Executive summary for Environment management plan of Gadchiroli District Sand Ghats

(Area of sand ghats- 1-4.99 Ha)

For 33 sand ghats Public Hearing

Project Proponent

District Mining Officer, Gadchiroli

Environmental Consultant

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Executive summary of Environment Management Plan of the Gadchiroli District

1.0 INTRODUCTION

Gadchiroli District Collector is planning to auction the sand spots in the district for the year 2023-24 as sand is the major material for the infrastructural development. As per EIA notification 2006 prior environmental clearance is needed for start of mining, so as a procedure of EC Public hearing is primary stage.

As per Maharashtra sand policy 28/01/2022, District mining officer is project proponent initially and after auction of sand ghats environmental clearance will be transferred to successful bidder. Total 49 Sand ghats are surveyed but only 33 ghats are finalized for EC as per feasibility checked by Taluka level Technical Committee headed by Tahsildar and team members are Dy. Engineer Irrigation department, Junior Geologist appointed by Directorate of Geology and Mining, Junior Geologist from G.S.D.A. Gadchiroli and representative of Maharashtra Pollution Control Board. Manual method of mining will be adopted for scooping of sand from designated area of River bed. This sand ghats will be mined in 3 years period i.e. 2023-2024, 2024-2025, 2025-2026.

1.1 SALIENT FEATURES OF THE PROPOSED SAND GHATS

The mining will be carried out manually with opencast method of mining by engaging labours with help of crow bars, hand shovel, pick axes and baskets. Loading is proposed to be carried out manually and transportation of mineral from the mine to the depot is proposed through tractor with trolley arrangement. As the mineral is dry, loose in nature, no drilling and blasting are required and hence it is not proposed. Sand excavated manually, will be loaded directly into vehicles.

Mining of sand is proposed to be carried out by the manual method. It involves following steps

i. River Bed Mining activities do not involve top soil excavation.
ii. Excavation of sand is done by using spade and bucket.
iii. Drilling and blasting are not required.
iv. Mining will be carried out during Auction allotted period or as per EC letter.
v. Transport of sand from the river bed to destination will be carried out by tractor-trolley
vi. No machinery will be used during mining operations
vii. No pumping of water from river bed is envisaged as the proposed sand ghat is completely dry and their approach roads are also dry and accessible.

viii. The deposits occur at the middle/bottom of the river. During the entire lease period, the deposit will be worked from the top surface to permissible maximum mineable depth suggested by Joint survey of Taluka committee.

ix. The entire quantity of sand excavated will be transported and will be used for infrastructure development purpose. Thus, there will not be generations of any solid waste from mining activity, only very small amount of solid waste generated by the use of plastic wrappers of food items which is consumed by labors but it will be collected separately and disposed of at common waste treatment area nearby.

x. Mining will be carried out as per the approved Mining Plan.

xi. It is proposed to employ the local people wherever possible in the proposed project activities. Direct employment from these proposed sand ghat is mentioned in the list attached herewith.

Details of sand ghats are attached in **Table 01**:

2.0 IMPACT ON SURROUNDING ENVIRONMENT& MITIGATION MEASURES

2.1 GENERAL:

Mining projects may have likely impacted on the various environmental components viz. Air, Water, Noise, Land, Biological Environment and Socio-economics. The magnitude of impact of sand ghat projects and their mitigation measures are provided as follows.

2.2 LAND ENVIRONMENT:

Deviation from planned mining procedure can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation surrounding of landscape.

Mitigation Measures:

- Sand will be mined out in lease area as per the mining plan.
- The mining will remain confined to river bed only and in no case disturb any surface area outside which may affect topography or drainage.
- No stream should be diverted for the propose of sand mining.
- All the provisions stipulated in the Maharashtra Minor Mineral Extraction (Development and Regulation) Rules, 2013, will be meticulously followed.

It is ensured to compliance of the various point mentioned in sustainable

Sand Mining Guidelines issued by MoEF&CC.

