PROJECT REPORT
for
THE RESIDENTIAL COLONY (GROUP HOUSING UNDER NILP-2022)
NAMELY
"SERENITY HILLS (Phase-1)"

At

Village- Lakhnola & Badha, Sector - 86, Gurugram, Haryan

EMAAR

M/s. Emaar India Ltd.

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1.0 INTRODUCTION

The proposed project is a Residential Colony Group Housing under NILP-2022 namely Serenity Hills (Phase 1) to be developed by M/s Emaar India Ltd. The site is located at village Lakhnola & Badha, Sector - 86, Gurugram, Haryana spread over 25.90 Acres out of which 8.004 Acres, would be developed in this phase and referred to as "proposed project". The proposed project has been named as "**SERENITY HILLS (Phase-1)**". M/s Emaar India Ltd. are successful in providing specifically designed solutions to the elite professional keeping in mind their daily needs and their exquisite taste in lifestyle.

The project is based on following objectives:

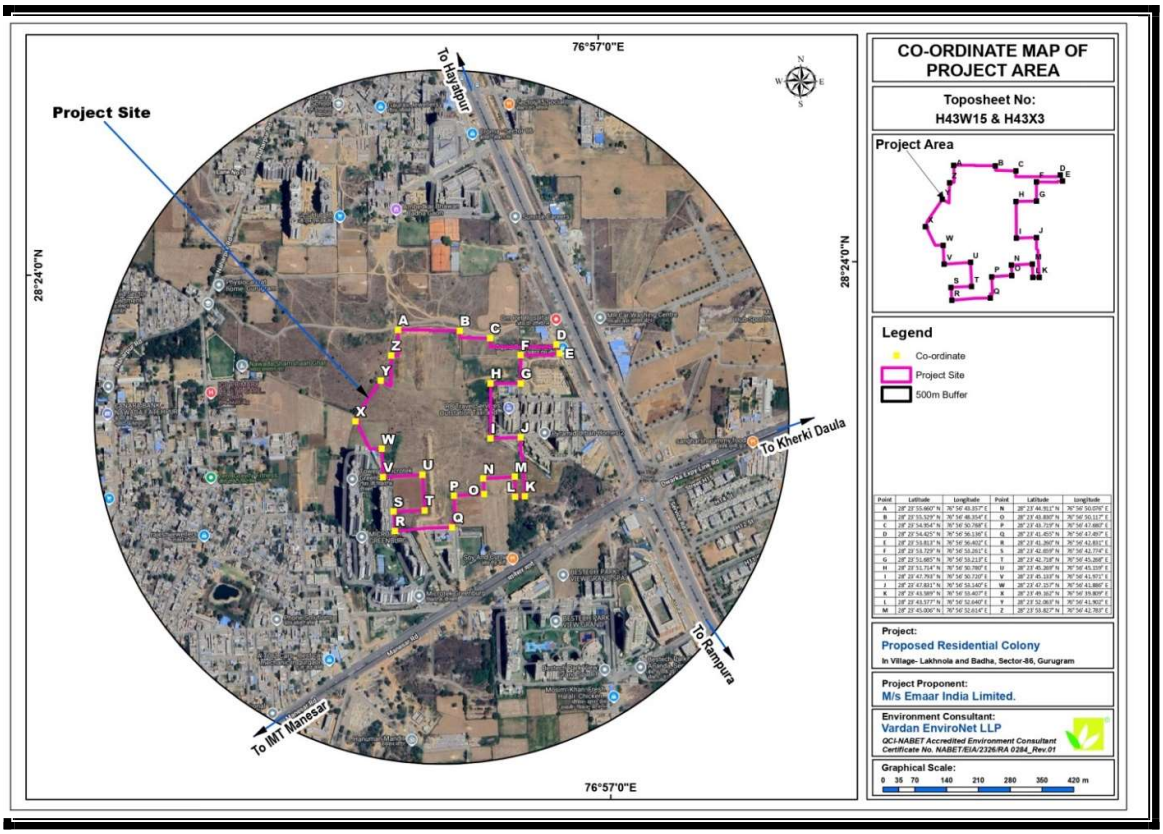
- To provide for luxuy residential experience.
- To enhance the surrounding with greenery, landscaping and recommended aesthetics.
- To adopt the practice of plantation and rain water harvesting to create a better micro climate in the area.
- To recharge Ground Water by proposing Rainwater Harvesting System.

