Executive summary for Environment management plan of Gadchiroli District Sand Ghats

(Area of sand ghats- 1-4.99 Ha)

For 77 sand ghats Public Hearing

Project Proponent

District Mining Officer, Gadchiroli

Environmental Consultant

M/s Anacon Laboratories Pvt. Ltd., Nagpur

QCI-NABET Accredited EIA Consultant for Mining of Minerals (Sector 1 1(a))

MoEF&CC (GOI) Recognized Laboratory

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Lab. & Consultancy: FP-34, 35, Food Park,

MIDC, Butibori, Nagpur – 441122

Email: *ngp@anacon.in*

Website: *www.anaconlaboratories.com*

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 2022-23 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 114 Sand ghats are surveyed but only 77 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.

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 Sand ghat	Name of River/Stream	Adjacent survey no.	Proposed Dimension in M		Area in SQ.M	Area in Ha.	Depth proposed by GSDA	Quantity in CUM	Quantity in Brass	Total project Cost Rs.
					length	Width						
1	Gadchiroli	Lanzeda	Kathani	339,341,346, and 347	125	80	10000	1.00	0.70	7000	2473	1483800
2	Gadchiroli	Kaneri	Wainganga	320,321,323, 332	250	160	40000	4.00	1.00	40000	14134	8480400
3	Gadchiroli	Pardi	Wainganga	766, 767, 768	200	100	20000	2.00	1.00	20000	7067	4240200
4	Gadchiroli	Pulkhal	Wainganga	378, 379	230	100	23000	2.30	1.00	23000	8127	4876200
5	Gadchiroli	Sakhra	Wainganga	567, 454, 456, 457	300	70	21000	2.10	1.00	21000	7420	4452000
6	Gadchiroli	Nagri	Wainganga	433, 435, 436, 437	300	150	45000	4.50	1.00	45000	15901	9540600
7	Gadchiroli	Katli	Wainganga	201, 204	300	120	36000	3.60	1.00	36000	12721	7632600
8	Gadchiroli	Adapalli-1	Kathani	41, 42	250	70	17500	1.75	0.70	12250	4329	2597400
9	Gadchiroli	Bodlimal	Kathani	135/46, 135/34	300	60	18000	1.80	0.8	14400	5088	3052800
10	Gadchiroli	Bamhani	Kathani	147/1,146, 159, 160	200	90	18000	1.80	1.00	18000	6360	3816000
11	Gadchiroli	Gai ghat	Kathani	350, 353, 354	150	70	10500	1.05	0.70	7350	2597	1558200
12	Gadchiroli	Ram Mandir Ghat	Kathani	319, 320	200	60	12000	1.20	0.80	9600	3392	2035200
13	Gadchiroli	Rajgatamal	Kathani	296, 297	200	50	10000	1.00	0.50	5000	1767	1060200
14	Gadchiroli	Dibhana Ghat	Kathani	82/1, 83/1	200	50	10000	1.00	0.70	7000	2473	1483800
15	Gadchiroli	Khursa Ghat	Kathani	131, 130, 129, 128	150	80	12000	1.20	1.00	12000	4240	2544000
16	Gadchiroli	Kurkheda Ghat	Kathani	18, 15, 14	150	100	15000	1.50	1.00	15000	5300	3180000
17	Dhanora	Chicholi	Kathani River	150, 151, 152, 154, 155	150	80	12000	1.20	0.80	9600	3392	2035200
18	Dhanora	Dudhmala Ghat	Kathani River	131, 133	275	40	11000	1.10	0.80	8800	3110	1866000
19	Dhanora	Rajoli Ghat	Kathani River	170, 171, 172	275	40	11000	1.10	0.70	7700	2721	1632600
20	Dhanora	Bandhona	Tipagadi River	91, 105, 108, 89, 90	415	25	10375	1.04	0.70	7263	2566	1539600
21	Chamorshi	Amgaon Ma.	Pohar River	244, 245, 246	110	100	11000	1.10	0.70	7700	2721	1632600
22	Chamorshi	Usegaon Ghat	Wainganga River	55/1/A,55/1B,55/2,56	210	100	21000	2.10	1.00	21000	7420	4452000
23	Chamorshi	Jibgaon	Wainganga River	95,96	205	100	20500	2.05	1.00	20500	7244	4346400
24	Chamorshi	Dotkuli	Wainganga River	114,118,119/1,119/2,	215	100	21500	2.15	1.00	21500	7597	4558200
25	Chamorshi	Wagholi	Wainganga	52,53,54,55	225	100	22500	2.25	1.00	22500	7951	4770600

