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.

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3.   Design Brief

Design a group housing complex for **Lotus Greens**. **Lotus Greens** is a reputed developer committed to sustainable development.

Lotus Greens vision
- To change the way communities are developed forever, working in harmony with nature, not replacing it
- To nurture the potential in everyone and protect the planet's precious and finite resources from exploitation.

Lotus Greens mission
- To develop beautiful, sustainable environments for individuals and businesses to flourish for years to come, enabling more fulfilling lives.
- We'll always strive to improve the way we do things, but never overstretch ourselves and compromise on quality.

Lotus Greens Values
- The lotus flower not only inspired our name, its unique characteristics also inform every step of our journey. Just as the Lotus is a source of happiness, we strive with utmost dedication to create a brighter and happier future. Its purity is reflected in the transparency we bring to business, leading by example to help transform the real estate industry. Clarity of vision guides us, ensuring we always take an ethical and responsible approach to the communities we create, communities built for an eternity.

Location   : Sector 150 Noida.
Site Area   : 50,000 sq. m.
FAR   : 2.5
Maximum ground coverage   : 35%
Density   : 1250 persons per hectare
Height   : Stilt + 19 floors

Unit configurations

Unit Type	Approx. FAR per unit (Sq. m.)
2BHK+Study	85
3BHK+ Study	105
4BHK + Study + Servant Room	120

- Maximum balcony area should be 15% of the unit FAR. Cantilevered wardrobes to be considered free of FAR. Buildings to be designed as per NOIDA Bye laws. (Bye laws can be accessed from http://www.noidaauthorityonline.com/revisedbuildingregulation.html)
- The project should also include a community building/ club of 20,000 sq. ft.
- Parking Ratio: 1.25 cars per unit. At least one car park per flat should be a covered car park.
- Budget: To ensure that the project makes commercial sense and caters to the middle income group of the country.

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Expectations

The deliverables to include – Massing, placement of towers so as to make the best use of the site, improve the thermal performance in the climatic conditions of Noida. Maximize the project marketability by maximizing views of central golf course and the river.

The design should give special attention to massing, solar orientation, wind movement and passive cooling systems.

The systems and technologies employed should be simple and durable enough for end users to use them comfortably

Deliverables:

Deliverables should include

- Design concept
- Climatic study and response
- Site layout plan
- Basic design of basement showing car parks and services being accommodated
- Unit layout plans
- Details of features incorporated to promote sustainability

Parameters of Evaluation

- **Innovation in architectural design   70%**
    - Design response to the site and spacial functionality of the scheme
    - Passive design methods and design response to climatic conditions
    - Use of local, innovative and sustainable building materials
    - Renewable energy integration
    - Water management concepts
    - Any other sustainability innovation
- **Presentation of the scheme   30%**
    - Design representation through drawings
    - AV presentation

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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.

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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.

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