



Grape County Resort

Location	: Khambala, Nashik
Site Area	: 21,433 sq.m.
Built up area	: 1475 sq.m.
Typology	: Resort
SVA GRIHA rating	: 5 star

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

🌿 Landscape

- Protection of all 50 existing trees on site.
- Total 538 new native trees and 6,437 shrubs have been planted.
- Total 61% of the paved area on site is either soft paved or shaded by trees to reduce the urban heat island effect.

🏠 Architecture and energy:

- Natural contours of the site have been retained to avoid unnecessary cutting and trenching of the site.
- Earth berming has been incorporated in the resort design.
- Internal layout shows placement of non-habitable zones along eastern facades of the cottages, dining and banquet hall.
- Cumulative WWR (Window to Wall Ratio) of the project is 23.27%.
- The reduction in overall insolation through the fenestration, against the SVAGRIHA benchmarks, is 55.42%.
- Over 73.24% of total living area falls under day-lit zone.
- Installation of solar photo-voltaic system of capacity 30 kW (more than minimum threshold limit as prescribed in SVAGRIHA i.e. more than 2.5 kW for this project)

💧 Water and waste:

- The project meets 100% of the total building water demand for over 2 days, through rainwater harvesting.
- STP (Sewage Treatment Plant) based on reed bed system treats 100% of sewage generated from the project. The treated water from STP is reused for irrigation purpose.
- Reduction in landscape water demand by 88.49%, below the SVAGRIHA base case, has been achieved due to installation of sprinklers and drip irrigation system as well as plantation of only native and naturalized trees.
- Reduction in building water demand by 57.95%, below the SVAGRIHA base case, has been achieved due to use of low-flow plumbing fixtures and aerators.
- No dependency on any external water supply source like local planning authority, even in summers due to creation of water reservoir as an outcome of efficient rainwater harvesting scheme/plan.
- Provision of vermi-composting pits on site to treat 30 cu.m. organic waste generated from site.

♻️ Materials:

- Use of construction materials with recycled content, include:
 - » PPC (Portland Pozzolana Cement) having fly ash content in the range of 15-35%.
 - » Reinforcement steel with 50% recycled content.
- Reduction in overall embodied energy by 67.77%. Materials used in building envelope include:
 - » AAC (Autoclaved Aerated Concrete) blocks for Northern and Southern walls of cottages, having average 68% fly ash content.
 - » *Godhra* bricks and Basalt stone locally procured from *Mhasrool* in Nashik, in dining and banquet hall.
 - » Fiber cement boards for wall and roof of cottages.
 - » Refurbished wood for internal layer of roof in cottages.
- 100% furniture, flush doors, door frames and other wooden materials in the project interiors made up of refurbished wood.
- Use of low-energy flooring materials for 92.10% of the total area of the site. Materials such as rough *Shahabad*, natural *Kota* stone and ceramic tiles with 13% recycled contents have been used in the project.

👤 Lifestyle

- Basic amenities such as Bank ATM, library, first aid facility, restaurant and garden within the premises/or within 2 km radius from the project site.
- Provision of dedicated and clean toilets for service staff.
- Initiatives have been adopted to create environmental awareness on green lifestyle and to enhance biodiversity of site and surrounding areas.
- Use of eco-friendly housekeeping products.

Integrated Design Team:

Client	: Green Spaces Realtors, Nashik
Architect	: Ar. Sanjay Patil and Ar. Shabbir Unwala
Green Building Consultant	: VK.e environmental LLP, Pune