

CONCEPTUAL PLAN

FOR

NIVASA

Proposed Residential Group Housing cum
Commercial Building Project

Located at

Paijawa, Ranipur,
Bypass,
Patna
State- Bihar

By:

AMBITION HOMES PRIVATE LIMITED

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AMBITION HOMES (P) LIMITED

DIRECTOR

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1.0 INTRODUCTION ;

Benighted Bihar – till a few years ago, of course – was hardly the place to think in terms of investment in real estate. People had given up hope of a turnaround in its fortune and like migratory birds had been flocking to other parts of the country. But post 2005, Patna, the state capital of hitherto condemned Bihar, has become a favorite destination for those wanting to invest in immovable property.

The real estate sector has witnessed an unprecedented growth in Bihar's capital with flat prices zooming northwards, thanks to an improved law and order situation along with civic amenities. Rates of flats which varied between Rs 700 per square feet to Rs 1400 per sq ft about four years ago have touched Rs 2000 to 4500 per sq ft in the state capital. "The increase in real estate prices in Patna during the last three years has been almost 150 per cent," claims Bihar chapter of builders' association of India (BAI).

Builders point out that Patna has become a favorite place also because there were no satellite or "B" class cities as in the case of neighbouring Jharkhand which has Jamshedpur, Dhanbad and Bokaro apart from Ranchi, the state capital. "In Bihar, Patna is the lone destination". People were disposing off land in villages to buy their dream home in Patna. This in turn has led to a rise in land prices in the countryside too.

During the last four years, builders point out, there has been a steady stream of customers wanting to buy property. "Patna is a changed place now. People of all hues including businessmen and the service class are coming in hordes and this has led to a gap between demand and supply.

"Bihar is based in different parts of the country and even abroad have been making inquiries about property in Patna which was not the case earlier." Then there are the neo-rich class comprising contractors and agents who found work during the present regime and are investing in cars, land and apartments.

Even rentals for residential house, offices and shops have hit the roof since law and order is no longer an issue now. The scenario was different five years back with none of the major companies was willing to open offices in Bihar. "Now many of them — like banks, insurance firms, mobile service providers, construction firms etc — have their offices in Patna.

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Patna has a population of 1.7 million according to the 2011 census and stands as the biggest city in the east of India, after Kolkata. With a population growth rate of 22.34% between 2001 and 2011, and a current population density of 1,823 inhabitants per square kilometer, the city statistically clamours for accommodation. It is therefore pertinent from the perspective of residents, developers and investors to examine tier-two city of Patna.

It is one of the most prestigious projects of Ambition Homes and is aimed towards offering the citizens of Patna a fabulous opportunity to live at a place that is nestled amidst greenery and offers a calm and serene environment. No wonder it enjoys a great fan following. Secured and packed with a range of amenities that can make anyone's stay here comfortable and hassle-free, the project will be innovatively designed and present a wonderful opportunity to people who will get to live at a quality place at economical rates. There are numerous other advantages that the project offers. Take for instance the fact that the area in and around the project has well developed social amenities like schools, hospitals, market, malls, ATMs, bus stand, railway station etc. that will ensure that those living here do not feel slightest of inconvenience and enjoy their stay without any inconvenience.

The accommodation here will be available in 2/3/4 BHK spacious apartments that will make any ones stay here enjoyable and hassle-free. Innovative ventilation here will ensure that fresh air and natural light reach every flat while broad balconies will not only add beauty to the structure but will also allow the residents an opportunity to enjoy the panoramic view outside. The balconies will also provide a wonderful opportunity for the residents to unwind after a hard day's work at the office as well as enjoy a memorable time with friends and family. If one takes into account the popularity that the project enjoys then it can easily be assumed that the coming days will see its popularity grow in leaps and bounds.

2.0 PROJECT BACKGROUND ;

Proposed Residential Group Housing & Commercial Building Project NIVASA by "Ambition Homes" is consistent with the surroundings of the project area. Surrounding area comprises of residential flats, schools, offices and health care facilities. Proposed

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Project is coming up on land under Development Agreement between land owners and Developer at Paijawa, Ranipur, Bypass, Patna, State- Bihar.

The main purpose and benefit of the project are as under:

- To provide quality & comfortable residences at competitive prices.
- To create an environment that could support good standard of living related essential facilities required for day to day living.
- To enhance the surroundings with greenery, landscaping and recommended aesthetics.
- To emphasize the policy of rain water harvesting to create a better micro climate in the area
- To create a healthy planned environment.

3.0 PROJECT LOCATION & SURROUNDINGS ;

The project site is located at Paijawa, Ranipur, bypass , District- Patna, State- Bihar connecting NH 31 (100 m.) in South and NH 22 (2.0 Km.) in West direction. The Patna Sahib Railway Station in the NE (5.0 Km.) from the project site. The nearest airport is Patna Airport, at 12.0 km W from the project site.

