

12. ENVIRONMENTAL MONITORING PLAN - EMP

The process of Environmental Monitoring through the Environmental Monitoring Plan (EMP) is an integral part of the Environmental Management Plan that has been highly structured in section I of this report.

Environmental monitoring involves the systematic collection of data to determine:

- The actual environmental effects of a project
- The compliance of the project with regulatory standards
- The degree of implementation of environmental protection measures and success of the environmental protection measures.

The information generated by monitoring programs provides the feedback necessary to ensure that environmental protection measures have been effective in helping achieve an environmentally sound project. An *environmental monitoring program* plan outlines the monitoring objectives; the specific information to be collected; the data collection program (including sampling design); and the management of the monitoring program. Program management includes assigning institutional responsibility, defining reporting requirements, ensuring enforcement capability, and confirming that adequate resources are provided in terms of skilled staff, equipment, training, and funds.

An EMS provides a systematic method for meeting environmental outcomes, approval conditions and the ways or procedures for meeting and exceeding compliance. The basic objectives are to increase business performance and reduce environmental risks through good management practices. It allows for:

- Better practices
- Monitoring of, and reporting on, performance
- Training of staff
- Keeping of relevant records
- Complaint response
- Emergency and incident response

The Environmental Monitoring Plan of the proposed is activity for both the construction phase and operational phase is displayed in Table 12A and Table 12B of section J. It is worth to note that the proponent or an appointed representative will be response for the implementation of the Environmental Monitoring Process at both the Construction and Operation stages.

Table 12A: EMP at Construction Phase

Environmental Monitoring Plan – Construction Phase				
S/N	Tasks	Requirements	Monitoring Details	Schedule
A	Site Preparation	Construction specifications and their application	Review contract documents to ensure insertion of adequate clause. Ensure their application by the supervisory personnel.	At start of construction On site meeting
		Services Provision	An approximate of the daily portable and construction water requirements shall be provided for the whole duration of the construction period. Electricity requirement will also be evaluated. Temporary sanitary and cleaning facilities and appropriate waste containers shall be provided.	Before start of construction activities.
B	Management of Materials	Stock-pile materials	Ensure that all the construction materials will be stored properly on the site.	At start of construction
C	Waste Management	Solid waste and wastewater management	Disposal techniques for solid waste and liquid waste will be monitored.	On weekly basis
		Noise generation	Ensure that heavy machines do not operate at undue hours	Daily
D	Construction Activity	Dust emanation	Fugitive dust will be constantly monitored and corrective actions taken.	Daily
		Work progress	Monitor actual against programme Report on risks of time over-run	Daily On site meeting
General	General	Storage of material, plant and equipment	Ensure provisions of adequate bins Locate safe area	At start of construction

Asphalt Mixing Plant at La Laura, Flacq

Section J

			Daily
Protection of sensitive site neighbourhood	Control disposal of constructional wastes Ensure no uncontrolled dumping on main road		On site meeting
Adequacy of utility services	Ensure appropriate specifications for material and installation procedures. Supervise installation of all proposed facilities		At start of construction During the whole construction phase
Project Buildings and Site overall	Architect to design matching colour schemes to blend with environment Ensure security Provide for adequate night lighting Check on watchmen		As per programme of work Monthly Monthly Regular Basis

Table 12B: EMP at Operational Phase

Environmental Monitoring Plan – Operation Phase					
S/N	Tasks	Requirements	Monitoring Details	Schedule	
A	Hatchery Security	Security of Project Users	Satisfactory operation of entrance security Presence of security officers	Monthly Monthly	
B	Fire Hazards	Fire-fighting Equipment	Verification of the fire extinguishers	Monthly	
		Fire Drills	Determine efficiency of the exercise	Twice a year	
C	Emergency & Warning Signs	Fixing of emergency Instructions	Ensure adequate numbers being posted throughout the facility Location on eye-catching spots Check the condition of the notices	Once-off Prior to start of operation	
D	Water Requirements	Water supply system	Monitoring adequacy of water supply to the amenities of the project	Monthly	
E	Alternate Power Source	Use of Stand-by Generator	Check adequacy, safety of installations. Ensure safe operation condition of stand-by generator Monitor noise level during operation	Monthly Monthly Whenever generator is operational	
F	Telecommunication Services	Telephone lines and internal network	Check satisfactory of operation	6-months	

G	Traffic	Road network	Verify state of road and ensure cleanliness Monitor for potential traffic congestion both internally and external.	Monthly Monthly
H	Wastewater Management	Drainage network	Ensure regular cleaning for satisfactory operation during heavy rainfalls	Once a week
		Sewerage system	Ensure satisfactory operation of manholes, gullies traps, septic tanks & absorption pit and to ensure adequate cleaning as necessary.	Once a week
I	Solid Waste Management	Solid waste collection and disposal	Verify if agreed scheduled of collection with relevant authorities are respected and ensure cleanliness of receptacles. Monitor any odour emissions.	Monthly Once every two weeks
J	Noise	Noise & Vibration	No significant noise generation is expected from the proposed activity. However ambient noise level will be closely monitored	Every 3 month basis.
K	Natural Calamities	Cyclone	Set-up of a cyclone procedures for each class of cyclone warning	In cyclonic periods
		Maintenance Schedules	Technical Manager to set-up	At start of operations
		Maintenance teams	Technical Manager to set-up	At start of operations
L	Maintenance	Projects Buildings	Ensure routine maintenance	Quarterly