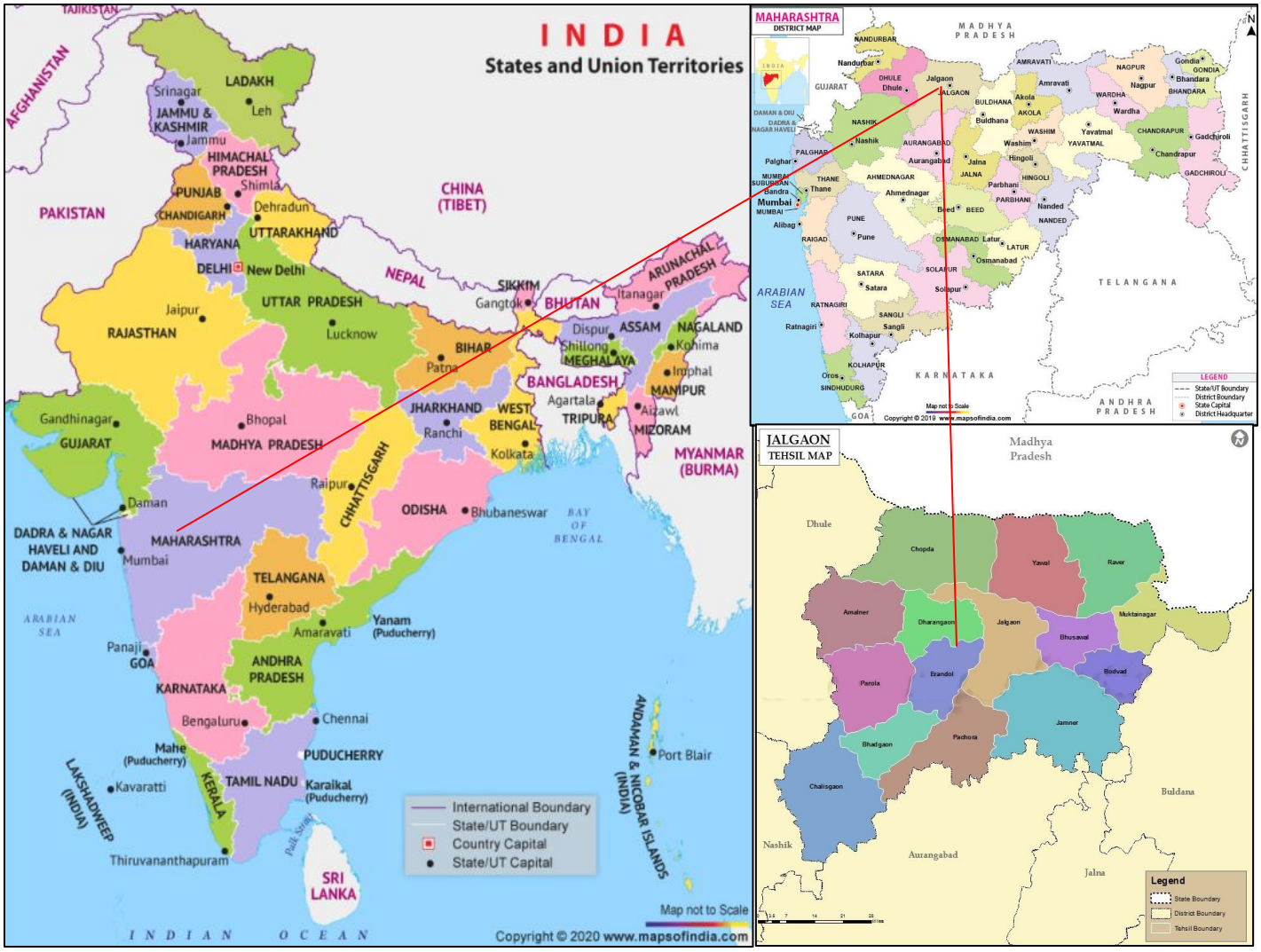
जळगाव जिल्हा, महाराष्ट्रातील 12 वाळूच्या ठिकाणी सार्वजनिक सुनावणी.