Corners	Latitude	Longitude
N	25°35'9.17"N	85°12'38.57"E
S	25°35'2.15"N	85°12'35.58"E
W	25°35'4.81"N	85°12'31.01"E
E	25°35'4.73"N	85°12'41.60"E

4.0 PROJECT DETAILS & FACILITIES ;

Land & Area Details of Proposed Residential Group Housing Project are as under ;

Total Land & Built -up Area	Total Plot Area: 37374.54 Sq. M. Total Built-up Area: 219012.60 Sq. M. Total No. of Residential Flats: 1127 Nos.
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SR. NO.	TOWER	BLOCK	NO. OF Buildings	TOTAL NO. OF FLATS	TOTAL BUILTUP AREA (SQ.MT)
1	RESIDENTIAL TOWER -01	BLOCK C & G 3BHK S+G+20	2	400	27779.462

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		BLOCK D & F 3BHK S+G+20	2		30008.340
		BLOCK E 3BHK S+G+20	1		15026.259
2	RESIDENTIAL TOWER -02	BLOCK- H 3BHK S+G+20	1	240	14898.824
		BLOCK- I 3BHK S+G+20	1		13601.988
		BLOCK -J 3BHK S+G+20	1		14728.737
3	RESIDENTIAL TOWER -03	BLOCK-A&B 4BHK S+G+20	2	78	23419.168
4	RESIDENTIAL TOWER -04	BLOCK-K 2BHK S+G+15	1	124	7644.964
		BLOCK- L 2BHK S+G+15	1		7755.537
5	RESIDENTIAL TOWER -05 (EWS/LIG)	BLOCK-M LIG S+24	1	285	13608.537
		BLOCK-N EWS S+24	1		9823.620
6		TOTAL (A)	14	1127	178295.436
7	CLUB-01	---	1	---	1448.573
8	DAILY NEED SHOP	---	1	---	49.139
9	BASEMENT (for Parking)	---	---	---	29588.723
10		TOTAL (B)			31086.435
11	COMMERCIAL	TOTAL (C)	1	---	9630.690
12	GRAND TOTAL (A+B+C)		17	---	219012.60
13	Proposed FAR @ 3.5				130810.89 Sqm .
14	Permissible FAR @ 3.4				128557.39 Sqm.
15	Proposed Ground Coverage @ 40 %				14949.82 Sqm.
16	Permissible Ground Coverage				9542.83 Sqm.
17	Green Area Required @ 10%				3737.45
18	Green Area Provided @ 15.62%				5839 Sqm.

5.0 PROJECT COMPONENTS ;

The infrastructure facilities planned for the proposed Building Project are highlighted under this part. All the plans for the proposed project have been prepared according to the Building Bye Laws of Bihar. Proposed project will have residential area. The maximum height of the proposed building will be not more than 60 meters.

The proposed project is designed in such a way that natural light and air circulation would enhance the micro-environment of the project area. Adequate natural light and air

ventilation will be available in the premises during daytime. It will be helpful in energy conservation significantly. The proposed project will provide space in accordance with the planning parameters of the Modified Building Bye-laws, Bihar. Modern lifestyle amenities, which include adequate power backup, 24X7 security with intercom facility, drinking water & waste water treatment also being proposed in the Project.

5.1 Community Facility

The proposed development will include all basic essential facilities as per the prevailing norms in the area. It would also include construction of internal developments like roads, water supply, drains, sewers, electrification, rain water harvesting structure, parking, other utilities and landscape areas.

5.2 Power Requirement & Availability

Power requirement: 10500 kW through BSEB Grid

Source of Supply: BSEB

Back-up Source: 5 Nos. of DG Set of 1010

Energy Consumption per Sq. Ft. Built-up Area: 4.45 Watt/Sq. Ft.

5.3 Water Requirement & Availability

The total water requirement for the proposed Residential Group Housing cum Commercial Project will be 1418 KLD (575 KLD Fresh Water through Borewells, 280 KLD Water for swimming pool, 563 KLD STP treated water.) Total Fresh Water requirement during 01st run will be 1418 KLD and thereafter 575 KLD fresh ground water required for domestic. Toilet flushing, Car/Street Washing, Green belt & landscape irrigation and Firefighting water requirement will be met by Treated Water from STP. The fresh water will be sourced through Borewells.

5.4 Parking Requirement & Availability

Total 64955 Sq. M will be provided for Parking Facility. Out of which 62360 Sq. M area has been provided for Covered Parking in Building Basement area and stilt area & rest of 2495 Sq. M area has been provided parking in open area. Parking provisions will be provided as per guidelines of Bihar Building Bylaws.

