

**EXECUTIVE SUMMARY ON
DRAFT ENVIRONMENTAL MANAGEMENT PLAN**

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

FOR PUBLIC HEARING FOR 24 SAND GHATS

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019. Total 24 sand ghats are identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board for scooping of sand by manual method.

List of sand ghats proposed for auction prior environmental clearance are as below

Table 1.0 Details of Sand Ghat :

Table 1.0 Details of Sand Ghat :

Sr. No.	Taluka	Name of Sand Ghat	Name of Village	Name of River/Stream	Nearest Gut no.	Dimensions of Sand Ghat			Area of sand Ghat in Ha.	Sand Proposed for scooping in Brass	Length of Approach Road in m.	Width of Approach 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.
						Length	Width	Depth										
1	Jafrabad	Javkheda Theng	Javkheda Theng	Kelna	15,16,50,51,89	410	25	0.60	1.025	2173	780	6	28	8	205	780	1.560	10.97
2	Jafrabad	Deulgaon Ugle-Nimkheda	Deulgaon Ugle-Nimkheda	Dhamna	160,162,163,174	450	25	0.50	1.125	1988	847	6	28	8	225	847	1.560	11.86
3	Jafrabad	Sawangi	Sawangi	Purna	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300	2100	6	33	20	250	2100	1.660	
4	Jafrabad	Merkheda	Merkheda	Dhamna	262,263,264,265,252,261,269,268, 266, 26,28,29,30,31,32,267	500	30	0.50	1.50	2650	700	6	28	10	250	700	1.560	
5	Bhokardan	Walsa Dawargaon	Walsa Dawargaon	Purna	132,133,154,155	480	30	0.80	1.44	4071	669	6	38	16	240	669	1.760	
6	Bhokardan	Valsa Khalsa	Valsa Khalsa	Purna	50,51,52,54	475	22	0.80	1.045	2954	1422	6	28	11	238	1422	1.560	
7	Bhokardan	Valsa Khalsa	Valsa Khalsa	Girija	61,62,63,66,67	475	22	0.50	1.045	1846	1225	6	28	7	238	1225	1.560	
8	Bhokardan	Javkheda Thombari	Javkheda Thombari	Purna	312,313,314,326,327	587	40	0.50	2.34	4148	1102	6	38	16	293	1102	1.760	
9	Jalna	Badhan Bu	Badhan Bu	Dudhna	167,166,165,164,162, 161	700	20	0.50	1.40	2473	507	6	28	10	350	507	1.560	
10	Jalna	Golapangri	Golapangri	Dudhna	1,39,14,01,11,112	600	20	0.40	1.20	1696	743	6	28	7	300	743	1.560	
11	Jalna	Pachanwadgaon	Pachanwadgaon	Kundlika	474,39,272,271,270,269,258	1400	20	0.50	2.80	4947	223	6	38	19	700	223	1.760	
12	Jalna	Kautha	Kautha	Dudhna	39,40,41,42,43,44,45,48	1000	22	0.80	2.20	6219	475	6	48	24	500	475	1.960	
13	Jalna	Ghetuli	Ghetuli	Dudhna	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042	529	6	38	12	260	529	1.760	
14	Jalna	Karla	Karla	Kundlika	गायराण (06), 86,87	900	25	0.40	2.25	3180	486	6	28	12	450	486	1.560	10.36
15	Mantha	Kirla Takalpkhopa	Kirla Takalpkhopa	Purna	Kirla- 40, 41,42,43,47,48,50,51 Takalkhopa- 40,41,42,43,44,46,47,50,51,52,53, 54,55,56,57,58,	650	50	1.00	3.25	11484	232	6	50	44	325	232	2.00	9.91

Executive summary Jalna Sand Ghats

					91,92,93,94,95,96,97,102													
16	Mantha	Kirla Waghala	Kirla Waghala	Purna	Kirla- 151, 152 Waghala- 85,106,136,137	500	60	1.00	3.00	10601	188	6	50	41	250	188	2.00	9.07
17	Mantha	Waghala Bhuvan	Waghala Bhuvan	Purna	Waghala 218,211,210,209,208,180,179,178 Bhuvan- 2,03,04,05,06,07,08,09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834	1049	6	50	34	250	1049	2.00	14.71
18	Mantha	Kanadi Uswad	Kanadi Uswad	Purna	Kanadi- 255, 256, 257, 258, 261, 263,264 Uswad- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067	384	6	48	24	200	384	1.960	9.25
19	Ghansa wangi	Bhadli	Bhadli	Godavari	29	425	45	1.00	1.91	6578	198	6	48	25	210	198	1.960	8.06
20	Ghansa wangi	Gunj Bu.	Gunj Bu.	Godavari	361, 362	510	50	1.00	2.55	9010	187	6	50	35	255	187	2.00	8.75
21	Ambad	Alamgaon	Alamgaon	Dudhna	166, 167	550	25	0.80	1.38	3887	158	6	38	15	275	158	1.760	7.62
22	Ambad	Sadesawan gi	Sadesawan gi	Dudhna	02,03	575	25	0.60	1.44	3048	195	6	38	10	288	195	1.760	7.60
23	Partur	Dolhara Babultara	Dolhara Babultara	Dudhna	Dolhara- 54,55,59,60,61,72,73,74,75 Babulatara 349,351,352,32,33,34,35,36,37,38,39,40	700	70	0.80	4.90	13851	259	6	50	53	350	259	2.00	10.78
24	Partur	Golegaon	Golegaon	Godavari	339,338,337,336,335	500	60	1.00	3.00	10600	235	6	50	40	250	235	2.00	9.34

● **Status of Statutory Clearances for Sand Ghat**

Name & Address of Allottee	District Mining Officer Jalna / Succesful Bidder Jalna District, Jalna
Status of the lease	New, Individual/ Project Proponent/Succesful Bidder for auction of sand ghat by District Collector Jalna.
Mineral for which lessee intends to mine	Ordinary Sand for Construction purpose
Name & Address of the Prospecting Agency	Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board.
Grampanchayat NOC	Received from Gramsabha as per public consultation procedure defined in sand mining guidelines of Maharashtra State dated 03.09.2019.
Plan Period for Activity	Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September

● **Method of Mining :**

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

- a. Over burden/Soil Removal:
No overburden/Soil is anticipated.
- b. Scooping of Sand /Loading
The ordinary sand will be loaded manually by labours.
- c. Hauling
Ordinary sand is transported through tractors /trucks with permissible quantity.
- d. No machinery will be utilized.
- e. Period of scooping of sand will be for one year excluding monsoon period of 10th June -30th Sept or as defined by district collector.

Executive summary Jalna Sand Ghats

- About 28-50 labours per sand ghat will be required.
- The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m away from the bank of river.
- 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.
- Anticipated Environmental impacts and Management Plan

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.

● **Occupational Health and Services**

1	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. • 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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● **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.

● **Traffic Management**

- 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 tractors will not be allowed
- The mineral transporting 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.

● **Plantation program**

It is proposed to plant local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar etc will be planted.

- Successful Bidder/ Sand Ghat allottee will implement the Environmental Management Plan for the amount as per Table 1.0 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Javkheda Theng Sand Ghat, River Kelna

(ix) Location / site (GPS Co-ordinates) : Javkheda Theng, Tq Jafrabad, Gut No. 160,161,163,174

BP	Latitude	Longitute
BP-1	20°12' 45.2237"N	75°57' 8.6478"E
BP-2	20°12' 44.657"N	75°57' 12.6305"E
BP-3	20°12' 43.5898"N	75°57' 17.7383"E
BP-4	20°12' 43.0006"N	75°57' 18.7977"E
BP-5	20°12' 42.1333"N	75°57' 19.6553"E
BP-6	20°12' 39.5833"N	75°57' 20.472"E
BP-7	20°12' 39.3567"N	75°57' 19.6446"E
BP-8	20°12' 41.7224"N	75°57' 18.8832"E
BP-9	20°12' 42.3597"N	75°57' 18.253"E
BP-10	20°12' 42.8239"N	75°57' 17.4183"E
BP-11	20°12' 43.8614"N	75°57' 12.4426"E
BP-12	20°12' 44.4196"N	75°57' 8.5195"E

(x) Size of the Mining Lease (Hectare) : 1.025 Ha

(xi) Capacity of Mining Lease (TPA): 17403 TPA , 2173 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 5519420

(xiv) Contact Information: District Mining Officer ,Washim District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on Kelna river -1.13 km NW near Javkheda
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –6.2 Km SE 41.7 km SW NH211-67.7 Km SW SH178–3.27 Km NE SH178–3.27 Km NE Vil Rd-0.573 km S 16 km Check dam – 0.695 Km S 0.695 Km S 0.695 Km S

3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 35 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kelna River Purna river -4.4 km S Dham River-7.5 Km NE Wet Land Not Notified for district, Biosphere -Pachmadi-314 km NE Mountains Govilgad Hill range 98 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 35 Km N
6	Inland, coastal, marine or underground waters	Kelna River Purna river -4.4 km S Dham River-7.5 Km NE Coastal Area 340 Km West Marine Water -330 Km West
7	State, National boundaries	Madhya Pradesh -99 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	--
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Theng -1.09 Km SW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -6.2 Km SE Javkheda Theng -1.09 Km SW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Kelna River Purna river -4.4 km S Dham River-7.5 Km NE Coastal Area 340 Km West Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kelna Lease 1.025 ha comprises of river bed of Kelna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

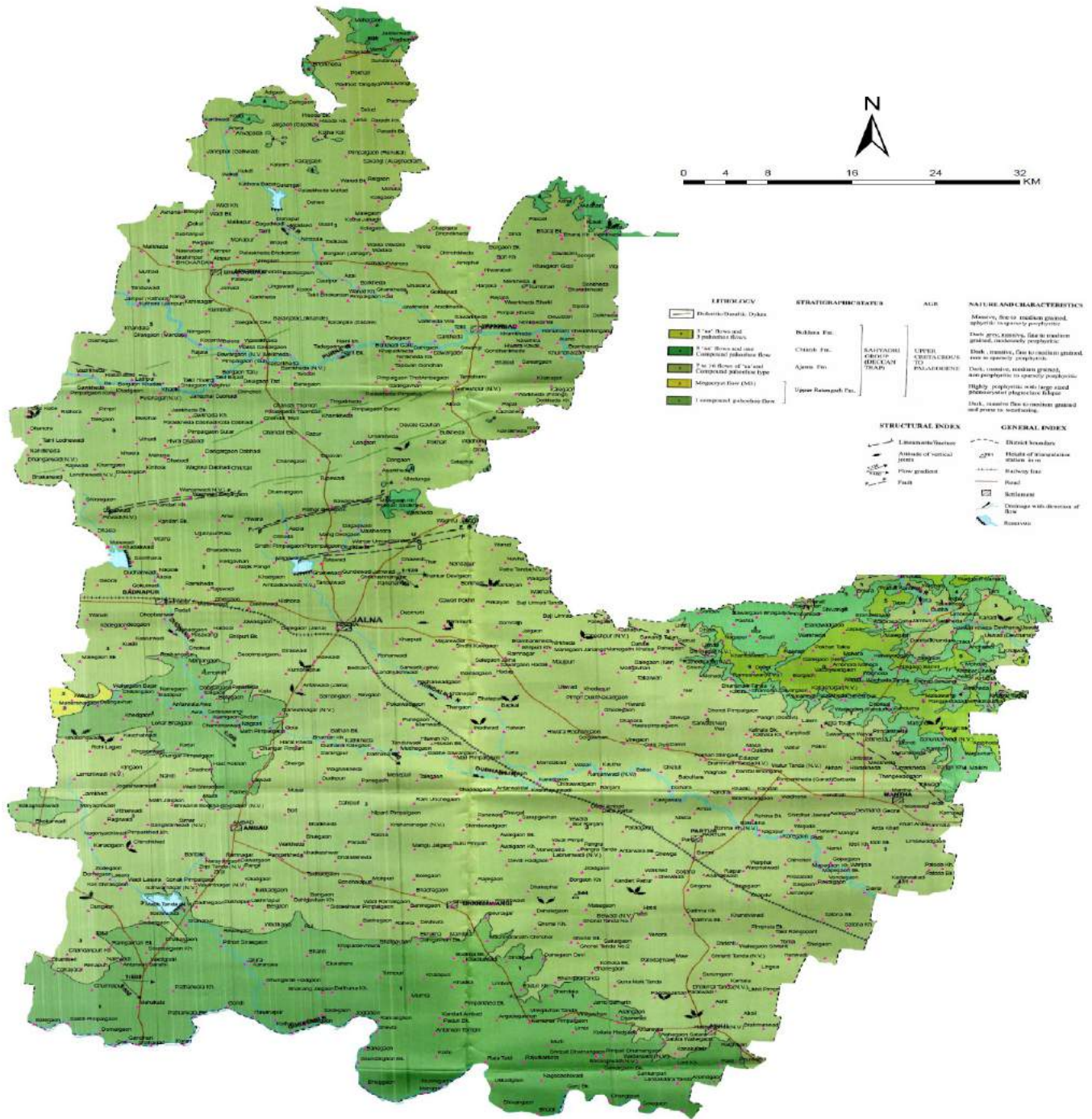
Details of Exploration

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 2.60 m near the banks. The surface plan is prepared on the specified scale.

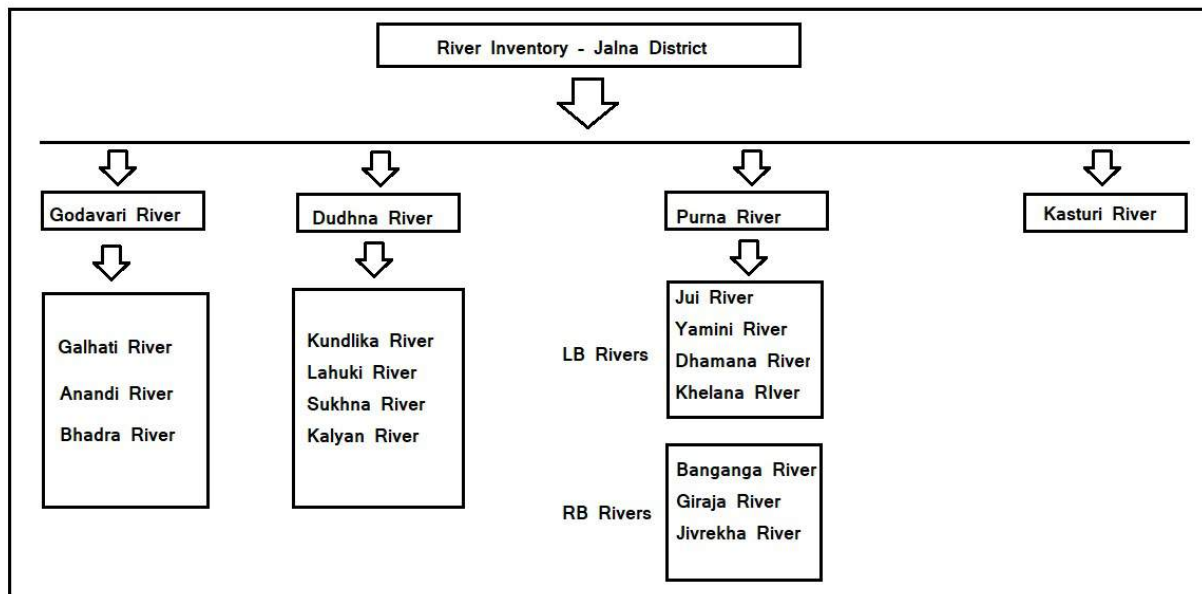
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N



Approach road available over pandan rd of 780 Km connecting Javkheda rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 2.6 m 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Javkheda Theng Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on Painganga river -4.5 km SE near Asegaon Pen
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad -16 Km SW 19.2 km SE NH6-69 Km N SH183-3.88 Km SE SH208-4.8 Km NW Vil Rd-0.2.78 km NE 16 km Check dam - 4.3 Km SE 4.3 Km SE 4.3 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Katepurna Santury 40 Km NE
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Painganga River Adol Dam -7.2 km NE Wet Land Not Notified for district, Biosphere -Pachmadi-272 km NE Mountains Govilgad Hill range 98 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Katepurna Santury 40 Km NE
6	Inland, coastal, marine or underground waters	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Telangana -126 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	--

10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Theng –0.284 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –16 Km SW Javkheda Theng –0.284 Km NE Jalna – 22 Km NE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	410m x 25 m x 0.60 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	20°12' 45.2237"N	75°57' 8.6478"E
BP-2	20°12' 44.657"N	75°57' 12.6305"E
BP-3	20°12' 43.5898"N	75°57' 17.7383"E
BP-4	20°12' 43.0006"N	75°57' 18.7977"E
BP-5	20°12' 42.1333"N	75°57' 19.6553"E
BP-6	20°12' 39.5833"N	75°57' 20.472"E
BP-7	20°12' 39.3567"N	75°57' 19.6446"E
BP-8	20°12' 41.7224"N	75°57' 18.8832"E
BP-9	20°12' 42.3597"N	75°57' 18.253"E
BP-10	20°12' 42.8239"N	75°57' 17.4183"E
BP-11	20°12' 43.8614"N	75°57' 12.4426"E
BP-12	20°12' 44.4196"N	75°57' 8.5195"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□- □□□वद	□□□□ □□	□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□	□□□□ □□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□ □□.	□□□□ □□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. **Out of 24 sand ghats** surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. Explored 24 sand spots out of **surveyed 24 found** feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Javkheda Thenge and ghat proposed (over Dhamna river) in **Jafrabad** taluka is one of the **four** sand ghats proposed to cater infrastructural requirement of sand in the tahsil of **Jafrabad** and adjoining areas of other talukas. All **four** sand ghats are on **Kelna** river. Details of **Jafrabad** taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	75°57' 8.6478"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	20°12' 45.2237"N	75°57' 8.6478"E
BP-2	20°12' 44.657"N	75°57' 12.6305"E
BP-3	20°12' 43.5898"N	75°57' 17.7383"E
BP-4	20°12' 43.0006"N	75°57' 18.7977"E
BP-5	20°12' 42.1333"N	75°57' 19.6553"E
BP-6	20°12' 39.5833"N	75°57' 20.472"E
BP-7	20°12' 39.3567"N	75°57' 19.6446"E
BP-8	20°12' 41.7224"N	75°57' 18.8832"E
BP-9	20°12' 42.3597"N	75°57' 18.253"E
BP-10	20°12' 42.8239"N	75°57' 17.4183"E
BP-11	20°12' 43.8614"N	75°57' 12.4426"E
BP-12	20°12' 44.4196"N	75°57' 8.5195"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on Painganga river -4.5 km SE near Asegaon Pen
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –16 Km SW 19.2 km SE NH6-69 Km N SH183–3.88 Km SE SH208–4.8 Km NW Vil Rd-0.2.78 km NE 16 km Check dam – 4.3 Km SE 4.3 Km SE 4.3 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Katepurna Santury 40 Km NE
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Painganga River Adol Dam -7.2 km NE Wet Land Not Notified for district, Biosphere -Pachmadi-272 km NE Mountains Govilgad Hill range 98 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Katepurna Santury 40 Km NE
6	Inland, coastal, marine or underground waters	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Telangana -126 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	--
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Theng –0.284 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –16 Km SW Javkheda Theng –0.284 Km NE Jalna – 22 Km NE

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Painganga River Adol Dam -7.2 km NE Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 780 m connecting Javkheda rd.

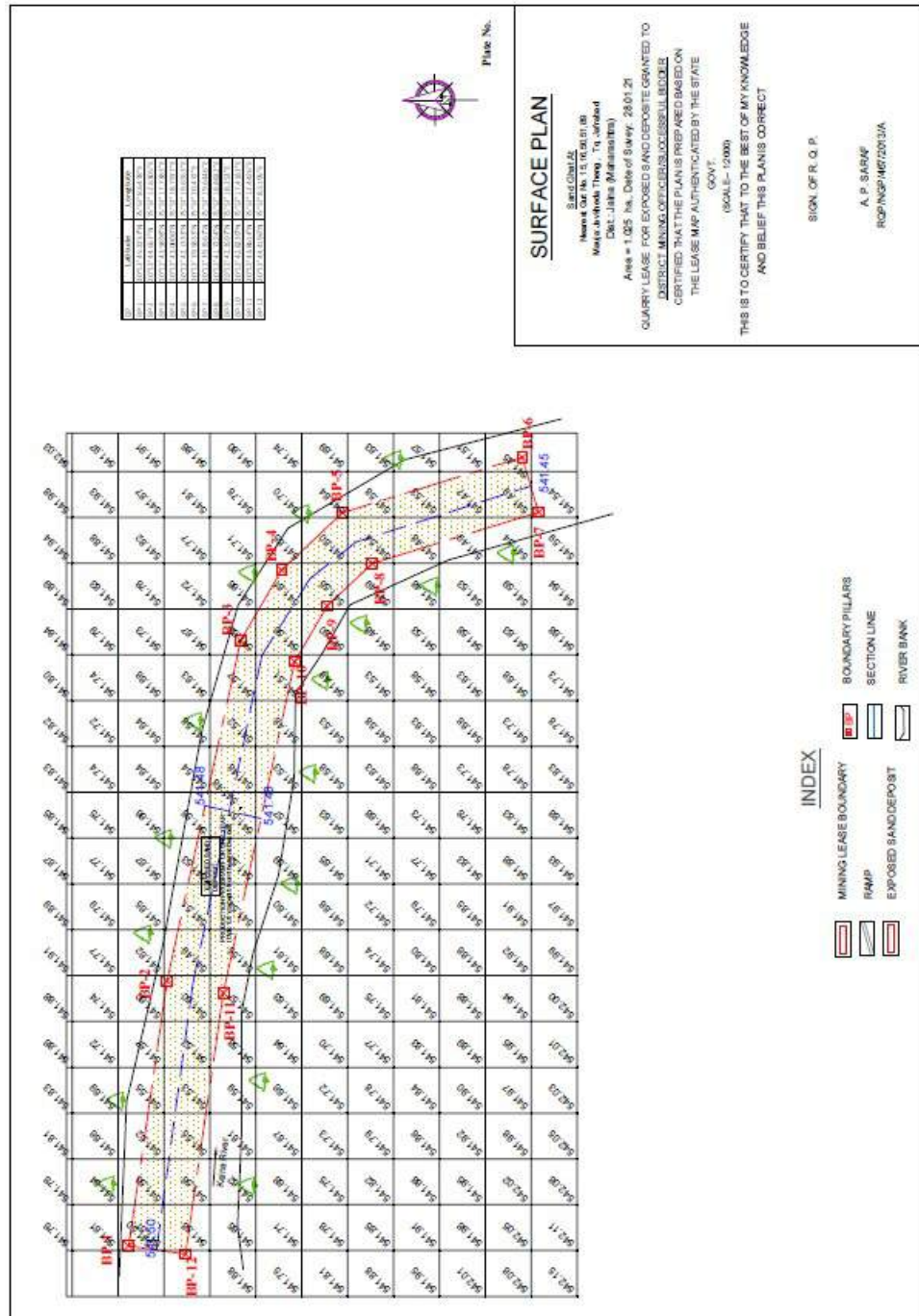
Section 2.0 : Project Description and Method of Mining

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 **Jafrabad** Tahsil. District Mining Officer Jalna has proposed for the production of **2173** 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Theng	Jafrabad	Kelna	15,16,50,51,89	1.025	410 x 25 x 0.6	2173	20°12' 45.2237"N	20°12' 45.2237"N

Surface Plan for **Javkheda Theng** Sand Ghat:



2.1 Method of Mining :

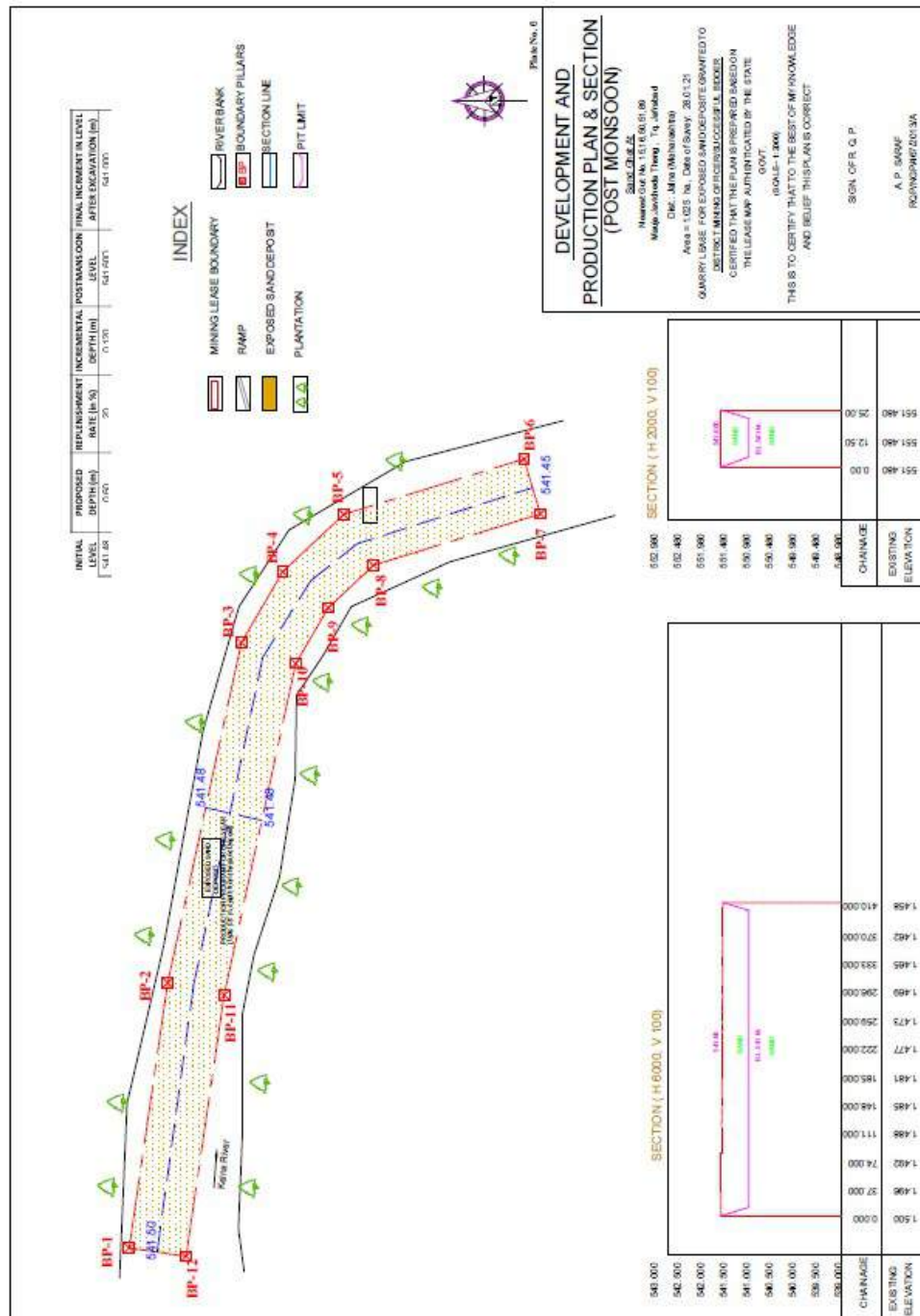
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	410mx25 mx0.60m

12



2.3 Manpower Requirement

About **28 labors** are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as **1.560m³/day** per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	10250
Area under dumps	00	00
Undisturbed Area	10250	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

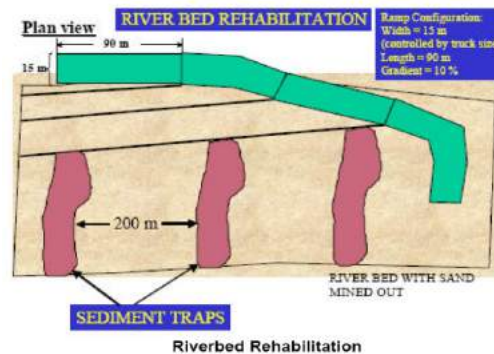


Figure -3

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 : Anticipated Impacts and Management

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 only **2173 Brass/annum** from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as **17403 Tonnes/Sand Ghat/day** for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	17403 TPA
Operational Days per Year	260 Days
Lead (m)	780 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.099646134
Total	0.099646134

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

Accordingly Maximum incremental GLC is predicted as 0.5572µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Javkheda Theng	Jafrabad	Kelna	0.5572µgm/cum

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 as per CPCB guidelines 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 **0.6m 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 03.09.2019 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 (Kelna River)

- 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 **Jawkheda Theng** sand ghat is **0.6m** keeping 2.0m bed depth of sand. Total Sand depth **available is 2.6m**.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Theng	650	1970(Yr 18-19)	2173

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Khelna**. 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 2.7 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 of Rs 10.97 lakhs is earmarked to implement the Environment Management Plan.

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 0.5578µg/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 monitored 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 dust 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 Khelna or other option as suggested by authority will be eased.

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 2.7 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 **about 985 plants** of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.97 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	156000
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

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. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	<p>(8 tarpaulin)</p> <p>8 trucks @ Rs. 500/truck</p> <p>Excluding Man Power Salary which is included in labour costs</p>	<p>40000</p> <p>4000</p> <p>10000</p>
3	Ramp and Sand Reach	Mining Operations	<ul style="list-style-type: none"> Regular ramp Inspection and Ramp maintenance Provision of dusk masks. 	<p>(Excluding Man Power Salary which is included in labour costs)</p>	<p>20000</p> <p>10000</p>
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. 	<p>205 Nos.</p>	<p>102500</p>
5	Transportation on Village Roads	Dust Control	<ul style="list-style-type: none"> Green belt along village Rd 	<p>780 Nos.</p>	<p>390000</p>
6	Final Mine Closer Plan implementation	Replenishment of Sand	<ul style="list-style-type: none"> Gabions/ boulders will be arranged as per guidelines 		<p>15000</p>
7	Mobile toilet, sewage handling & treatment		<ul style="list-style-type: none"> Mobile toilet, sewage handling & treatment 		<p>100000</p>

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1097500

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Deulgaon Ugle-Nimkheda Sand Ghat, River Dhamna

(ix) Location / site (GPS Co-ordinates) : Deulgaon Ugle-Nimkheda, Tq Jafrabad, Gut No. 160,162,163,174

BP	Latitude	Longitute
BP-1	20°12' 0.6702"N	76°2' 27.2293"E
BP-2	20°11' 59.9152"N	76°2' 32.939"E
BP-3	20°11' 58.3027"N	76°2' 38.0095"E
BP-4	20°11' 56.8323"N	76°2' 40.3124"E
BP-5	20°11' 55.4956"N	76°2' 41.5753"E
BP-6	20°11' 54.9543"N	76°2' 40.9324"E
BP-7	20°11' 56.2155"N	76°2' 39.741"E
BP-8	20°11' 57.5673"N	76°2' 37.6238"E
BP-9	20°11' 59.1204"N	76°2' 32.7401"E
BP-10	20°11' 59.8649"N	76°2' 27.1098"E

(x) Size of the Mining Lease (Hectare) : 1.125 Ha

(xi) Capacity of Mining Lease (TPA): 15921 TPA , 1988 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 5049520

(xiv) Contact Information: District Mining Officer ,Washim District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.05 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –3.2 Km SW 43.7 km SW NH211-72 Km SW SH178–3.04 Km SW SH178–3.04 Km SW Vil Rd-0.385 km S 16.5 km Check dam – 0.840 Km NW 1.626 Km SE 1.626 Km SE

3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-1.21 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human habitation	Deulgaon Ugle-0.587 N Nimkheda -0.415 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -3.2 Km SW Deulgaon Ugle-0.587 N
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dhamana Lease 1.125 ha comprises of river bed of Dhamana river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

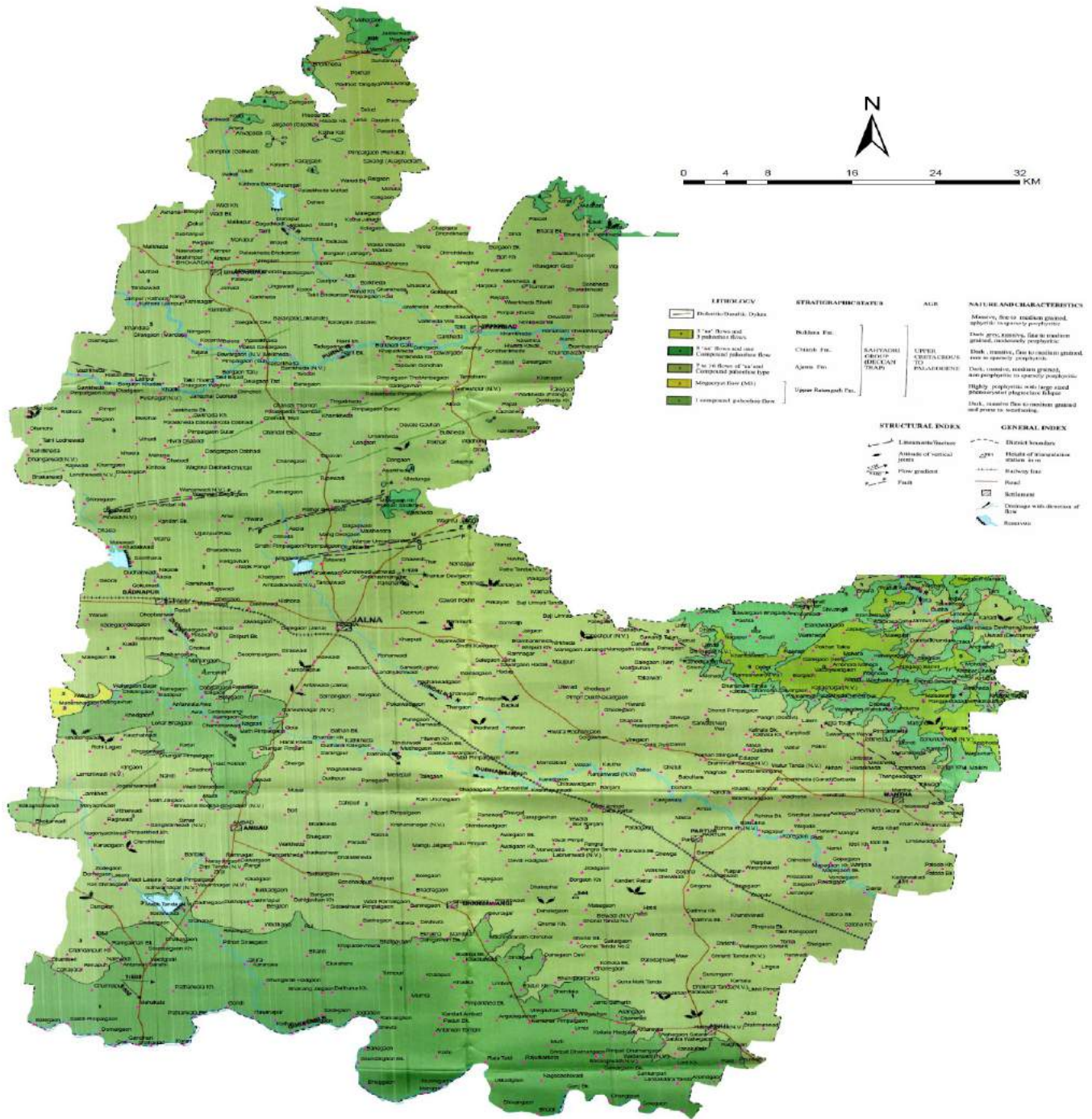
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

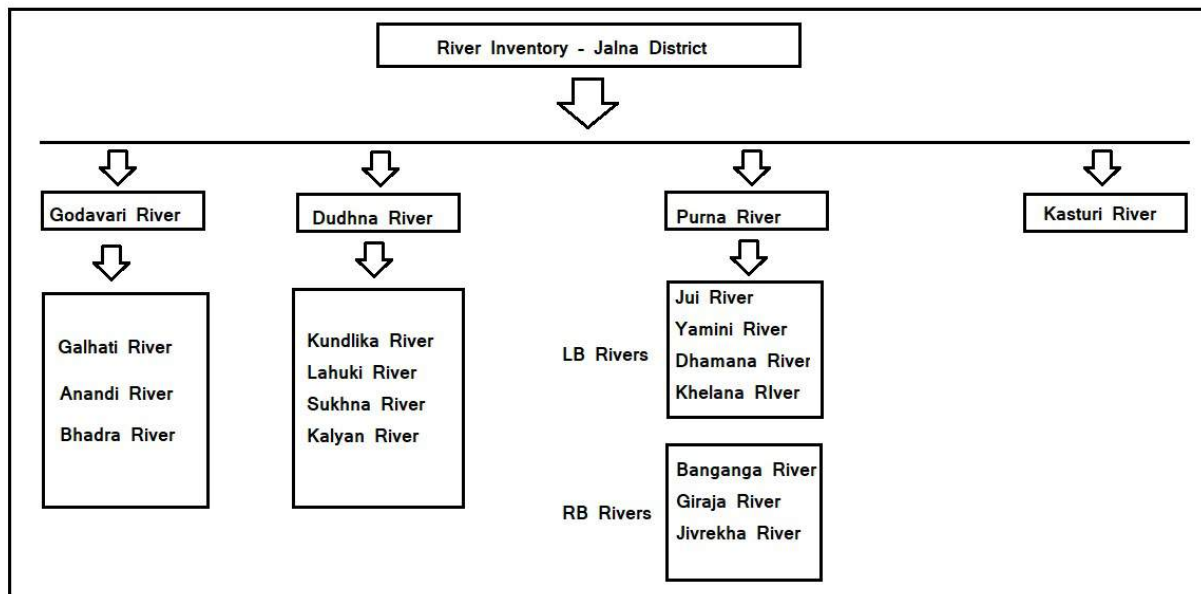
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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:

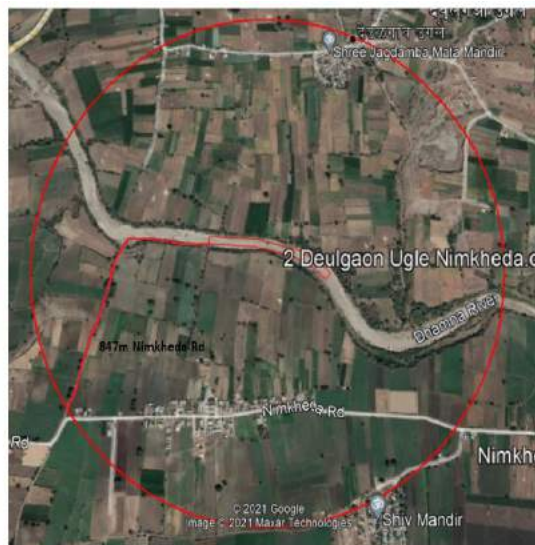
District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this 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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E



Approach road available over pandan rd of 847 Km connecting Nimkheda rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Deulgaon Ugle- Nimkheda Sand Ghat:**

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.05 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad -3.2 Km SW 43.7 km SW NH211-72 Km SW SH178-3.04 Km SW SH178-3.04 Km SW Vil Rd-0.385 km S 16.5 km Check dam - 0.840 Km NW 1.626 Km SE 1.626 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-1.21 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE

10	Densely populated or built-up area, distance from nearest human habitation	Deulgaon Ugle-0.587 N Nimkheda -0.415 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -3.2 Km SW Deulgaon Ugle-0.587 N
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	450m x 25 m x 0.50 m

GPS Location

BP	Latitude	Longitude
BP-1	20°12' 0.6702"N	76°2' 27.2293"E
BP-2	20°11' 59.9152"N	76°2' 32.939"E
BP-3	20°11' 58.3027"N	76°2' 38.0095"E
BP-4	20°11' 56.8323"N	76°2' 40.3124"E
BP-5	20°11' 55.4956"N	76°2' 41.5753"E
BP-6	20°11' 54.9543"N	76°2' 40.9324"E
BP-7	20°11' 56.2155"N	76°2' 39.741"E
BP-8	20°11' 57.5673"N	76°2' 37.6238"E
BP-9	20°11' 59.1204"N	76°2' 32.7401"E
BP-10	20°11' 59.8649"N	76°2' 27.1098"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□. □□	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. **Out of 24 sand ghats** surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. Explored 24 sand spots out of **surveyed 24 found** feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Deulgaon Ugle – Nimkheda and ghat proposed (over Dhamna river) in **Jafrabad** taluka is one of the **four** sand ghats proposed to cater infrastructural requirement of sand in the tahsil of **Jafrabad** and adjoining areas of other talukas. All **four** sand ghats are on **Dhamna** river. Details of **Jafrabad** taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle- Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	20°12' 0.6702"N	76°2' 27.2293"E
BP-2	20°11' 59.9152"N	76°2' 32.939"E
BP-3	20°11' 58.3027"N	76°2' 38.0095"E
BP-4	20°11' 56.8323"N	76°2' 40.3124"E
BP-5	20°11' 55.4956"N	76°2' 41.5753"E
BP-6	20°11' 54.9543"N	76°2' 40.9324"E
BP-7	20°11' 56.2155"N	76°2' 39.741"E
BP-8	20°11' 57.5673"N	76°2' 37.6238"E
BP-9	20°11' 59.1204"N	76°2' 32.7401"E
BP-10	20°11' 59.8649"N	76°2' 27.1098"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.05 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –3.2 Km SW 43.7 km SW NH211-72 Km SW SH178–3.04 Km SW SH178–3.04 Km SW Vil Rd-0.385 km S 16.5 km Check dam – 0.840 Km NW 1.626 Km SE 1.626 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-1.21 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -100 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist,pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human habitation	Deulgaon Ugle-0.587 N Nimkheda –0.415 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –3.2 Km SW Deulgaon Ugle-0.587 N

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-1.21 Km S Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

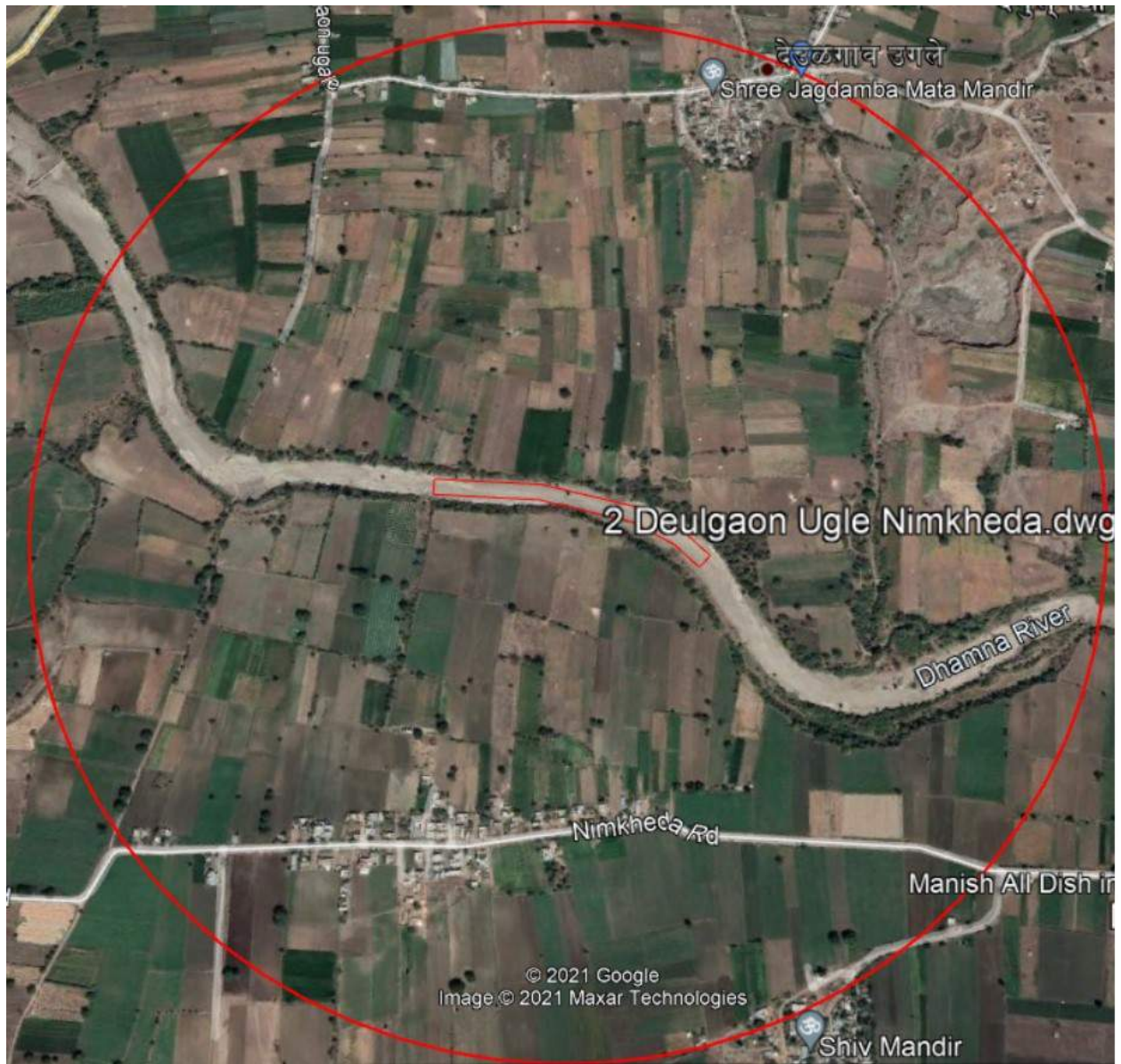


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 847 m connecting Nimkheda rd.

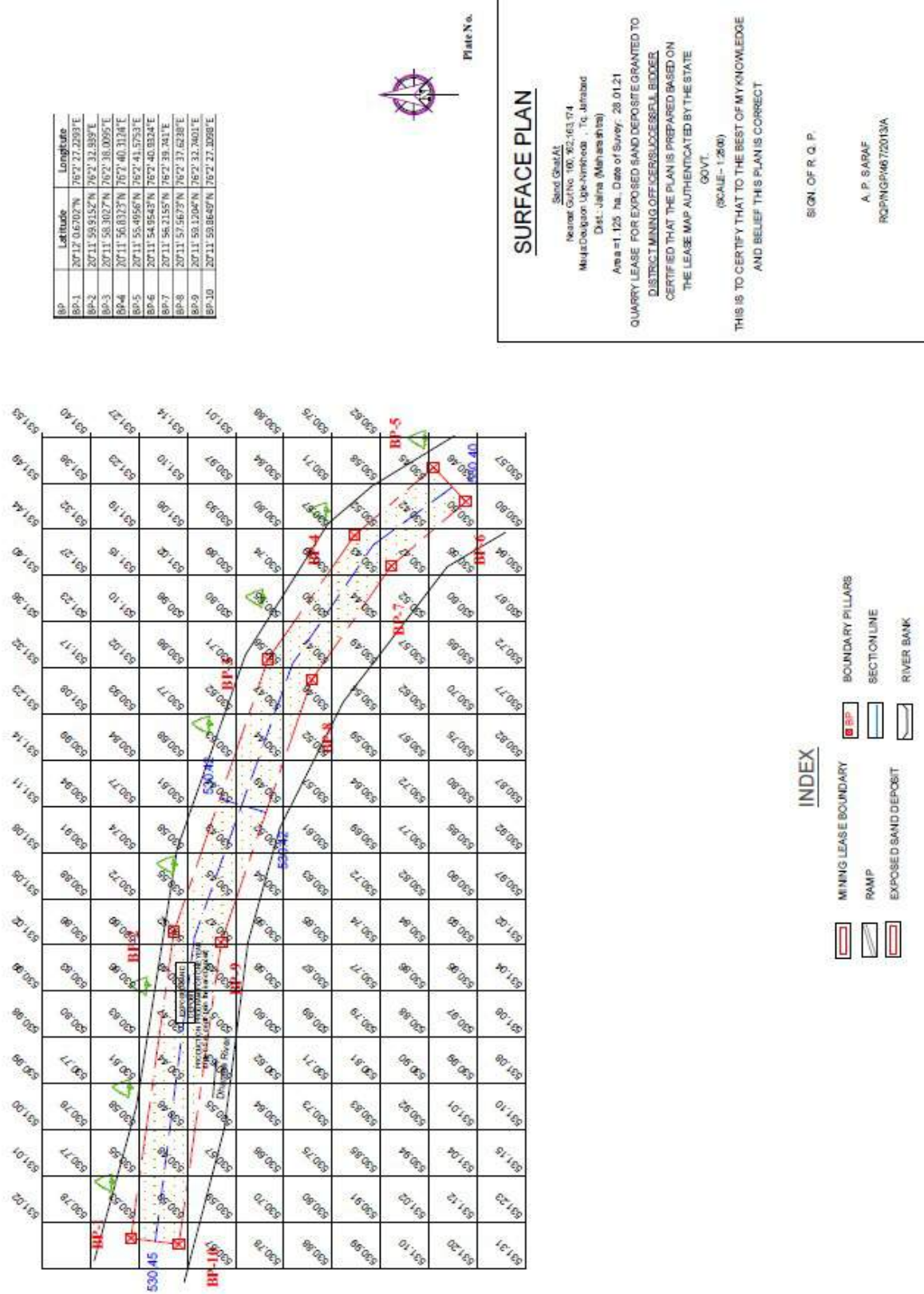
Section 2.0 : Project Description and Method of Mining

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 **Jafrabad** Tahsil. District Mining Officer Jalna has proposed for the production of **1988** 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Deulgaon Ugle-Nimkheda	Jafrabad	Dhamna	160,162,163,174	1.125	450 x 25 x 0.5	1988	20°12' 0.6702"N	76°2' 27.2293"E

Surface Plan for Deulgaon Ugle – Nimkheda Sand Ghat:



2.1 Method of Mining :

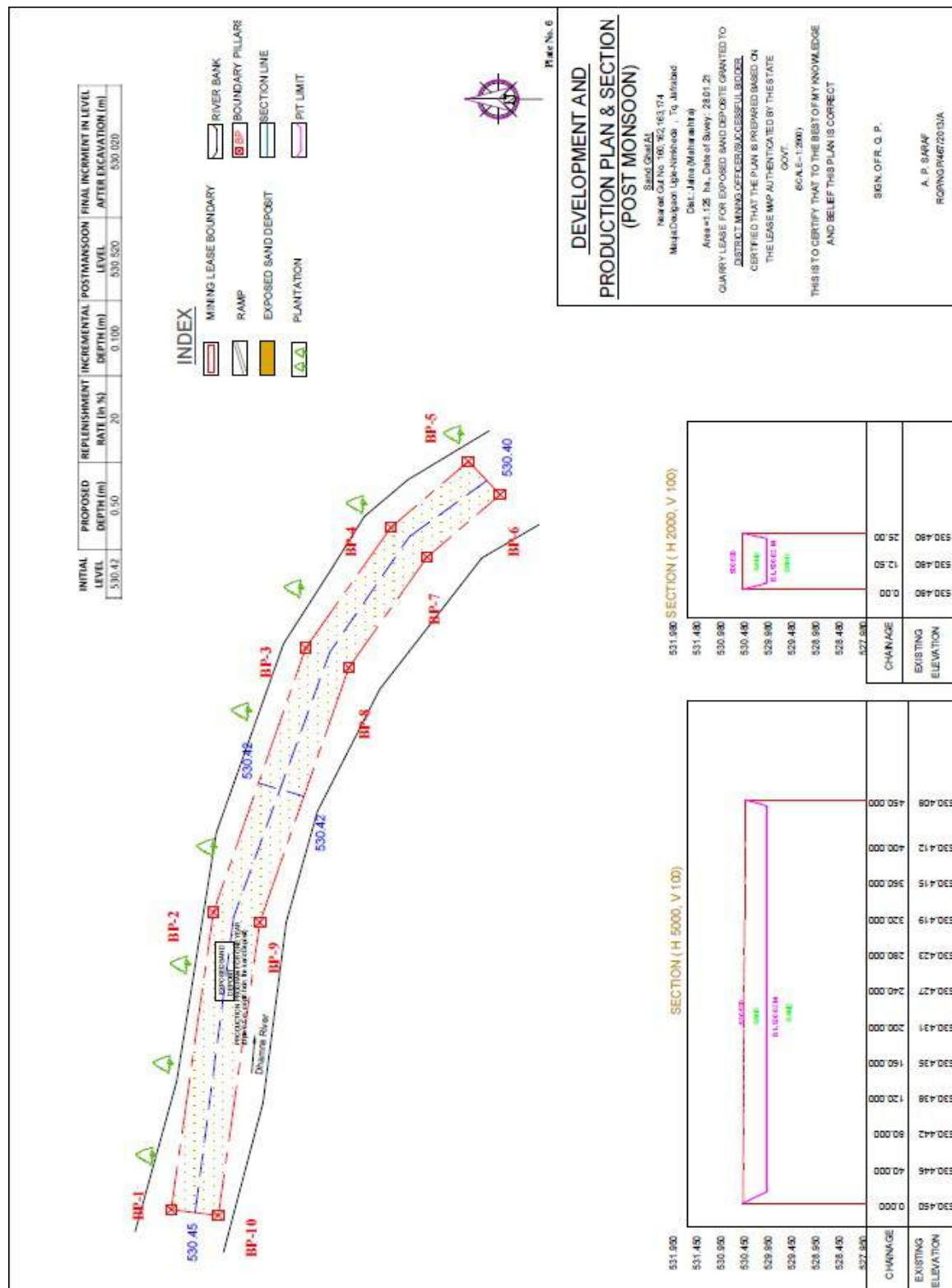
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	450mx25mx0.50m

Production Plan for Deulgaon Ugle Nimkheda Sand Ghat :



2.3 Manpower Requirement

About **28 labors** are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as **1.560m³/day** per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	11250
Area under dumps	00	00
Undisturbed Area	11250	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

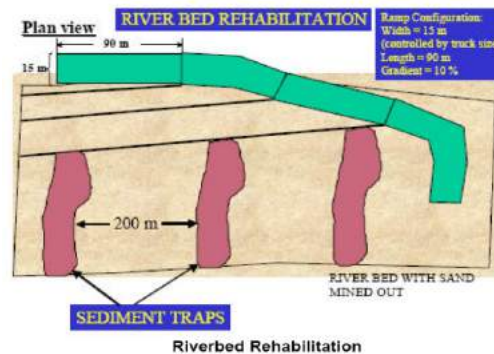


Figure -3

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 : Anticipated Impacts and Management

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 only **1988 Brass/annum** from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as **15921 Tonnes/Sand Ghat/day** for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	15921 TPA
Operational Days per Year	260 Days
Lead (m)	847 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.091162685
Total	0.091162685

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

Accordingly Maximum incremental GLC is predicted as 0.6691µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Deulgaon Ugle Nimkheda	Jafrabad	Dhamna	0.6691µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Dhamna River)

- 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 **Deulgaon Ugle Nimkheda** sand ghat is **0.5 m** keeping 2.0m bed depth of sand. Total Sand depth **available is 2.5m.**

Survey Committee includes member from GSDA, Jalna and approved the depth by monitoring impact of proposed scooping of sand on ground water levels of the ar

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.

Sand Replenishment

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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. Data is interpreted as below

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Deulgaon Ugle Nimkheda	2970	3140(Yr 17-18)	5625

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dhamna**. 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 2.7 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 of Rs 11.66 lakhs is earmarked to implement the Environment Management Plan.

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 0.6691µg/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 monitored 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 dust 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 Dhamna or other option as suggested by authority will be eased.

