

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

ENVIRONMENT MANAGEMENT PLAN

EMP consist of all mitigation measures for each component of the environment due to the activities increased during the construction, operation and the entire life cycle to minimize adverse environmental impacts resulting from the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the sites including fire. The detailed EMP for the project is given below.

Introduction

The Environment Management Plan (EMP) is a site-specific plan developed to ensure that the project is implemented in an environmental sustainable manner where all client, contractors and subcontractors, including consultants, understand the potential environmental risks arising from the project and take appropriate actions to properly manage that risk. EMP also ensures that the project implementation is carried out in accordance with the design by taking appropriate mitigation actions to reduce adverse environmental impacts during its life cycle. The plan outlines existing and potential problems that may adversely impact the environment and recommends corrective measures where required. Also, the plan outlines roles and responsibility of the key personnel and contractors who will be in-charge of the responsibilities to manage the project site.

Objectives of EMP

- It is prepared in accordance with acts, rules and requirements of the MoEF & CC and CPCB/ SPCB
- To ensure that the component of facility are operated in accordance with the design
- A process that confirms proper operation through supervision and monitoring
- A system that addresses public complaints during construction and operation of the facilities and
- A plan that ensures remedial measures is implemented immediately.

The key benefits of the EMP are that it offers means of managing its environmental performance thereby allowing it to contribute to improved environmental quality. The other benefits include cost control and improved relations with the stakeholders.

Project proponent is responsible for implementation of EMP both during construction and operation phase. Project proponent/RWA formed will contract agencies for taking care of operation and management of the STP, RWH systems, drinking water supply, maintenance of firefighting system, solid waste management, landscaping etc. Residents are made aware about the systems in place at the time of purchase of the flats and also they are updated with the changes in system, if any time to time. EMP plan is given in **Table 1** below.

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

Table 1: Summary of Potential Impacts and Remedial Measures

S. No.	Environmental components	Potential Impacts	Potential Source of Impact	Controls Through EMP & Design	Impact Evaluation	Remedial Measures
1.	Ground Water Quality	Ground Water Contamination	<u>Construction Phase</u> Waste water generated from temporary labor tents.	Waste water will be managed to achieve zero discharge and to maintain hygienic condition at site	No significant impact as majority of labors are and will be locally deployed	Waste water arising from the project will be disposed off conforming to standards of CPCB by septic tanks/soak pits
			<u>Operation Phase</u> Discharge from the project site	No untreated water is discharged in sewer	No negative impact on ground water quality envisaged.	Waste water generated is treated in STP within the site. Treated water is re-used at the site for flushing, road/car washing & landscaping.
2.	Ground Water Quantity	Ground Water Depletion	<u>Construction Phase</u> No impact as ground water is used for construction. Water from private water tanker is and will be sourced for construction phase	No water ponding will be allowed at site	No impact	Water from Private Tankers is and will be used for carrying out construction.
			<u>Operation Phase</u> Source of water is municipal supplysupplemented	Water should be conserved and wastage should be prevented	Depletion of water level in aquifers	- Using water efficiently - Re-usage of treated water from STP to minimize fresh water requirement for flushing,

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

			with ground water			road/car washing & landscaping purpose • Use of Water Efficient fixtures like flow regulators & dual flushing cisterns • 10 nos. of RWH pits are provided to recharge the storm water at the site
3.	Surface Water Quality	Surface water contamination	<u>Construction Phase</u> • Surface runoff from site during construction activity & open defecation of construction labour	• Water & Sewage management carried out at the site to control water pollution	Measures are taken to restrict the run-off from site.	• Silt traps and diversion ditches are constructed to control surface run-off during site construction and is and will be constructed in construction site area • Curing is and will be done by spraying water to reduce run-off • Toilets are provided at site to control open defecation and sewage is disposed through septic tank and soak pits
			<u>Operation Phase</u> • Discharge from Project Site	• No untreated water is discharged outside project site	No negative impact on surface water quality envisaged.	Treated water from STP is used for flushing, road/car washing and horticulture within the site
4.	Air Quality	Dust Emissions (PM)	<u>Construction Phase</u> • Construction	• Suitable control measures are adopted for reducing	Dust generation is temporary	• Water sprinklers are provided • Regular cleaning of

