

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project

Sand Scooping/Mining Proposals at Amravati district

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec.	Quantity In Brass	Blocked under non mining zone in Sq.m.	Scoopable Quantity in Brass	Duration of Excavation
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	0	2650	1 year
2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
3	Dharni	Sonabardi	Kharyate mbhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163, 164,166,	1500	15	0.6	2.25	4770	3970	3929	1 year
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240,239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year
15	Daryapur	Khanpur Chiparda	Nahwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
16	Daryapur	Bembli Bu	Bembli Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year

17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karalkhed	Karalkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	0	2897	1 year
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna-17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
29	Chandur Bazar	Takarkhed a	Takarkhed a	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year
30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghaj	Waghaj	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

Proponent

District Mining Officer Amravati
Collector Office, Amravati

Consultant

Enviro Techno Consult Private Limited
68, Mahakali Nagar-2
Near Manewada Square
Nagpur 440 024 (MS)

August 2024

Pre-feasibility Report

Executive Summary

- Collector Amravati vide his right to auction Sand as a minor mineral intends to auction the Sand in Amravati district.
- District Collector, Amravati appointed District Mining Officer- Amravati as a project Proponent to carry out administrative procedure for preparation of Mining Plan and grant of environmental clearance being Revenue Officer of the district vide Sand Mining Policy dated 16.02.2024.
- Project Proponent proposed to scoop sand from 33 nos. of Sand Ghats below 5 ha area and identified for preparation of mining plan and for grant of Environmental Clearance.
- Mining Plans are prepared by Recognized Qualified Person and approved by Directorate of Geology & Mining Govt. of Maharashtra.
- About 98983 brass sand is proposed to auction from 33 nos. of proposed sand ghat listed at Annexure-1
- Proposed sites are located at the river bank of Purna,Tapi,Pedhi,Chandrabhaga,Wardha and sapan. Total proposed Lease area of 46.78 ha comprises of river bed of Purna,Tapi,Pedhi,Chandrabhaga,Wardha and sapan river for sand scooping proposed in 33 Sand Ghats.

Physiography :

Amravati district lies between 20° 32' AND 21° 46' N Latitude and 76° 37' AND 78° 27' E Longitude. It occupies an area of 12,149.7 square kilometres and has a population of 1,232,780, with 13 towns and 1,968 villages including 359 which are uninhabited according to the census of 1961. This district in the Nagpur Division is situated right in the centre of the northern border of the Maharashtra State. It is bounded on the north by Madhya Pradesh, for the greater part by Betul district, Nimar and Chhindwada on the north-west and northeast having a lesser extent of common boundaries with the district. It is bounded on the east by the Nagpur

and Wardha districts and on the south and south-west by the districts of Yeotmal, Akola and Buldhana.

The district boundary runs along the Tapi on the north-west from point 1.6 kilometres north-west of Bhokarbaradi village as far as the village of Kund and to some distance beyond it, and then deviates to the south of the river and after a general easterly course among the Satpuda up to the Khursi river, a tributary of the Tapi, follows a course close to the valley of that river up to point 3 km. east of the village Katkumbh. After a tortuous course along the Satpudas it reaches the southernmost slopes and thereafter has a general north-easterly course following in the beginning the southernmost crests and then close to the base of the hills. The river Wardha forms the entire eastern boundary of the district. The boundary on the south is mostly one of administrative convenience except for the western part where it runs along the course of the Purna river. The boundary on the west also is mostly administrative except for an east-to-west stretch along the foot of the Satpudas.

The Gawilgad hills, a part of the Satpudas, so named from the fortress situated on one of the southern spurs, begin near the confluence of the rivers Purna and Tapi in the Nimar district of Madhya Pradesh and pass through the Melghat tahsil of Amravati district to Betul district of Madhya Pradesh. In the Melghat the crests of the range attain an average elevation of 1,000 metres, the highest point being Vairat at a height of 1,177.75 metres above sea level, the Chikhaldara and the Gawilgad plateaus being only slightly lower. The foot hills bordering the Tapi have a mean height of 500 metres. The hills are composed of the Deccan trap except that in the south-easterly section along the scarp north and north-east of Achalpur a line of fault has been responsible for exposing the sedimentary beds from beneath the Deccan trap, the northern being the upthrow side of the fault. Sandstone outcrops are found behind Bairam Ghat village. The Kashi Talav has been built out of sandstone.

The only other range is a low line of trap hills, lateritised to some extent, rising in the vicinity of Amravati town and extending eastwards for some distance beyond Chandur Railway with a general average height of 50 to 100 metres above the surrounding country, or about 500 metres above sea level. Spurs from these hills extend northwards for some distance, and the barrenness of the land around them is in sharp contrast with the general fertility.

With the above exceptions the district is an undulating plain of black soil of a fertile type, its richest tracts being perhaps in the neighbourhood of the Wardha and the Purna rivers. It is watered by a number of streams which rise in the Satpudas in the north.

Purna.

The Purna, the largest of them rises near Bhainsdehi in Betul district of Madhya Pradesh at a height of just over 760 metres in the Satpudas and after flowing for some 50 kilometres in a general southerly and south-easterly direction through the hills enters the district emerging into the plains, as the district boundary here lies along the base of the hills. It traverses across the plains of the district in a south-westerly direction dividing it into two halves, first through the Achalpur tahsil and then along the boundary between the Amravati and Daryapur tahsils. Then it turns due westwards forming the boundary of the district and continues further to join the Tapi in Nimar district. On the banks of the Purna are found a string of villages beginning from Vishroli near the foot of the Satpudas and at close intervals of less than 3 kilometres lower down from Deurwada, situated near the confluence with the Arna. The chief among them are Assegaon, Thugaon and Kholapur.

Pedhi.

The only important left bank tributary of the Purna is the Pedhi. It rises in the low hills near Rithpur and receives a number of small affluents both from the east and the west, the chief on the west being the Naghira river. The Pedhi flows in a general south-easterly course passing by Walgaon and Bhat-kuli. After crossing the district boundary it turns and flows westwards and north-westwards to join the Purna at the point where the latter makes a very short sojourn outside the Amravati district into Akola.

Arna.

The first of the principal right bank affluents of the Purna is the Arna which emerges from the Satpuda hills in Betul district and flows in a south and south-easterly direction passing by Sirasgaon to join the Purna just below Deurwada.

Bodi.

The next affluent is a small river known as the Bodi river, which after passing by Talegaon joins the Purna at Rajna.

Chandrabhaga.

With its affluents, the Pili or Bahramkasand on which is situated the village of Karasgaon, the Bichan river passing through Paratwada, the Sapan river passing through Achalpur, the Chandrabhaga river is a very important tributary flowing in a general south-westerly direction past Wasni, Khallar and Daryapur to join the Purna about a kilometre and a half below Dhamodi. The river rises just below the Vairat plateau and after receiving a number of small streams draining the southern slopes of the Chikhaldara plateau and the slopes of the Gawilgad

plateau, flows in an easterly direction in a valley which forms a cultivated tract of about 2 kilometres in width breaking the continuity of the forested areas on either side. About 20 km. south-west of Dhamangaon it turns southwards. The principal right bank affluent of the Chandrabhaga is the Bhuleshwari river which itself receives the Gangadari river, another Satpuda stream. The Bhuleshwari passes by Shindi Buzrug and Kokarda and meets the Chandrabhaga near Daryapur east of Babli.

Shahanur.

The westernmost tributary of the Purna of some importance within the district is the Shahanur river with its affluent, the Bordi. The Shahanur river rises in the Gawilgad hills near Jhira ghat and after a fairly long and winding course first eastwards and then south-westwards enters the plains near Malkapur and flows southwards passing by Anjangaon and turns south- westwards at Umri and continues in this direction to join the Purna beyond the border of the district.

Bordi.

Though the river Bordi flows for a major part of its course outside the district, it is joined by the combined waters of the Chansuri river and the Gaimuk which have their plain courses within the district.

Wardha.

The Wardha river rises to the east of Multai in Madhya Pradesh and has a long and tortuous course along the Satpuda hills. It forms the eastern boundary of the district and receives a number of short tributaries on its right flowing within the district. The Sakti river rises in Shendari reserved forest area in the Satpudas, and passing by Jarud and flowing southwards joins the Wardha. The Dhawagiri river rises in the Dabka reserved forest area and flows past Benoda and Loni before joining the Wardha.

Pak Nala.

The Pak Nala rises in the same Dabka forest area and receives, besides the Satpuda affluents, the drainage of the northern slopes of Lakhara hills, a detached mass south of the Satpudas. Hiwarkhed is situated on the banks of this river. The Pak Nala Project on this river provides irrigation facilities to the area on the northern side of the Morshi-Warud road. The Kobi drains the southern slopes of the Lakhara hills into the Wardha.

Maru.

The Maru river rises south of Atnar in Betul district and after a winding course in the Satpudas enters the district and flows in a general south-easterly course to join the Wardha, where the latter makes an abrupt right angular turn to continue the course of the Maru.

Narha.

The Narha river is a much smaller but important tributary of the Wardha. Morshi, the tahsil headquarters, is situated on its western bank.

Chargar.

The westernmost tributary of some size flowing from the Satpudas is the Chargar river having its source just east of the Wardha-Purna watershed, and flows past Ghat Larki, Khed, and Udkhed with a general south-easterly direction parallel to the water divide and joins the Wardha at Bhambor. The river Chargar receives the Kasi river, a smaller stream flowing somewhat parallel to it on its western side from the north, and also the combined waters of the Dhaula, the Lendi and the Bharan-takia from the Ner hills in the south-west. Ner Pingalai village is situated between the Lendi and the Bharantakia.

Minor Rivers.

There are several small streams flowing eastwards from the Wardha-Purna water divide into the Wardha river. Among them is the river Ner Pingalai on which are located Talegaon, Thakur and Tivsa. The Bor river passing by Kurha and Idarba river passing by Temburni, Virul and Anjansinghi river join together and flow into the Wardha. The Kolad-Dhangar river flowing roughly parallel to the Wardha on its western side passes by Mangrul and joins it at Borgaon in the south-east corner of the district. The Chandrabhaga river (this should not be confused with the much larger one of the same name flowing by Daryapur) flows by Dattapur in an easterly direction and then turns southwards to join the Wardha outside the district. The last of the tributaries of the Wardha in the district is the Bemla which has only its middle course in the extreme southern part of the district, but is important as receiving a number of affluents flowing from the north, such as the Kholad and the Chandrabhaga (the third one in the district with the same name) flowing by Chandur Railway and the Kalamali.

Purna-Wardha Water Divide.

The water divide between the Purna and the Wardha system of rivers (in fact this is the water divide between the Tapi flowing into the Arabian Sea and the Godavari flowing into the Bay of Bengal as the former two are only tributaries of the latter) begins in the district at the foot hills of the Satpudas and runs as a low

divide of a little more than 360 metres in elevation in a general south-easterly direction with peaks on it rising to 404 metres east of Pohenkheda and to 435 metres in Ner hills. From the Ner hills it turns and runs in a south-westerly direction somewhat parallel to the Morshi-Amravati road with peak heights of 387 metres and 392 metres, and in the hills east of Amravati with peaks over 460 metres. The water divide continues in the south-westerly direction with a lower height (350 metres at Loni) and passes outside the district. By comparing the levels of the beds of the Purna and the Wardha it is seen that the maximum relative relief is not generally more than 100 metres, indicative of post-mature stage of dissection. It may be mentioned here that the initial south-easterly course of the divide changing into a south-westerly trend is also reflected in the courses of the several tributaries of the Purna system within the district.

Tapi Tributaries.

As the highest hills of the Melghat are in its southern part the water divide between the south flowing tributaries of the Purna and the north flowing tributaries of the Tapi lies towards the southern part of the Melghat hills, so that the greater part of Melghat is drained northwards and northeastwards towards the Tapi river. The more important among them are the Khursi, the Khandu, the Sipna, the Garga, the Dewal and the Dhulghat. The Khursi river takes its source on the eastern slopes of Katkumbh plateau and after a brief sojourn into the Betul district re-enters the district and flows in a north-westerly direction flowing close to the district boundary for some distance and then follows it for a while till it leaves it to flow northwards to join the Tapi. The Khandu rising near Khamla in Betul district enters the district to flow west of the Katkumbh plateau and has a fairly long and winding course in a general north-westerly direction cutting its bed deeply through the several ranges of hills, before joining the Tapi just outside the district. The Khapra has its source just outside the district on the northern slopes of the Antarmal plateau of Betul district and has a similar winding course through the hills to join the Tapi outside the district. The Sipna rises very close to the source of the Khapra and has a similar long winding but westerly course towards the Tapi. But unlike the aforesaid rivers the Sipna has several flat stretches of land adjoining its middle and lower courses useful for the purposes of cultivation supporting such villages as Harisal, Chakarda and Duni. The Garga rises on the northern slopes of the Gawilgad ridge west of the Vairat plateau and is joined by the Kutumbi at Koha and has a general westerly and northwesterly course passing by Kalamkhar and Dhulghat to join the Tapi. This river is even more important than the Sipna, for the lower valley below Garga Malur is an extensive level area, richly cultivated, forming the Dharni plain which reaches up to Sipna on the north at Diwa. The Dewal and Dhulghat rivers are two smaller streams which have their sources in the Gawilgad ridge farther to the west of the others and have their lower plain courses near the Tapi.

The district of Amravati may be broadly divided into two geographical divisions, the Melghat hilly area, a highly forested area of the Satpudas and the plains area or the Payinghat below it traversed by a number of streams flowing southwards from the Satpuda mountains mentioned above.

Melghat Division.

[Besides personal observations, the material for this section is drawn from a very detailed account of Melghat by Dr. S. S. Padhye, published in Bombay Geographical Magazine, Vols. VIII-IX, 1961, pp. 37-49.]

The first division comprises practically the whole of the Melghat tahsil covering an area of about 4,000 km². Of this 77 per cent is under tropical deciduous forests. This division may be further sub-divided into the following sub-regions: - (1) Gawilgad ridge, (2) the southern forest zone, (3) the northern forest zone, (4) upper Chandrabhaga valley, (5) the plains of Dharni and Bairagarh, and (6) the Katkumbh plateau.

