

## NASA's Green Base



To set as an outstanding example for other agencies, National Aeronautics and Space Administration (NASA) has planned to work towards reducing its carbon footprints. This amazing green project is none other than NASA's most sustainable base. In order to launch this energy efficient and environmentally friendly building, they decided to use their lunar base technology.

This building is budding in Ames research center in Moffett Field, California. It is designed in such a way that it will gain the platinum rating under the LEED new construction standard for environmentally sustainable construction. It is designed by McDonough with his partners and AECOM. This project will cost about 20.6 million and its construction will be completed by 2011.

### Three key goals

The three key goals of this building are to achieve the zero net energy consumption, to use 90 percent less drinking water or the water which is potable, when comparing to the usage level in other equivalent size conventional buildings and finally to reduce the maintenance of the building.

Highlight of this building is the usage of natural ventilation complemented by the geothermal systems, increases the building sustainability. Nearly 72 geothermal wells with ground-source heat pumps will be installed to promote the objectives of sustainability of the new building. This building will also provide a parking and a landscaping with California-native plants. This advantageous project will include a very sophisticated system for solar water heating, fire detection and suppression, advanced lighting, security and communications operations.

These above mentioned systems will be deliberated in a way that they can act automatically according to the changes in sunlight, temperature and wind and use resources to maximize the performance of the building. Radiant cooling, intelligent buildings systems and on-site photovoltaic energy generation will also be incorporated in this project. A site storm water management is also going to be installed in this base building. Optimization of water comes from use of natural landscape; non-potable irrigation system and on-site water treatment by an Eco machine are other added features of this building.

Base building includes few new facilities such as structural steel frame, 4645 square-foot open-collaborative workspace, a glass-walled atrium and so on. It is very clear that NASA has anchored its flag on the planet earth by contributing this base building in California.

The interior of the building includes large column-free spans, which helps the building to adopt itself to the changing needs of the programs and a structural exo-skeleton which renders the repairs easier even after the earthquakes. The real crown of this project will be the intelligent computer-controlled system. The computer in this sustainable building along with the internet connection can forecast the weather of the local area; along with integrated occupancy sensors adjust the heating and cooling system. These computers also control the windows in order to take advantage of passive cooling.

This sustainable base building will be an outstanding and competitive example for the present and future green buildings.