Environmental Management Plan – Construction Phase

Sl. No.	Issue	Management / Mitigative measures
1.	Construction water usage	Fresh groundwater shall not be used for meeting construction water requirement. Instead, treated wastewater (arranged from various sources) shall only be used for this purpose.
2.	Equipment and machinery	All equipment and machinery will conform to the relevant BIS norms, various other statutory provisions (in terms of performance, emissions, noise, etc.). A record of PUC will be maintained for all plant and machinery.
3.	Construction material	The material to be procured from existing approved sources conforming to the applicable environmental provisions and should have valid consents/permissions/ authorizations.
4.	Construction operations	Construction material will be regularly sprinkled with water to keep the exposed surface wet and preventing it from getting air borne.
5.	Material transportation and handling	The vehicles should conform to Motor Vehicles Act, 1988. Covered transportation will be preferred. Due care to be taken during unloading.
6.	Parking and machinery bays	The area for parking of construction vehicles, fuel/lubricant storage area, equipment and machinery area, will be lined. All operations will be carried out in a way to prevent the contamination of ground from spillage of fuels/lubricants. Arrangement will be provided to arrest the run-off from the area and send it to septic tank.
7.	Environmental conditions	Periodic monitoring of air, water, noise, and soil quality, through an approved monitoring agency will be periodically undertaken to ensure safe environmental conditions.
8.	Labour camp	The camp will provide necessary facilities in functional and hygienic manner. The sanitation and sewage system are designed, built, and operated, such that no health hazards occur and no pollution to air, ground water, etc., takes place. Adequate toilets and sanitation facilities would be provided for labor use (with specific provision for females) and operated so that there is no health hazard.

Environmental Management Plan –Operational phase

	Issue	Management / Mitigative measures
1.	Wastewater treatment and disposal	Elaborate wastewater treatment facility will be developed to ensure the maximum capacity, the reuse of treated wastewater (the treated wastewater reuse potential is approx. 50% of wastewater generation). The excess treated water will be disposed onto land for irrigation of plantation area.
2.	Solid waste management / Biomedical waste	Solid wastes will be appropriately segregated (at source) into recyclable, and non-compostable components. The recyclable fraction will be sent directly to recyclers. Disposal of remaining waste through Municipal Corporation, Patna.
3.	Equipment and machinery	All equipment and machinery will conform to the relevant BIS norms, various other statutory provisions (in terms of performance, emissions, noise, etc.).
4.	Ground water usage	To minimize the additional stress to meet the project's water requirement, appropriate ground water recharge using rain water harvesting will be implemented. The annual recharge potential is 12556.60m^3. Compliance with the requirements of Central Ground Water Authority is to be ensured.
5.	Drainage	Adequate storm water management will be developed.
6.	Green belt development	Approximately 4429.15 m^2 of horticulture and green area (as dedicated parks and also along inner periphery of the complex boundary and along pavements) will be provided within the project.
7.	Accidents	Adequate preventive measures to be implemented for fire, electrical hazards, earthquakes, etc.
8.	Environmental conditions	Regular monitoring of air, water, noise, and soil quality, through an approved monitoring agency will be periodically undertaken.
9.	Energy conservation	Efforts will be incorporated, through expert planning, to minimize the electrical power consumption of the complex with due care to use of natural lighting, solar power, etc.
10.	Management and staffing	Dedicated environmental, health and safety department with qualified and trained team to be provided, supported by adequate budgetary allocations and training to all the staff.