सारांश

1. परिचय :-

- ❖ महाराष्ट्रातील जळगाव जिल्ह्यातील अमळनेर, भुसावळ, चोपडा, यावल, मुक्ताईनगर, पाचोरा, भडगाव तालुक्यातील १२ वाळूच्या जागांसाठी पर्यावरणविषयक मंजुरी मिळविली आहे.
- ❖ Integrated Precision Systems and Services Pvt Ltd, 6-3-841/A/2/C-1, Arun Aditya Building, Ameerpet, Hyderabad, यांना जिल्हाधिकारी कार्यालय, जळगाव यांच्यामार्फत जळगावच्या वाळू स्पॉट्ससाठी पर्यावरणीय परवानगी मिळण्याचे काम देण्यात आले.
- ❖ औरंगाबादच्या खाण योजनेस मंजुरी मिळाली.
- ❖ Form - 1 M, PFR, EMP, RA, DSR मधील अर्ज आणि वाळू घाटासाठी मंजूर खाणकाम आरखडा त्यासोबत पर्यावरण मंजुरीसाठी जन सुनावणीची कार्यवाही करण्यात येईल.

2. स्थळ नकाशा:-



जळगाव जिल्हा, महाराष्ट्रातील 12 वाळूच्या ठिकाणी सार्वजनिक सुनावणी.

3. प्रस्तावित वाळू खाणींची यादीः

गाव / वाळूचा घाट	तालुका	नदीचे नाव	गॅट क्रमांक / सर्वेक्षण क्रमांक / खसरा क्रमांक वगैरे.	हे क्षेत्र एकूण क्षेत्र.	ब्रास मध्ये उपलब्ध वाळू
रुणघाटी 2	अमळनेर	तापी	21,37,38 (भाग)	3.75	5300
हिंगोजीसीम भाग १	अमळनेर	तापी	6 आणि 7	4.37	6184
जोगलखेडा	भुसावळ	वाघूर	139	1.3455	1069
बेलवे (भाग 1)	भुसावळ	वाघूर	175	1.3604	1622
बेलवे (भाग 2)	भुसावळ	वाघूर	216,214	1.34	1065
पिंपरी	चोपडा	तापी	45, 46,51 आणि 52	1.353	1972
सुक्तार	चोपडा	तापी	23, 24, 25, 28 आणि 29	1.386	2093
थोरगव्हाण	यावल	तापी	1 आणि 2	1.342	3557
भोकारी	मुक्ताईनगर	तापी	15, 16, 17 आणि 18	2.98	7,902.00
कोळंबे	चोपडा	तापी	33,32,31,30,20	1.03	1529
परधडे	पाकोरा	गिरणा	23	1.06	1823
वडाधे	भडगाव	गिरणा	14/1 / ए	1.50	3578

4. उत्खननाची पध्दत :-

- उत्खननाची पध्दत - ड्रिलींग आणि ब्लास्टिंग पध्दतीचा वापर न करता वाळू घाटातून वाळूचे उत्खनन करण्यात येईल. फक्त कुदळ, पावडी, घमेले यासारख्या साधनांचा वापर करुन मजूरांव्दारे कोरडया नदी पात्रातून वाळूचे उत्खनन करण्यात येईल.
- यंत्रे / उपकरणे आवश्यक :- पावडी, घमेला, ट्रॉलीसह ट्रॅक्टर.
- वाहतूक:- वाळूच्या जागेपासून डेपोसाठी निश्चित केलेल्या जागे पर्यत व ग्राहकांना ट्रॅक्टर ट्रॉलीद्वारे.
- पुर्नभरण प्राप्तीकरण :- उघडे पडलेले क्षेत्र पावसाळ्यानंतर आपोआप पुन्हा भरले जाईल. नदीकाठ व वाहतुकीच्या रस्त्यालगत वृक्षारोपण केले जाईल.

4. <u>पर्यावरण व्यवस्थापन योजना</u>

अ) वायू प्रदूषण नियंत्रण उपाय यंत्रणा :-

- वाळू वाहतुकीसाठी वापरल्या जाणा-या कच्च्या रोडवर वेळोवेळी पाणी शिंपडले जाईल.
- ट्रॅक्टर ट्रॉली व ट्रकवर ताडपत्री अच्छादूनच वाळूची वाहतूक टप्प्या-टप्याने केली जाते.
- वाहतुकीदरम्यान वाळूची गळती होणार नाही याची पुरेपुर काळजी घेण्यात येईल.
- नदीकाठी व वाळूच्या जागे जवळील मोकळ्या जागेवर वृक्षारोपण केले जाईल.

