

Executive summary for Environment  
management plan of Amravati District  
Sand Ghats

(Area of sand ghats- 0-5 Ha)

For 29 sand ghats Public Hearing

Project Proponent

**District Mining Officer, Amravati**

***Environmental Consultant***



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# **Executive summary of Environment Management Plan of the Amravati District**

## **1.0 INTRODUCTION**

Amravati District Collector is planning to auction the sand spots in the district for the year 2021-22 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 03/09/2019, District mining officer is project proponent initially and after auction of sand ghats environmental clearance will be transferred to successful bidder. Total 45 sand ghats are surveyed but 29 ghats are finalized for EC 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. Amravati, representative of Maharashtra Pollution Control Board for scooping of sand by manual method.

## **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 is 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

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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 impacts 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.

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## **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 to 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 (SO<sub>2</sub>) and Nitrous Oxides (NO<sub>x</sub>) 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 approaching 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

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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:**

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- No mining will be carried out during the monsoon season i.e. from 10<sup>th</sup> June to 30<sup>th</sup> 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. 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 sandghat.

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## **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 2019
- 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.

**Table 01: Details of sand ghats**

Sr.No	Name of tahsil	Name of Grampanchayat	Name of sand ghat	River	Survey No.	Dimension of Sand ghat			Area in Sq.m	Qty in Brass	Approach road details		Tractor	No. of Employee	Plantation			Water req. KLD	EMP cost Rs.
						Length m	Width m	Depth m			Length m	Width m			Along the River bank	Along the approach road	Total tree		
1	Dharni	Chichghat	Chichghat (Zirnyaghat)	Tapi	23,26	750	15	0.5	11250	1988	1708	3.2	3	16	375	1708	2083	38.05	10,12,750
2	Dhamangaon Railway	Gokulsara	Gokulsara-1	Wardha	1 to 3	555	54	0.5	29970	5295	263	3.2	7	36	278	263	541	7.59	4,82,450
3	Dhamangaon Railway	Gokulsara	Gokulsara-2	Wardha	8 to 11	550	54	0.5	29700	5247	361	3	7	36	275	361	636	9.28	5,51,500
4	Daryapur	Karatkheda	Karatkheda	Purna	3, 4, 5, 38, 39, 50, 51, 52, 54	427	25	0.5	10675	1886	288	2.8	2	11	214	288	502	6.75	3,97,000
5	Daryapur	Chandola	Bhuikheda	Purna	127, 153	360	30	0.5	10800	1908	177	3	3	16	180	177	357	4.74	3,66,250
6	Daryapur	Chandola	Sonkheda	Purna	10 to 15	425	26	0.5	11050	1952	227	2.5	3	16	213	227	440	5.34	3,85,500
7	Daryapur	Chandola	Chandola	Purna	224, 226, 216, 13, 14, 15	450	25	0.5	11250	1988	166	3.2	3	16	225	166	391	4.92	4,19,750
8	Daryapur	Ramgaon	Ramgaon	Chandbhaga	28, 29, 31, 40, 39, 38, 41	950	11	0.5	10450	1846	230	2.5	2	11	475	230	705	6.61	4,46,250
9	Daryapur	Nalwada	Khanpur Chiparda	Chandbhaga	1 to 6,160 to 161,150 to 151	885	13	0.5	11505	2033	278	3	3	16	443	278	721	8.08	4,55,750
10	Tivsa	Jawara Fattepur	Jawara Fattepur	Wardha	02,03	200	50	0.5	10000	1767	210	3	2	11	100	210	310	4.91	3,49,000
11	Tivsa	Bharwadi	Chandur Dhore	Wardha	2,4	214	50	0.5	10700	1890	707	3	2	11	107	707	814	14.88	5,75,000
12	Morshi	Nimbharni	Nimbharni	Wardha	1	310	35	0.5	10850	1917	250	3	3	16	155	250	405	6.08	3,76,750
13	Morshi	Shiwara	Shiwara Bhag-1 (Antora Pend)	Wardha	29	325	35	0.5	11375	2010	663	3	3	16	163	663	826	14.38	5,42,000
14	Morshi	Shiwara	Shiwara Bhag-2 (Chincholi Pend)	Wardha	1	305	35	0.5	10675	1886	362	2.8	2	11	153	362	515	7.85	3,98,750
15	Bhatkuli	Hartoti Nanded (Khu)	Degurkheda Waghoda	Purna	Degurkheda-1,3,4,5,27,Waghoda-1,2,3,4	1035	15	0.5	15525	2743	186	3	4	21	518	186	704	6.71	4,57,000
16	Bhatkuli	Bhatkuli Nagar Panchayat	Bhatkuli	Pedhi	243 to 251, 260, 263,264,268 to 276, 189,934,935,252, 240,239,236,235, 233,232,221 to 226	1500	20	0.5	30000	5300	114	3	7	36	750	114	864	6.71	5,58,500
17	Bhatkuli	Alangaon	Alangaon	Pedhi	181 to 189, 194 to 201, 165 to 174, 215, 216, 227, 228, 221/22	1050	30	0.5	31500	5565	155	3	7	36	525	155	680	6.41	5,12,500
18	Bhatkuli	Gourkheda	Gopgavhan	Pedhi	38 to 40	250	40	0.5	10000	1767	820	2.5	2	11	125	820	945	15.18	
19	Warud	Deutwada	Deutwada	Wardha	139 to 150	465	25	0.5	11625	2054	432	3	3	16	233	432	665	10.11	4,71,750