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 2.7 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 **about 1072 plants** of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 11.66 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	169400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(8 tarpaulin)	40000
			· Regular monitoring of the exhaust fumes.	8 tractors @ Rs. 500/tractor	4000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/ Flood Plain management	· Green belt along bank · Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	225 Nos.	125000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	847 Nos.	423500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1166900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Sawangi Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Sawangi, Tq Jafrabad, Gut No. 255 to 261

BP	Latitude	Longitute
BP-1	20°10' 15.0702"N	75°59' 2.8769"E
BP-2	20°10' 16.0777"N	75°59' 8.4499"E
BP-3	20°10' 15.7692"N	75°59' 14.6589"E
BP-4	20°10' 14.804"N	75°59' 20.1477"E
BP-5	20°10' 13.8447"N	75°59' 19.9585"E
BP-6	20°10' 14.7981"N	75°59' 14.5366"E
BP-7	20°10' 15.097"N	75°59' 8.5209"E
BP-8	20°10' 14.1118"N	75°59' 3.0713"E

(x) Size of the Mining Lease (Hectare) : 1.50 Ha

(xi) Capacity of Mining Lease (TPA): 42447 TPA , 5300 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 13462000

(xiv) Contact Information: District Mining Officer ,Washim District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.08 km NE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –2.5 Km NE 38.8 km SW NH211-67 Km SW SH178–1.8 Km E SH178–1.8 Km E Vil Rd-0.385 km S 16.5 km Check dam – 0.840 Km NW 1.2 Km SE 1.2 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains,	Purna river Kelna River-1.7 Km N Wet Land Not Notified for

	forests	district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 39 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -102 Km N
8	Routes or facilities used by the public for access to recreation or other tourist,pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human habitation	Savangi -1.5 Km SE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -2.5 Km NE Savangi -1.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021
Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.50 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2) The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

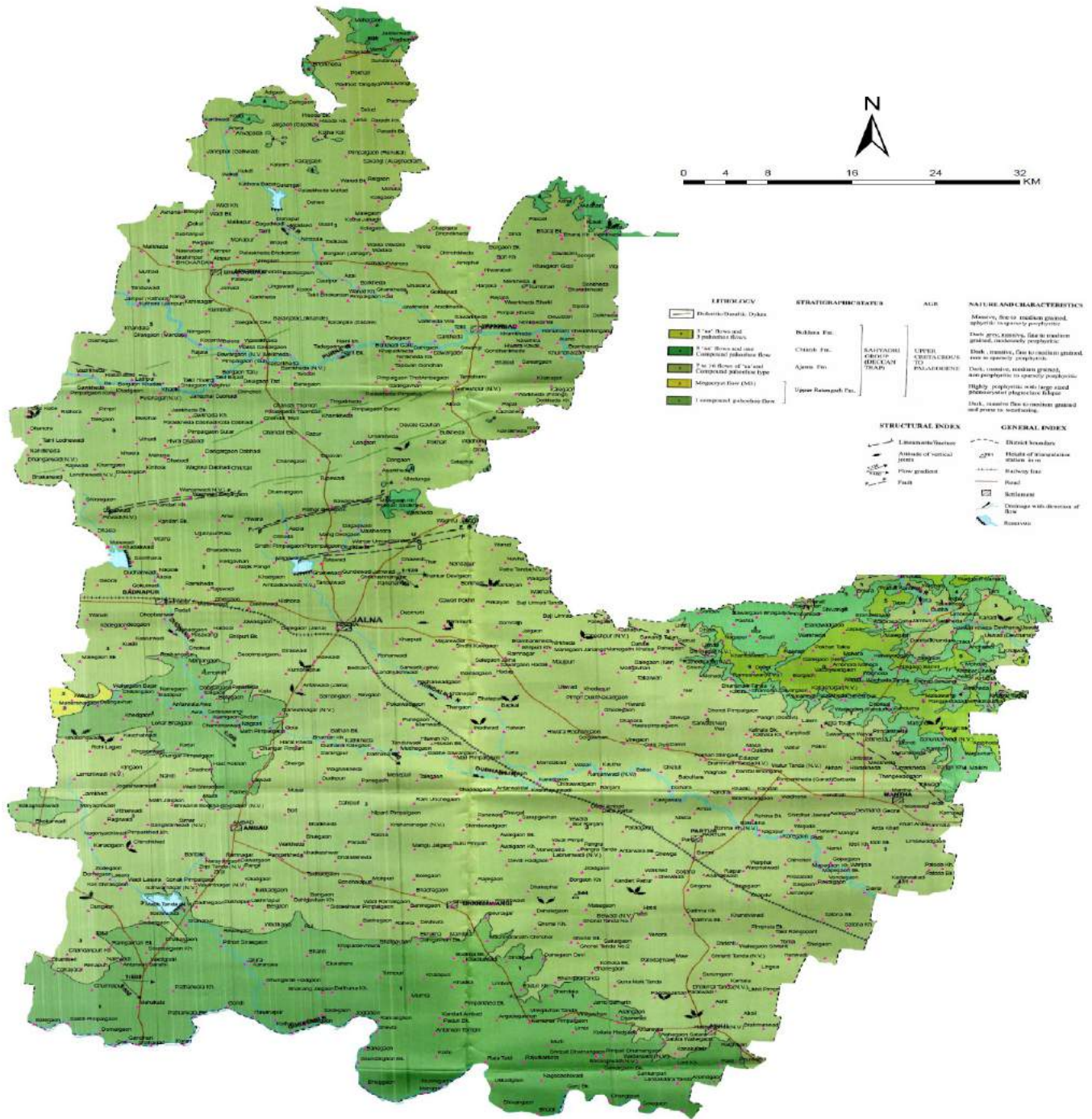
Details of Exploration

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 3.00m near the banks. The surface plan is prepared on the specified scale.

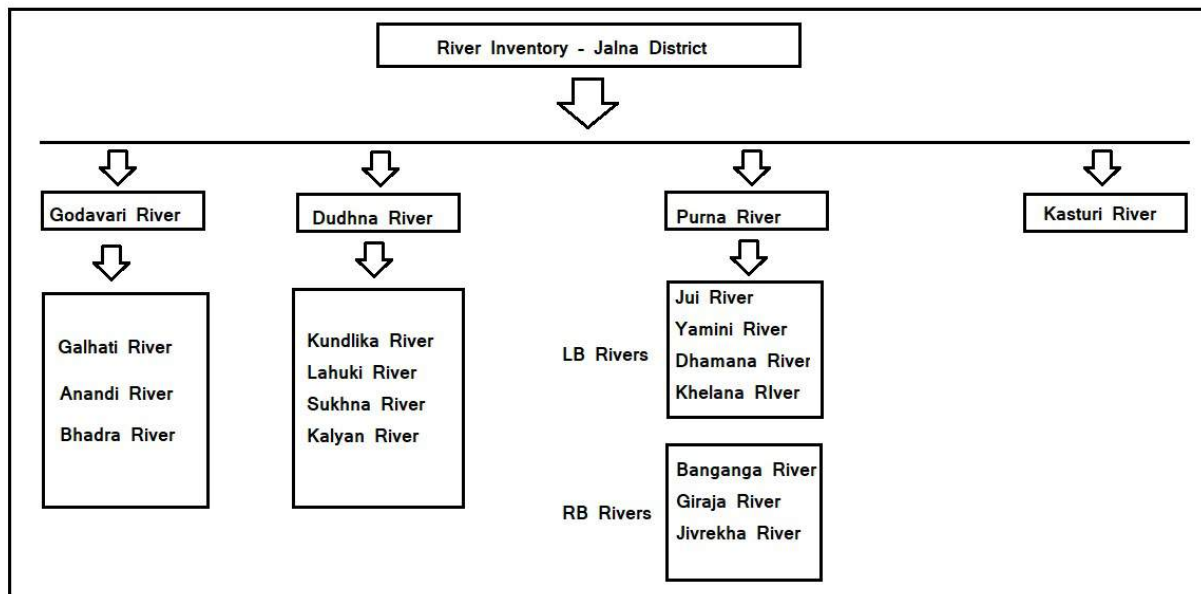
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

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River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E



Approach road available over pandan rd of 2.1 Km connecting Sawangi rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.660
Total	1.660

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 3.0 m 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 29 villages where sand ghats are proposed. About 33 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 33 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Sawangi Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.08 km NE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad -2.5 Km NE 38.8 km SW NH211-67 Km SW SH178-1.8 Km E SH178-1.8 Km E Vil Rd-0.385 km S 16.5 km Check dam - 0.840 Km NW 1.2 Km SE 1.2 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Kelna River-1.7 Km N Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 39 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -102 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE

10	Densely populated or built-up area, distance from nearest human habitation	Savangi -1.5 Km SE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -2.5 Km NE Savangi -1.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	500m x 30 m x 1.00m

GPS Location

BP	Latitude	Longitude
BP-1	20°10' 15.0702"N	75°59' 2.8769"E
BP-2	20°10' 16.0777"N	75°59' 8.4499"E
BP-3	20°10' 15.7692"N	75°59' 14.6589"E
BP-4	20°10' 14.804"N	75°59' 20.1477"E
BP-5	20°10' 13.8447"N	75°59' 19.9585"E
BP-6	20°10' 14.7981"N	75°59' 14.5366"E
BP-7	20°10' 15.097"N	75°59' 8.5209"E
BP-8	20°10' 14.1118"N	75°59' 3.0713"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं.- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट करदन	प्लॉट नं. प्लॉट नं.	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट नं.	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट नं.	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट नं.	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. **Out of 24 sand ghats** surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. Explored 24 sand spots out of **surveyed 24 found** feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Sawangi and ghat proposed (over Dhamna river) in **Jafrabad** taluka is one of the **four** sand ghats proposed to cater infrastructural requirement of sand in the tahsil of **Jafrabad** and adjoining areas of other talukas. All **four** sand ghats are on **Purna** river. Details of **Jafrabad** taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	20°10' 15.0702"N	75°59' 2.8769"E
BP-2	20°10' 16.0777"N	75°59' 8.4499"E
BP-3	20°10' 15.7692"N	75°59' 14.6589"E
BP-4	20°10' 14.804"N	75°59' 20.1477"E
BP-5	20°10' 13.8447"N	75°59' 19.9585"E
BP-6	20°10' 14.7981"N	75°59' 14.5366"E
BP-7	20°10' 15.097"N	75°59' 8.5209"E
BP-8	20°10' 14.1118"N	75°59' 3.0713"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.08 km NE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –2.5 Km NE 38.8 km SW NH211-67 Km SW SH178–1.8 Km E SH178–1.8 Km E Vil Rd-0.385 km S 16.5 km Check dam – 0.840 Km NW 1.2 Km SE 1.2 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 39 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Kelna River-1.7 Km N Wet Land Not Notified for district, Biosphere -Pachmadi-310 km NE Mountains Govilgad Hill range 39 Km N
5	Areas used by protected, important or sensitive species of flora or fauna forbreeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 39 Km NW
6	Inland, coastal, marine or underground waters	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -102 Km N
8	Routes or facilities used by the public for access to recreation or other tourist,pilgrim areas	--
9	Defence installations	Varangaon OF -93 Km NE
10	Densely populated or built-up area, distance from nearest human habitation	Savangi -1.5 Km SE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –2.5 Km NE Savangi -1.5 Km SE

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Kelna River-1.7 Km N Coastal Area 445 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

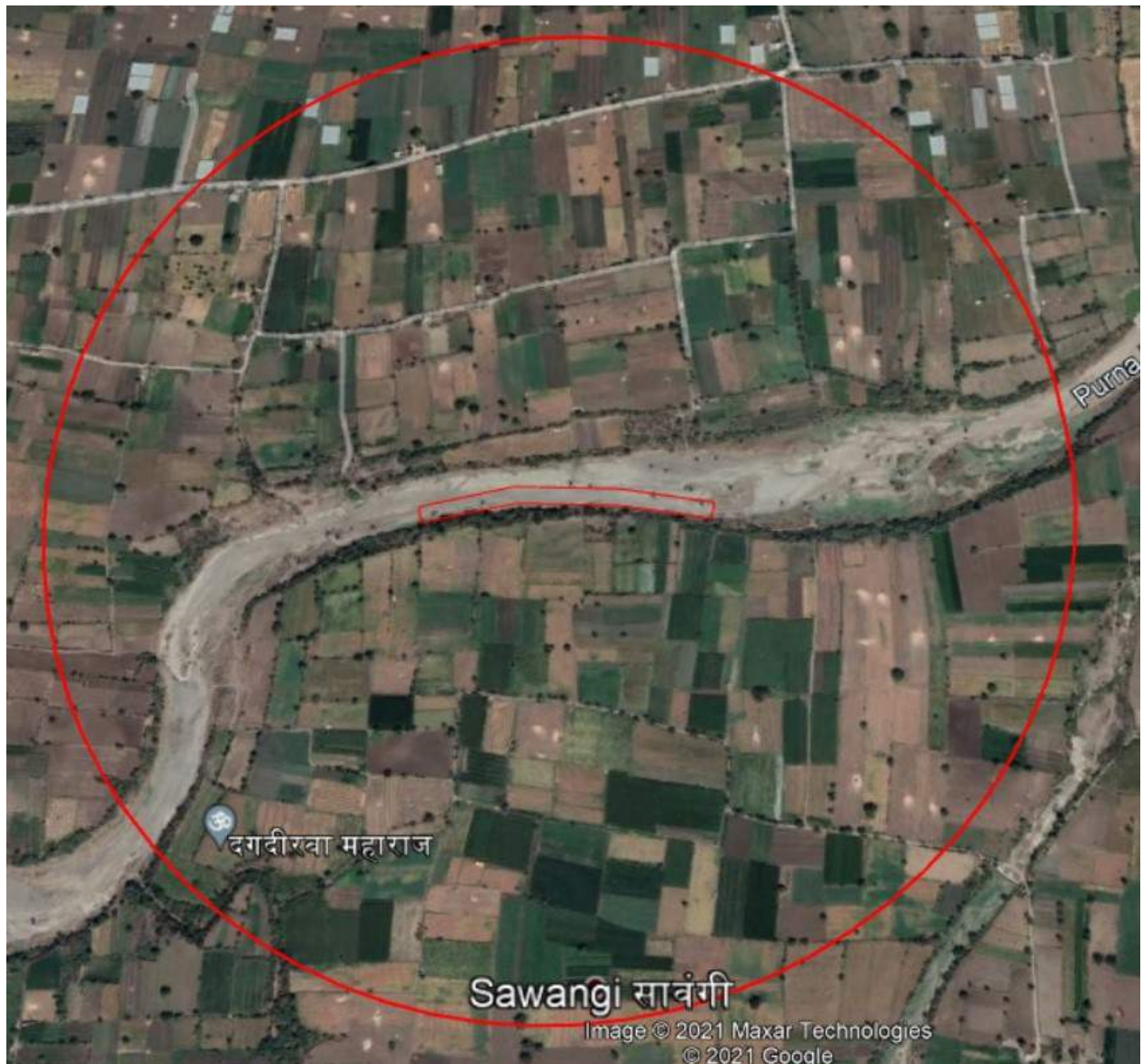


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image

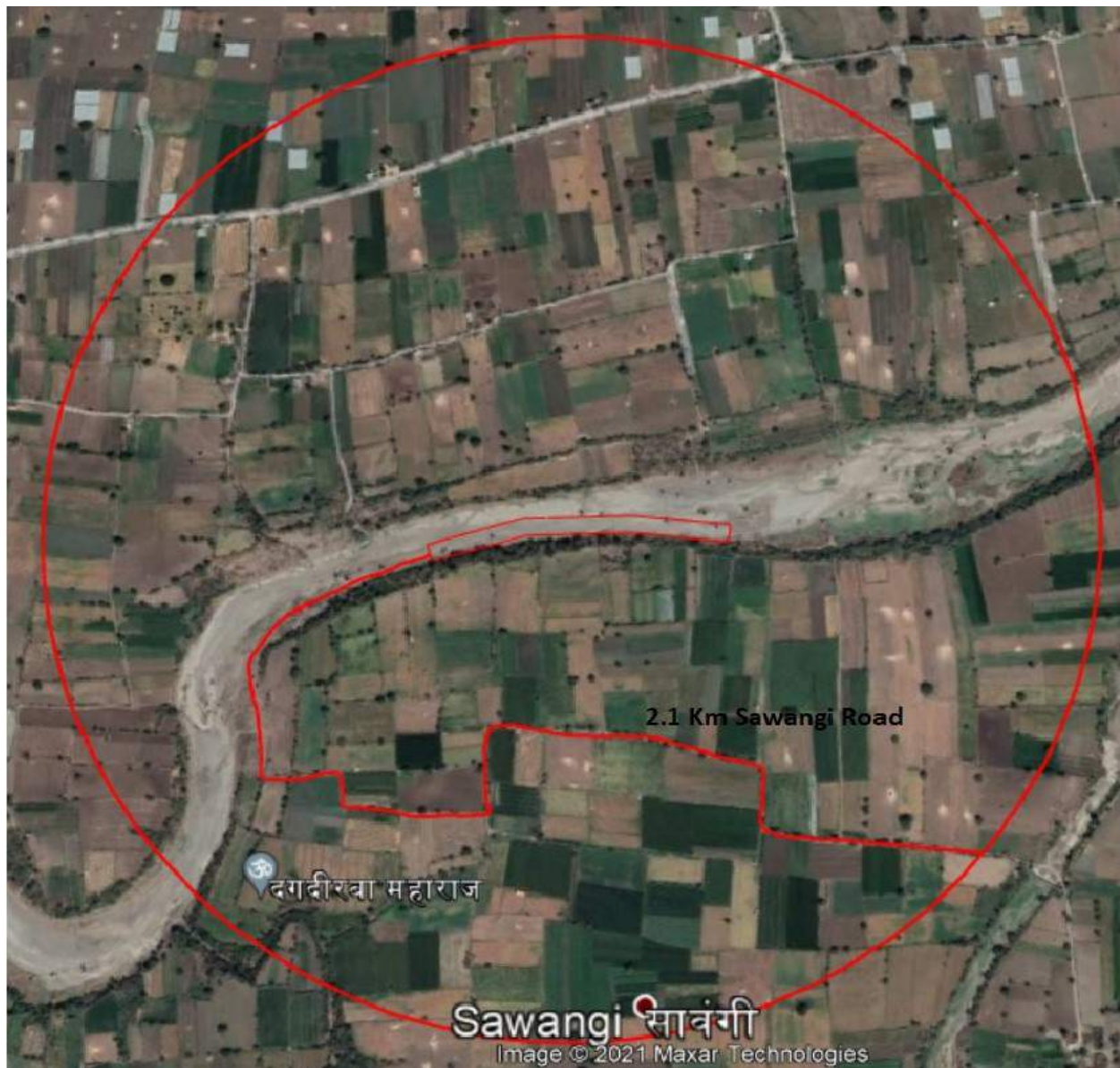


Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 2.1 Km connecting Sawangi rd.

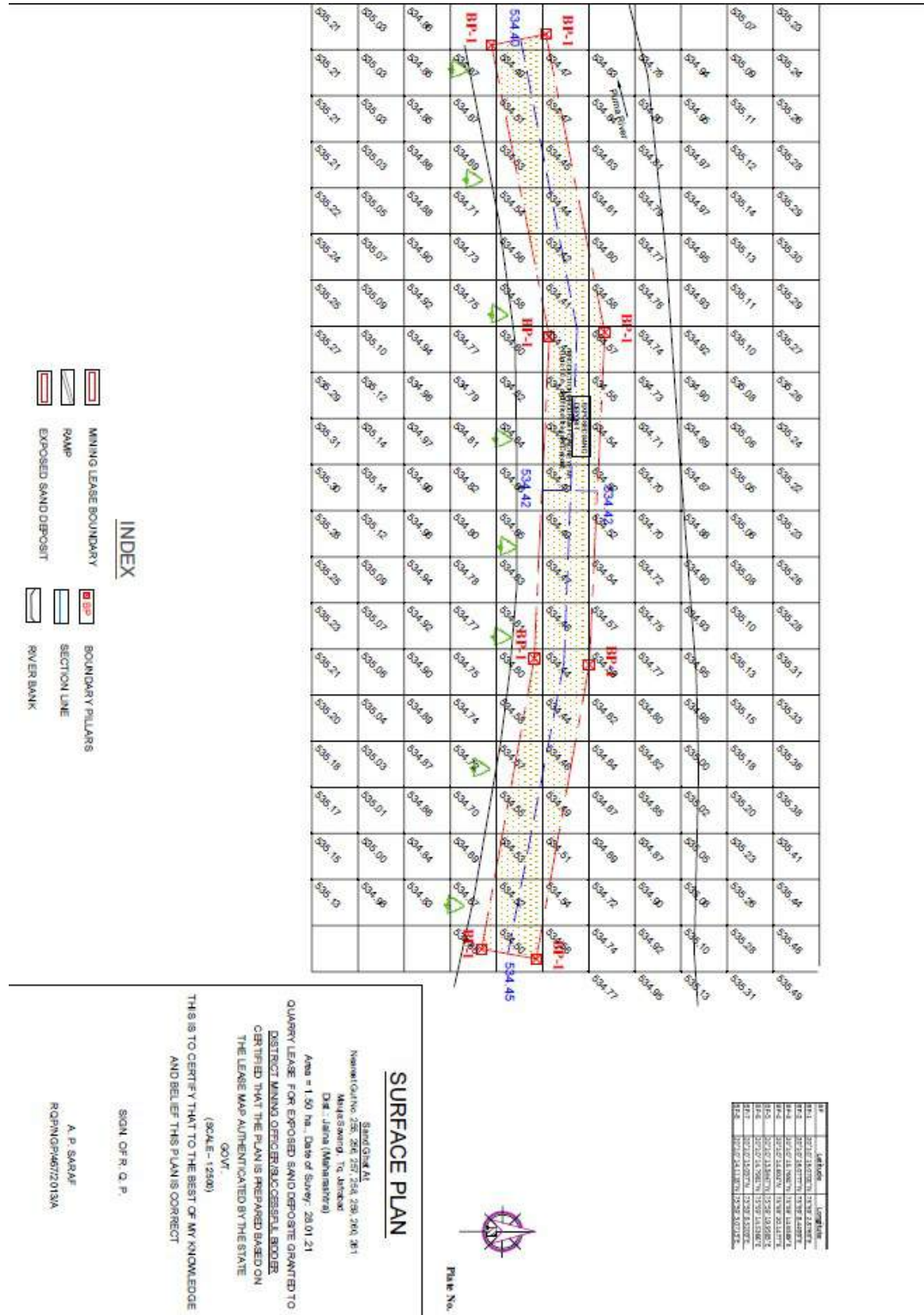
Section 2.0 : Project Description and Method of Mining

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 **Jafrabad** Tahsil. District Mining Officer Jalna has proposed for the production of **5300** 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sawangi	Jafrabad	Purna	255 to 261	1.50	500 x 30 x 1.0	5300	20°10' 15.0702"N	75°59' 2.8769"E

Surface Plan for **Sawangi** Sand Ghat:



2.1 Method of Mining :

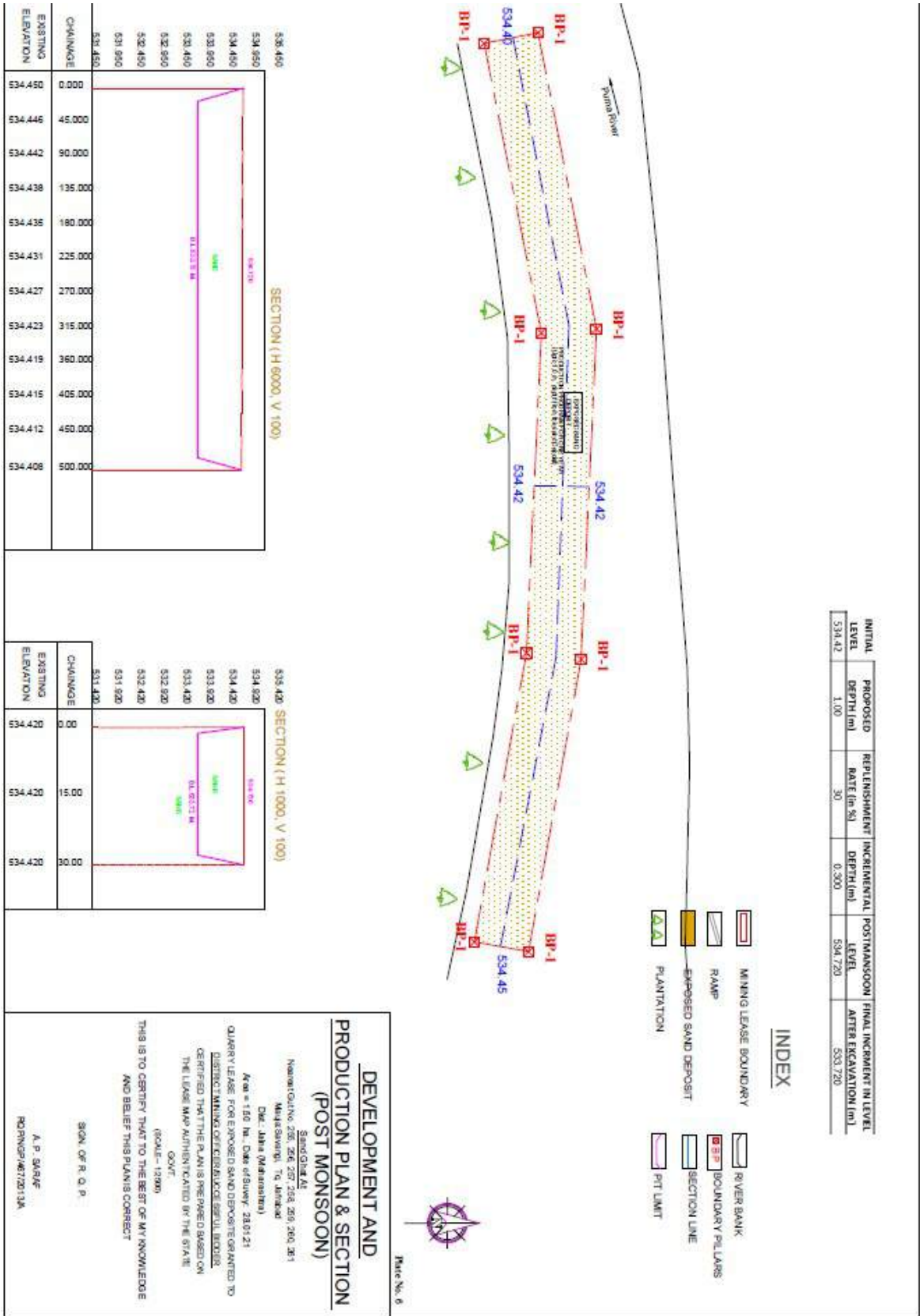
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	500mx30mx1.00m

Production Plan for Sawangi Sand Ghat :



2.3 Manpower Requirement

About **33 labors** are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	33

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as **1.660m³/day** per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.660
Total	1.660

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	15000
Area under dumps	00	00
Undisturbed Area	15000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

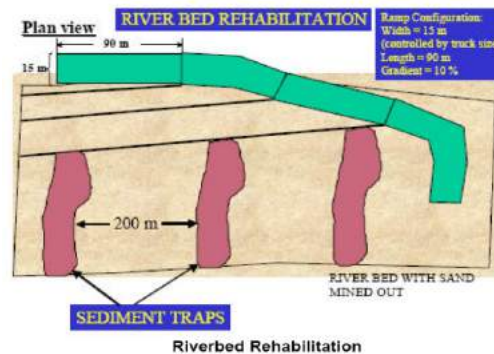


Figure -3

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 : Anticipated Impacts and Management

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 only 5300 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 42447 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	42447 TPA
Operational Days per Year	260 Days
Lead (m)	2.1 Km

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.243039352
Total	0.243039352

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

Accordingly Maximum incremental GLC is predicted as 0.3347µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Sawangi	Jafrabad	Purna	0.3347µgm/cum

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 as per CPCB guidelines 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 **1.00m 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 03.09.2019 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 (Purna River)

- 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 **Sawangi** sand ghat is **1.00m** keeping 2.0m bed depth of sand. Total Sand depth **available is 3.0m**.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Sawangi	3860	4970(Yr 17-18)	7500

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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**. 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 2.7 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 of Rs 6.51 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.3347\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 or other option as suggested by authority will be eased.

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 2.7 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 about 2350 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 6.51Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	420
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(20 tarpaulin)	100000
			· Regular monitoring of the exhaust fumes.	20 tractors @ Rs. 500/tractor	10000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	250 Nos.	125000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	2100 Nos.	1050
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				651470

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Merkheda Sand Ghat, River Dhamna

(ix) Location / site (GPS Co-ordinates) : Merkheda, Tq Jafrabad, Gut No. 261 to 266,252,268 to 269,26,28 to 32

BP	Latitude	Longitute
BP-1	20°14' 11.9627"N	76°1' 30.3728"E
BP-2	20°14' 6.9837"N	76°1' 37.6213"E
BP-3	20°14' 3.7607"N	76°1' 38.4142"E
BP-4	20°14' 1.2174"N	76°1' 38.3487"E
BP-5	20°13' 58.728"N	76°1' 37.6155"E
BP-6	20°13' 58.9755"N	76°1' 36.6155"E
BP-7	20°14' 1.3548"N	76°1' 37.3181"E
BP-8	20°14' 3.6606"N	76°1' 37.3774"E
BP-9	20°14' 6.4087"N	76°1' 36.7014"E
BP-10	20°14' 11.1737"N	76°1' 29.7644"E

(x) Size of the Mining Lease (Hectare) : 1.50 Ha

(xi) Capacity of Mining Lease (TPA): 21223 TPA , 2650 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 6731000

(xiv) Contact Information: District Mining Officer ,Washim District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on nalha -2.05 km NW near Hiwrabali
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –4.3 Km SW 45.5 km SW NH211-75 Km SW SH178–3.77 Km SW Janefal Jafrabad Road–1.85 Km W Vil Rd-0.322 km NE 16 km Check dam – 0.790 Km S 0.790 Km S 0.790 Km S
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 35 Km NW

4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-5.22 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-315 km NE Mountains Govilgad Hill range 97 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 35 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -96 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -88 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Merkheda -0.336 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad -4.3 Km SW Merkheda -0.336 Km NE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Washim District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dhamana Lease 1.5 ha comprises of river bed of Dhamana river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

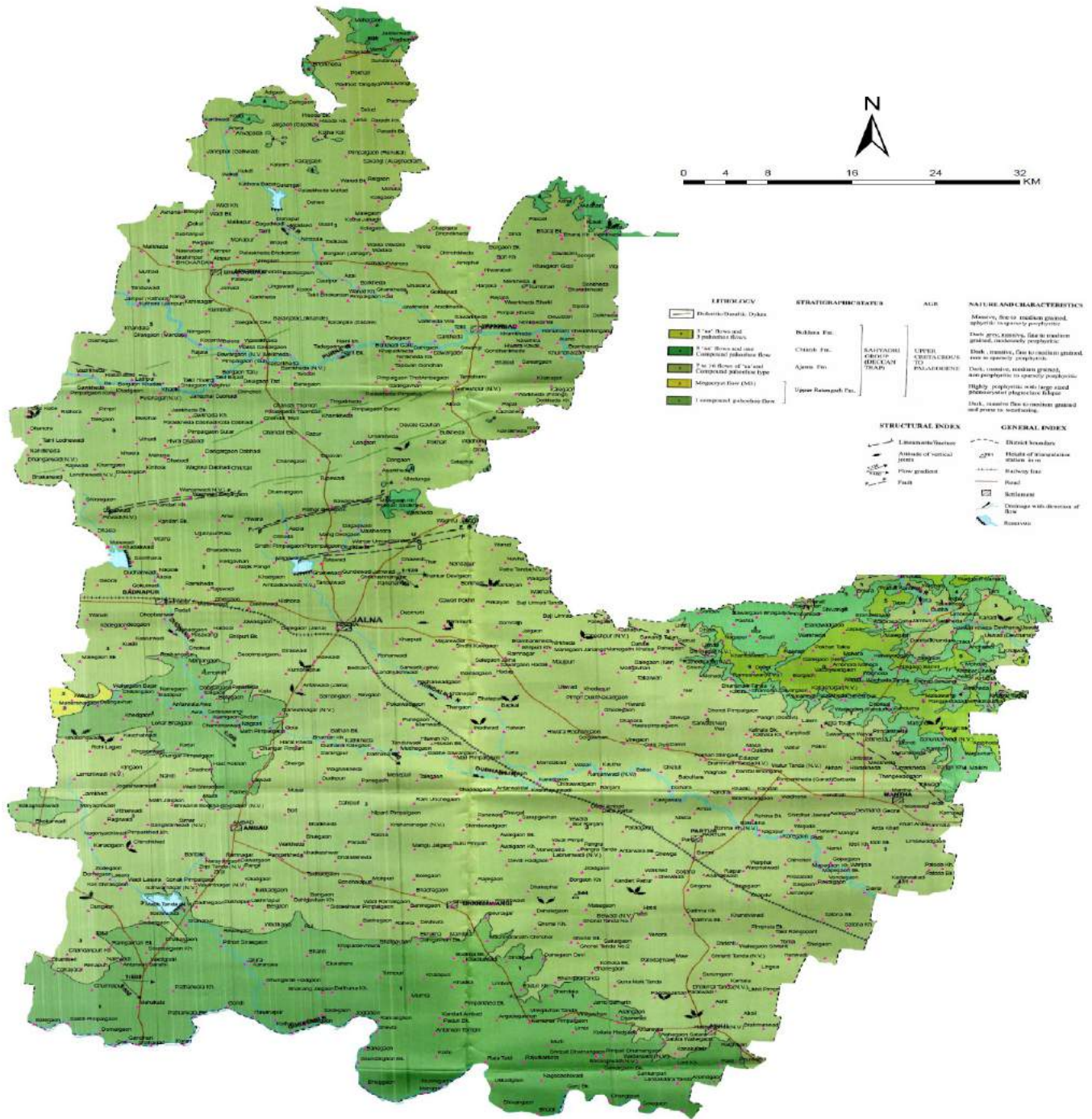
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

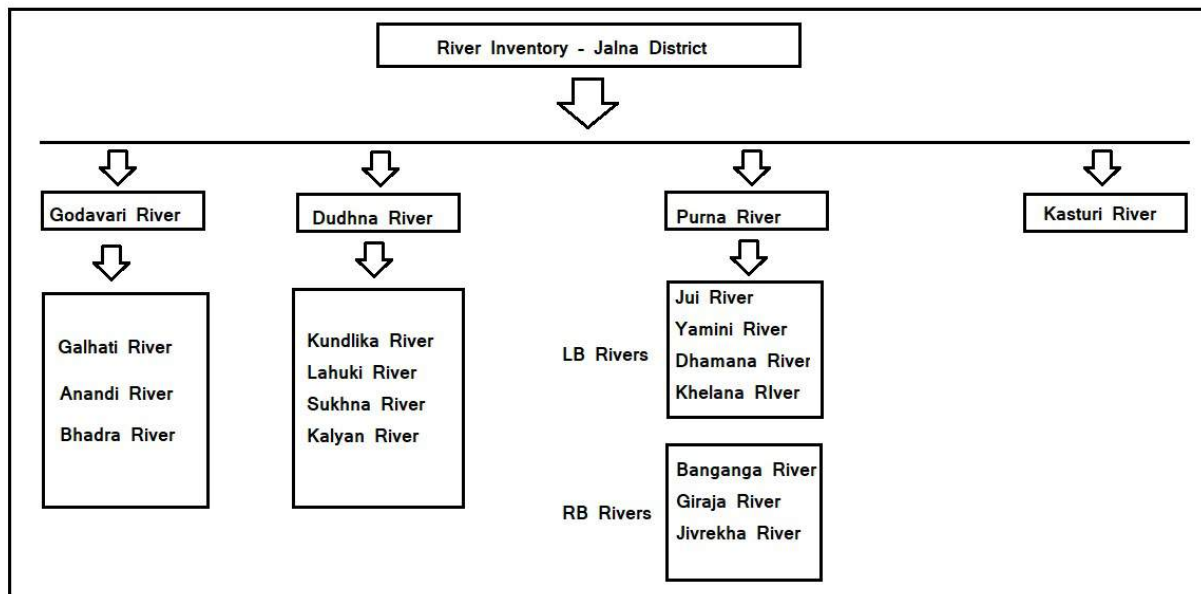
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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:

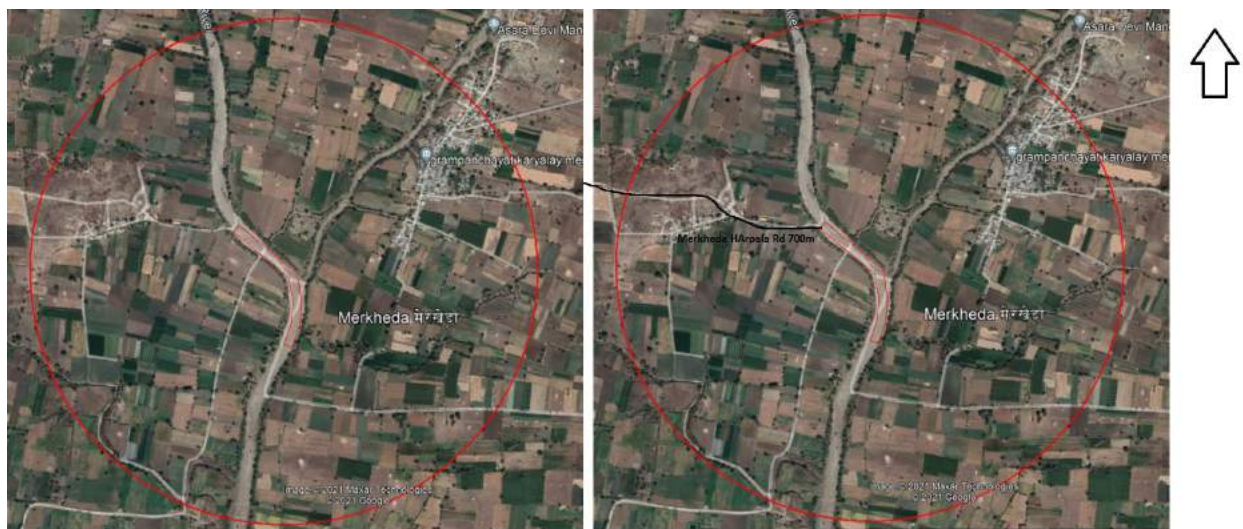
District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this 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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E



Approach road available over pandan rd of 700 m connecting Harpala rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Merkheda Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on nalha -2.05 km NW near Hiwrabali
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –4.3 Km SW 45.5 km SW NH211-75 Km SW SH178–3.77 Km SW Janefal Jafrabad Road–1.85 Km W Vil Rd-0.322 km NE 16 km Check dam – 0.790 Km S 0.790 Km S 0.790 Km S
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 35 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-5.22 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-315 km NE Mountains Govilgad Hill range 97 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 35 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -96 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -88 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Merkheda –0.336 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –4.3 Km SW Merkheda –0.336 Km NE

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude

1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E
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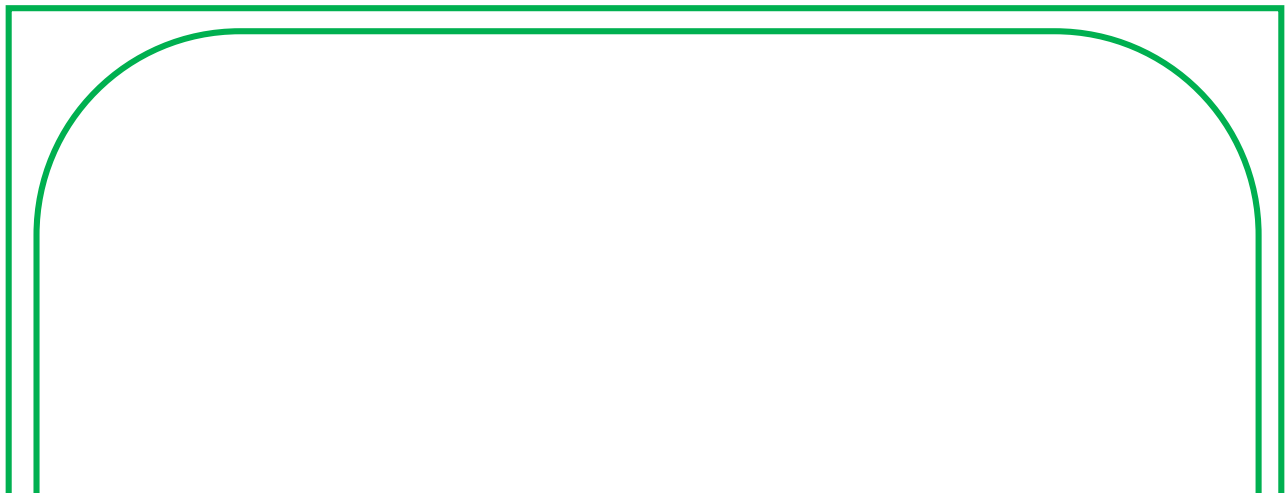
Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	5000m x 30 m x 0.50 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	20°14' 11.9627"N	76°1' 30.3728"E
BP-2	20°14' 6.9837"N	76°1' 37.6213"E
BP-3	20°14' 3.7607"N	76°1' 38.4142"E
BP-4	20°14' 1.2174"N	76°1' 38.3487"E
BP-5	20°13' 58.728"N	76°1' 37.6155"E
BP-6	20°13' 58.9755"N	76°1' 36.6155"E
BP-7	20°14' 1.3548"N	76°1' 37.3181"E
BP-8	20°14' 3.6606"N	76°1' 37.3774"E
BP-9	20°14' 6.4087"N	76°1' 36.7014"E
BP-10	20°14' 11.1737"N	76°1' 29.7644"E



ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

68,MAHAKALI NAGAR-2

NEAR MANEWADA SQUARE

NAGPUR 440 024

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. **Out of 24 sand ghats** surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. Explored 24 sand spots out of **surveyed 24 found** feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Markheda and ghat proposed (over Dhamna river) in **Jafrabad** taluka is one of the **four** sand ghats proposed to cater infrastructural requirement of sand in the tahsil of **Jafrabad** and adjoining areas of other talukas. All **four** sand ghats are on **Dhamna** river. Details of **Jafrabad** taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	20°14' 11.9627"N	76°1' 30.3728"E
BP-2	20°14' 6.9837"N	76°1' 37.6213"E
BP-3	20°14' 3.7607"N	76°1' 38.4142"E
BP-4	20°14' 1.2174"N	76°1' 38.3487"E
BP-5	20°13' 58.728"N	76°1' 37.6155"E
BP-6	20°13' 58.9755"N	76°1' 36.6155"E
BP-7	20°14' 1.3548"N	76°1' 37.3181"E
BP-8	20°14' 3.6606"N	76°1' 37.3774"E
BP-9	20°14' 6.4087"N	76°1' 36.7014"E
BP-10	20°14' 11.1737"N	76°1' 29.7644"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on nalha -2.05 km NW near Hiwrabali
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jafrabad –4.3 Km SW 45.5 km SW NH211-75 Km SW SH178–3.77 Km SW Janefal Jafrabad Road–1.85 Km W Vil Rd-0.322 km NE 16 km Check dam – 0.790 Km S 0.790 Km S 0.790 Km S
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 35 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dhamna River Purna river-5.22 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-315 km NE Mountains Govilgad Hill range 97 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 35 Km NW
6	Inland, coastal, marine or underground waters	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
7	State, National boundaries	Madhyapradesh -96 Km NE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -88 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Merkheda –0.336 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jafrabad –4.3 Km SW Merkheda –0.336 Km NE

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dhamna River Purna river-5.22 Km S Coastal Area 450 Km West Marine Water -440 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

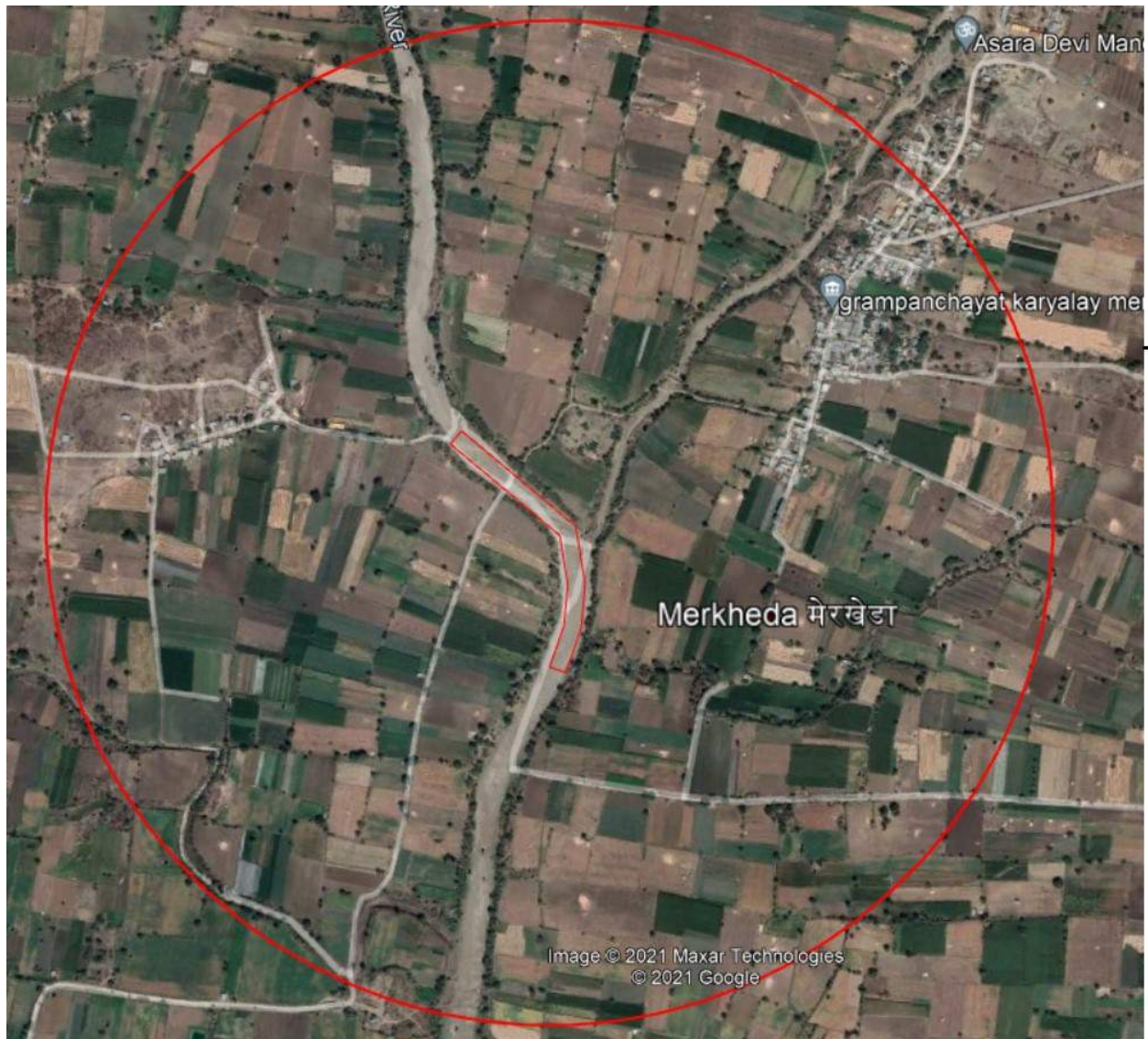


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 700 m connecting Merkheda Harpala rd.

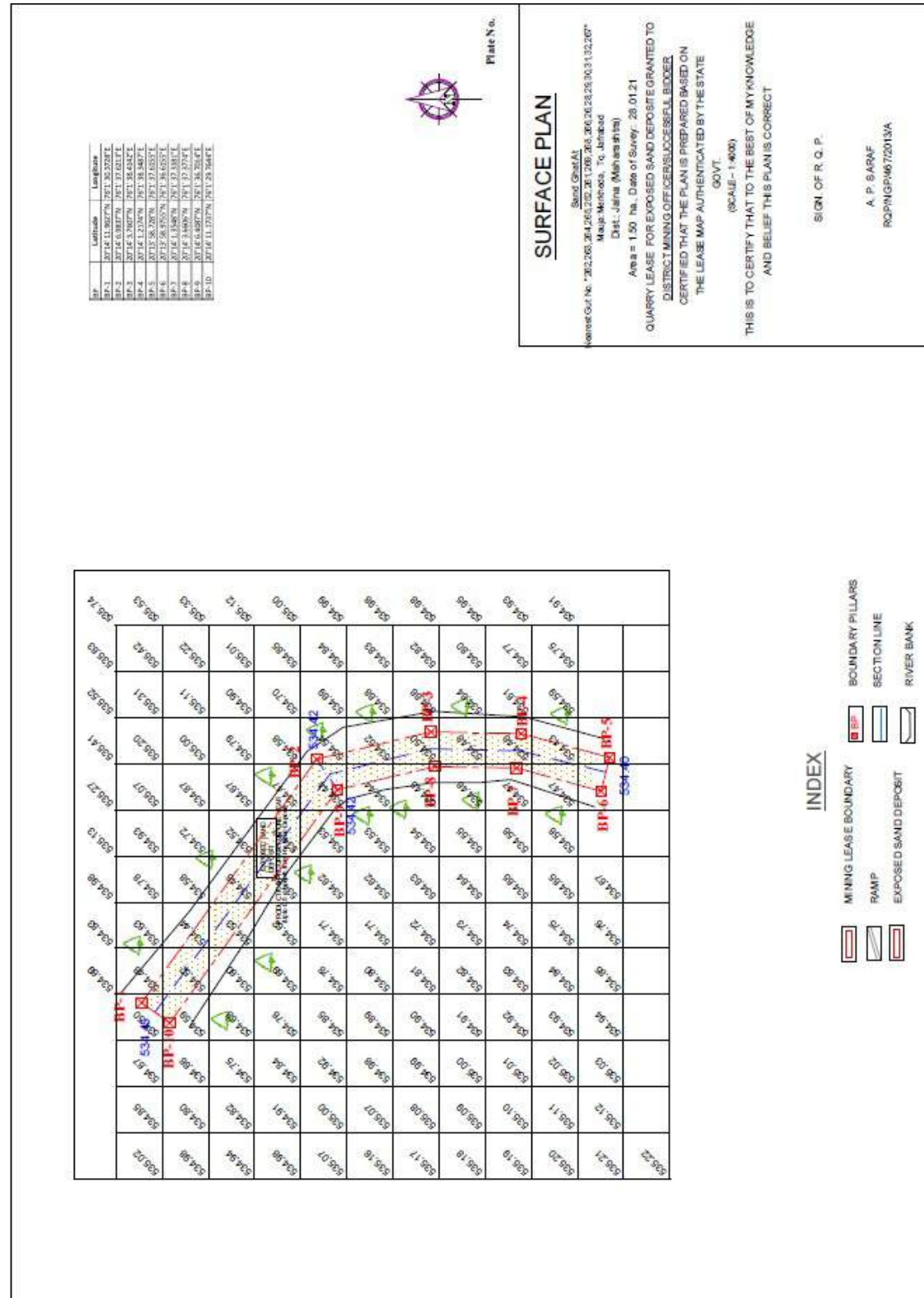
Section 2.0 : Project Description and Method of Mining

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 **Jafrabad** Tahsil. District Mining Officer Jalna has proposed for the production of **2650** 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Merkheda	Jafrabad	Dhamna	261 to 266,252,268 to 269,26,28 to 32	1.50	500 x 30x 0.5	2650	20°14' 11.9627"N	76°1' 30.3728"E

Surface Plan for **Merkheda** Sand Ghat:



2.1 Method of Mining :

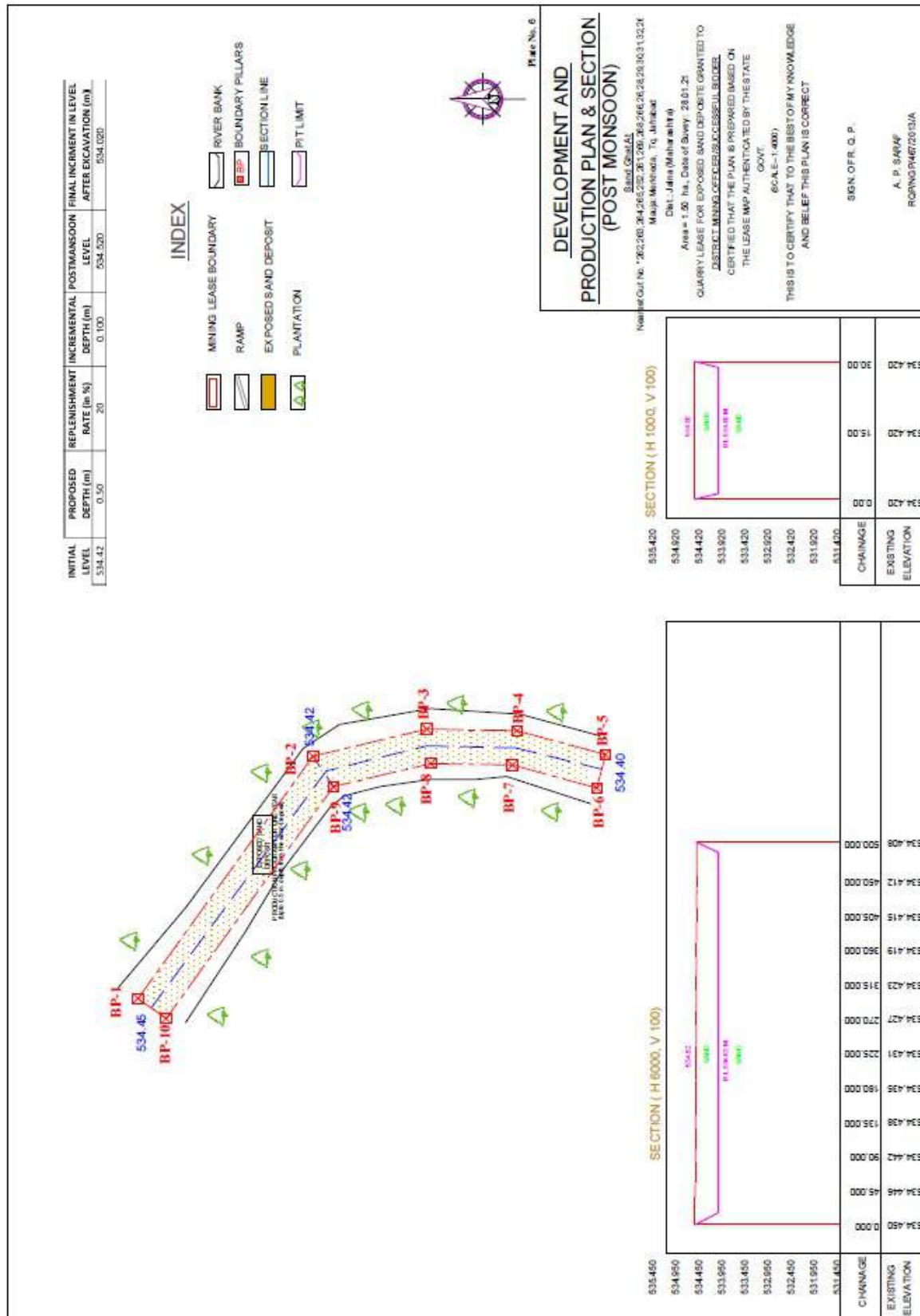
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	500mx30 mx0.50m

Production Plan for **Merkheda** Sand Ghat :



SECTION (H 1000, V 100)

CHAINAGE	EXISTING ELEVATION
0.00	534.40
15.00	534.420
30.00	534.425

SECTION (H 6000, V 100)

CHAINAGE	EXISTING ELEVATION
0.00	534.450
150.000	534.450
300.000	534.450
450.000	534.450
600.000	534.450
750.000	534.450
900.000	534.450
1050.000	534.450
1200.000	534.450
1350.000	534.450
1500.000	534.450
1650.000	534.450
1800.000	534.450
1950.000	534.450
2100.000	534.450
2250.000	534.450
2400.000	534.450
2550.000	534.450
2700.000	534.450
2850.000	534.450
3000.000	534.450
3150.000	534.450
3300.000	534.450
3450.000	534.450
3600.000	534.450
3750.000	534.450
3900.000	534.450
4050.000	534.450
4200.000	534.450
4350.000	534.450
4500.000	534.450
4650.000	534.450
4800.000	534.450
4950.000	534.450
5100.000	534.450
5250.000	534.450
5400.000	534.450
5550.000	534.450
5700.000	534.450
5850.000	534.450
6000.000	534.450

2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	15000
Area under dumps	00	00
Undisturbed Area	15000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

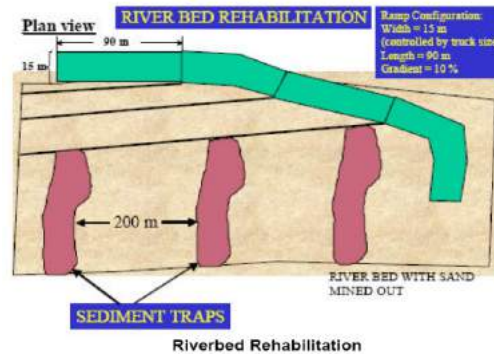


Figure -3

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 : Anticipated Impacts and Management

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 only 2650 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 21223 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	21223 TPA
Operational Days per Year	260 Days
Lead (m)	700m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.121519676
Total	0.121519676

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

Accordingly Maximum incremental GLC is predicted as 0.6693µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Merkheda	Jafrabad	Dhamna	0.6693µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Dhamna River)

- 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 Melkheda sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Melkheda	3860	4970(Yr 17-18)	7500

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dhamna. 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 2.7 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 of Rs 10.75 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.6693\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dhamna or other option as suggested by authority will be eased.