ब) ध्वनी नियंत्रण उपाय :-

- उत्खनन व वाळू वाहतूक केवळ दिवसा केली जाईल.
- अल्प प्रमाणात ध्वनीप्रदुषण अपेक्षित असेल.
- गाडयांचा आवाज कमी करण्यासाठी वाळू वाहतूक करणा-या वाहनांची नियमित देखभाल केली जाईल.
- वाळू वाहतूक वाहनांच्या गती नियंत्रीत केल्या जातील.

क) जल प्रदूषण नियंत्रण उपाय :-

- वाळू उत्खनन केवळ कोरड्या नदीच्या पात्रातूनच केले जाईल.
- उत्खनन केलेल्या खड्डाची खोली नदीच्या पाण्याच्या पातळीपेक्षा वर ठेवली जाईल.
- नदीचा प्रवाह कृत्रीमरित्या वळविला जाणार नाहीत.
- नदी पात्रात वाहने धुण्यास मनाई राहील.
- उत्खननातून कोणत्याही सांडपण्याचा प्रवाह तयार होणार नाही.
- कामगारांसाठी फिरते शौचालयांची व्यवस्था राहील.
- पावसाळ्यात आणि पूरात उत्खनन टाळण्यात येईल. जेणे करुन नविन वाळूचा थर जमा होण्यास मदत होईल.

ड) जमीन प्रदुषण नियंत्रण :-

- कोरड्या नदीच्या पात्रात वाळू उत्खननामुळे तात्पुरते खड्डे तयार होतील, जे पावसाळ्यात पुन्हा भरुन येतील

- नदीच्या रूंदीच्या तीन मीटर किंवा रूंदीच्या 1/10 व्या जागेचे सुरक्षा अंतर नदीच्या काठापासून ("Sustainable sand mining guidelines") सोडले जाईल.
- पॉलिथीन पिशवी, जूट पिशवी इत्यादी कचरा नदीच्या पात्रात राहू/सांडण्याची परवानगी राहणार नाही.
- उत्खननास दिलेल्या परवानगी पेक्षा जास्त उत्खनन होणार नाही.
- नदीकाठी आणि जवळपास मोकळ्या जागेवर वृक्षारोपण केले जाईल.

5. हरित पट्टा निर्माण योजना :-

हरित पट्टयाची जागा	लीजच्या सीमेच्या दोन्ही बाजूंच्या आणि नदीकाठच्या बाहेर कच्या रोडच्या कडेला
रोपांची संख्या	500 प्रति हेक्टर
दोन रोपामधील अंतर	2 मीटर
प्रजातींची निवड	चांगल्या प्रजातींची शिफारस केली जाईल.

वृक्षारोपणांसाठी चांगल्या प्रजातींची शिफारस :-

वृक्षाच्या जातीचे नाव	स्थानिक नाव	महत्व
आझादिरक्ता इंडिका	कडुलिंब	तेल उत्पादन
टेक्टोना ग्रँडिस	टीक	एंटीबैक्टीरियल, अँटीफंगल
फिकस रिलिओसिया	पिंपळ	औषधी उपयोग, फळे
बांबूसा वल्गारिस	बांबू	एन्थेलमिंटिक अँटी-इंफ्लेमेटरी, ॲस्ट्रिंजंट प्रॉपर्टीज
मधुका लाँगिफोलिया	महू	उत्तेजक आणि खोकल्यासाठी

6. व्यावसायिक आरोग्य सुरक्षा व्यवस्थापन :-

- खाण चालकांना वैयक्तिक संरक्षणात्मक उपकरणे दिली जातील.
- कान, डोळा आणि हाताचे संरक्षणाची साधने या व्यतिरिक्त सुरक्षा हेल्मेट आणि पादत्राणे दिली जातील.
- कामगारांना डस्ट मास्क दिले जातील.
- खाण कामगारांसाठी पिण्याच्या पाण्यासाठीची सोय करुन देण्यात येईल.
- खाण साइटवर प्रथमोपचार किट प्रदान केले जाईल.