M/s Satvika Infra India Pvt.Ltd

			- activities • Vehicular movement	the PM level in the air as per air pollution control plan.	and settles fast due to dust suppression techniques. Impacts are restricted to small area.	construction site • Construction material & debris carrying vehicles are covered. • Construction material stored in covered area
		SO ₂ , NO ₂ and CO	<u>Construction Phase</u> • Vehicular exhaust • Running D.G. set (back up)	• Rapid on-site construction	Impact will be for short duration	• Regular monitoring of emissions and control measures are taken to reduce the emission levels. • Ambient air quality monitoring at site carried out every six monthly • Use of low sulfur diesel in DG sets as fuel • Provision of stack with DG sets to manage the emission • Regular maintenance and servicing of vehicles.
		Emissions of PM, SO ₂ , NO _x and CO	<u>Operation Phase</u> • Vehicular movement • Vehicular exhaust • Running D.G. set (back up)	• Suitable control measures will be adopted for reducing emissions	Not significant. Regular monitoring of air quality will be carried out to maintain air quality	• Stack height of DG provided as per CPCB standards and • Regular ambient air and DG stack monitoring carried out • Use of low sulfur diesel • Traffic management • Providing Footpath

						•Developing Green belt • All vehicles will carry PUC
5.	Noise Environment		<u>Construction phase</u> • Construction Activities • Operation of Machinery • Operation of DG sets	•Noise Management by adopting suitable measures.	Impact is temporary and restricted to small area.	• Provision of Noise shields • DG sets are provided with acoustic enclosures • Construction activities involving high level noise generation is restricted to day time • Provision of ear muffs to workers • Traffic Management at site to prevent honking • Use of machinery of modern make, meeting the noise standards • Vehicle randomly may checked for PUC certificate
			<u>Operation Phase</u> • Noise from vehicular movement • Noise from DG set operation	•Noise Management by adopting suitable measures	Not Significant.	• Development of green belt at site • DG sets provided with acoustic enclosure • Proper traffic management & circulation at site. Speed limits restricted to 15 kmph for speed regulation. Honking is prohibited in the premise

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

6.	Land Environment	Soil contamination	<u>Construction Phase</u> - Disposal of construction debris - Spillage of oil or paints - Excavation of soil	By controlling soil erosion and maintaining soil quality by periodic soil quality monitoring	No significant impact. Impact restricted to project site	- Construction debris are being and will be re-used at site and remaining sent for disposal to designated location of MC. - Proper work management to avoid spillage - Excavated soil will be re-used for landscaping in project area. - Silt traps and dykes provided to arrest silt as required.
			<u>Operation Phase</u> - Municipal solid waste - Used oil from D.G. set	Solid waste management as per MSW Rules, 2016.	Since solid waste is handled by the authorized agency, open waste dumping is not practiced thus impact is not significant. Negligible impact.	- MSW Management Rules, 2016 are followed. - E-waste managed as per E-waste Rules, 2016 - Used oil generated is sold to authorized vendors on regular basis. It is stored in HDPE drums at isolated location on paved surface. Disposed off as per Hazardous & Other Waste Rules, 2016

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

7.	Biological Environment	Displacement of Flora and Fauna on site	<u>Construction Phase</u> Site Development during construction	Important species of trees, if any, will be identified and marked and will be merged with landscape plan	No significant vegetation exists at project site so no tree felling involved.	No clearing of trees will be carried out as site is open land and did not support any vegetation
			<u>Operation Phase</u> Day to day activities	Development of Green Belt	Positive Impact	- Development of green belt at site. Green areas provide habitat to avifauna, insects and small tree dwellers like squirrels - Proper after care & maintenance will be done
8.	Socio-Economic Environment	Population displacement	<u>Construction Phase</u> Construction activities may lead to temporary relocation	Generation of employment for local people especially labor	Positive Impact	- Generation of employment for skilled, unskilled and semiskilled people - Development of an area due to improved infrastructure - Employment preferably is and will be given to local people
			<u>Operation Phase</u> Site operation	Creation of safe and comfortable working space	Positive impact	Generation of employment for skilled, unskilled and semiskilled people

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

9.	Traffic Pattern	Increase in traffic	<u>Construction Phase</u> Transportation of construction material & debris	Proper Management & Traffic circulation	Impact is short time and restricted to construction phase	- Provision of adequate parking space at site to prevent parking of vehicle on road - Proper traffic circulation system at site - Proper signage system - Restrict hours of material transport to avoid peak hours - Routes designated for material transportation so as to avoid already busy routes
			<u>Operation Phase</u> Vehicles of residents, staff & visitors	Proper Management & Traffic circulation	Not Significant as project site is well connected via network of roads	- Provision of adequate parking space within site - Proper traffic circulation system at site - Informatory & directive Sign boards are provided - Provision of pedestrian path to encourage walking

