

CHAPTER XI

ENVIRONMENTAL MANAGEMENT SCHEME

11.1 ENVIRONMENTAL MANAGEMENT SCHEME

Preparation of Environmental Management Scheme (EMS) is also made mandatory for Prior Environment Clearance as provided for in the notification date 09/09/2013 of MoEF GoI. There will be negligible quantities of top soil, no waste dumps. However the lessee will be adopting measures to control dust, air pollution through emissions, soil management, plantation and the noise controls etc.

Scheme of tree plantation: Top fertile soil existing in the barrier zone shall be utilized for sustainable development of trees and plantation scheme as per the financial assurance adduced with PMCP shall be ensured. 100 trees of Neem, Peepal, Bargad, Seesam & Mango will be planted all along the barrier Zone covering an area of 400m² in one year. Details approximate distance of national park, sanctuary, Biodiversity area. Interstate boundary situated within periphery of 10 Kms from area to be sanctioned. No any national park, sanctuary, Biodiversity area. Interstate boundary situated within periphery of 10 Km. from area to be sanctioned.

Effect on ground water level due to mining operation and its preventive measure: The proper and due care shall be taken in to consideration for protection of ground water. There will be proper monitoring stations in the mine premises to check the infiltration of rain water to the ground level which will administer the pollution of ground water zone. The water table is about 20 to 25 mts below general ground level i.e. RL 125 m. The water table goes down to 20 m. (105m. RL) during dry season and rises up to the 5 mts (110 m. RL) during the rainy season. The area has no stream and the ground water is the only source of water. The seepage may be due to top weathered zone. Ground water available at the mine site, through borehole shall be utilized in the form of water sprinkler and the dust zone will be kept protective from environmental hazards.

Details of scheme of continuous reclamation and rehabilitation of the land degradation due to mining operation: There is no proposal of reclamation and Rehabilitation during next two year progressive Plan period. Mining affects environment in various ways including depletion of land cover, Vegetation, removal of soil, change of land scape & deposition of the solid waste product thus causing imbalance in the land scape and increasing air, water and soil pollution. As the mining activity will be progressed the overburden, rejects, tailings, talus and scree material generated will be separately stacked and no progressive mine closer plan is proposed. However it is made clear that at

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the end of 2nd year if the availability of sand will be depleted or warranted or the mineral availability will be exhausted or the excavation of sand at 5 m. level will be uneconomical then the lessee shall be constrained leaving no other alternative except to close the mine finally and thereafter

Details of preventative and control scheme of air and water pollution:

Air Quality and its Monitoring:

The quality of air in and around the quarry is good except the dust which is generated during loading/unloading. The toxic gases from the exhaust of mining machineries will be causing air pollution by SO₂, NO₂, CO, etc. These can be control by using measures to neutralize these with other chemical regents. The regular sampling, analysis of air samples to know the SPM, RPM etc. is to be adopted and measures to keep the respective levels within permissible limits. The lessee will create such environment monitoring stations within and outside lease for air in particular, water, etc. for monitoring the dust controls and pollutants.

Treatment & disposal of water from Quarry: The loose sand terrain has no surface water source and no streams in the lease area as per topography. The bore well data has indicated the availability of subsurface water from 20 m down. There is no processing of raw material mined and no effluents and no contamination of ground water.

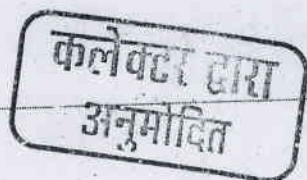
The only water source will be the rain waters accumulated in the working pits. In such case these accumulated clear water will be pumped out to nearby agricultural fields, used in crusher, the water pumped out from one pit to another can work as Sump. These waters can be used for mine road sprinkling to suppress dust, domestic purposes, except drinking.

Provisions for separate stacking of surface soil excavated from mining operations and its utility:

As the mining activity will be progressed the overburden, rejects, tailings, talus and scree material generated will be separately stacked and it shall be utilized as backfill material at the time when mine will finally be closed.

Details of Social and economic up gradation of mining affected person due to proposed project:

The sand quarrying in the Lessee area in particular has opened up employment opportunity to the villagers. The local resident shall be given employment with a view to educate them technologically as well as labour oriented jobs in stone quarries to maintain and upgrade their present socio-economic status for betterment of the livelihood of the local people.