The main ridge of the Gawilgad hills runs in an easterly and north-easterly direction through the southern part of the Melghat tahsil. It enters the district just west of Wan railway station with the heights of peaks about 750 metres increasing to over 820 metres south of Golai. About one kilometre northwest of Jhira on the Akot-Koha route it attains an elevation of 1,101 metres. From here it extends as a flat-topped ridge for about four kilometres and after a slight lowering at the pass, the main ridge continues north of the Shahanur river in a north-easterly direction with summit levels of 1,100 metres widening into the Vairat and Chikhaldara plateaus. Then it continues north of Chikhaldara plateau in a north-westerly direction passing through Nanagiri to Kukru (1,134 metres) in Betul district beyond the border. The highest summit on the ridge is Vairat (1,177.75 metres) sanctified by the temple of Vairateshwar. The flat plateau is able to sustain cultivation and the village of Vairat. Eight miles to the east is the Chikhaldara plateau 16 km. in area and with a population of 1,338 persons (1961) constituting the town of Melghat. This was one of the two hill stations in the former Central Provinces, the other being Panchmarhi. After the merger of the Vidarbha region with Maharashtra, Chikhaldara has been developed as a holiday camp by the State Government. Chikhaldara consists of a smaller upper plateau in the west, and a larger lower plateau in the east. The upper plateau is always green with plenty of tree growth but the lower plateau is relatively bare.

Some three kilometres south of Chikhaldara plateau lies the Gawilgad fort on another plateau covering an extent of about one km², now in ruins. The inside of the fort area has a plenty of grass growth which is cut by the Gawali folk of the adjoining villages for hay. The fort area is surrounded on all the sides except the north by precipitous slopes. On the north it is connected by a narrow ridge like

feature with the Chikhaldara plateau. Besides Vairat and Chikhaldara, on the plateau of the Gawilgad ridge are some smaller villages such as Pastala and Nanagiri. A very remarkable feature of this ridge is that the descent from the relatively flat summit plateau is by a series of precipitous slopes one below the other separated by narrow steps of lesser gradients, most conspicuous on the slopes of the plateau of Vairat, Chikhaldara and Gawilgad fort area. From this main ridge the land slopes very steeply but irregularly through several minor ridges to the Amravati plains which begins at an altitude of 450 metres. These steep slopes are covered with tropical deciduous forests which have a drier appearance in summer than those on the north. North of the main ridge there is a succession of hills and valleys in a confused pattern clothed more luxuriantly than the southern part. Here the same deciduous species present a greener appearance even in summer, being the result of lesser gradients and probably also of the lesser degree of exposure to the sun from the south during a greater part of the year reducing the amount of loss of soil moisture by evaporation and of the greater amount of rainfall. For, the average annual rainfall is usually highest on the main ridge of the Gawilgad which amounts to 140 cm. The rainfall gradually decreases towards the north and west, the average annual rainfall at Dharni being 99.44 cm. It abruptly decreases towards the south of the main ridge. A majority of the rivers drain northwards and north-westwards towards the Tapi. The villages are located near these rivers and their tributaries but often at some distance from them on elevated ground on flat-topped areas. Apart from avoiding floods and slopes covered with thin soils, such a position affords freedom from frosts and heavy dews which damage the crops in lower areas. Agricultural areas are found in flat strips of land bordering the rivers especially the Garga and the Sipna in their lower courses, the Dharni plain connecting the two being the most extensive of this type. A smaller agricultural area is found adjoining the Tapi further north. The permanent water table in these two areas is approximately 30 feet below the surface. Therefore there are numerous wells supporting a somewhat dense population. The Katkumbh plateau is another agricultural area situated to the east of the northern forest tract at a height of 820 metres, which is close to the continuing part of the Gawilgad ridge in Betul district. The plateau has moderate undulations with abundant gently sloping land and hence it supports a relatively dense population.

The second geographical division, viz., the Payinghat or the plain area, may be further sub-divided into the following sub-regions: -

(1) the Piedmont belt of light and medium black soils with abundant ground water supplies, sloping away from the Satpudas;

(2) the region of deep and fertile soils of the south-west, where the sub-soil water is very often saline;

(3) the regions of light red and medium black soils of Chandur and eastern Amravati; and

(4) stretches of fertile black soils adjoining the Wardha in southern Morshi and south-eastern Chandur tahsils.

Piedmont Sub-Region.

The zone sloping away from the Satpudas and traversed by innumerable sub-parallel streams flowing southwards from the hills, comprises the Morshi tahsil excluding the strip in the south-east adjoining the Wardha, the Achalpur tahsil excluding the southern third of it, and the northern part of Daryapur tahsil. Near the foot of the hills, the soils are coarse and reddish in colour, being derived from the debris washed from above, and are given over to jowar cultivation. Beyond this belt of coarse Piedmont debris slopes, the rain water which had percolated through them appears closer to the surface and there is an abundance of ground water supplies tapped by innumerable wells. Here the soils are medium in character and are well drained and therefore respond readily to irrigation. This has resulted in a remarkable development of a chain of large-sized villages and towns parallel to the base of the hills at a distance of about 5 to 10 kilometres, located on stream banks, e.g., Anjangaon-Surji, Pathrot, Achalpur, Karasgaon, Brahman-wada Thadi, Morshi, Jarud and Warud. Oranges, plantains, chillis and grapes are the favourite crops of this belt. In the Morshi tahsil in the eastern section of this sub-region orange cultivation is highly developed and the consequent economic prosperity based on this intensive type of garden cultivation is reflected in the large size of the villages and towns in this tahsil. Grapes, plantains and betel vines are the subsidiary garden crops. Near the western border of the Morshi tahsil west of Kolwahir this belt is interrupted by the Wardha-Purna water divide where canals are to be seen. To the west of the divide orange groves begin again in Sirasgaon Band, which is close to the town of Chandur Bazar. As the conditions are somewhat similar, orange cultivation has been newly introduced in the western section also. Young orange groves can be seen round Achalpur town. Further west from Wadgaon to Pathrot chillis are widespread. In this western section double crops are usually raised based on well irrigation. Besides chillis, there is mixed cropping of jowar with black-gram or green-gram, or sometimes chillis are mixed with cambodia cotton, 6 lines of chillis with one line of cotton being a common type of mixture. Dhurras-bounding strips of land between adjacent fields-are very much narrowed as the land is highly valuable. In this sub-region the date (*shindi*) trees abound as natural vegetation especially on *nala* banks in response to good sub-soil water-supply. In fact the southern limit of this sub-region of plentiful sub-soil water can be readily located on the ground from the distribution of the date tree. Mango trees are also quite common here.

South-West Deep Black-Soil Region.

As we proceed farther away from the Satpudas, the depth of the black soil increases but wells become scarce partly due to the lowering of the water table and partly to prevalence of salinity in the sub-soil water. Consequently the ubiquitous date tree of the north practically disappears in this sub-region; the mango trees also become fewer, confined to areas where the sub-soil water is not salty. The southern half of the Daryapur tahsil, western Amravati and southern third of Achalpur tahsil are included in this sub-region. Though the sub-soil water is saline, the surface soils are exceedingly fertile and there are abundant crops of cotton, jowar and wheat throughout this area. Here jowar is grown even on the steeply inclining riverine slopes except where the top soils have been badly denuded by the gulying action of rain waters. On account of the high retentivity of moisture in these deep black soils, cotton plant remains green longer than usual and yields a superior fibre. This sub-region as a whole is not suitable for irrigation from wells as the fields on which well water is spread become saline and lose in fertility. This fact does not preclude the feasibility of canal irrigation from rivers having their sources outside this zone, which as a matter of fact, is being developed.

There are indeed some places such as Shingnapur and Nanded Buzrug where the sub-soil water is found to be free from salinity. It has been found out that by joining such spots free from salinity, others on these lines are also free of salinity which leads one to the conclusion that such salt-free strips are the result of the draining-off action by the waters of the former courses of rivers, which are not identifiable as such at present on the ground. This interesting hypothesis [From information supplied by Shri S. A. Joshi, Agricultural Development Officer, Amravati Zilla Parishad.], when it is fully established by detailed field surveys, will lead to a detailed mapping of such old drainage courses, which will enable the authorities to give guidance to the agriculturists in their attempt to locate spots of sweet ground water for digging wells for irrigation.

Sub-Region of Light Red and Medium Black Soil of the East.

The villages in this sub-region though not so large as in the first sub-region are more numerous and more closely spaced, but again mostly confined to the banks of streams, sited on the outer side of their bends. It may be noted that these bends simulating the meanders of mature streams are not the result of their own making, but the consequence of the previously existing flatness of the terrain.

This sub-region comprises the eastern part of Amravati tahsil and a large part of Chandur tahsil. There are residual hills of varying heights forming the water divides between the Purna and Wardha rivers and their tributary streams. The

soils range from light red of the interfluves to the medium black of the valleys. The larger villages are located along the line corresponding to the east edge of the detached interfluves in the centres of the valley depressions opening between them to the east, where there is maximum possibility of ground water supplies, e.g., Rajurvara, Tivsa, Mojhri, Kurha, Warha and Virul. Further to the east towards the Wardha river villages are fewer and smaller in size. Though garden cultivation is carried on in favoured spots, the light soils of this region are suitable only to such crops as bajri and groundnut.

Black Soil Stretches Along the Wardha.

There are stretches of fertile black soils in south-eastern Morshi and southern Chandur tahsils. The south-eastern part of Morshi tahsil consists of deep fertile black soils on the banks of the Wardha river. Here small villages are located on the banks of tributary streams, fairly closely spaced, at intervals of 3 kilometres or less. The immediate banks of the Wardha river badly cut up by gulying action are usually avoided.

The other region of fertile black soils is found approximately to the south of the railway line running eastwards from Chandur, for this line itself follows the southern edge of the eastward trending groups of hills from Chandur. In this southeastern region of the district there is intensive cultivation of cotton. The date trees on the *nala* banks and patches of intensive garden cultivation reflect the good conditions of sub-soil water. Very often the *nala* banks are forested chiefly by the date trees and in spite of their good soils had been neglected in favour of the easy open lands available for cultivation elsewhere. The land is generally low-lying under 300 metres above sea level. Many of the principal villages have ruined mud forts (*gadhis*) which were constructed in the past to afford protection against the ravages of Pendharis.

Local geology:

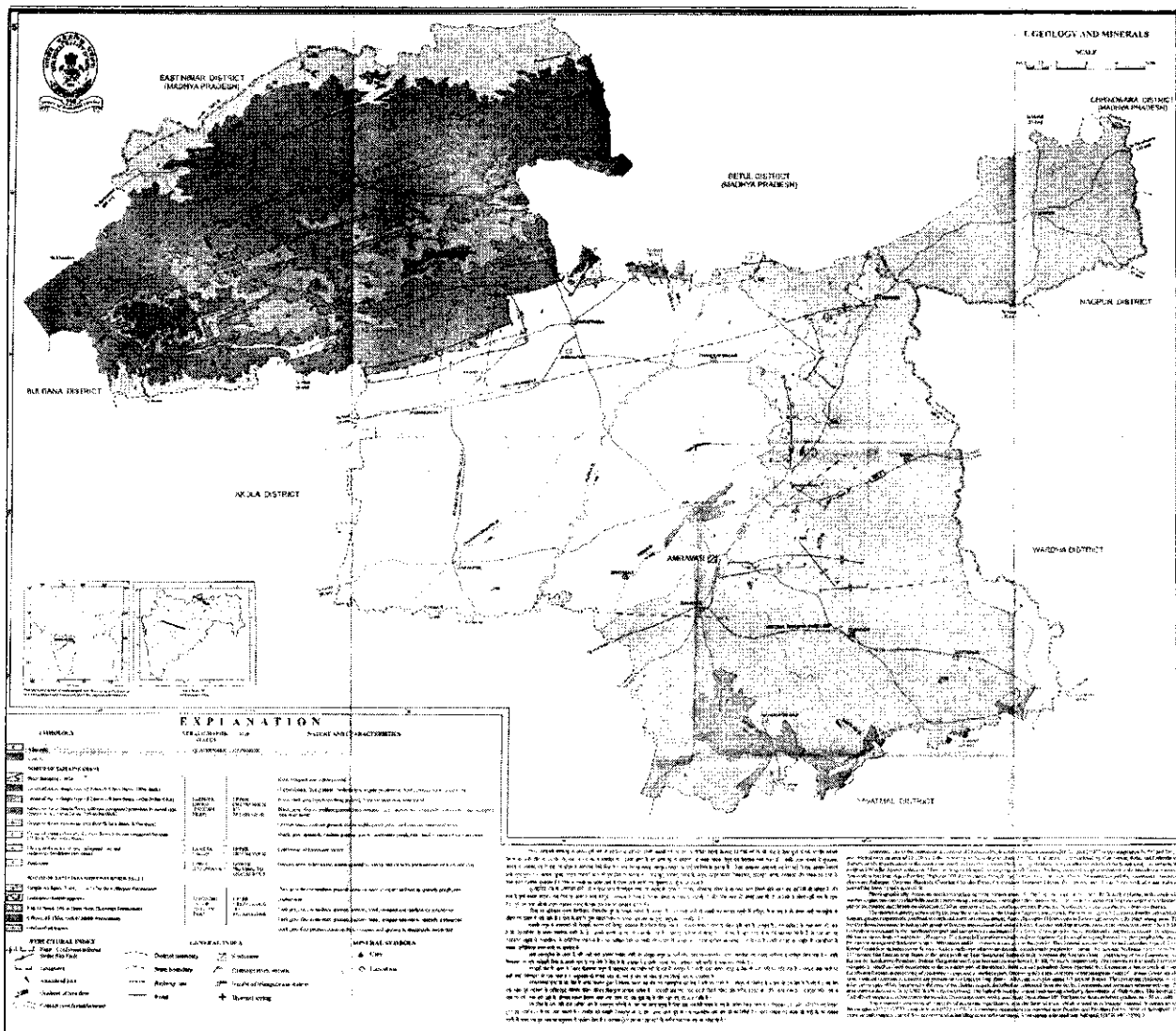
Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

Details of Exploration

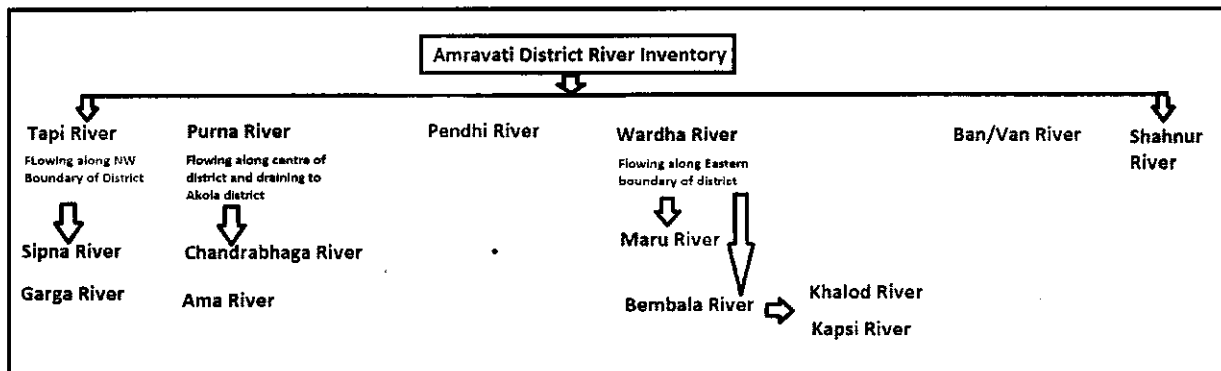
The proposed sand mining ghat is demarcated on the ground by Revenue authorities/GSDA authorities with reference to boundary pillars/village maps. The sand is at a depth of 3.0 m near the banks. The surface plan is prepared on the specified scale.