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana-Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

ENVIRONMENT MANAGEMENT PLAN

An Environmental Management Plan (EMP) is being and will be implemented at the site is given below

EMP for Air Environment

Construction Phase

To mitigate the impacts of dust during the construction phase of the project, the following measures are and will be followed for dust generation minimization:

- A dust control plan
- Procedural changes to construction activities

Dust Control Plan

The most cost-effective dust suppressant is water because water is easily available on construction site. Water can be applied using water trucks, handled sprayers and automatic sprinkler systems. Furthermore, incoming loads could be covered to avoid loss of material in transport, especially if material is transported off-site.

Procedural Changes to Construction Activities

Idle time reduction: Construction equipment are commonly left idle while the operators are on break or waiting for the completion of another task. Emission from idle equipment tends to be high, since catalytic converters cool down, thus reducing the efficiency of hydrocarbon and carbon monoxide oxidation. Existing idle control technologies comprises of power saving mode, which automatically off the engine at preset time and reduces emissions, without intervention from the operators.

Improved Maintenance: Significant emission reductions are achieved through regular equipment maintenance. Contractor is being asked to provide maintenance records for their fleet as part of the contract bid, and at regular intervals throughout the life of the contract. Incentive provisions is established to encourage contractors to comply with regular maintenance requirements.

Reduction of On-Site Construction Time: Rapid on-site construction reduces the duration of traffic interference and therefore, reduced emissions from traffic delay.

Operation Phase

To mitigate the impacts of pollutants from DG set and vehicular traffic during the operational phase of the Project, following measures will be implemented:

- DG set emission control measures
- Vehicular emission controls and alternatives
- Greenbelt development

M/s Satvika Infra India Pvt.Ltd

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

Diesel Generator Set Emission Control Measures

Adequate stack height maintained to disperse the air pollutants generated from the operation of DG set at appropriate height as per CPCB norms to minimize the GLC of pollutants.

Vehicle Emission Controls and Alternatives

During construction, vehicles are properly maintained to reduce emission.

Footpaths and Pedestrian ways: Adequate footpaths and pedestrian ways are provided at the site to encourage walking.

Greenbelt Development

Increased vegetation in the form of greenbelt is one of the preferred methods to mitigate air and noise pollution. Plants serve as a sink for pollutants, act as a barrier to break the wind speed as well as allow the dust and other particulates to settle on the leaves. It also helps to reduce the noise level at large extent. Tree belt is developed at the site already.

EMP FOR NOISE ENVIRONMENT

Construction Phase

To mitigate the impacts of noise from construction equipment during the construction phase on the site, the following measures are and will be implemented.

Time of Operation: Noisy construction equipment not allowed at night time.

Job Rotation and Hearing Protection: Workers employed in high noise areas are and will be employed on shift basis. Hearing protection such as earplugs/muffs are and will be provided to those working very close to the noise generating machinery.

Operation Phase

To mitigate the impacts of noise from diesel generator set during operation phase, the following measures will be implemented

- Adoption of Noise emission control technologies
- Greenbelt development

Noise Emission Control Technologies

DG sets are provided with integrated acoustic enclosures as per E (P) Act, GSR 371 (E) and its amendments.

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

EMP FOR WATER ENVIRONMENT

Construction Phase

To prevent degradation and to maintain the quality of the water source, adequate control measures are and will be implemented. To check the surface run-off as well as uncontrolled flow of water into any water body, following management measures are and will be:

- Avoid excavation during monsoon season
- Care taken to avoid soil erosion
- Toilets are and will be constructed on site during construction phase and the sewage is and will be channelized to the septic tanks in order to prevent waste water to enter into the water bodies
- Any area with loose debris within the site will be seeded with grass
- To prevent surface and ground water contamination by oil and grease, leak-proof containers are used for storage and transportation of oil and grease. The floors of oil and grease handling area kept effectively impervious. Any wash off from the oil and grease handling area or workshop is disposed off after passing it through oil & grease traps.
- Storm run-off is and will be channelized through temporary drains and will be collected in sedimentation tanks. This water is and will be used for various purposes at site like wheel washing, curing, cleaning etc.
- All stacking and loading areas are provided with proper garland drains, equipped with baffles, to prevent run off from the site, to enter into any water body.