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						Length m	Width m	Depth m			Length m	Width m			Along the River bank	Along the approach road	Total tree		
20	Chandurbajar	Deurwada-Kodori	Deurwada-Kodori	Megha, Purna	Deurwada-21,23,24,25,26,27, 28,14,15 Kodori-3, 2, 195	595	17	0.5	10115	1787	329	3	2	11	298	329	627	8.28	4,28,250
21	Bhatkuli	Nanded Khurd	Nanded Khurd	Purna	1 to 5, 139 to 142, 159 to 164, 166	1500	18	0.5	27000	4770	70	3	6	31	750	70	820	5.74	5,17,000
22	Achalpur	Sawlapur	Sawlapur-Khanapur	Purna	Sawlapur Gt. No. 32 to 36, 37,39, 41 to 44, 49,50,53 Khanapur Gt. No. 78	600	20	0.5	12000	2120	950	2.8	3	16	300	950	1250	19.85	6,89,500
23	Dhamangaon Railway	Naygaon	Naygaon	Wardha	6,7,56,57,58	1200	30	0.5	36000	6360	611	3	8	41	600	611	1211	16.00	7,52,250
24	Daryapur	Khairi	Purna River Bank Khairi	Purna	94, 95, 96, 97, 98, 99, 100	800	15	0.5	12000	2120	585	2.8	3	16	400	585	985	13.42	6,23,250
25	Chandurbajar	Talni Purna	Tamaswadi Talni Purna	Purna	10	500	20	0.5	10000	1767	234	3	2	11	250	234	484	6.14	3,92,500
26	Chandurbajar	Ramgaon	Chincholi Thakarkheda	Purna	113,114,122,121	532	19	0.5	10108	1786	285	2.8	2	11	266	285	551	6.95	4,09,250
27	Chandurbajar	Dhanora Hirur Purna	Hirur- Shahapur	Purna	42, 43, 93, 94, 95, 96, 97	575	20	0.5	11500	2032	937	2.8	3	16	288	937	1225	19.54	6,83,125
28	Bhatkuli	Kanfodi	Chakur	Pedhi	11, 12, 13, 14	600	20	0.5	12000	2120	643	3	3	16	300	643	943	14.66	6,12,750
29	Bhatkuli	Waki Raypur	Waki Raypur-2	Purna	Raypur 152 to 155, Vaki 255, 254, 25, 249, 245	410	25	0.5	10250	1811	945	3	2	11	205	945	1150	20.13	6,59,000