The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Amravati & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 28.01.2022 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below



River inventory for Amravati district is drawn as below



LOCATION OF LEASE

All 133 Sand Ghats are located over Purna,Tapi,Pedhi,Chandrabhaga,Wardha and sapan river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Amravati proposes to scoop sand from 33 nos. of Sand ghats in Purna,Tapi,Pedhi,Chandrabhaga,Wardha and sapan river bed river basin for scooping of Sand by manual method. All the Sand Ghats are identified jointly by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Amravati & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 16.02.2024. These sand ghats are endorsed by district level technical committee headed by District Collector Amravati. Authorities of Amravati district as per Sand Mining Guidelines of Maharashtra State dated 16.02.2024 & amendments thereof proposed these sand ghats for prior environmental clearance and auction. The details of sand reaches with their mining capacities are annexed at Annexure-1. All proposed sand ghats are situated in about 35 villages.

i) Brief description of project

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 0.5m-1.0m the sand will be scooped keeping 2m sand at bed each time and 20m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

iii) Need for the project:

District is expected to collect revenue of about Rs 5.93 Cr. through auction of these sand ghats. Production cost is around Rs 600 per Brass. Average selling rate is Rs 1200/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this project is economically viable. Again it is very important ecologically to scoop river bed sand to maintain river flow pattern, flood levels and agricultural land along river bed.

3. Project description:

i) This mining project is an independent project and not an interlinked project.

ii) Location:

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec.	Quantity in Brasses	Blocked under non mining zone in Sq.m.	Scopable Quantity in Brasses	Duration of Excavation
1	Dhar ni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	0	2650	1 year
2	Dhar ni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
3	Dhar ni	Sonabardi	Kharyate mbhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163, 164,166.	1500	15	0.6	2.25	4770	3970	3929	1 year
6	Bhatkuli	Ganoj a Devi	Ganoj a Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240, 239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year

17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	0	2897	1 year
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jhanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Sembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna-17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
27	Chandurbazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
28	Chandurbazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
29	Chandurbazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year
30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghwal	Waghwal	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 33 sites. No alternate site is proposed.

iv) Magnitude of operation:

Proposed production

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length	Width	Depth	Area in Hec.	Scoopable Qty of Sand after deducting non mining zone in Brass
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650
2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477
3	Dharni	Sonabardi	Kharyatembhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163, 164,166,	1500	15	0.6	2.25	3929
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252, 240,239,236,235,233, 232, 221 to 226	1200	15	0.5	1.80	3180
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3339
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	1942
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284;273	340	30	1	1.02	3604

14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	1979
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837
17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	1766
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2077
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2897
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	1765
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	1766
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809
25	Achalpur	Savlapur - Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna-17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787
30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 To 316,324	700	28	1	1.96	6926
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216
33	Warud	Waghal	Waghal	Wardha	241 To 245	1000	25	1	2.50	8834

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of in Brass	Total Sand Available in Tahsil in Brass
Amravati	160100	98983

Rest of requirement is fulfilled by some m-sand and river sand from nearby district.

(v) Project description-mining details:

Mining of sand deposits in the subject lease area is proposed to be worked by opencast manual method. Mining activity is restricted only in summer season, no mining activity is done during monsoon season. The operations involved in mining Building Grade sand are scooping the sand using spades and mortar pans & loading it onto the hired tractors/trucks manually. The depth of the working will be upto 1.0 m (max) the sand will be scooped keeping 2m sand at bed each time and 10m away from the river bank. As such there is no sub grade Building Grade Sand from this mine as all the excavated mineral is having ready market. So stacking of the sub grade mineral is not proposed. The entire deposits shall be excavated

(vi) Raw material, marketing and transport of ore:

All sand ghats will be auctioned and successful bidder will be responsible for carrying mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions.

(vii) Resource optimization, recycle, reuse:

Sand is replenishable mineral.

(viii) Water and energy requirement:

It is a manual mining proposal using spade & Ghamelas. No energy is required being permitted for day time only. Water for drinking purpose will be sourced from RO contractors on site.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated per sand ghat as below. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Sr.No.	Tahsil	Sand ghat Name	River	Length	Width	Depth	Area	Quantity in	No. of Workers	Water for Sprinkling on Haul Roads in cum	Water for Domestic Purposes in cum
				m	m	m	Sqm	Brass			
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Tapi	1000	15	0.5	1.50	2650	28	1.0	1.0
2	Dharni	Ratnapur	Tapi	820	20	0.6	1.64	3477	38	1.0	1.0
3	Dharni	Sonabardi	Tapi	1000	25	0.5	2.50	4417	38	1.0	1.0
4	Bhatkuli	Chakur	Pedhi	800	20	0.5	1.60	2827	28	1.0	1.0
5	Bhatkuli	Nanded Khu.	Purna	1500	15	0.6	2.25	3929	38	1.0	1.0
6	Bhatkuli	Ganoja Devi	Pedhi	1283	10	0.5	1.28	2267	28	1.0	1.0
7	Bhatkuli	Dadhi	Pedhi	1200	20	0.5	2.40	4240	38	1.0	1.0
8	Bhatkuli	Bhatkuli	Pedhi	1200	15	0.5	1.80	3180	38	1.0	1.0
9	Bhatkuli	Kanfodi	Pedhi	1200	15	0.6	1.80	3339	38	1.0	1.0
10	Daryapur	Nanded Bu.	Purna	1100	10	0.6	1.10	1942	28	1.0	1.0
11	Daryapur	Belora	Chandrabhaga	980	15	0.6	1.47	3117	28	1.0	1.0
12	Daryapur	Chandola	Purna	405	29	0.5	1.17	2075	28	1.0	1.0
13	Daryapur	Lasur	Purna	340	30	1	1.02	3604	38	1.0	1.0
14	Daryapur	Mhaispur Mocharda	Chandrabhaga	1120	10	0.7	1.12	1979	28	1.0	1.0
15	Daryapur	Khanpur Chiparda	Chandrabhaga	974	15	0.6	1.46	3098	28	1.0	1.0

16	Daryapur	Bembla Bu	Chandrabhaga	800	13	0.5	1.04	1837	28	1.0	1.0
17	Daryapur	Ghada	Chandrabhaga	1000	10	0.75	1.00	1766	28	1.0	1.0
18	Daryapur	Chandai	Chandrabhaga	1080	10	0.7	1.08	2077	28	1.0	1.0
19	Daryapur	Karatkhed	Purna	490	30	0.5	1.47	2597	28	1.0	1.0
20	Daryapur	Ramtirth	Purna	650	25	0.5	1.63	2897	28	1.0	1.0
21	Daryapur	Wadura	Purna	1000	10	0.6	1.00	1765	28	1.0	1.0
22	Daryapur	Jahanpur Dighi	Purna	1000	10	0.6	1.00	1766	28	1.0	1.0
23	Daryapur	Bembla Khu	Chandrabhaga	1000	10	0.5	1.00	1767	28	1.0	1.0
24	Achalpur	Khairi-Donoda	Sapan	512	20	0.5	1.02	1809	28	1.0	1.0
25	Achalpur	Savlapur-Khanapur	Purna	600	20	0.5	1.20	2120	28	1.0	1.0
26	Achalpur	Hiwra Purna- Yelki Purna	Purna	513	20	0.5	1.03	1813	28	1.0	1.0
27	Chandur Bazar	Talani Purna	Purna	477	21	0.5	1.00	1770	28	1.0	1.0
28	Chandur Bazar	Hirur Purna	Purna	500	21	0.5	1.05	1855	28	1.0	1.0
29	Chandur Bazar	Takarkheda	Purna	562	18	0.5	1.01	1787	28	1.0	1.0
30	Warud	Wandli	Wardha	700	28	1	1.96	6926	38	1.0	1.0
31	Warud	Pawni (s)	Wardha	480	25	1	1.20	4240	28	1.0	1.0
32	Warud	Deutwada	Wardha	820	18	1	1.48	5216	28	1.0	1.0
33	Warud	Waghal	Wardha	1000	25	1	2.50	8834	28	1.0	1.0

Purpose	Qty. Required m ³ /day
Dust suppression/ Plantation	33.0
Domestic Use	33.0
Total	66.0

Water will be sourced from Grampanchayat Borewells on payment per liter cost basis.
Drinking water will be provided from RO water suppliers.

(ix) Quantity of wastes & scheme for management:

No waste will be generated.

(x) Schematic representations:

It is a proposal of opencast manual sand mining from river bed. Mining plan is approved by competent authority.

4. Site analysis:

i) Connectivity – All the sand ghats are well connected by roads.

ii) Land use, form & ownership:

Land use shows that agriculture is predominant. Cotton, Sugarcane are main crop.

iii) Topography

Sand Ghat is a exposed river bed with sand deposition varying from 2.5m to 3.0m.

Existing land use pattern

Existing Sand Ghat is a river bed having 2.5 m-3.0 of sand .

There are a number of sand ghats along the river.

Presently, there is no infrastructure within the river bed nor are proposed..

Social structure of the area is given below.

There are about 35 villages where sand ghats are proposed. About 28-48 souls per ghat will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 1004 souls.

Most villages have been provided with water supply from hand pump or well or are covered under rural water supply scheme. Electricity is available. Medical facilities exist in the form of primary, health centers.

5. Planning Brief

This project is for manual scooping of Sand from exposed river bed it is imperative to follow the plan so as to be able to extract sand in an environmental compatible manner. There are no residential areas over the lease and also not proposed. The sand ghats will be replenished every year as monsoon follows. The maximum period awarded for scooping of sand is one year from the date of auction of sand ghat Depot or as per directives of district level technical committee as per table .

Infrastructure requirements in this project would need i) Temporary site office 10m away from river bank, store etc.

6. Proposed infrastructure

i) There would not be any residential colony or commercial roads. R&R is not involved. It is a proposal of river bed mining.

7. R & R Plan

R & R *per se* is not involved.

8. Project Schedule & Cost Estimates:

Refer Annexure-1 for upset price decided by district authorities.

Project schedule :

Sand ghat : Scooping of sand by manual methods up to one year from the date of auction of sand ghat or as per directives of district level technical committee.

9. Analysis of proposal (final recommendations)

Description of the project included in items 1-8 above indicates the following :

- i) It is proposed to scoop sand manually from river bed.

- ii) Manual sand mining without hampering the present environmental quality of the area.
- iii) Initiation of mining will ensure regular income to local people.
- iv) This sand ghat will cater the requirement of sand of the area for government and private civil works.
- v) Revenue generation of Rs 8.19 Cr will be added advantage to Government .
- vi) Sand ghats with less than 1000 brass are planned to cater local demand for governmental gharkul and other schemes. In all such cases Environmental Management Plan will be implemented by District authority.

ANNEXURES

Annexure -1 : Details of Sand Ghat

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec.	Quantity in Brass	Blocked under non mining zone in Sq.m.	Scoopable Quantity in Brass	Duration of Excavation
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	0	2650	1 year
2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
3	Dharni	Sonabardi	Kharyatembhuru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,153,164,166,	1500	15	0.6	2.25	4770	3970	3979	1 year
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240, 239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year

9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285, 284, 273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3158	1979	1 year
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3038	0	3038	1 year
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year
17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	0	2897	1 year
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year

25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna- 17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year
30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghal	Waghal	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

Annexure -2 Demand & Supply for district

Demand and Supply for : Amravati District

A] Stone/Murram

Sr. No.	District	Particulars	2024-25
			Quantity in Brass
1	Amravati	PWD	140000
2		Irrigation Dept.	250000
3		Domestic Requirement including Govt. Contractors, Local Lease/ Quarry Operators	540000
4		NHA/Central Road Fund	115000
5		Railway	32000
6		Samruddhi Mahamarg (maintenance and remaining work)	275000
Total			1352000

B] Sand

Sr. No.	District	Particulars	2024-25
			Quantity in Brass
1	Amravati	PWD	22700
2		Irrigation Dept.	17200
3		Domestic Requirement including Govt. Contractors ,Local Lease/ Quarry Operators	52000
4		NHA/Central Road Fund	18400
5		Railway	8000
6		All Nagarpalika	19500
7		Samruddhi Mahamarg maintenance/remaining works	15000
8		Gharkul	7300
Total			160100

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

AMRAVATI DISTRICT

STATE – MAHARASHTRA

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, AMRAVATI

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

**68, MAHAKALI NAGAR-2
NEAR MANEWADA SQUARE
NAGPUR 440 024**

August 2024

Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Amravati intends to auction sand ghats and appointed District Mining Officer Amravati as project proponent as per sand auction policy 16.02.2024. Total 33 sand ghats are identified by Tahsildar Dharani, Bhatkuli, Daryapur, Achalpur, Chandur Bazar, Warud along with District Mining Officer, Amravati. 33 sand ghats were jointly surveyed by Taluka level technical committee headed by respective tahsildar with Dy. Engineer irrigation department, Junior Geologist Directorate of Geology and Mining Govt. of Maharashtra, Junior Geologist, G.S.D.A. Amravati and representative of M.P.C.B., as per procedure defined in Sand Auction Rules 2024 dated 16.02.2024. Taluka level technical committee explored the sand ghats for available quantity of sand for scooping. Revenue of Rs 5.93 Cr is expected from the auction of these sand ghats.