Operation Phase

In the operation phase of the project, water conservation and development measures are taken, including all possible potential for rain water harvesting. Following measures are adopted:

- Water source development.
- Minimizing water consumption.
- Promoting reuse of water after treatment and development of closed loop systems for different water streams.

Water Source Development

Water source development shall be practiced by installation of scientifically designed Rain Water Harvesting system. 10 Nos. of RWH pits will be developed at site to put the storm water in ground for recharging the ground water aquifers. Thus proper management of this resource is a must to ensure that it is free from contamination.

M/s Satvika Infra India Pvt.Ltd

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

A detailed storm water management plan is developed which consider the possible impacts from above sources. The plan incorporates best management practices which include the following:

- Regular inspection and cleaning of storm drains.
- Installation of clarifiers or Oil/Water separators/traps system of adequate capacity around parking areas and garages as per requirement.
- Avoid application of pesticides and herbicides before wet season.
- Conducting routine inspections to ensure cleanliness.
- Preparation of spill response plans, particularly for fuel and oil storage areas.
- Provision of silt traps in storm water drains.
- Good housekeeping in the above areas.

Minimizing Water Consumption

Consumption of fresh water is minimized by combination of water saving fixtures and other domestic water conservation measures. The following section discusses the specific measures, which shall be implemented:

Domestic Usage

- Use of water efficient plumbing fixtures (dual flushing cisterns, low flow showers, pressure taps and faucets etc). Water efficient plumbing fixtures uses less water with no marked reduction in quality and service
- Leak detection and repair techniques.
- Meter water usage: Implies measurement and verification methods.
- Monitoring of water uses is a precursor for management.

Horticulture

- Usage of STP treated water for horticulture

Promoting Reuse of Water after Treatment and Development of Closed Loop Systems

Sewage generation from the site is expected to be 225 KLD which will be treated in STP of capacity 250 KLD. Dual plumbing system is provided at site to re-use the treated water for flushing, gardening and other purpose. STP is provided with MBBR Technology and will be provided at the site. Water will be treated up to tertiary level in the STP to make water fit for re-use.

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

EMP FOR LAND ENVIRONMENT

Construction Phase

Solid waste is generated both during construction as well as during operation phase. Solid waste generated during construction phase is majorly excavated materials, cement bags, bricks, concrete, MS rods, tiles, wood etc. Construction waste is segregated into re-usable, recyclable and reject fraction. Re-usable waste is stored at site, recyclable material will be sold to authorized vendor and rejected material will be disposed off at the designated areas of MC. Same will be followed for remaining construction phase

Operational Phase

During operation phase, waste comprise of municipal waste. It is estimated that approx. 669 kg per day (0.5 kg per capita per day for the residents & guests, 0.15 kg per capita per day for the visitor. 0.25 kg per capita per day for the staff members, whereas 0.2 kg/acre/day is considered for landscape waste) to be generated from project site. Waste management plan is given below.

SOLID WASTE MANAGEMENT PLAN

❖ Collection and Segregation of waste

- a. Door to door collection system is provided for collection of domestic waste
- b. Local vendors are hired for waste collection, management and disposal
- c. Separate colored bins for dry recyclables and rejected waste are provided to residents as well as in common and open areas

❖ Disposal

- a. Rejected fraction of the waste is collected and disposed by local agencies on daily basis and will be disposed at the locations designated by Patna Municipal Corporation. Recyclable waste and E-waste is sold to authorized vendors
- b. Used oil from DG sets is sold to authorized vendors

10.2.5 EMP FOR ECOLOGICAL ENVIRONMENT

Site did not support any vegetation thus no impact on ecology is there due to project development. During operation phase a green belt will be developed at the project site. 3115.38 sq m (20.0%) of plot area)is kept under green cover

10.2.6 EMP for Socio-Economic Environment

During construction stage only local labour is and will be hired for construction purpose which provided employment to local people. Environment management plan is and will be implemented at the site which

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

prevented the environmental pollution in the area and problems to the people in the project site surroundings

During operation phase, environment management plan will be implemented to manage sewage, storm water, emissions and waste from the site. Thus, there are no impacts due to the project on socio-economy. Being residential project, project provide quality living facility along with all modern day needs and requirement.

