

A Housing & Construction Magazine

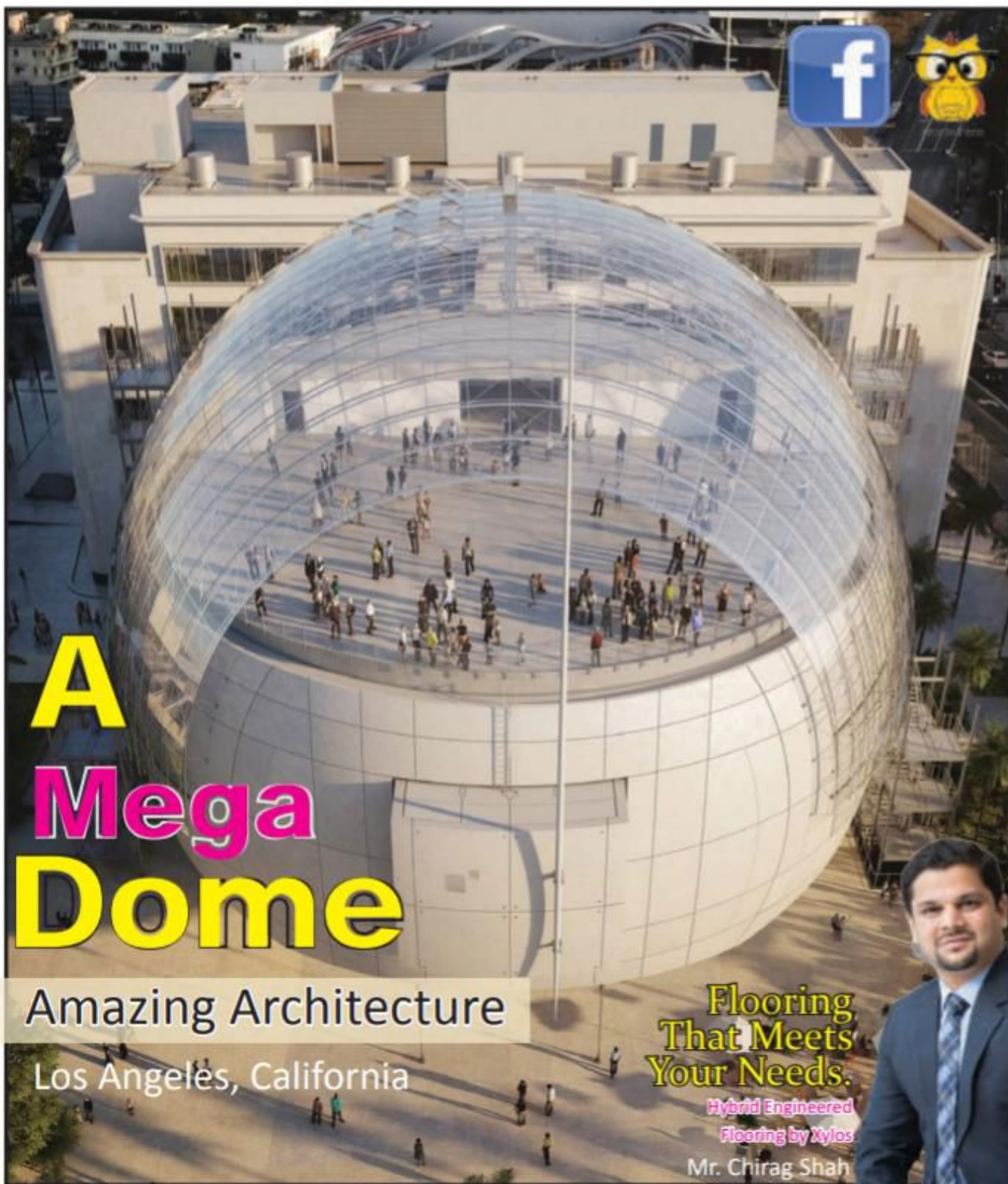
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Mr. Chirag Shah

Green Buildings – Need of the hour for a healthy environment

Present population of India is approx 130 cores and is expected to be at 160 Cr by 2050. Increased population will lead to gain in demand for house, resources etc. With limited land available, future needs will also exceed for resources & roll around flats. With alarming population rate which invites a lot of issues like water shortage, electricity, land & houses. One of the answers to these raising issues is construction of Green Buildings (Step for preserving the Environment).