Details of Sand Ghats are as below

Table 1.0 Details of Sand Ghat :

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec	Quantity in Brass	Blocked under non mining zone in Sq.m.	Scoopable Quantity in Brass	Duration of Excavation
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	150	2650	0	2650	1 year
2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	164	3477	0	3477	1 year
3	Dharni	Sonabardi	Kharyate mbhru	Tapi	18, 19 and 20	1000	25	0.5	250	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	160	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163, 164,166,	1500	15	0.6	225	4770	3970	3929	1 year
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	128	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	240	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240,239,236,235,233,232, 221 to 226	1200	15	0.5	180	3180	0	3180	1 year
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	180	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	110	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	147	3117	0	3117	1 year

12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year
17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
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21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi&Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna- 17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
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30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghai	Waghai	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

Table 2.0 Status of Statutory Clearances for Sand Ghat

2.1	Name & Address of Allottee	District Mining Officer Amravati/ Successful Bidder/Sand Depot Allottee Amravati District, Amravati
2.2	Status of the lease	New, Individual/ Project Proponent/Successful Bidder for auction of sand ghat by District Collector Amravati.
2.3	Mineral for which lessee intends to mine	Ordinary Sand for Construction purpose
2.4	Name & Address of the Prospecting Agency	Ground Survey and Development Authority , Amravati jointly with Tahsildar & District mining Officer, Amravati
2.5	Mining Plan Approval	Under Approval
2.6	Grampanchayat NOC	Not required as defined in sand mining guidelines of Maharashtra State dated 16.02.2024.
2.7	Plan Period for Activity	maximum up to one year from the date of auction of sand ghat or till exhaustion of quantity of sand proposed during auction of sand whichever is earlier excluding monsoon period between 10 th June -30 th September of calendar year as per sand mining rules dated 16.02.2024 excluding three sand ghats at wandli,Deutwada and waghaj which are planned for 2 years as per production table provided above.

Section 2.0 : Project Description and Method of Mining

2.0 Project Description :

Need for the project: The sand ghat area has been selected in view of its existing demand for Building Grade sand for the area in and around each Tahsil. District Mining Officer Amravati has proposed for the production of 98983 Brass of sand by proposing to follow a systematic mining process with respect to the market scenario. The individual sand reserve at the ghats as per GSDA survey and taluka level Technical Committee Survey is as under.

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec.	Quantity in Brass	Blocked under non mining zone in Sq.m.	Scoopable Quantity in Brass	Duration of Excavation
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2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
3	Dharni	Sonabardi	Kharyate mbhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163, 164,166,	1500	15	0.6	2.25	4770	3970	3929	1 year
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240,239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year

15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year
17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhalspur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	0	2897	1 year
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna- 17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year
30	Warud	Wandli	Wandli	Wardha	308 To 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134,To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghaj	Waghaj	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

2.1 Method of Mining :

The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

- Over burden/Soil Removal:
No overburden/Soil is anticipated.
- Scooping of Sand /Loading
The ordinary sand will be loaded manually by labours.
- Hauling
Ordinary sand is transported through tractors /trucks with permissible quantity.
- No machinery will be utilized.

2.2 Period of Mining :

maximum up to one year from the date of auction of sand ghat or till exhaustion of quantity of sand proposed during auction of sand whichever is earlier excluding monsoon period between 10 th June -30 th September of calendar year as per sand	Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec	Quantity in Bracs	Blocked under non mining zone in Sq.m	Scoopable Quantity in Brass	Duration of Excavation
	1	Dhar ni	Mokha (Chichghat - Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	0	2650	1 year
	2	Dhar ni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
	3	Dhar ni	Sonabardi	Kharyatembhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
	4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
	5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163,164,166,	1500	15	0.6	2.25	4770	3970	3929	1 year
	6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
	7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
	8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240,239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year
	9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year	

mining rules dated 16.02.2024 excluding three sand ghats at wandli, Deutwada and waghla which are planned for 2 years as per production table provided above.	11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
	12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
	13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
	14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year
	15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
	16	Daryapur	Bembli Bu	Bembli Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year
	17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
	18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
	19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
	20	Daryapur	Ramtirth	Ramtirth	Purna	468,469,483,484,486,487,495,543,544,545	650	25	0.5	1.63	2871	0	2897	1 year
	21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
	22	Daryapur	Jhanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
	23	Daryapur	Bembli Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
	24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
	25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
	26	Achalpur	Hiwra Purna - Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna- 17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
	27	Chandurbazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
	28	Chandurbazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
	29	Chandurbazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year
	30	Warud	Wandli	Wandli	Wardha	308 TO 310,315 TO 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass

31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134, To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Wagh al	Wagh al	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @4417 Brass

2.3 Manpower Requirement :

Following table depicts number of labours required to carryout the scooping activity.

Sr.No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Area in Hec.	Total Quantity in Brass	Scoopable Qty of Sand after deducting non mining zone in Brass	Length of Approach Road in m	No. of Workers
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	1.50	2650	2650	1714	28
2	Dharni	Ratnapur	Ratnapur	Tapi	1.64	3477	3477	2327	38
3	Dharni	Sonabardi	Kharyatembhru	Tapi	2.50	4417	4417	496	38
4	Bhatkuli	Chakur	Kanfodi	Pedhi	1.60	2827	2827	889	28
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2.25	4770	3929	790	38
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	1.28	2267	2267	668	28
7	Bhatkuli	Dadhi	Dadhi	Pedhi	2.40	4240	4240	213	38
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	1.80	3180	3180	664	38
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1.80	3816	3339	392	38
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	1.10	2332	1942	1124	28
11	Daryapur	Belora	Belora	Chandrabhaga	1.47	3117	3117	1609	28
12	Daryapur	Chandola	Chandola	Purna	1.17	2075	2075	434	28
13	Daryapur	Lasur	Lasur	Purna	1.02	3604	3604	1766	38

14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	1.12	2770	1979		28
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1.46	3098	3098	1051	28
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	1.04	1837	1837	1274	28
17	Daryapur	Ghada	Ghada	Chandrabhaga	1.00	2650	1766	695	28
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	1.08	2671	2077	440	28
19	Daryapur	Karatkhed	Karatkhed	Purna	1.47	2597	2597	1896	28
20	Daryapur	Ramtirth	Ramtirth	Purna	1.63	2871	2897	1071	28
21	Daryapur	Wadura	Wadura	Purna	1.00	2120	1765	1410	28
22	Daryapur	Jahanpur Dighi	Wadura	Purna	1.00	2120	1766	1260	28
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1.00	1767	1767	1201	28
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	1.02	1809	1809	2306	28
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	1.20	2120	2120	1460	28
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	1.03	1813	1813	1247	28
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	1.00	1770	1770	2114	28
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	1.05	1855	1855	2526	28
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1.01	1787	1787	1414	28
30	Warud	Wandli	Wandli	Wardha	1.96	6926	6926	3785	38
31	Warud	Pawni (s)	Pawni (s)	Wardha	1.20	4240	4240	2479	28
32	Warud	Deutwada	Deutwada	Wardha	1.48	5216	5216	1951	28
33	Warud	Waghal	Waghal	Wardha	2.50	8834	8834	2480	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 25m away from the bank of river.

Facility of mobile toilet with water tank of 250 ltr. will be provided at 150m away from river bank. Arrangement for periodic disposal of collection tank of mobile toilet will be ensured or otherwise toilet will be acquired on rent for workers. Sewage will be disposed off by handing over to Municipal/authorized Sewage treater.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as below on per sand ghat basic. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Sr.No.	Tahsil	Sand ghat Name	River	Length	Width	Depth	Area	Quantity in	No. of Workers	Water for Sprinkling on Haul Roads in cum	Water for Domestic Purposes in cum
				m	m	m	Sqm	Brass			
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Tapi	1000	15	0.5	1.50	2650	28	1.0	1.0
2	Dharni	Ratnapur	Tapi	820	20	0.6	1.64	3477	38	1.0	1.0
3	Dharni	Sonabardi	Tapi	1000	25	0.5	2.50	4417	38	1.0	1.0
4	Bhatkuli	Chakur	Pedhi	800	20	0.5	1.60	2827	28	1.0	1.0
5	Bhatkuli	Nanded Khu.	Purna	1500	15	0.6	2.25	3929	38	1.0	1.0
6	Bhatkuli	Ganoja Devi	Pedhi	1283	10	0.5	1.28	2267	28	1.0	1.0
7	Bhatkuli	Dadhi	Pedhi	1200	20	0.5	2.40	4240	38	1.0	1.0
8	Bhatkuli	Bhatkuli	Pedhi	1200	15	0.5	1.80	3180	38	1.0	1.0
9	Bhatkuli	Kanfodi	Pedhi	1200	15	0.6	1.80	3339	38	1.0	1.0
10	Daryapur	Nanded Bu.	Purna	1100	10	0.6	1.10	1942	28	1.0	1.0
11	Daryapur	Belora	Chandrabhaga	980	15	0.6	1.47	3117	28	1.0	1.0
12	Daryapur	Chandola	Purna	405	29	0.5	1.17	2075	28	1.0	1.0
13	Daryapur	Lasur	Purna	340	30	1	1.02	3604	38	1.0	1.0
14	Daryapur	Mhaispur Mocharda	Chandrabhaga	1120	10	0.7	1.12	1979	28	1.0	1.0
15	Daryapur	Khanpur Chiparda	Chandrabhaga	974	15	0.6	1.46	3098	28	1.0	1.0
16	Daryapur	Bembla Bu	Chandrabhaga	800	13	0.5	1.04	1837	28	1.0	1.0
17	Daryapur	Ghada	Chandrabhaga	1000	10	0.75	1.00	1766	28	1.0	1.0
18	Daryapur	Chandai	Chandrabhaga	1080	10	0.7	1.08	2077	28	1.0	1.0
19	Daryapur	Karatkhed	Purna	490	30	0.5	1.47	2597	28	1.0	1.0
20	Daryapur	Ramtirth	Purna	650	25	0.5	1.63	2897	28	1.0	1.0

21	Daryapur	Wadura	Purna	1000	10	0.6	1.00	1765	28	1.0	1.0
22	Daryapur	Jahanpur Dighi	Purna	1000	10	0.6	1.00	1766	28	1.0	1.0
23	Daryapur	Bembla Khu	Chandrabhaga	1000	10	0.5	1.00	1767	28	1.0	1.0
24	Achalpur	Khairi-Donoda	Sapan	512	20	0.5	1.02	1809	28	1.0	1.0
25	Achalpur	Savlapur-Khanapur	Purna	600	20	0.5	1.20	2120	28	1.0	1.0
26	Achalpur	Hiwra Purna- Yelki Purna	Purna	513	20	0.5	1.03	1813	28	1.0	1.0
27	Chandur Bazar	Talani Purna	Purna	477	21	0.5	1.00	1770	28	1.0	1.0
28	Chandur Bazar	Hirur Purna	Purna	500	21	0.5	1.05	1855	28	1.0	1.0
29	Chandur Bazar	Takarkheda	Purna	562	18	0.5	1.01	1787	28	1.0	1.0
30	Warud	Wandli	Wardha	700	28	1	1.96	6926	38	1.0	1.0
31	Warud	Pawni (s)	Wardha	480	25	1	1.20	4240	28	1.0	1.0
32	Warud	Deutwada	Wardha	820	18	1	1.48	5216	28	1.0	1.0
33	Warud	Waghal	Wardha	1000	25	1	2.50	8834	28	1.0	1.0

Water will be sourced from Grampanchayat Borewells on payment per litre cost basis. Drinking water will be provided from RO water suppliers.

2.5 Existing & Proposed Land Use Pattern :

Sr No.	Name of Sand Ghat	Name of Village	Taluka	River	Existing Land Use	Proposed Land Use
					sq. m. Area put as undisturbed before scooping of sand)	sq. m.(Area under pit after conceptual period of Scooping of sand)
1	Mokha (Chichghat-Zirnyaghat)	Chichghat	Dharni	Tapi	15000	15000
2	Ratnapur	Ratnapur	Dharni	Tapi	16400	16400
3	Sonabardi	Kharyatembhru	Dharni	Tapi	25000	25000
4	Chakur	Kanfodi	Bhatkuli	Pedhi	16000	16000
5	Nanded Khu.	Nanded Khu.	Bhatkuli	Purna	22500	22500
6	Ganoja Devi	Ganoja Devi	Bhatkuli	Pedhi	12830	12830
7	Dadhi	Dadhi	Bhatkuli	Pedhi	24000	24000
8	Bhatkuli	Bhatkuli Nagar Panchayat	Bhatkuli	Pedhi	18000	18000
9	Kanfodi	Kanfodi	Bhatkuli	Pedhi	18000	18000
10	Nanded Bu.	Nanded Bu.	Daryapur	Purna	11000	11000
11	Belora	Belora	Daryapur	Chandrabhaga	14700	14700
12	Chandola	Chandola	Daryapur	Purna	11745	11745
13	Lasur	Lasur	Daryapur	Purna	10200	10200
14	Mhaispur Mocharda	Mhaispur Mocharda	Daryapur	Chandrabhaga	11200	11200
15	Khanpur Chiparda	Nalwada	Daryapur	Chandrabhaga	14600	14600
16	Bembla Bu	Bembla Bu	Daryapur	Chandrabhaga	10400	10400
17	Ghada	Ghada	Daryapur	Chandrabhaga	10000	10000
18	Chandai	Mhaispur Mocharda	Daryapur	Chandrabhaga	12000	12000
19	Karatkhed	Karatkhed	Daryapur	Purna	14700	14700
20	Ramtirth	Ramtirth	Daryapur	Purna	16250	16250
21	Wadura	Wadura	Daryapur	Purna	10000	10000
22	Jahanpur Dighi	Wadura	Daryapur	Purna	10000	10000

23	Bembla Khu	Ghada	Daryapur	Chandrabhaga	10000	10000
24	Khairi-Donoda	Khairi& Donoda	Achalpur	Sapan	10240	10240
25	Savlapur-Khanapur	Savlapur	Achalpur	Purna	12000	12000
26	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Achalpur	Purna	10260	10260
27	Talani Purna	Talani Purna	Chandur Bazar	Purna	10017	10017
28	Hirur Purna	Hirur Purna	Chandur Bazar	Purna	10500	10500
29	Takarkheda	Takarkheda	Chandur Bazar	Purna	10116	10116
30	Wandli	Wandli	Warud	Wardha	19600	19600
31	Pawni (s)	Pawni (s)	Warud	Wardha	12000	12000
32	Deutwada	Deutwada	Warud	Wardha	14760	14760
33	Waghal	Waghal	Warud	Wardha	25000	25000

2.6 Existing Flora & Fauna :

Local varieties of bushes like tarota, some grasses observed in the area. Mainly agricultural activity observed for Cotton , Soyabean, patches of toor,harbhara some wheat. At some places patches of Sugar Cane fields found. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, lizards,dogs etc found in the nearby farms find during survey whereas no endangered wild life observed. No turtle nesting observed or recorded during the survey and on records.