As already mentioned, the proposed site is spread over an area of 25.90 acres of which 8.004 Acres would be developed in this phase which is earmarked for development of building. All the infrastructure/amenities like water supply, sewage line, storm water line, STP, road network, power, etc. will be provided for the proposed project. The site is accessible through 24 mtr wide sector road. The site is proposed to have 10.25 acres (41486.87 sq m) as green/landscape area. Approximately 2.79 (11297.44 sq m) is earmarked for roads and pavements. The tentative date for start of the project is Sep 30, 2032 and completion date is September 30, 2037. The layout is enclosed as **Annexure I**

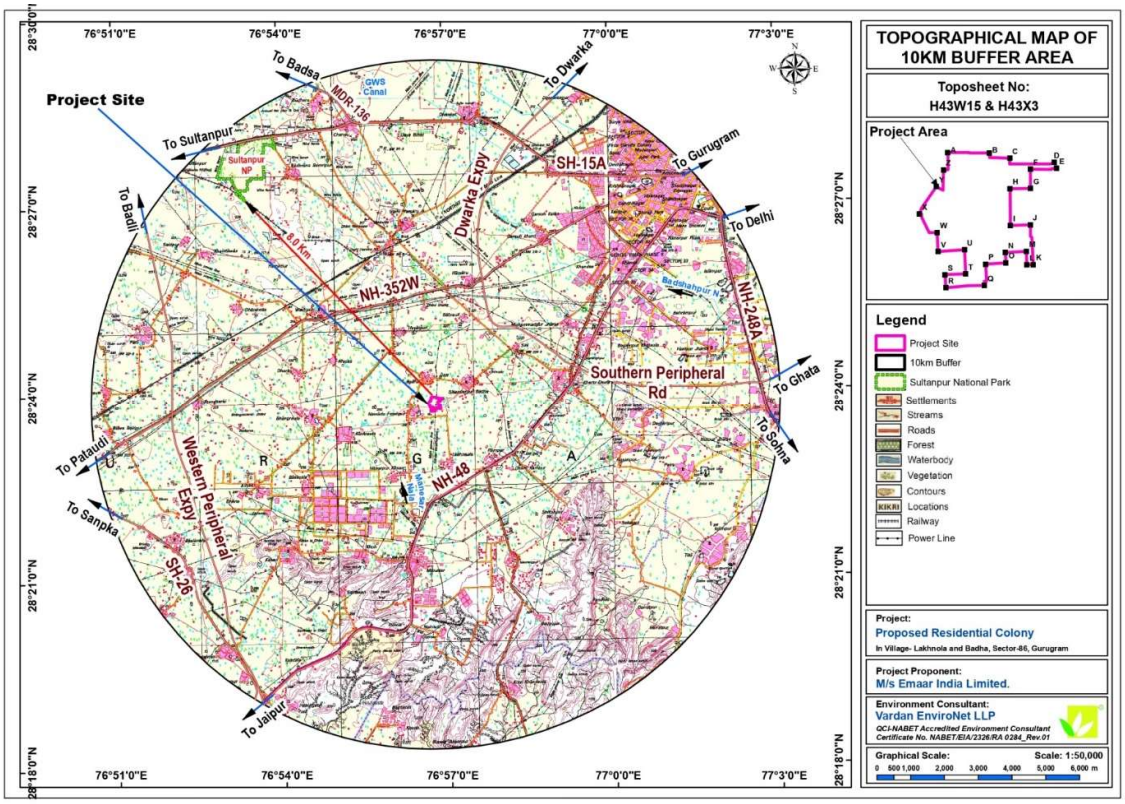
2.0 SITE LOCATION AND SURROUNDINGS

The proposed project is located at village – Lakhnola & Badha, Gurgaon, Haryana. The coordinates of the project site are 28° 23` 55.66" N and 76° 56` 43.35" E with site elevation of 231.66 MSL. Site location on Master Plan and Survey of India toposheet showing project site & surroundings is given below:

Google Image

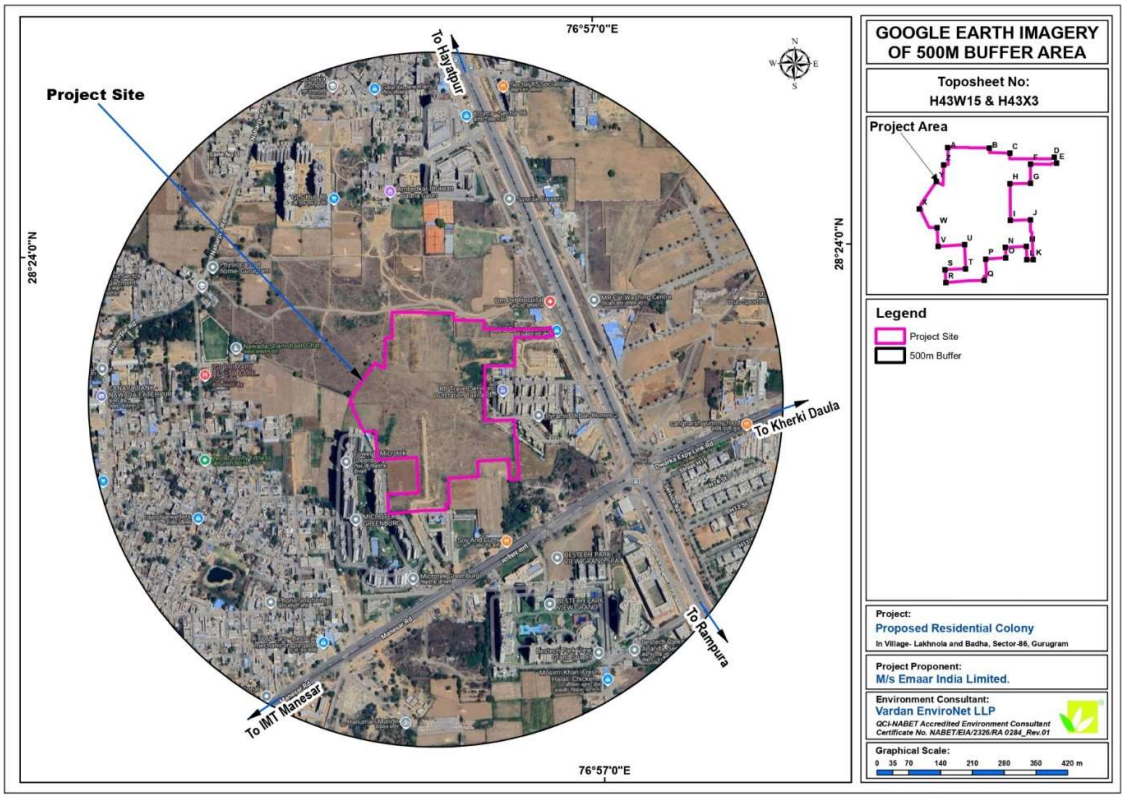


TOPOSHEET SHOWING 10 KM AREA



CONNECTIVITY

Residential Colony Group Housing under NILP-2022 namely Serenity Hills (Phase-1) to be developed by M/s Emaar India Ltd. The site is located at village Lakhnola & Badha, Sector - 86, Gurugram, Haryana which is easily is approachable through NH-48 at a distance of ~2.2 km in S direction and Southern Peripheral Road ~4.1 Km towards NE direction. The nearest railway station is Garhi Harsaru Railway Station at a distance of ~4.55 Km from project site in NNW direction. Nearest airport is Indira Gandhi International Airport at a distance of ~23.78 Km from the project site in NE direction.