7. निष्कर्ष:-

- लागू केलेले १२ वाळूचे स्पॉट जळगाव जिल्ह्यातील अमळनेर, भुसावळ, चोपडा, यावल, मुक्तेनगर, पाचोरा, भडगाव तहसील येथे आहेत.
- उत्खननाच्या कमी प्रमाणामुळे पर्यावरणावर परिणाम होण्याची शक्यता नाही आणि त्यामुळे हे गावाच्या फायद्याचे ठरेल.
- प्रस्तावित प्रकल्प स्थानिक रहिवाशांना अप्रत्यक्ष रोजगाराच्या संधी प्रदान करेल.
- प्रस्तावित प्रकल्प सामाजिक पायाभूत सुविधा आणि या क्षेत्राच्या सर्वांगीण विकासास सकारात्मक योगदान देईल.
- हवा, पाणी, ध्वनी, माती, घनकचरा व्यवस्थापन इ. सारख्या सर्व पर्यावरणीय प्रश्नांवर MoEF&CC मार्गदर्शक सूचनांनुसार कार्य केले जाईल.

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Belvay (Part1) Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Belvay (Part1) sand spot	Latitude	Longitude
B.P 1	20°57'52.10"N	75°41'24.27"E
B.P 2	20°57'50.70"N	75°41'23.89"E
B.P 3	20°57'48.90"N	75°41'29.02"E
B.P 4	20°57'48.49"N	75°41'34.11"E
B.P 5	20°57'49.95"N	75°41'34.23"E
B.P 6	20°57'50.33"N	75°41'29.30"E

(iii) Size of the Mining Lease (Hectare): 1.3604 HA

(vi) Capacity of Mining Lease (TPA): 1622 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 66.11272 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or roa bridge over the concerned River, Rivulet, Nallal etc.	Bridge, 3.97Km, N
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road	 Bhusawal Railway Station,13.5Km, NE NH6, 5.81Km, NW SH190, 3.92Km, N Jamne-Bhusawal Rd, 8.91Km, W 0.59Km, SW

	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	0.37Km, SW DAM, 4.53KM, SE Waghur River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Waghur River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Waghur River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH190, 3.92Km, N Jamne-Bhusawal Rd, 8.91Km, W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Nasirabad, 5.32Km, NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waghur River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.

	conditions)	
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Belvay (Part 1) Sand Spot over an extent of 1.3604 HA (MINEABLE AREA-1.0203 HA & NON-MINEABLE AREA-0.3401 HA) At Waghur River Bed Gut No.175 Belvay Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra.

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay (Part 1) Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 170 meter in NW direction, these road is further connected to SH-190. SH-190 is situated at a distance of 4km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 7 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Belvay Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Belvay (Part 1)</th><th>Latitude</th><th>Longitude</th></tr>
</table>
</td></tr>
</table>

	<table><tr><td>B.P 1</td><td>20°57'52.10"N</td><td>75°41'24.27"E</td></tr><tr><td>B.P 2</td><td>20°57'50.70"N</td><td>75°41'23.89"E</td></tr><tr><td>B.P 3</td><td>20°57'48.90"N</td><td>75°41'29.02"E</td></tr><tr><td>B.P 4</td><td>20°57'48.49"N</td><td>75°41'34.11"E</td></tr><tr><td>B.P 5</td><td>20°57'49.95"N</td><td>75°41'34.23"E</td></tr><tr><td>B.P 6</td><td>20°57'50.33"N</td><td>75°41'29.30"E</td></tr></table>
Sand spot area (In Ha)	1.3604
Proposed production capacity (In Brass)	1622
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	22 KLD – Tankers from nearby village.
Project cost INR (Lakh)	66.11272

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 8m from 198 to 206 MSL. The slope of Sand Spot area towards NW side. The highest MSL is 206 & lowest 198 MSL. The flow of Waghur River towards north direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.45m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.45m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	Head	Area put on use at start of plan [in Ha]	Additional Requirement during Plan period [in Ha]	Total [in Ha]	Area considered as	Net consider for calculation
1	Area under mining / pit	-	1.3604	1.3604	---	1.3604
2	Area under dump	NIL	---	---	---	