Parking Requirement	Details of the Parking Area
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Parking Requirement as per Bihar Building Byelaws (25 % of total built-up area of Residential Area excluding 15% service area)	44574 Sqm. (25 % of 178295 Sqm. (Total Residential Built Up Area except EWS)
Parking Requirement as per Bihar Building Byelaws (30 % of total built-up area of Residential Area excluding 15% service area)	3338 Sqm. (30 % of 11128.4 Sqm. (Total Comm. Club Built Up Area)
TOTAL PARKING AREA REQUIRED as per Bihar Building Byelaws	44574 + 3338 = 47912 Sqm.
Parking Area Provision	Covered Parking Basement 29589 Sqm. Stilt Parking : 3182 Sqm. Stack Parking : 29589 Sqm. Visitors Open parking 2495 Sqm. TOTAL : 64955 Sqm.

5.5 *Manpower Requirement & Availability*

Approx. 100 skilled, unskilled and professional work forces as on temporary basis will be required during the construction period. Temporary proper sanitary facilities will be provided to Construction laborers in form of mobile toilets. Wash areas will be constructed and good hygienic conditions will be maintained. Hence, no adverse impacts on human health are envisaged due to construction activities of proposed Residential Group Housing & Commercial Building Project.

50 Nos. of staffs in the form of security & maintenance will be deployed during operation stage of Proposed for Residential Group Housing & Commercial Building Project.

5.6 *Electrical Vehicle Charging Points Facility:*

Electrical Vehicle Charging Points Facility will be provided in Parking Area.

Type of Vehicle	No. of EV Charging Pointes to be Proposed	Capacity
Two-Wheeler	50 Nos.	3 KW
Four Whelers	15 Nos.	35 KW

6.0 ENVIRONMENTAL MANAGEMENT PLAN ;

6.1 WATER POLLUTION MANAGEMENT ;

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6.1.1 Construction Phase ;

- Water requirement during construction phase is expected to be about 15 m³/day, which will be primarily sourced through Bore well / Municipal water supply or Water Tankers. The following control measures will be adopted in order to minimize the construction impacts on water quality of the area :
- Monsoon season would be avoided for construction activity.
- Appropriate sanitation facilities will be provided for the labours to reduce impact on water quality.
- No construction wastewater will be discharged directly on land or into the river. A couple of Sediment traps with retention period of half an hour will be constructed during the construction stage, where all construction wastewater will be collected. After the sedimentation of the construction wastewater, the comparatively cleaner water will be reused for wetting of building materials & structures.

6.1.2 Operation Phase ;

The total water requirement for the proposed Residential Group Housing cum Commercial Project will be 1418 KLD (519 KLD Fresh Water through Borewells, 510 KLD STP treated water.) Total Fresh Water requirement during 01st run will be 1029 m³/day and thereafter 519 KLD fresh ground water required for domestic. Toilet flushing, Car/Street Washing, Green belt & landscape irrigation and Firefighting water requirement will be met by Treated Water from STP. The fresh water will be sourced through Borewells. Water Budget for the Building Project are shown here as under;;

Components	Occupancy / Area	Requirements as per MoEF / NBC Guidelines			Actual Requirement in KLD
		Domestic (Fresh Water) Requirement	Flushing (Treated Water) Requirement	Total Requirement	
Residential Flat Occupancy	6230 Nos.	90 Ltr./day/head	45 Ltr./day/head	135 Ltr./day/head	841 (Domestic 561 & Flushing 280)
Shop	3 Nos.	30 Ltr./day/head	15 Ltr./day/head	45 Ltr./day/head	0.14 (Domestic 0.09 & Flushing 0.05)
Club Block	52 Nos	30 Ltr./day/head	15 Ltr./day/head	45 Ltr./day/head	2.34 (Domestic 1.56 & Flushing 0.78)
Comm. Area	383 Nos.	30 Ltr./day/head	15 Ltr./day/head	45 Ltr./day/head	17 (Domestic 11.5 & Flushing 5.7)
Security & Maintenance Staff	50 Nos.	30 Ltr./day/head	15 Ltr./day/head	45 Ltr./day/head	2 (Domestic 1.5 & Flushing 0.8)

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Total Fresh Ground Water Requirement for Domestic Use	575
Toilet Flushing Water Requirement (STP Treated Water)	288
Swimming Pool Water Requirement	280
Horticulture, Landscaping & Miscellaneous (STP Treated Water)	25
Fire Fighting Tanks (STP Treated Water)	250
TOTAL WATER REQUIREMENT	1418 KLD max^m

Approx. 777 KLD waste water will be generated from the proposed Building project. The proposed project will adopt recycling of treated waste water. All waste water generated will be treated in STP and reused for toilet flushing, street/car washing, landscape irrigation & Fire water storage tanks. Characteristics of effluent from proposed building project will be as under;

Parameters	Expected Concⁿ of Generated Effluent from proposed Project
1. pH	6.5 - 7.5
2. Suspended Solids mg/l.,	100 – 200 mg/l.
3. BOD (3 days at 27 ⁰ C), mg/l.	50-150 mg/l.
4. COD, mg/l.	150-500 mg/l.
5. Oil & Grease, mg/l.	5-10 mg/l.