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 2.7 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 about 950 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.75 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	140000
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(10 tarpaulin)	50000
			· Regular monitoring of the exhaust fumes.	10 tractors @ Rs. 500/tractor	5000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	250 Nos.	125000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	700 Nos.	350000
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1075000

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Valsa Davergaon Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Valsa Davergaon, Tq Bhokardan, Gut No. 132,133,154,155

BP	Latitude	Longitute
BP-1	20°9' 34.2494"N	75°47' 51.7942"E
BP-2	20°9' 39.9989"N	75°48' 7.167"E
BP-3	20°9' 39.0916"N	75°48' 7.5475"E
BP-4	20°9' 33.3421"N	75°47' 52.1748"E

(x) Size of the Mining Lease (Hectare) : 1.44 Ha

(xi) Capacity of Mining Lease (TPA): 32604 TPA , 4071 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 10340340

(xiv) Contact Information: District Mining Officer ,Washim District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.164 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 32.5 km S NH211-52 Km SW SH178–10.8 Km N Sillod Jalna Rd–1.85 Km E Vil Rd-0.346 km W 14.5 km Check dam – 2.014 Km SE 2.014 Km SE 2.014 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-0.850 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE

5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Davergaon -0.280 Km SW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Davergaon -0.280 Km SW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer , Washim District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.44 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

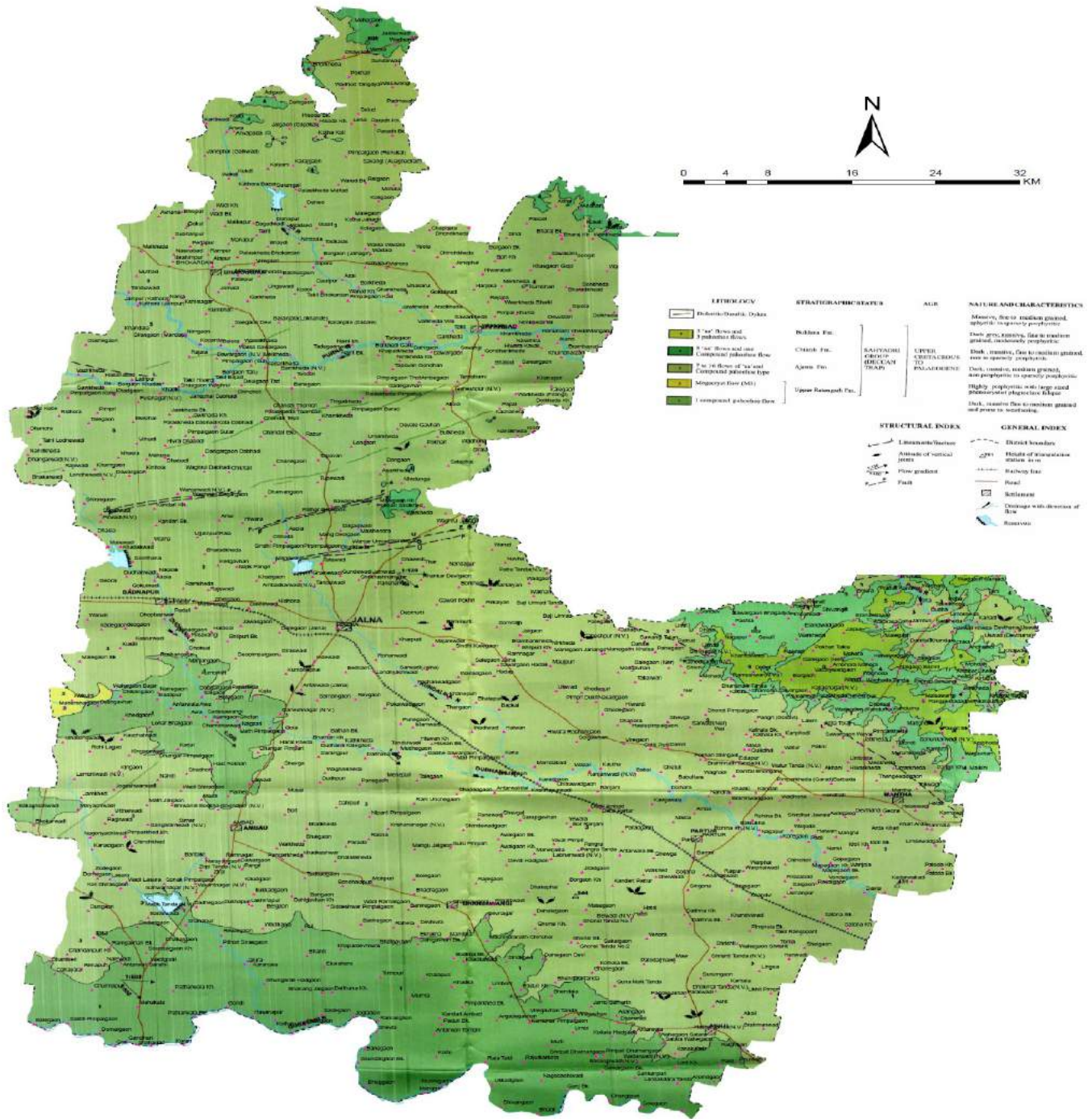
Details of Exploration

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 2.80 m near the banks. The surface plan is prepared on the specified scale.

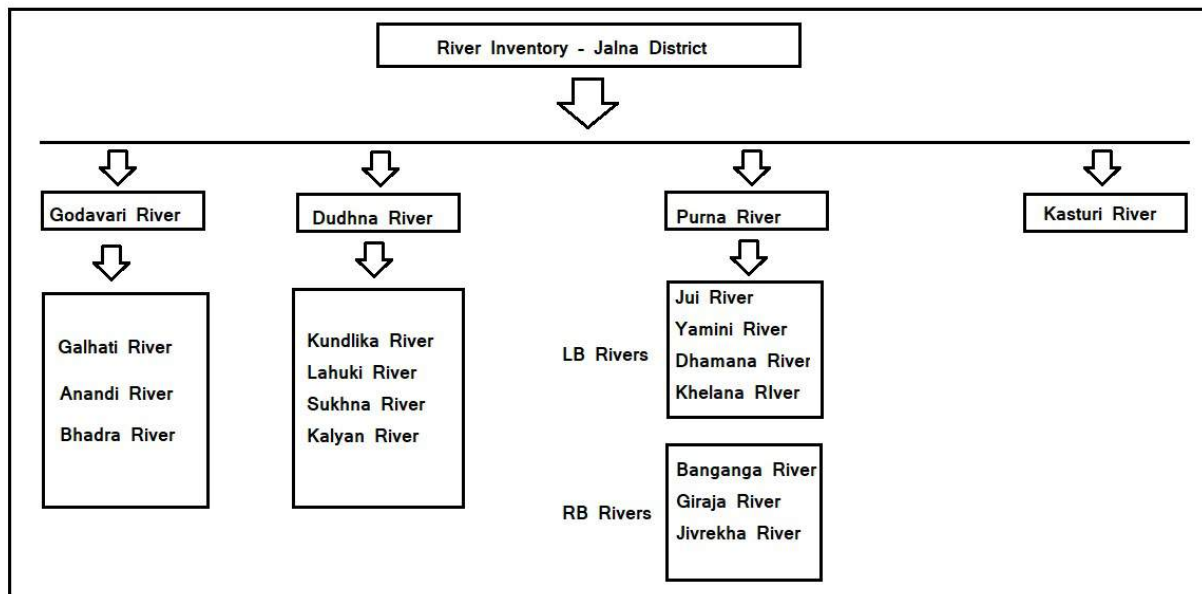
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E



Approach road available over pandan rd of 669 Km connecting Valsa Dawargaon Rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 2.8 m 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Valsa Davargaon Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.164 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 32.5 km S NH211-52 Km SW SH178–10.8 Km N Sillod Jalna Rd–1.85 Km E Vil Rd-0.346 km W 14.5 km Check dam – 2.014 Km SE 2.014 Km SE 2.014 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-0.850 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Valsa Davergaon -0.280 Km SW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Davergaon -0.280 Km SW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	480m x 30 m x 0.80 m

GPS Location

BP	Latitude	Longitude
BP-1	20°9' 34.2494"N	75°47' 51.7942"E
BP-2	20°9' 39.9989"N	75°48' 7.167"E
BP-3	20°9' 39.0916"N	75°48' 7.5475"E
BP-4	20°9' 33.3421"N	75°47' 52.1748"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

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1	□□□□□□ □□□	□□□□□□□ □□□□	□□□□ □	15,16,50,51,89	410	25	0.60	1.025	2173
2	□□□□□□ □□□	□□□□□□□□ □□□□- □□□□□□□□	□□□□ □	160,162,163,174	450	25	0.50	1.125	1988
3	□□□□□□ □□□	□□□□□□□	□□□□ □□	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	□□□□□□ □□□	□□□□□□□□	□□□□ □	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	□□□□□□	□□□□□□ □□□□□□□□	□□□□ □□	132,133,154,155	480	30	0.80	1.44	4071
6	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	50,51,52,54	475	22	0.80	1.045	2954
7	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	61,62,63,66,67	475	22	0.50	1.045	1846
8	□□□□□□	□□□□□□□ □□□□□□□	□□□□ □□	312,313,314,326,327	587	40	0.50	2.34	4148
9	□□□□□□	□□□□□ □□.	□□□□ □	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	□□□□□□	□□□□□□□□ □□	□□□□ □	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 24 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. Explored 24 sand spots out of surveyed 24 found feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Valsa Davergaon and ghat proposed (over Purna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Purna river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	20°14' 11.9627"N	76°1' 30.3728"E
BP-2	20°14' 6.9837"N	76°1' 37.6213"E
BP-3	20°14' 3.7607"N	76°1' 38.4142"E
BP-4	20°14' 1.2174"N	76°1' 38.3487"E
BP-5	20°13' 58.728"N	76°1' 37.6155"E
BP-6	20°13' 58.9755"N	76°1' 36.6155"E
BP-7	20°14' 1.3548"N	76°1' 37.3181"E
BP-8	20°14' 3.6606"N	76°1' 37.3774"E
BP-9	20°14' 6.4087"N	76°1' 36.7014"E
BP-10	20°14' 11.1737"N	76°1' 29.7644"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.164 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 32.5 km S NH211-52 Km SW SH178–10.8 Km N Sillod Jalna Rd–1.85 Km E Vil Rd-0.346 km W 14.5 km Check dam – 2.014 Km SE 2.014 Km SE 2.014 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-0.850 Km S Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Davergaon -0.280 Km SW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Davergaon -0.280 Km SW

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-0.850 Km S Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

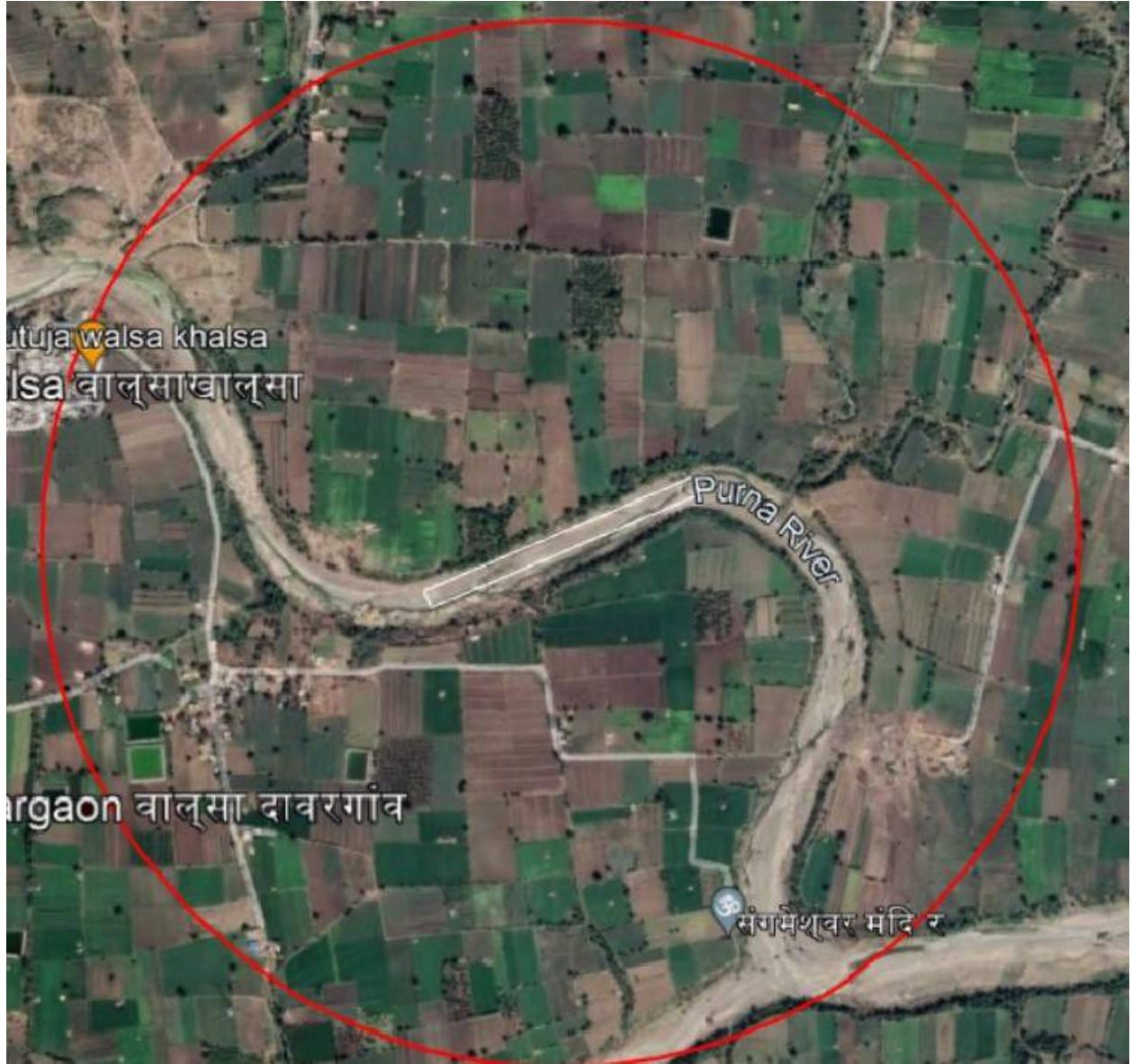


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image

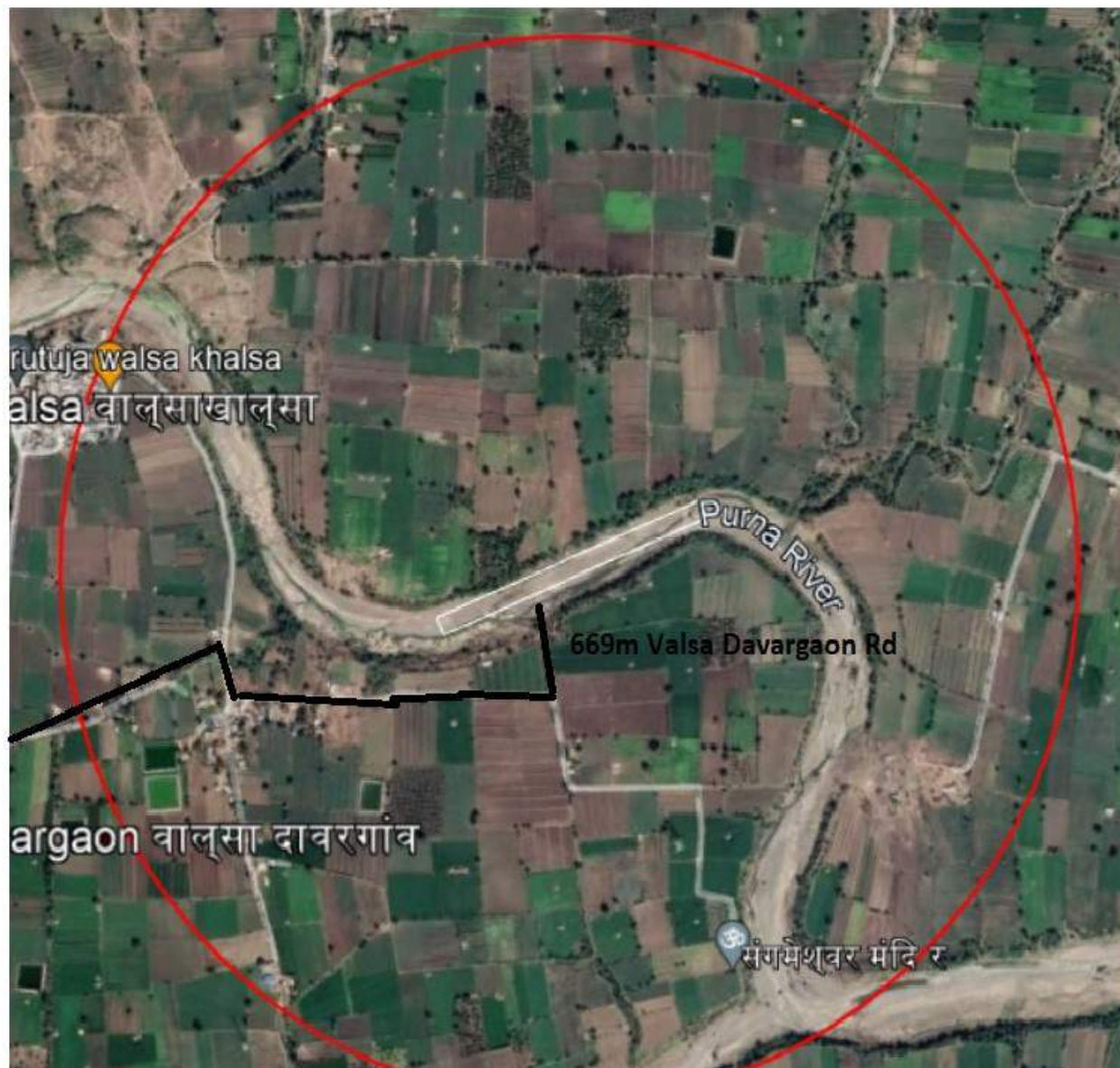


Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 669 m connecting Valsa Davergaon rd.

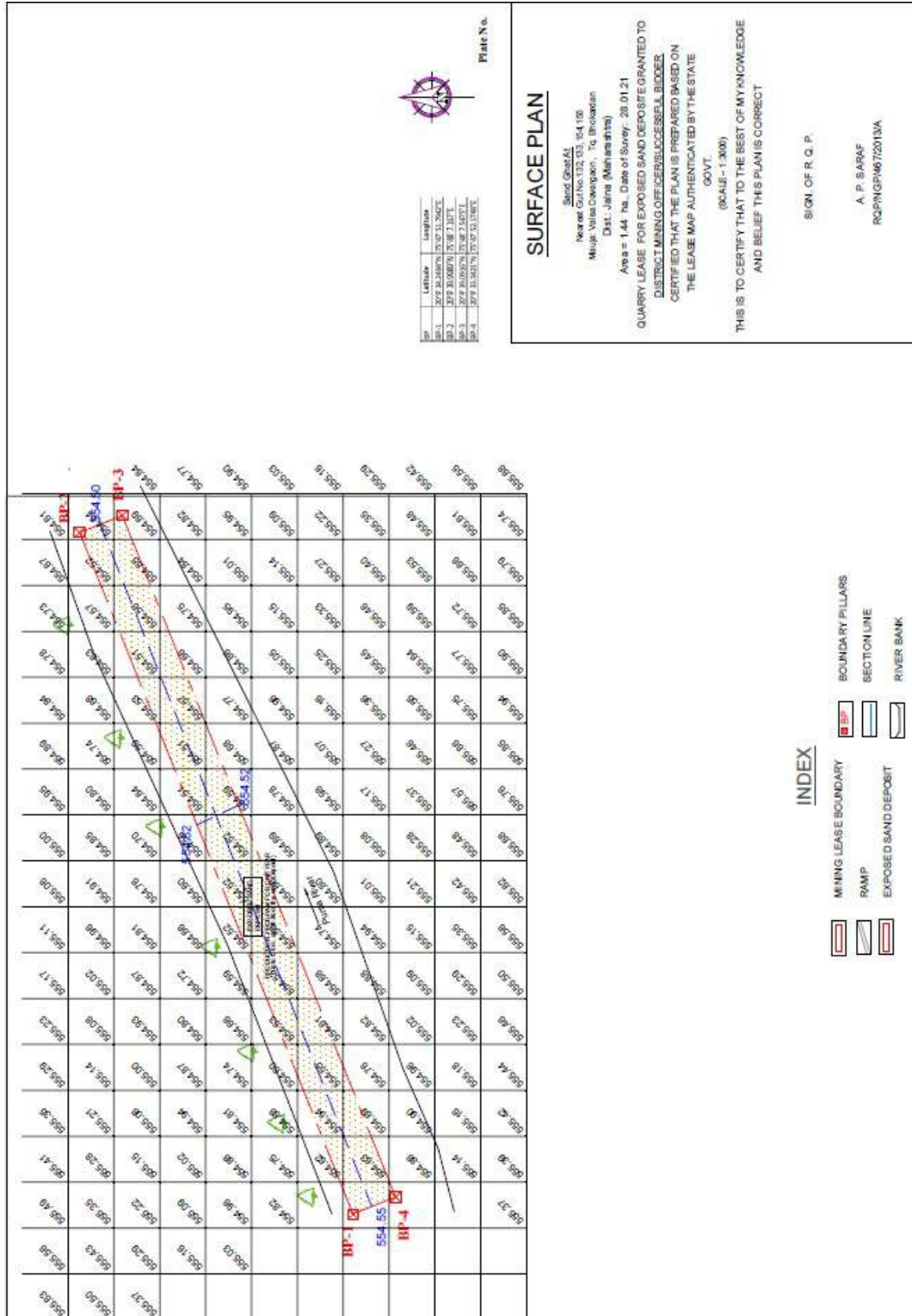
Section 2.0 : Project Description and Method of Mining

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 Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 4071 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Davergaon	Bhokardan	Purna	132,133,154,155	1.44	480 x 30 x 0.8	4071	20°9' 34.2494"N	75°47' 51.7942"E

Surface Plan for Valsa Davergaon Sand Ghat:



2.1 Method of Mining :

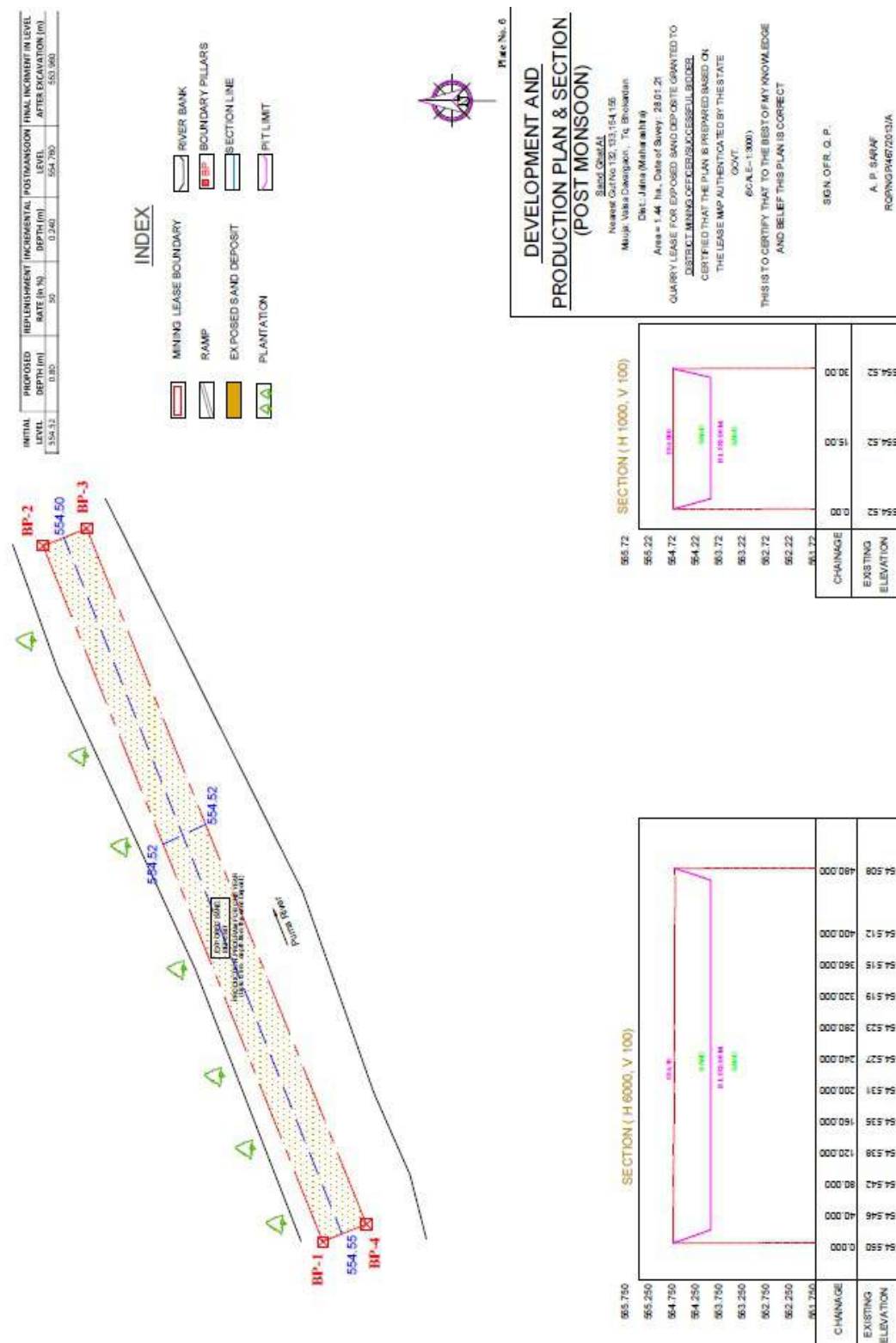
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	480mx30mx0.8m

Production Plan for Valsa Davergaon Sand Ghat :



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	14400
Area under dumps	00	00
Undisturbed Area	14400	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

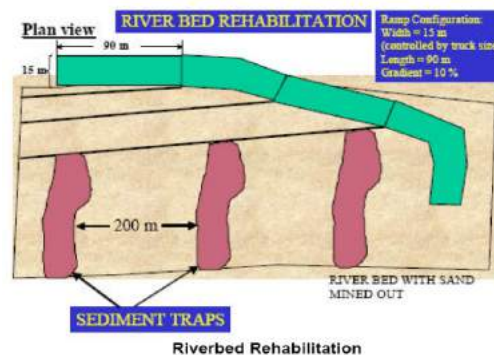


Figure -3

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 : Anticipated Impacts and Management

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 only 4071 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 32604 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	32604 TPA
Operational Days per Year	260 Days
Lead (m)	669 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.186681736
Total	0.186681736

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

Accordingly Maximum incremental GLC is predicted as 0.5572µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Valsa Davergaon	Bhokardan	Purna	0.4183µgm/cum

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 as per CPCB guidelines 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 0.8m 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 03.09.2019 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 (Purna River)

- 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 Valsa Davergaon sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Valsa Davergaon	5120	7440(Yr 17-18)	11520

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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. 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 2.7 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 of Rs 10.91 lakhs is earmarked to implement the Environment Management Plan.

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 0.4183µg/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 monitored 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 dust 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 or other option as suggested by authority will be eased.

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 2.7 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 about 909 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.91 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	133800
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(16 tarpaulin)	80000
			· Regular monitoring of the exhaust fumes.	16 tractors @ Rs. 500/tractor	8000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank	240 Nos.	120000
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.		
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	669 Nos.	334500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1091300

-FORM 1 M

APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE

(II) Basic Information:-

(viii) Name of the Mining Lease site: Environment Clearance for Valsa Khalsa Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Valsa Khalsa, Tq Bhokardan, Gut No. 50,51,52,54

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

(x) Size of the Mining Lease (Hectare) : 1.045 Ha

(xi) Capacity of Mining Lease (TPA): 23658 TPA , 2954 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 7503160

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.856 km SEE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 31.7 km S NH211-51.65 Km SW SH178–11 Km N Sillod Jalna Rd–1.62 Km E Vil Rd-0.365 km W 14.5 km Check dam – 1.62 Km SE 1.62 Km SE 1.62 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE

		Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.804 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease 1.045 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

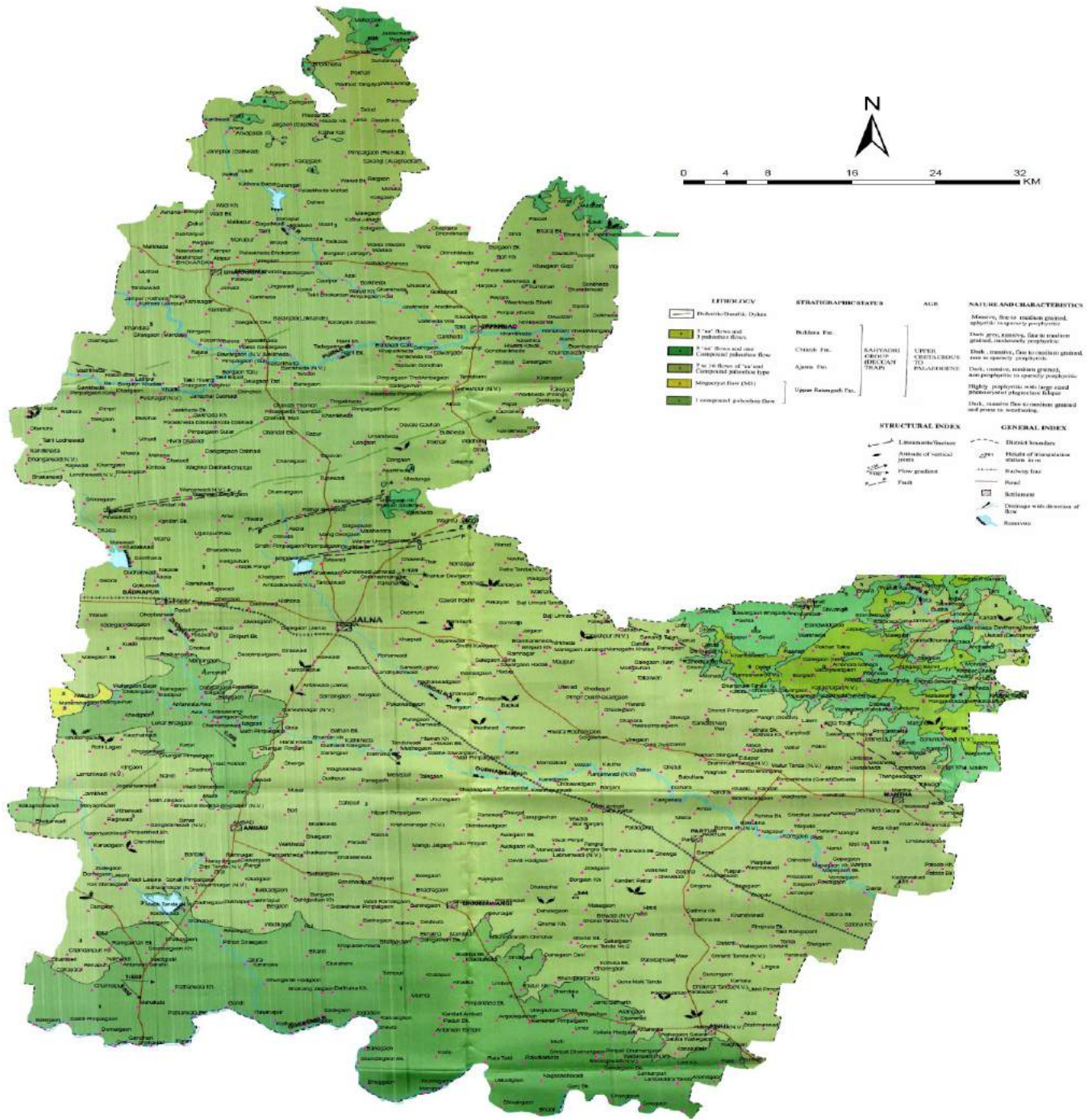
Details of Exploration

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 2.80 m near the banks. The surface plan is prepared on the specified scale.

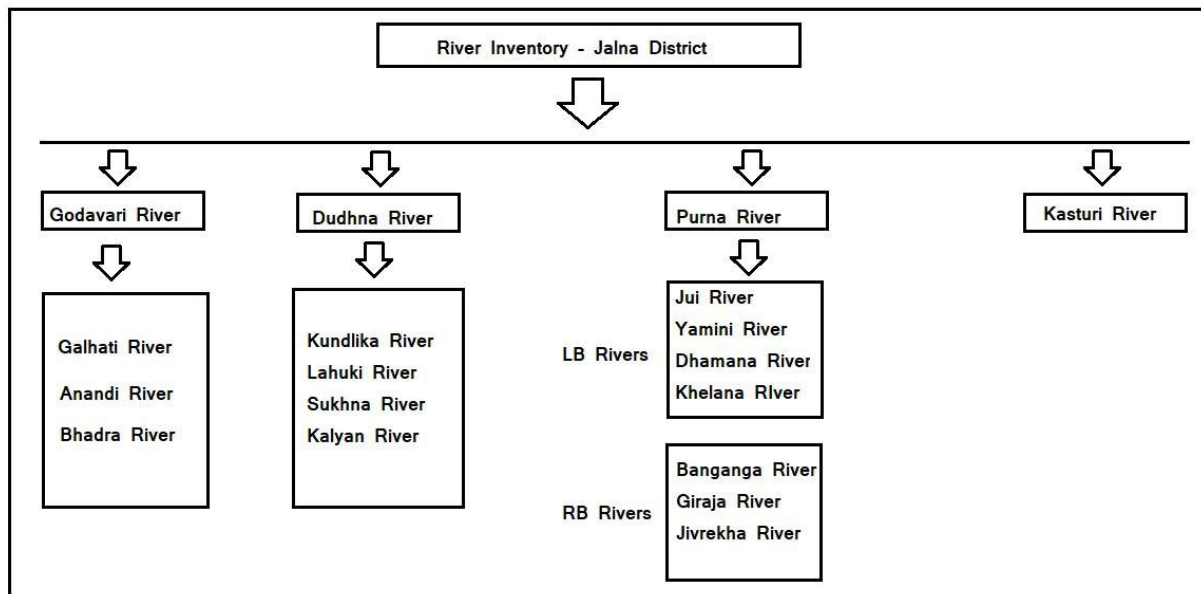
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E



Approach road available over pandan rd of 1422 connecting Merkheda rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 2.8 m 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Valsa Khalsa(Purna) Sand Ghat:**

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.856 km SEE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 31.7 km S NH211-51.65 Km SW SH178–11 Km N Sillod Jalna Rd–1.62 Km E Vil Rd-0.365 km W 14.5 km Check dam – 1.62 Km SE 1.62 Km SE 1.62 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.804 Km W

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude

1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E
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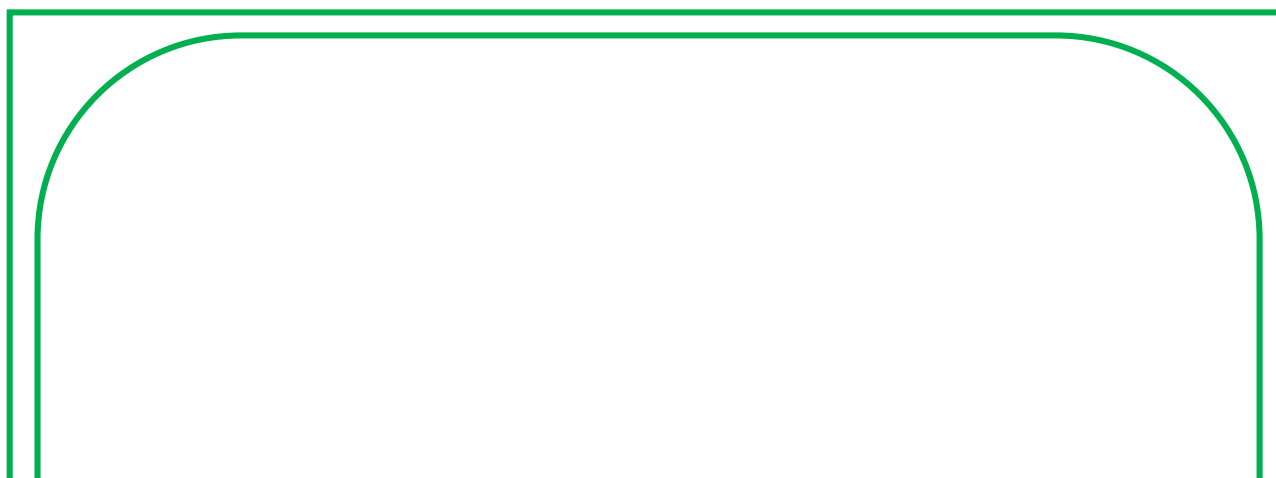
Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	475m x 22 m x 0.80 m

GPS Location

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E



ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं.- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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3	2.0	Project Description and Method of Mining	9-15
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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019. Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019, 24 sand spots were explored. Out of surveyed 24, 4 found feasible for sand scooping. Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Valsa Khalsa sand ghat proposed (over Purna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Purna river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.856 km SEE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10 Km NW 31.7 km S NH211-51.65 Km SW SH178–11 Km N Sillod Jalna Rd–1.62 Km E Vil Rd-0.365 km W 14.5 km Check dam – 1.62 Km SE 1.62 Km SE 1.62 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.804 Km W
11	Areas occupied by sensitive man-made land uses	Bhokardan-10 Km NW

	(hospitals, schools, places of worship, community facilities)	Valsa Khalsa -0.804 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1422m connecting Melkheda rd.

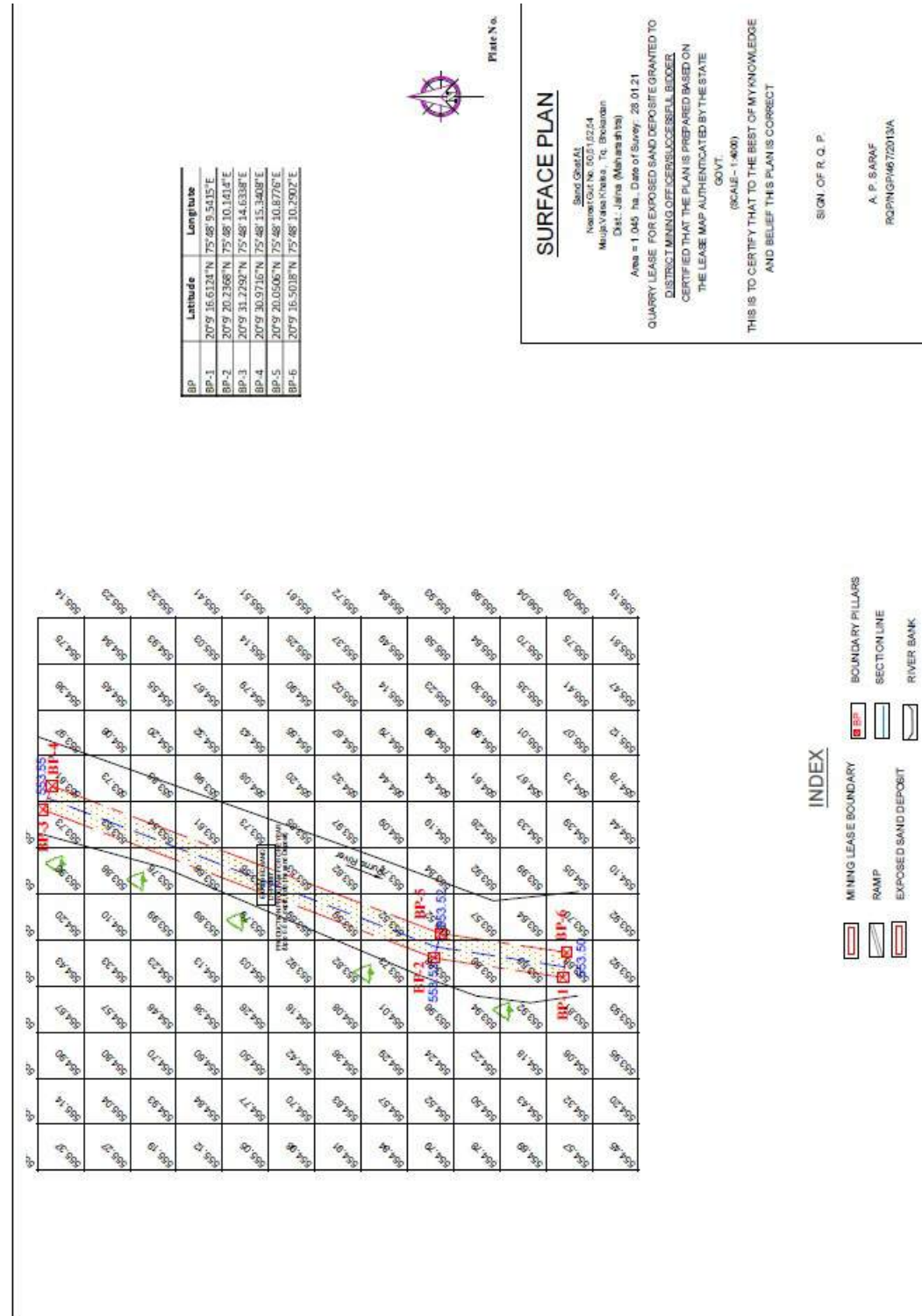
Section 2.0 : Project Description and Method of Mining

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 Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 2954 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Purna	50,51,52,54	1.045	475 x 22 x 0.8	2954	20°9' 16.6124"N	75°48' 9.5415"E

Surface Plan for Valsa Khalsa Sand Ghat:



2.1 Method of Mining :

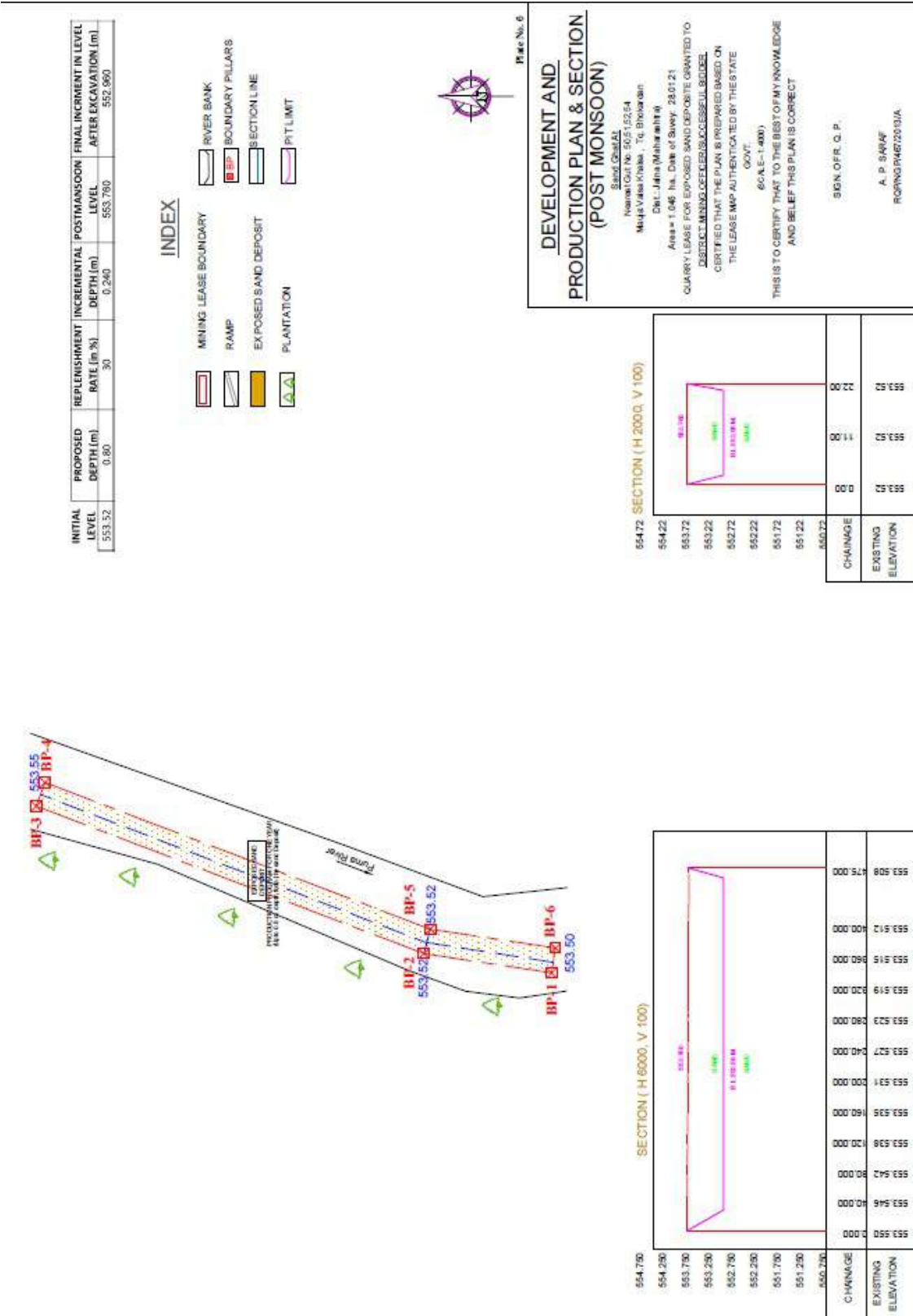
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	475mx22mx0.8m

Production Plan for Valsa Khalsa Sand Ghat :



2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	5
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	14400
Area under dumps	00	00
Undisturbed Area	14400	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

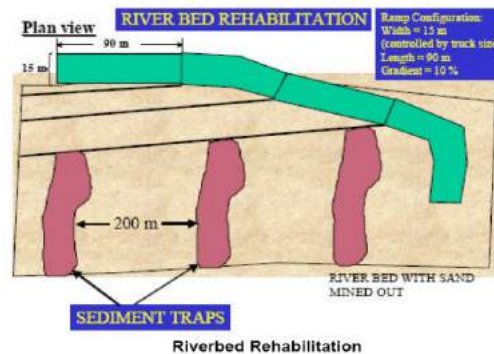


Figure -3

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 : Anticipated Impacts and Management

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 only 2954 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as **23658 Tonnes**/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	23658 TPA
Operational Days per Year	260 Days
Lead (m)	1422 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.135460046
Total	0.135460046

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

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Valsa Khalsa	Bhokardan	Purna	0.4183µgm/cum

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 as per CPCB guidelines 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 0.8m 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 03.09.2019 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 (Purna River)

- 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 Valsa Khalsa sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Valsa Khalsa	2257	7440(Yr 17-18)	8360

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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. 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 2.7 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 of Rs 10.97 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.4183\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 or other option as suggested by authority will be eased.

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 2.7 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 about 1660 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 15.89Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	284400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(11 tarpaulin)	55000
			· Regular monitoring of the exhaust fumes.	11 tractors @ Rs. 500/tractor	5500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/ Flood Plain management	· Green belt along bank · Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	238 Nos.	119000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1422 Nos.	711000
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1589900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Valsa Khalsa Sand Ghat, River Girija

(ix) Location / site (GPS Co-ordinates) : Valsa Khalsa, Tq Bhokardan, Gut No. 61,62,63,66,67

BP	Latitude	Longitute
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

(x) Size of the Mining Lease (Hectare) : 1.045 Ha

(xi) Capacity of Mining Lease (TPA): 14784 TPA , 1846 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 4688840

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.87 km E
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10.5 Km NW 31.2 km S NH211-51.3 Km SW SH178–12 Km N Sillod Jalna Rd–1.8 Km E Vil Rd-0.993 km W 14.5 km Check dam – 1.634 Km SE 1.634 Km SE 1.634 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE

		Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Girija Lease 1.045 ha comprises of river bed of Girija river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

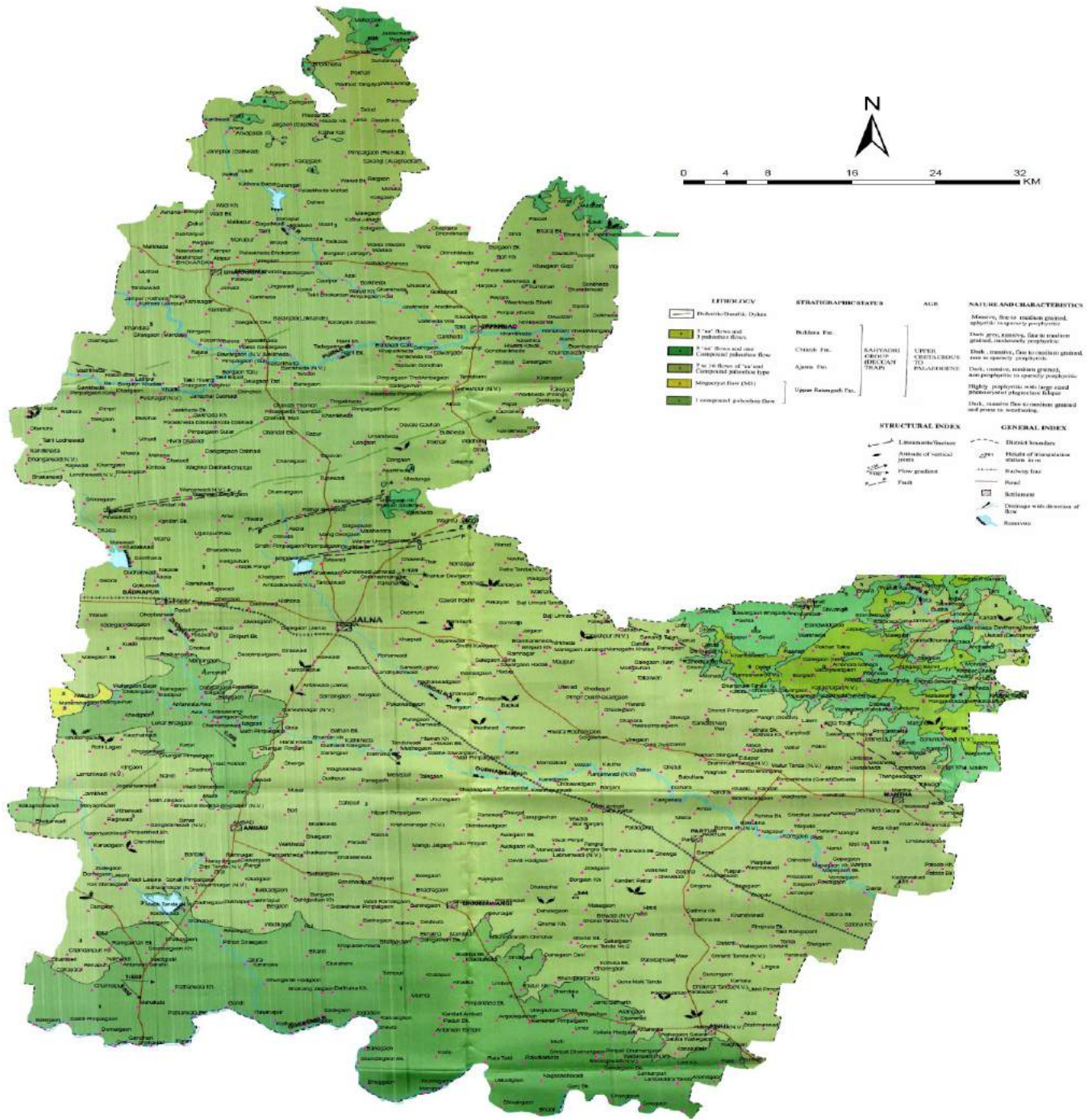
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

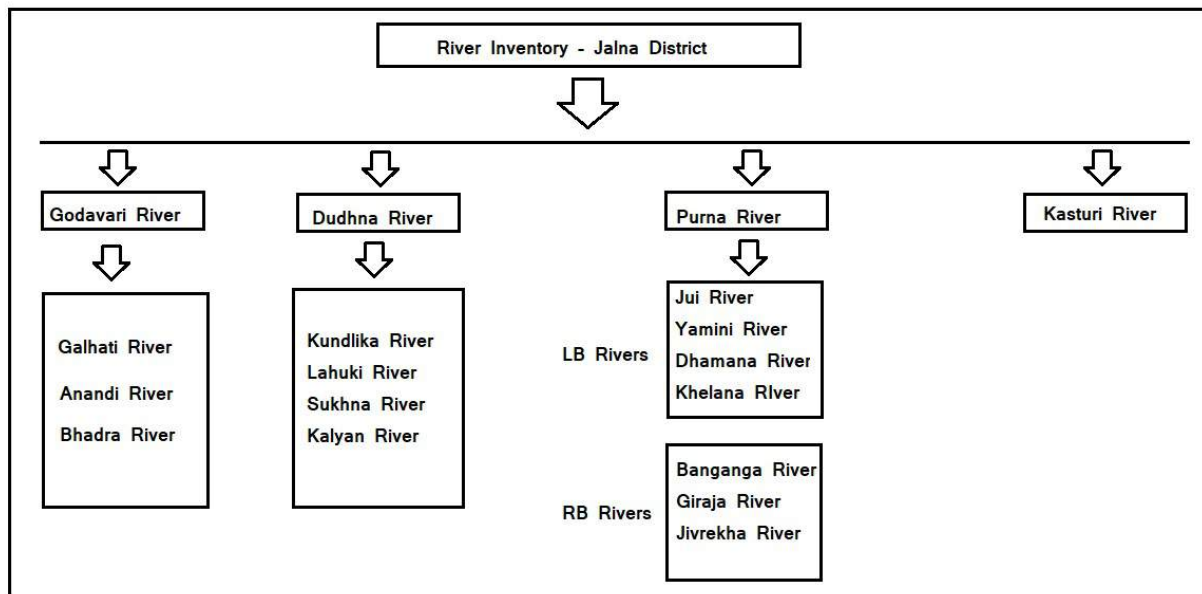
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

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River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E



Approach road available over pandan rd of 1225 connecting Valsa Davargaon Rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9'16.6124"N	75°48'16.6124"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Valsa Khalsa(Girija) Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.87 km E
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10.5 Km NW 31.2 km S NH211-51.3 Km SW SH178–12 Km N Sillod Jalna Rd–1.8 Km E Vil Rd-0.993 km W 14.5 km Check dam – 1.634 Km SE 1.634 Km SE 1.634 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	475m x 22 m x 0.50 m

GPS Location

BP	Latitude	Longitude
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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3	2.0	Project Description and Method of Mining	9-15
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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Valsa Khalsa and ghat proposed (over Dhamna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Girija river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	20°9' 16.6124"N	75°48' 9.5415"E
BP-2	20°9' 20.2368"N	75°48' 10.1414"E
BP-3	20°9' 31.2292"N	75°48' 14.6338"E
BP-4	20°9' 30.9716"N	75°48' 15.3408"E
BP-5	20°9' 20.0506"N	75°48' 10.8776"E
BP-6	20°9' 16.5018"N	75°48' 10.2902"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.87 km E
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –10.5 Km NW 31.2 km S NH211-51.3 Km SW SH178–12 Km N Sillod Jalna Rd–1.8 Km E Vil Rd-0.993 km W 14.5 km Check dam – 1.634 Km SE 1.634 Km SE 1.634 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 40 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 40 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -109 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -96 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Valsa Khalsa -0.814 Km NW

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-10 Km NW Valsa Khalsa -0.814 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River Coastal Area 317 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

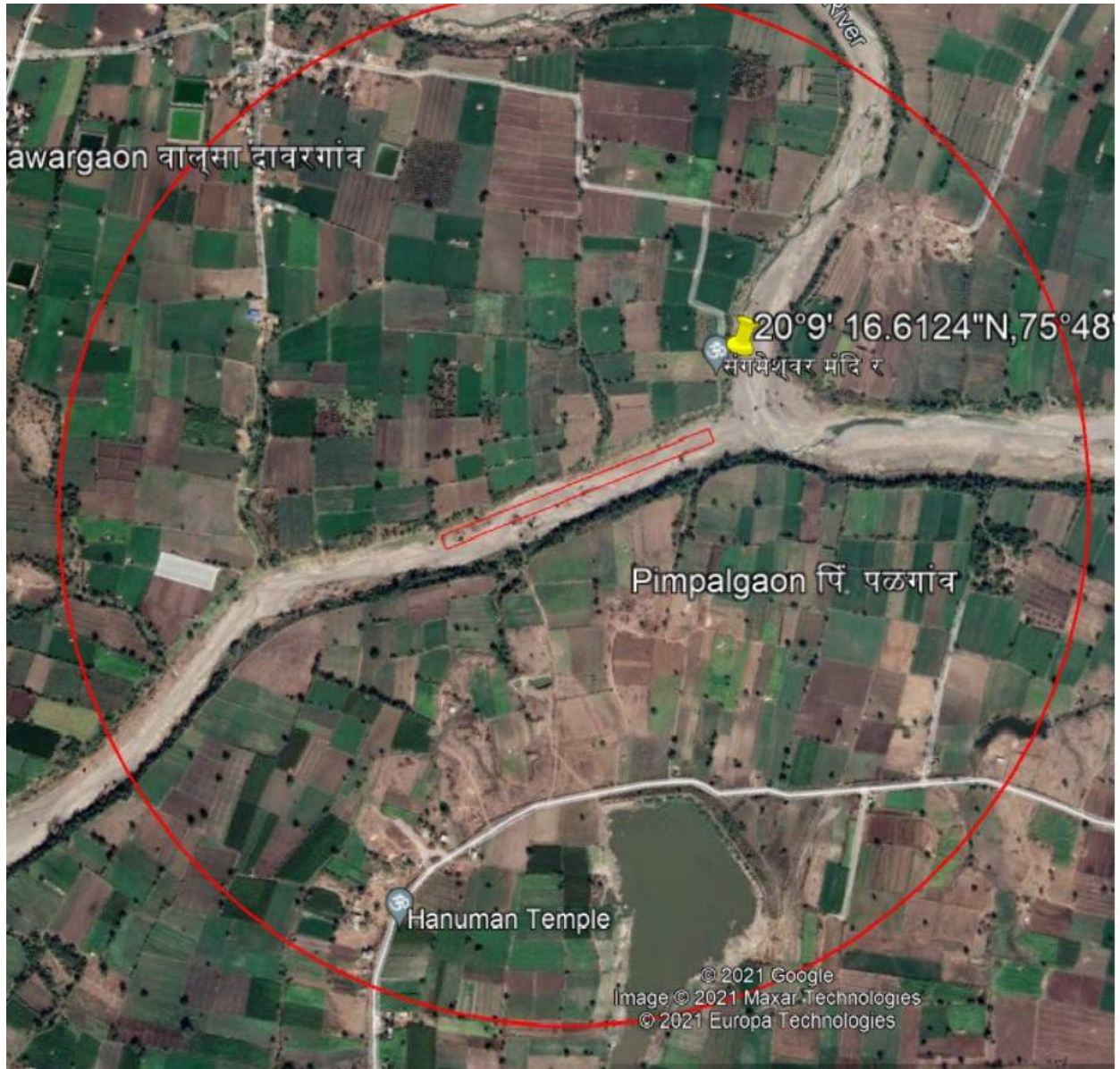


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1225m connecting Valsa Devergaon rd.