3.0 PROJECT DETAILS

As already mentioned, the area of proposed project is 25.90 Acres of which 8.004 Acres would be developed in this phase. The license for the proposed development has been issued by Director, Town & Country Planning, Government of Haryana.

The project details are given in Table 1.0 below:

Table 1.0: Project Details

S. No.	Particulars	Remarks
1.	Total Licensed Area of the Project.	25.90 Acres (104813.415 sq m)
2.	Total Area for Phase 1	8.004 Acres (32395.034 sq m)
3.	Area under Roads	2.79 Acres (11297.444 sq m)
4.	Nos. of dwelling units	581
5.	Height	225 Mtr.
6.	Greenbelt	10.25 Acres (41486.871 sq m)
7.	Water requirement	~ 701 KLD
8.	Waste water	~ 583 KLD
9.	STP Capacity	STP of 950 KLD
10.	Solid Waste	~ 4028 kg per day
11.	Rain Water Harvesting	18 pits
12.	Total Cost of project	~Rs. 159661.40 Lacs
13.	Total Population	~ 11553

Development Work and Services

S. No	Internal Development Work	Estimated Cost (In Lacs)
1.	Internal Roads and Pavements	357.28
2.	Water Supply system	372.84
3.	Storm Water drainage	42.70
4.	Sewerage system	68.84
5.	Street Lighting	76.82
6.	Play grounds and Parks	83.55
7.	Electricity supply system	82.32
8.	Security and fire-fighting	64.35
9.	Parking	257.62
10.	STP	171.76
11.	Underground water tank	89.89
12.	Rain water harvesting	54.67

13.	Electrical sub station	333.46
14.	Electrification Cost	190.95
Total Cost of Development Works and Services		**2247.03**

POPULATION DENSITY

Population Density:

The population for the proposed project would be 11553 persons.

VEHICLE PARKING FACILITIES

Road:

The project will have road of minimum width of 24.00 mtr.

POWER REQUIREMENT

The power supply shall be supplied by DHBVNL (Dakshin Haryana Bijli Vitaran Nigam Limited). The total demand load for the complete project is estimated to be 10900 KW Approx.

WATER & WASTEWATER DETAILS

Water would be sourced through pipeline supply of Gurugram Metropolitan Development Authority (GMDA). The total fresh requirement for the project would be 438 KLD. The landscaping, road cleaning and flushing requirement amounting to 263 KLD would be met from recycled water of Sewage Treatment Plant and excess would be discharged to GMDA sewer.

Sullage Generation & Treatment

It is expected that the project will generate approx. ~583 KLD of sewage that would be treated in Sewage Treatment Plant (STP) of 950 KLD capacity to be installed at site. The treated

wastewater will be used for flushing, horticulture and rest will be discharged to GMDA sewer. The Sewage Treatment Plant will be based on Moving Bed Biofilm Reactor (MBBR) technology.

Sewage Treatment Details

MBBR TECHNOLOGY

Sewerage System

An external sewage network shall collect the sewage from all points of Residential Colony Group Housing under NILP-2022 namely Serenity Hills (Phase 1), and flow by gravity to the sewage treatment plant.

Following are the benefits of providing the Sewage Treatment Plant in the present circumstances:

- The process has long retention time and can absorb shock load situation.
- Reduced net daily water requirements, source for Flushing and Horticultural purposes by utilization of the treated waste water.
- Reduced dependence on the public utilities for water supply and sewerage systems.
- The process produces a well-oxidized sludge in small quantities only, which can be removed and used as manure.

a. Characteristics of inlet /outlet of STP (After tertiary treatment):