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Details budgetary arrangement for environmental management:

Initially Lessee proposes the following budget:

Rs 10, 000/- will be spent on tree plantation and its post care management.

Rs 10, 000/- will be spent on tree guards, protection covering of trees for safety.

The Lessee will consult Forest Department & other allied departments for further investment for Plantation.

Any other details desired to be submitted by mineral concession holder:

Under the CSR activities the lessee proposes to carryout implementation of welfare scheme for physically handicraft person and other developmental activities for poor and children.

i) Temporary Storage of top Soil and its Utilization: There will be no top soil generated as the area is under mining and sand has been exposed. However, the top waste generated during initial years of mining will be temporarily stored, preserved and used for plantation around lease boundary (Barrier zone).

ii) Aforestation: As stated, there will be very less quantifies of waste generated during initial years of mining activity. The same will be used for plantation. The lessee will carry out plantation of 100 nos. of sapling around lease boundary.

iii) Noise Pollution and Measures to Control: The noise will be generated at the time of vehicle movements. The high levels will be checked and monitored to keep within normal permissible limit so that there is no adverse effect on the resident of near villages. Ear plugs to be given to workers.

iv) Health and safety: Intermittent training programmers shall be organized for maintenance of health and safety of the employee. First aid box shall be kept permanently at the mine site for causalities. All the mines safety measures shall be taken into considerations as per the mines safety act.

ENVIRONMENTAL MANAGEMENT PLAN

11.2.1 Name and Address of the holder of the Mining lease/ Auction:

M/S M. R. A. Global Pvt. Ltd., R/O:- House No 57, Paradise City Panna Road,
District – Chhatarpur (M.P.).

11.2.2 Details of the area:

- i) Date of In-principal Sanction: 05.10.2018
- ii) Period: 02 years (From lease agreement)
- iii) Map Showing Boundary of Sanctioned Area: Map Enclosed



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iv) Khasra/Area: Khasra No. – 474/2/5/1 , 474/3/2, Area – 2.226 Hectare

v) Name of the Village/Tehsil/District of Sanctioned Area:

Village – Singarpur,

Tehsil – Gaurihar,

District – Chhatarpur (MP)

11.2.3. Details of Machine to be used in Mining Operation:

Mining will be done by Open- Cast Semi-Mechanized Method without blasting with the help of JCB, Excavator, Gaity, Fabra etc. Loading the sand in to the Dumpers & tippers.

11.2.4. Detail of Measurement of mining Pit earlier excavation in the area to be sanctioned and details of mineral Concessions Situated within 100 meter periphery of this area:

Not. Applicable

11.2.5. Scheme of Tree Plantation:

Afforestation programme shall be started with the commencement of mining operation with simultaneous clearing of land by spreading of clay lumps along 3.0 m barrier of lease boundary. 2.5m X 2.5M spacing with 0.6m depth have been suggested for sapling pits on which local species will be planted as the following manner-

Year	PROPOSED SITE	SPECIES	No. OF SAPLING
1 st Year	All along barrier zone.	Seesam, Mango, Neem, Peepal, Bargad etc.	100
2 nd Year	All along barrier zone.	Seesam, Mango, Neem, Peepal, Bargad etc.	100

11.2.6 Details and approximate distance of National Park, Sanctuary, Biodiversity area, Inter State boundary situated within periphery of 10 Km. from the area to be sanctioned:

No any National Park, sanctuary, Biodiversity area, Inter State boundary situated within periphery of 10 Km. from the sanctioned area. Map enclosed showing 10 Km. periphery of the area.

11.2.7 Proposed annual production of mineral:

Total 36119 M³ of sand will be produced in one year.

11.2.8 Effect on ground water level due to mining operation and its preventive measures:

Positive

- The dugout pit will help in recharging of Ground Water by decreasing the runoff.

11.2.9 Details of Scheme of continuous reclamation and rehabilitation of the land degradation due to mining operation:



- As the mining will be limited to a very small area for a small targeted production so there is no need to rehabilitate the human settlement.