2.7 Local Geology :

Applied area for sand extraction is covered by dark basalt and which has been derived/ transported from black basalt of surrounding flat and well tilled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

2.8 Mine Closure Plan :

Sand scooping is permitted till maximum up to one year from the date of auction of sand ghat of sand policy excluding monsoon period between 10th June to 30th September of calendar year as per policy dated 16.02.2024 of Govt. of Maharashtra. Before surrender of Sand Ghat to District Authority, mine closure is proposed which will help to replenish the sand during the monsoon period when there will be live flow of water in the river channel.

Guidelines As per Indian Bureau Of Mines for Final Mine Closure of Sand Ghat:

Mineral is replenish able during each monsoon. No manual reclamation is proposed.

Method of Sand Traps Emplace Gabions (1m height) at 200 m intervals to function as sand traps

during final closure of Mine is proposed as per Sand Mining Guidelines of IBM vide letter 296/7/2000/MRC dated 16May 2011.

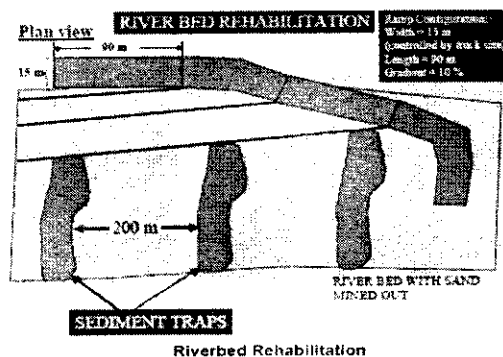


Figure -3

Final Closure Action Plan for Sand Ghat

- (1) Leave the area from which the sand has been extracted leveled and free of any foreign debris or materials.
- (2) Re-vegetate indigenous plants which were removed from areas for the mining of sand as far as is reasonably practical.
- (3) Plant trees along the riverbanks with no or minimal vegetation, irrespective of signs of erosion or not (ensure that species selected are indigenous species).
- (4) The surface of stockpile and sand processing areas outside the riverbed to be scarified to a depth of 500 mm, graded evenly and the topsoil previously stored, returned to its original depth over the area.
- (5) Prepare the area in such a way as to stimulate / ensure the re-growth of vegetation.
- (6) Prepare Sand Traps Emplace gabions (1 m height) at 200 m intervals to functions as sand traps. Boulders dug out during mining should be used for this purpose. Gabions would have to be placed at one kilometer (at the maximum) intervals on the mined out areas. The shorter gabion intervals would induce faster rehabilitation. Gabions are preferred over concrete because they would allow water to flow through, are a more natural solution. Also additional gabions can be easily laid to increase the trap height. Figure-3 is a drawing that illustrates river bed rehabilitation.
- (7) Any access routes, especially if they are not beneficial to the local community would need to be ploughed and replanted with native species.

(8) Close and restore river bank where access ramps have been restored. Ensure river channel is not obstructed and that repaired bank is adequately fortified.

Section 3.0 : Baseline Environment ,Anticipated Impacts and Management

3.0 Baseline Air Quality

Refer Annexure -2 for Base line air quality data and noise levels

3.1 Anticipated Impacts and Management

The impacts envisaged due to mining activity are evaluated based on various factors. The emission inventory of the pollutants is as follows, the main air pollutant would be dust or particulate matter generated by handling and transportation of ore. The persons employed at the above areas are likely to get lung related diseases like silicosis, after prolonged exposure to the sand particles without protective measures. But the impact of mining operations on air quality is negligible as mining involved is only scooping of sand deposits from the river bed manually and not at large scale.

3.1.1 Dust Generation and Control

There is mere possibility of dust generation due to the proposed scooping of Building Grade sand from river bed manually. There is a possibility of dust generation due to the frequent movement of public transport vehicles and tippers carrying the Building grade sand on haulage & transport road. The envisaged production of Building Grade Sand during the plan period is from the proposed sand ghat is the basis of calculation of incremental ground level concentration.

- Incremental GLC is predicted using USEPA equation considering pollution sources like transportation and mining and modeled using AERMOD-ISCST-3 model

Area Source Emission Factor Considered

Sr. No.	Activity	Emission Factor Kg/T
1	Loading & Transportation	@0.0005 Kg/T

Refer Chapter -11 19.2 of EPA emission manual.

Refer Annexure -2 for sand ghatwise emission rate with incremental ground level concentrations and predicted ground level concentrations considering 260 days as no. of working days for sand ghat.

#Emission factor computed on wind speed of 1 m/sec, moisture 10% & Silt content 15 %

Predicted levels of PM₁₀ were found to be within permissible limits as per NAAQ standards. In order to mitigate fugitive dust emissions and other air emissions from the project activities, the following measures are proposed to be adopted.

- The mining haulage area will be wetted by water spraying and two 1 KL mobile sprinklers
- To avoid fugitive dust emissions at the time of Screening activity, Sand screening activity will be carried so as to prevent spreading of dust.
- Effective dust suppression arrangements will be made at the ground level sand bunkers at the mines.
- Sand is transported by road through trucks. The sand will be in wet condition however if dry sand is being transported it will be wetted after loading in to the truck and shall be covered by tarpaulin sheets.

To minimize the vehicular pollution from the sand transporting vehicles, the following conditions are insisted to permit the vehicles of the transporters:

- The vehicles should be with good engine condition and should maintain pollution control certificate issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.
- Ambient Air quality Monitoring will be carried out at four stations on fortnightly basis to assess the air quality in and around the project for taking necessary control measures.
- Green belt development along the access roads at mine premises and near the sand mining site

3.1.2 Impact due to Noise Pollution and its Management

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since mining is done manually, increase in noise levels is marginal and only due to transport activities.

In order to mitigate noise generation from the project activities, the following mitigation measures are proposed:

Since the noise generating is only through movement of vehicles, strict compliance to periodical maintenance of the vehicle conditions will be insisted.

Noise monitoring at the work places shall be carried out on fortnightly basis to ensure the compliance.

3.1.3 Impact due to Water Pollution and its Management

As the project activity is carried out in the meandering part of the river bed, none of the project activities will affect the water environment. Sand is in exposed stage to scoop out and away from the river stream. In this project, it is not proposed to divert or truncate any stream. 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. As per the Government recommendations the sand in riverbed will be extracted up to 0.5m depth only.

Thus, the project activities will not have any adverse effect on the physical components of the environment and therefore may not have any effect on the recharge of ground waters or affect the water quality.

In order to ensure that the project activities shall not affect the Water environment, the following measures will be taken up:

- Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the river bed.

- Mining below subterranean water level will be avoided as safe guard against environmental contamination and over exploitation of resources.
- River stream will not be diverted to form in active channels.
- Ground water levels will be monitored regularly in and around sand mining project.
- Mining schedule is synchronized with the river flow direction and the gradient of the land.
- Mining at the concave side of the river channel will be avoided to prevent bank erosion.
- Meandering segment of river will be selected for mining in such a way to avoid natural eroding banks and to promote mining on naturally building meander components.
- Mining depth shall be maintained as per the guidelines and rules of Sand Mining Policy dated 16.02.2024 and recommendations of M.S.. State Ground Water Department for extraction of sand during the lease period.
- Water Quality Monitoring for the ground waters, river water and other surface waters shall be carried out seasonally to ensure that the water quality is not affected by the project activities.

Mitigation Measures to improve River Health

- Municipal authorities must arrest their solid, liquid discharge at their own treatment facilities and should avoid these hazardous matters to drain in to river.
- Awareness campaign in the local people must be floated implement river management.

3.1.4 Impact on Land and its Management

Movements of vehicles sometimes cause problems to agricultural land, human habitations, noise and movement of public and also cause traffic hazards. The impacts include damage of river bank due to access ramps to river bed, soil erosion, micro disturbance to ground water, possible inducement of changed river course, contamination of sand aquifer water due to ponding. However there may not be any direct impact on soil quality of the area as the scooping activity is restricted to exposed sand ghat keeping at safe distance of 20m from bank of the river.

Proposed Mitigation Measures

- Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained. Access points to the river bed will be decided basing on least steepness of river bank and least human activity.
- Haulage roads parallel to the river bank and roads connecting access to river bed will be made away from bank, preferably 25 m away.
- Mining at the concave side of the river channel should be avoided to prevent bank erosion. Similarly, meandering segment of a river to be selected for mining in such a way so as to avoid natural eroding of banks
- Care will be taken to ensure that ponding is not formed in the river bed.
- Access roads from public roads and up to river bank will be aligned in such a way that it would cause least environmental damage.
- Green belt will be developed along the access roads near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.
- Villagers will be encouraged in the plantation activities by means of social forestry.

3.1.5 Impact on Socio Economic Environment

The project activities shall not have any adverse impacts on any of the common property resources of the village communities, as the sand mine lease area is not being used for any purpose by any section of the society in this region. Also the proposed sand ghat is away from public utilities like bridges, water supply schemes etc. There is no R & R involvement in this project. There is no land acquisition in this project.

The Project is expected to yield a positive impact on the socio-economic environment. It helps sustain the development of this area including further development of infrastructure facilities.

3.1.6 Impact on Ground Water Level of Surrounding Area

Scooping of sand beyond the proposed scooping depth may deplete the ground water level of the area. Hence the maximum scoopable depth of sand is restricted keeping sand bed of 2m. The scoopable limit of Sand for proposed are as below keeping 2.0m bed depth of sand.

Survey Committee includes member from GSDA, Amravati ,Junior Geologist, Directorate of Geology and Mining, representative of M.P.C.B. and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the area.

3.1.7 Sand Replenishment Studies

Physical monitoring requirements of sand extraction activities should include surveyed channel cross-sections, longitudinal profiles, bed material measurements, geomorphic maps, and discharge and sediment transport measurements.

In addition to local monitoring for replenishment at specific mining sites, monitoring of the entire reach will provide information on the cumulative response of the system to sand extraction.

Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

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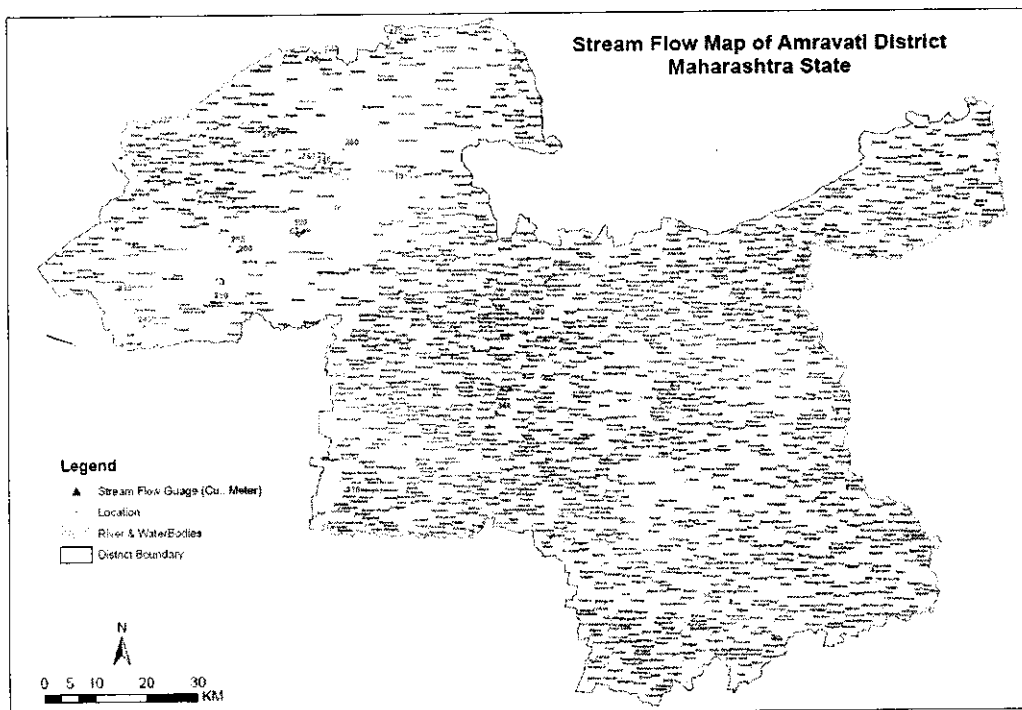
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

If long-term monitoring data show that there is a reach-scale trend of bed lowering the extraction could be limited.

A concurrent type cup flow meter with fish weight of 10 kg with auto data logger is used to record the stream flow velocity.