Sr. No.	Taluka	Name of Sand ghat	Name of River/Stream	Adjacent survey no.	Proposed Dimension in M		Area in SQ.M	Area in Ha.	Depth proposed by GSDA	Quantity in CUM	Quantity in Brass	Total project Cost Rs.
					length	Width						
			River									
26	Chamorshi	Ganpur Rai.	Wainganga River	476,479,481,482,484,47	120	100	12000	1.20	1.00	12000	4240	2544000
27	Armori	Arsoda Ghat	Wainganga River	383, 384, 386	225	180	40500	4.05	1.00	40500	14311	8586600
28	Armori	Waghala Ghat	Wainganga River	34, 11, 6, 5	225	190	42750	4.28	1.00	42750	15106	9063600
29	Armori	Shivni Buj.-1	Wainganga River	88, 87, 86, 85, 82, 81, 71	350	100	35000	3.50	1.00	35000	12367	7420200
30	Armori	Shivni Buj.-2	Wainganga River	724, 722, 721, 720, 714	320	110	35200	3.52	1.00	35200	12438	7462800
31	Armori	Saigaon	Wainganga River	351, 352, 353, 356/1, 356/2	170	90	15300	1.53	1.00	15300	5406	3243600
32	Armori	Thotebodi	Khobragadi River	105	200	60	12000	1.20	0.7	8400	2968	1780800
33	Armori	Vairagad	Khobragadi River	25	250	40	10000	1.00	0.5	5000	1767	1060200
34	Armori	Paraswadi	Khobragadi River	30, 29	170	65	11050	1.11	1.00	11050	3905	2343000
35	Armori	Vankhi	Khobragadi River	113	200	100	20000	2.00	1.00	20000	7067	4240200
36	Armori	Deulgaon 2	Khobragadi River	166, 167	270	75	20250	2.03	1.00	20250	7155	4293000
37	Armori	Deulgaon 1	Wainganga River	156	250	100	25000	2.50	1.00	25000	8834	5300400
38	Armori	Dongarsaongi	Wainganga River	19, 20, 21/1	300	100	30000	3.00	1.00	30000	10601	6360600
39	Armori	Kitali	Wainganga River	78, 79, 80, 81	100	100	10000	1.00	1.00	10000	3534	2120400
40	Desaiganj	Sawangi	Wainganga	210, 217, 218, 219, 220,221,222,223	320	125	40000	4.00	1.00	40000	14134	8480400
41	Desaiganj	Kurud (Bodegaon Ghat)	Wainganga River	335,336, 337	100	100	10000	1.00	0.70	7000	2473	1483800
42	Desaiganj	Kurud (Juni Wadsa)	Wainganga River	496/1,496/2,496/3,	100	100	10000	1.00	0.50	5000	1767	1060200
43	Desaiganj	Kondhala (Mendha ghat)	Wainganga River	332,333,334,335, 336,337,338	380	110	41800	4.18	1.00	41800	14770	8862000
44	Desaiganj	Kondhala	Wainganga	280,281	170	80	13600	1.36	1.00	13600	4806	2883600