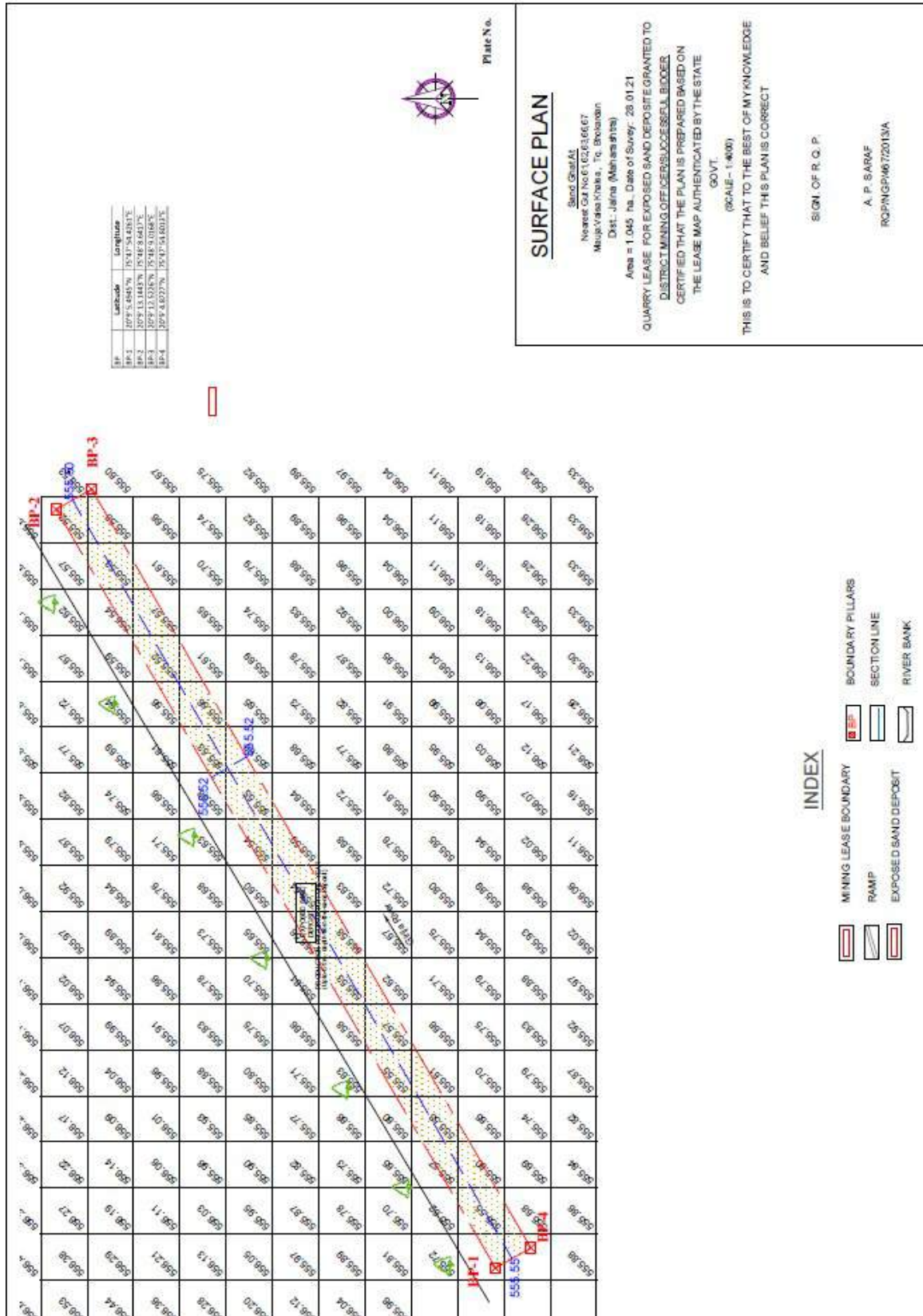
Section 2.0 : Project Description and Method of Mining

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 Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 1846 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Valsa Khalsa	Bhokardan	Girija	61 to 67	1.045	475 x 22 x 0.5	1846	20°9' 16.6124"N	75°48' 9.5415"E

Surface Plan for Valsa Khalsa Sand Ghat:



2.1 Method of Mining :

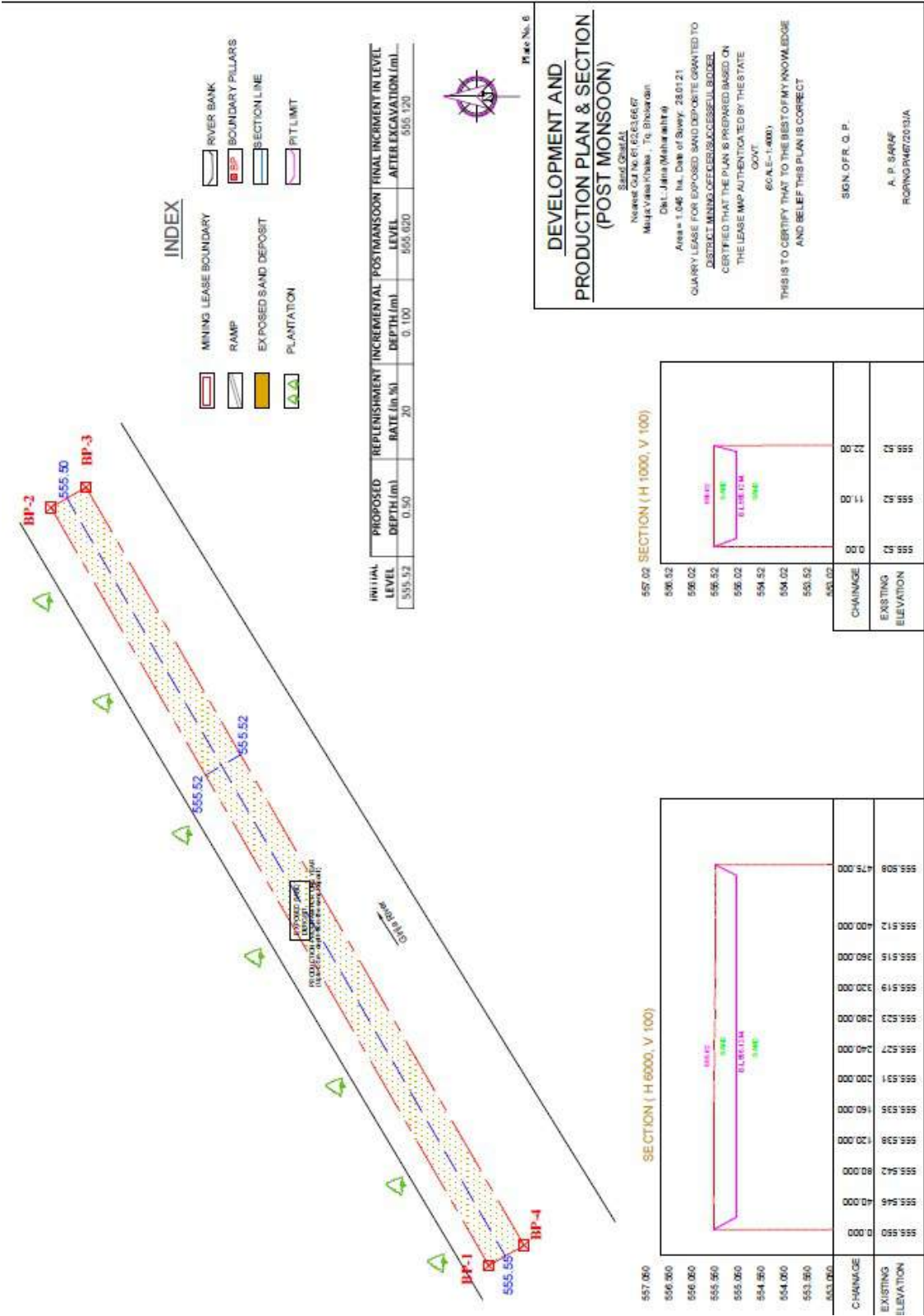
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	475mx22mx0.5m

Production Plan for Valsa Khalsa Girija Sand Ghat :



2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	10450
Area under dumps	00	00
Undisturbed Area	10450	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

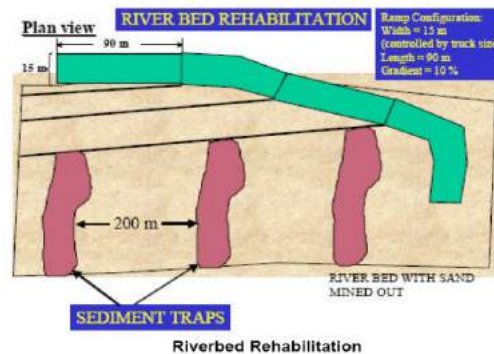


Figure -3

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 : Anticipated Impacts and Management

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 only 1846 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 14784 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	14784 TPA
Operational Days per Year	260 Days
Lead (m)	1225 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.084651065
Total	0.084651065

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

Accordingly Maximum incremental GLC is predicted as 0.6694µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Valsa Khalsa	Bhokardan	Girija	0.6694µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Girija River)

- 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 Valsa Khalsa sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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.

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. Data is interpreted as below

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Theng	1675	3270(Yr 17-18)	5225

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Girija. 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 2.7 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 of Rs 14.20 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.6694\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Girija or other option as suggested by authority will be eased.

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 2.7 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 about 1463 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 14.20 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	245000
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(7 tarpaulin)	35000
			· Regular monitoring of the exhaust fumes.	7 tractors @ Rs. 500/tractor	3500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/ Flood Plain management	· Green belt along bank · Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	238 Nos.	119000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1225 Nos.	612500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1420000

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Javkheda Thombari Sand Ghat, River Purna

(ix) Location / site (GPS Co-ordinates) : Javkheda Thombari, Tq Bhokardan, Gut No. 312,313,314,326,327

BP	Latitude	Longitute
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E

(x) Size of the Mining Lease (Hectare) : 2.34 Ha

(xi) Capacity of Mining Lease (TPA): 33221 TPA , 4148 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 10535920

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.7 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –14.5 Km NW 32 km S NH211-55 Km SW SH178–13.11 Km N Sillod Jalna Rd–3.6 Km W Vil Rd-0.358 km N 18.5 km Check dam – 2.5 Km NE 2.5 Km NE 2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-5.55 W Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE

5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -98 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-14.5 Km NW Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Purna Lease over 2.34 ha comprises of river bed of Purna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

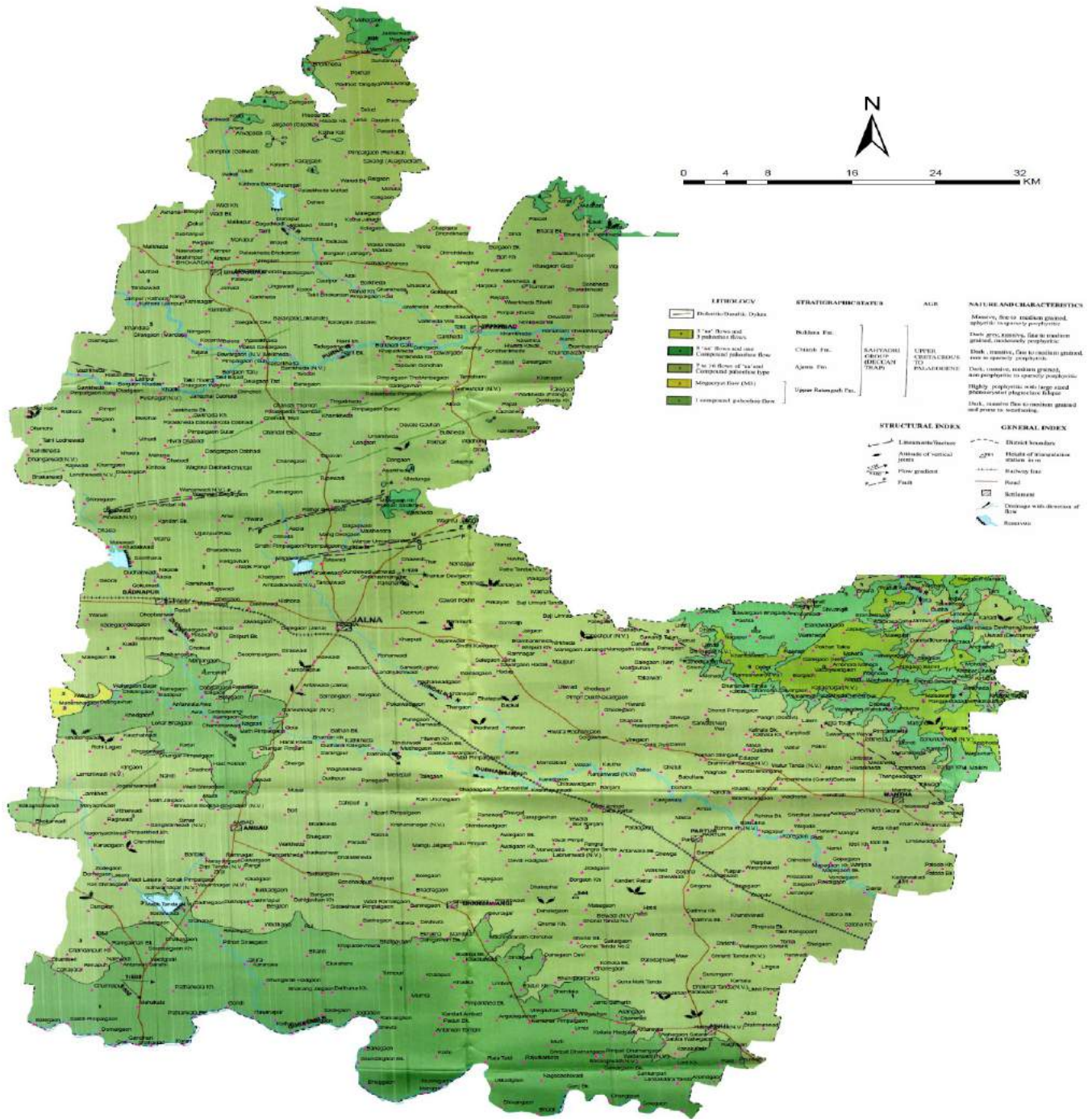
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

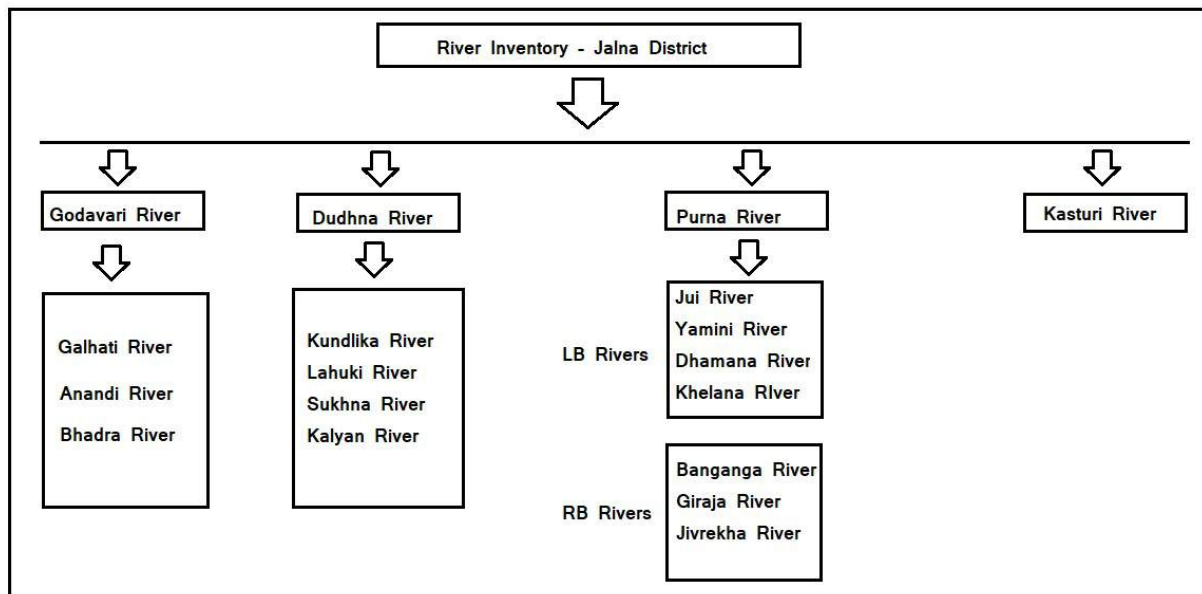
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E



Approach road available over pandan rd of 1102m connecting Nalni rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Javkheda Thombari Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.7 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –14.5 Km NW 32 km S NH211-55 Km SW SH178–13.11 Km N Sillod Jalna Rd–3.6 Km W Vil Rd-0.358 km N 18.5 km Check dam – 2.5 Km NE 2.5 Km NE 2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-5.55 W Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -98 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-14.5 Km NW Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	587m x 40 m x 0.50 m

GPS Location

BP	Latitude	Longitude
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

અ ક્ર. ર.	સાંચી કોડ	સાંચી કોડ સંખ્યા	સાંચી કોડ સંખ્યા	ગટ નંબર	સાંચી (m)	સાંચી (m)	સાંચી (m)	સાંચી સંખ્યા	સાંચી સંખ્યા સંખ્યા
1	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	15,16,50,51,89	410	25	0.60	1.025	2173
2	સાંચી કોડ	સાંચી કોડ- સાંચી	સાંચી કોડ	160,162,163,174	450	25	0.50	1.125	1988
3	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	132,133,154,155	480	30	0.80	1.44	4071
6	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	50,51,52,54	475	22	0.80	1.045	2954
7	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	61,62,63,66,67	475	22	0.50	1.045	1846
8	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	312,313,314,326,327	587	40	0.50	2.34	4148
9	સાંચી કોડ	સાંચી કોડ.	સાંચી કોડ	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Javkheda Thombari and ghat proposed (over Dhamna river) in Bhokardan taluka is one of the four sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Bhokardan and adjoining areas of other talukas. All four sand ghats are on Purna river. Details of Bhokardan taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombari	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitute
BP-1	20°8' 43.5877"N	75°51' 19.9251"E
BP-2	20°8' 41.3149"N	75°51' 39.9996"E
BP-3	20°8' 40.023"N	75°51' 39.8356"E
BP-4	20°8' 42.2958"N	75°51' 19.7611"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -3.7 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Bhokardan –14.5 Km NW 32 km S NH211-55 Km SW SH178–13.11 Km N Sillod Jalna Rd–3.6 Km W Vil Rd-0.358 km N 18.5 km Check dam – 2.5 Km NE 2.5 Km NE 2.5 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 42 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Girija River-5.55 W Wet Land Not Notified for district, Biosphere -Pachmadi-330 km NE Mountains Govilgad Hill range 46 Km NE
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 42 Km N
6	Inland, coastal, marine or underground waters	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
7	State, National boundaries	Madhyapradesh -108 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -98 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Javkheda Thombari -1.5 Km NW

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Bhokardan-14.5 Km NW Javkheda Thombari -1.5 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Purna river Girija River-5.55 W Coastal Area 320 Km West Marine Water -310 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 1102 m connecting Nalni rd.

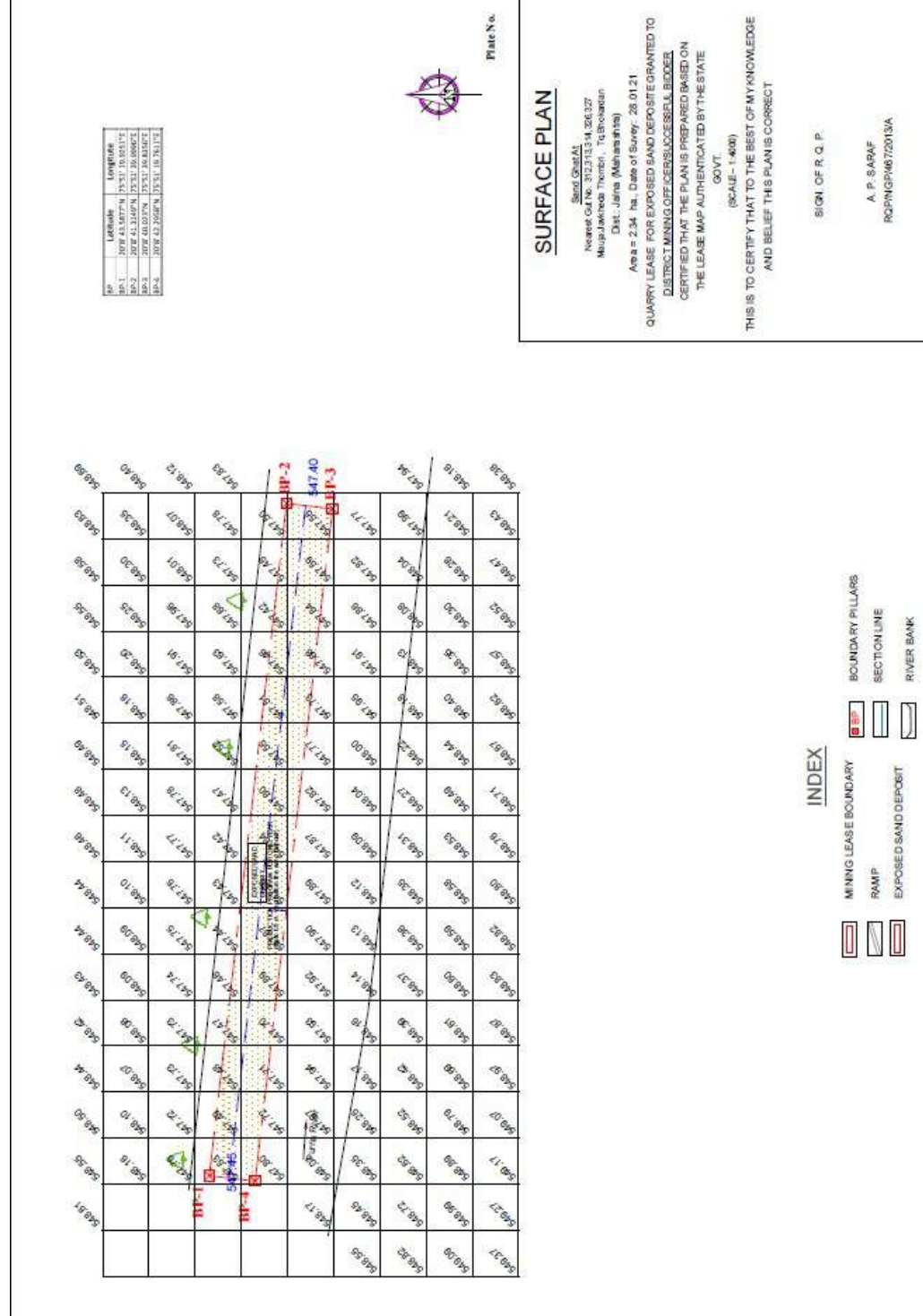
Section 2.0 : Project Description and Method of Mining

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 Bhokardan Tahsil. District Mining Officer Jalna has proposed for the production of 4148 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Javkheda Thombri	Bhokardan	Purna	312,313,314, 326,327	2.34	587 x 40 x 0.5	4148	20°8' 43.5877"N	75°51' 19.9251"E

Surface Plan for Javkheda Thomabri Sand Ghat:



2.1 Method of Mining :

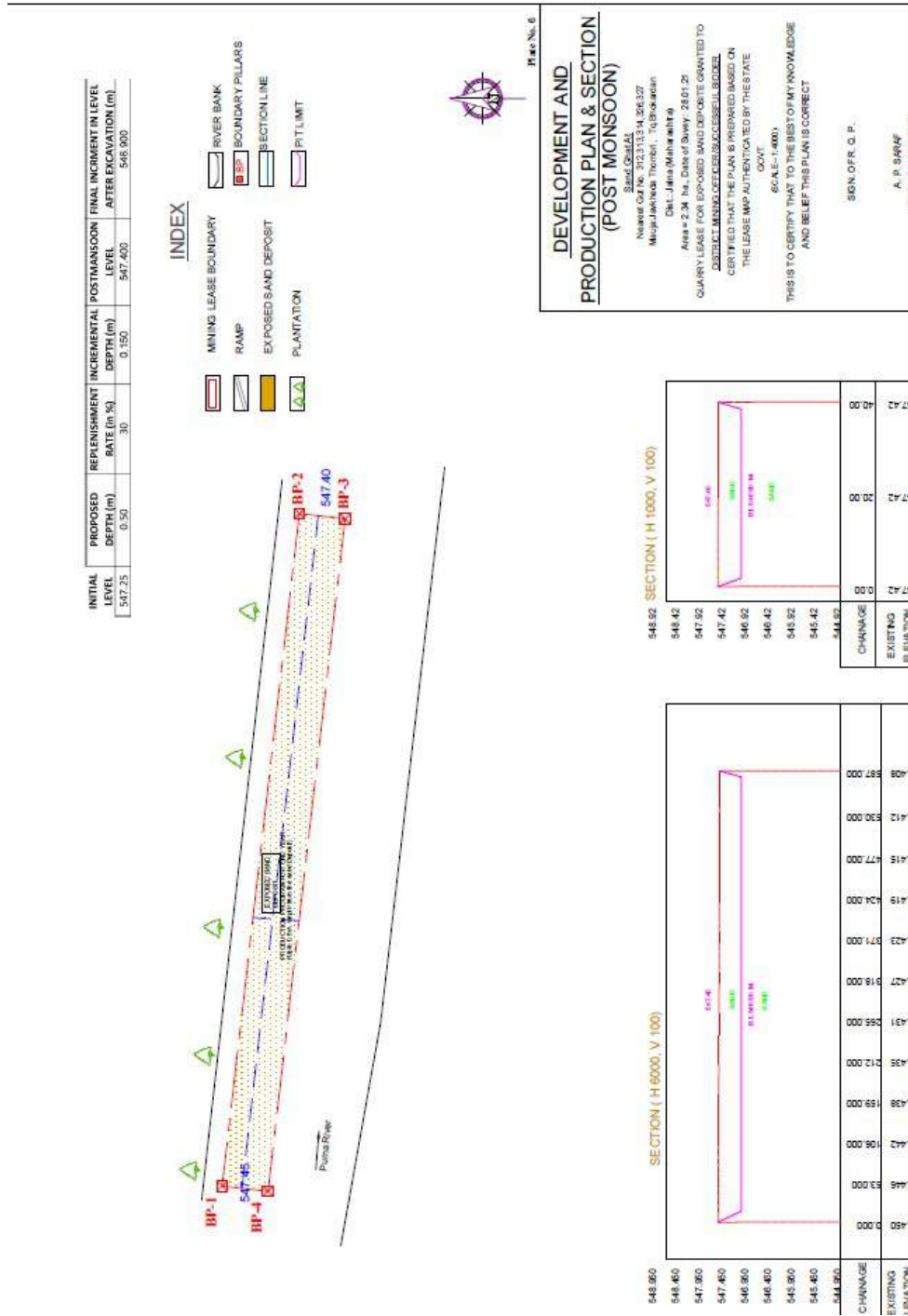
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	587mx40mx0.5m

Production Plan for Javkheda Thomabri Sand Ghat :



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	5
3	Mining Labors	15
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	23400
Area under dumps	00	00
Undisturbed Area	23400	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

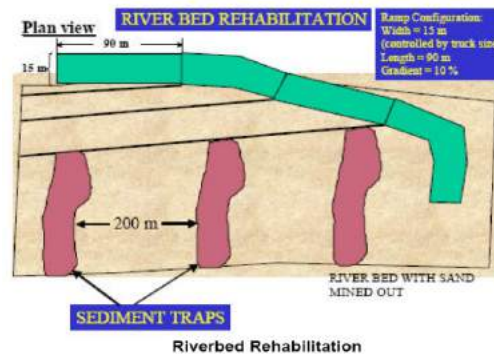


Figure -3

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 : Anticipated Impacts and Management

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 only 4148 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 33221 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	33221 TPA
Operational Days per Year	260 Days
Lead (m)	1102 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.190212685
Total	0.190212685

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

Accordingly Maximum incremental GLC is predicted as 0.6670µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Javkheda Thomabri	Bhokardan	Purna	0.6670µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Purna River)

- 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 Jawkheda Thomabri sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Thomabri	4109	7180(Yr 18-19)	11740

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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. 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 2.7 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 of Rs 14.20 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.6670\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 or other option as suggested by authority will be eased.

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 2.7 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 about 1395 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 14.20 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	220400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(16 tarpaulin)	80000
			· Regular monitoring of the exhaust fumes.	16 tractors @ Rs. 500/tractor	8000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/ Flood Plain management	· Green belt along bank · Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	293 Nos.	146500
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	1102 Nos.	551000
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1420900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Badhan Bk. Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Badhan Bu., Tq Jalna, Gut No. 167,166,165,164,162,161

BP	Latitude	Longitute
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
BP-8	19°42' 50.6223"N	75°53' 1.4456"E
BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E

(x) Size of the Mining Lease (Hectare) : 1.40 Ha

(xi) Capacity of Mining Lease (TPA): 19806 TPA , 2473 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 6281420

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE

	Intake for Irrigation canal pumps	1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu. -0.420 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna -13.5 Km N Badhan Bu. -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.40 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

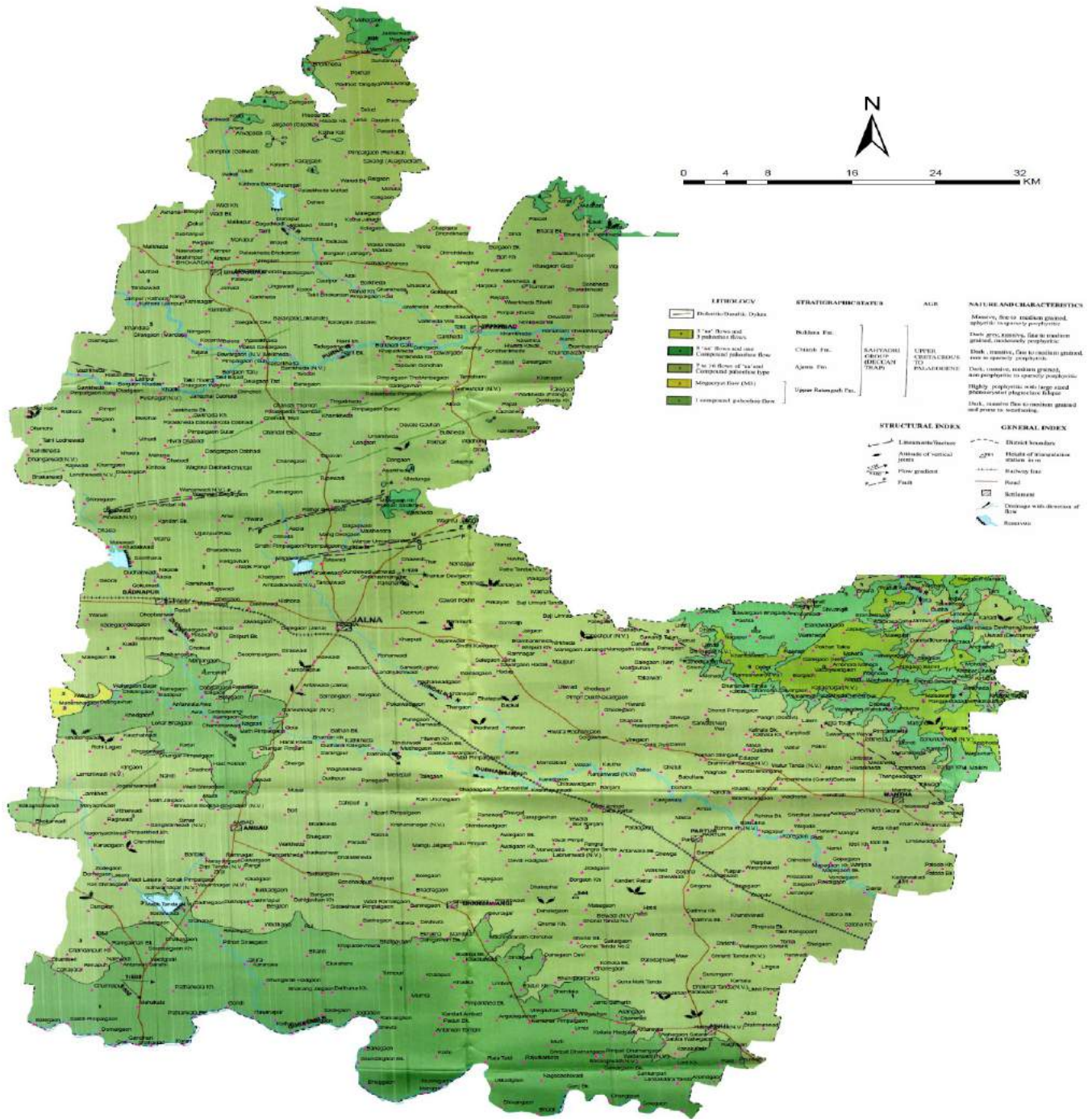
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

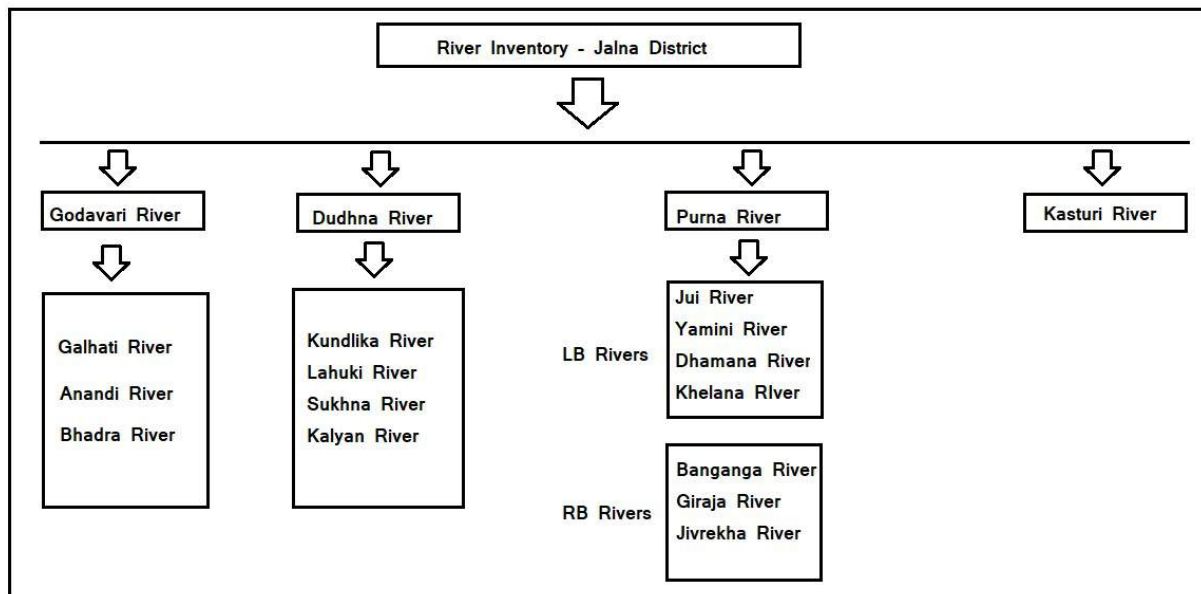
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E



Approach road available over pandan rd of 507m connecting Badhan Bu rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Badhan Bu Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE 1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--

9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu. -0.420 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –13.5 Km N Badhan Bu. -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	700m x 20 m x 0.50 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
BP-8	19°42' 50.6223"N	75°53' 1.4456"E
BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

અ ક્ર. ર.	સાંચી કોડ	સાંચી કોડ સંખ્યા	સાંચી કોડ સંખ્યા	ગટ નંબર	સાંચી (m)	સાંચી (m)	સાંચી (m)	સાંચી સંખ્યા	સાંચી સંખ્યા સંખ્યા
1	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	15,16,50,51,89	410	25	0.60	1.025	2173
2	સાંચી કોડ	સાંચી કોડ- સાંચી	સાંચી કોડ	160,162,163,174	450	25	0.50	1.125	1988
3	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	132,133,154,155	480	30	0.80	1.44	4071
6	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	50,51,52,54	475	22	0.80	1.045	2954
7	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	61,62,63,66,67	475	22	0.50	1.045	1846
8	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	312,313,314,326,327	587	40	0.50	2.34	4148
9	સાંચી કોડ	સાંચી કોડ.	સાંચી કોડ	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Badhan Bu and ghat proposed (over Dudhna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Badhan Bu	Jalna	Dudhna	167,166,165, 164,162,161	1.40	700 x 20 x 0.5	2473	19°42' 48.9773"N	75°52' 42.9883"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°42' 48.9773"N	75°52' 42.9883"E
BP-2	19°42' 52.3277"N	75°52' 45.9918"E
BP-3	19°42' 53.3068"N	75°52' 48.1736"E
BP-4	19°42' 52.5334"N	75°52' 58.575"E
BP-5	19°42' 51.1394"N	75°53' 1.9098"E
BP-6	19°42' 48.1891"N	75°53' 3.9386"E
BP-7	19°42' 47.834"N	75°53' 3.363"E
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BP-9	19°42' 51.8935"N	75°52' 58.4046"E
BP-10	19°42' 52.6447"N	75°52' 48.3013"E
BP-11	19°42' 51.8118"N	75°52' 46.4306"E
BP-12	19°42' 48.5567"N	75°52' 43.5124"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.4 km W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE 1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Badhan Bu. -0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N

	(hospitals, schools, places of worship, community facilities)	Badhan Bu. -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 507 m connecting Basdhan rd.

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 Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 2473 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
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SP	Latitude	Longitude
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SP-2	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-3	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-4	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-5	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-6	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-7	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-8	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-9	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-10	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-11	19° 42' 48.5000"N	75° 52' 41.5000"E
SP-12	19° 42' 48.5000"N	75° 52' 41.5000"E

Plate No.

Scale 1:4000

Govt.

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS PLAN IS CORRECT

SIGN OF R. Q. P.

A. P. SARAF

ROPN/GP/4672013/A

Scale 1:4000

Govt.

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS PLAN IS CORRECT

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A. P. SARAF

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SIGN OF R. Q. P.

A. P. SARAF

ROPN/GP/4672013/A

2.1 Method of Mining :

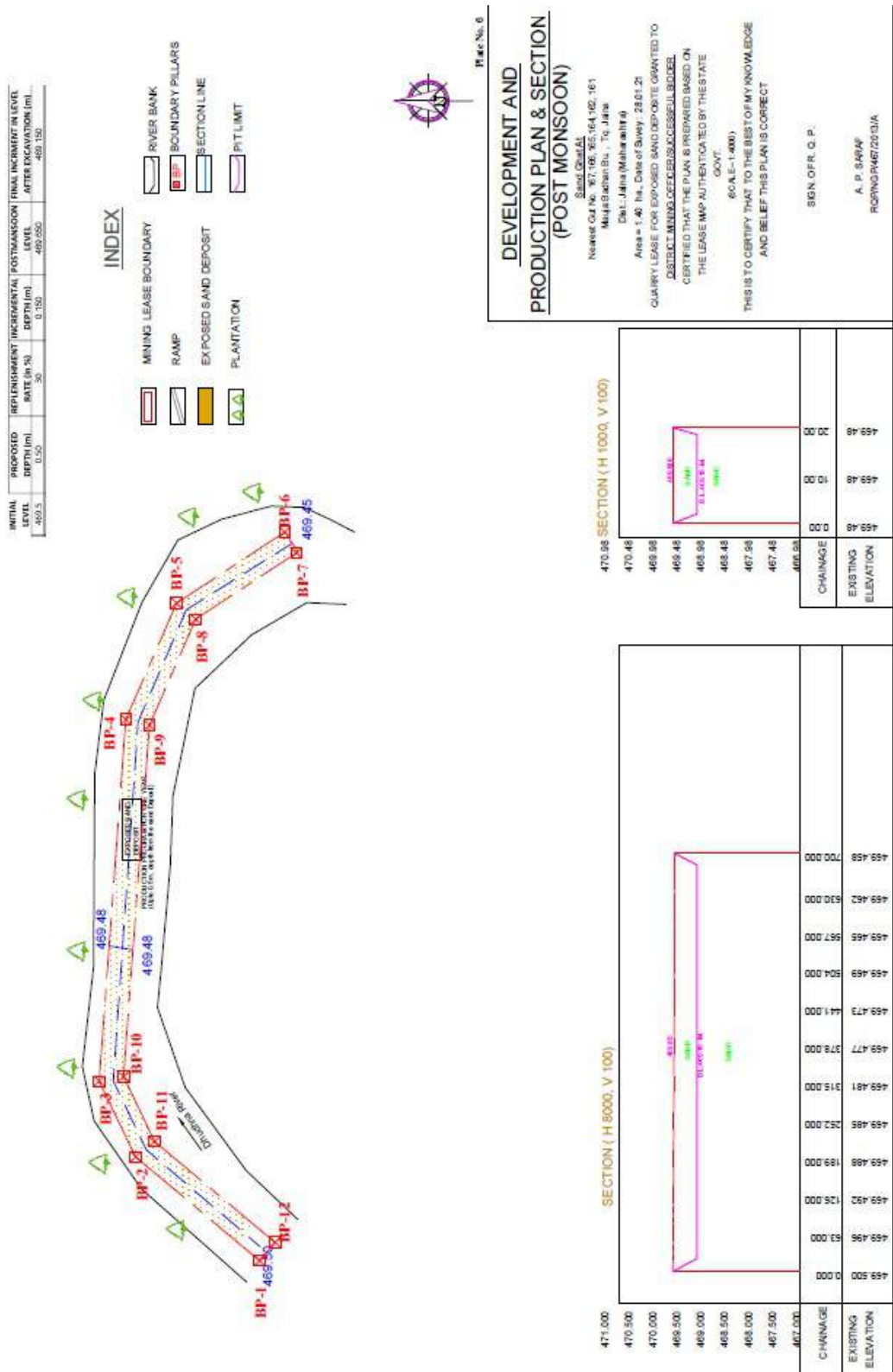
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	700mx20mx0.5m

Production Plan for Badhan Bu Sand Ghat :



2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	14000
Area under dumps	00	00
Undisturbed Area	14000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

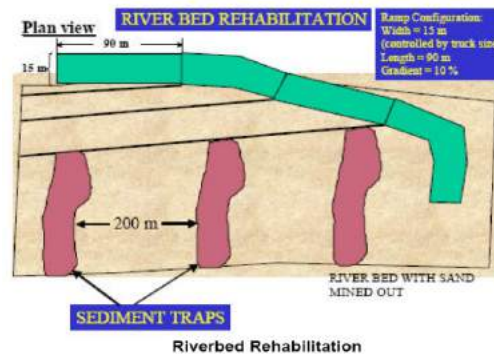


Figure -3

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 : Anticipated Impacts and Management

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 only 2473 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 19806 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	19806 TPA
Operational Days per Year	260 Days
Lead (m)	507 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.113403079
Total	0.113403079

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

Accordingly Maximum incremental GLC is predicted as 0.6694µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Badhan Bu	Jalna	Dudhna	0.6694µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Dudhna River)

- 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 Badhan Bu sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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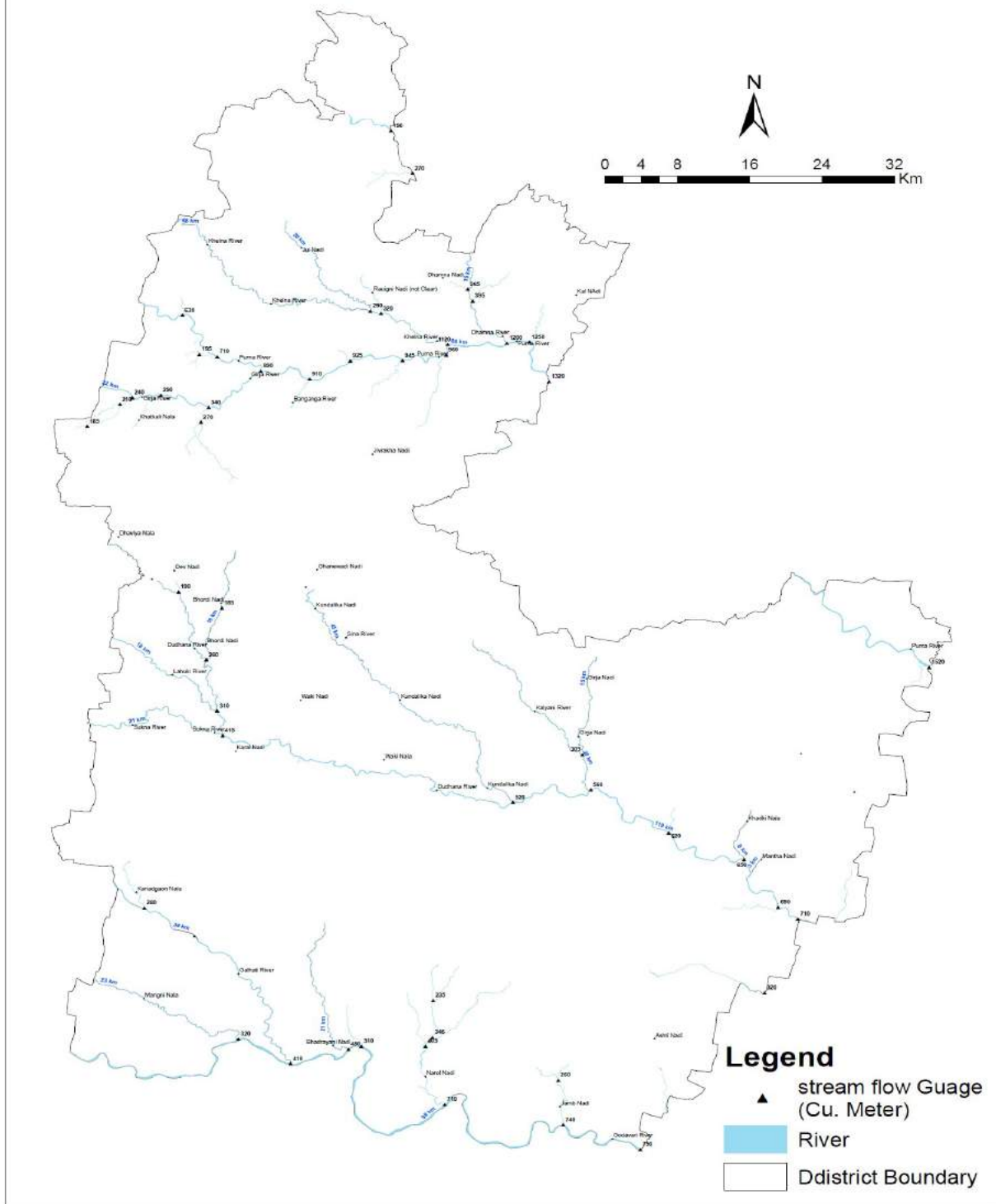
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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.

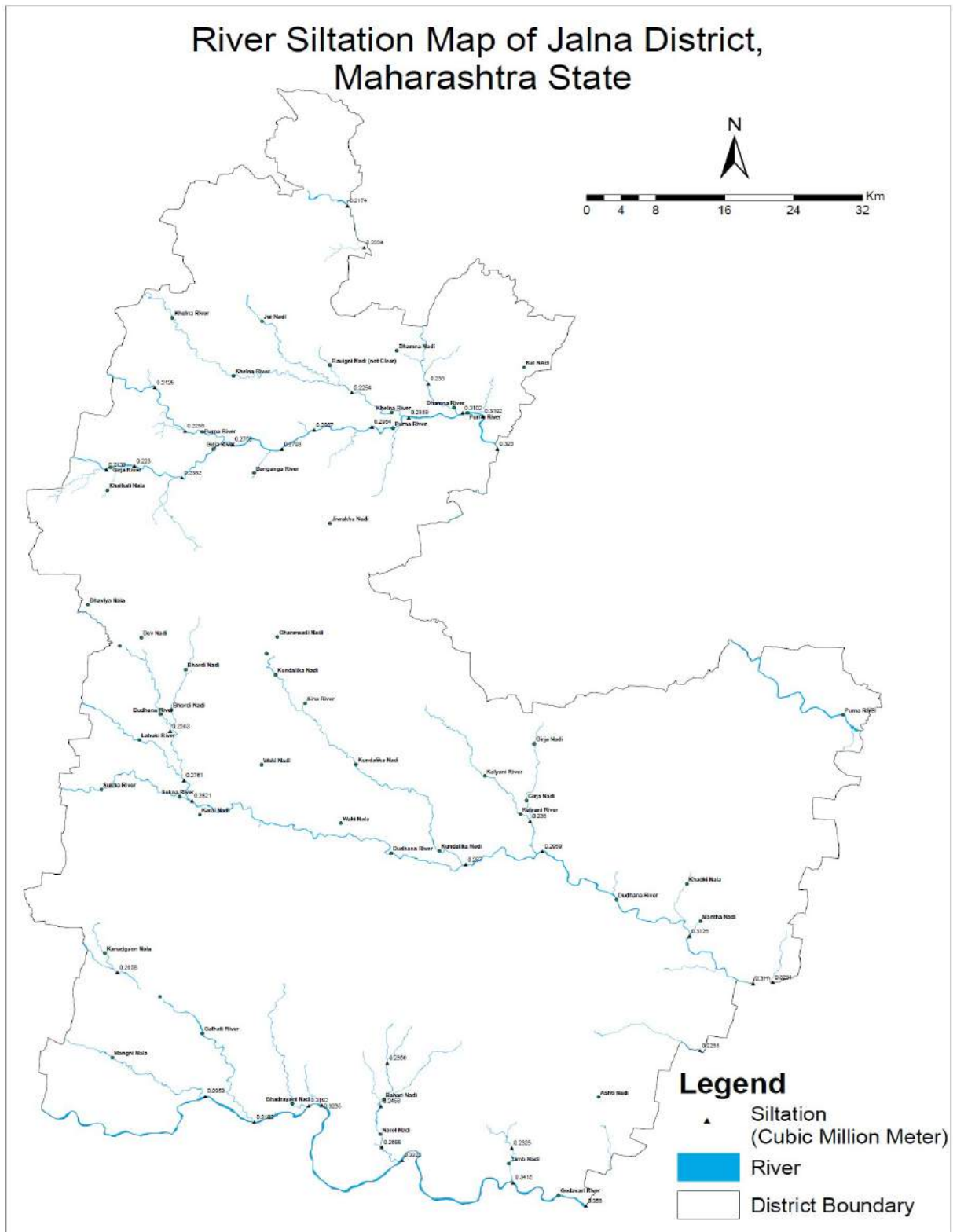
A Punjab type silt sampler was used to collect the surface water sample for measuring the silt. Silt sample is calibrated to collect surface water sample of 1 ltr. with required arrangements to collect the surface water. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



cum/minute

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



In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Theng	2450	4920(Yr 18-19)	7000

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 9.89 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.6694\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 857 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 9.89 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	101400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(10 tarpaulin)	50000
			· Regular monitoring of the exhaust fumes.	10 tractors @ Rs. 500/tractor	5000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	350 Nos.	175000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	507 Nos.	253500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				989900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Golapangari Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Golapangari, Tq Jalna, Gut No. 139,140,11,112

BP	Latitude	Longitute
BP-1	19°43' 24.8192"N	75°50' 15.8327"E
BP-2	19°43' 21.6897"N	75°50' 18.3053"E
BP-3	19°43' 19.7328"N	75°50' 21.3232"E
BP-4	19°43' 10.8681"N	75°50' 30.1098"E
BP-5	19°43' 10.4211"N	75°50' 29.6105"E
BP-6	19°43' 19.2353"N	75°50' 20.8745"E
BP-7	19°43' 21.2121"N	75°50' 17.8259"E
BP-8	19°43' 24.4248"N	75°50' 15.2862"E

(x) Size of the Mining Lease (Hectare) : 1.20 Ha

(xi) Capacity of Mining Lease (TPA): 13586 TPA , 1696 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 4307840

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.0.5 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE 1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains,	Purna river Dudhna River Wet Land Not Notified for

	forests	district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist,pilgrim areas	--
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –13.5 Km N Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.20 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

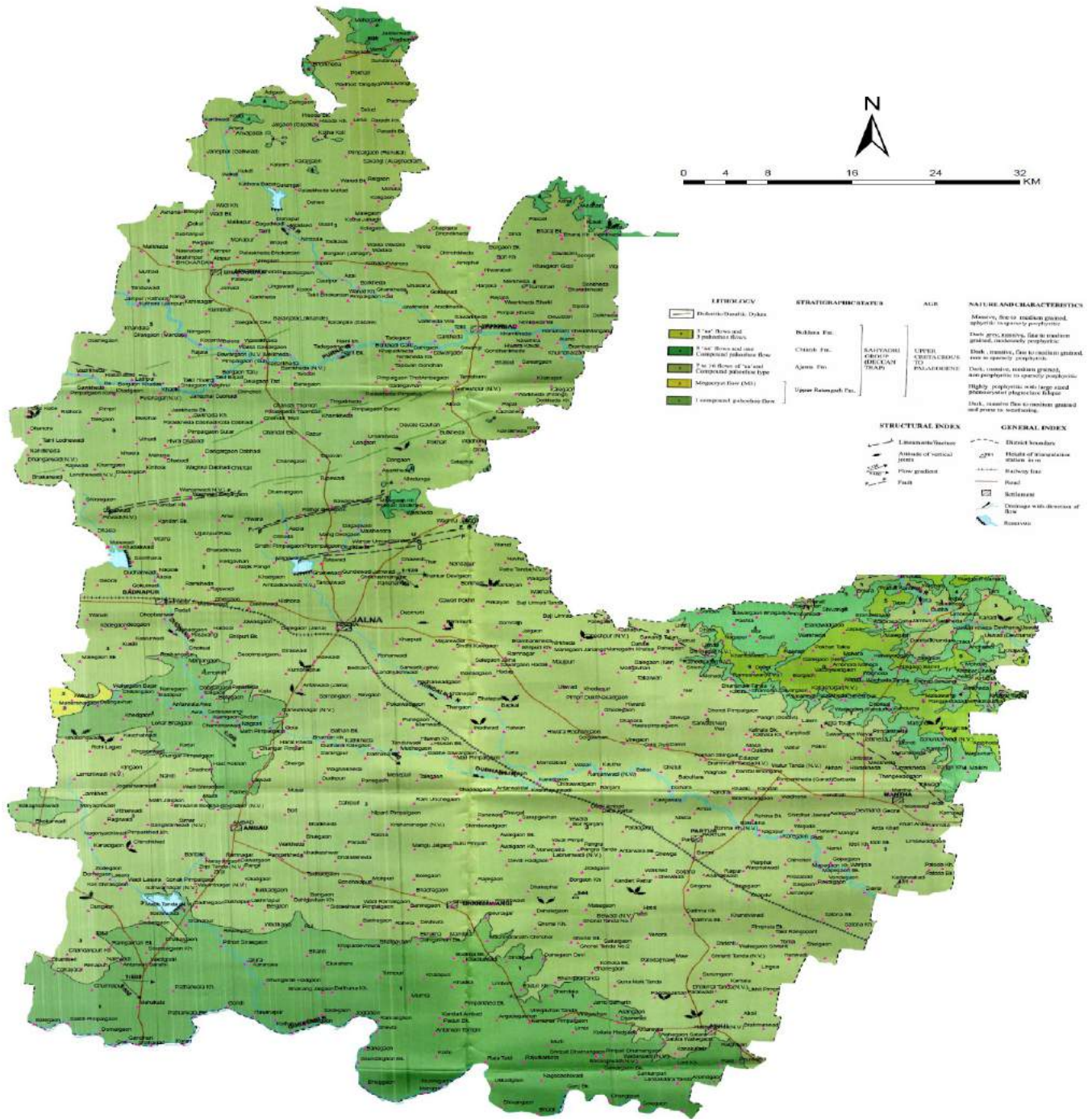
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

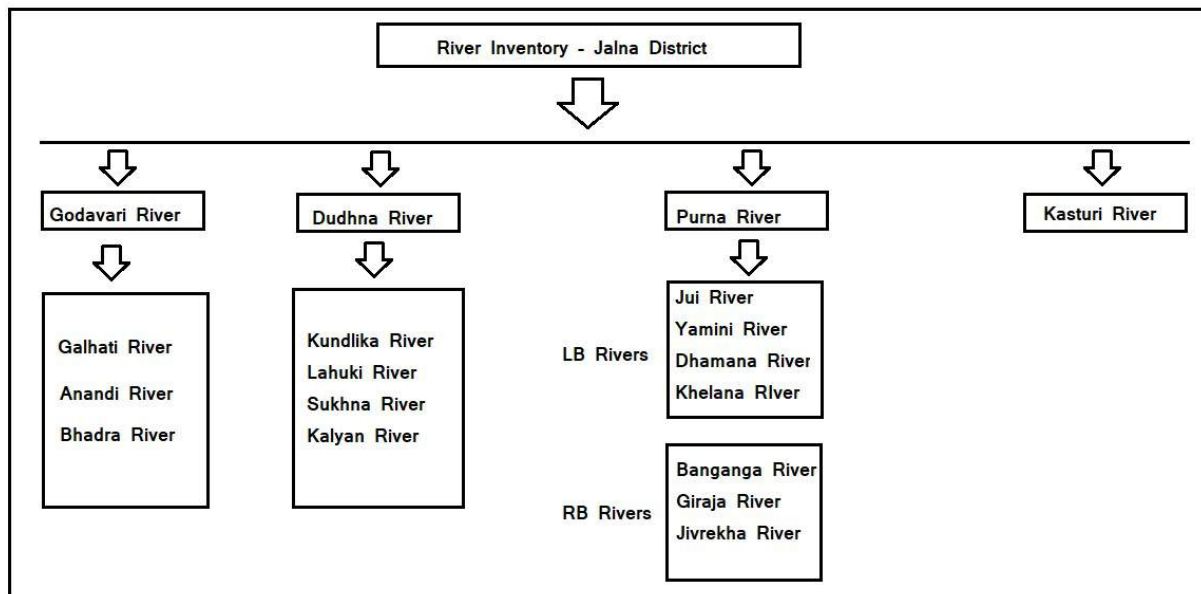
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E



Approach road available over pandan rd of 743m connecting Gopalpangri rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Gopalpangri Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.0.5 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE 1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist,pilgrim areas	--

9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –13.5 Km N Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	600m x 20 m x 0.50 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°43' 24.8192"N	75°50' 15.8327"E
BP-2	19°43' 21.6897"N	75°50' 18.3053"E
BP-3	19°43' 19.7328"N	75°50' 21.3232"E
BP-4	19°43' 10.8681"N	75°50' 30.1098"E
BP-5	19°43' 10.4211"N	75°50' 29.6105"E
BP-6	19°43' 19.2353"N	75°50' 20.8745"E
BP-7	19°43' 21.2121"N	75°50' 17.8259"E
BP-8	19°43' 24.4248"N	75°50' 15.2862"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

અ ક્ર. ર.	સાંચી કોડ	સાંચી કોડ સંખ્યા	સાંચી કોડ સંખ્યા	ગટ નંબર	સાંચી (m)	સાંચી (m)	સાંચી (m)	સાંચી સંખ્યા	સાંચી સંખ્યા સંખ્યા
1	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	15,16,50,51,89	410	25	0.60	1.025	2173
2	સાંચી કોડ	સાંચી કોડ- સંખ્યા	સાંચી કોડ	160,162,163,174	450	25	0.50	1.125	1988
3	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	132,133,154,155	480	30	0.80	1.44	4071
6	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	50,51,52,54	475	22	0.80	1.045	2954
7	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	61,62,63,66,67	475	22	0.50	1.045	1846
8	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	312,313,314,326,327	587	40	0.50	2.34	4148
9	સાંચી કોડ	સાંચી કોડ.	સાંચી કોડ	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	સાંચી કોડ	સાંચી કોડ	સાંચી કોડ	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□	□□□□ □□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□ □□.	□□□□ □□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	2540	19°43' 24.8192"N	75°50' 15.8327"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Golapangri and ghat proposed (over Dudhna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	2540	19°43' 24.8192"N	75°50' 15.8327"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°43' 24.8192"N	75°50' 15.8327"E
BP-2	19°43' 21.6897"N	75°50' 18.3053"E
BP-3	19°43' 19.7328"N	75°50' 21.3232"E
BP-4	19°43' 10.8681"N	75°50' 30.1098"E
BP-5	19°43' 10.4211"N	75°50' 29.6105"E
BP-6	19°43' 19.2353"N	75°50' 20.8745"E
BP-7	19°43' 21.2121"N	75°50' 17.8259"E
BP-8	19°43' 24.4248"N	75°50' 15.2862"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.0.5 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –13.5 Km N 8.1 km NE NH211-27.8 Km SW SH30–14.5 Km N Ambad Jalna Rd–5.2 Km W Vil Rd-0.175 km N 1.9 km NW Check dam – 1.99 Km SE 1.95 Km NE 1.95 Km NE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 82 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Purna river Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-364 km NE Mountains Dyanganga Hill range 93 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 82 Km NW
6	Inland, coastal, marine or underground waters	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
7	State, National boundaries	Madhyapradesh -155 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -146 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Golapangari -0.420 Km NW
11	Areas occupied by sensitive man-made land uses	Jalna –13.5 Km N

	(hospitals, schools, places of worship, community facilities)	Golapangari -0.420 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waki Nala waterbody-1.88 Km NE Dudhna River Coastal Area 330 Km West Marine Water -320 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image

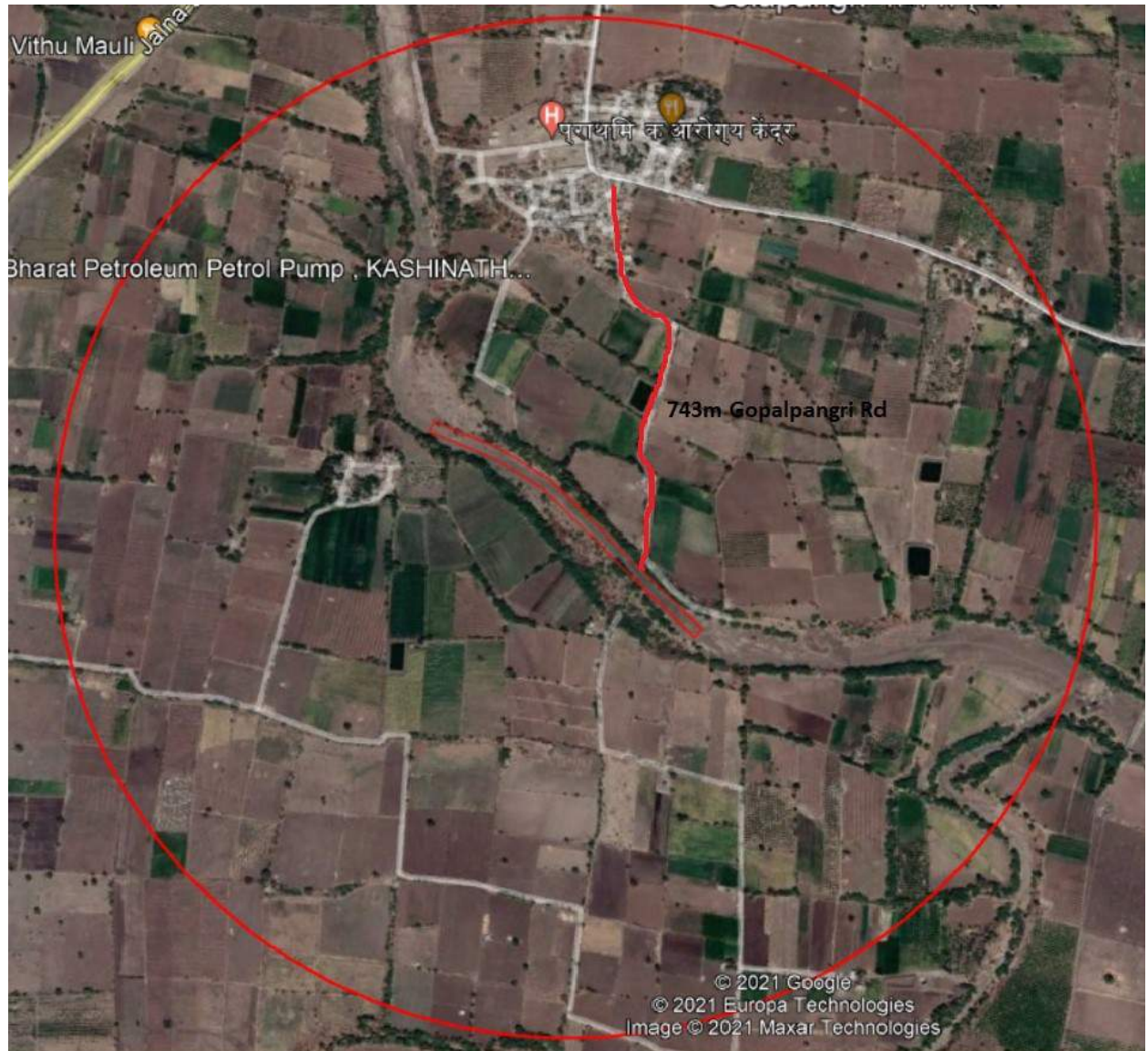


Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 743 m connecting Golapangri rd.

