness on green concepts and sustainability to all its visitors and occupants & spearhead the green movement in the state and the country.

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.