EMP FOR ENERGY CONSERVATION

Energy saving measures will be taken during construction and operation phase of the project. Energy saving measures proposed are described in section 9 of this document. Some of the measures are detailed below

- Energy efficient lifts are installed at the site
- All motors and pumps installed are energy efficient
- All the electrical fittings and internal & external lighting are BEE star rated
- CFL/LED lights are used for internal lighting
- Solar street lights will be installed
- Usage of fly ash mixed cement for construction (PPC)
- Green belt and greenery developed around the project periphery.
- Painting wall and roof with white/light color heat reflecting paint
- No fenestration provided on the west facing side of the building. West facing is blocked
- All windows of all rooms open to outside so as the day light enters in all the flats
- Shafts and windows provided for adequate ventilation
- Bus bars in all distribution panels are specified as copper bus bars to reduce losses and improve reliability.

ENVIRONMENTAL MANAGEMENT CELL

Project proponent is responsible for implementation of environment management plan at the site. Project proponent has designated an environment and safety expert at the site who ensure implementation of environment management plan and to abide by the environmental legislations. Contract will be given to external agency for STP maintenance and operation, green belt development and waste collection at the project site. Project proponent ensures that all environmental management measures are taken up at site by them and contracted agencies.

M/s Satvika Infra India Pvt.Ltd

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

Environmental Management Budget

Implementation cost for environmental management plan during operation & construction phase of the project is given below in **Tables 2 & 3** below.

Table 2: EMP budget for Construction Phase

S. No.	Activity	Capital Cost (Lacs)	Annual Recurring Cost (Lacs)
1.	Health & safety of Workers (PPE, safety officers etc)	3.0	1.0
2.	Environmental Monitoring	2.0	2.0
3.	Septic Tank & Soak Pit	1.0	1.0
4.	Sedimentation tanks	3.0	0.5
5.	Covered sheds for storage of material	3.0	0.5
Total		12.0	5.0

Table3: EMP budget for Operational Phase

S. No.	Activity	Capacity/ Area/Nos./parameters	Capital Cost (Lacs)	Annual Recurring Cost (Lacs)
1.	STP	100 KLD	25	10
2.	Landscaping & planting trees	3115.38 sq m	10	2
3.	Solid waste Management	Municipal waste-669 kg/day	15	2
4.	RWH Pit Installation	10 pits	15	2
5.	Energy Saving	2 %	10	4
6.	Environmental Monitoring*	Air, water, soil and noise	2	2
Total			77	22

Environmental Monitoring

The purpose of environmental monitoring is to evaluate the effectiveness of implementation of Environmental Management Plan (EMP) by periodic monitoring. The important environmental parameters within the impact area are selected so that any adverse effects are detected and time action can be taken. The project proponent will monitor ambient air Quality, Ground Water Quality and Quantity, and Soil Quality in accordance with an approved monitoring schedule.

M/s Satvika Infra India Pvt.Ltd

Proposed commercial Building for Satvika Infra India Pvt.Ltd., Director-Subodh Verma, Mouza- Digha, Thana- Digha, Thana No.-1 Khata No.-843, 861,864,880,1081,1083,1072 & 1091 Plot No.-1542,1543, 1544,1545, 1578, 1579,1580,1581 & 1582,Dist.- Patna Bihar.

Table 4: Suggested Monitoring Program for Project

S. No.	Type	Locations	Parameters	Period and Frequency
1.	Ambient Air Quality	Project Site	Criteria Pollutants: SO ₂ , NO ₂ , PM _{2.5} & PM ₁₀	Half yearly (24 hr average samples) during construction phase and annual during operation phase.
2.	Groundwater (Portability testing)	Project site	Drinking water parameters as per IS 10500.	Half Yearly
3.	Ambient Noise	Project site	dB (A) levels	Half Yearly (Hourly day and night time L _{eq} levels) during construction phase and every year during operation phase.
4.	Potable water quality	Drinking water supply	As per IS 10500 potable water standards	Half Yearly
5.	Soil quality	Project site	Organic matter, C.H., N, Alkalinity, Acidity, heavy metals and trace metal, Alkalinity, Acidity.	Half Yearly
6.	Waste Characterization	Municipal and Biomedical	Physical and Chemical composition	Daily
7.	Treated water	Outlet of STP	BOD, MPN, coliform count, etc.	Monthly

Awareness and Training

Training and human resource development is an important link to achieve sustainable operation of the facility and environment management. For successful functioning of the project, relevant EMP will be communicated to residents. Residents will be made aware of the importance of waste segregation and disposal, water and energy conservation through the sign ages provided in the project site.