Green Building is the concept of building structure, which are environmentally responsible and efficient in energy and resources, comfort of the occupant and community sensitivity throughout a building's life-cycle from designing, construction, operation, maintenance and deconstruction. In other words Green Building is the concept of Recycle, Reduce, Re-use and Renew. In near future, demand for green building will increased due to its performance and sustainability. Green building concept has been taken as important point in many Govt. initiatives like Smart City Mission, PMAY, Atal Mission for Rejuvenation and Urban Transformation (AMRUT). Even Indian Real Es-

tate Sector has seen an eminence potential in green building concept and has start adopting it.

Consideration for Green Buildings

Energy Efficient Building: India is a developing country and we are shifting our energy source from non-renewable to renewable energy. India has targeted to raise the solar power generation capacity to 100 GW by 2022. In Green Building Concept, solar panels on the terrace, solar lamps for street, garden and play area, which have their solar panel inbuilt, are used. These solar panels should be put in south direction for maximum absorption of solar energy and maximizing surface area utilization.

Building orientation : Try to orient building in such a way that maximum window should open in N-S direction, As Sun does not goes In North side, so maximum day light achieved from this direction, and by shading the south direction it is easy to control sun in summer and get desired heat and light in winter, Staircases, toilet should be kept in E-W direction, building orientation should be done with consideration of Wind direction, Natural ventilation should be maximized, minimum use of non-renewable energy are few major benefits covered under Green Building concept. In site planning shaded pathways should be there with as many no. of trees on the site which also

Green Buildings for Healthy Environment

● Manish Jain





provides easy visual and physical connection with interactive environment.

Water Recycle: With the growing urbanization and population, it is very important to take care of fresh water utilization. In Green building, emphases are on zero water discharge from site, water, rainwater harvesting and rainwater recycle to store the maximum rainwater for use. For grey water, the soak. For sewerage wastewater, there must be sewerage treatment plants and this treated water could be used in the industry and agriculture. As a good practice, we need to use the treated water in flushing. By green building technology, we can reduce the fresh water consumption by 30-35%.

Waste management – should be on 3R principal – reduce, recycle, reuse.

Sustainable Engineering Construction: Sustainable engineering construction plays a major role in climate change and conservation of the natural resource. Fertile soil on the site should be conserved, try to avoid tree cutting, local available material should be used, use the eco-friendly and low cost cement (LC3) and fly ash brick technology, to cater to the increasing demand of cement and bricks in the housing and infrastructure projects. Roof, wall and Glass should have good

insulation property so as to reduce heat load, Energy efficient air-conditioning (passive/active features) should be used which helps in saving 40% of energy, Paint should have low Voc content.

Benefits of Green Buildings

The most important benefit of green building is that it impacts positively on our climate and overall ecosystem by decreasing the use of resources such as water, power and encourages the use of alternate sources such as solar energy. Green building is the construction of a sustainable building that does not disrupt the surrounding environment and works on conserving resources. There might be extra cost involved while constructing green buildings but it comes out to be an investment looking at the possible future benefits.

Green buildings are not only about efficiency but also about optimizing the use of local materials, ecosystem, reduce power, water and material requirements. Green buildings provide healthy lifestyle by utilizing best possible conditions in terms of indoor air quality, ventilation and thermal comfort and maximize the use of recycled materials and modern energy efficient engineered materials.

Green buildings are going to be the drivers of sustainable infrastructure growth in India.

An Article from Architect



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