Sr. No.	Taluka	Name of Sand ghat	Name of River/Stream	Adjacent survey no.	Proposed Dimension in M		Area in SQ.M	Area in Ha.	Depth proposed by GSDA	Quantity in CUM	Quantity in Brass	Total project Cost Rs.
					length	Width						
		(Sindrai ghat)	River									
45	Desaiganj	Chop -2	Gadhvi River	269, 270	255	40	10200	1.02	0.50	5100	1802	1081200
46	Sironcha	Medaram nala	Medaram nala	S.No. West of 266	200	50	10000	1.00	0.70	7000	2473	1483800
47	Sironcha	Chipurdubba Rai.-1	Chirpur-Dubba Nala	S.No. North of 5/2 and 4/2	200	50	10000	1.00	0.50	5000	1767	1060200
48	Sironcha	Chipurdubba Rai.-2	Chipurdubba Nala	33	200	50	10000	1.00	0.50	5000	1767	1060200
49	Sironcha	Nagaram-1	Godavari River	S.No. 529, 530 and 601 to the south	200	115	23000	2.30	1.00	23000	8127	4876200
50	Sironcha	Nagaram-2	Godavari River	S.No. 537, 538 and 539 to the south	150	100	15000	1.50	1.00	15000	5300	3180000
51	Sironcha	Maddhikuntha	Godavari River	To the south Sr. No.442, 443, 440 and 441	250	100	25000	2.50	1.00	25000	8834	5300400
52	Sironcha	Aardamal	Godavari River	South of S.No.332, 335, 338, 434	250	100	25000	2.50	1.00	25000	8834	5300400
53	Sironcha	Ankisamal-1	Godavari River	S.No. 246, 244, 233, 231, 230, 216, 214 south of	250	100	25000	2.50	1.00	25000	8834	5300400
54	Sironcha	Ankisamal-2	Godavari River	324, 325, 326, 327	200	100	20000	2.00	1.00	20000	7067	4240200
55	Sironcha	Chintarvela Ghat-1	Godavari River	South of S.No. 605 and 606	200	100	20000	2.00	1.00	20000	7067	4240200
56	Sironcha	Chintarvela Ghat-2	Godavari River	South of S.No.648	250	100	25000	2.50	1.00	25000	8834	5300400
57	Sironcha	Mukadigutta Rai.-1	Godavari River	South of S.No.85	200	100	20000	2.00	1.00	20000	7067	4240200
58	Sironcha	Mukadigutta Rai.-2	Godavari River	South of S.No. 91st and 96th	200	110	22000	2.20	1.00	22000	7774	4664400
59	Sironcha	Tekdamotla-1	Godavari River	South of S.No. 127th	200	115	23000	2.30	1.00	23000	8127	4876200
60	Sironcha	Tekdamotla-2	Godavari River	South of S.No. 130	200	100	20000	2.00	1.00	20000	7067	4240200
61	Sironcha	Patagudum	Indravati River	S.No. 14 East	220	110	24200	2.42	1.00	24200	8551	5130600
62	Sironcha	Raigudum	Indravati River	S.No.10th South	220	110	24200	2.42	1.00	24200	8551	5130600
63	Kurkheda	Kurkheda	Sati River	South of the S. No.6th	200	50	10000	1.00	0.50	5000	1767	1060200
64	Kurkheda	Kumbhitola	Sati River	South of S.No. 77, 78	200	50	10000	1.00	0.60	6000	2120	1272000

Sr. No.	Taluka	Name of Sand ghat	Name of River/Stream	Adjacent survey no.	Proposed Dimension in M		Area in SQ.M	Area in Ha.	Depth proposed by GSDA	Quantity in CUM	Quantity in Brass	Total project Cost Rs.
					length	Width						
65	Kurkheda	Nanhi	Sati River	S.No. 122, 123, 120 south	300	60	18000	1.80	0.60	10800	3816	2289600
66	Kurkheda	Chichtola	Sati River	S.No. 150, south of 151	200	50	10000	1.00	0.60	6000	2120	1272000
67	Kurkheda	Moushi	Sati River	South of S.No.164, 166, 167, 168	200	50	10000	1.00	0.60	6000	2120	1272000
68	Kurkheda	Andhali	Sati River	North of S.No. 96	200	50	10000	1.00	0.60	6000	2120	1272000
69	Kurkheda	Saitola	Sati River	2, 69	200	50	10000	1.00	0.60	6000	2120	1272000
70	Kurkheda	Ghati	Sati River	North of S.No.139 and 140	200	60	12000	1.20	0.60	7200	2544	1526400
71	Aheri	Mahagaon Bu.	Pranhita River	S.No. 450, 449, 523, 428	250	90	22500	2.25	1.00	22500	7951	4770600
72	Aheri	Chichgundi	Pranhita River	S.No. 124, 126	200	75	15000	1.50	1.00	15000	5300	3180000
73	Aheri	Modumtura	Pranhita River	S.No. 88, 89, 92	175	60	10500	1.05	1.00	10500	3710	2226000
74	Aheri	Indaram	Pranhita River	S.No. 407, 494	150	70	10500	1.05	1.00	10500	3710	2226000
75	Aheri	Damrancha	Bandiya River	49, 50, 51	145	70	10150	1.02	1.00	10150	3587	2152200
76	Aheri	Bori	Pranhita River	S.No.49, 50, 73	140	80	11200	1.12	1.00	11200	3958	2374800
77	Mulchera	Yela	Pranhita River	226, 225	100	100	10000	1.00	1.00	10000	3534	2120400