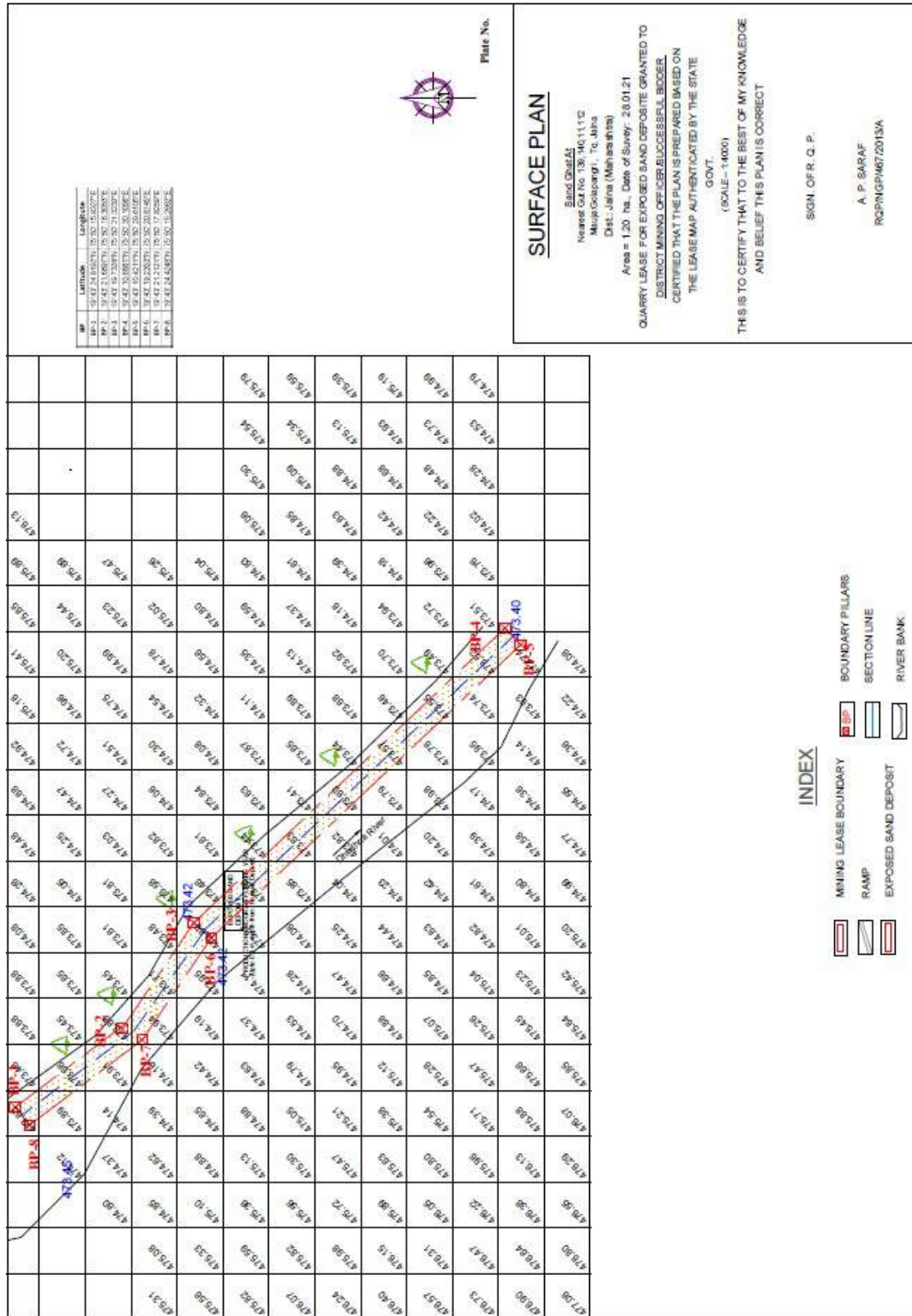
Section 2.0 : Project Description and Method of Mining

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 Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 1696 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Golapangri	Jalna	Dudhna	139,140, 111,112	1.20	600 x 20 x 0.5	1696	19°43' 24.8192"N	75°50' 15.8327"E

Surface Plan for Golapangri Sand Ghat:



2.1 Method of Mining :

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

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	600mx20mx0.40m

INDEX

INITIAL LEVEL	PROPOSED DEPTH (m)	REPLENISHMENT RATE (in %)	INCREMENTAL DEPTH (m)	POSTMONSOON LEVEL	FINAL INCREMENT IN LEVEL AFTER EXCAVATION (m)
473.42	0.40	30	0.120	473.540	473.140

INDEX

MINING LEASE BOUNDARY	RAMP	EXPOSED SAND DEPOSIT	PLANTATION	RIVER BANK	BOUNDARY PILLARS	SECTION LINE	PIT LIMIT
[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]

SECTION (H 1000, V 100)

CHANGAGE	EXISTING ELEVATION
473.42	20.00
473.42	10.00
473.42	0.00

SECTION (H 6000, V 100)

CHANGAGE	EXISTING ELEVATION
473.450	0.000
473.446	54.000
473.442	108.000
473.438	162.000
473.435	216.000
473.431	270.000
473.427	324.000
473.423	378.000
473.419	432.000
473.415	486.000
473.412	540.000
473.408	594.000

DEVELOPMENT AND PRODUCTION PLAN & SECTION (POST MONSOON)

Scale: 1:20 (H), Date of Survey: 28.01.21

Quarry Lease for Exposed Sand Deposit Granted to District Mining Officer, Jharkhand, India.

CERTIFIED THAT THE PLAN IS PREPARED BASED ON THE LEASE MAP AUTHENTICATED BY THE STATE GOVT.

SCALE: 1:4000

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS PLAN IS CORRECT

SIGN. OFFR. Q. P.

A. P. SARAF

REGD. NO. 146720/JA

2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	12000
Area under dumps	00	00
Undisturbed Area	12000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

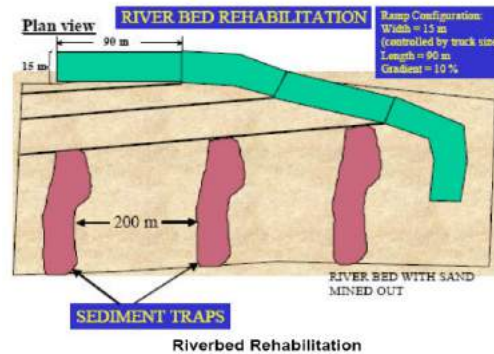


Figure -3

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 : Anticipated Impacts and Management

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 only 1696 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 13586 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	13586 TPA
Operational Days per Year	260 Days
Lead (m)	743 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.077772593
Total	0.077772593

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

Accordingly Maximum incremental GLC is predicted as 0.8366µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Golapangri	Jalna	Dudhna	0.8366µgm/cum

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 as per CPCB guidelines 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 0.4m 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 03.09.2019 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 (Dudhna River)

- 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 Golapangri sand ghat is 0.4m keeping 2.0m bed depth of sand. Total Sand depth available is 2.4m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Theng	1200	4920(Yr 18-19)	4800

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 11.13 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.8366\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 1043 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 11.13 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	148600
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(7 tarpaulin)	35000
			· Regular monitoring of the exhaust fumes.	7 tractors @ Rs. 500/tractor	3500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank	300 Nos.	150000
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.		
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	743 Nos.	371500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1113600

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Pachanvadgaon Sand Ghat, River Kundalika

(ix) Location / site (GPS Co-ordinates) : Pachanvadgaon, Tq Jalna, Gut No. 474,39,272,271,270,269,259

BP	Latitude	Longitute
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E

(x) Size of the Mining Lease (Hectare) : 2.80 Ha

(xi) Capacity of Mining Lease (TPA): 39620 TPA , 4947 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 12565380

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.567 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds	Jalna –8.5 Km NW 2.15 km SW NH211-37.5 Km SW SH177–7.8 Km N Jalna Punegaon Rd–3.45 KmW Vil Rd-0.04 km W 11.3 km NW Check dam – 0.132 Km SE

	In-take for drinking water pump house	2.334 Km NW
	Intake for Irrigation canal pumps	2.334 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 81 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –8.5 Km NW Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
----	--	----

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kundlika Lease 2.80 ha comprises of river bed of Kundalika river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

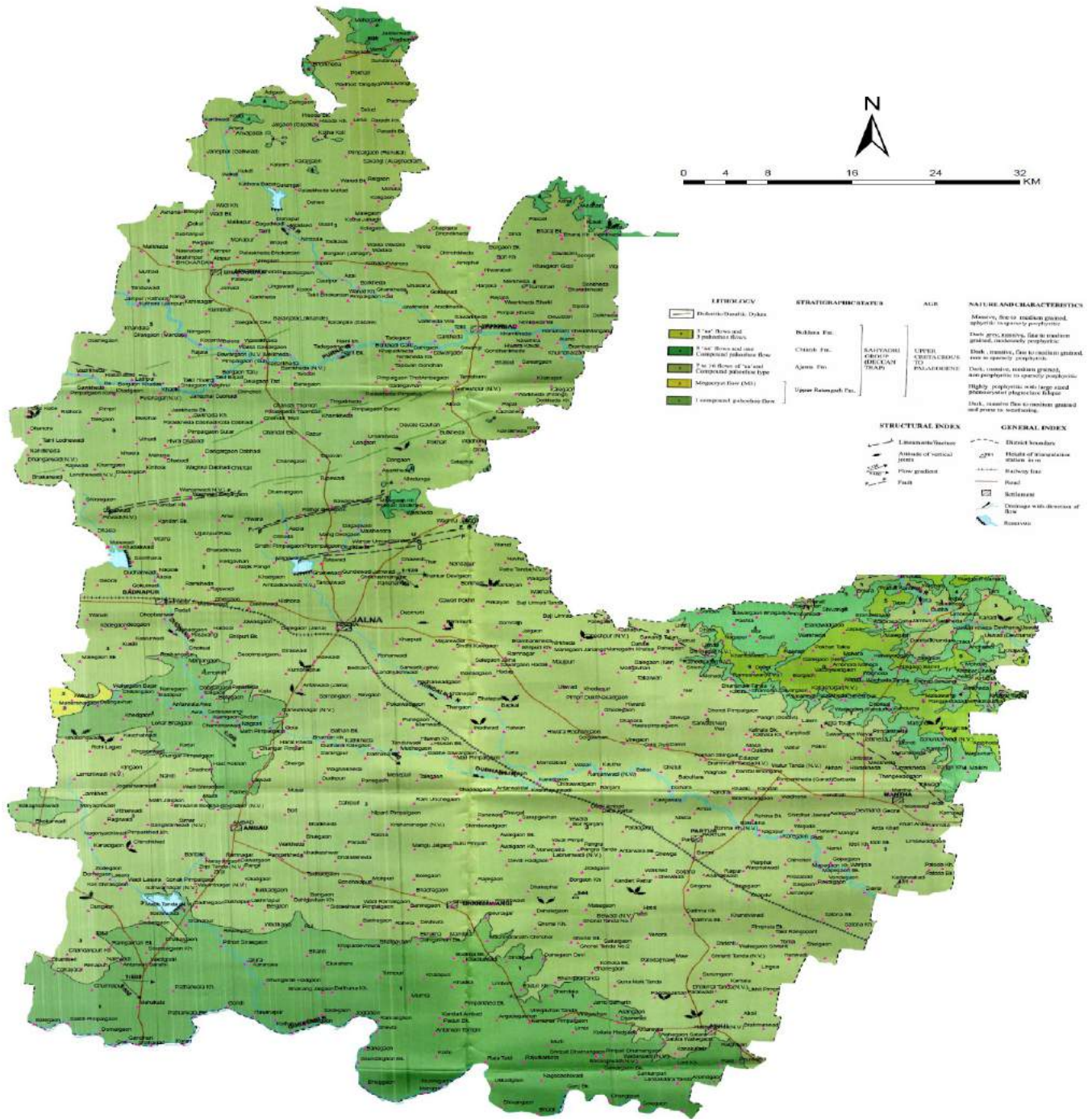
Details of Exploration

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 2.50 m near the banks. The surface plan is prepared on the specified scale.

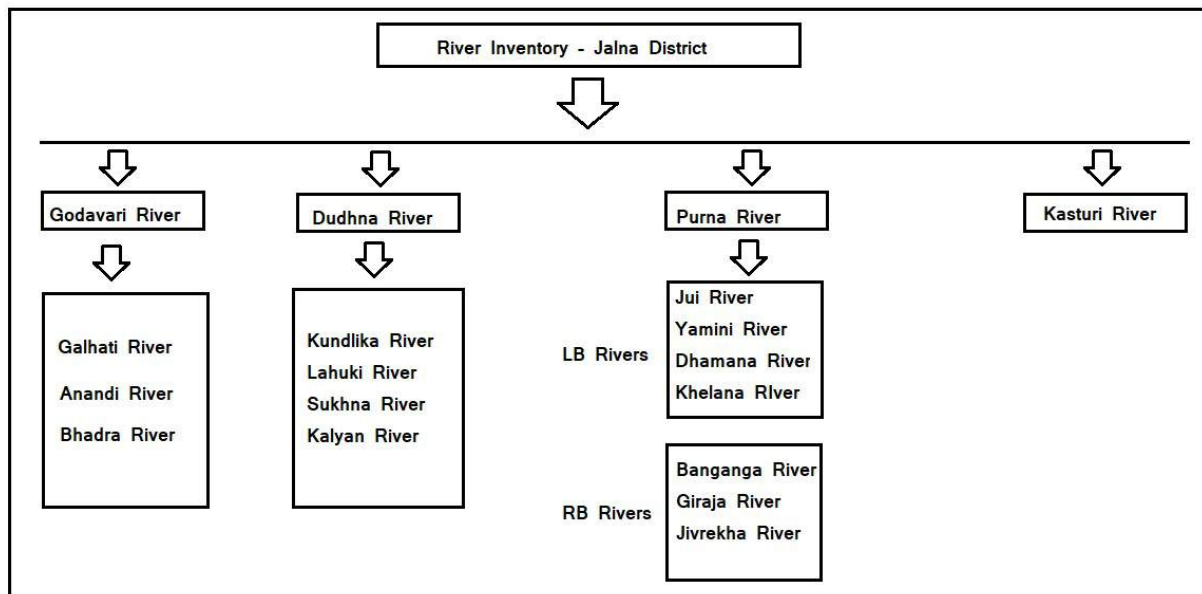
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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:

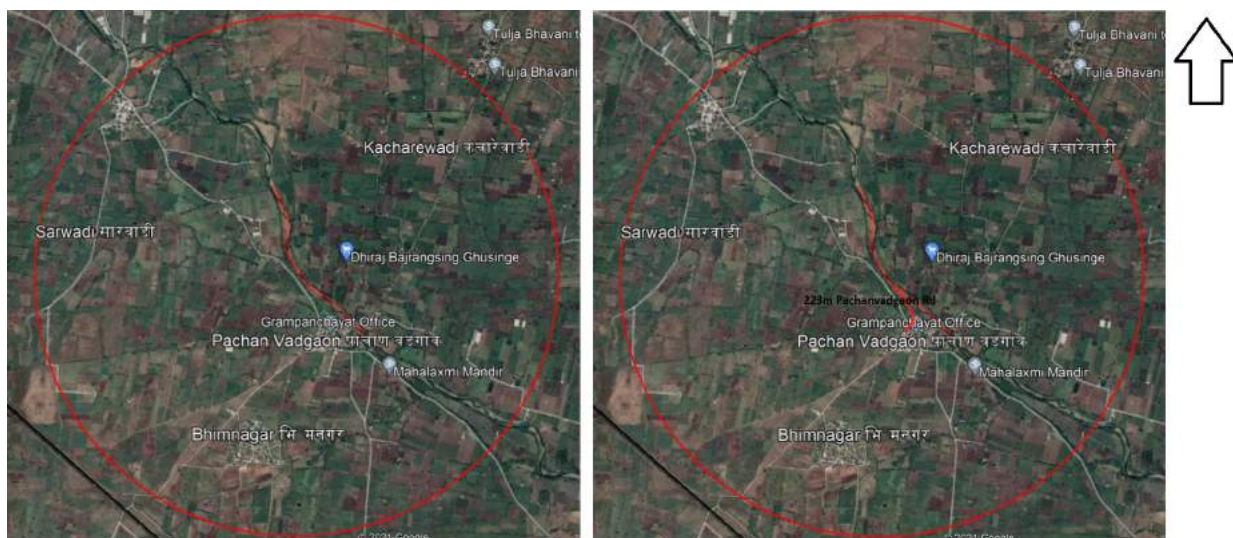
District is expected to collect revenue of about Rs 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/brass. Mining is being carried out for times immemorial and has not adversely affected any environmental constituents. Thus this 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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E



Approach road available over pandan rd of 223m connecting Pachanvadgaon rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Pachanvadgaon Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.567 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –8.5 Km NW 2.15 km SW NH211-37.5 Km SW SH177–7.8 Km N Jalna Punegaon Rd–3.45 KmW Vil Rd-0.04 km W 11.3 km NW Check dam – 0.132 Km SE 2.334 Km NW 2.334 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 81 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –8.5 Km NW Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	1400m x 20 m x 0.50 m

GPS Location

BP	Latitude	Longitude
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. सं.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	District	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats..

Pachanvadgaon and ghat proposed (over Jalna river) in Kundalika taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Kundalika and adjoining areas of other talukas. All six sand ghats are on Jalna river. Details of Kundalika taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	19°47' 12.4417"N	75°57' 3.8812"E
BP-2	19°47' 5.1153"N	75°57' 7.0245"E
BP-3	19°46' 57.1618"N	75°57' 6.7567"E
BP-4	19°46' 52.9896"N	75°57' 8.0524"E
BP-5	19°46' 47.1882"N	75°57' 12.1366"E
BP-6	19°46' 42.2249"N	75°57' 18.7422"E
BP-7	19°46' 35.0059"N	75°57' 26.2404"E
BP-8	19°46' 34.5479"N	75°57' 25.7523"E
BP-9	19°46' 41.6544"N	75°57' 18.3667"E
BP-10	19°46' 46.7428"N	75°57' 11.6242"E
BP-11	19°46' 52.7112"N	75°57' 7.4225"E
BP-12	19°46' 57.0783"N	75°57' 6.0663"E
BP-13	19°47' 4.9983"N	75°57' 6.3329"E
BP-14	19°47' 12.1969"N	75°57' 3.2444"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.567 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –8.5 Km NW 2.15 km SW NH211-37.5 Km SW SH177–7.8 Km N Jalna Pune gaon Rd–3.45 KmW Vil Rd-0.04 km W 11.3 km NW Check dam – 0.132 Km SE 2.334 Km NW 2.334 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 81 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 9.7 Km SW Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-353 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 81 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 9.7 Km SW Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -147 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Pachanvadgaon -0.162 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –8.5 Km NW

	(hospitals, schools, places of worship, community facilities)	Pachanvadgaon -0.052 Km W
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 9.7 Km SW Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

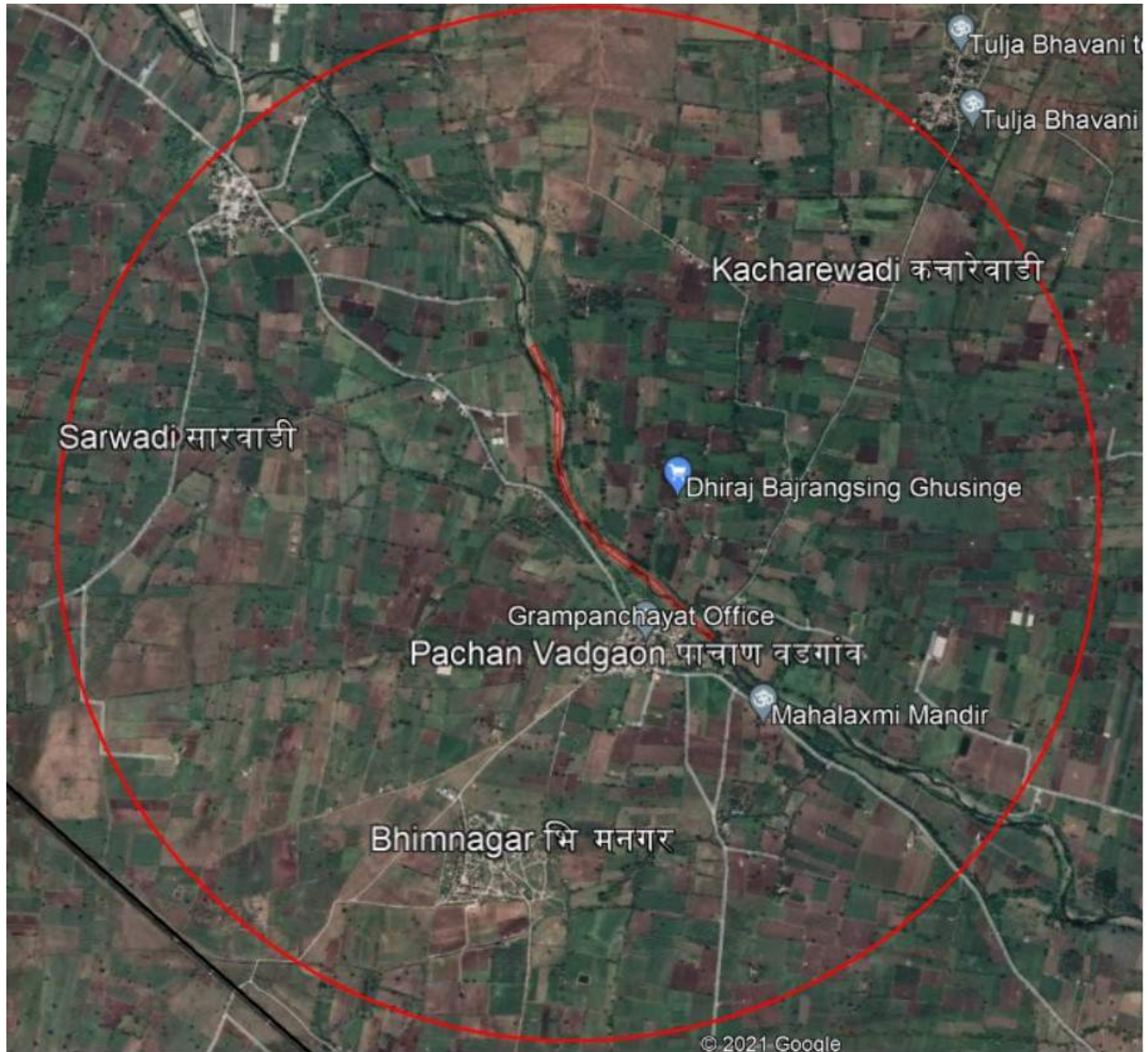


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image

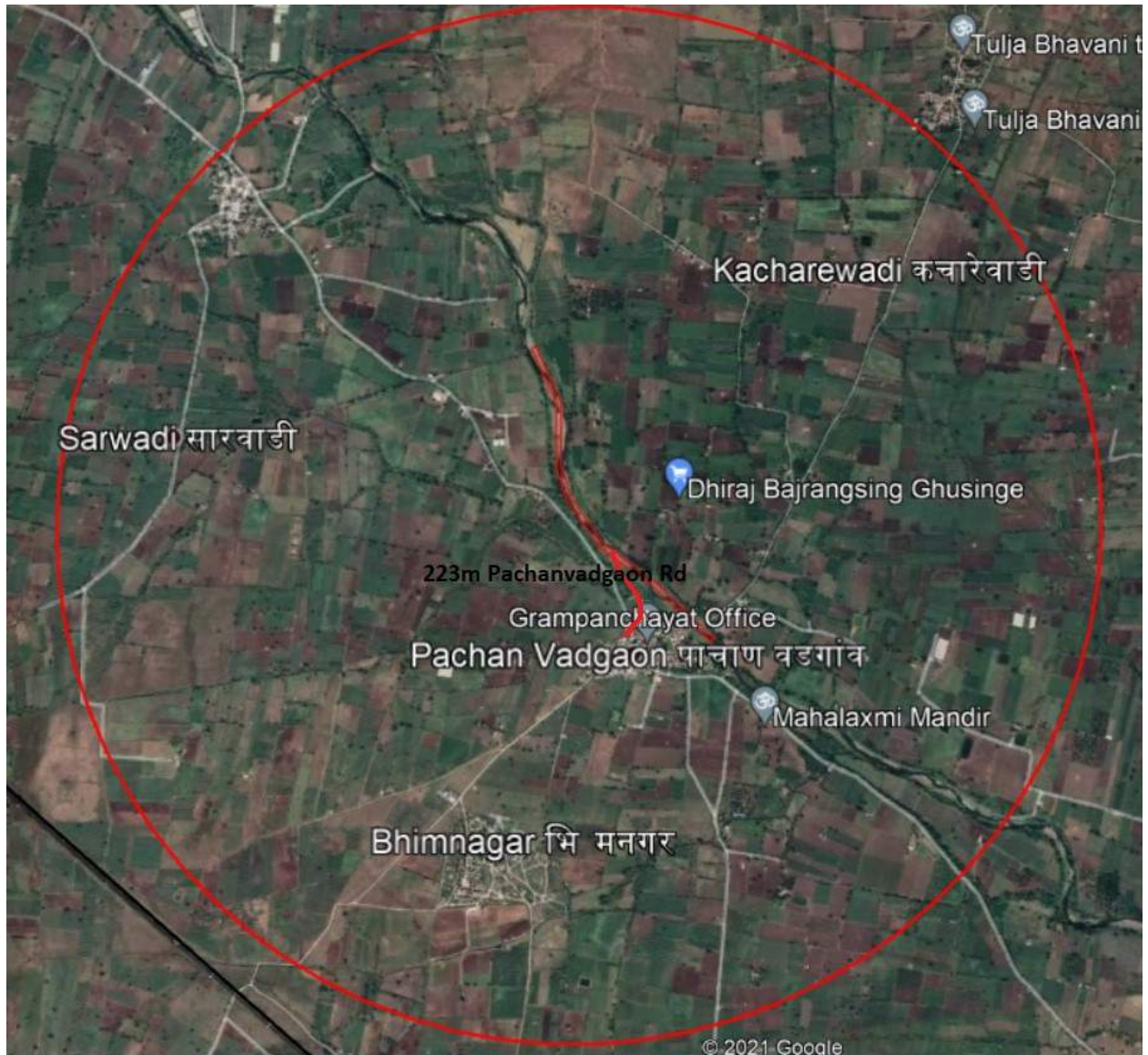


Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 223m connecting Pachanvadgaon rd.

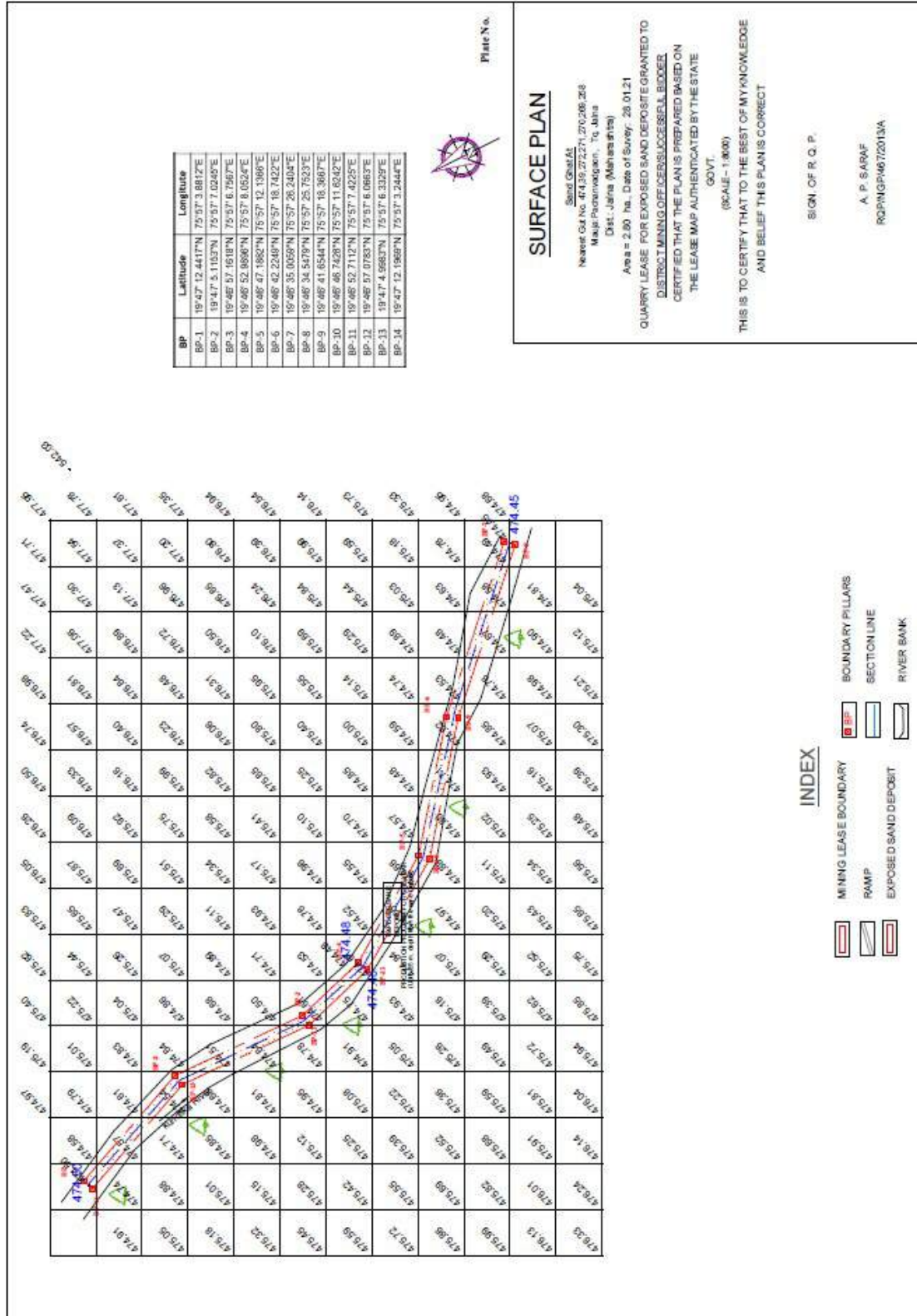
Section 2.0 : Project Description and Method of Mining

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 Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 4947 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Pachanvadgaon	Jalna	Kundalika	474,39,272, 271,270,269, 259	2.80	1400 x 20 x 0.5	4947	19°47' 12.4417"N	75°57' 3.8812"E

Surface Plan for Pachanvadgaon Sand Ghat:



2.1 Method of Mining :

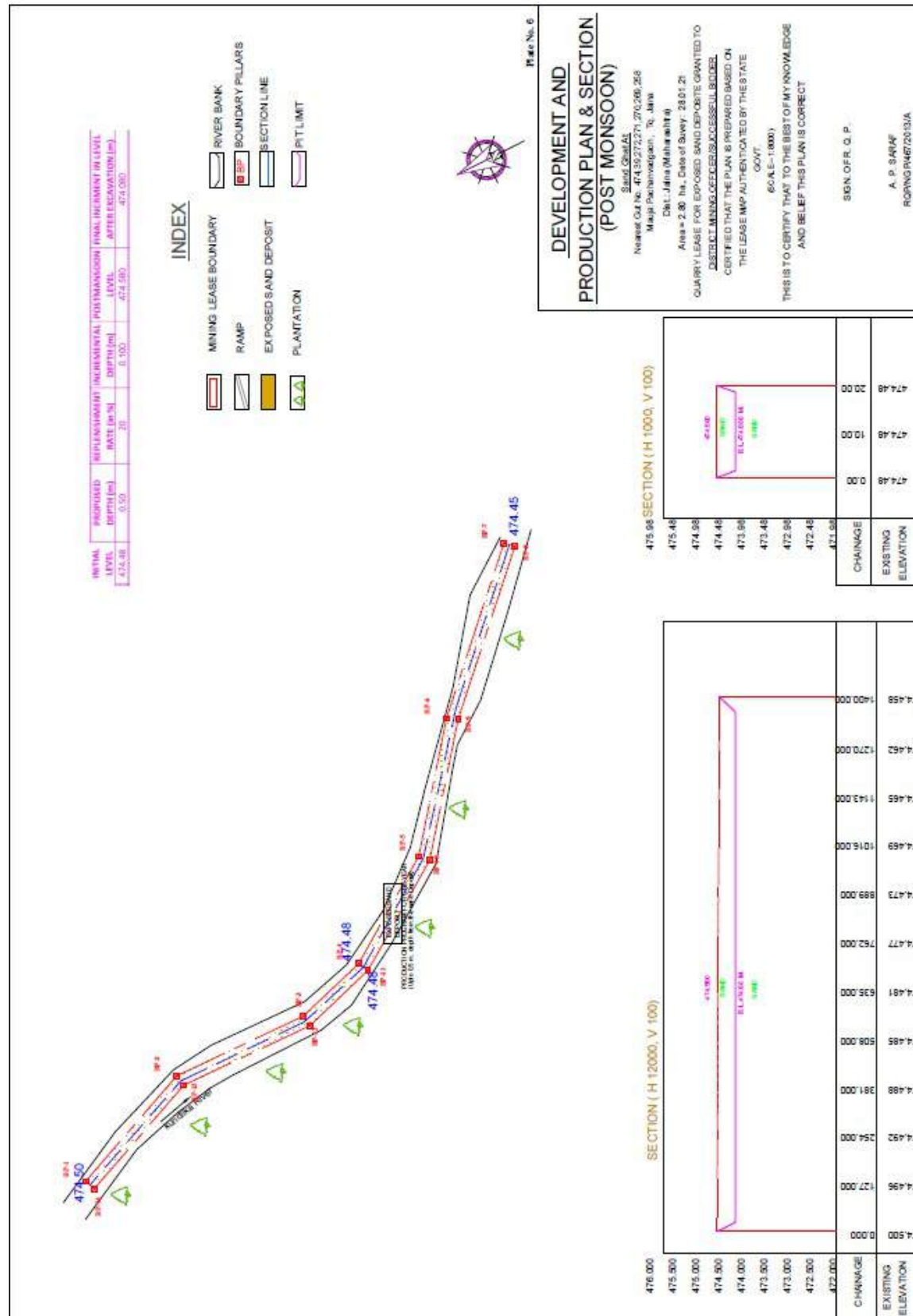
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	1400mx20mx0.5m

Production Plan for Pachanvadgaon Sand Ghat :



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	28000
Area under dumps	00	00
Undisturbed Area	28000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

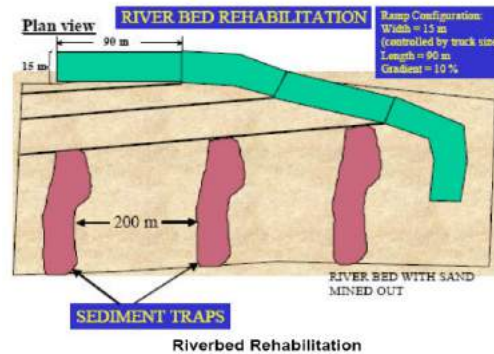


Figure -3

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 : Anticipated Impacts and Management

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 only 4947 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 39620 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	39620 TPA
Operational Days per Year	260 Days
Lead (m)	223 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.226852014
Total	0.226852014

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

Accordingly Maximum incremental GLC is predicted as 0.6693µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Pachanvadgaon	Jalna	Kundlika	0.6693µgm/cum

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 as per CPCB guidelines 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 03.09.2019 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 (Kundlika River)

- 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 Pachanvadgaon sand ghat is 0.5m keeping 2.0m bed depth of sand. Total Sand depth available is 2.5m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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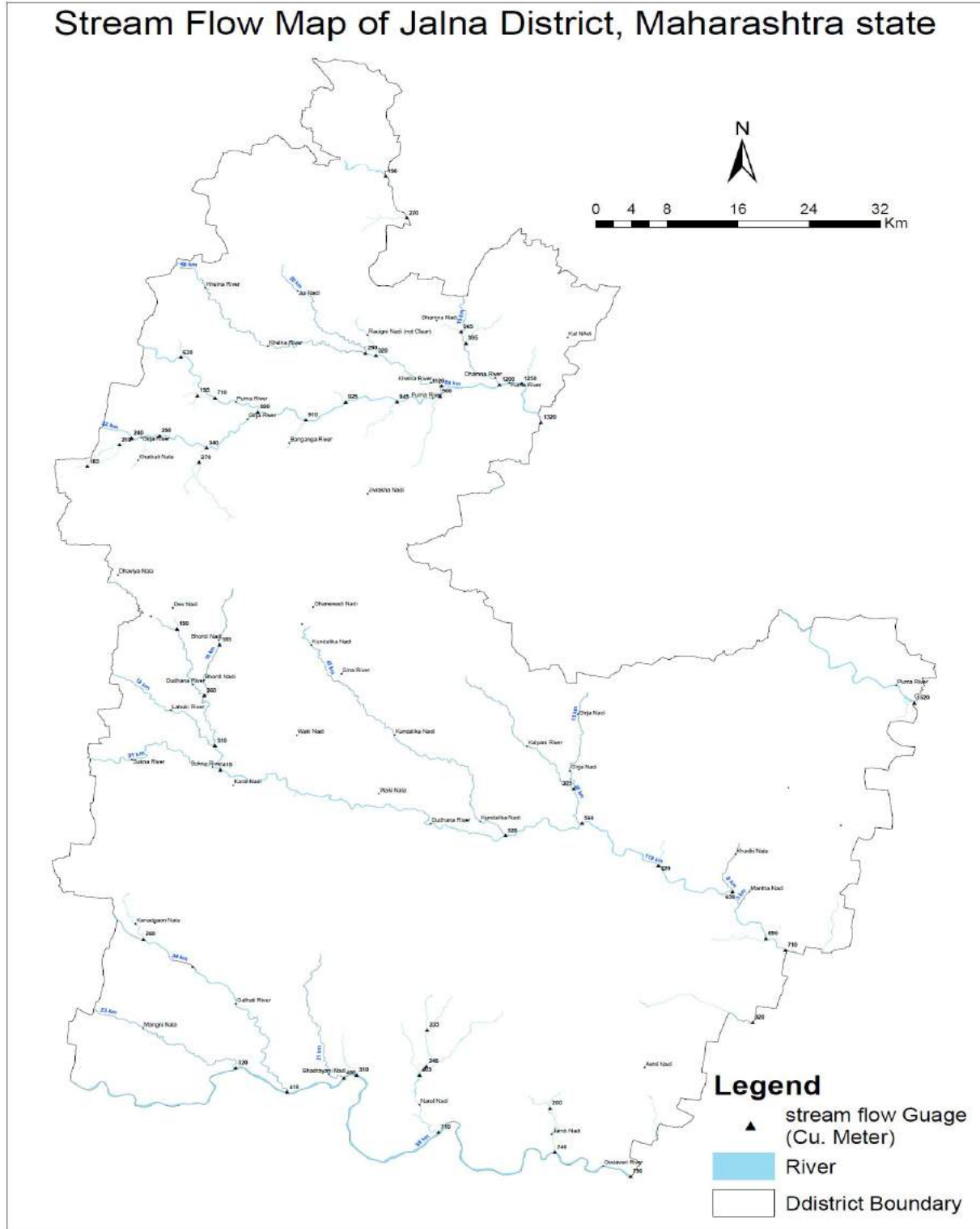
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Javkheda Theng	2940	5170(Yr 18-19)	14000

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Kundalika. 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 2.7 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 of Rs 10.25 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.6693\mu\text{g}/\text{m}^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu\text{g}/\text{m}^3$ 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 monitored 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 dust 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 Kundalika or other option as suggested by authority will be eased.

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 2.7 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 about 923 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.25 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	44600
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(19 tarpaulin)	95000
			· Regular monitoring of the exhaust fumes.	19 tractors @ Rs. 500/tractor	9500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank	700 Nos.	350000
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.		
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	223 Nos.	111500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1025600

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Kautha Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Kautha, Tq Jalna, Gut No. 39 to 45 , 48

Sr. No.	Latitude	Longitude
BP-1	19°41' 8.6429"N	76°6' 37.3594"E
BP-2	19°41' 18.2092"N	76°6' 45.8436"E
BP-3	19°41' 21.2366"N	76°6' 50.3415"E
BP-4	19°41' 21.5033"N	76°6' 54.2209"E
BP-5	19°41' 16.9471"N	76°7' 5.5258"E
BP-6	19°41' 16.2886"N	76°7' 5.23"E
BP-7	19°41' 20.777"N	76°6' 54.0933"E
BP-8	19°41' 20.5373"N	76°6' 50.6069"E
BP-9	19°41' 17.6788"N	76°6' 46.3598"E
BP-10	19°41' 8.1823"N	76°6' 37.9377"E

(x) Size of the Mining Lease (Hectare) : 2.20 Ha

(xi) Capacity of Mining Lease (TPA): 49807 TPA , 6219 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 15796260

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.337 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –28 Km NW 4.11 km SW NH211-49 Km SW SH173–14 Km NE Jintur Jalna Rd–3.33 Km N Vil Rd-0.352 km N 1.1 km N Check dam – 0.715 Km SE 1.03 Km SE 0.715 Km SE

3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 101 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 2.8 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 101 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -157 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –28 Km NW Kautha -0.981 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 2.2 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

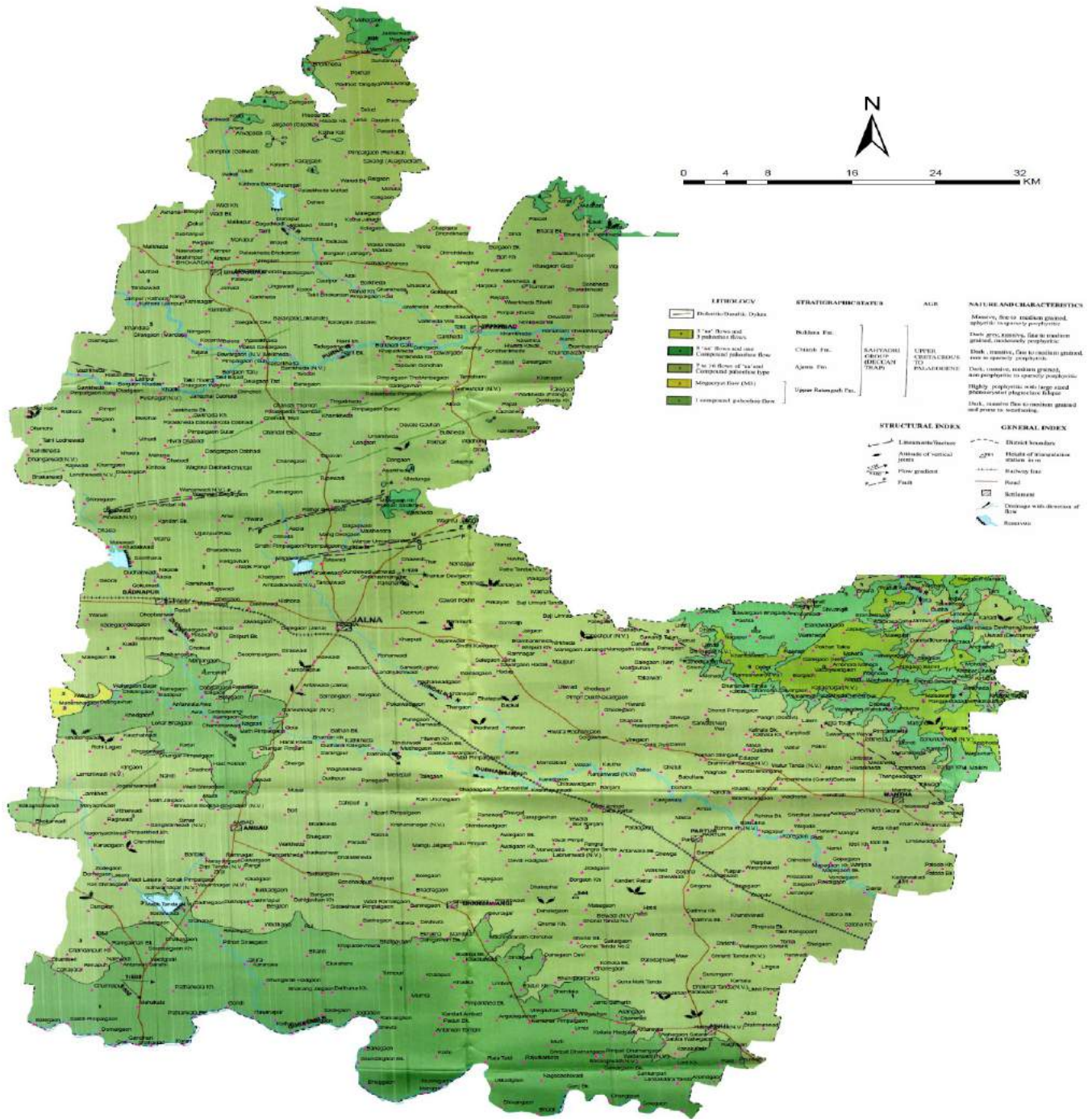
Details of Exploration

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 2.80 m near the banks. The surface plan is prepared on the specified scale.

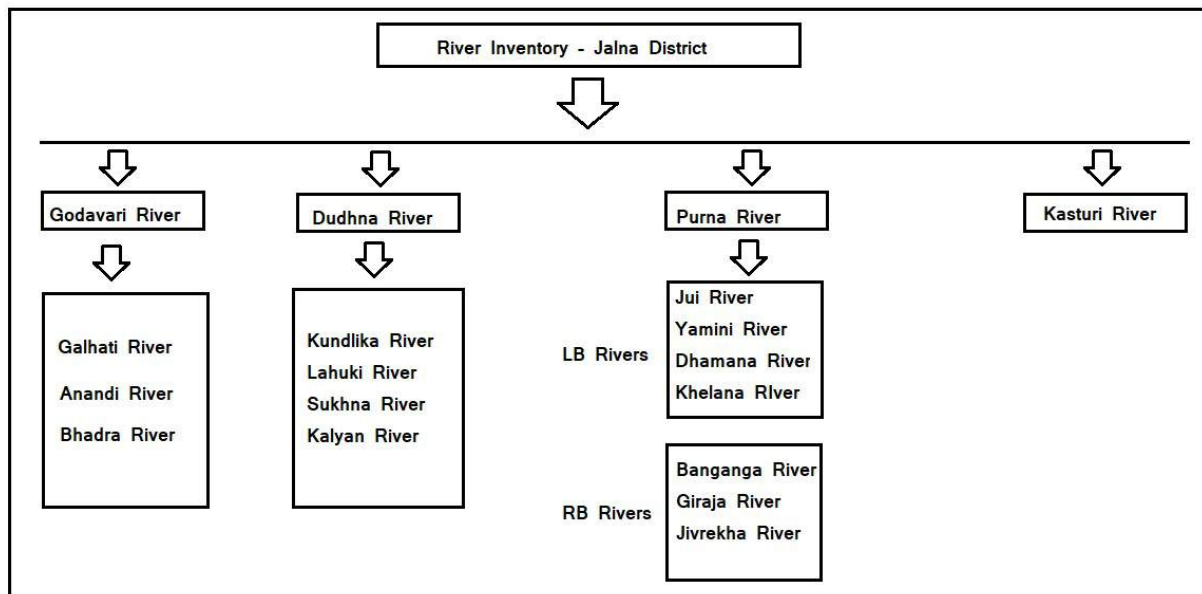
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E



Approach road available over pandan rd of 457m connecting Kautha Vazar rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.960m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.960
Total	1.960

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 2.8 m 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 29 villages where sand ghats are proposed. About 48 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 48 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Kavtha Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.337 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –28 Km NW 4.11 km SW NH211-49 Km SW SH173–14 Km NE Jintur Jalna Rd–3.33 Km N Vil Rd-0.352 km N 1.1 km N Check dam – 0.715 Km SE 1.03 Km SE 0.715 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 101 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 2.8 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 101 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -157 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –28 Km NW Kautha -0.981 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	1000m x 22 m x 0.80 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°41' 8.6429"N	76°6' 37.3594"E
BP-2	19°41' 18.2092"N	76°6' 45.8436"E
BP-3	19°41' 21.2366"N	76°6' 50.3415"E
BP-4	19°41' 21.5033"N	76°6' 54.2209"E
BP-5	19°41' 16.9471"N	76°7' 5.5258"E
BP-6	19°41' 16.2886"N	76°7' 5.23"E
BP-7	19°41' 20.777"N	76°6' 54.0933"E
BP-8	19°41' 20.5373"N	76°6' 50.6069"E
BP-9	19°41' 17.6788"N	76°6' 46.3598"E
BP-10	19°41' 8.1823"N	76°6' 37.9377"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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4	2.0	Project Description	9
5	2.1	Method of Mining	11
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7	2.3	Manpower Requirement	13
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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Kautha and ghat proposed (over Dhamna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of six and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°41' 8.6429"N	76°6' 37.3594"E
BP-2	19°41' 18.2092"N	76°6' 45.8436"E
BP-3	19°41' 21.2366"N	76°6' 50.3415"E
BP-4	19°41' 21.5033"N	76°6' 54.2209"E
BP-5	19°41' 16.9471"N	76°7' 5.5258"E
BP-6	19°41' 16.2886"N	76°7' 5.23"E
BP-7	19°41' 20.777"N	76°6' 54.0933"E
BP-8	19°41' 20.5373"N	76°6' 50.6069"E
BP-9	19°41' 17.6788"N	76°6' 46.3598"E
BP-10	19°41' 8.1823"N	76°6' 37.9377"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -1.337 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –28 Km NW 4.11 km SW NH211-49 Km SW SH173-14 Km NE Jintur Jalna Rd-3.33 Km N Vil Rd-0.352 km N 1.1 km N Check dam – 0.715 Km SE 1.03 Km SE 0.715 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 101 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 2.8 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-350 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 101 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -157 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Kautha -0.981 Km SE
11	Areas occupied by sensitive man-made land uses	Jalna –28 Km NW

	(hospitals, schools, places of worship, community facilities)	Kautha -0.981 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-12.5 Km E Dudhna River Coastal Area 340 Km West Marine Water -330 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 457m connecting KauthaVazar rd.