Approx. 777 KLD domestic effluent will be generated from the proposed Residential Group Housing cum Commercial Project NIVASA. All these effluents will be sent to 850 KLD capacity STP inside premises for treatment. The process of treatment is as under;

Sewage Treatment Plant (STP) based on SBR (Sequential Batch Reactor) Technology will be installed. Operation details of proposed SBR technology STP are as under;

Sequential batch reactors are a type of activated sludge process for the treatment of wastewater. SBRs treat wastewater such as sewage or output from anaerobic digesters or mechanical biological treatment facilities in batches. Oxygen is bubbled through the mixture of wastewater and activated sludge to reduce the organic matter (measured as biochemical oxygen demand (BOD) and chemical oxygen demand (COD)). The treated effluent may be suitable for discharge to surface waters or possibly for use on land.

There are five stages in the treatment process:

1. Fill

2. React
3. Settle
4. Decant
5. Idle

First, the inlet valve is opened and the tank is filled, while mixing is provided by mechanical means, but no air is added yet. This stage is also called the anoxic stage. During the second stage, aeration of the mixed liquor is performed by the use of fixed or floating mechanical pumps or by transferring air into fine bubble diffusers fixed to the floor of the tank. No aeration or mixing is provided in the third stage and the settling of suspended solids starts. During the fourth stage the outlet valve opens and the "clean" supernatant liquor exits the tank

Aeration times vary according to the plant size and the composition/quantity of the incoming liquor, but are typically 60 to 90 minutes. The addition of oxygen to the liquor encourages the multiplication of aerobic bacteria and they consume the nutrients. This process encourages the conversion of nitrogen from its reduced ammonia form to oxidized nitrite and nitrate forms, a process known as nitrification.

To remove phosphorus compounds from the liquor, aluminium sulfate (alum) is often added during this period. It reacts to form non-soluble compounds, which settle into the sludge in the next stage.

The settling stage is usually the same length in time as the aeration. During this stage the sludge formed by the bacteria is allowed to settle to the bottom of the tank. The aerobic bacteria continue to multiply until the dissolved oxygen is all but used up. Conditions in the tank, especially near the bottom are now more suitable for the anaerobic bacteria to flourish. Many of these, and some of the bacteria which would prefer an oxygen environment, now start to use oxidized nitrogen instead of oxygen gas (as an alternate terminal electron acceptor) and convert the nitrogen to a gaseous state, as nitrogen oxides or, ideally, molecular nitrogen (dinitrogen, N₂) gas. This is known as denitrification.

An anoxic SBR can be used for anaerobic processes, such as the removal of ammonia via Anammox, or the study of slow-growing microorganisms. In this case, the reactors are purged of oxygen by flushing with inert gas and there is no aeration.

As the bacteria multiply and die, the sludge within the tank increases over time and a waste activated sludge (WAS) pump removes some of the sludge during the settling stage to a digester for further treatment. The quantity or "age" of sludge within the tank is closely monitored, as this can have a marked effect on the treatment process.

The sludge is allowed to settle until clear water is on the top 20 to 30 percent of the tank contents.

The decanting stage most commonly involves the slow lowering of a scoop or "trough" into the basin. This has a piped connection to a lagoon where the final effluent is stored for disposal to a wetland, tree plantation, ocean outfall, or to be further treated for use on parks, golf courses etc.

The treated effluent will be of suitable quality for use as flushing, car washing landscape irrigation & fire water tanks. Treated water Characteristics will be as under;

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Parameters	General Standards as per Schedule VI of E(P) Rules for Irrigation of Land	Expected Concn. (mg/l.)
pH	5.5 – 9.0	6.5 – 7.5
Suspended Solids mg/l.,	200.0 mg/l.	< 20.0
BOD (3 days at 270C), mg/l.	100.0 mg/l.	< 10.0
COD, mg/l.	Not Specified	< 30.0
Oil & Grease, mg/l.	10.0 mg/l.	< 2.0

6.1.3 Rainwater Harvesting ;

Rain water harvesting with filtration system & recharge wells will be provided for the purpose of recharging ground water.

It is proposed to collect all the Rain Water falling on the Roof surface will be channelize into the Rain Water Catch Basins with in-built recharge pits around the periphery of the proposed Residential Group Housing & Commercial Building Project.

RAIN WATER HARVESTING POTENTIAL OF PROPOSED BUILDING PROJECT : -

Type of Area	Area is M ²	Run-Off Coefficient	Annual Avg. Rainfall in m.	RWH Potential (m ³)
Covered Area	9543	0.80	0.93	7100.70
TOTAL				7100 M ³
Annual Rainwater Harvesting Potential				

15 Nos. of Recharge Pits (Size: 4.0 X 3.5 X 2) will be provided within this building project to recharge ground water aquifer.