3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.3604	1.3604	1.3604

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Belvay (Part 1) EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	85313
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	165000
		Road Construction	Road Construction from Quarry to Access Road	275000
		Air Environment	Dust Supression by Regular water spraying.	165000
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	5000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	126500
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	137500
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	550000
			Green belt along bank(For Green Belt Development)	114500
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000

14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	2556213
			Capital Cost	1820900
			Recurring Cost	735313

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph

- Watermark
- GP Based Vehicle Tracking System

9. Belvay(Part 1)-Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearance's for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

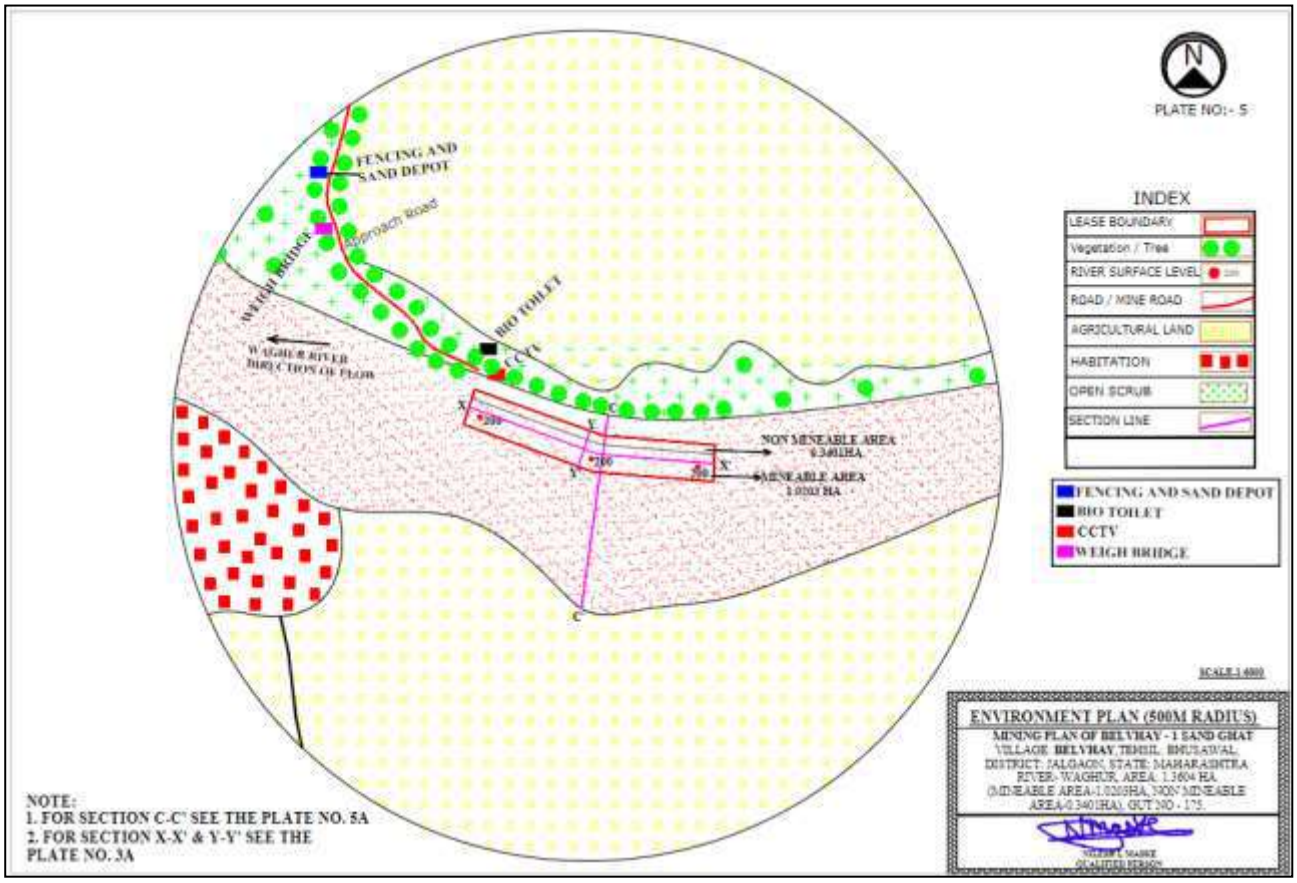
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Belvay (Part 1)sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Belvay (Part 1) Sand Spot over an extent of 1.3604 HA (MINEABLE AREA-1.0203 HA & NON-MINEABLE AREA-0.3401 HA) At Waghur River Bed Gut No.175 Belvay Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra.