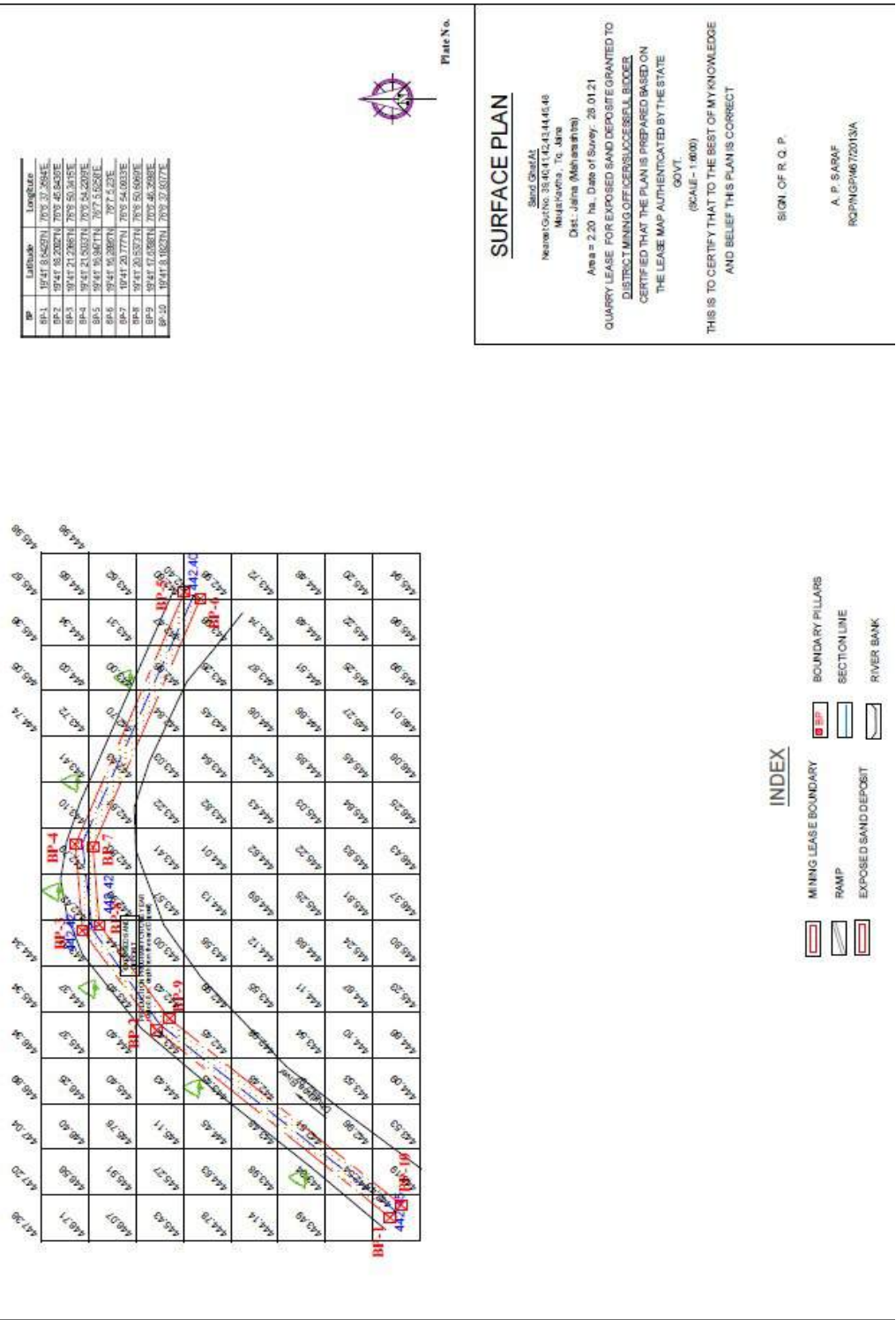
Section 2.0 : Project Description and Method of Mining

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 **Jalna** Tahsil. District Mining Officer Jalna has proposed for the production of **6219** 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Kautha	Jalna	Dudhna	39 to 45 , 48	2.20	1000 x 22 x 0.8	6219	19°41' 8.6429"N	76°6' 37.3594"E

Surface Plan for Kautha Sand Ghat:



2.1 Method of Mining :

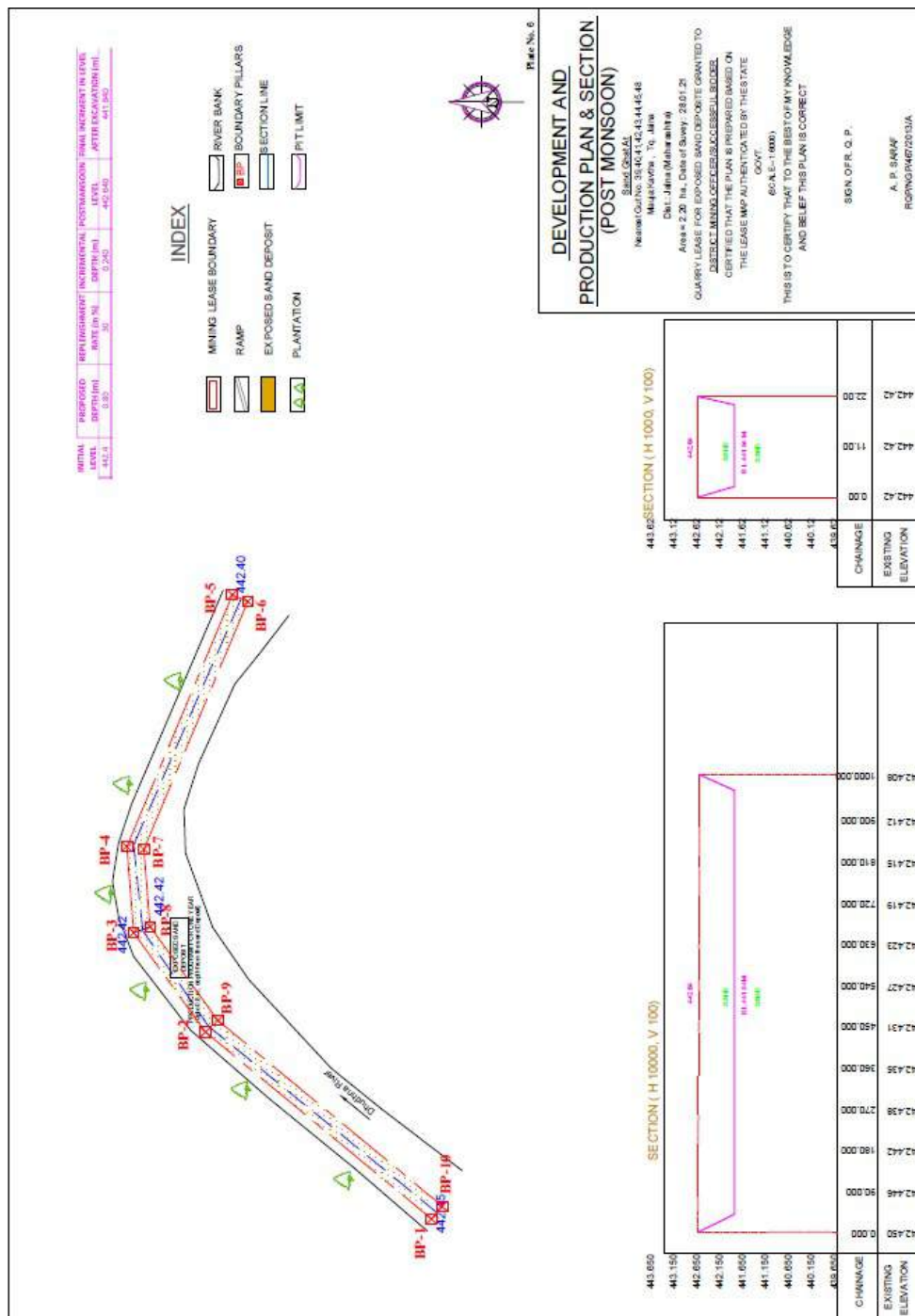
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	1000mx22mx0.8m

Production Plan for Kautha Sand Ghat :



2.3 Manpower Requirement

About 48 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	48

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.960m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.960
Total	1.960

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	22000
Area under dumps	00	00
Undisturbed Area	22000	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

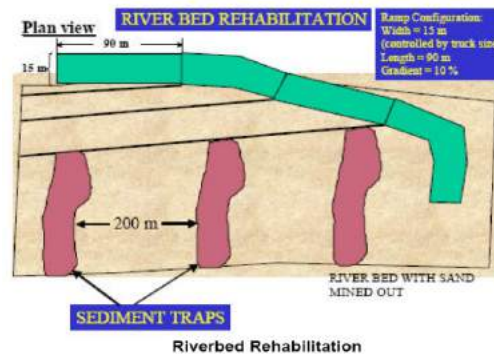


Figure -3

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 : Anticipated Impacts and Management

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 only 6219 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 49807 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	49807 TPA
Operational Days per Year	260 Days
Lead (m)	457 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.285181458
Total	0.285181458

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

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Kautha	Jalna	Dudhna	0.4183µgm/cum

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 as per CPCB guidelines 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 0.8m 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 03.09.2019 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 (Dudhna River)

- 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 Kautha sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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.

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. Data is interpreted as below

cum/minute

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Kautha	5280	6190(Yr 17-18)	17600

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 11.26 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.4183\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 957 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 11.26 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	91400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		30000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(24 tarpaulin)	120000
			· Regular monitoring of the exhaust fumes.	24 tractors @ Rs. 500/tractor	12000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank	500 Nos.	250000
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.		
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	457 Nos.	228500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1126900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Ghetuli Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Ghetuli, Tq Jalna, Gut No. 53,52,47,45,44,41,39

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E

(x) Size of the Mining Lease (Hectare) : 1.43 Ha

(xi) Capacity of Mining Lease (TPA): 32372 TPA , 4042 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 10266680

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -702 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –32 Km NW 5.9 km SW NH211-54 Km SW SH173–7.9 Km NE Rajnani Virgaon Rd–4.2 Km W Vil Rd-0.388 km NE 2.8 km NE Check dam – 4.56 Km SE 0.657 Km SE 4.56 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 106 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 1.64 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range 92 Km N

5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 106 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -158 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna -32 Km NW Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.43 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

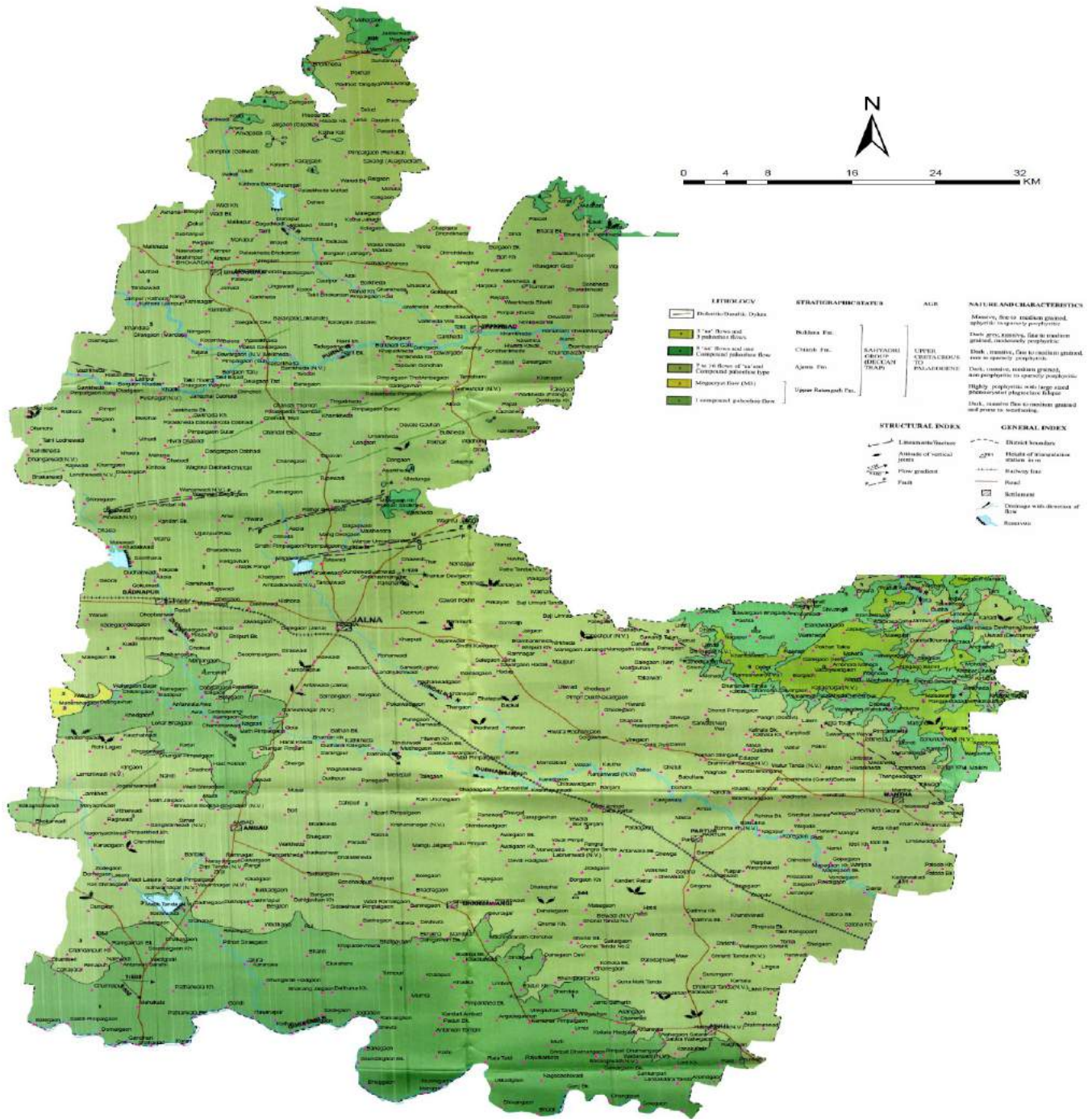
Details of Exploration

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 2.80 m near the banks. The surface plan is prepared on the specified scale.

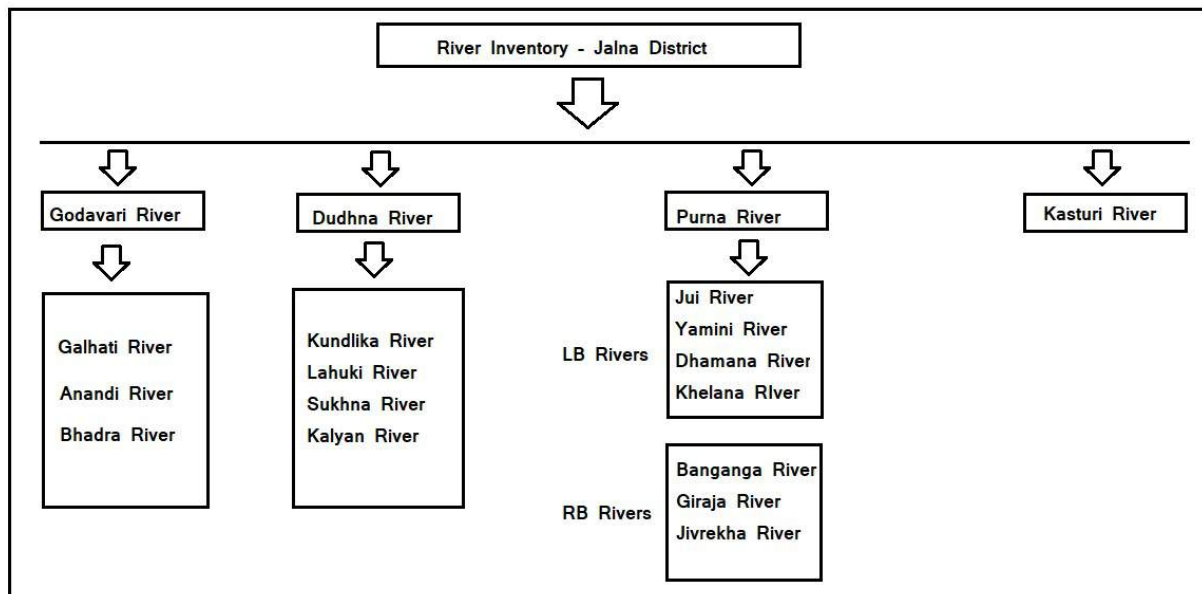
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E



Approach road available over pandan rd of 529m connecting Ghetuli rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 2.8 m 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Ghetuli Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -702 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –32 Km NW 5.9 km SW NH211-54 Km SW SH173–7.9 Km NE Rajnani Virgaon Rd–4.2 Km W Vil Rd-0.388 km NE 2.8 km NE Check dam – 4.56 Km SE 0.657 Km SE 4.56 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 106 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 1.64 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 106 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -158 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –32 Km NW Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	520m x 27.5 m x 0.80 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

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1	□□□□□□ □□□	□□□□□□□ □□□□	□□□□ □	15,16,50,51,89	410	25	0.60	1.025	2173
2	□□□□□□ □□□	□□□□□□□□ □□□□- □□□□□□□□	□□□□ □	160,162,163,174	450	25	0.50	1.125	1988
3	□□□□□□ □□□	□□□□□□□	□□□□ □□	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	□□□□□□ □□□	□□□□□□□□	□□□□ □	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	□□□□□□	□□□□□□ □□□□□□□□	□□□□ □□	132,133,154,155	480	30	0.80	1.44	4071
6	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	50,51,52,54	475	22	0.80	1.045	2954
7	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	61,62,63,66,67	475	22	0.50	1.045	1846
8	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	312,313,314,326,327	587	40	0.50	2.34	4148
9	□□□□□□	□□□□□ □□.	□□□□ □	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	□□□□□□	□□□□□□□□ □□	□□□□ □	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019 explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping Revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Ghetuli and ghat proposed (over Dhamna river) in Jalna taluka is one of the six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All six sand ghats are on Dudhna river. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°40' 46.482"N	76°10' 4.1613"E
BP-2	19°40' 39.8317"N	76°10' 20.5798"E
BP-3	19°40' 39.0093"N	76°10' 20.2084"E
BP-4	19°40' 45.6595"N	76°10' 3.79"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -702 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –32 Km NW 5.9 km SW NH211-54 Km SW SH173–7.9 Km NE Rajnani Virgaon Rd–4.2 Km W Vil Rd-0.388 km NE 2.8 km NE Check dam – 4.56 Km SE 0.657 Km SE 4.56 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 106 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Kundalika river – 1.64 Km NE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-351 km NE Mountains Dyanganga Hill range 92 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 106 Km NW
6	Inland, coastal, marine or underground waters	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -154 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -158 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Ghetuli -0.483 Km NE

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –32 Km NW Ghetuli -0.483 Km NE Partur- 10.5 Km SE
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dahifal waterbody-6.66 Km E Dudhna River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

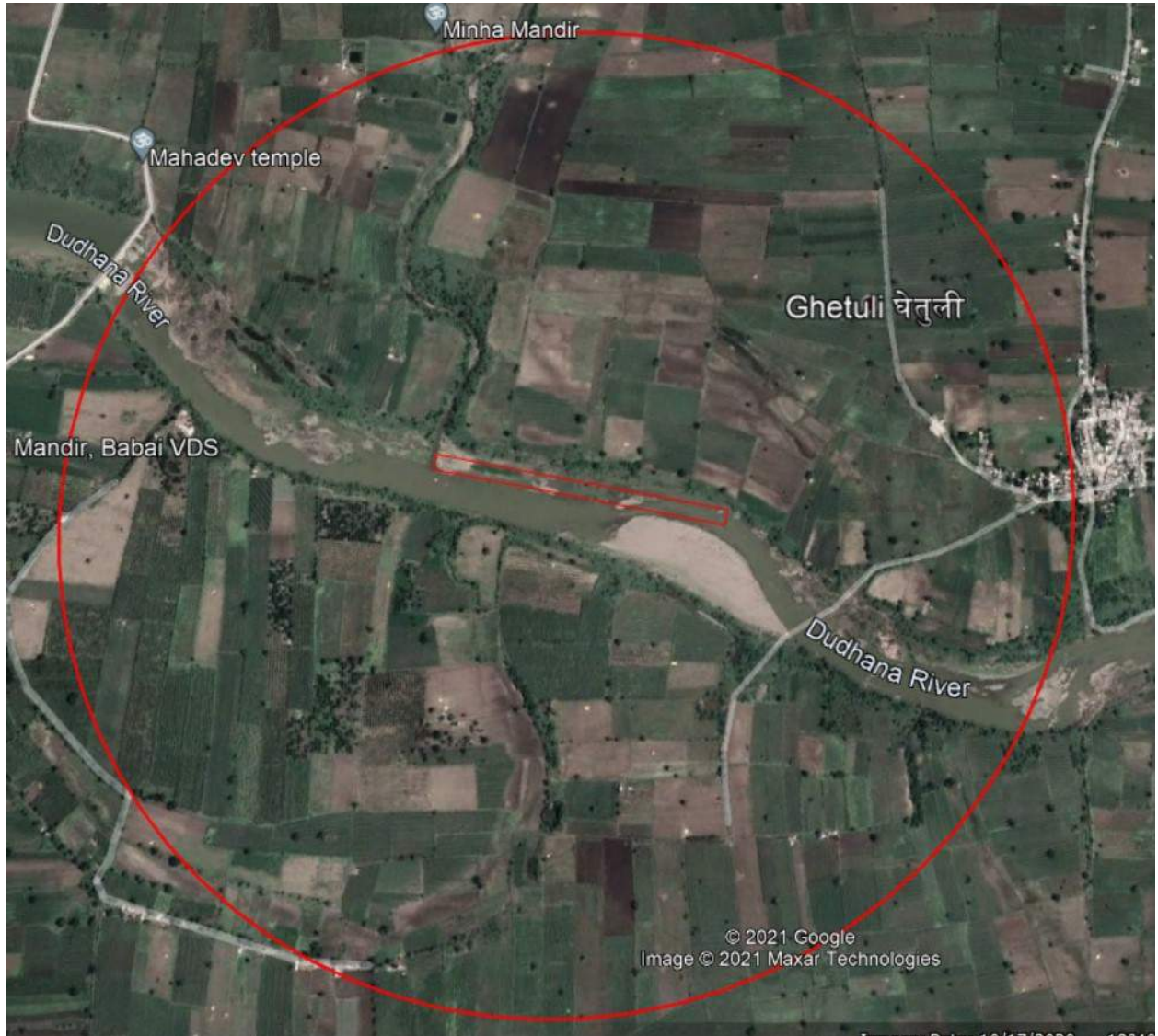


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 529m connecting Ghetuli rd.

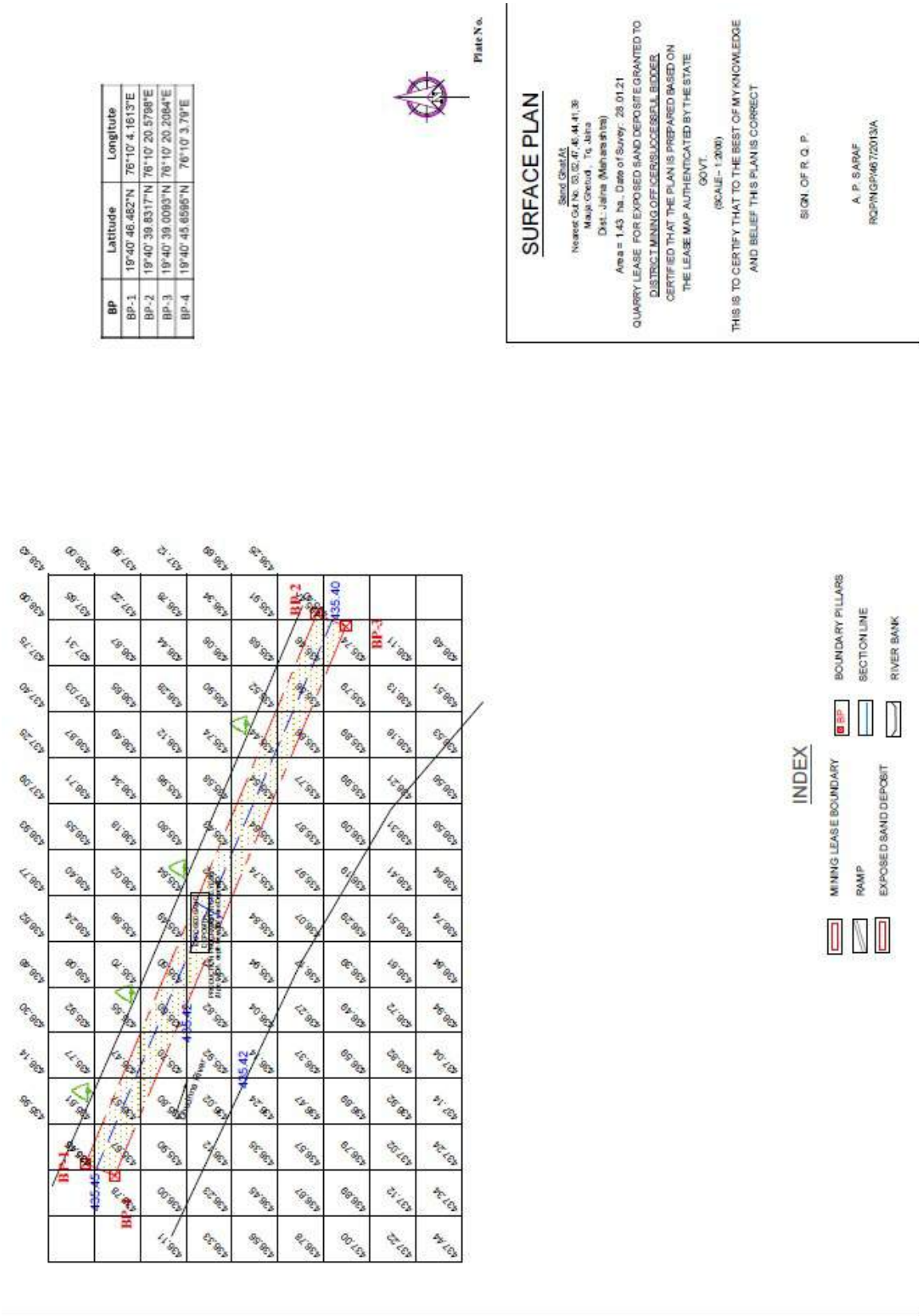
Section 2.0 : Project Description and Method of Mining

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 Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 4042 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Ghetuli	Jalna	Dudhna	53,52,47,45, 44,41,39	1.43	520 x 27.5 x 0.8	4042	19°40' 46.482"N	76°10' 4.1613"E

Surface Plan for Ghetuli Sand Ghat:



INDEX

MINING LEASE BOUNDARY

RAMP

EXPOSED SAND DEPOSIT

BOUNDARY PILLARS

SECTION LINE

RIVER BANK

2.1 Method of Mining :

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

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	520mx27.50mx0.8m

Production Plan for Ghetuli Sand Ghat :

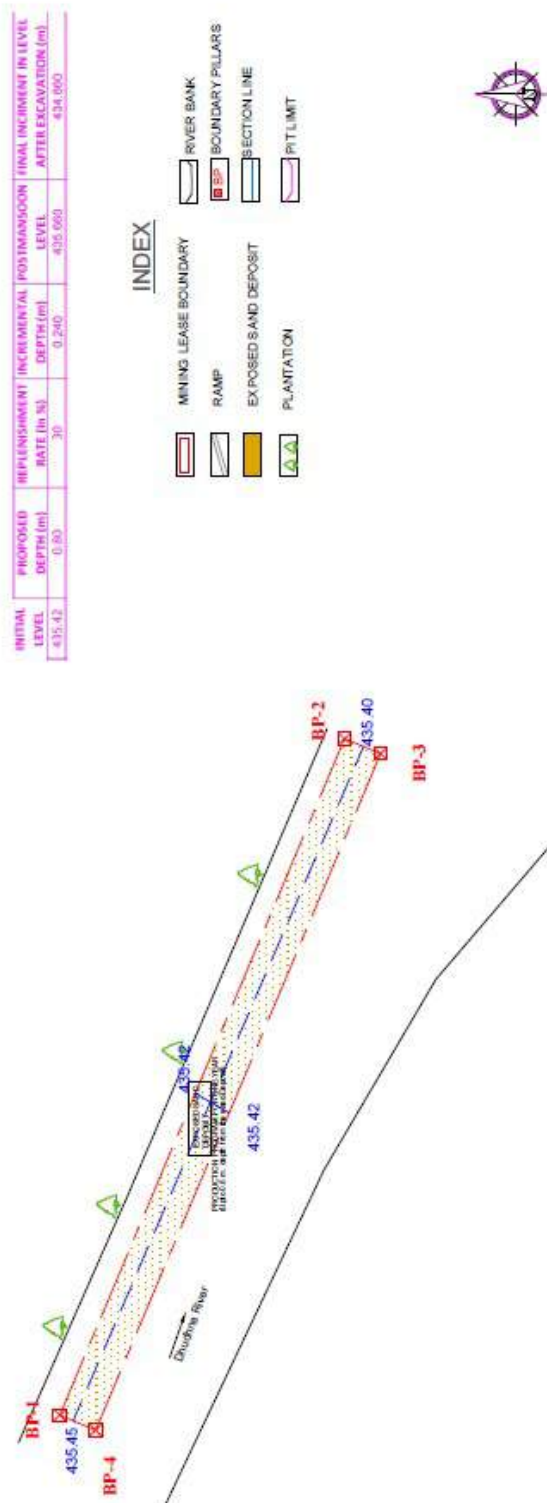


Plate No. 6

DEVELOPMENT AND
PRODUCTION PLAN & SECTION
(POST MONSOON)

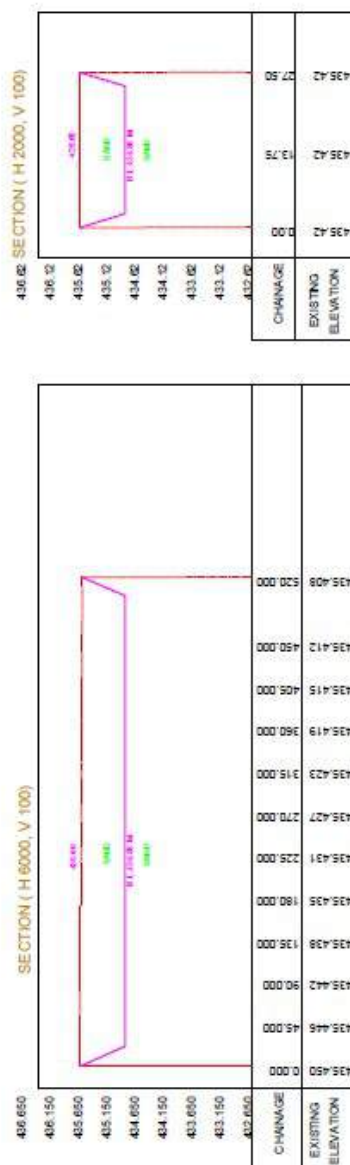
Sand Creek
Nearest Q# No. 53, 52, 47, 45, 44, 41, 39
Maize Creek, Tq. Jaina
Dist. Jaina (Maharashtra)

Area = 1.43 ha. Date of Survey: 28.01.20
 QUARRY LEASE FOR EXPOSED SAND DEPOSITS GRANTED TO
DISTRICT MINING OFFICER, ACCESSIBLE BORDER
 CERTIFIED THAT THE PLAN IS PREPARED BASED ON
 THE LEASE MAP AUTHENTICATED BY THE STATE
 GOVT.

(SCALE=1-2000)
THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE
AND BELIEF THIS PLAN IS CORRECT

SIGN. OF R. Q. P.

A. P. SARAF
RIPON P46720131A



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	5
6	Support Staff/Labors	10
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	14300
Area under dumps	00	00
Undisturbed Area	14300	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

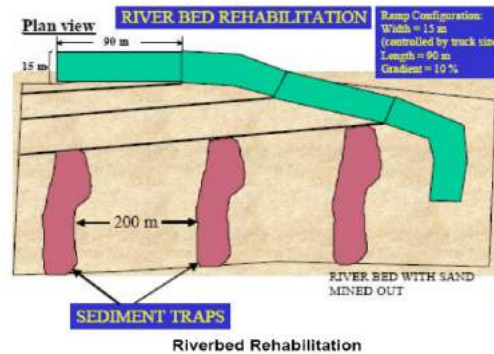


Figure -3

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 : Anticipated Impacts and Management

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 only 4042 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 32372 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	32372 TPA
Operational Days per Year	260 Days
Lead (m)	529 m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.185351898
Total	0.185351898

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

Accordingly Maximum incremental GLC is predicted as 0.4183µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Ghetuli	Jalna	Dudhna	0.4183µgm/cum

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 as per CPCB guidelines 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 0.8m 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 03.09.2019 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 (Dudhna River)

- 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 Ghetuli sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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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. Data is interpreted as below

The map illustrates the Kosi River basin in Nepal, highlighting the locations of stream flow gauging stations. The Kosi River is shown in blue, with its major tributaries, the Sunsi, Bhera, and Ghaghara rivers, also depicted. Gauging stations are marked with black triangles and labeled with their names and flow rates in cubic meters per second (Cu. Meter). The map also shows district boundaries and a legend.

Legend

- ▲ stream flow Gauging Station (Cu. Meter)
- River
- District Boundary

23

In Million Cum



Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Ghetuli	3203	3203(Yr 17-18)	11440

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 10.03 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.4183\mu\text{g}/\text{m}^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu\text{g}/\text{m}^3$ 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 monitored 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 dust 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
--	--	--	---

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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 789 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.03 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(The total rural road network as per road development plan 2001-21 Under RDD as on 1/4/2016For Govt Maharashtra Semi WBM roads)Rs.2 Lakh/Km	105800
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(16 tarpaulin)	80000
			· Regular monitoring of the exhaust fumes.	16 tractors @ Rs. 500/tractor	8000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank	260 Nos.	130000
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.		
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	529 Nos.	264500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1003300

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Karla Sand Ghat, River Kundalika

(ix) Location / site (GPS Co-ordinates) : Karla, Tq Jalna, Gut No. Gairan (06),86,87

BP	Latitude	Longitute
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
BP-12	19°42' 9.6727"N	76°2' 4.3986"E
BP-13	19°42' 12.6774"N	76°2' 3.4783"E
BP-14	19°42' 17.8418"N	76°2' 4.6455"E
BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E
BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E

(x) Size of the Mining Lease (Hectare) : 2.25 Ha

(xi) Capacity of Mining Lease (TPA): 25468 TPA , 3180 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 8077200

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -0.845 km SE
2	Distance from infrastructural facilities Railway line National Highway	Jalna –20 Km NW 1.2 km SW NH211-42 Km SW

	State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	SH177–19.5 Km NE Jalna Jintur Rd–6.77 Km NE Vil Rd-0.285 km SW 3.1 km NE Check dam – 0.510 Km SE 0.510 Km SE 0.510 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 93 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 3.2 Km S Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 93 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -156 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –20 Km NW Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980;	Not within 5 km study area

	(b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Kundlika Lease over 2.25 ha comprises of river bed of Kundlika river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basinThe general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

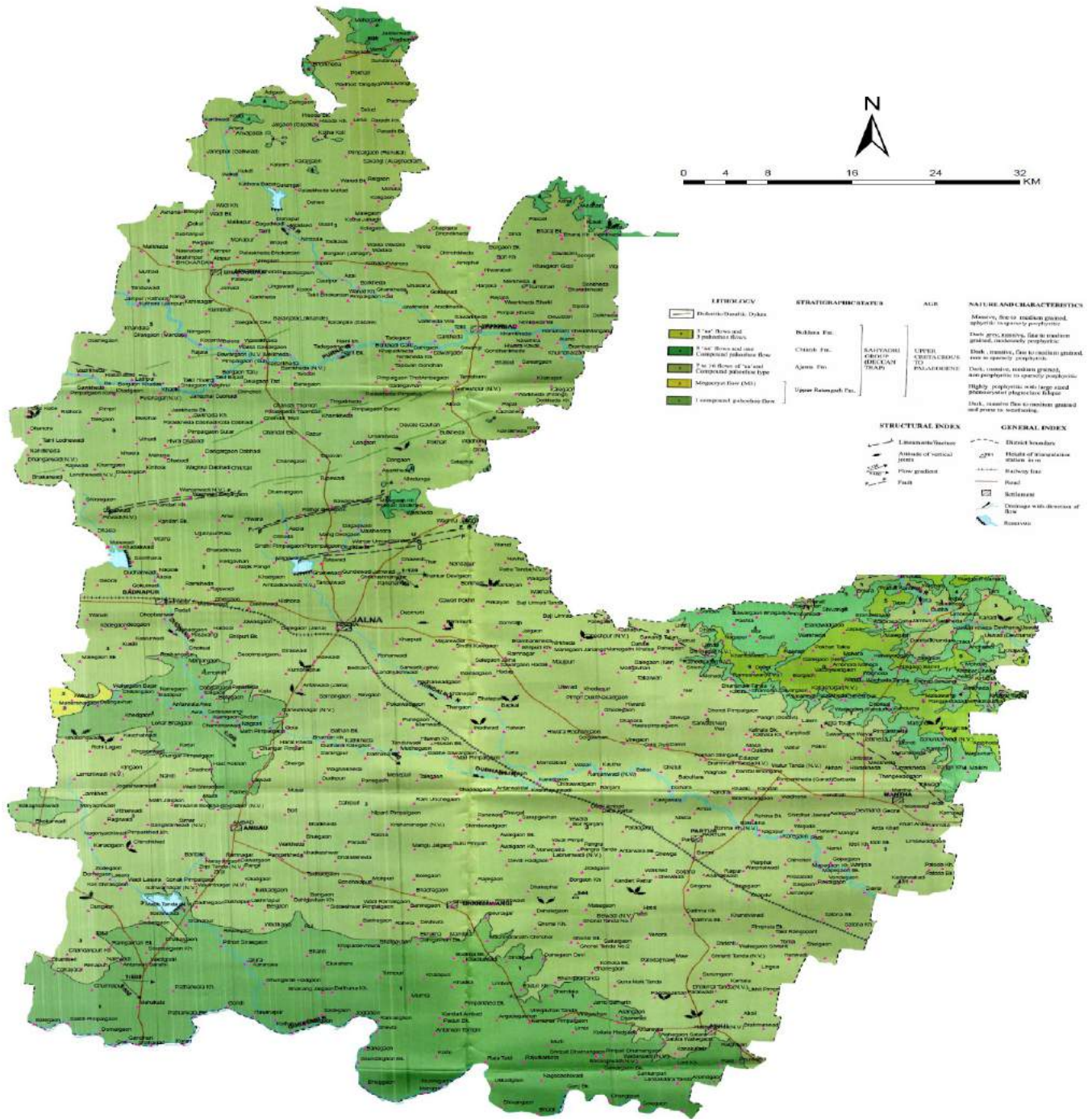
Details of Exploration

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 2.40 m near the banks. The surface plan is prepared on the specified scale.

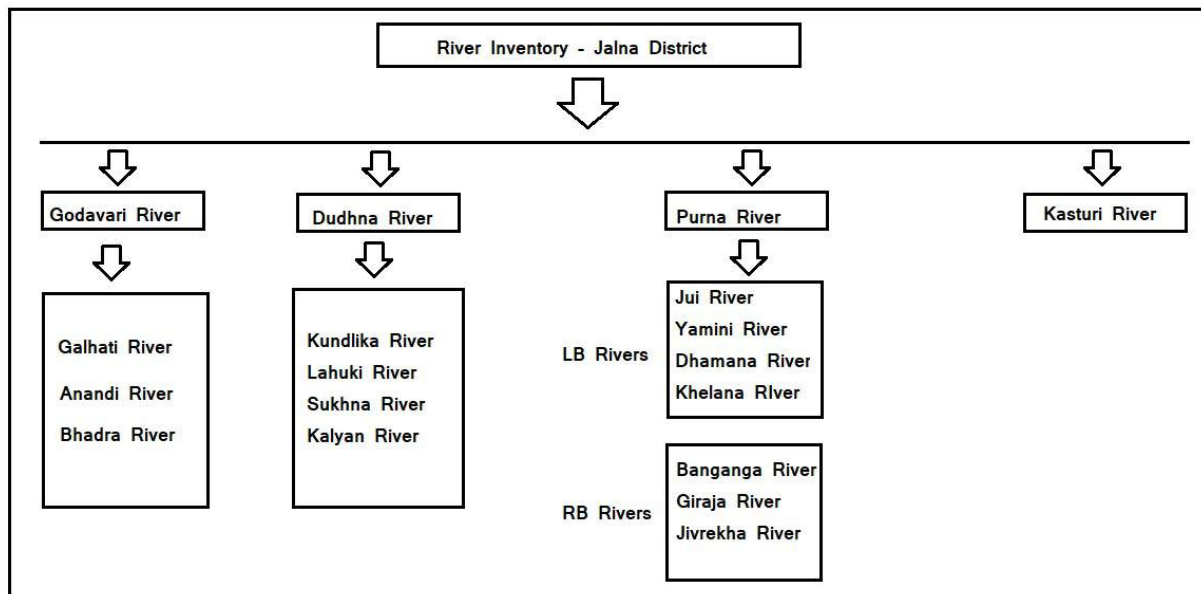
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E



Approach road available over pandan rd of 486m connecting Karla rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 2.4m 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 29 villages where sand ghats are proposed. About 28 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 28 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Karla Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -0.845 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –20 Km NW 1.2 km SW NH211-42 Km SW SH177–19.5 Km NE Jalna Jintur Rd–6.77 Km NE Vil Rd-0.285 km SW 3.1 km NE Check dam – 0.510 Km SE 0.510 Km SE 0.510 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 93 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 3.2 Km S Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 93 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -156 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –20 Km NW Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	900m x 25 m x 0.40 m

GPS Location

BP	Latitude	Longitude
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
BP-12	19°42' 9.6727"N	76°2' 4.3986"E
BP-13	19°42' 12.6774"N	76°2' 3.4783"E
BP-14	19°42' 17.8418"N	76°2' 4.6455"E
BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E
BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□वन्- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□- □□□वद्	□□□□ □□	□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□वद्- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□	□□□□ □□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□ □□.	□□□□ □□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Karla sand ghat proposed (over river Kundlika) in Jalna taluka is one of the Six sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Jalna and adjoining areas of other talukas. All Six sand ghats are on Dudhna and Kundlika rivers. Details of Jalna taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundlika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	19°42' 28.6197"N	76°2' 7.0846"E
BP-2	19°42' 26.1441"N	76°2' 5.6425"E
BP-3	19°42' 24.3403"N	76°2' 2.433"E
BP-4	19°42' 22.6064"N	76°2' 1.5775"E
BP-5	19°42' 21.6041"N	76°2' 1.6903"E
BP-6	19°42' 19.5975"N	76°2' 4.8616"E
BP-7	19°42' 17.9058"N	76°2' 5.5381"E
BP-8	19°42' 12.7073"N	76°2' 4.3632"E
BP-9	19°42' 10.0814"N	76°2' 5.1675"E
BP-10	19°42' 5.5785"N	76°2' 9.4773"E
BP-11	19°42' 5.0299"N	76°2' 8.8435"E
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BP-15	19°42' 19.0659"N	76°2' 4.156"E
BP-16	19°42' 21.1394"N	76°2' 0.879"E
BP-17	19°42' 22.7455"N	76°2' 0.6983"E

BP-18	19°42' 24.9117"N	76°2' 1.7672"E
BP-19	19°42' 26.7266"N	76°2' 4.9964"E
BP-20	19°42' 28.9998"N	76°2' 6.3256"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -0.845 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Jalna –20 Km NW 1.2 km SW NH211-42 Km SW SH177–19.5 Km NE Jalna Jintur Rd–6.77 Km NE Vil Rd-0.285 km SW 3.1 km NE Check dam – 0.510 Km SE 0.510 Km SE 0.510 Km SE
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 93 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Dudhna river – 3.2 Km S Kundalika River Wet Land Not Notified for district, Biosphere -Pachmadi-352 km NE Mountains Dyanganga Hill range 94 Km N
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 93 Km NW
6	Inland, coastal, marine or underground waters	Kundalika River Dudhna river – 3.2 Km S Coastal Area 342 Km West Marine Water -332 Km West
7	State, National boundaries	Madhyapradesh -156 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -160 Km NW

10	Densely populated or built-up area, distance from nearest human habitation	Karla -0.162 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –20 Km NW Karla -0.162 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Dudhna river – 3.2 Km S Kundalika River Coastal Area 342 Km West Marine Water -332 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :

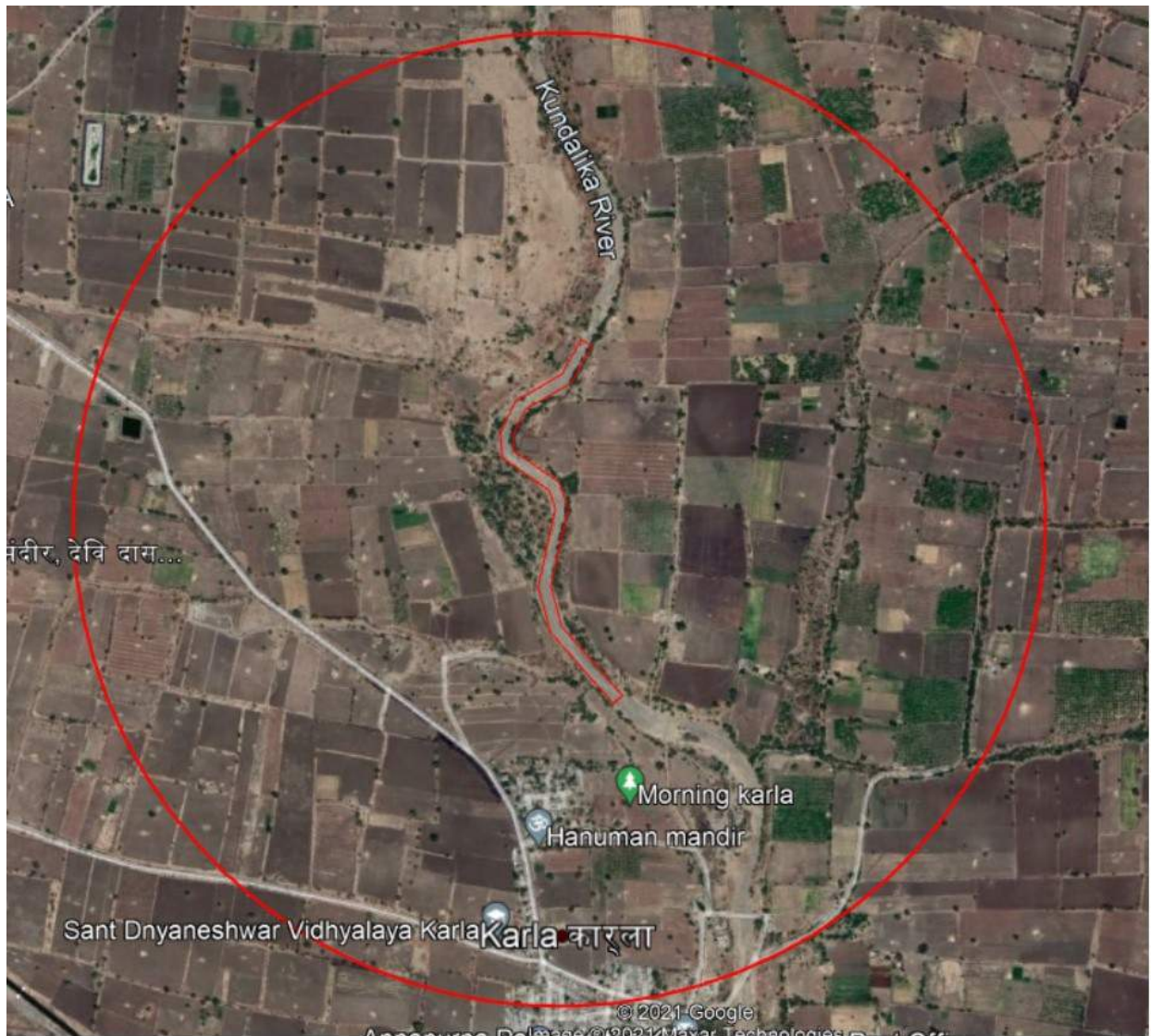


Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 486m connecting Karla rd.

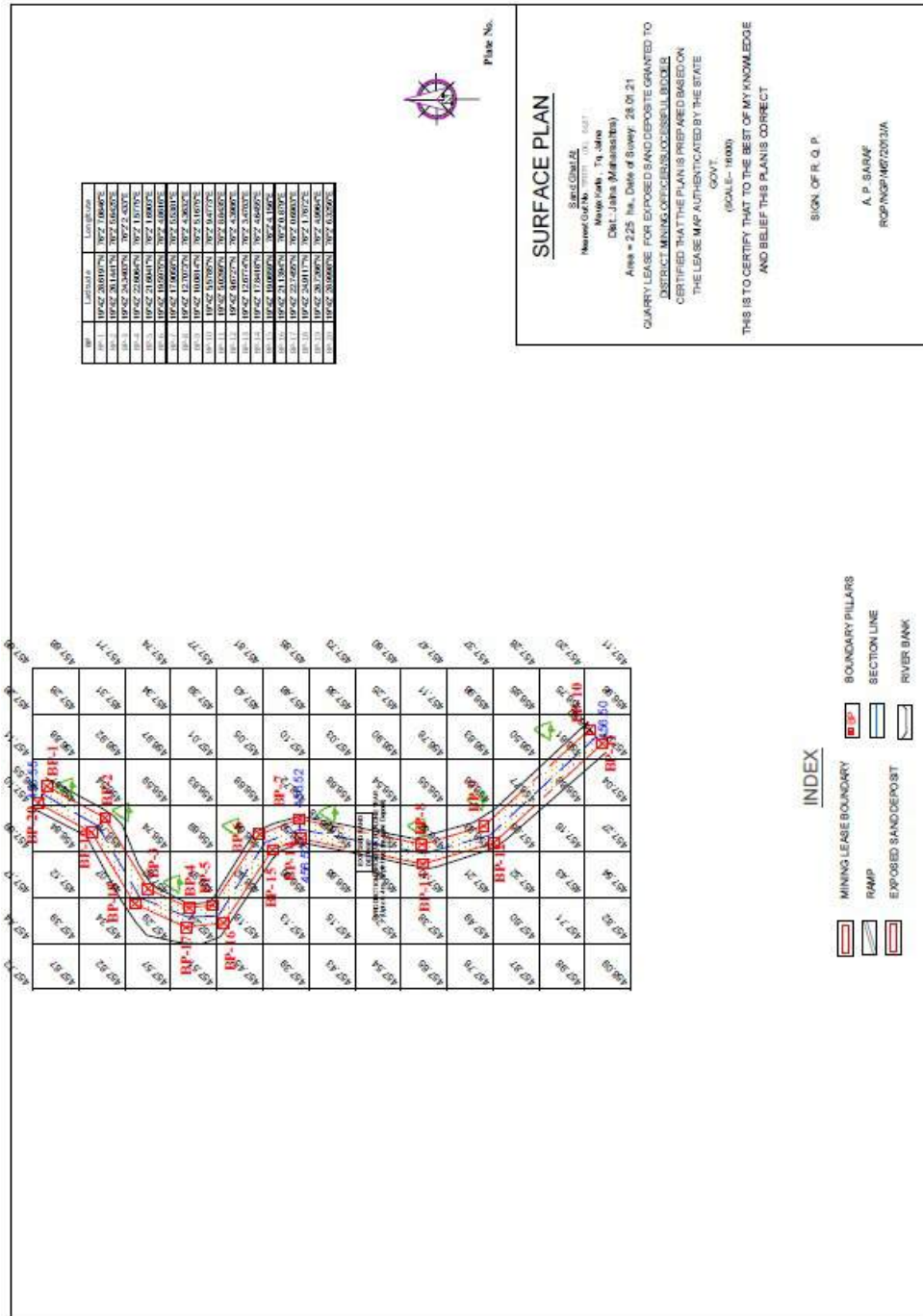
Section 2.0 : Project Description and Method of Mining

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 Jalna Tahsil. District Mining Officer Jalna has proposed for the production of 3180 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Karla	Jalna	Kundalika	Gairan (06),86,87	2.25	900 x 25 x 0.4	3180	19°42' 28.6197"N	76°2' 7.0846"E

Surface Plan for Karla Sand Ghat:



2.1 Method of Mining :

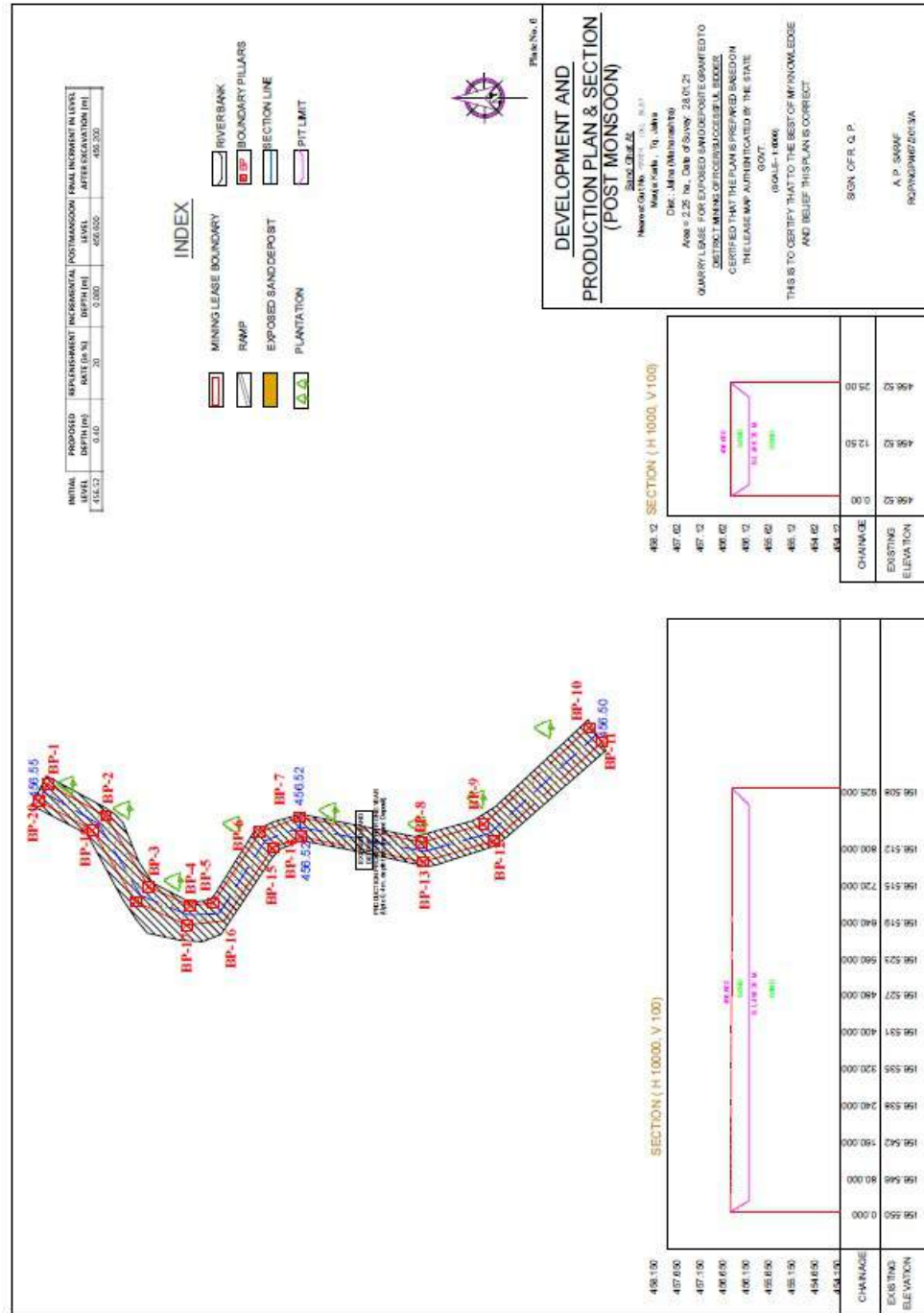
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	900m x 25m x 0.40 m

Production Plan for Karla Sand Ghat :



2.3 Manpower Requirement

About 28 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	5
4	Ramp Maintenance	5
6	Support Staff/Labors	5
	Total	28

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.560 m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.560
Total	1.560

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	22500
Area under dumps	00	00
Undisturbed Area	22500	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

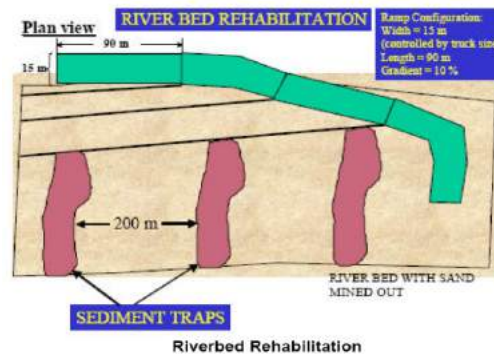


Figure -3

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 : Anticipated Impacts and Management

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 only 3180 Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 98 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	25468TPA
Operational Days per Year	260 Days
Lead (m)	486m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.145823611
Total	0.145823611

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

Accordingly Maximum incremental GLC is predicted as 0.8366µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Karla	Jalna	Kundlika	0.8366µgm/cum

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 as per CPCB guidelines 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 0.40m 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 03.09.2019 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 (Kundlika River)

- 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 Karla sand ghat is 0.40m keeping 2.0m bed depth of sand. Total Sand depth available is 2.4m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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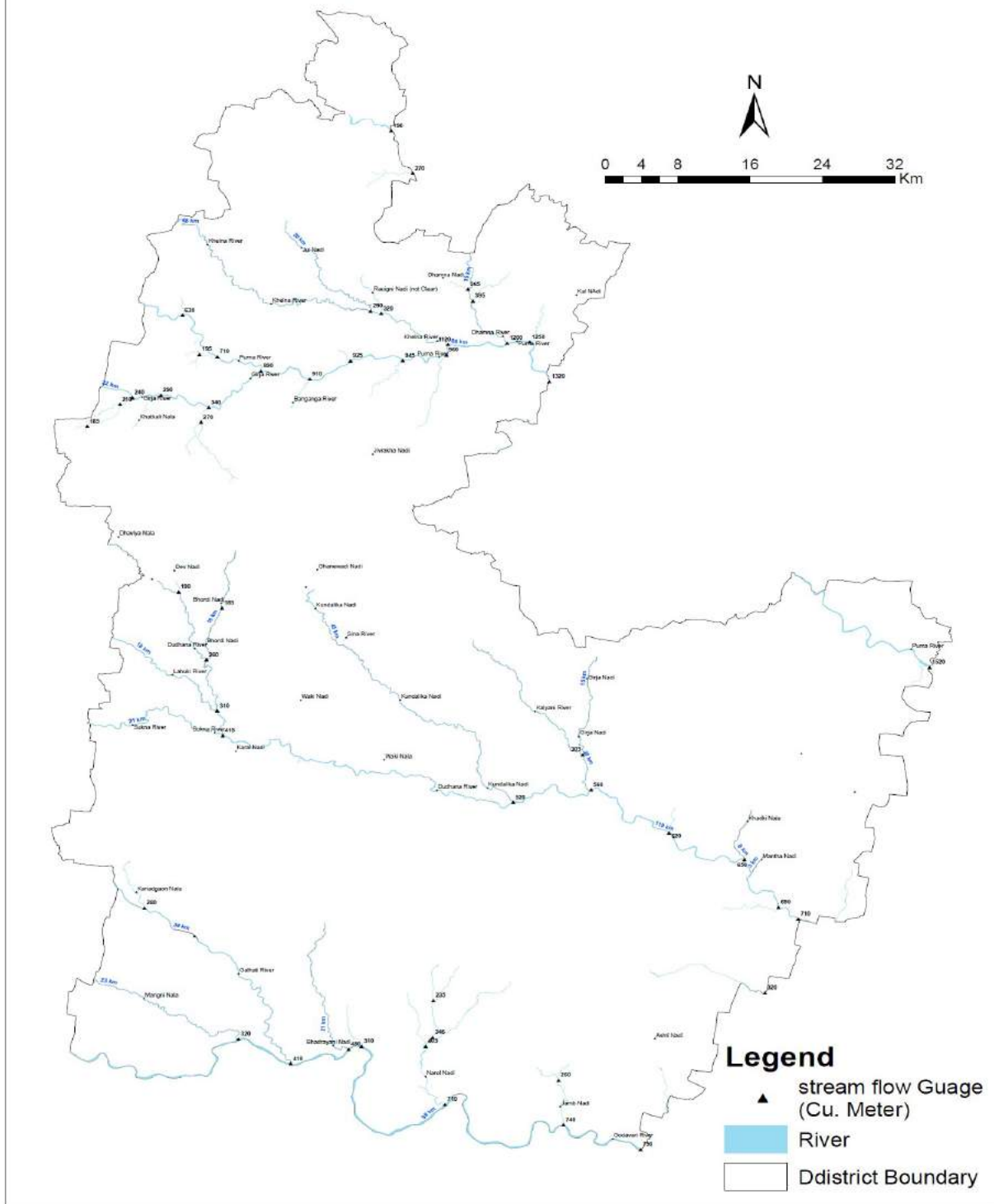
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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. Data is interpreted as below

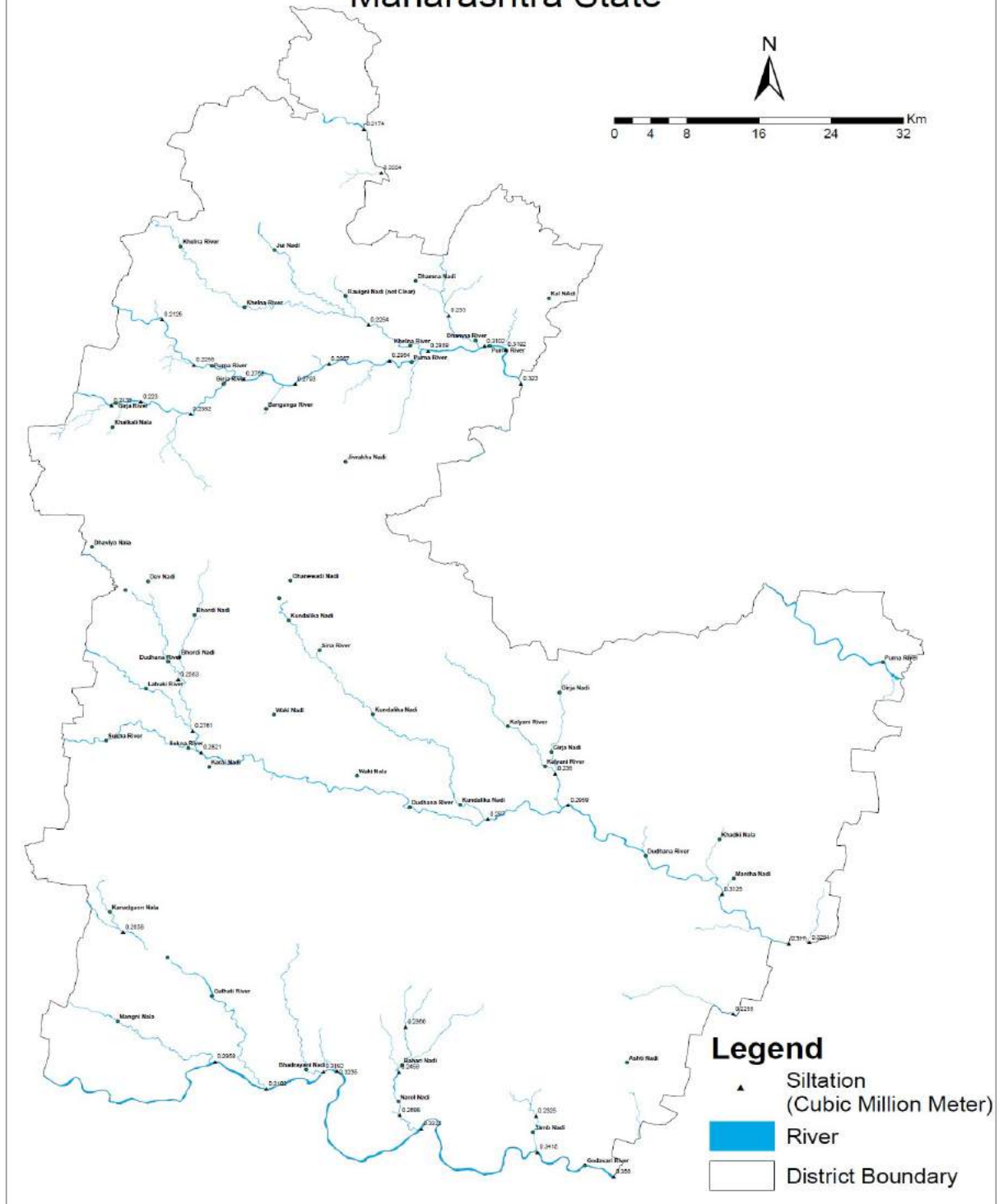
Stream Flow Map of Jalna District, Maharashtra state



cum/minute

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

River Siltation Map of Jalna District, Maharashtra State



In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Karla	3570	4310 (Yr 18-19)	9000

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 2.7 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 Grade sand 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 Grade sand 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Kundlika. 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 2.7 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 of Rs 10.36 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.8366\mu\text{g}/\text{m}^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu\text{g}/\text{m}^3$ 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 monitored 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 dust 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 Kundlika or other option as suggested by authority will be eased.