6.4 AIR QUALITY MANAGEMENT;

6.4.1 Construction Phase ;

During construction period major sources of dust & smoke are DG Sets, Vehicular movement & construction activities. To mitigate these effects regular water sprinkling will be done all around the construction area and building materials will be stored in covered area by way of covering them with tarpaulin or keeping them in temporary makeshift sheds.

6.4.2 Operational Phase ;

The sources of air emissions from the proposed project are the stacks attached to DG set Exhaust. The DG sets will run only in case of power failure and hence air emissions from the DG sets are restricted to only such occasions.

The impact of Air Emissions can be minimized in following ways ;

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- Stack height, of 3.5 m. above the roof of the building where DG Sets will be installed, as per regulatory norms will be provided for the DG sets to ensure satisfactory dispersion of the gaseous pollutants.
- It will be ensured that the stack emissions from DG sets meet prescribed standards for diesel engines as per GSR 489 (E), July 11, 2002.
- The DG Sets will be maintained regularly as per preventive maintenance schedules and engine tuning of DG Sets carried out as per recommendations by the manufacturers to ensure stack emission quality within desired limits.
- The secondary source of air emissions is from vehicles movement of the residents & outside guests. It shall be ensured that all such vehicles are maintained on regular basis and meet PUC norms.
- Moreover, 5839 Sq. M. area on ground as well as on Terrace will be developed and maintained for green belt within the project premises. Regular Water Spraying will be done all around the project premises to minimize dust emissions.

6.5 AMBIENT NOISE MANAGEMENT ;

6.5.1 Construction Phase ;

- Equipment generating minimum noise and vibration will be selected for construction phase.
- Vehicles and construction equipment with internal combustion engines will be provided with proper silencers and mufflers in order to reduce noise levels.
- Requisite compliance requirements from contractors for their equipment will be communicated to them before commencing construction.
- To prevent the hearing damage to construction workers, they will be provided with ear plugs and muffs and job rotation will also be practiced.
- Emphasis on carrying out the construction work during day time only.

6.5.2 Operational Phase ;

- During the operational phase, noise will be generated from the DG sets, compressors, pump rooms & vehicles movement.
- The DG set room, compressors and pump room will be isolated from the outside environment and proper acoustic arrangements will be made to control the noise generated.
- The noise levels outside these rooms will be maintained within the stipulated norms both during the day and night time.

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- It shall be ensured that the new DG sets to be installed for the proposed building project shall comply with all applicable environmental regulations for noise. The DG set shall have an acoustic enclosure and an exhaust muffler that will ensure minimum of 25 dB(A) insertion loss.
- Plantation and landscaping will be designed to ensure that there is a green belt all around the project area so that further noise attenuation is achieved.
- Overall design of facilities, equipment, layout and landscaping is done with a view to maintain pre-project noise level in the post project stage also.
- All efforts will be made to maintain the noise level within the proposed premises around 50 dB(A) in day time & 40 dB(A) during night time.
- Moreover, 5839 Sq. M. area on ground as well as on Terrace will be developed and maintained for green belt within the project premises. Regular Water Spraying will be done all around the project premises to minimize dust emissions.
- Alongside boundary of the proposed building premises trees will be planted which will also act as barrier for outside noise.

6.6 SOLID & HAZARDOUS WASTE MANAGEMENT ;

6.6.1 Construction Phase;

No flammable / hazardous materials will be handled, stored or used beyond the Threshold Limit of MSIHC Rules at Construction site of proposed Project.

- Wherever possible, hazardous raw materials will be substituted by non-hazardous materials e.g. cleaning solvents can be replaced with biodegradable cleaners, usage of non-chlorinated strippers instead of strippers containing methylene chloride and substitution of water based paints for oil based ones.
- On-site composting of bio-degradable wastes and off-site recycling of paint, thinner, solvent wastes and waste oil will be carried out. Segregation and storage of waste paints and thinners, contaminated rags and brushes will be carried out to facilitate recycling and reuse.
- Vehicle maintenance area shall be designed to prevent contamination of ground water by accidental spillage of oil.

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- Appropriate inventory control of all hazardous materials will be maintained.
- It will be ensured that concerned contractors follow prescribed directions regarding the above.

6.6.2 Operational Phase ;

The collection, transportation and disposal of the solid waste generated during the operation phase of the proposed Building project will be done as per the Municipal Solid Wastes (Management & Handling) Rules, 2016 (MSW Rules).

During operational phase approx. 2990 Kg/day solid waste will be generated from proposed Residential Group Housing & Commercial Building Project in the form of other domestic waste.