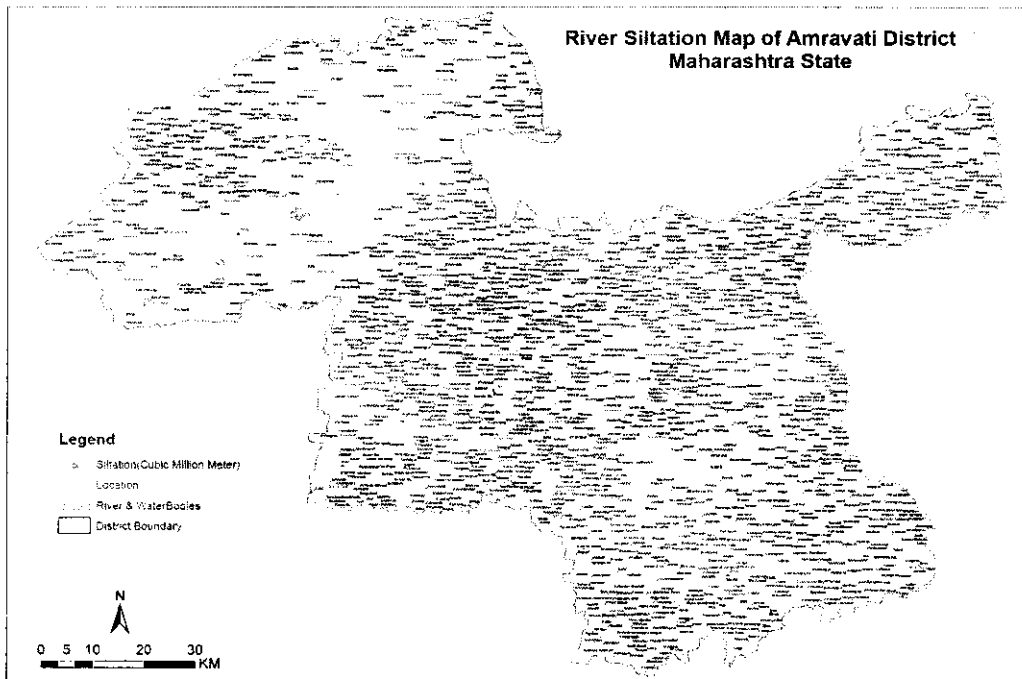
A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water.

Average flow for both the rivers during the monsoon period was



cum/minute

Siltation is mapped for the rivers using slope –discharge-silt formula as below



In Million Cum

Management plan for replenishment of sand ghat

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.8 of this document. This will enable to replenish the sand ghat during the monsoon period.

3.1.8 Land use pattern in the buffer zone

The land use of the 5 kms radius study area is studied by analyzing the available secondary data like SOI Toposheet, field visits etc. Most of the lands around the river body are agricultural lands. The major activity in the buffer zone is mainly agriculture. Agriculture is the main profession of people in the study area with nearly 2/3rd of the population engaged in one or the other form of agriculture.

Anticipated Impacts

As far as impact on the land use pattern is concerned, the buffer zone will not be affected as the mining operations are totally confined to the core zone.

Dump yards are not proposed as no waste is generated. The Building Grade sand mined will be temporarily stacked in a non mineralized area of the river bed. The proposed activity of sand mining is not envisaged to cause any impacts on the topography or the water drainage pattern as the excavation carried out is only manual scooping of Building Grade sand from the river bed.

The impact on soil quality is not likely to be more intensive than the present status and hence degradation although inevitable, is not likely to affect soil quality. The loss of the fertile soil from the agricultural lands lying along side the river bank are observed during the floods due to differential lateral deposition of sand on the land surface.

As the proposed mining of Building Gradesand from the river bed is only during the pre monsoon season of the year, river erosion is not foreseen and hence control measures are not proposed. However as a preventive measure afforestation in terms of herbs and shrubs are proposed all around the lease area.

Ground water pollution is not envisaged as the proposed activity is not generating any kind of

waste such that there can be seepage of pollutants to cause any impacts.

The mining activity proposed is a manual scooping of Building Gradesand and hence no impact is envisaged on the local biodiversity.

Since no agricultural or common property lands are involved in the proposed activity action plan for abatement and compensation for the same is not proposed.

Proposed Mitigation Measures

Since the project site is a river bank mining activities will not have any major impact and since the deposits are replenished naturally. No reclamation is proposed. The proponent will plan to plant saplings every year to enrich the existing biodiversity. Local varieties available will be suitably planted so that bio-diversity is further enriched.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads as a social responsibility towards the community in restoring the ecological balance in the surrounding area.

A green belt shall be developed by planting a suitable combination of trees which can grow fast and also reduce the noise levels from aesthetic point of view which will also have a positive impact.

To prevent the sand deposition on the agricultural lands various preventive measures like planting bushes all along the river bank which have extensive root system will be carried out. They will act as a barrier preventing the sand from depositing on the lands thus preserving its fertility.

3.1.9 Biological Environment

Baseline Status

The general observation shows moderate green cover and agricultural lands in the buffer zone. Ecological survey was carried out by field visits in the study area of 5kms radius to observe the species and to assess the status of dominance, density, frequency, abundance, etc. Besides, personal enquiries & discussion with local people and forest department officials were also

conducted to get a fair idea of the existing ecological status.

Biodiversity: In the buffer zone area common varieties of crops like Soyabean, cotton, Tur are seen. No floral species, which are rare or of medicinal variety have been observed in the study area. The fauna found in the area are of common variety and no endangered species are found in the study area. There are no National Parks, Sanctuary or a Biosphere Reserve within 10 kms radial distance from the mining area.

Aquatic flora and fauna: In order to study the aquatic flora and fauna of River, water samples were collected from the selected locations of the river course and were analyzed. The river harbors a variety of fishes from rohu, sipnas, wagur, Zinga etc. It is observed that there no fauna dependant on the river bed or area nearest for its nesting The river also cradles various species of aquatic flora.

Anticipated Impacts

There is no loss of forest resources like medicinal plants, endangered & rare species as no deforestation takes place since mining is done on the banks of a river.

There will be no impact on the terrestrial biodiversity as there is no air & noise pollution due to the proposed mining activity.

Since there is no pollution of the river water due to the proposed activity the aquatic biodiversity is not affected & hence no mitigation measures are suggested. There will be no habitat fragmentation or blocking of migratory corridors as the proposed mining.

Proposed Mitigation Measures

Mitigative measures proposed are in terms of afforestation over the mined out areas. Delineation of the same will be carried out as the mining activity proceeds. It is proposed to have a green belt along the bank. For which appropriate species of plants that suits the geo-climatic conditions are selected. The species selected have deep roots, fast growth and optimum penetrability to withstand the wind shall be selected, which otherwise will act as wind tunnels.

Since the project site is a river bank, mining activities will not have any major impact and since the deposits are replenished naturally no reclamation is proposed.

Afforestation

The afforestation is proposed all along the river bank for the proposed plan period, every year it is proposed to afforest about saplings as per Annexure 4. Avenue plantation will also be undertaken in a phased manner over the next 4 months . Villagers will be involved for all the afforestation activities. Care shall be taken for the protection and growth of these saplings for better survival.

As there is no proposal for deforestation, compensatory afforestation is not envisaged. But afforestation in terms of a social responsibility towards a better environment with economically beneficial plantation is proposed to be grown. A green belt i.e. varieties of herbs & shrubs all along the cultivable area of the river banks is proposed thus creating a better biotic environment.

For afforestation the species to be planted are considered keeping in view the following conditions:

Adaptation to the geo-climatic conditions of the area .

A mix of oblong and conical canopies (hts ranging 4m – 20m) Preferably evergreen trees.

The species that have history of good survival and growth under similar site conditions are preferably selected.

Avenue plantation are proposed to be carried out all along the roads connecting the mine site; the lessee has proposed to carry out plantations on either side of the village roads considering it has a social responsibility towards the community in restoring the ecological balance in the surrounding area. Based on the above Neem, Peepal, Bamboo will be planted.

3.1.10 Socio economic Environment

Baseline Environment

Socio-economic study is an integral part of the environmental study; existing as well as upcoming sand scooping will have both adverse & beneficial impacts on the environment.

It is revealed that the proposed area is well connected to the nearby major towns and cities,

the public services and utilities like Medical facilities, Electricity, Drinking water requirement. Transportation & communication etc need to be organized for ready availability.

The basic socioeconomic needs of villages are fulfilled at large from the 25 % of royalty collected from village sand ghat. These funds are available in the District Mineral Foundation specifically for village road development, drinking water scheme to fulfill socio economic upliftment.

3.1.11 Occupational Health

Baseline Status

There is no remarkable environmental pollution due to the proposed mining as it is proposed to be a manual mining/scooping of Building Gradesand on the banks of River Purna, Godavari, Vidupa, Shivna, Girja. Hence there will be no major occupational health hazards.

Medical & Health Facilities

First-aid facility is to be provided at the mines. The proponent will further provide related safety equipments & facilities at the proposed mine site. Medical checkups, pathological tests and medicines will be provided to all employees. Each person being employed in the mine will undergo initial medical examination with periodical examinations till they are employed at the mines.

3.1.12 Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.8 of this document. This will enable to replenish the sand ghat during the monsoon period.

Section 4.0 : Implementation, Monitoring & Budgeting to implement

4.1 Environmental Management Plan

Reference to section 3.0 regarding baseline data and probable impacts and mitigation measures, the Environmental Management Plan is implemented by the Sand Ghat Allottee/ Successful Bidder.

A budgetary provision which is earmarked to implement the Environment Management Plan is annexed as Annexure 5.

4.1.1 Air Quality Management

4.1.1.1 Controlling Dust Levels

Dust is the major pollutant generated from the mining operations. Dust would be generated during mining, handling and transportation of the material. The maximum predicted value of increase in PM₁₀ due to proposed mining operation would be about 0.6697 µg/m³. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of 0.01 µg/m³ at a distance of about 1.0 km from the mining lease boundary. The impact of mining operation would be negligible beyond 1.0 km. The environmental control measures, proposed to control the fugitive dust released during the Sand scooping/ mining are given below:

MINES

- Dust masks will be provided to the workers exposed .
- Afforestation along the river bank and along the village road
- Periodic health check up for the workers shall be done
- Maintenance of plantation of wide leaf trees along river bank and tall grass along slope of river bank .
- Water tankers with spraying arrangement will be used for regular water sprinkling on village roads to ensure effective dust suppression due to transportation

RAMP

- Ramp will be maintained regularly
- Speed limits will be prescribed for transport vehicle
- Periodic maintenance of the tractor used for transport shall be done to reduce smoke emissions
- Over filling of tractors is avoided and thus spillage on the ramp/ roads is restricted

- Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the ambient air.
- No vehicle with its engine will be allowed to keep idle to reduce pollutant levels and conserve riverine health.

A summary of air pollution control measures is given below:

S. No	Impact Source	Impact	Control measure
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	<ul style="list-style-type: none"> • Compaction, gradation and drainage on both sides & development of green belts • Proper maintenance. • Regular water spraying. • Avoiding over filling of tractor and consequent spillage on the roads • Air quality will be monitoring at impacted village.
2	Truck/ Tractor Movement	Air Quality	<ul style="list-style-type: none"> • No overloading of trucks. • Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. • Enforcing speed limit. • Regular monitoring of the exhaust fumes. • No Engine of tractor/truck will be kept on during the filling. • If possible entry be restricted to river bed
3	Ramp and Sand Reach	Mining Operations	<ul style="list-style-type: none"> • Regular ramp inspection and Ramp maintenance • Provision of dusk masks. • Mining will be done during day time between fixed hours only.
4	Bank Management	Bank Erosion/ Flood Plain management	<ul style="list-style-type: none"> • Green belt along bank • Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.

5	Occupational Health & Safety Measures to Control Dust Inhalation	Safety of Workers and Mining Operations	<ul style="list-style-type: none"> • Providing a working environment that is conducive to safety & health • The management of occupational safety & health is the prime responsibility of mine owner.
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			<ul style="list-style-type: none"> • Provision of necessary personal protective equipments • Ensuring employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities • Provision of First Aid and Drinking Water, Temporary rest Room
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4.1.2 Noise Pollution and Ground Vibrations

As no blasting is involved ground vibrations will not be measured.

Source	Type	Intensity, dB(A)	Proposed control
Transportation through village roads	---	Highway model -62.8 L _{eq}	<ul style="list-style-type: none"> • Avenue plantation, • Speed breakers

4.1.2.1 Noise Pollution Control

The following noise control measures will be provided in the proposed crushing and screening plant.

- In addition, personnel working near high noise level generating sources will be provided with ear muffs
- No equipment generating Noise excluding tractor/truck will be permitted.
- No tractor engine will be kept idle.
- Conduct periodic audiometric tests for employees working close to high noise generating areas such as compressors, the loading and unloading sections, etc
- Provision of PPE's will be made and their proper usage will be ensured for hearing protection of the workers as well as visitors.

4.1.3 Traffic Management

The impacts of increase in traffic load from the proposed mine will be reduced by proper planning and implementation of the strict traffic guidelines. The following measures will be adopted to minimize the impacts of the increase in traffic density.

- Feasibility of alternative mode of transport avoiding village.
- The mineral transporting vehicles will be registered with the forest department/revenue department and only registered vehicles will be used for mineral transport.
- The PUC certificate for exhaust emissions for all the transport vehicles will be made mandatory.
- All the vehicles will be properly maintained to control emissions and noise generation.
- Drivers of all the vehicles will strictly follow traffic rules.
- Speeds of the mineral transport vehicles will be regulated.
- Overloading of the trucks/tractors will not be allowed
- The mineral transporting trucks/tractors will be properly covered with tarpaulin to avoid fugitive emissions.
- Batch transport system will be adopted in consultation with the other sand ghat operators in the area to avoid excess traffic at a time on the road.
- Mineral transportation will be done only during day time only.
- Strict action will be taken against any driver, who do not comply the traffic rules.

4.1.4 Water Quality Management

4.1.4.1 Water Pollution Control Measures

The only source of pollution from the mine will be the silt wash off during monsoon. The measures proposed for control of water pollution are mentioned below:

- Plantation of local varieties of flora species, along the drains, so that there will be fast and healthy growth of vegetation specially along bank.
- Sand does not contain any toxic substance, which can dissolve and pollute water quality. To prevent the suspended particles joining the natural stream in the area, ramp and approach created for Sand Ghat will be blocked.
- Domestic effluent will be discharged in septic tank and soak pits temporarily proposed at 20m away from river bank of Purna, Wardha etc.