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 2.7 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 about 936 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 10.36 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	97200
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		10000

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. Regular monitoring of the exhaust fumes. Barriers & Traffic Management Expenses 	(12 tarpaulin) 12 tractor @ Rs. 500/tractor Excluding Man Power Salary which is included in labour costs	60000 6000 10000
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)	20000 10000
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. 	450Nos.	225000
5	Transportation on Village Roads	Dust Control	<ul style="list-style-type: none"> Green belt along village Rd 	486 Nos.	243000
6	Final Mine Closer Plan implementation	Replenishment of Sand	<ul style="list-style-type: none"> Gabions/ boulders will be arranged as per guidelines 		15000
7	Mobile toilet, sewage handling & treatment		<ul style="list-style-type: none"> Mobile toilet, sewage handling & treatment 		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				1036200

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Bhadli Sand Ghat, River Godavari

(ix) Location / site (GPS Co-ordinates) : Bhadli, Tq Ghansawangi, Gut No. 29

BP	Latitude	Longitute
BP-1	19°16' 46.797"N	76°4' 26.4597"E
BP-2	19°16' 48.0406"N	76°4' 40.9598"E
BP-3	19°16' 46.5827"N	76°4' 41.0984"E
BP-4	19°16' 45.3391"N	76°4' 26.5984"E

(x) Size of the Mining Lease (Hectare) : 1.91 Ha

(xi) Capacity of Mining Lease (TPA): 52682 TPA , 6578 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 16708120

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -12.25 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi -27.5 Km NW 35 km NE NH222-8.5 Km SW SH144-28 Km SW Takarwan sultanpur rd-3.2 Km S Vil Rd-0.180 km N 15.5 km Check dam - 2.8 Km W 2.8 Km W 2.8 Km W
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 141 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-395 km NE

		Mountains Hingoli Hill range 32 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 141 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Bhadli-0.470 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi -27.5 Km NW Bhadli-0.470 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Godavari Lease over 1.91 ha comprises of river bed of Godavari river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

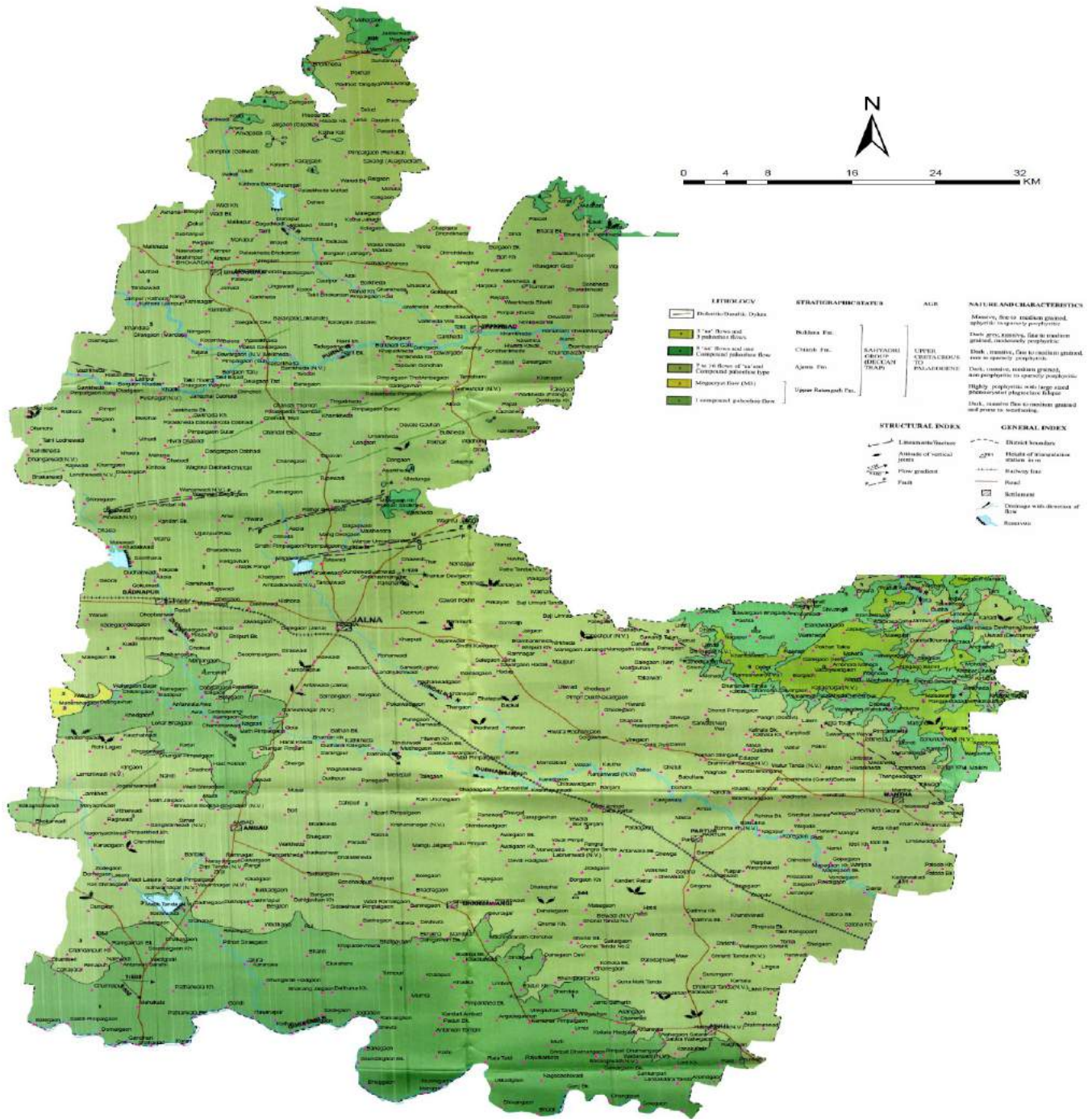
Details of Exploration

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 3.00 m near the banks. The surface plan is prepared on the specified scale.

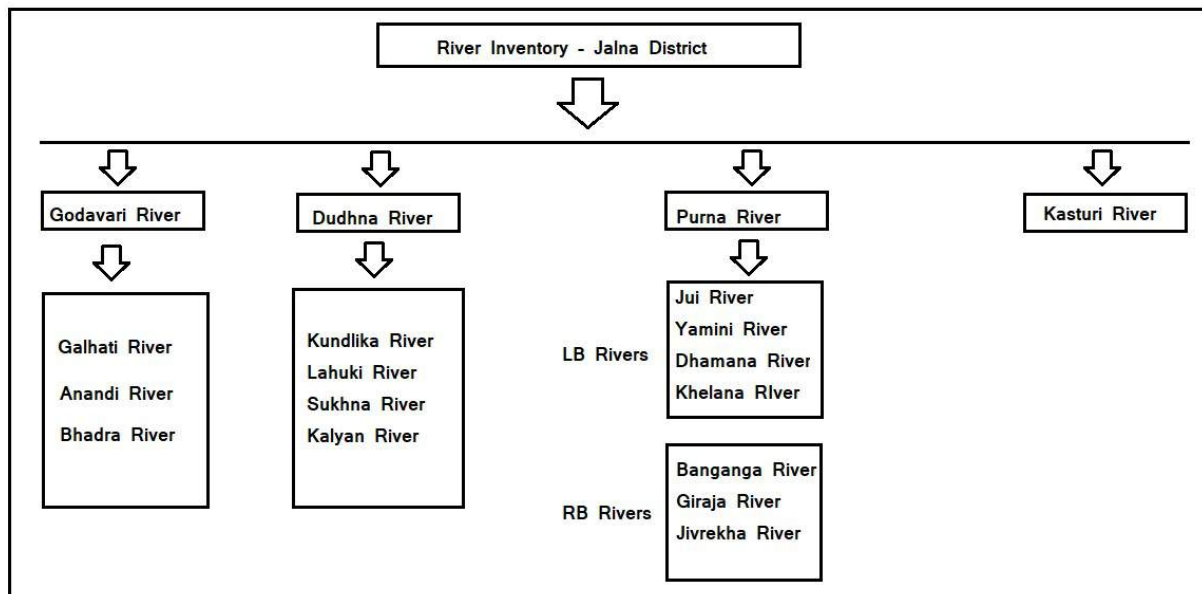
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E



Approach road available over pandan rd of 198 m connecting Bhadli rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	1.0
Total	1.0

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 3.0m 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 29 villages where sand ghats are proposed. About 48 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 48 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Bhadli Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -12.25 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi –27.5 Km NW 35 km NE NH222-8.5 Km SW SH144–28 Km SW Takarwan sultanpur rd–3.2 Km S Vil Rd-0.180 km N 15.5 km Check dam – 2.8 Km W 2.8 Km W 2.8 Km W
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 141 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-395 km NE Mountains Hingoli Hill range 32 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 141 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Bhadli-0.470 Km NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –27.5 Km NW Bhadli-0.470 Km NW

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

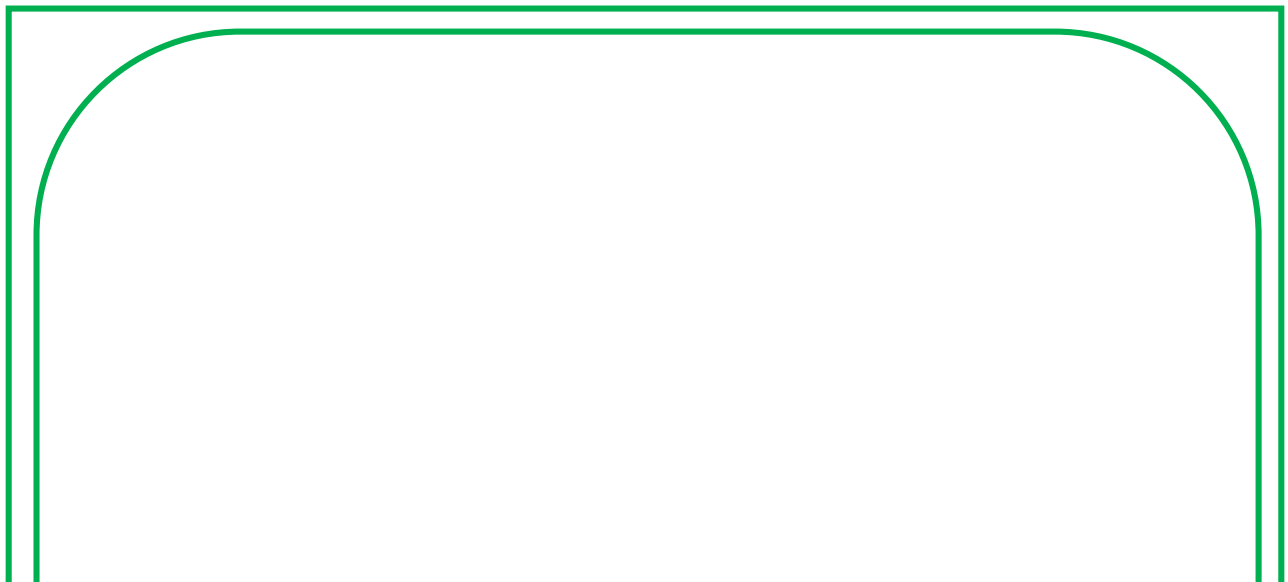
Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	425m x 45 m x 1.0 m

GPS Location

BP	Latitude	Longitute
BP-1	19°16' 46.797"N	76°4' 26.4597"E
BP-2	19°16' 48.0406"N	76°4' 40.9598"E
BP-3	19°16' 46.5827"N	76°4' 41.0984"E
BP-4	19°16' 45.3391"N	76°4' 26.5984"E



ANNEXURES

Annexure -1 : Details of Sand Ghat

अ क्र. सं.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Bhadli sand ghat proposed (over river Godavari) in Ghansawangi taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ghansawangi and adjoining areas of other talukas. All two sand ghats are on Godavari river. Details of Ghansawangi taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	19°16' 46.797"N	76°4' 26.4597"E
BP-2	19°16' 48.0406"N	76°4' 40.9598"E
BP-3	19°16' 46.5827"N	76°4' 41.0984"E
BP-4	19°16' 45.3391"N	76°4' 26.5984"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -12.25 km NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi –27.5 Km NW 35 km NE NH222-8.5 Km SW SH144–28 Km SW Takarwan sultanpur rd–3.2 Km S Vil Rd-0.180 km N 15.5 km Check dam – 2.8 Km W 2.8 Km W 2.8 Km W
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 141 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-395 km NE Mountains Hingoli Hill range 32 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 141 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
7	State, National boundaries	Madhyapradesh -156 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Bhadli-0.470 Km NW

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –27.5 Km NW Bhadli-0.470 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-14.5 SE Coastal Area -395 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 198 m connecting Bhadli rd.

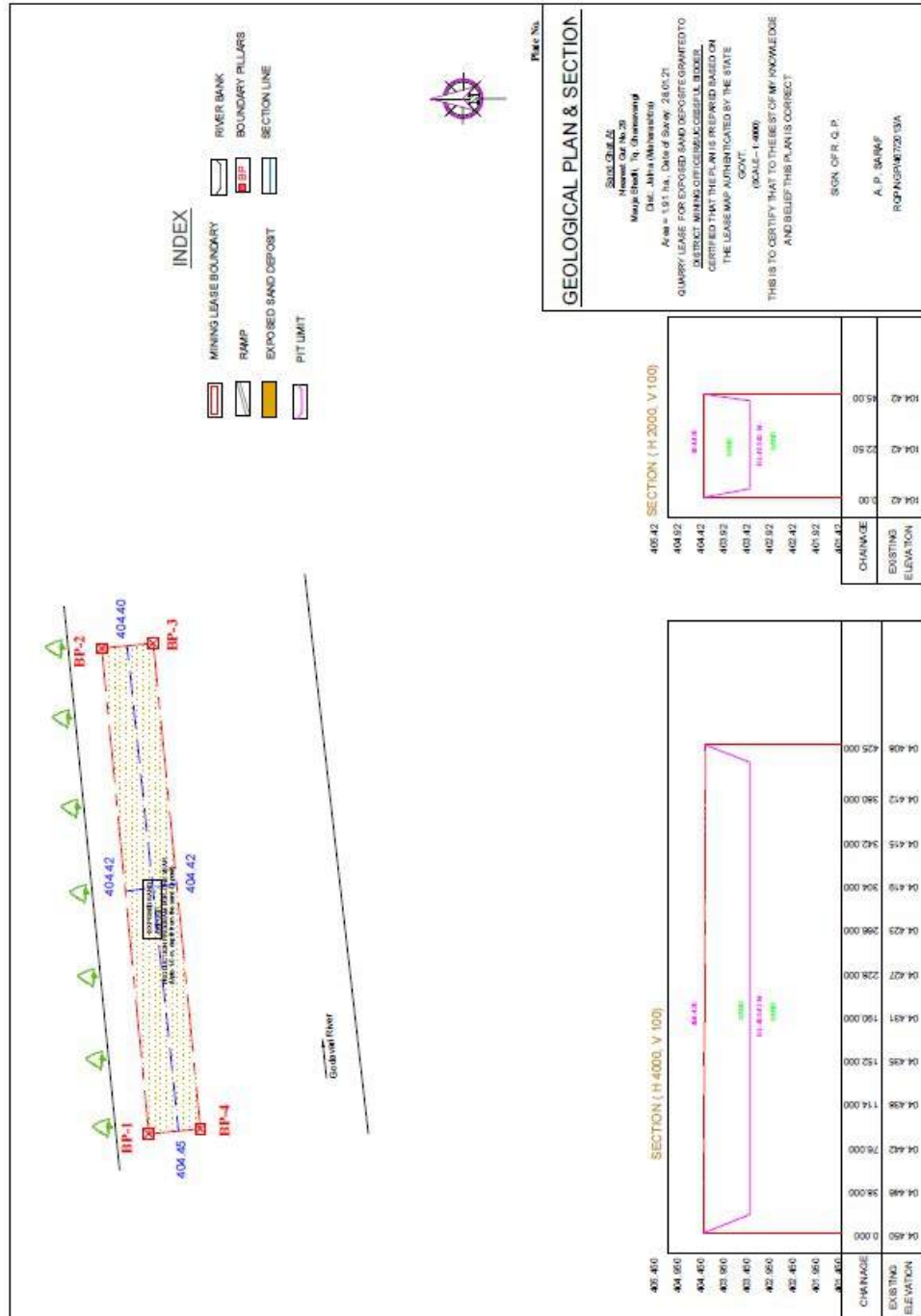
Section 2.0 : Project Description and Method of Mining

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 Ghansawangi Tahsil. District Mining Officer Jalna has proposed for the production of 6578 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Bhadli	Ghansawangi	Godavari	29	1.91	425 x45 x 1.0	6578	19°16' 46.797"N	76°4' 26.4597"E

Surface Plan for Bhadli Sand Ghat:



2.1 Method of Mining :

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

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	425m x 45m x 1.0 m

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2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	10
6	Support Staff/Labors	5
	Total	48

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.960 m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.960
Total	1.960

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	19100
Area under dumps	00	00
Undisturbed Area	19100	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

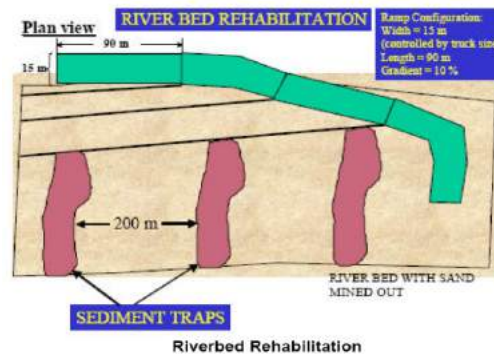


Figure -3

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 : Anticipated Impacts and Management

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 only 6578Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 202 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	52682 TPA
Operational Days per Year	260 Days
Lead (m)	198m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.301643935
Total	0.301643935

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

Accordingly Maximum incremental GLC is predicted as 0.3433µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Bhadli	Ghansawangi	Godavari	0.3433µgm/cum

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 as per CPCB guidelines 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 1.00m 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 03.09.2019 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 (Godavari River)

- 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 Bhadli sand ghat is 1.00m keeping 2.0m bed depth of sand. Total Sand depth available is 3.0m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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.

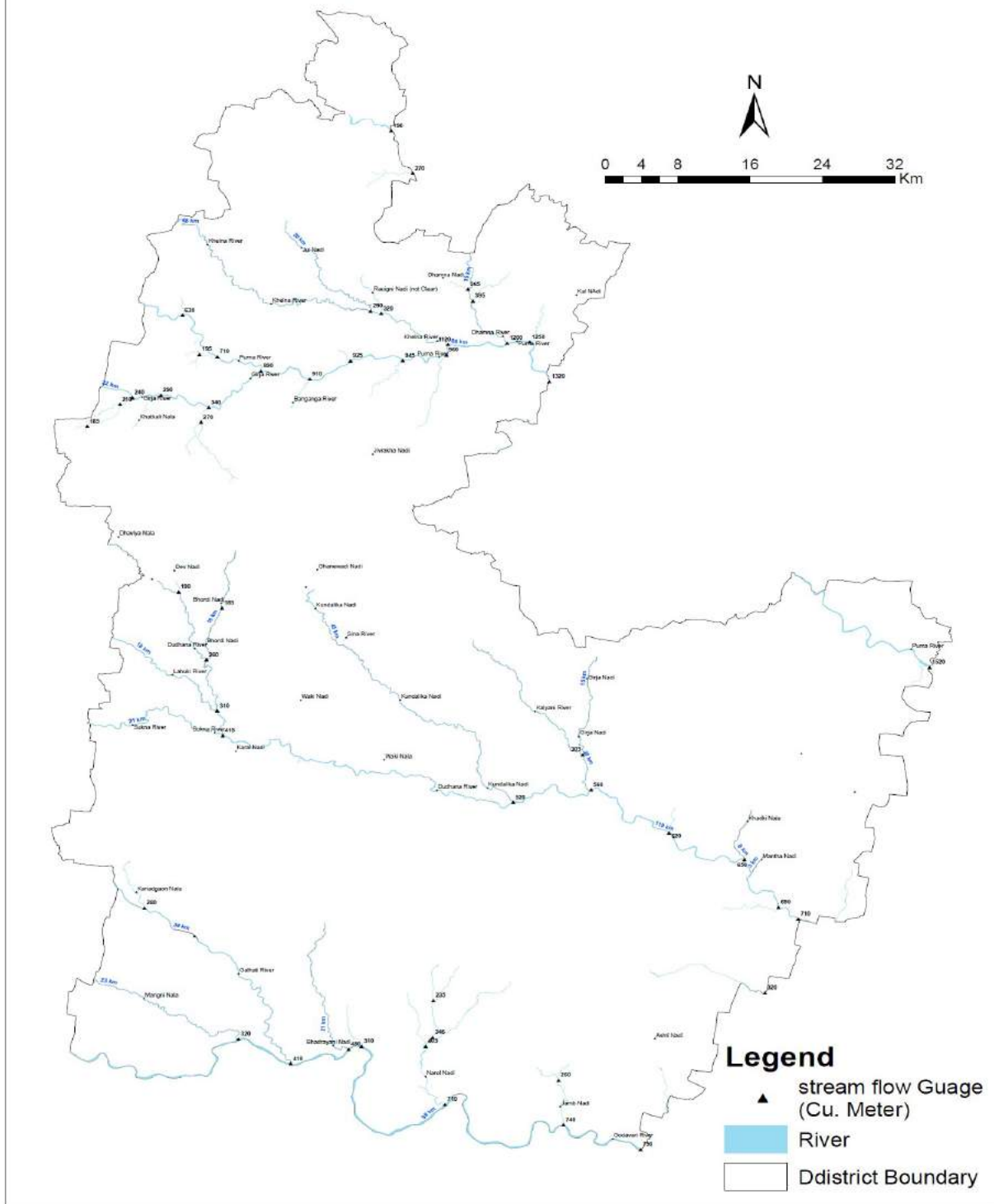
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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

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. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



cum/minute

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

[illegible]

In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Bhadli	124050	14800(Yr 17-18)	19100

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Godavari. 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 2.7 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 of Rs 8.06 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.3433\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Godavari or other option as suggested by authority will be eased.

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 2.7 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 about 408 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 8.06 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	39600
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		30000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(25 tarpaulin)	125000
			· Regular monitoring of the exhaust fumes.	25 tractor @ Rs. 500/tractor	12500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	210 Nos.	105000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	198 Nos.	99000
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				806100

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Gunj Bu. Sand Ghat, River Godavari

(ix) Location / site (GPS Co-ordinates) : Gunj Bu., Tq Ghansawangi, Gut No. 361,362

BP	Latitude	Longitude
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E

(x) Size of the Mining Lease (Hectare) : 2.55 Ha

(xi) Capacity of Mining Lease (TPA): 72160 TPA , 9010 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 22885400

(xiv) Contact Information : District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -9.2 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi –28 Km NW 30.5 km NE NH222-10.5 Km SW SH144–31.5 Km SW Takarwan sultanpur rd–5.4 Km S Vil Rd-0.190 km N 15.5 km Check dam – 6.9 Km SW 2.0.33 Km NW 6.9 Km SW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 140 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains,	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West

	forests	Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 140 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
7	State, National boundaries	Karnatak -157 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu.-2.014 Km NW, Gunj Bk.-0.0055 Km N
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi -8 Km NW, Gunj Bu.-2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No

18	<p>Whether there is any litigation pending against the project and/or land in which the project is propose to be set up?</p> <p>(a) Name of the Court</p> <p>(b) Case No.</p> <p>(c) Orders or directions of the Court, if any, and its relevance with the proposed project.</p>	No
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(Signature of Project ProponentAlong with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Godavari Lease over 2.55 ha comprises of river bed of Godavari river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

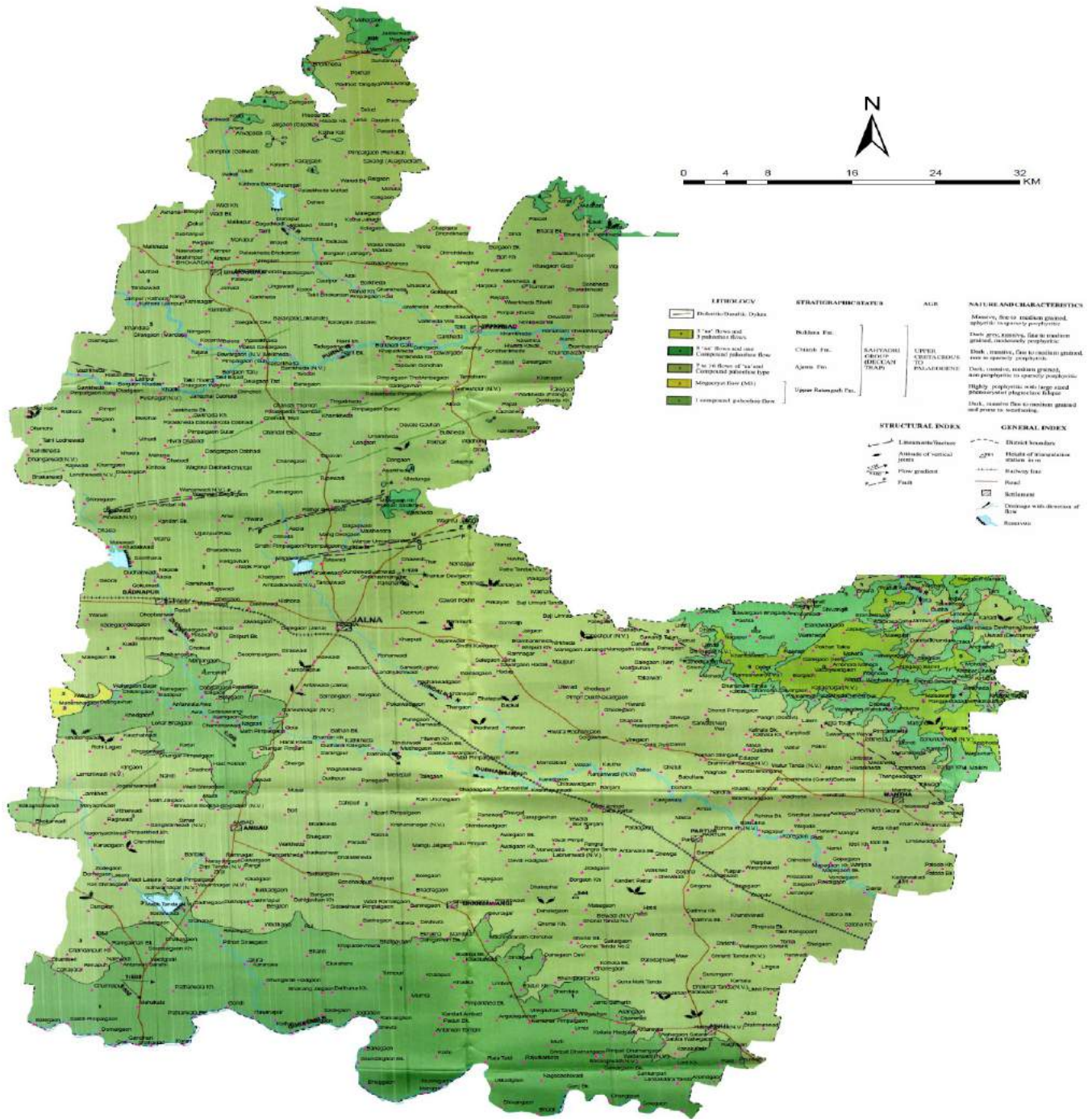
Details of Exploration

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 3.00 m near the banks. The surface plan is prepared on the specified scale.

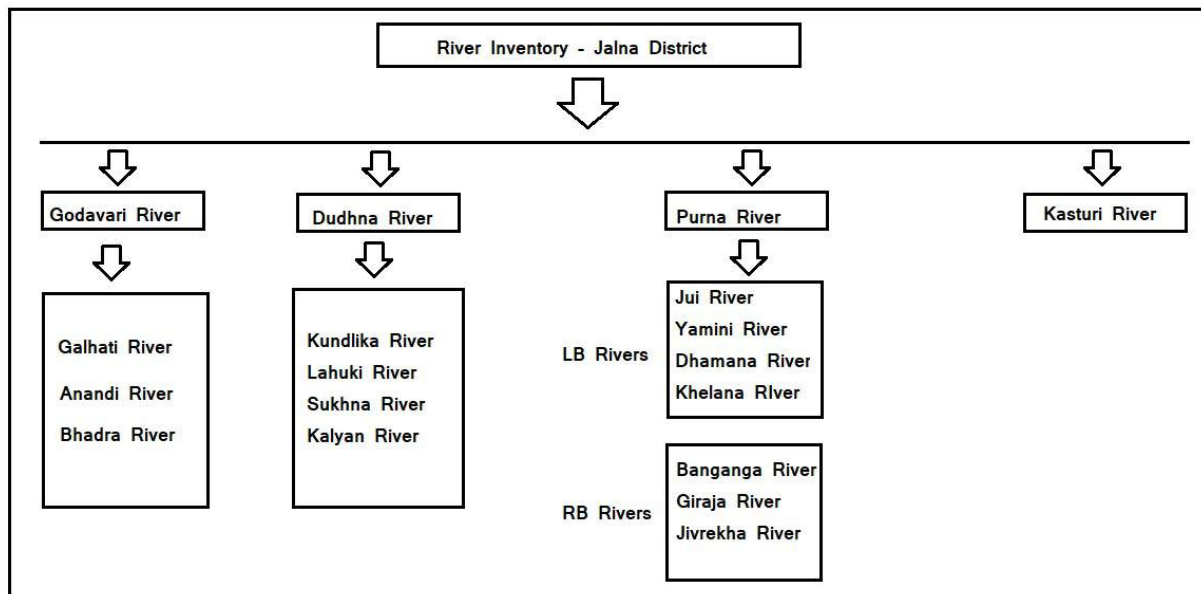
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E



Approach road available over pandan rd of 187 m connecting Gunj rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	1.0
Total	1.0

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 3.0m 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 29 villages where sand ghats are proposed. About 50 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 50 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Gunj Bu. Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -9.2 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi -28 Km NW 30.5 km NE NH222-10.5 Km SW SH144-31.5 Km SW Takarwan sultanpur rd-5.4 Km S Vil Rd-0.190 km N 15.5 km Check dam - 6.9 Km SW 2.0.33 Km NW 6.9 Km SW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 140 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 140 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
7	State, National boundaries	Karnatak -157 Km SE
8	Routes or facilities used by the public for access to recreation or other	--

	tourist, pilgrim areas	
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu.-2.014 Km NW, Gunj Bk.-0.0055 Km N
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi -8 Km NW, Gunj Bu.-2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	510m x 50m x 1.0 m

GPS Location

BP	Latitude	Longitude
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. र.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट का. नं. प्लॉट- प्लॉट	प्लॉट का. नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट का. नं.	प्लॉट का. नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट का. नं. प्लॉट	प्लॉट का. नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Gunj Bu. sand ghat proposed (over river Godavari) in Ghansawangi taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ghansawangi and adjoining areas of other talukas. All two sand ghats are on Godavari river. Details of Ghansawangi taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Table 2.0 All corner Coordinates of Sand Ghat :

BP	Latitude	Longitude
BP-1	19°17' 53.4599"N	76°6' 45.0905"E
BP-2	19°17' 49.8604"N	76°6' 48.2058"E
BP-3	19°17' 49.5324"N	76°6' 57.7485"E
BP-4	19°17' 50.4186"N	76°6' 59.2512"E
BP-5	19°17' 49.0412"N	76°7' 0.1621"E
BP-6	19°17' 47.889"N	76°6' 58.2086"E
BP-7	19°17' 48.2615"N	76°6' 47.3724"E
BP-8	19°17' 52.4273"N	76°6' 43.7671"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -9.2 km SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ghansawangi –28 Km NW 30.5 km NE NH222-10.5 Km SW SH144–31.5 Km SW Takarwan sultanpur rd–5.4 Km S Vil Rd-0.190 km N 15.5 km Check dam – 6.9 Km SW 2.0.33 Km NW 6.9 Km SW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Botha Santury 140 Km N
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West Wet Land Not Notified for district, Biosphere -Pachmadi-394 km NE Mountains Hingoli Hill range 33 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Botha Santury 140 Km N
6	Inland, coastal, marine or underground waters	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
7	State, National boundaries	Karnatak -157 Km SE
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -196 Km NW
10	Densely populated or built-up area, distance from nearest human habitation	Gunj Bu.-2.014 Km NW, Gunj Bk.-0.0055 Km N

11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Ghansawangi –8 Km NW, Gunj Bu.-2.014 Km NW
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Godavari river Majalgaon dam-15.3 SE Coastal Area -394 Km West Marine Water -390 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 187 m connecting Gunj rd.

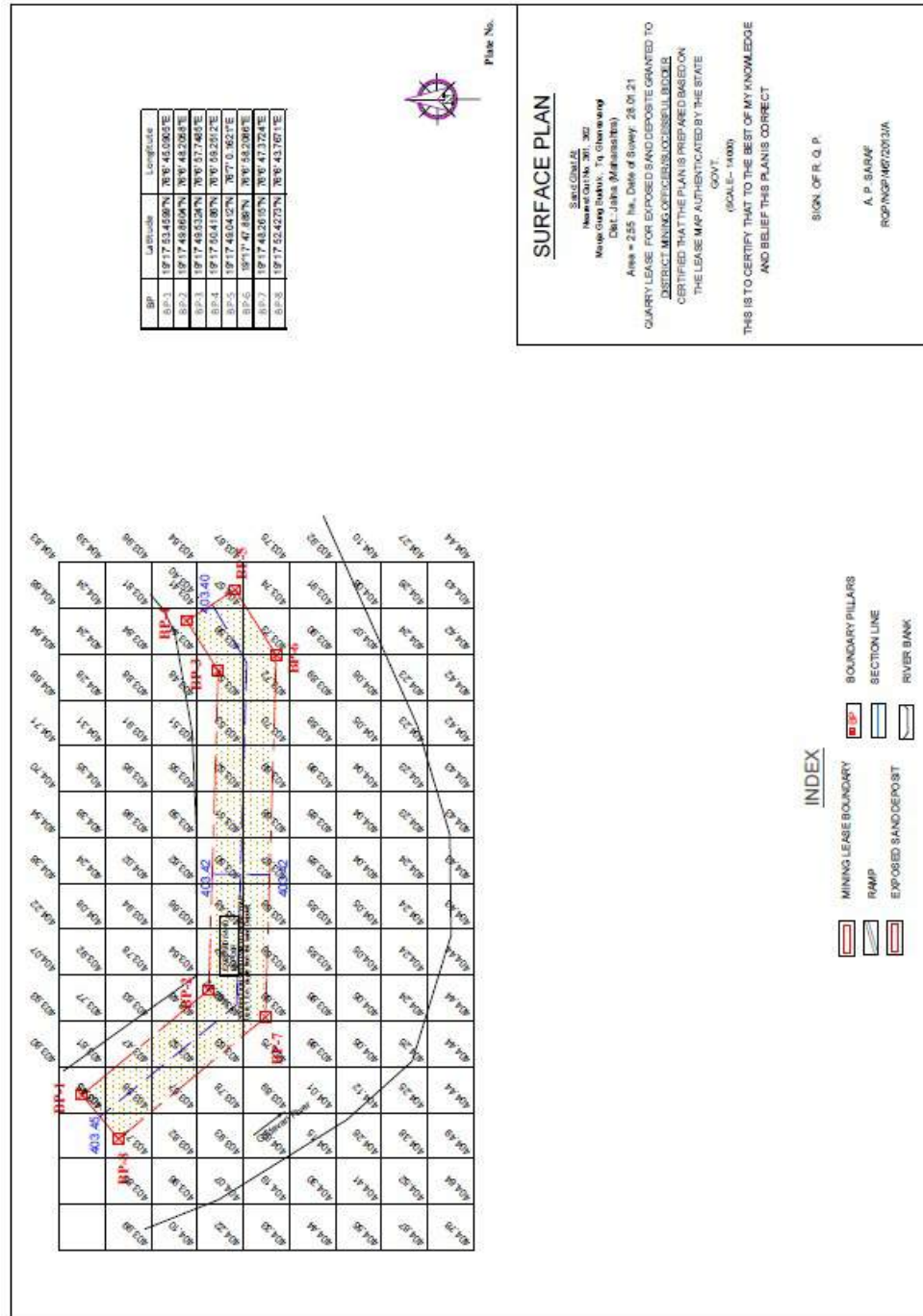
Section 2.0 : Project Description and Method of Mining

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 Ghansawangi Tahsil. District Mining Officer Jalna has proposed for the production of 9010 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Gunj Bu.	Ghansawangi	Godavari	361,362	2.55	510 x50 x 1.0	9010	19°17' 53.4599"N	76°6' 45.0905"E

Surface Plan for Gunj Bu Sand Ghat:



2.1 Method of Mining :

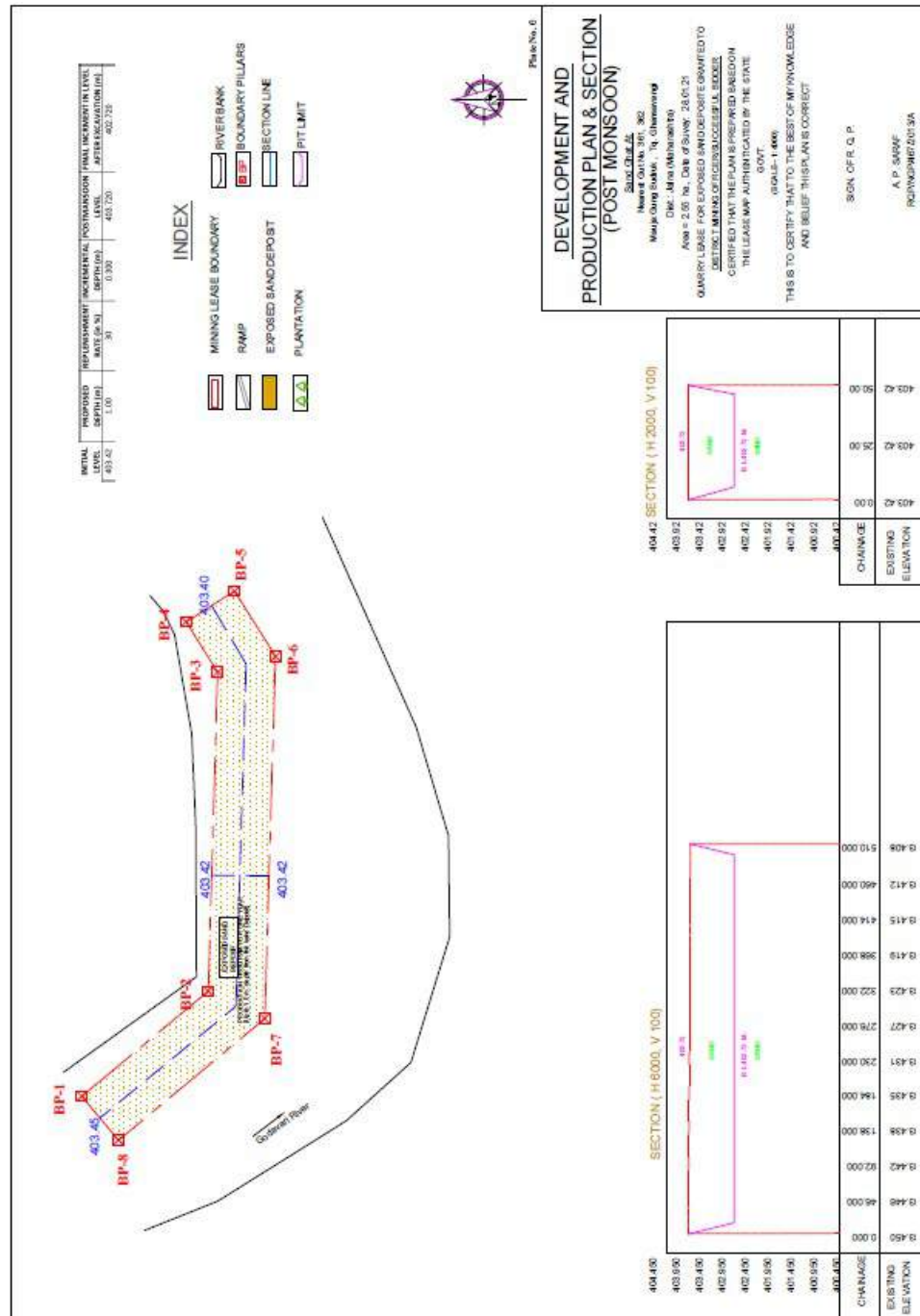
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	510m x 50m x 1.0 m

Production Plan for Gunj Sand Ghat :



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	20
4	Ramp Maintenance	10
6	Support Staff/Labors	7
	Total	50

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 2 m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	1.0
Total	2.0

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	25500
Area under dumps	00	00
Undisturbed Area	25500	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

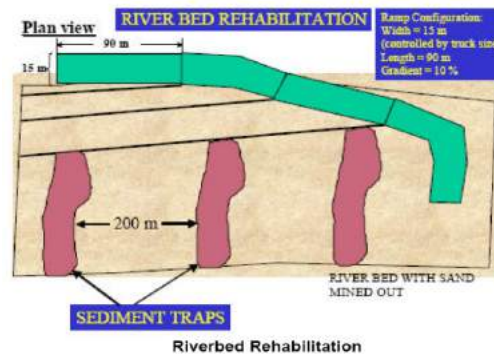


Figure -3

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 : Anticipated Impacts and Management

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 only 9010Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 277 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	72160 TPA
Operational Days per Year	260 Days
Lead (m)	187m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.413166898
Total	0.413166898

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

Accordingly Maximum incremental GLC is predicted as 0.4198µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Gunj Bu	Ghansawangi	Godavari	0.3347µgm/cum

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 as per CPCB guidelines 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 1.00m 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 03.09.2019 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 (Godavari River)

- 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 Gunj Bu sand ghat is 1.00m keeping 2.0m bed depth of sand. Total Sand depth available is 3.0m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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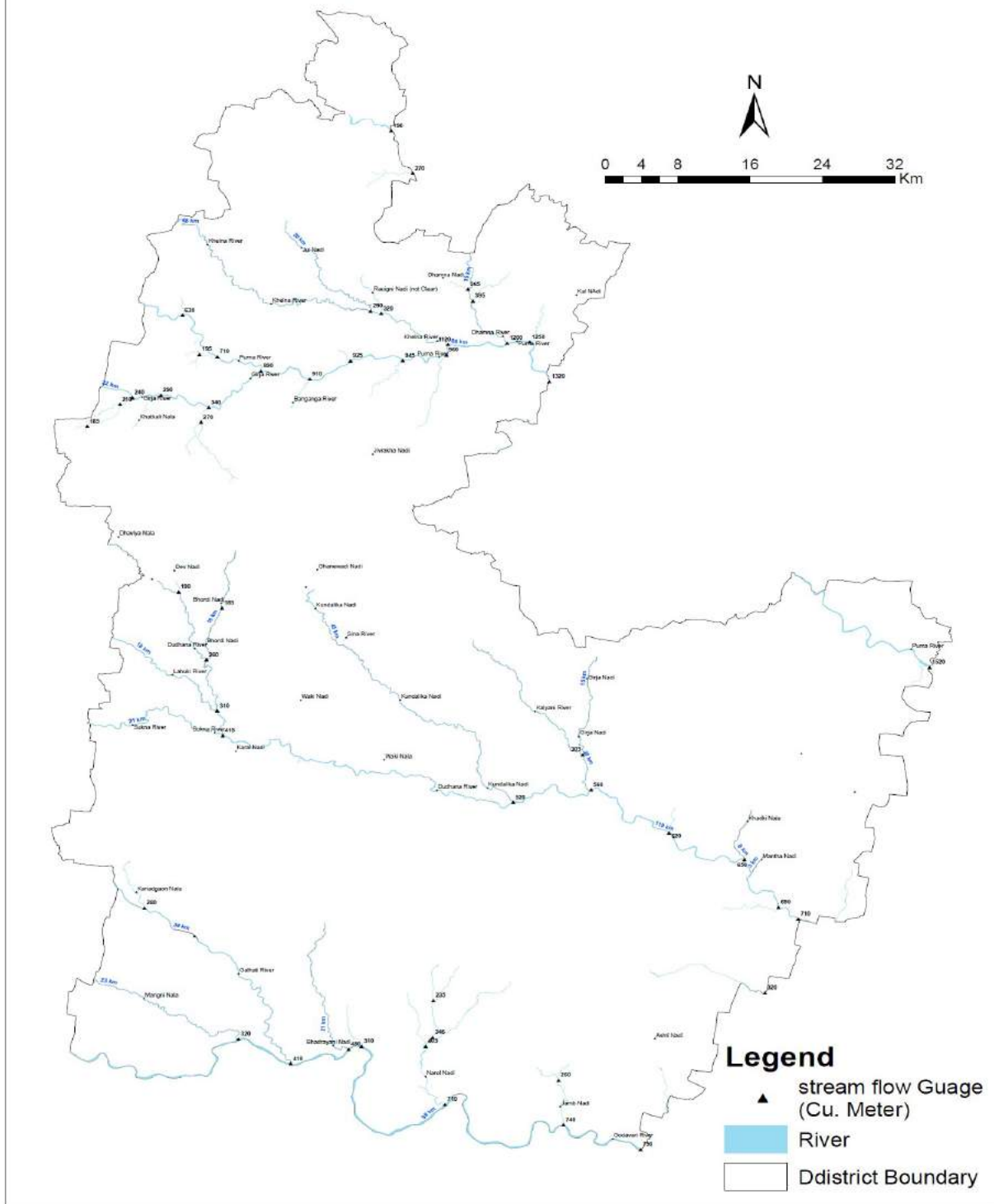
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



[illegible]

In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Gunj Bu	9570	17200(Yr 16-17)	25500

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Godavari. 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 2.7 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 of Rs 8.75 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.3347\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Godavari or other option as suggested by authority will be eased.

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 2.7 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 about 442 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 8.75 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	37400
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		30000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(35 tarpaulin)	175000
			· Regular monitoring of the exhaust fumes.	35 tractor @ Rs. 500/tractor	17500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	10000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/ Flood Plain management	· Green belt along bank · Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	255 Nos.	127500
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	187 Nos.	93500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				875900

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Alamgaon Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Alamgaon, Tq Ambad, Gut No. 166,167

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E

(x) Size of the Mining Lease (Hectare) : 1.38 Ha

(xi) Capacity of Mining Lease (TPA): 31130 TPA , 3887 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 9872802

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.35 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–5.6 Km E Vil Rd-0.295 km S 1.9 km S Check dam – 3.65 Km NW 3.65 Km NW 3.65 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 0.735 Km S Dudhna River Wet Land Not Notified for district,

		Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Sanctuary 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –15.5 Km NE , Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.38 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

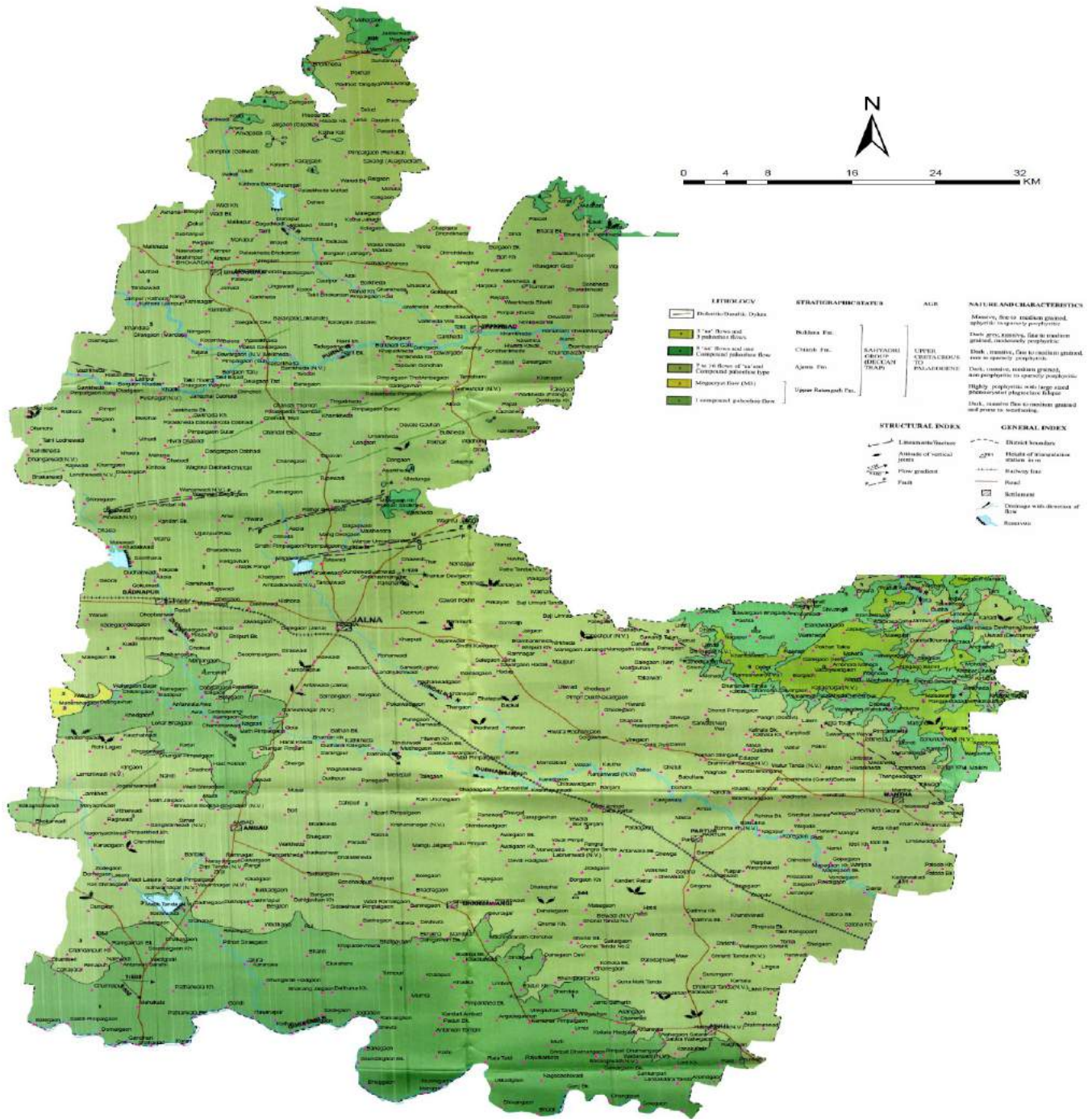
Details of Exploration

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 3.00 m near the banks. The surface plan is prepared on the specified scale.