SOLID WASTE CALCULATION

S. No.	Category	Capacity (Nos.)/Area	Waste Generation (Kg/day/capita)	Waste generated (kg/day)	Bio-Degradable Waste (Kg/day/capita)	Bio-Degradable Waste (Kg/day)	Non-Bio-Degradable Waste (Kg/day)
1	Residential Occupancy	6230 Nos.	0.45 kg/person	2804	0.36 kg/person	2243	561
2	Comm. Area	383 Nos	0.36 kg/person	138	0.25 kg/person	96	42
3	Club Block	52 Nos	0.36 kg/person	19	0.25 kg/person	13	6
4	Security Staff and maintenance staff	50 Nos	0.45 kg/person	23	0.36 kg/person	18	5
5	Green Area, Landscaping & Others	5839 SQ.M. (1.44 Acres)	5 kg/acres	7	5 kg/acres	7	0
Total Municipal waste generation				2990 Kg/day		2377 Kg/day	613 Kg/day

All biodegradable and non-biodegradable waste will be handled as per Municipal Solid Waste (Management and Handling) Rule, 2016. Waste from biodegradable bins will be reutilized in bio-composting to prepare organic manure. Non bio-degradable waste will be disposed off through govt. waste collection system.

5 Nos. Bio composting pits of 500 Kg. capacity each (Dimension: L- 6 m. x W-3 m., D – 1 m.) will be provided within premises for composting of biodegradable waste.

Three-bin system will be adopted. Storage facilities will be created and established by taking into account quantities of waste generation in a given area and the population densities. Different coloured bins for different categories of wastes will be provided.

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Three colour of wheeled bins in each building: - Dark grey for non-recyclable waste, Green for kitchen food/ compostable garden waste and Blue for paper.

In addition, boxes will be provided for the collection of other recyclable materials; a green box is used for paper and a black box is used for cans and plastic collections.

Following measures will be adopted for safe disposal and management of solid wastes from the proposed project ;

- a. Waste from biodegradable bins will be reutilized in bio-composting to prepare organic manure.
- b. The dried STP Sludge will be used as manure for gardening
- c. Waste oil generated from DG Set / Other machinery overhauling and waste transformer oil will be sold off to CPCB / BSPCB authorized vendors for waste oil.
- d. Old newspapers & other paper waste and used empty bottles will be sold off to authorized scrap dealers.
- e. All the non bio-degradable waste disposal will be done through Patna Nagar Nigam waste collection system or other authorized vendors.

The used Spent Oil from DG sets would be carefully stored in HDPE drums in isolated covered facility and disposed off through CPCB/BSPCB authorized recyclers as per guidelines of Hazardous and Other Wastes (Management and Transboundary Movement) Rules '2016.

Following measures will be adopted for safe disposal and management of solid wastes from the proposed project ;

- a. Waste oil generated from DG Set / Other machinery overhauling and waste transformer oil will be sold off to CPCB / BSPCB authorised vendors for waste oil.
- b. Old newspapers & other paper waste and used empty bottles will be sold off to a scrap dealer.

The used Spent Oil from DG sets would be carefully stored in HDPE drums in isolated covered facility and disposed off through CPCB/BSPCB authorized recyclers as per guidelines of Hazardous and Other Wastes (Management and Transboundary Movement) Rules '2016.

6.7 GREEN BELT DEVELOPMENT AND LANDSCAPING :-

An area of 5839 Sqm. will be developed and maintained for green belt and green space within the project premises.

As per the requirement of EIA Notification 2006 amendment vide Gazette Notification No. S.O. 3999(E) dt: 09.12.2016, one tree / 80 sq. M. should be planted in case of building &

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construction projects, approx. 460 nos. of trees will be planted within and all around the proposed building premises.

While carrying out plantation within premises or outside the following considerations will be given for choice of types of trees:

- Species of trees and plants suitable for the local agro-climatic and soil conditions will be selected.
- Natural hedgerows will be preferred over fencing wherever possible.
- Trees with large canopies will be chosen which will serve as natural air filters, noise attenuators and umbrellas.
- Automatic irrigation systems will be installed. Irrigation will preferably be carried out at night so that less water is lost in evaporation and most of the water naturally percolates to groundwater through the soil.
- Location of trees and shrubs will be chosen such that they provide a natural shield to the buildings from natural ailments like excessive sunlight and rain.
- Organic manure made from garden waste (dry leaves etc.) & STP sludge will be used so that dependence on chemical fertilizer can be reduced.

Following species will be planted within the premises of proposed **NIVASA Project** ;

• Crotons
• Coleus
• Colocasia
• English Laurel
• Song of India
• Roses
• Jasmine
• Chrysanthemum
• Gerbera
• Marigold
• Geranium
• Dahlia
• Daffodils
• Tulips
• Bird's Nest Fern
• Bougainvillea

- | |
|---------------------------------------|
| • Arabian Jasmine |
| • Orchid Tree |
| • Bottle Brush |
| • Jungle Flame or West Indian Jasmine |

6.8 ENVIRONMENT CONSERVATION CONSIDERATIONS ;

Following initiatives may be considered (if feasible within economic constraints) for energy conservation & preserving the environment ;

