1.   Introduction / Background

Across the globe, the areas valued highest for Real Estate sale or purchase, are the greenest parts of a city. These offer the best quality of life in terms of clean air, cooler climates, ample ground water, rich flora and fauna, natural lighting, ample wind-flow, recreation areas for children and adults, etc.

With unrestricted glass facades and extensive air-conditioned spaces, today we design buildings that work towards isolating the internal from the external environment, thereby resulting in very high energy consumption.

It is imperative we alter that trend to minimize the detrimental impact on the environment and to create a new future for our children, our towns, cities and our country.

The sunlight in our country is very harsh and brings with it heat and glare, which people try to battle by rolling the blinds down and using lots of air-conditioning respectively.

Lack of appropriate information and tendencies to follow fashionable trends that are short-lived often lead us to provide 'international' comfort conditions in our buildings, at the cost of very high energy consumption.

It should be our endeavour to help secure the energy and resource future of our country through green buildings and habitats suitable to our country and people.

2.   GRIHA – Green Rating for Integrated Habitat Assessment

GRIHA is India's National Rating System for Green buildings. It has been developed by TERI (The Energy and Resources Institute) and is endorsed by the MNRE (Ministry of New and Renewable Energy).

It is based on nationally accepted energy and environmental principles, and seeks to strike a balance between established practices and emerging concepts, both national and international.

GRIHA attempts to minimize a building's resource consumption, waste generation, and overall ecological/environmental impact by comparing them to certain nationally acceptable limits / benchmarks.

GRIHA is a point based rating system that consists of 34 criteria categorized under various sections such as Site Selection and Site Planning, Conservation and Efficient Utilization of Resources, Building Operation and Maintenance, and Innovation points.

Eight of these 34 criteria are mandatory, four are partly mandatory, while the rest are optional. Each criterion has a number of points assigned to it. It means that a project intending to meet the criterion would qualify for the points. Different levels of certification (one star to five stars) are awarded based on the number of points earned. The minimum points required for certification is 50.

3. Design Brief

To design a campus for "School of Sustainability"; housing 300 students. The School of Sustainability envisions developing future environmental leaders for the country and shall be running 6 Post Graduate programmes of 2 year duration each.

This facility will be completely removed from any municipal grid and should be self-sustaining from energy, water, sewage and waste point of view.

Emphasis should be laid on the buildings / complex compliance to the GRIHA criteria and the suitability of the overall design for the envisioned use.

The students are given to pick any site of their choice with maximum site area of 10 acres. If the site is larger than the requirement then intervention will be allowed only on a part of the site.

This being an academic exercise the scheme will only be evaluated on the following criteria only:

- **Criterion 2:** Preserve and protect landscape during construction
- **Criterion 4:** Design to include existing site features
- **Criterion 5:** Reduce hard paving on site/and or provide shaded hard paved surfaces
- **Criterion 10:** Reduce landscape water requirement
- **Criterion 13:** Optimize building design to reduce conventional energy demand
- **Criterion 14:** Optimize energy performance of building within specified comfort limits
- **Criterion 18:** Renewable energy utilization
- **Criterion 19:** Renewable energy based hot water system
- **Criterion 20:** Waste water treatment
- **Criterion 21:** Water recycle and reuse (including rainwater)
- **Criterion 25:** Zero waste generation through appropriate resource recovery measures

Parameters of Evaluation

- Response to the site
- Building orientation and zoning of spaces
- Passive design methods employed to achieve sustainability
- Use of local building materials
- Renewable energy integration
- Water management
- Waste management
- Demonstration of above concepts by analysis/simulation

4. Submission Details

Panel

One 8' X 4' panel will be provided.

Print Presentation

Maximum number of sheets not be exceed **SIX A1** (594 X 420 mm) sheets.

Single Panel: This mode of presentation requires the entire 8'X4' panel, which would be considered equivalent to **SIX A1 sheets.**

Report

The report shall give a complete overview of the project and shall clearly bear the name/title of the project under consideration on the cover page. It shall comprise of A4 size computer printouts/typed, limited to a maximum of 20 pages, all inclusive.

The cover page should bear the NASA logo as per NASA logo guidelines and the legend 56th Annual NASA Convention The report shall be necessarily hard bound in view of the aim to store them over a period of time. 2 copies of the report shall be submitted, one with college code and one without.

NASA logo should appear on each sheet on the right hand side bottom corner.

One copy shall be shown to the jury panel and shall thus not reveal the identity of the collage in anyway. This copy will be returned to the respective college.

Documents required

- Site plan and layout plan
- Concept plan, Plans, Elevations and Sections
- Views, perspective and any other means may be used to explain the design proposal.
- AV Presentation

Scale

Scale of the drawings is at the discretion of the participating colleges. All entries must be prepared using metric units of measurement.

AV Presentation

Jury members shall shortlist the colleges for AV presentation. Only two students from one college will be allowed to give the AV presentation. Time given for the short listed entries shall not exceed 15 minutes. No college shall reveal its identity during the presentation.

Other Submission Guidelines

- Sheet size should not exceed A1 size.
- No part of the presentation shall spill out of the 8'x4' panel.
- All individual sheets and panels shall have the NASA logo as per NASA logo guidelines.
- Two copies of the CD containing the soft copy of the entire sheets and the report along with the AV. Presentation must be submitted. The 2nd CD will be returned to the respective college after the presentation.
- In AV Presentation, NASA logo as per NASA logo guidelines is mandatory.

Note: The identity/name of the participating college should NOT feature in any way on any of the Report, Presentation sheets/AV presentation. All colleges are requested to adhere to the mentioned specifications, failing which the entry will be disqualified.