2.3 WATER ENVIRONMENT

Disturbance of natural drainage, flow of water and ground water table due to excavation of sand from river in absence of scientific mining. If excess excavation of sand done in the project area, then depletion of ground water level causes the drought in summer season & effect on public life in all respect like farming, drinking water issue etc. Adverse Effect on aquatic life like fish, prawn and other living organism.

Mitigation Measures:

- In the projects, it is not proposed to divert or truncate any stream.
- No proposal is envisaged for pumping of water either from the river or tapping the ground water.
- In the lean months, the proposed sand mining will not expose the base flow of the river and hence, there will not be any adverse impact on surface hydrology and ground water regime due to this project.
- The proponent will adhere all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.
- Sand mining will be carried out in dry river bed portion only.
- The excavation of sand will be scientifically carried out up the permissible thickness of sand in line with Joint Survey Report. There will not be any intersection with ground water table.

2.4 AIR ENVIRONMENT:

In river bed mining activities, vehicle is the source of both particulate and gaseous pollutants while the dust particles of sand act as particulate pollutants especially during loading and transportation. In general SPM (Suspended particulate matters PM10) and to a limited extent of Sulphur dioxide (SO2) and Nitrous Oxides (NOx) will be due to fossil fuel-based vehicles, in the region which may be within the permissible limits, as it is a small-scale quarrying. The dust liberated in mining and other related operations is injurious to health if inhaled. The fugitive dust generation during mining and transportation requires some mitigation.

Mitigation Measures:

- Proper mitigation measures like water sprinkling on haul roads approach gadchiroli the lease area and up to river bank will be adopted to control fugitive dust emission.
- Over loading of tractor trollies and consequent spillage on the roads will be avoided.
- Measures such as covering tarpaulins over the loaded trollies will

prevent spreading of sand.

- It will be ensured that all transportation vehicles will carry a valid PUC certificate.
- Plantation of trees along the roads to help reduce the impact of dust in the nearby villages.
- Periodic air monitoring will be proposed to monitor the ambient air quality.

2.5 NOISE ENVIRONMENT

Sand mining will be done by manual method, so no noise generated during mining, however noise will be generated at Ghat from movements of tractors which is used for transportation.

Mitigation Measures

- Manual excavation is allowed in project site, No Machinery will be deployed inside the river bed.
- Noise arising out due to transportation shall be abated and controlled at source to keep within permissible limit.
- Restricted working hours. Sand mining operation has to be carried out between 6 am to 6 pm.

2.6 BIOLOGICAL ENVIRONMENT

Excessive and unscientific riverbed sand mining results in the destruction of aquatic and riparian habitat through large changes in the channel morphology.

- **Terrestrial Ecology**

Flora: The area is completely barren and devoid of any significant vegetation in the river. The lease area is totally covered by sand and not having any tree species, only some grasses observed in patches. So, there is no chance of cutting of any tree due to mining operation

Fauna: As there is no forest cover in sand ghat area, no significant wild life observed in this area. Thus, there will be no significant impact of the river quarry mining project on the biological environment in lease area.

- **Aquatic Ecology**

No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water

level only and not disturbing the water table.

Mitigation Measures:

- No mining will be carried out during the monsoon season i.e. from 10th June to 30th September to minimize impact on aquatic life, which is mainly breeding season.
- Mining will be carried out on the dry part of the river bed to avoid disturbance to the aquatic habitat and movement of fish species.
- No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

2.7 PLANTATION

The entire mining area falls within river course and gets flooded during monsoons; therefore, no plantation is possible within this area. Plantation will mainly be done along the haulage road and along the length of the river bank or approach road to depot or places as recommended by Gram Panchayat, also additional plantation will be proposed where there is sand ghat location is not nearer to entry point of approach road. Number of trees will be planted with various types of species. Native plants like Mango, Neem, Eucalyptus, Peepal, Gulmohar, and other local species will be selected in suitable combination, so that they can grow fast and also have good leaf cover.