4.1.5 Implementation of Final Mine Closure Plan

At the end of mining activity, large boulders removed during the scooping of sand will be arranged in the extracted area as per procedure depicted in approved mining plan and para 2.8 of this document. This will enable to replenish the sand ghat during the monsoon period.

4.1.6 Plantation program

It is proposed to plant local species as per Annexure -4 during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal etc will be planted.

4.1.7 Occupational Health and Safety Management

The following Occupational Health and safety Measures will be adopted in the mine leas area:

- Providing a working environment that is conducive to safety and health
- The management of occupational safety and health is the prime responsibility of mine management from the executive level to the first line supervisory level
- Employee involvement and commitment in the implementation of health and safety guidelines
- Provision of necessary personal protective equipments to all the employees
- Extensive publicity and propaganda related to safety.
- Identification and assessment of risk from health hazards at work places and taking adequate steps to reduce risks.
- Education of workers on sanitation, cleanliness, hygiene and health care.
- Periodical medical examination of all workers by medical specialist so that any adverse affect may be detected in its early stage.

Noise Induced Hearing Loss

Rotation of workers exposed to noisy premises to avoid NIHL.

4.2 Monitoring of Implementation of Environmental Management Plan with Budget:

Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan on his own.

Successful Bidder/ Sand Ghat allottee will submit compliance to terms of conditions stipulated in the prior environmental clearance to the District Mining Officer and respective Tahsildar with the expenses made on implementation of environmental management plan.

District Mining Officer/respective Tahsildar will monitor the implementation of approved environmental management plan.

After submission of satisfactory compliances on periodic the implementation compliances of approved environmental management plan, District Collector will release the EMD deposited by the Successful Bidder/ Sand Ghat allottee, otherwise the same will be forfeited.

S. No	Impact Source	Impact	Control measure	Particulars /Qty.
1	Transport Road	On Air Quality On Land / Rd stability/ Rd degradation	<ul style="list-style-type: none"> · Compaction, gradation and drainage on both sides · Proper maintenance. · Regular water spraying. · Air quality will be monitoring at impacted village. · Health Checkup of Employees 	<p>(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016 For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km</p> <p>(For One Day Monitoring)</p>
2	Truck/ Tractor Movement	Air Quality	<ul style="list-style-type: none"> · Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. 	(tarpaulin@ Rs 5000 per tractor)

			<ul style="list-style-type: none"> Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	<ul style="list-style-type: none"> tractor @ Rs. 500/tractor Excluding Man Power Salary which is included in labour costs
3	Ramp and Sand Reach	Mining Operations	<ul style="list-style-type: none"> Regular ramp Inspection and Ramp maintenance Provision of dusk masks. 	(Excluding Man Power Salary which is included in labour costs)
4	Bank Management	Bank Erosion/ Flood Plain management	<ul style="list-style-type: none"> Green belt along bank Plantation of wide leaf tall trees on banks and grass along slanting portion of bank. 	Nos.@ Sand Ghat Length/2
5	Transportation on Village Roads	Dust Control	<ul style="list-style-type: none"> Green belt along village Rd 	Nos. = on both side of road @ tree/2m
6	Final Mine Closes Plan implementation	Replenishment of Sand	<ul style="list-style-type: none"> Gabions/ boulders will be arranged as per guidelines 	
7	Mobile toilet, sewage handling & treatment		<ul style="list-style-type: none"> Mobile toilet, sewage handling & treatment 	
8	Corporate Environmental Responsibility		<ul style="list-style-type: none"> As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR/PH Budget 	

Annexure -1: Details of Sand Ghat

Sr. No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length in m	Width in m	Depth in m	Area in Hec.	Quantity in Brass	Blocked under non mining zone in Sq.m.	Scoopable Quantity in Brass	Duration of Excavation
1	Dharni	Mokha (Chichghat-Zirnyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	0	2650	1 year
2	Dharni	Ratnapur	Ratnapur	Tapi	14,16,36 and 37	820	20	0.6	1.64	3477	0	3477	1 year
3	Dharni	Sonabardi	Kharyatembhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	0	4417	1 year
4	Bhatkuli	Chakur	Kanfodi	Pedhi	144,147,1,11,12,13,14	800	20	0.5	1.60	2827	0	2827	1 year
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163,164,166,	1500	15	0.6	2.25	4770	3970	3929	1 year
6	Bhatkuli	Ganoja Devi	Ganoja Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	0	2267	1 year
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	0	4240	1 year
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260,263,264,268,to 276,189,934,935,252,240, 239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	0	3180	1 year
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	2250	3339	1 year
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97,98,99,109,110,111,112,140	1100	10	0.6	1.10	2332	1840	1942	1 year
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	980	15	0.6	1.47	3117	0	3117	1 year
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	405	29	0.5	1.17	2075	0	2075	1 year
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 287, 266, 261, 248, 258, 280, 281, 285,284,273	340	30	1	1.02	3604	0	3604	1 year
14	Daryapur	Mhaispur Mocharda	Mhaispur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	3198	1979	1 year
15	Daryapur	Khanpur Chiparda	Nalwada	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	974	15	0.6	1.46	3098	0	3098	1 year
16	Daryapur	Bembli Bu	Bembli Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	0	1837	1 year
17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	0.75	1.00	2650	3335	1766	1 year
18	Daryapur	Chandai	Mhaispur Mocharda	Chandrabhaga	3,4,6,7,8,150	1080	10	0.7	1.08	2968	2400	2077	1 year
19	Daryapur	Karatkhed	Karatkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	0	2597	1 year
20	Daryapur	Ramtirth	Ramtirth	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	0	2897	1 year
21	Daryapur	Wadura	Wadura	Purna	13,14,315	1000	10	0.6	1.00	2120	1675	1765	1 year
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	0.6	1.00	2120	1670	1766	1 year
23	Daryapur	Bembli Khu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	0	1767	1 year
24	Achalpur	Khairi-Donoda	Khairi & Donoda	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61,68 To 70, 78 To 83	512	20	0.5	1.02	1809	0	1809	1 year
25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	0	2120	1 year
26	Achalpur	Hiwra Purna-Yelki Purna	Hiwra Purna & Yelki Purna	Purna	Hiwra Purna- 17,18,20,28,29,48, Yelaki Purna - 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1813	0	1813	1 year
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	0	1770	1 year
28	Chandur Bazar	Hirur Purna	Hirur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	0	1855	1 year
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	0	1787	1 year

30	Warud	Wandli	Wandli	Wardha	308 To 310,315 To 316,324	700	28	1	1.96	6926	0	6926	2 year @3463 Brass
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134, To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	0	4240	1 year
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	820	18	1	1.48	5216	0	5216	2 year @2608 Brass
33	Warud	Waghaj	Waghaj	Wardha	241 To 245	1000	25	1	2.50	8834	0	8834	2 year @ 4417 Brass

Annexure 2: Ambient Air Quality/Ambient Noise/Predicted GLC

Sr No.	Name of Sand Ghats	Name of Village	Taluka	River	Nearest Gut Nos	Area in Hec.	Quantity in Brass	PM ₁₀	PM _{2.5}	SO ₂	NOX	Noise(max)	Noise(min)	Emission Rate µgm/sec	Incremental GLC µgm/cum	Predicted GLC µgm/cum
								µgm/cum	µgm/cum	µgm/cum	µgm/cum	dB(A)	dB(A)			
1	Mokha (Chichghat-Zirnyaghat)	Chichghat	Dharni	Tapi	23 and 26	1.50	2650	42.9	13	11.9	12.5	52.6	38.6	0.121519676	0.6693	43.5693
2	Ratnapur	Ratnapur	Dharni	Tapi	14,16,36 and 37	1.64	3477	42.6	14.9	12	12.4	52.4	41	0.159444444	0.6693	43.2693
3	Sonabardi	Kharyatambhru	Dharni	Tapi	18, 19 and 20	2.50	4417	39.5	12.7	11.8	12.7	52.9	41.2	0.202546296	0.6693	40.1693
4	Chakur	Kanfodi	Bhatkuli	Pedhi	144,147,1,11,12,13,14	1.60	2827	40.2	11.7	11.5	12	50.2	35.8	0.12962963	0.6693	40.8693
5	Nanded Khu.	Nanded Khu.	Bhatkuli	Purna	2,3,4,5,139,140,141,137,138,142,159,160,161,162,163,164,166.	2.25	3929	41.7	11.5	11.3	3	55.3	40.1	0.182291667	0.67	42.37
6	Ganoja Devi	Ganoja Devi	Bhatkuli	Pedhi	107,105,100,85,80,83,87,85,85,84	1.28	2267	46.2	14.8	13.3	12.1	55.9	45.1	0.103946759	0.6688	46.8688
7	Dadhi	Dadhi	Bhatkuli	Pedhi	121,122,123,124,125,127,128,103,104,105	3.40	4290	40.1	13.7	11.7	12.6	46.5	39.8	0.194444444	0.7497	40.8497
8	Bhatkuli	Bhatkuli Nagar Panchayat	Bhatkuli	Pedhi	241 to 251, 260,263,264,268,10 276,169,934,935,292,740,239,236,235,233,232, 221 to 226	1.80	3180	41.7	11.9	12	12.7	45.1	37.2	0.145833333	0.7497	47.4497
9	Kanfodi	Kanfodi	Bhatkuli	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1.80	3339	41.9	12.4	11.5	12.8	46.5	39.8	0.145833333	0.74	42.64
10	Nanded Bu	Nanded Bu	Daryapur	Purna	97,98,99,109,110,111,132,140	1.10	1942	44.3	14.1	13.9	14	52.9	40.1	0.08912037	0.6687	44.9687
11	Belora	Belora	Daryapur	Chandrabhaga	15,17,20,102,101,100	1.17	3117	40.1	14.8	13.3	15	47.1	40	0.139756944	0.478	40.578
12	Chandola	Chandola	Daryapur	Purna	15,16,17,216,224,225,226	1.17	2075	42.8	13.5	12.9	13	45.1	38.2	0.09515625	0.531	43.331
13	Lasur	Lasur	Daryapur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,294,273	1.02	3604	44.1	14.8	11.4	12.3	56.1	42.9	0.165277778	0.472	44.572
14	Mhaspur Mocharda	Mhaspur Mocharda	Daryapur	Chandrabhaga	5,6,12,13,14,15,16,36,37	1.12	1979	44.1	14.8	11.4	12.3	57	40.2	0.090740741	0.4183	44.5183
15	Khanpur Chiparda	Nalwada	Daryapur	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	1.16	3098	44.7	12.5	11.8	12.4	53.2	39.8	0.13125	0.428	45.128
16	Bembli Bu	Bembli Bu	Daryapur	Chandrabhaga	2,4,5,8,9,262,263	1.04	1837	45.5	16.5	10.7	11.4	45.3	35.9	0.084259259	0.5579	46.0579
17	Ghada	Ghada	Daryapur	Chandrabhaga	1,4,5,174 To 175	1.00	1766	40.8	12.1	11.1	11.9	45.3	35.9	0.081018519	0.59	41.39
18	Chandai	Mhaspur Mocharda	Daryapur	Chandrabhaga	3,4,5,7,8,150	1.08	2077	41.5	13.5	12	12.5	45.3	35.9	0.097222222	0.5579	42.0579
19	Karatkhed	Karatkhed	Daryapur	Purna	38 to 40, 49 to 52, 54	1.47	2597	36.7	14.1	12.5	11.5	44.6	36.9	0.119097222	0.4392	37.1392

20	Rantlith	Rantlith	Daryapur	Purna	468,469, 483, 484, 486, 487, 495, 543, 544, 545	1.63	2897	42.3	12.9	11.5	12.3	45.2	35.8	0.131655093	0.4392	42.7392
21	Wadua	Wadua	Daryapur	Purna	13,14,315	1.00	1765	41.5	12.1	11.4	11.9	45	37	0.081018519	0.441	41.941
22	Jahampur Dighi	Wadua	Daryapur	Purna	18,19,22,24,25	1.00	1766	40.6	11.5	10.8	11.2	50.1	35.9	0.081018519	0.4392	41.0392
23	Bembla Khu	Ghada	Daryapur	Chandrabhaga	1,8,9,10	1.00	1767	38.1	12.8	11.5	13.2	55.1	45.8	0.081018519	0.6595	38.9595
24	Khairi-Donoda	Khairi & Donoda	Achalpur	Sapan	Khairi 140,162,164,165, Benoda 22 To 27, 59 To 61, 64 To 70, 78 To 83	1.02	1809	39.4	11.8	10.5	11	52.7	41.2	0.082962963	0.666	40.066
25	Savlapur-Khanapur	Savlapur	Achalpur	Purna	Savlapur - 32 to 36, 38, 39, 41 to 44, 49,50,53, Khanapur 78	1.20	2120	40	12	11.1	11.8	55.1	45.8	0.097222222	0.6595	40.6595
26	Hiera Purna-Yelki Purna	Hiera Purna & Yelki Purna	Achalpur	Purna	Hiera Purna-17,18,20,28,29,48, Yelki Purna - 264 to 270, 273,280,281, 284 to 286	1.03	1813	47.1	13.8	10.9	13.4	45.3	35.9	0.083125	0.478	37.578
27	Talani Purna	Talani Purna	Chandur Bazar	Purna	10	1.00	1770	41.2	13.4	12	12.5	50.1	46.1	0.08115625	0.44	41.64
28	Hirni Purna	Hirni Purna	Chandur Bazar	Purna	41,42,43,93,94,95,96,97	1.05	1855	44.5	12.7	11.4	12	43	39.8	0.085069444	0.457	44.957
29	Takarkheda	Takarkheda	Chandur Bazar	Purna	1,13,11,41,21,122	1.01	1787	41.5	12.9	11.5	11.9	51.2	40.2	0.081958113	0.502	42.002
30	Wandh	Wandh	Warud	Wardha	300 TO 310,315 To 316,324	1.96	6926	43.2	14.1	12.4	12.9	45.8	36.1	0.317592593	0.4781	43.6781
31	Pawni(s)	Pawni (s)	Warud	Wardha	126,134, To 147,148, 150, 171, 172, 174	1.20	4240	38.9	15.7	11.1	12.8	45.9	38.3	0.194444444	0.5577	39.4577
32	Deutwada	Deutwada	Warud	Wardha	96 To 100, 116, 119 To 121, 136 To 144, 146 To 150	1.48	5216	45.8	16.1	13.7	14	52.8	40.5	0.239166667	0.6694	46.4694
33	Waghaj	Waghaj	Warud	Wardha	241 To 245	2.50	8834	44.9	14.9	13.1	13.7	59.8	43.3	0.405092593	0.541	45.441

