

Philosophies & Policies



Orange County Group

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Design

Philosophy

With extremely sensitive and holistic approach towards environment, our buildings shall be carefully located on the selected sites.

Buildings shall be designed to have proper orientations, spaces and forms that are in tuned with local climatic conditions, solar and day light accessibility.

There are two main principles of green building design and planning, which are

Passive strategy and Active strategy

In order to achieve effectiveness through practical and cost effective method, passive strategy will always be given preference than the active strategies.

Since measures taken in a pre-designed of a project are fundamental in direction and implementation of subsequent planning, design and construction, pre designed policies are equally crucial.

Policies

Pre Design policies.

- Land preservation.
- Protection of ecological resources
- Reduced cost of site preparation, parking lots and roads.
- Less landscape maintenance cost.

Design policies

- **Passive strategies**
 - Three side open cross ventilated architecture
 - Maximum natural light but minimum heat
 - Solar path analysis to have passive solar design.
 - Careful siting of buildings for solar accessibility as well as shading.
 - Varied wall thickness for proper thermal mass
 - Computerised simulation achieve desired results
 - Application of Vaastu Shastra principles which have scientific basis.
 - Study of wind rose diagrams to predict wind flow platform.

- Landscaping to be aesthetic while designed as an integral part of planning by providing assistance through design use of critical shading or direction of natural airflow.
- **Active strategies**
 - Radiant cooling technology
 - Use of sun shading projections.
 - Energy efficient HVAC system.
 - Reduce system load by integrating above listed design policies and using measures such as energy efficient motors, variable frequency drives, PLC based automation etc.

Material (Construction)

Philosophy

We will use construction materials that require reduced energy for transportation which gives preference for locally available material. We will strive and do continuous R&D to search for new eco-friendly materials that are reusable, recyclable, have low embodied energy, are bio degradable and help to increase energy efficiency in buildings. We will prefer the materials that have minimum air, water and land pollution footprint.

Policies

- External unique finish of lime and Rangoli as done in Mugal architecture
- UV resistant coloured lime plaster on external surface (In house invention)
- TOFFU and lime for internal colours
- Lime stabilised black cotton soil technology
- Lime + Murum road
- Use of SHGC(Solar Heat Gain Coefficient) Glass
- Use of fly ash (20-30% of cement)
- Use of rice husk
- Use of Bamboo Trusses.

Energy

Philosophy

Our design shall consider incorporating measures that will minimise energy use, simultaneously achieving improved comfort conditions for occupants. We will always try to be as much as possible on renewable energy sources such as solar wind, bio gas, and geo thermal. We will install most energy efficient appliances and will take measures to minimise the need and use of energy consuming utilities. We will use energy metering to monitor and illustrate energy consumption to aid in conservation and to populate culture of energy efficiency and saving.

Policies

- Use of Solar PV (crystalline, thin film), small wind turbine to produce energy
- Use of solar hot water panels
- Net metering
- Use of Lithium Iron Phosphate batteries for energy storage
- Blink free change over switch to limit use of RE in every apartment
- Automatic transfer switch at building level for alternate source of electricity
- Use of Homer software for micro-grid stimulation for township
- Experiments with Fabric solar PV- Semi foldable solar PV Panels.
- Lifts running on solar
- All Water pumps on solar energy

Water and Waste Water Management

Philosophy

Reduction of water waste and consumption per capita is the main goal hence we will minimise the water use by every possible way. As a guiding principle, we will ensure the availability of fresh water for future generations by withdrawing only that much amount which will not exceed the natural replacement rate. Also water pumping, delivery and waste water treatment facilities consume a significant amount of energy hence we will try to be on natural sewage treatment methods which require minimum energy.

Water sources, storage, treatment, distribution, use and recycling are the six key phases in water design and management techniques, we will try to be as efficient as possible in every phase.

Policies

- Providing details of supply and uses of water to each occupant. Including measures that will first avoid than minimise wastage.
- Use of energy and water efficient appliances, fitting and timer.
- Use of recycle waste water.
- Dual Flush technology
- Grey and black water separation
- Low flow taps
- Low flow shower heads
- Dual distribution system
- Rain water harvesting in which different quality of water to be delivered at different use points.
- Rain water storage
- Natural waste water treatment technology which is practically maintenance free.

Dry Waste and Wet Waste Management

Philosophy

Reduce, Reuse, Recycle

Policies

- Separation of dry and wet waste at the point of waste creation itself(at every individual house level)
- Wet waste converted into manure either by using OWC or Pit technology.
- Bio Gas generation from waste(Recycle)
- Plastic waste is exchanged for diesel generated from plastic itself.
- Tie up with SWATCH organization for recycle of dry waste.

Transportation

Philosophy

Sustainable mobility or transportation model is that which enables movement with minimal environment and territorial impact. The concept of green or sustainable transportation is in response to growing concern about climate change typically with respect to transportation that will emit less GHG this also means reducing fossil fuel imports in favour of large scale use of domestic energy sources for public and private transportation, this will lead to much clean air than it is today.

Policies

- Promotion of electric vehicles- E- Cycle, E-Scooty, E-Car
- Facilitation of charging stations for E vehicles
- Charging through solar electricity
- Parking covers using solar PV panels
- Selection of sites where all daily needs are available within 1 km, ie walking distance resulting to reduction in traveling time and fuel.

Biodiversity

Philosophy

The main goal of sustainable landscape design is to minimise both the input of resources and the output of waste in garden backyards. In order to achieve these aspirations, we should treat water as resource, value the soil, preserve existing plants and conserve materials. The amount of maintenance should be minimal for such landscape.

Policies

- Promotion of native flora and fauna
- Road side plantation of trees which consume SOX and NOX
- Creation of vegetable garden and Herbal Garden for daily needs
- Use of treated waste water for plantation
- Use of drip irrigation technique
- Creation of shadows on roads to reduce heat island effect.
- Installing permeable paving.
- Using passive solar landscaping design that maximises sun exposure in winter and shed in summer.

Culture & Communication

Philosophy

The ultimate end user of any built environment should become the stakeholder in all green aspects of construction is the key for successful implementation and preservation of all methods used during construction

After design and construction of a green building, steps should be taken to ensure that operation and maintenance should also follow green principles and standards, this is most effectively met if there is continual and appropriate maintenance, adequate training of staff, creation of awareness programs and frequent monitoring.

Policies

- Sustainable housekeeping.
- Daily information of electrical consumption to every stakeholder through mobile communication and building notice board.
- Instantaneous mechanism showing uses of either green or grid energy at every apartment level.
- Promotion of products consumes less energy such as gifting every apartment LED lights.
- Assigning and gifting one tree per flat.
- Creating stakeholder by charging small amount for green amenities
- Calculation of carbon footprint and educating team to reduce carbon footprint by commercialising nascent green technologies.