2.8 OCCUPATIONAL HEALTH

1. Occupational health surveillance program for workers is undertaken periodically.
2. First Aid Facility at the proposed mining Site.

3.0 OTHER SAFETY PRECAUTIONS

1. Fencing of approach road for avoiding un-authorized entry to the active sand ghat.
2. Provision of Boards displaying all information as regards to mining of sand including quantity, period of mining activity and details of project proponent.
3. Display of warning signal boards at prominent locations.
4. Maintenance of approach road to sand ghat.
5. Deployment of adequate security arrangement.
6. Provision of safety equipment to workers.
7. Strict prohibition of use of any fuel for cooking or burning of waste or

any other material.

8. Adequate provision for collection and disposal of domestic solid waste.
9. Awareness for safety and health to the workers deployed at sand ghat.

4.0 STATUTORY REQUIREMENTS

It is accepted that effective resource management cannot be done in isolation. The Department therefore vigorously pursues approaches towards coordination and integration where possible, so as to lead to coordinated regulatory systems.

A regulatory system consists of both statutory and non-statutory components. In the Sectoral-specific strategy for prospecting and mining, the Department participates within an integrated environmental management system which is administered in terms of the Acts and Rules. Other Acts dealing with matters relating to the conservation and protection of the environment and which a holder of a mining authorization must also take cognizance of, include inter alia, the following:

- Maharashtra State Sand Policy 2022
- Sustainable sand mining and management guidelines, MoEF & CC, 2016
- Maharashtra Minor Mineral Extraction Development and Regulation) Rules, 2013.
- The Environment (Protection) Act, 1986
- Enforcement and Monitoring Guidelines for Sand mining, MoEF & CC, 2020
- Hon. NGT's decisions and Hon. Supreme Court of India's Decisions.

Sr. No.	Taluka	Name of Sandghat	Name of River/ Stream	Adjacent survey no.	Direction	Proposed Dimension in M			Area in SQ.M	Area in Ha.	MINEABLE RESERVE			Total project Cost Rs.
						length	Width	Depth			Depth proposed by GSDA	Quantity in CUM	Quantity in Barss	
1	Gadchiroli	Sakhra	Wainganga	567, 454, 456, 457	in the west	300	70	3.00	21000	2.10	1.50	31500	11131	6678600
2	Gadchiroli	Bodlimal	Kathani	135/46, 135/34	to the north	300	60	2.80	18000	1.80	0.8	14400	5088	3052800
3	Gadchiroli	Gai ghat	Kathani	350, 353, 354	in the south	150	70	2.70	10500	1.05	0.70	7350	2597	1558200
4	Gadchiroli	Dibhana Ghat	Kathani	82/1, 83/1	in the west	200	50	2.70	10000	1.00	0.70	7000	2473	1483800
5	Gadchiroli	Khursa Ghat	Kathani	131, 130, 129, 128	in the south	150	80	3.00	12000	1.20	1.00	12000	4240	2544000
6	Gadchiroli	Kurkheda Ghat	Kathani	18, 15, 14	to the north	150	100	3.00	15000	1.50	1.00	15000	5300	3180000
7	Dhanora	Dudhmala Ghat	Kathani River	131, 133	in the west	275	40	2.80	11000	1.10	0.80	8800	3110	1866000
8	Chamorshi	Jibgaon	Wainganga River	95,96	North	205	100	3.00	20500	2.05	1.00	20500	7244	4346400
9	Chamorshi	Dotkuli	Wainganga River	114, 118, 119/1, 119/2	in the west	215	100	3.00	21500	2.15	1.00	21500	7597	4558200
10	Chamorshi	Wagholi	Wainganga River	52,53,54,55	in the west	225	100	3.00	22500	2.25	1.00	22500	7951	4770600
11	Armori	Thotebodi	Khobragadi River	105	In the east Nagarwahi Chak village's Shiva and river in west, north and south directions	200	60	2.70	12000	1.20	1.00	12000	4240	2544000
12	Armori	Paraswadi	Khobragadi River	30, 29	North	170	65	3.00	11050	1.11	1.00	11050	3905	2343000
13	Armori	Deulgaon 2	Khobragadi River	166, 167	North	270	75	3.00	20250	2.03	1.00	20250	7155	4293000
14	Armori	Deulgaon 1	Wainganga River	156	North	250	100	3.00	25000	2.50	1.00	25000	8834	5300400
15	Armori	Dongarsavangi	Wainganga River	19, 20, 21/1	West	300	100	3.00	30000	3.00	1.00	30000	10601	6360600
16	Armori	Kitali	Wainganga River	78, 79, 80, 81	West	100	100	3.00	10000	1.00	1.00	10000	3534	2120400