Annexure-3 : No of Plants proposed to plant

Sr.No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length	Width	Depth	Area in Hec.	Total Quantity in Brass	Scoopable Qty of Sand after deducting non mining zone in Brass	Length of Approach Road in m	No of Trees along Bank	No of Trees along village Road
1	Dharni	Mokha (Chichghat-Ziriyaghat)	Chichghat	Tapi	23 and 26	1000	15	0.5	1.50	2650	2650	1714	200	1714
2	Dharni	Ratnapur	Ratnapur	Tapi	14, 16, 36 and 37	870	20	0.6	1.64	3477	3477	2327	164	2327
3	Dharni	Sonabardi	Kharyatembhru	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	4417	496	200	496
4	Bhatkul	Chakur	Kanfodi	Pedhi	144,147,111,12,13,14	800	20	0.5	1.60	2877	2877	889	160	889
5	Bhatkul	Nanded Khu	Nanded Khu	Purna	2,3,4,5,189,140,141,137,138,142,159,160,161,162,163,164,166,	1500	15	0.5	2.25	4770	4770	790	300	790
6	Bhatkuli	Ganota Devi	Ganota Devi	Pedhi	107,105,100,85,80,83,87,86,85,84	1283	10	0.5	1.28	2267	2267	668	256	668
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121,122,123,124,125,127,128,103,104,105	1200	20	0.5	2.40	4240	4240	713	240	713
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 250,263,264,268, to 276,189,934,935,252,240,239,236,235,233,232, 221 to 226	1200	15	0.5	1.80	3180	3180	664	240	664
9	Bhatkuli	Kanfodi	Kanfodi	Pedhi	1,2,3,4,6,7,8,10,11,12,13,14,15,169,165	1200	15	0.6	1.80	3816	3330	392	240	392
10	Daryapur	Nanded Bu	Nanded Bu	Purna	97,98,99,109, 110,111,112,140	1100	10	0.6	1.10	2332	1942	1124	220	1124
11	Daryapur	Belora	Belora	Chandrabhaga	15,17,20,102,101,100	960	15	0.5	1.47	3117	3117	1609	230	1609
12	Daryapur	Chandola	Chandola	Purna	15,16,17,216,224,225,226	605	29	0.5	1.17	2075	2075	434	81	434
13	Daryapur	Lasur	Lasur	Purna	279,274,276,272, 265, 286, 287, 267, 266, 261, 248, 258, 280, 281, 285,284,273	140	30	1	1.02	3604	3604	1766	68	1766
14	Daryapur	Mhaspur Mocharda	Mhaspur Mocharda	Chandrabhaga	5,6,12,13,14,15,16,36,37	1120	10	0.7	1.12	2770	1979		224	
15	Daryapur	Khanpur Chaparda	Nalwade	Chandrabhaga	1,2,3,4,5,6,161,160,151,150	971	15	0.5	1.34	3098	3098	1051	216	1051
16	Daryapur	Bembia Bu	Bembia Bu	Chandrabhaga	2,4,5,8,9,262,263	800	13	0.5	1.04	1837	1837	1274	160	1274

17	Daryapur	Ghada	Ghada	Chandrabhaga	3,4,5,174 To 175	1000	10	11.75	1.00	2650	1766	695	200	695
18	Daryapur	Chandai	Mhaspur Mocharda	Chandrabhaga	3,4,6,7,8,150	1000	10	11.7	1.00	2671	2077	440	240	440
19	Daryapur	Karakhed	Karakhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	2597	1896	98	1896
20	Daryapur	Ramirth	Ramirth	Purna	458,469, 483, 484, 486, 487, 495, 543, 544, 545	650	25	0.5	1.63	2871	2897	1071	130	1071
21	Daryapur	Wadura	Wadura	Purna	11,14,315	1000	10	11.6	1.00	2120	1765	1410	200	1410
22	Daryapur	Jahanpur Dighi	Wadura	Purna	18,19,22,24,25	1000	10	11.6	1.00	2120	1766	1260	200	1260
23	Daryapur	Bembia Klu	Ghada	Chandrabhaga	1,8,9,10	1000	10	0.5	1.00	1767	1767	1201	200	1201
24	Achalpur	Khairi-Donoda	Khairi-Donoda	Sapan	Khairi 140,162,164,165, Bemoda 22 To 27, 51 To 51, 69 To 70, 78 To 83	512	20	0.5	1.02	1809	1809	7306	102	2306
25	Achalpur	Savapur-Khanapur	Savapur	Purna	Savapur - 32 to 36, 38, 39,41 to 44, 49,50,53, Khanapur 78	600	20	0.5	1.20	2120	2120	1460	120	1460
26	Achalpur	Hwra Purna-Yelki Purna	Hwra Purna & Yelki Purna	Purna	Hwra Purna 17,18,20,28,29,48, Yelki Purna 264 to 270, 273,280,281, 284 to 286	513	20	0.5	1.03	1811	1813	1247	102	1247
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	1770	2114	95	2114
28	Chandur Bazar	Hinur Purna	Hinur Purna	Purna	41,42,43,93,94,95,96,97	500	21	0.5	1.05	1855	1855	2526	100	2526
29	Chandur Bazar	Fakarkheda	Fakarkheda	Purna	1,13,11,41,21,122	562	18	0.5	1.01	1787	1787	1614	112	1614
30	Warud	Wandli	Wandli	Wardha	308 To 310,315 To 316,324	700	28	1	1.96	6976	6926	3785	140	3785
31	Warud	Pawni (s)	Pawni (s)	Wardha	126,134, To 147,146, 150, 171, 172, 174	480	25	1	1.20	4240	4240	2479	96	2479
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 116 To 144, 146 To 150	820	18	1	1.48	5216	5216	1951	164	1951
33	Warud	Waghai	Waghai	Wardha	241 To 245	1000	25	1	2.50	8834	8834	2480	200	2480

Annexure 4: Environmental Management Budget (Approximate)

Sr.No	Name of Taluka	Name of Sand Ghat	Name of Village Panchayat	Name of River	Nearest Survey No.	Length	Width	Depth	Area in Hec	Total Quantity in Brass	Scrapable Qty of Sand after deducting non mining cone in Brass	Length of Approach Road in m	No. of Workers	No. of Tractors	No of Trees along bank	No of Trees along village road	Water Requirement in cum/day	EMP cost in Rs. Lakhs
1	Dharm	Mokha (Chechhat-Zirnyaghat)	Chechhat	Tapi	23 and 26	1000	15	0.5	1.50	2650	2650	1734	28	10	100	1714	2	2011900
2	Dharm	Ratnapur	Ratnapur	Tapi	14, 16, 36 and 37	820	20	0.6	1.84	3477	3477	2327	38	14	164	2327	2	2546950
3	Dharm	Sonabardi	Khayatembhu	Tapi	18, 19 and 20	1000	25	0.5	2.50	4417	4417	498	38	17	200	496	2	1025100
4	Bhatkuli	Chakur	Kanodi	Pedhi	144, 147, 111, 117, 113, 14	800	20	0.5	1.60	2827	2827	889	28	11	160	889	2	1296150
5	Bhatkuli	Nanded Khu.	Nanded Khu.	Purna	2, 3, 4, 5, 139, 140, 141, 137, 138, 142, 159, 160, 161, 162, 163, 164, 166	1500	15	0.5	2.25	4770	3929	790	38	15	300	790	2	1314000
6	Bhatkuli	Ganosa Devi	Ganosa Devi	Pedhi	107, 105, 100, 85, 80, 81, 87, 86, 85, 84	1288	10	0.5	1.28	2267	2267	668	28	9	256	668	2	1349300
7	Bhatkuli	Dadhi	Dadhi	Pedhi	121, 122, 123, 124, 125, 127, 128, 103, 104, 105	1200	20	0.5	2.40	4240	4240	212	38	16	240	212	1	795050
8	Bhatkuli	Bhatkuli	Bhatkuli Nagar Panchayat	Pedhi	243 to 251, 260, 263, 264, 268, 276, 189, 934, 935, 252, 240, 239, 236, 135, 233, 232, 223 to 226	1200	15	0.5	1.80	3180	3180	664	38	12	340	664	2	1160400
9	Bhatkuli	Kanodi	Kanodi	Pedhi	1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 169, 165	1200	15	0.5	1.80	3816	3339	392	38	12	240	392	2	929200
10	Daryapur	Nanded Bu.	Nanded Bu.	Purna	97, 98, 99, 109, 110, 111, 112, 110	1100	10	0.6	1.10	7332	1942	1124	28	8	220	1124	2	1509400
11	Daryapur	Belora	Belora	Chandrabhaga	15, 17, 20, 102, 101, 100	980	18	0.6	1.47	3117	3117	1609	28	12	230	1609	2	1948650
12	Daryapur	Chandola	Chandola	Purna	15, 16, 17, 216, 224, 225, 226	405	29	0.5	1.17	2075	2075	434	28	8	81	434	2	853400
13	Daryapur	Lesar	Lesar	Purna	279, 274, 276, 272, 265, 286, 287, 287, 266, 261, 248, 258, 280, 281, 285, 284, 273	340	30	1	1.02	3604	3504	1766	38	14	68	1766	2	2022100
14	Daryapur	Mhaspur Mocharda	Mhaspur Mocharda	Chandrabhaga	5, 6, 12, 13, 14, 15, 16, 36, 37	1120	10	0.7	1.12	2770	1979	28	8	224	28	2	556000	
15	Daryapur	Mhaspur Choparda	Mhaspur Choparda	Chandrabhaga	1, 2, 3, 4, 5, 6, 161, 160, 151, 150	974	15	0.6	1.46	3098	3098	1053	28	11	216	1051	2	1461850
16	Daryapur	Bembla Bu	Bembla Bu	Chandrabhaga	2, 4, 5, 8, 9, 262, 263	800	13	0.5	1.04	1837	1837	1274	28	7	160	1274	2	1801400
17	Daryapur	Ghada	Ghada	Chandrabhaga	1, 4, 5, 174 To 175	1000	10	0.75	1.00	2650	1766	695	28	7	200	695	2	1129250
18	Daryapur	Chandai	Mhaspur Mocharda	Chandrabhaga	3, 4, 6, 7, 8, 150	1080	10	0.7	1.08	2671	2077	440	28	8	240	440	2	918000
19	Daryapur	Karalkhed	Karalkhed	Purna	38 to 40, 49 to 52, 54	490	30	0.5	1.47	2597	2597	1896	28	10	98	1896	2	2115600
20	Daryapur	Rambirth	Rambirth	Purna	468, 469, 463, 484, 486, 487, 495, 543, 544, 545	850	25	0.5	1.63	2871	1897	1071	28	11	130	1071	2	1423850
21	Daryapur	Wadura	Wadura	Purna	13, 14, 315	1000	10	0.6	1.00	2120	1766	1410	28	7	200	1410	2	1737000
22	Daryapur	Mhaspur Dighi	Wadura	Purna	14, 19, 22, 24, 25	1000	10	0.6	1.00	2120	1766	1260	28	7	200	1260	2	1609500
23	Daryapur	Bembla Khu	Ghada	Chandrabhaga	1, 5, 10	1000	10	0.5	1.00	1767	1767	1201	28	7	200	1201	2	1559350
24	Achalpur	Khairi Donoda	Khairi Donoda	Sapari	Khairi 140, 162, 154, 165, Benoda 22 To 27, 59 To 61, 68 To 70, 78 To 83	512	20	0.5	1.02	1809	1809	2306	28	7	102	2306	2	2449600

25	Achalpur	Savlapur-Khanapur	Savlapur	Purna	Savlapur - 32 to 36, 38, 39, 41 to 44, 49, 50, 53, Khanapur 78	600	20	0.5	1.20	2120	2120	1460	28	8	120	1460	2	1745000
26	Achalpur	Hwra Purna-Yekli Purna	Hwra Purna & Yekli Purna	Purna	Hwra Purna-17, 18, 20, 28, 29, 48, Yekli Purna - 264 to 270, 273, 280, 281, 284 to 286	513	20	0.5	1.03	1813	1813	1247	28	7	102	1247	2	1549450
27	Chandur Bazar	Talani Purna	Talani Purna	Purna	10	477	21	0.5	1.00	1770	1770	2114	28	7	95	2114	2	2282900
28	Chandur Bazar	Hrur Purna	Hrur Purna	Purna	41, 42, 43, 93, 94, 95, 96, 97	500	21	0.5	1.03	1855	1855	2526	28	7	100	2526	2	2835600
29	Chandur Bazar	Takarkheda	Takarkheda	Purna	1, 11, 11, 41, 21, 122	562	18	0.5	1.01	1787	1787	1414	28	7	112	1414	2	1696400
30	Warud	Wardha	Wardha	Wardha	308 TO 310, 315 TO 316, 324	700	28	1	1.98	6926	6926	3785	38	27	140	3785	2	8845750
31	Warud	Pawani (1)	Pawani (1)	Wardha	126, 134 To 147, 146, 150, 171, 172, 174	480	25	1	1.20	4260	4260	2479	28	18	96	2479	2	2643150
32	Warud	Deutwada	Deutwada	Wardha	96 To 100, 116, 119 To 121, 135 To 144, 146 To 150	820	18	1	1.48	5216	5216	1951	28	20	164	1951	2	2250350
33	Warud	Waghaj	Waghaj	Wardha	241 To 245	1000	25	1	2.50	8834	8834	2480	28	34	200	2480	2	2795000