- Switching to low-flow toilets or installing toilet tank fill diverters
- Installation of low-flow showerheads and sink aerators
- Switching to compact fluorescent light bulbs in lobbies and common areas and use of sensors and/or timers for areas that are infrequently used.
- Awareness program for residential owner of the proposed Residential Group Housing & Commercial Buildings to close drapes and turn off lights and turn off heating / air conditioning when rooms are unoccupied.
- Installation of window film to lower heating and cooling loads
- Provision of recycler baskets for newspaper, white paper glass, aluminum, cardboard and plastic.
- Provision of recycling bins to make recycling as easy as possible.
- Use of least toxic cleaners, sanitizers, paints, pesticides etc. throughout and ensuring all chemicals are stored safely in a well ventilated area.
- Monitoring and tracking rates of energy and water use. Making repairs or replace equipment when rate changes indicate problems.
- Creating an incentive program to encourage management staff to participate in and improve upon environmentally friendly practices.
- 1.5 % power of total power requirement i.e. 158 kW of power for common lighting purpose will be sourced through solar panels on the roof.

6.9 ENVIRONMENTAL MONITORING PROGRAM ;

Monitoring / Sampling stations will be fixed as per recommendation of Environmental Clearance to assess the ambient levels in relevant areas of environment after the commissioning of the project. An environmental monitoring programme is important as it provides useful information on the following aspect:

- i) It helps to verify the predictions on environmental impacts presented in this study.

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- ii) It helps to indicate warnings of the development of any alarming environmental situations, and thus, provides opportunities for adopting appropriate control measures.

The monitoring programme in different areas of environment are outlined below;

POST PROJECT ENVIRONMENTAL MONITORING PROGRAM

Area of Monitoring	Frequency of sampling	Parameters to be Analyzed
Ambient Air Quality	Quarterly	PM ₁₀ , PM _{2.5} , SO ₂ , NO ₂ & O ₃
DG Set Stack Emission	Quarterly	PM, SO ₂ & NO ₂
Ground Water Quality	Monthly	As per IS 10500:2012
Effluent sample before & after STP	Monthly	In accordance with EPA, 1986 and requirement of Central Pollution Control Board (CPCB)
Noise	Quarterly i.e. once in three months	Ambient Equivalent continuous Sound Pressure Levels (Leq) at Day and Night Time

6.10 ENVIRONMENTAL BUDGET FOR STATUTORY COMPLIANCES;

Sr. No.	EHS Component	One Time Installation Cost	Recurring Cost / Annum
1.	Installation of STP & Water Treatment Plant	Rs. 30 Lakhs	Rs 10 Lakhs
2.	Installation of SPV and Solar Lighting System	Rs. 40 lakhs	Rs. 7 Lakhs
3.	Installation of Fire Fighting & Management System	Rs. 50 Lakhs	Rs. 2 Lakhs
4.	Environmental Monitoring as per requirement of EC	---	Rs. 12 Lakhs
5.	Green Belt Development & Maintenance	Rs. 12 Lakhs	Rs. 2 Lakhs
6.	Rain water Recharging (6 Nos.)	Rs. 12 Lakhs	Rs. 0.5 Lakhs
7.	Municipal solid waste (Bio composting pits – 5 Nos. 500 kg/day)	Rs. 10.0 Lakhs	Rs. 1.5 Lakhs
	TOTAL AMOUNT	Rs. 154 Lakhs	Rs. 35 Lakhs

After the completion of Construction work “NIVASA” Residential Group Housing & Commercial Building project will be handed over to respective buyers. Owner Society of the proposed Residential Group Housing & Commercial Building project will carry out environmental monitoring & management work as per conditions imposed in Environmental Clearance issued by State Expert Appraisal Committee, Bihar. A fixed

amount as per above budget will be allocated for Environmental Monitoring & Management work of proposed Residential Group Housing & Commercial Building project. All these work will be accomplish under the supervision of Secretary or his authorized representative of the Owner Society of the proposed Residential Group Housing & Commercial Building project.

7.0 DISASTER & EMERGENCY MANAGEMENT PLAN

Emergency prevention through good design, operation, maintenance and inspection are essential to reduce the probability of occurrence and consequential effect of such eventualities. However, it is not possible to totally eliminate such eventualities and random failures of equipment or human errors, omissions and unsafe acts cannot be ruled out. An essential part of major hazard control has therefore, to be concerned with mitigating the effects of such Emergency and restoration of normalcy at the earliest.

The overall objective of an Emergency Response Plan (ERP) is to make use of the combined resources at the site and outside services to achieve the following:

1. To localize the emergency and if possible eliminate it;
2. To minimize the effects of the accident on people and property;
3. Effect the rescue and medical treatment of casualties;
4. Safeguard other people;
5. Evacuate people to safe areas;
6. Informing and collaborating with statutory authorities;
7. Initially contain and ultimately bring the incident under control;
8. Preserve relevant records and equipment for the subsequent enquiry into the cause and circumstances of the emergency;
9. Investigating and taking steps to prevent reoccurrence

The ERP has therefore to be related to the identification of sources from which hazards can arise and the maximum credible loss scenario that can take place in the concerned area. The plan takes into account the maximum credible loss scenario-actions that can successfully mitigate the effects of losses/emergency need to be well planned so as they would require less effort and resources to control and terminate emergencies, should the same occur.