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						length	Width	Depth			Depth proposed by GSDA	Quantity in CUM	Quantity in Barss	
17	Desaiganj	Sawangi	Wainganga	210, 217, 218, 219, 220,221,222,223	West	320	125	3.00	40000	4.00	1.00	40000	14134	8480400
18	Desaiganj	Kurud (Juni Wadsa)	Wainganga River	496/1,496/2,496/3,	West	100	100	2.50	10000	1.00	0.50	5000	1767	1060200
19	Desaiganj	Kondhala (Mendha ghat)	Wainganga River	332,333,334,335, 336,337,338	West	380	110	3.00	41800	4.18	1.00	41800	14770	8862000
20	Desaiganj	Kondhala (Sindrai ghat)	Wainganga River	280,281	West	170	80	3.00	13600	1.36	1.00	13600	4806	2883600
21	Sironcha	Medaram nala	Medaram nala	West of 266	in the west	200	50	2.70	10000	1.00	0.70	7000	2473	1483800
22	Sironcha	Chipurdubba Rai.-1	Chirpur-Dubba Nala	S.No. North of 5/2 and 4/2	to the north	200	50	2.50	10000	1.00	0.50	5000	1767	1060200
23	Sironcha	Chipurdubba Rai.-2	Chipurdubba Nala	30	to the north	200	50	2.50	10000	1.00	0.70	7000	2473	1483800
24	Sironcha	Nagaram-1	Godavari River	S.No. 529, 530 and 601 to the south	in the south	200	115	3.00	23000	2.30	1.00	23000	8127	4876200
25	Sironcha	Nagaram-2	Godavari River	S.No. 537, 538 and 539 to the south	in the south	150	100	3.00	15000	1.50	1.00	15000	5300	3180000
26	Sironcha	Maddhikuntha	Godavari River	To the south Sr. No.442, 443, 440 and 441	in the south	250	100	3.00	25000	2.50	1.00	25000	8834	5300400
27	Sironcha	Aardamal	Godavari River	South of S.No.332, 335, 338, 434	in the south	250	100	3.00	25000	2.50	1.00	25000	8834	5300400
28	Kurkheda	Kumbhitola	Sati River	South of S.No. 77, 78	South	200	50	2.50	10000	1.00	1.00	10000	3534	2120400
29	Kurkheda	Nanhi	Sati River	S.No. 122, 123, 120 south	South	300	60	2.50	18000	1.80	1.00	18000	6360	3816000
30	Aheri	Mahagaon Bu.	Pranhita River	S.No. 450, 449, 523, 428	in the West	250	90	3.00	22500	2.25	1.00	22500	7951	4770600
31	Aheri	Modumtura	Pranhita River	S.No. 88, 89, 92	in the West	175	60	3.00	10500	1.05	1.00	10500	3710	2226000
32	Aheri	Damrancha	Bandiya River	49, 50, 51	In North to	145	70	3.00	10150	1.02	1.00	10150	3587	2152200
33	Aheri	Bori	Pranhita River	S.No.49, 50, 73	South-West	140	80	3.00	11200	1.12	1.00	11200	3958	2374800
													197385	118431000