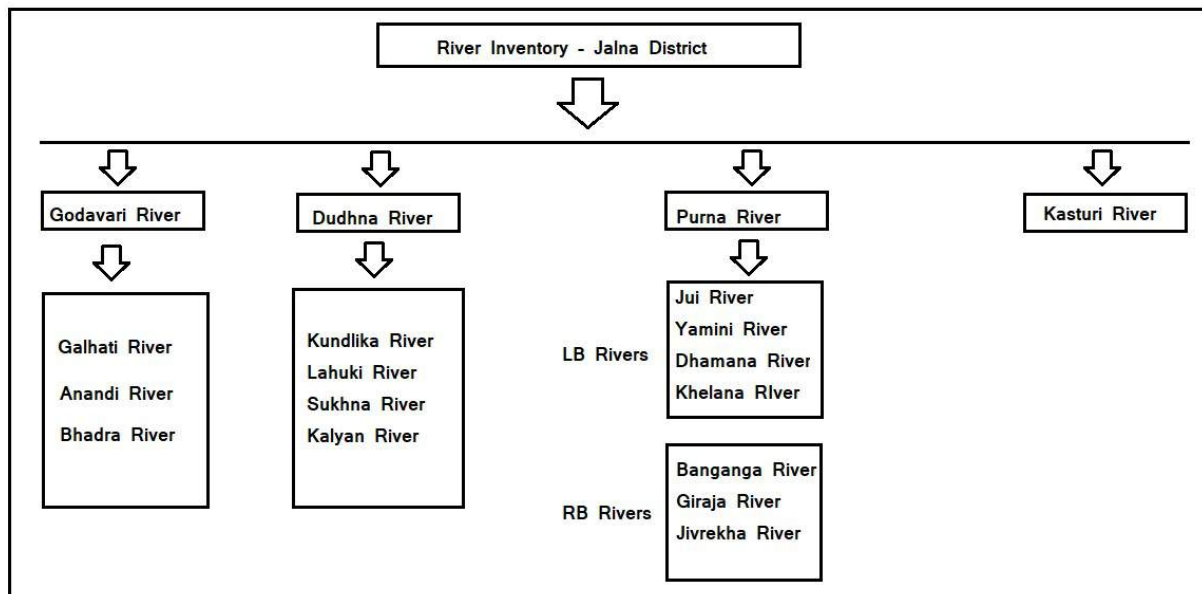
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

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irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E



Approach road available over pandan rd of 158 m connecting Alamgaon rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x 25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.76
Total	1.76

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 2.80m 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Alamgaon Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.35 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–5.6 Km E Vil Rd-0.295 km S 1.9 km S Check dam – 3.65 Km NW 3.65 Km NW 3.65 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 0.735 Km S Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N

10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –15.5 Km NE , Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	550m x 25m x 0.8 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E

ANNEXURES

Annexure -1 : Details of Sand Ghat

अ. क्र. सं.	प्लॉट नं.	प्लॉट का. नं.	प्लॉट का. नं.	गट नं.	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)	प्लॉट का. नं. (m)
1	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	15,16,50,51,89	410	25	0.60	1.025	2173
2	प्लॉट नं. प्लॉट	प्लॉट नं.- प्लॉट	प्लॉट नं. प्लॉट	160,162,163,174	450	25	0.50	1.125	1988
3	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	प्लॉट नं. प्लॉट	प्लॉट नं.	प्लॉट नं. प्लॉट	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	132,133,154,155	480	30	0.80	1.44	4071
6	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	50,51,52,54	475	22	0.80	1.045	2954
7	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	61,62,63,66,67	475	22	0.50	1.045	1846
8	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	312,313,314,326,327	587	40	0.50	2.34	4148
9	प्लॉट नं.	प्लॉट नं. प्लॉट.	प्लॉट नं. प्लॉट	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	प्लॉट नं.	प्लॉट नं. प्लॉट	प्लॉट नं. प्लॉट	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Alamgaon sand ghat proposed (over river Dudhna) in Ambad taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ambad and adjoining areas of other talukas. All two sand ghats are on Dudhna river. Details of Ambad taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°44' 20.0157"N	75°46' 23.8025"E
BP-2	19°44' 8.0093"N	75°46' 33.396"E
BP-3	19°44' 6.4589"N	75°46' 35.604"E
BP-4	19°44' 5.8057"N	75°46' 35.0924"E
BP-5	19°44' 7.4256"N	75°46' 32.7854"E
BP-6	19°44' 19.525"N	75°46' 23.1175"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.35 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–5.6 Km E Vil Rd-0.295 km S 1.9 km S Check dam – 3.65 Km NW 3.65 Km NW 3.65 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 0.735 Km S Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Alamgaon -0.115 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,

	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Alamgaon -0.115 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 0.735 Km S Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 158 m connecting Alamgaon rd.

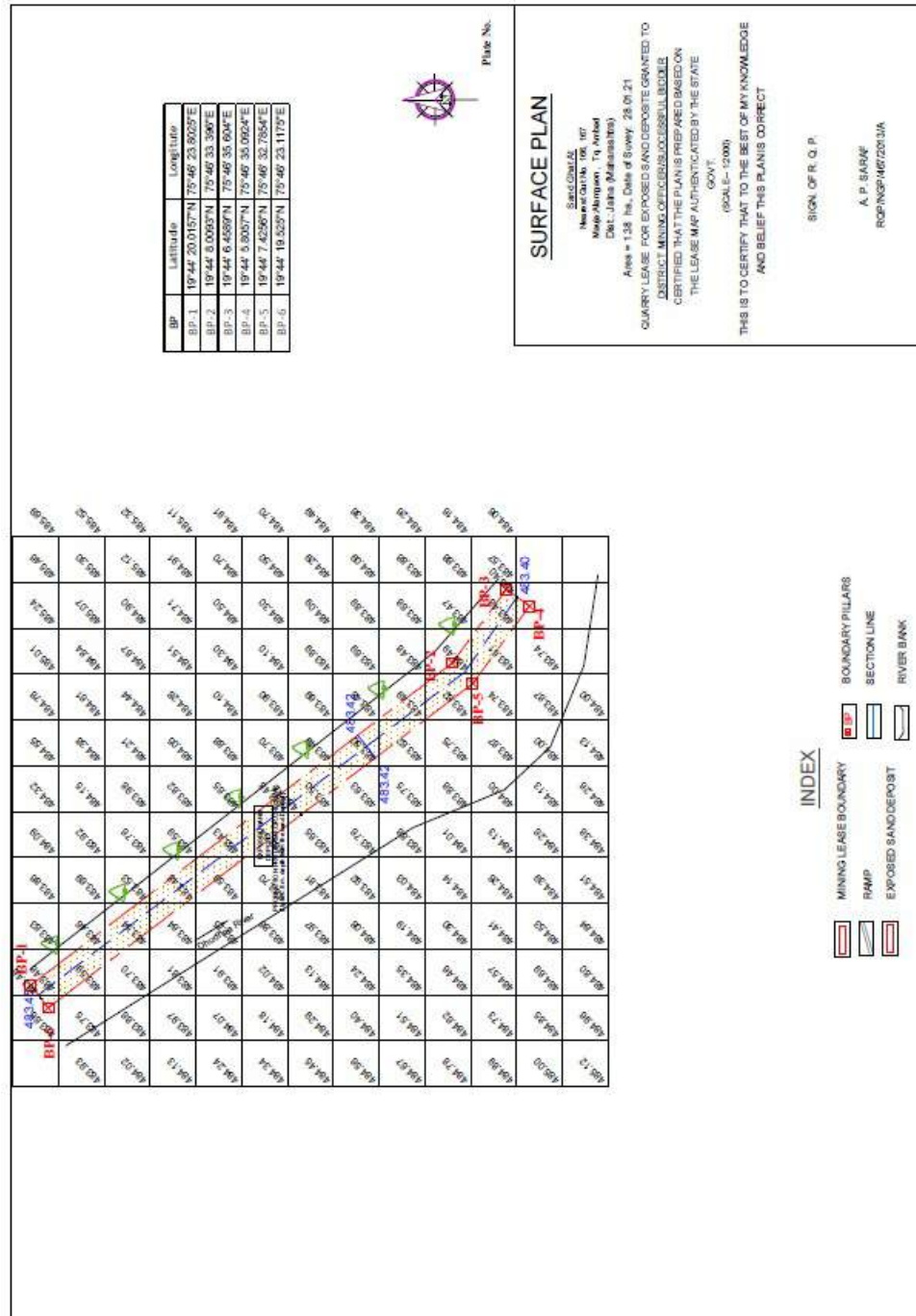
Section 2.0 : Project Description and Method of Mining

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 Ambad Tahsil. District Mining Officer Jalna has proposed for the production of 3887 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Alamgaon	Ambad	Dudhna	166,167	1.38	550 x25 x 0.8	3887	19°44' 20.0157"N	75°46' 23.8025"E

Surface Plan for Alamgaon Sand Ghat:



2.1 Method of Mining :

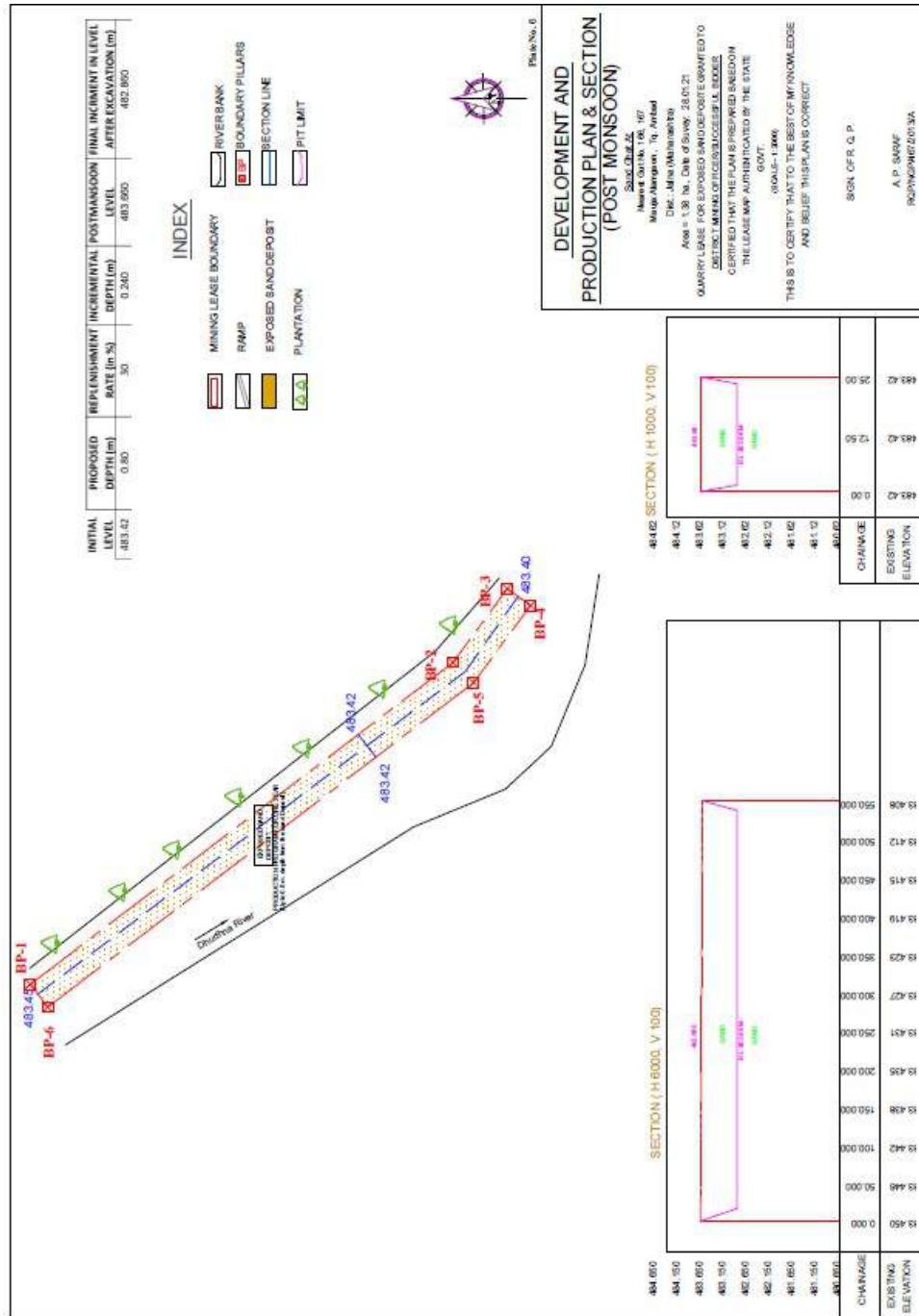
The mining will be manual opencast mining method of scooping using simple tool like spade/pawdas.

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	550m x 25 m x 0.80 m

Production Plan for Alamgaon Sand Ghat :



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	10
6	Support Staff/Labors	5
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	13800
Area under dumps	00	00
Undisturbed Area	13800	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

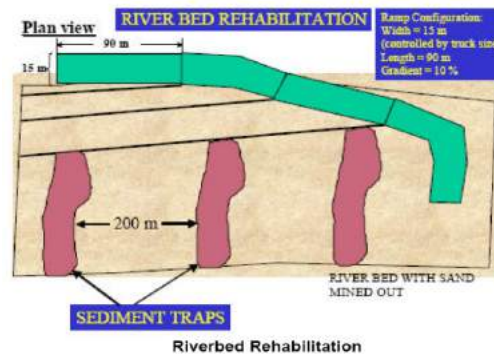


Figure -3

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 : Anticipated Impacts and Management

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 only 3887Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 119 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	31130 TPA
Operational Days per Year	260 Days
Lead (m)	158m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.178244144
Total	0.178244144

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

Accordingly Maximum incremental GLC is predicted as 0.4198µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Alamgaon	Ambad	Dudhna	0.4198µgm/cum

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 as per CPCB guidelines 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 0.8m 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 03.09.2019 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 (Dudhna River)

- 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 Alamgaon sand ghat is 0.8m keeping 2.0m bed depth of sand. Total Sand depth available is 2.8m.

Survey Committee includes member from GSDA, Jalna 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.

Sand Replenishment

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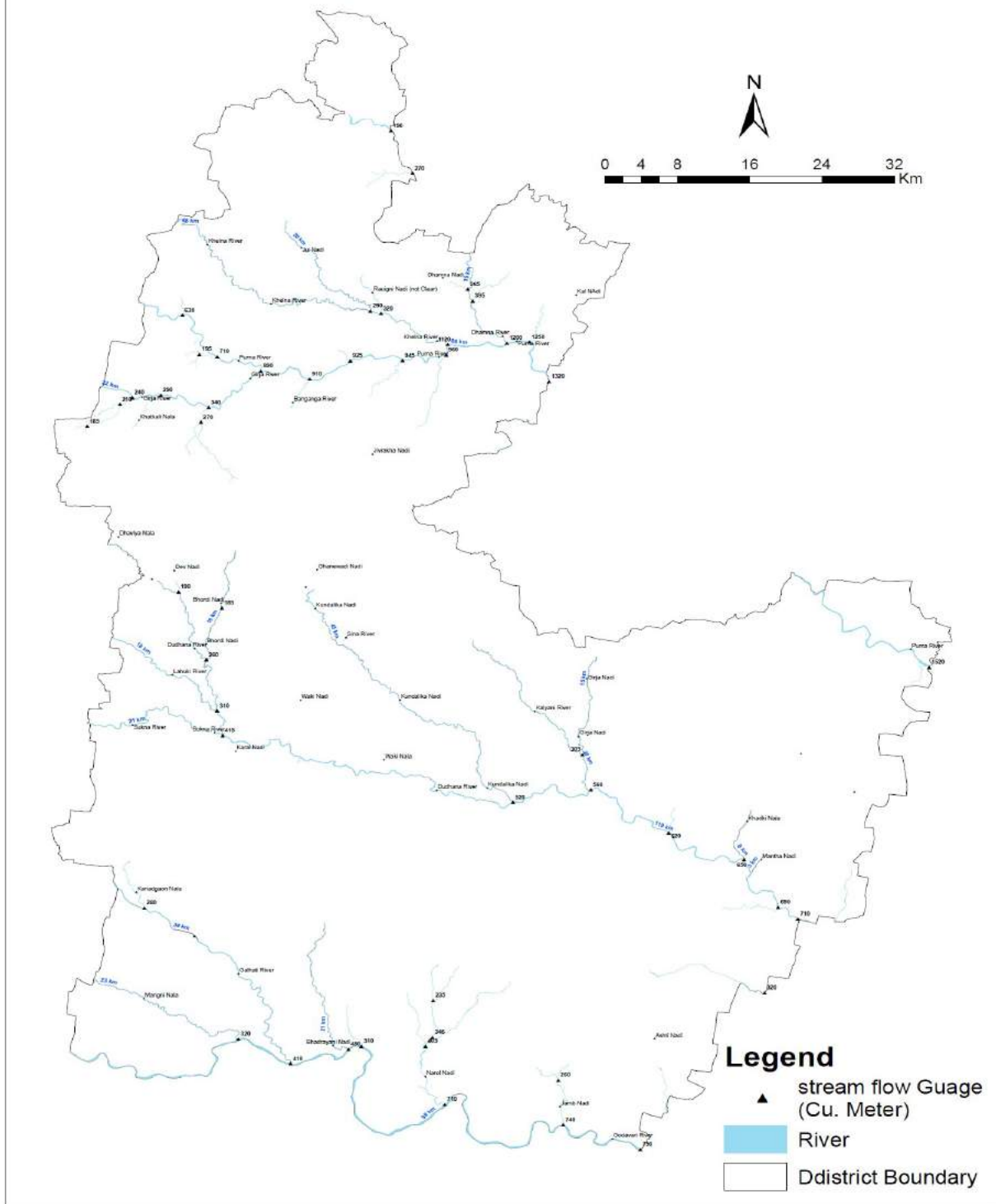
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



cum/minute

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

[illegible]

In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Alamgaon	5100	5840(Yr 16-17)	11000

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 7.62 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.4198\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 433 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 7.62 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	31600
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(15 tarpaulin)	75000
			· Regular monitoring of the exhaust fumes.	15 tractors@ Rs. 500/tractor	7500
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	20000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	275 Nos.	144000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	158 Nos.	79000
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				762100

FORM 1 M**APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN ANDEQUAL TO FIVE HECTARE****(II) Basic Information:-**

(viii) Name of the Mining Lease site: Environment Clearance for Sadesawangi Sand Ghat, River Dudhna

(ix) Location / site (GPS Co-ordinates) : Sadesawangi, Tq Ambad, Gut No. 02,03

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E

(x) Size of the Mining Lease (Hectare) : 1.44 Ha

(xi) Capacity of Mining Lease (TPA): 24411 TPA , 3048 Brass

(xii) Period of Mining Lease: 1 years

(xiii) Expected cost of the Project : Rs. 7741920

(xiv) Contact Information: District Mining Officer ,Jalna District

Environmental Sensitivity

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–6.27 Km E Vil Rd-0.354 km S 2.1 km S Check dam – 3.024 Km NW 3.024 Km NW 3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 1.55 Km SE Dudhna River Wet Land Not Notified for district,

		Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Sanctuary 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –15.5 Km NE , Ambad –13.5 Km SE Sadesawangi -0.245 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is proposed to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

(Signature of Project Proponent Along with name and address)

District Mining officer ,Jalna District

PREFEASIBILITY REPORT
PRIOR ENVIRONMENTAL CLEARANCE

Project
Sand Scooping/Mining Proposals at Jalna district

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

Proponent

District Mining Officer Jalna
Collector Office, Jalna

Consultant

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

May 2021

Pre-feasibility Report

Executive Summary

- Collector Jalna vide his right to auction Sand as a minor mineral intends to auction the Sand in Jalna district.
- District Collector, Jalna appointed District Mining Officer-Jalna 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 letter dated 19.06.2020.
- Project Proponent proposed to auction 24 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 132647 brass sand is proposed to auction from 24 nos. of proposed sand ghat listed at Annexure-1
- Proposed site is located at the river bank of Dudhna Lease over 1.44 ha comprises of river bed of Dudhna river for sand scooping proposed in 24 Sand Ghats.

Physiography :

Physiography is one of the parameter of physical environment and its impact on patterns and density of agriculture is immense. The study of the influence of environment upon the nature and distribution of crops and livestock is of prime importance in agricultural geography nature with its physical characteristics provides a host of possibilities for agriculture and agro- based industries of different areas. The district may be broadly divided into the following physiographic regions ,

1) River Basin 2)The northern piedmont slopes 3) The Ajanta plateau

Jalna district has moderately to gently sloping undulated topography. The Northern part of the district is occupied by Ajanta and satmala hill ranges.

The 95 % area of the district falls in the Godavari basin. The river Godavari flows along the Southern boundary from West to East direction. The rivers Dudhana, Gulati, Purna are the principal tributaries of river Godavari, which flow through the district.

The major part of the district falls in the Purna sub basin. The river Purna flows from the central part of the district and meets river Godavari in the neighboring district. The river Khelna, and Girja are other important tributaries of river Purna which flow through the district.

The southern part of the district falls in Godavari sub basin A very small part of the district located North East of the district falls in the Tapi basin The general slope of the area is towards Southeast.

The average altitude above mean sea level is 534 Mtrs. (A.M.S.L.).

River Basin

Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

Drainage :

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. District slopes towards south and average elevation above sea level is 534 meters.

The district is well drained by river system, which are dendritic type and have matured valleys. There are two main drainage systems viz: (1) Godavari river and (2) the Purna and Dudhna rivers.

The river Godavari forms the entire southern boundary of the district in Ambad and Partur talukas. It is one of the most important river of Deccan plateau and whole district of Jalna falls in its great basin. The direct tributaries of the river are Shivbhadra, Yellohadrs, Galhati and Musa riers. All these tributaries rise from the Ajanta and Ellora plateau and flow south and eastwards to join the Godavari river. While most of the smaller streams dry up in summer, the major rivers are perennial.

The Purna river rises from near Mehun about 8 km NE of Satmala hills and at a height of about 725 m amsl. It is most major river after Godavari and drains entire area of Jafrabad, Bhokardan and Parts of Jalna district. Its tributaries are the Charna, the Khelna, the Jui, the Dhamna, the Anjan, the Girja, the Jivrakha and the Dudhna.

The Dudhna river is the largest tributary of the Purna river which is nearly as long as main river itself. It has the longest course in Jalna district and drains parts of Ambad, Jalna and Partur talukas with its tributaries such as the Baldi, the Kundilikha, the Kalyan, the Lahuki, the Sukna, etc.

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 filled area. The sand of the applied area is found to be underlain by dark basalt of the river bed.

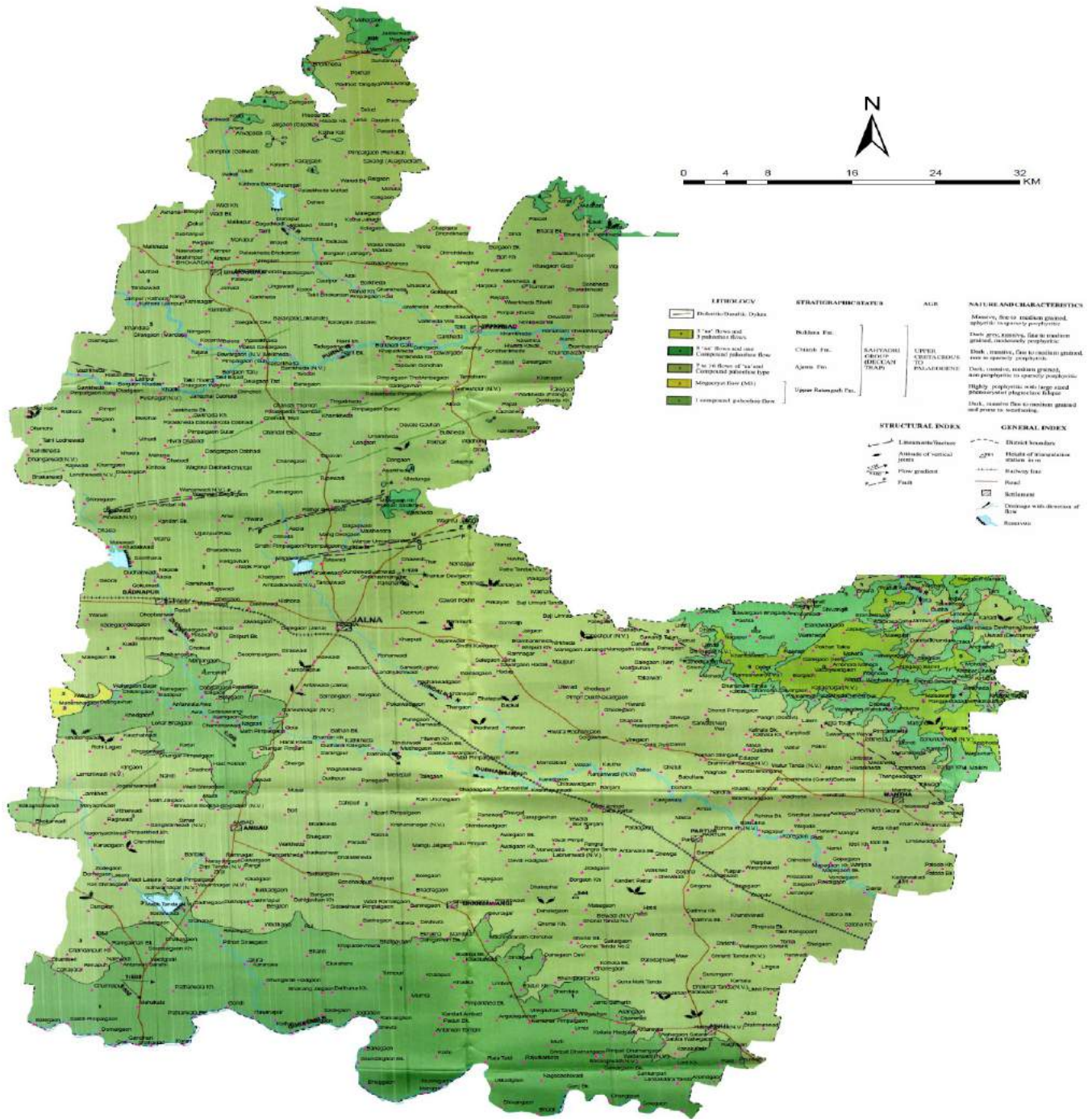
Details of Exploration

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 2.60 m near the banks. The surface plan is prepared on the specified scale.

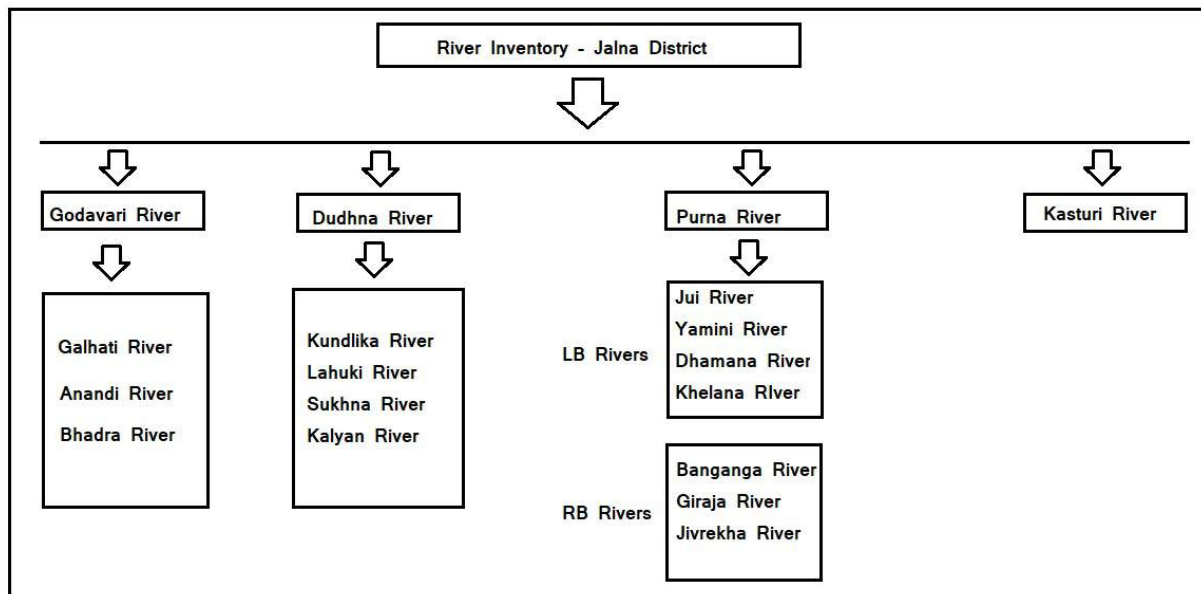
The exploration of sand is carried out by taluka level technical committee headed by Tahsildar comprising Ground Survey and Development Authority Jalna & Jr. Geologist, representative of M.P.C.B., P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019 using probing rods for delineating the depth of sand at above sand ghat.

Details of rivers marked on district geological map is as below

Geology Map of Jalna District, Maharashtra State



River inventory for Jalna district is drawn as below



Godavari river is main river in Jalna District. Godavari river is flowing in the southern part of district. This river comprises the relatively low-lying area to the west and south of the Ajantha plateau. The river Godavari and its tributaries have formed this basin. Thus river basin is found in southern part of Ambad and Parturtahsil. River Dudhna and its tributaries have formed river basin in Jalna and Partu tahsils while river Purna and its tributaries have formed river basin in Bhokardan, Mantha and Jafrabad tahsil.

There are about nineteen rivers flowing through the district. There are three major rivers flowing across the district.

River Purna is flowing across the northern part of the district covering Bhokardan and Jafrabad district. It has seven major tributaries like Jui, Yamini, Dhamana, Khelana flowing as left bank tributaries and Banganga, Girja & Jivrekha as right bank tributaries. It covers a length of 88 Km across the district.

River Dudhna flows across middle of the district covering Badnapur, Jalna, Partur and Mantha tahsils. This river has four tributaries like Kundalika, Lahuki, Sukhna & Kalyan rivers. It flows about 119 Km across the Jalna district. Dudhna has two

irrigation projects constructed over namely Urdhva Dudhna & Nimna Dudhna Project.

Third major river is Godavari itself flowing along southern boundary of Jalna district. It has Galhati, Anandi & Bhadra rivers confluencing as tributaries. It flows about 98 Km along southern boundary of the district.

LOCATION OF LEASE

All 24 Sand Ghats are located over Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari river bed. All Sand Ghats are exposed .

Introduction of the project/ background information

District Collector, Jalna proposes to auction 24 nos. of Sand ghats in Kelna, Dhamana, Purna, Dudhna, Kundlika, Girija, & Godavari 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 Jalna & Jr. Geologist, representative of M.P.C.B. ,P.W.D., Irrigation department, as per sand auction policy dated 3.09.2019. These sand ghats are endorsed by district level technical committee headed by District Collector Jalna. Authorities of Jalna district as per Sand Mining Guidelines of Maharashtra State dated 03 September 2019 & 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 29 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 0.4 m to 1.0 m (max) 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 33.69 Cr. through auction of these sand ghats. Production cost is around Rs 2540 per Brass. Average selling rate is Rs 3000/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 Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E



Approach road available over pandan rd of 195 m connecting Sadesawangi rd.

iii) Alternate sites:

Being mining activity and good sand deposition at annexed 24 sites. No alternate site is proposed.

iv) Magnitude of operation: Proposed production

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

sand ghatwise proposed production is enclosed as annexure -1

Demand & Supply

Name of District	Total Sand Demand of Tahsil in Brass	Total Sand Available in Tahsil in Brass
Jalna	150000	132647

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 0.4 m to 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 as 1.560m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m³/day
Dust suppression/ Plantation	1.0
Domestic Use	0.76
Total	1.76

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 2.60m 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 29 villages where sand ghats are proposed. About 38 souls will be required per sand ghat for carrying direct sand scooping and allied operations. Total direct employment generation will be 38 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 or as per directives of district level technical committee.

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 33.69 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.

Details of Environmental Sensitivity for **Sadesawangi Sand** Ghat:

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–6.27 Km E Vil Rd-0.354 km S 2.1 km S Check dam – 3.024 Km NW 3.024 Km NW 3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 1.55 Km SE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Jalna –15.5 Km NE , Ambad –13.5 Km SE Sadesawangi -0.245 Km S

12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Proposed Production :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude

1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E
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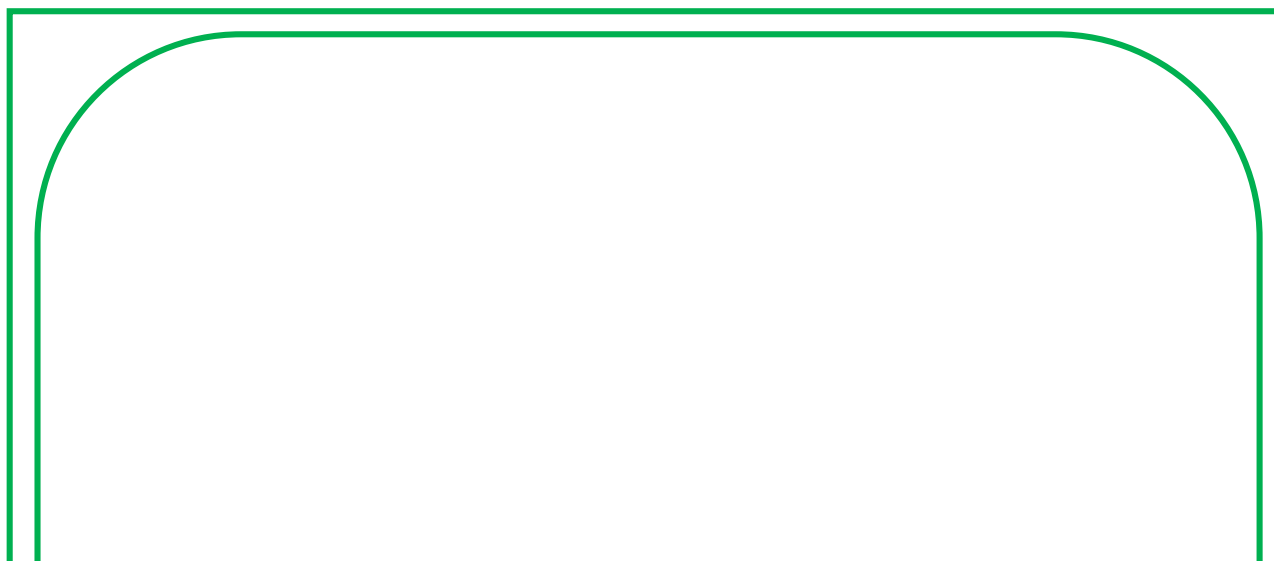
Mining :

Mining of sand is proposed manually using spade/shovel up to the permitted depth as per allotment letter and approval of mining plan.

Year wise Production Plan:Period	Area x Depth (cu.m.)
Maximum up to one year from the date of auction of sand ghat or as per directives of district level technical committee	575m x 25m x 0.6 m

GPS Location

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E



ANNEXURES

Annexure -1 : Details of Sand Ghat

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1	□□□□□□ □□□	□□□□□□□ □□□□	□□□□ □	15,16,50,51,89	410	25	0.60	1.025	2173
2	□□□□□□ □□□	□□□□□□□□ □□□□- □□□□□□□□	□□□□ □	160,162,163,174	450	25	0.50	1.125	1988
3	□□□□□□ □□□	□□□□□□□	□□□□ □□	255, 256, 257, 258, 259, 260, 261	500	30	1.00	1.50	5300
4	□□□□□□ □□□	□□□□□□□□	□□□□ □	262,263,264,265,252 ,261,269,268, 266, 26,28,29,30,31,32,26 7	500	30	0.50	1.50	2650
5	□□□□□□	□□□□□□ □□□□□□□□	□□□□ □□	132,133,154,155	480	30	0.80	1.44	4071
6	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	50,51,52,54	475	22	0.80	1.045	2954
7	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	61,62,63,66,67	475	22	0.50	1.045	1846
8	□□□□□□	□□□□□□ □□□□□□	□□□□ □□	312,313,314,326,327	587	40	0.50	2.34	4148
9	□□□□□□	ब□□□□ □□.	□□□□ □	167,166,165,164,162 , 161	700	20	0.50	1.40	2473
10	□□□□□□	□□□□□□□□ □□	□□□□ □	1,39,14,01,11,112	600	20	0.40	1.20	1696

11	□□□□□	□□□□□□□□ □□	□□□□ □□□□	474,39,272,271,270, 269,258	1400	20	0.50	2.80	4947
12	□□□□□	□□□□□	□□□□ □	39,40,41,42,43,44,45 ,48	1000	22	0.80	2.20	6219
13	□□□□□	□□□□□□□	□□□□ □	53,52,47,45,44,41,39	520	27.50	0.80	1.43	4042
14	□□□□□	□□□□□	□□□□ □□□□	□□□□□□ (06), 86,87	900	25	0.40	2.25	3180
15	□□□□□	□□□□□□□- □□□□□□□□□	□□□□ □□	□□□□□□□- 40, 41,42,43,47,48,50,51 □□□□□□□□□- 40,41,42,43,44,46,47 ,50,51,52,53, 54,55,56,57,58, 91,92,93,94,95,96,97 ,102	650	50	1.00	3.25	11484
16	□□□□□	□□□□□□□- □□□□□□□	□□□□ □□	□□□□□□□- 151, 152 □□□□□□□- 85,106,136,137	500	60	1.00	3.00	10601
17	□□□□□	□□□□□□□- □□□□□	□□□□ □□	□□□□□□□- 218,211,210,209,208 ,180,179,178 □□□□□- 2,03,04,05,06,07,08, 09,10,11,12,13,14, 15,16,17,18,19	500	50	1.00	2.50	8834
18	□□□□□	□□□□□□□- □□□□वद	□□□□ □□	□□□□□□□- 255, 256, 257, 258, 261, 263,264 □□□□वद- 329, 330,353,355,356, 373	400	50	1.00	2.00	7067
19	□□□□□□□ □□	□□□□□□□	□□□□ □□□□	29	425	45	1.00	1.91	6578
20	□□□□□□□ □□	□□□□□□□.	□□□□ □□□□	361, 362	510	50	1.00	2.55	9010

21	□□□□	□□□□□□□	□□□□ □	166, 167	550	25	0.80	1.38	3887
22	□□□□	□□□□□□□□ □□	□□□□ □	02,03	575	25	0.60	1.44	3048
23	□□□□□	□□□□□□□□ - □□□□□□□□ □	□□□□ □	□□□□□□□□- 54,55,59,60,61,72,73 ,74,75 □□□□□□□□ 349,351,352,32,33,3 4,35,36,37, 38,39,40	700	70	0.80	4.90	13851
24	□□□□□	□□□□□□□□	□□□□ □□□	339,338,337,336,335	500	60	1.00	3.00	10600
	□□□□								132647

Annexure -2 Demand & Supply for district

Information required on demand and supply of district

Demand and Supply for :Jalna District

Jalna District Requirement of Minor Minerals(stone)

Sr. No.	Distrct	Particulars	Estimation 2020-2021	Estimation 2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	110000	105000
2		Irrigation Dept.	110000	105000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	400000	450000
4		NHAI/Central Road Fund	120000	110000
5		Railway	80000	80000
Total			820000	850000

Jalna District Requirement of Minor Minerals (Sand)

Sr. No.	District	Particulars	2020-2021	2021-2022
			Quantity in Brass	Quantity in Brass
1	Jalna	PWD	35000	40000
2		Irrigation Dept.	20000	25000
3		Domestic Requirement including Govt. Contractors,Local Lease/ Quarry Operators	40000	40000
4		NHAI/Central Road Fund	25000	35000
5		Railway	10000	10000
Total			130000	150000

For the year 2020-21 Maximum available sand was 68962 Brass.

ENVIRONMENTAL MANAGEMENT PLAN

FOR

SAND GHATS

AT

JALNA DISTRICT

STATE – MAHARASHTRA

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

PROPONENT

DISTRICT MINING OFFICER, COLLECTOR OFFICE, JALNA

CONSULTANT

ENVIRO TECHNO CONSULT PRIVATE LIMITED

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

MAY 2021

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Section 1.0 : Introduction to Sand Ghat

1.0 Introduction :

District Collector, Jalna intends to auction sand ghats and appointed District Mining Officer Jalna as project proponent as per sand mining guidelines dated 03.09.2019 Total 24 sand ghats were identified by Taluka level Technical Committee chaired by Tahsildar and Dy. Engineer Irrigation, Junior Geologist, Directorate of Geology and Mining, Junior Geologist G.S.D.A., representative of Maharashtra Pollution Control Board. Out of 38 sand ghats surveyed by Taluka level technical committee as per procedure defined in Sand Auction Rules 2019 dated 3.09.2019. explored 24 sand spots. Out of surveyed 24 found feasible for sand scooping revenue of Rs 33.69.00Cr. is expected from the auction of these sand ghats.

Sadesawangi sand ghat proposed (over river Dudhna) in Ambad taluka is one of the two sand ghats proposed to cater infrastructural requirement of sand in the tahsil of Ambad and adjoining areas of other talukas. All two sand ghats are on Dudhna river. Details of Ambad taluka Sand Ghat is as below

Table 1.0 Details of Sand Ghat :

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

Table 2.0 All corner Coordinates of Sand Ghat :

Sr. No.	Latitude	Longitude
BP-1	19°44' 32.7595"N	75°45' 59.888"E
BP-2	19°44' 30.3461"N	75°46' 7.2246"E
BP-3	19°44' 25.8284"N	75°46' 18.3273"E
BP-4	19°44' 25.0711"N	75°46' 18.014"E
BP-5	19°44' 29.54"N	75°46' 7.0432"E
BP-6	19°44' 31.9945"N	75°45' 59.5964"E

Table 3.0 Environmental Sensitivity of Sand Ghat :

Sl. No.	Areas	Distance in kilometer / Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	Bridge on river -2.36 km NNW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Ambad –13.5 Km SE 13 km NE NH211-18.5 Km SW SH30–14.5 Km N Jalna Ambad Rd–6.27 Km E Vil Rd-0.354 km S 2.1 km S Check dam – 3.024 Km NW 3.024 Km NW 3.024 Km NW
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Gautala Wildlife Santury 78 Km NW
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Karaji Nalla – 1.55 Km SE Dudhna River Wet Land Not Notified for district, Biosphere -Pachmadi-368 km NE Mountains Hingoli Hill range 20 Km S
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Gautala Wildlife Santury 78 Km NW
6	Inland, coastal, marine or underground waters	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
7	State, National boundaries	Madhyapradesh -153 Km N
8	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	--
9	Defence installations	Varangaon OF -144 Km N
10	Densely populated or built-up area, distance from nearest human habitation	Sadesawangi -0.245 Km S
11	Areas occupied by sensitive man-made land uses	Jalna –15.5 Km NE ,

	(hospitals, schools, places of worship, community facilities)	Ambad –13.5 Km SE Sadesawangi -0.245 Km S
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Karaji Nalla – 1.55 Km SE Dudhna River Coastal Area 322 Km West Marine Water -315 Km West
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Not within 5 km study area
14	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No. Sand Ghat is at safe distances from natural hazards like earthquake prone area, subsidence, landslide, erosion, flooding prone area
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	Not within 5 km study area
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:- (a) The Forest (Conservation) Act, 1980; (b) The Wildlife (Protection) Act, 1972; (c) The Coastal Regulation Zone Notification, 2011. If yes, details of the same and their status to be given.	Not within 5 km study area
17	Forest land involved (hectares)	No
18	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders or directions of the Court, if any, and its relevance with the proposed project.	No

Google Image for Sand Ghat (600 m Area) :



Figure -1 : Google Image

Proposed Approach Road for Sand Ghat on Google Image



Figure -2 : Approach Road on Google Image

Approach road available over pandan rd of 195 m connecting Sadesawangi rd.

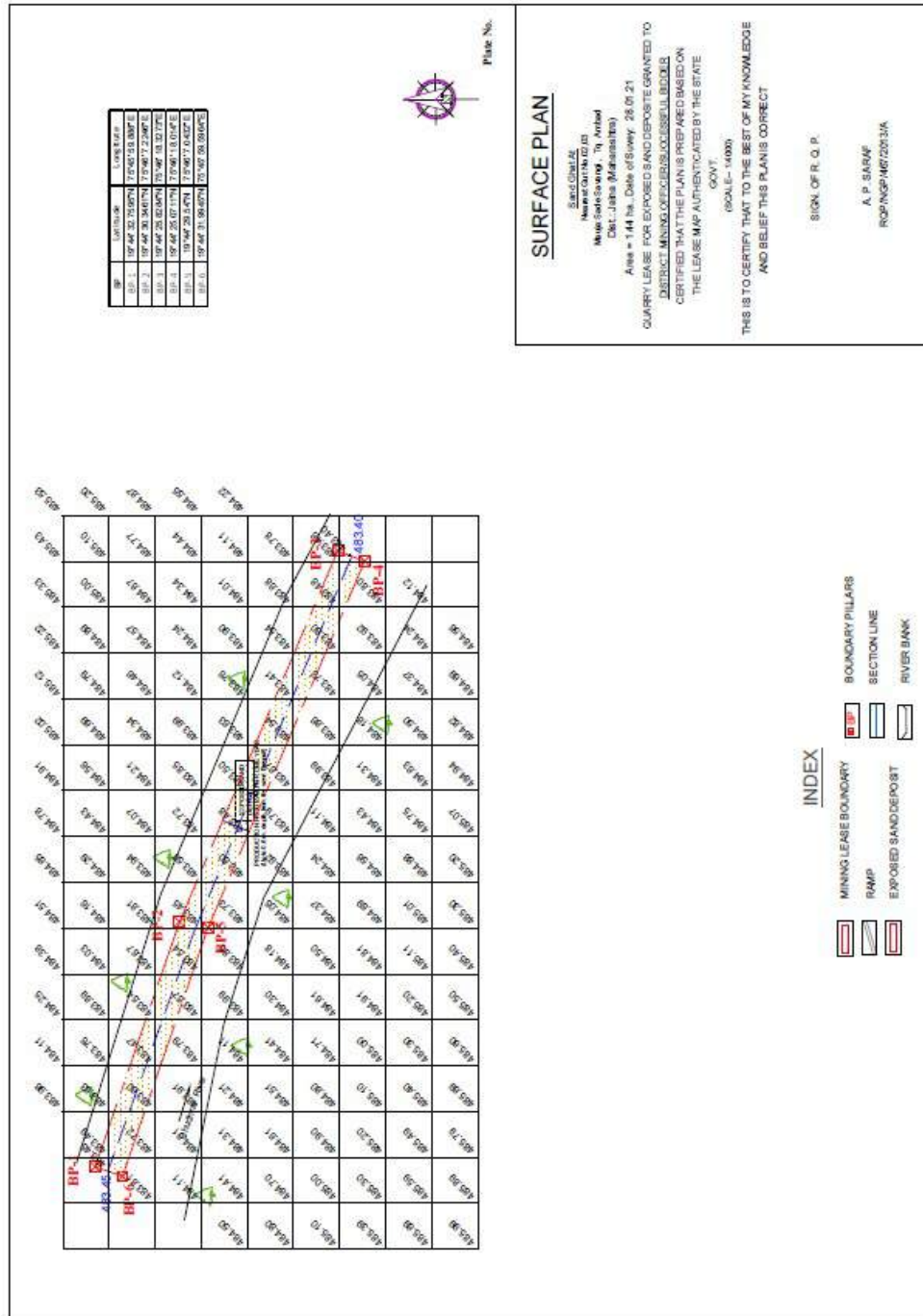
Section 2.0 : Project Description and Method of Mining

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 Ambad Tahsil. District Mining Officer Jalna has proposed for the production of 3048 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 is as under.

Sr. No.	Name of Sand Ghat	Tahsil	Name of River	Nearest Gut No.	Area in Ha	Area in cum.	Available Sand in Brass	Location	
						LxBxD (m ³)		Latitude	Longitude
1	Sadesawangi	Ambad	Dudhna	02,03	1.44	575 x25 x 0.6	3048	19°44' 32.7595"N	75°45' 59.888"E

Surface Plan for Sadesawangi Sand Ghat:



2.1 Method of Mining :

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

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

2.2 Period of Mining :

Period	Area x Depth (cu.m.)
Up to one year from the date of allotment of sand ghat or up to scooping of Allotted/Permitted quantity mined out, whichever is earlier excluding stipulated monsoon period between 10 June -30 September of the calendar year and the rainy days	575m x 25 m x 0.60 m

12



2.3 Manpower Requirement

About 38 labors are required to carry out the scooping activity.

Sr. No.	Category	Nos.
1	Mining Supervisor	3
2	Tractor Drivers and Helpers	10
3	Mining Labors	10
4	Ramp Maintenance	10
6	Support Staff/Labors	5
	Total	38

2.4 Amenities :

The site services will be provided by allottee/Successful Bidder, Office, First Aid and Rest Shelters will be temporarily constructed 20m 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 treatment agency.

Requirement of Water for Dust Suppression & Domestic Purposes

Total water requirement for various activities during sand scooping is estimated as 1.760m³/day per sand ghat. The water will be required for dust suppression, plantation, domestic use. The activity-wise break up of the total water requirement is given below:

Purpose	Qty Required m ³ /day
Dust suppression/ Plantation	1.0
Domestic Use	0.760
Total	1.760

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 :

Area	Existing Land Use sq. m.	Proposed Land Use sq. m.
Area under pits	00	14375
Area under dumps	00	00
Undisturbed Area	14375	00
Area under Roads	00	00
Area under Plantation	00	00
Area under Storage	00	00
Area under Office, etc.	00	00

2.6 Existing Flora & Fauna :

Local varieties of bushes like dhavda, neem, tarota observed in the area. Mainly agricultural activity observed for Jowar, patches of toor. Natural fauna like fishes observed in the course of water stream during the monsoon period. Mice, rabbits, lizards 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 for one year from the date of auction excluding monsoon period between 10th June-30th September policy dated 03.09.2019 of Govt. of Maharashtra only. 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 SandTraps 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.

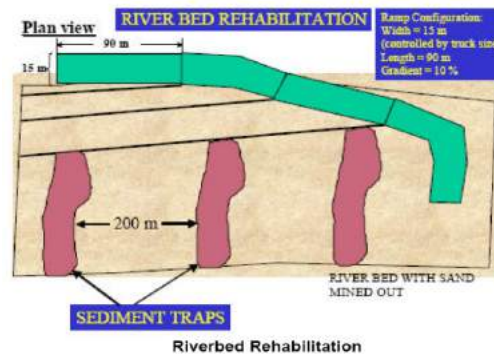


Figure -3

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 : Anticipated Impacts and Management

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 only 3048Brass/annum from the proposed sand ghat.

- 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.

Being all the sand ghats are nearby and on one stretch of river, average scooping is considered for prediction of incremental ground level concentration. Average production is calculated as 94 Tonnes/Sand Ghat/day for 260 operational days.

Area Source Emission-Production and Development

Description	Statistics
Quantity ,TPA	24411 TPA
Operational Days per Year	260 Days
Lead (m)	195m

Predicted Emission

Activity	Emission rate gm/sec
Transportation	0.139770556
Total	0.139770556

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

Accordingly Maximum incremental GLC is predicted as 0.5577µgm/cum.

Predicted Ground Level Concentrations due to Scooping of Sand is summarized as :

Sr. No.	Name of Village	Tahsil	Name of River	Predicted incremental GLC in terms of PM ₁₀
1	Sadesawangi	Ambad	Dudhna	0.5577µgm/cum

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 as per CPCB guidelines 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 0.6m 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 03.09.2019 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 (Dudhna River)

- 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 Sadesawangi sand ghat is 0.6m keeping 2.0m bed depth of sand. Total Sand depth available is 2.6m.

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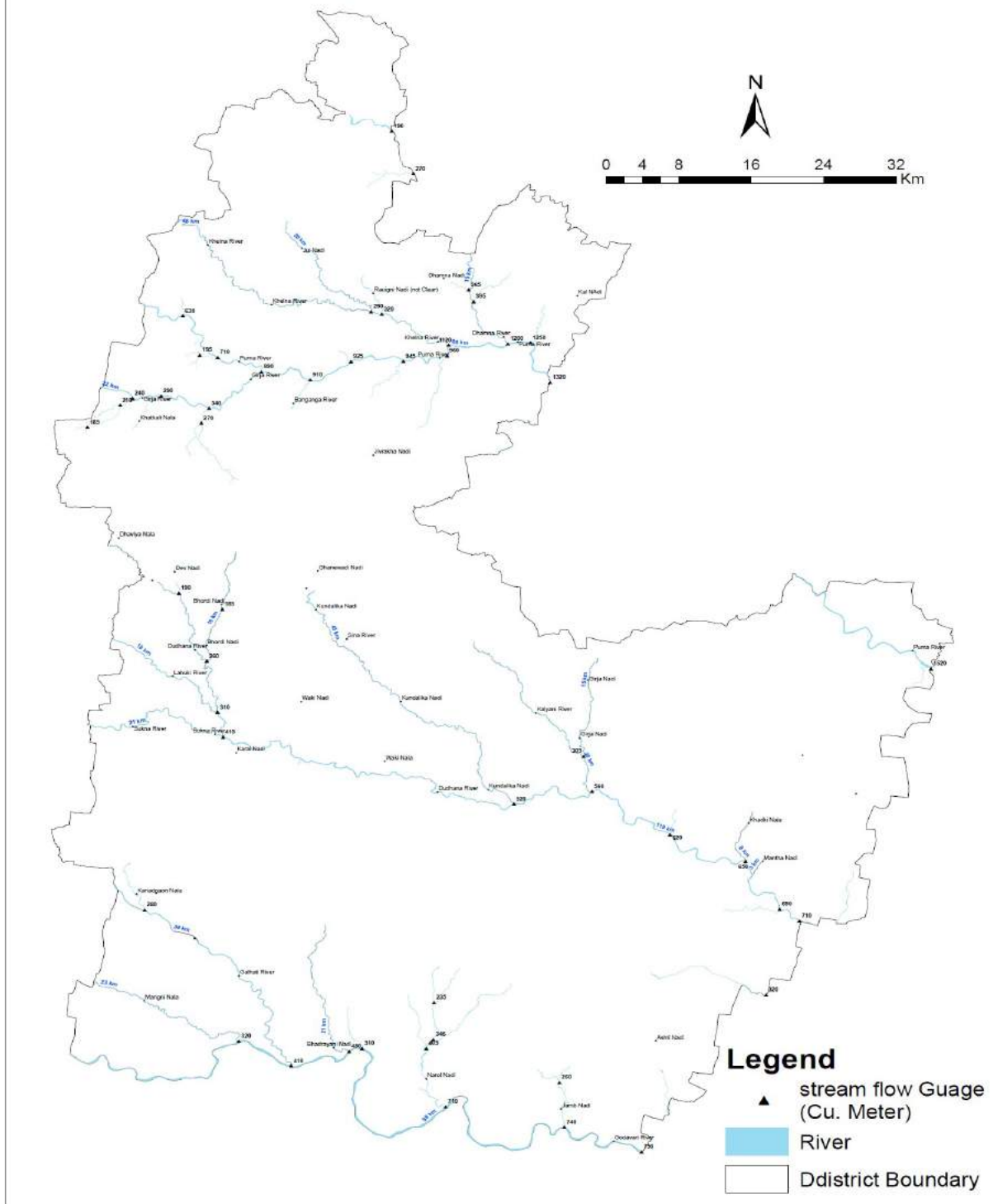
Because the elevation of the bed of the channel is variable from year to year, a reach-based approach to monitoring will provide a larger context for site-specific changes.

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. Data is interpreted as below

Stream Flow Map of Jalna District, Maharashtra state



cum/minute

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

**River Siltation Map of Jalna District,
Maharashtra State**

N
0 4 8 16 24 32 Km

Legend
▲ Siltation (Cubic Million Meter)
 River
 District Boundary

In Million Cum

Comparing theoretical methods with this year, last Year deposition

Sand Replenishment is tabulated as

Name of Sand Ghat	Method		
	Theoretical in m ³	Last Year Deposition in m ³	This Year Deposition in m ³
Sadesawangi	3180	2240(Yr 16-17)	8625

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 2.7 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, jowar, toor 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, chhachya, kathla and 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 saplings along the bank as per EMP. 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, Gulmohar 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 Dudhna. 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 2.7 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 of Rs 7.60 lakhs is earmarked to implement the Environment Management Plan.

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 PM_{10} due to proposed mining operation would be about $0.5577\mu g/m^3$. This concentration will be observed within the Sand Ghat area. The concentration was found to reduce to a value of $0.01\mu g/m^3$ 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 monitored 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 dust 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 Dudhna or other option as suggested by authority will be eased.

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 2.7 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 about 483 plants of local species during the monsoon period along bank of river and village roads.

List of Species Proposed for green Belt Development

Local species like Neem, peepal, subabul, Karanj, Gulmohar 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 lease 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 for the amount Rs. 7.60 Lakhs 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 along with District Level Committee headed by District Collector as stipulated in Sand Mining Rules 2019.

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.	Budget/Cost in RS.
1	Transport Road	On Air Quality	· Compaction, gradation and drainage on both sides	(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	39000
		On Land / Rd stability/	· Proper maintenance.		25000
		Rd degradation	· Regular water spraying.		100000
			· Air quality will be monitoring at impacted village.	(For One Day Monitoring)	15000
			· Health Checkup of Employees		20000

2	Truck/ Tractor Movement	Air Quality	· Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere.	(10 tarpaulin)	50000
			· Regular monitoring of the exhaust fumes.	10 tractors@ Rs. 500/tractor	5000
			· Barriers & Traffic Management Expenses	· Excluding Man Power Salary which is included in labour costs	20000
3	Ramp and Sand Reach	Mining Operations	· Regular ramp Inspection and Ramp maintenance	(Excluding Man Power Salary which is included in labour costs)	20000
			· Provision of dusk masks.		10000
4	Bank Management	Bank Erosion/	· Green belt along bank		
		Flood Plain management	· Plantation of wide leaf tall trees on banks and grass along slanting portion of bank.	288 Nos.	144000
5	Transportation on Village Roads	Dust Control	· Green belt along village Rd	195 Nos.	97500
6	Final Mine Closer Plan implementation	Replenishment of Sand	· Gabions/ boulders will be arranged as per guidelines		15000
7	Mobile toilet, sewage handling & treatment		· Mobile toilet, sewage handling & treatment		100000

8	Corporate Environmental Responsibility		As suggested by SEAC/SEIAA otherwise will be used for additional plantation as per approved DSR		100000
•	Total in Rs				760500