Parameters	Domestic	Outlet
pH	6.5 to 8.5	6.0 to 8
Suspended solids	200 - 600 mg/l	<10 mg/l
Biochemical Oxygen Demand (BOD)	200 - 450 mg/l	<10 mg/l
Chemical Oxygen Demand (COD)	500- 800 mg/l	<50 mg/l
Oil & Grease	50 mg/l	<5 mg/l

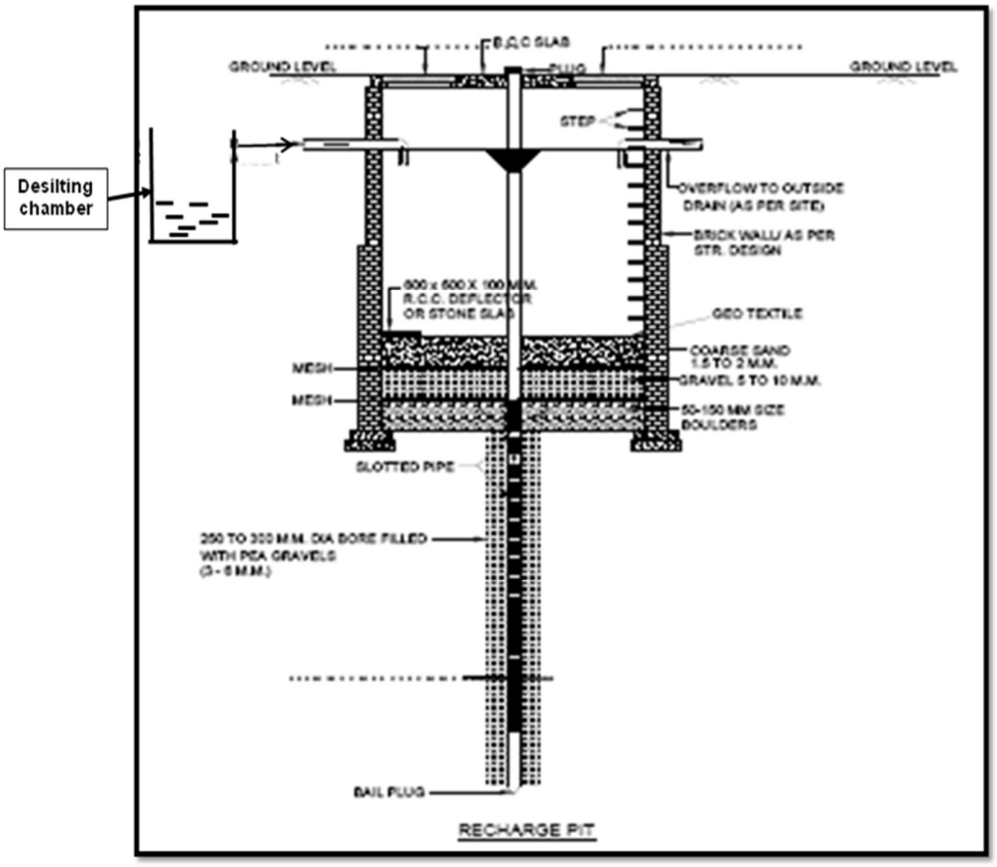
b. Treatment Technology

Moving bed biofilm reactor (MBBR) technology will be deployed for the project. The Sewage Treatment Plant shall be designed to receive continuous sewage inflow within the plant room allocated on the site plan. The ease of maintenance and operation is of utmost importance in the design of Sewage Treatment Plant.

The design of the Sewage Treatment Plant shall be such that it can be installed within the allocated space and shall be subjected to the approval of the Construction Manager / Consultant. STP is proposed to use Moving Bed Bio Reactor (MBBR) process with UV for the treatment:

RAIN WATER HARVESTING

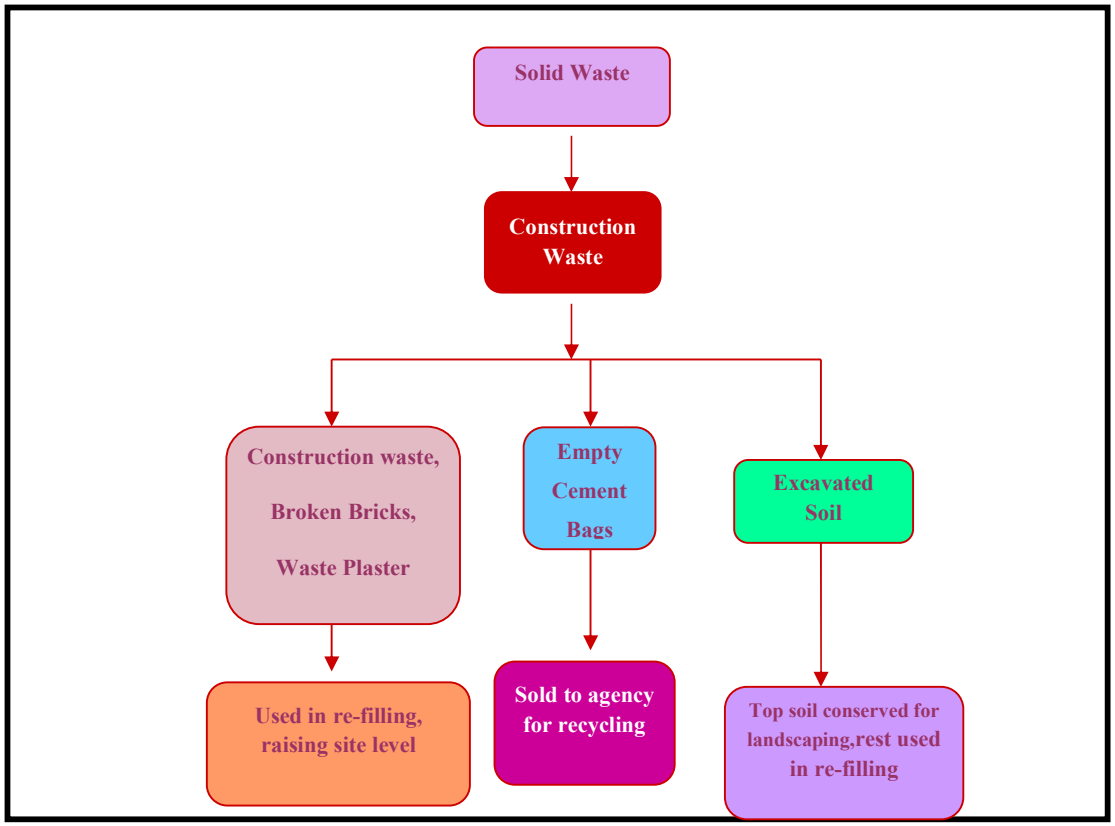
The storm water disposal system for the premises shall be self-sufficient to avoid any collection/stagnation and flooding of water. The amount of storm water run-off depends upon many factors such as intensity and duration of precipitation, characteristics of the tributary area and the time required for such flow to reach the drains. The drains shall be located near the carriage way along either side of the roads. Taking the advantage of road camber, the rainfall run off from roads shall flow towards the drains. Storm water from various buildings shall be connected to adjacent drain by a pipe through catch basins. Therefore, it has been calculated to provide 18 rainwater harvesting pits at selected locations which will catch the maximum run-off from the area. The pit design is given below:



SOLID WASTE GENERATION

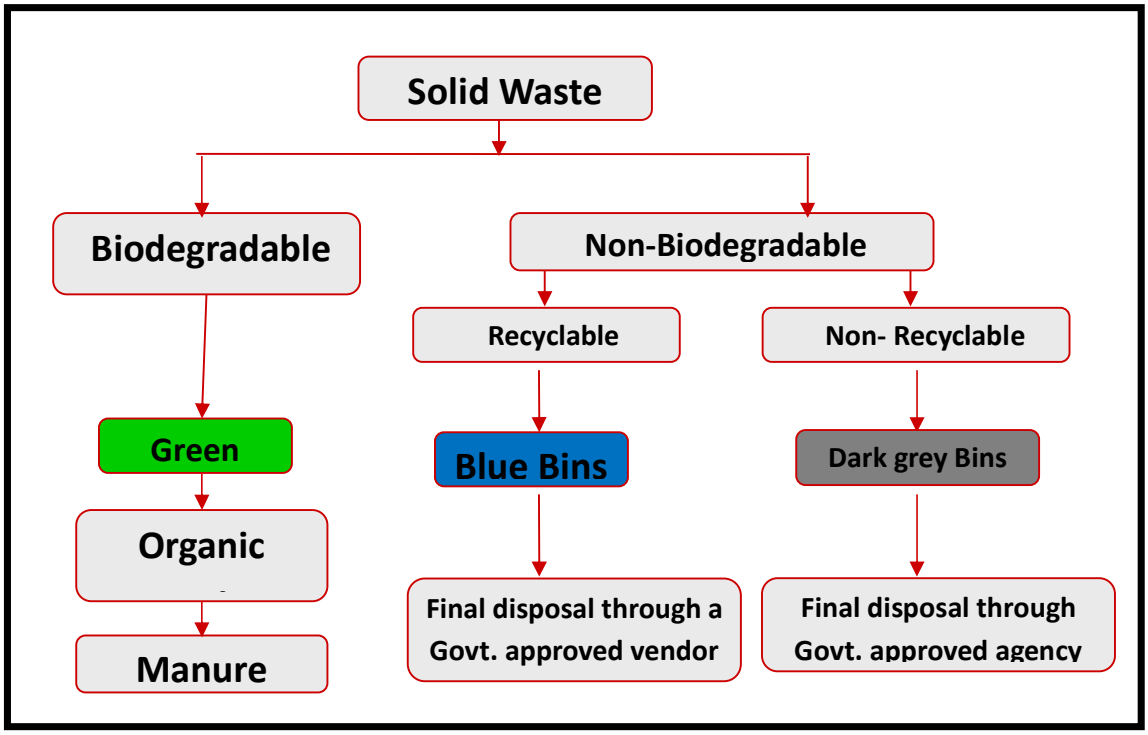
Solid waste will be generated both during the construction as well as the operation phase. The solid waste expected to be generated during the construction phase will comprise of excavated materials, used bags,bricks, concrete, MS rods, tiles, wood etc. The following steps are proposed to be followed for the management of solid waste:

- Construction yards are proposed for storage of construction materials.
- The excavated material such as topsoil and stones will be stacked for reuse during later stages of construction
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the Residential Colony Group Housing under NILP-2022 namely Serenity Hills (Phase 1).
- Remaining soil shall be utilized for refilling / road work / rising of site level at locations/ selling to outside agency for construction of roads etc.



Solid Waste Management Scheme (Construction Phase)

Waste will consist of domestic as well as gardening waste during the operation phase. The solid waste generated from the complete project including the proposed development shall be mainly domestic waste and estimated quantity of the waste shall be approx. 3.66 MT per day (@ 0.2 kg per capita per day. Various arrangements will be made at the site in accordance to Municipal Solid Wastes (Management and Handling) Rules, 2016 as discussed later on.



Solid Waste Man\agement Scheme (Operation Phase)

GREEN AREA

It is proposed to have 41486.87 sq m as green/landscape area (for Shelter belt, for Avenue plantation, for Landscape, herbs, shrubs, water bodies and climbers). Evergreen tall and ornamental trees like *Belonix regia, Polvalthia longfolia, Veronia selowna, Cassia fistula,*etc.will be planted inside the premises.

PROJECT COST

The anticipated total cost for the proposed project will be 159661.40 Lacs. This includes land, construction, approvals, etc.

4.0 CONCLUSION

The proposed project has been designed in sustainable way to have least impact on environment. The project will have overall positive impact in terms of job opportunities during construction phase and organised along with better infrastructure development during operation phase. It will also enhance the overall aesthetics of the area.