



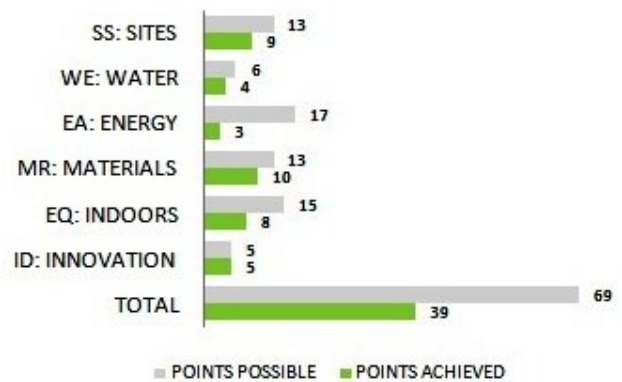
CASE STUDY: HERITAGE RESORTS



KEY PARAMETERS

Occupancy Type	Resorts
Built up area	105378 Sq ft
Completed	June 2011
Location	Madurai, Tamilnadu
Green consultant	En3 Sustainability Solutions
Rating System	LEED India NC version 1.0
Rating Achieved	Gold

IGBC SCORES

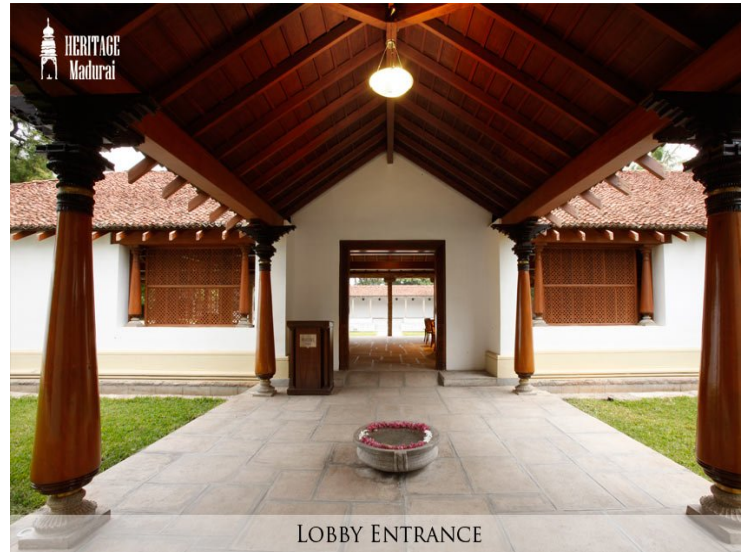


Heritage Resorts is Madurai's first luxury spa and resort, located in an expansive 17 acre campus on the fringes of the heart of the city. Heritage Resorts achieved LEED GOLD certification under LEED India NC version 1.0. Heritage Resorts sports many green features that directly contribute to the environment in terms of reduced energy consumption, impact on the local environment and usage of natural resources. En3 has been working closely with the Heritage team to make their new luxury spa and resort at Madurai a green building.



SITE SUSTAINABILITY FEATURES

- The project is located in close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure
- Provision of battery charging stations for 4% of the total car parking capacity in an effort to promote use of alternative and low emitting vehicles and to reduce transportation pollution.
- Provision of carpooling spaces for 8% of the total car parking capacity within the premises in an effort to promote share-rides to reduce transportation pollution as well as strain on the local infrastructure.
- 63% of the site area – exclusive of building foot print, is covered with native or adaptive landscape species ground
- 91% of roof area is covered with a highly reflective material to reduce heat islands and to minimize impact on microclimate and human and wildlife habitat.



WATER EFFICIENCY

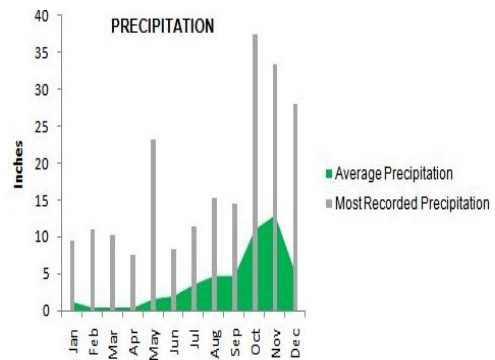
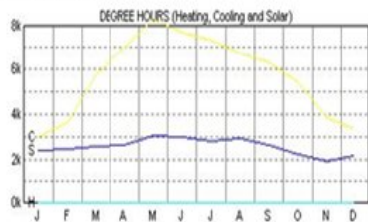
- Water is an integral part of “Heritage” Campus and every effort is been taken to minimize water use by installing water efficient fixtures. Low flow dual-flush toilets, sensor based urinals and other low flow fixtures have been selected to install at site to reduce water consumption by over 38 %.
- Specialized selection of landscaping design and species to reduce overall landscaping water requirement by 58%.
- 100% of wastewater is being treated onsite to tertiary standards.

ENERGISING THE BUILDING

- Energy efficiency measures such as Hi albedo paint on roof, efficient lighting design, efficient HVAC design and VRV systems for saving more energy than the conventional systems. Domestic Hot water systems are powered by Solar PV panels.
- Selection of CFC free and HCFC free refrigerants thereby avoiding global warming and ozone depletion.
- Heritage Resorts has signed a power supply agreement with a renewable energy company to supply wind generated power to the tune of 10,00,000 kWh/ annum exclusively for the resorts, thus, ensuring that 100 % of the power requirements are met through renewable sources

NAME: Chennai-Madras
 LOCATION: IND
 DESIGN SKY: not available
 ALTITUDE: 16.0m

LATITUDE: 13.0"
 LONGITUDE: 80.2"
 TIME ZONE: +5.5hrs





RESOURCE MANAGEMENT

- 100% of the existing walls, floors and roof have been retained and reused for this project.
- The project has ensured up to 84% of total construction waste of debris has been recycled or reused thereby diverting them from landfills.
- 20.59% of the resource requirement for the project (by cost) has been met through refurbished and reused resources
- The project has achieved a combined recyclable content value of 10.21% of total material by cost thereby reducing virgin material exploitation.
- About 54% of the project's material and products by cost was extracted, harvested and recovered within 800 km of project site and 55% of the total material cost was manufactured locally/regionally thereby reducing the pollution associated with transportation.

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 is provided.
- The entire building is a non-smoking building thereby ensuring the health and safety of all its occupants.
- Low emitting paints, carpets and composite wood products have been used to enhance the indoor environment and provide superior workplace for all employees.
- After completion of all interior activities, the project has done proper building flush out in line with LEED requirement to enhance their staff working spaces.
- Provision of a thermally comfortable environment that supports productivity and well-being of all building occupants
- 92.31% of the individual spaces are provided with individual lighting controls and 100% of the multi occupant spaces are provided with group controls



PLUNGE POOL

NOVELTIES

- 10,00,000 kWh/ annum of renewable energy from windmills is supplied to the project to meets its expected requirements of 9,20,634 kWh/annum
- Eco friendly house keeping chemicals, as well as chemical free organic fertilizers will be used for landscaping. Only Green Seal certified housekeeping will be used in the project to address health, hygiene and well being of guests and staff. The building has been designed by En3 to showcase various green and sustainability measures and practices to ensure great amount of awareness is created by the buildings to promote green awareness to all the 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 about us and our work visit www.en3online.com