The land area that will be degraded due to mining and related activities can be separated into following heads:-

- I. Land area proposed under mining – 1.8136 Hectare
- II. Land area covered under 3.0 m statutory boundary -0.4124 Hectare
- III. Land area under Office and Hutments -0.007 Hectare
- IV. Land area under plantation on 3.0 m boundary -0.3500 Hectare

11.2.10 Details of preventive and control scheme of air & water:

Air Pollution:-Negligible

Air pollution in mining is generally caused due to loading operation and traffic (transportation of minerals)-

No blasting will be done to minimize the air pollution.

Loading of mined material from the quarry will create little generation of dust which will be controlled by sprinkling of water on it.

Very little dust will be generated during transportation as there is water sprinkling involved in the area.

Surface Water:-

a: General

Negligible

The mining shall not cause any change or diversion of any source of water in the area or any drainage pattern because mining will be restricted to up to ground water table.

b: Chemical

Nil

No chemical explosive/Blasting is involved in mining operations.

c: Ground Water

Positive

- The dugout pit will help in recharging of Ground Water by decreasing the runoff.

Environmental Mitigation Measures to be taken:-

1. Water sprinkling on transport road side (approx. 300 m.), Water sprinkling on stock yard etc. will be done by tractor mounted water sprinkler.



2. Approx.8 dumpers will be used for transportation of daily production of materials.

There is no any falling around 500 m. of transportation road side but it is the commitment of lessee to cover sand during transport.

3. In this area no any rare species were found.

4. Mining for each successive year is proposed to its optimum depth of mineral bed and the mining will not goes to touch the ground water table so there is no chance to disturbance in ground water table.

5. This will be the commitment of lease to look after transport vehicle maintenance and the proper care should be taken to optimize the air pollution.

6. Proper maintenance of transport vehicle & sprinkling of water on transport road will be helpful to control Water & Air pollution, and it is mandatory for lessee.

7. It is the responsibility of lessee for fixing of display board in the mine area.

11.2.11 Provision for separate stacking of surface soil excavated from mining operation and its utility:

Negligible

Very small area selected for separate stacking of surface soil excavated from mining Operation, due to very less generation of surface soil.

11.2.12 Details of social and economic up gradation of mining effected area due to proposed project: Positive

Mining will generate employment opportunity to local inhabitants directly and indirectly in mining as well as in consequent related activity.

11.2.13 Details of budgetary arrangement for environment management:

Total Rs. 170000/- will be utilized annually for environment management like Plantation, Water sprinkling on transport road, Water sprinkling on stock yard etc. The details of expenditure are given in table below:

Proposed Action Plan Towards socio economic development	Expenses per Year (in Rs.)
General Development of the area	-
i) Dust Suppression	25000
ii) CSR Activities	30000
iii) Development of Green Belt	50000
iv) Expenditure for Environment Monitoring	65000
TOTAL	170000



11.2.14 Any other details desired to be submitted by mineral concession holder:

Change in topography & land use pattern.

Yes.

Though the mining activity involves removal of minerals thereby creating depressions in the area but as the mining operation involves in sand mining mined out pit will be developed as agricultural land after complete extraction of mineral hence there would be change in the topographical features and land use pattern.

11.2.15.1 Effect on Flora & Fauna.

Negligible

Mining activity causes impact on flora and fauna due to land degradation, deforestation, etc, however as the mining is restricted to very small area there is no likelihood of any land degradation or deforestation being caused.

Negligible impact on fauna and flora is anticipated.

11.2.15.2 Ground Vibrations and Fly Rocks: Negligible

As no use of explosive or blasting is involved in mining no ground vibrations or fly rocks are likely to be created.

11.2.15.3 Effect on Climate: Negligible

Because mining is restricted to very small area and limited depth and no thermal pollution is envisaged hence, there will not change in any natural wind barrier or microclimate regime. There will not be any affect in the climate of the area.

11.2.15.4 Noise Pollution: Negligible

- No blasting is involved

- Proper and regular maintenance of the vehicle will be undertaken to suppress the frictional noise.

11.2.15.0 Accumulation of Scree

Nil. No dumping is involved.

11.2.15.6 Visual Impact

Subject to individual

Nil; - There is no any visual impact in the vicinity.

11.2.15.7 Historical Monuments: Nil

- There is no place of tourist interest, historical or religious importance in the vicinity.



Quarry