7.1 RESPONSE IN CASE OF EARTHQUAKE

Response Procedures for Occupants

If indoor

1. Take shelter under heavy furniture or against an inside wall and hold on
2. Stay inside: the most dangerous thing to do during the shaking of an earthquake is to try to leave the building because objects can fall on you.

If outdoors

Move into open, away from building, streetlights and utility wires. Once in the open, stay there until the shaking stops.

After the quake

1. After the quake be prepared for aftershocks
2. Although smaller than the main shock, aftershocks cause additional damage and may bring weakened structures down. Aftershocks can occur in the first hours, days, weeks or even months after the quake. Help injured or trapped persons:
 1. Give first aid where appropriate. Do not move seriously injured persons unless they are in immediate danger of further injury. Call for help.
 2. Remember to help those who may require special assistance-infants, the elderly and people with disabilities.
 3. Stay out of damaged buildings.
 4. Use the telephone only for emergency calls.

Response Procedure for Emergency Team

1. Formulate an Emergency Response Team for earthquake response.
2. Using the public address system, inform residents of response procedures discussed above.
3. Inform the necessary authorities for aid.
4. Ensure no residents are stuck beneath any debris, in case of a structural failure.
5. Ensure that all residents standing outside near the buildings are taken to open areas.
6. Ensure that the first aid ambulance and fire tender vehicles are summoned if necessary.
7. Inform the nearby hospitals if there are any injuries.
8. Check the utilities and storage tanks for any damage.

7.2 RESPONSE FOR LPG LEAKAGE

1. The affected area should be evacuated and cordoned off immediately.
2. Initiate an emergency response team for LPG leakage.
3. Ensure that only concerned personnel are present in the affected area and all other personal and visitors are moved to the nearest assembly points.
4. Rescue trapped personnel, also check if any personnel are unconscious in the area and immediately move them outside and provide first aid. Ambulance should be summoned to take injured personnel to the nearest hospital.
5. Personnel in the nearby buildings to close all doors and windows to prevent entry of the leaked gas.
6. Source of leakage to be traced and isolated from all the other areas. And if required use pedestal fans to bring down the gas concentration.
7. In case of a fire follow the instruction in case of fire.

7.3 RESPONSE IN CASE OF FIRE

1. Required response during in the event of a fire should be described in signs located in the lobby.
2. Inform the Fire department.
3. If the fire is small, engage in extinguishing the fire using the nearest fire extinguisher.
4. The emergency response team will provide immediate relief to the injured residents at the scene of incident. Any injured persons should be evacuated on priority to the dispensary or one of the nearest hospitals based on their conditions.

7.4 Instructions for the Occupants-

1. Get out of buildings as quickly and as safely as possible.
2. Use the stairs to escape. When evacuating, stay low to the ground.
3. If possible, cover mouth with a cloth to avoid inhaling smoke and gases.
4. Close doors in each room after escaping to delay the spread of the fire.
5. If smoke is pouring in around the bottom of the door or if it feels hot, keep the door closed.
6. Open a window to escape or for fresh air while awaiting rescue.
7. If there is no smoke at the bottom or top and the door is not hot, then open the door slowly.
8. If there is too much smoke or fire in the hall, slam the door shut.
9. Stay out of damaged buildings.
10. Check that all wiring and utilities are safe.

8.0 FIRE FIGHTING FACILITIES ;

In the proposed Residential Group Housing & Commercial Building Project following considerations have been taken for Fire Fighting arrangements;

- i. Hydrant & Sprinkler system will be common
- ii. Sprinkler system will fed from the Hydrant riser and being the residential complex, sprinkler system will be restricted only in the basement and parking areas.
- iii. Single Jockey pump will be used to maintain the pressure on hydrant system.
- iv. Electrically operated hydrant pump to be used under the DG Supply only and not under the grid supply.
- v. Electrical load for jockey pump only to be considered under the grid supply.
- vi. Another diesel operated pump of same capacity to be kept as stand by.

Recommendation by the State Fire Office will be followed during the operational phase of the project. The following provisions will be made for combating fire hazards ;

- a. Underground Fire Water Tank & Pump Room
- b. Hydrant System & Wet Riser Piping
- c. Automatic Smoke Detectors
- d. Automatic Sprinkler System
- e. Fire Alarm System
- f. Portable CO₂ Fire Extinguishers.

Moreover, Emergency Evacuation Plan will be displayed at all strategic locations within the proposed Residential Group Housing & Commercial Building Premises.

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AMBITION HOMES (P) LIMITED


DIRECTOR