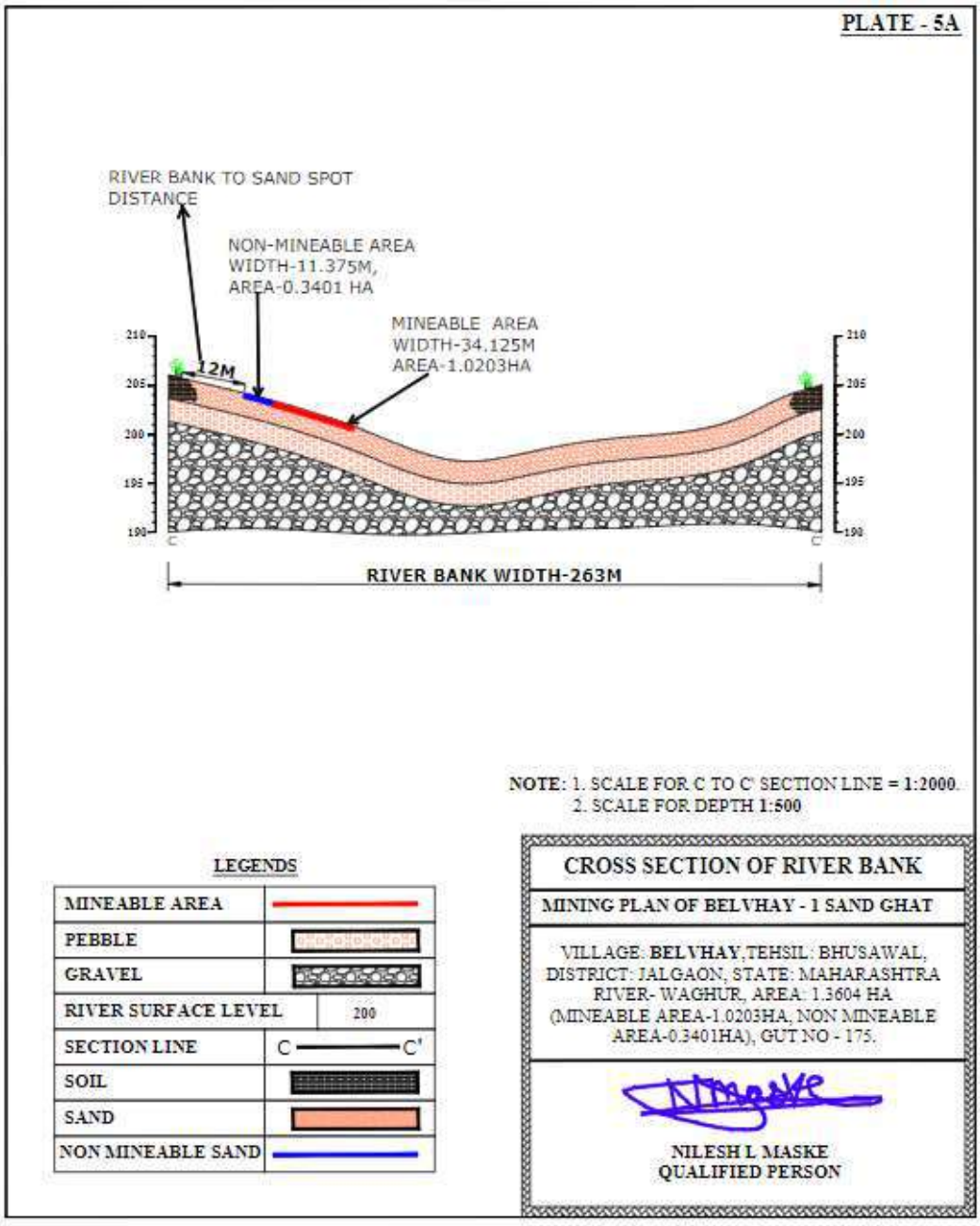


PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 1100 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Bhusaval Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

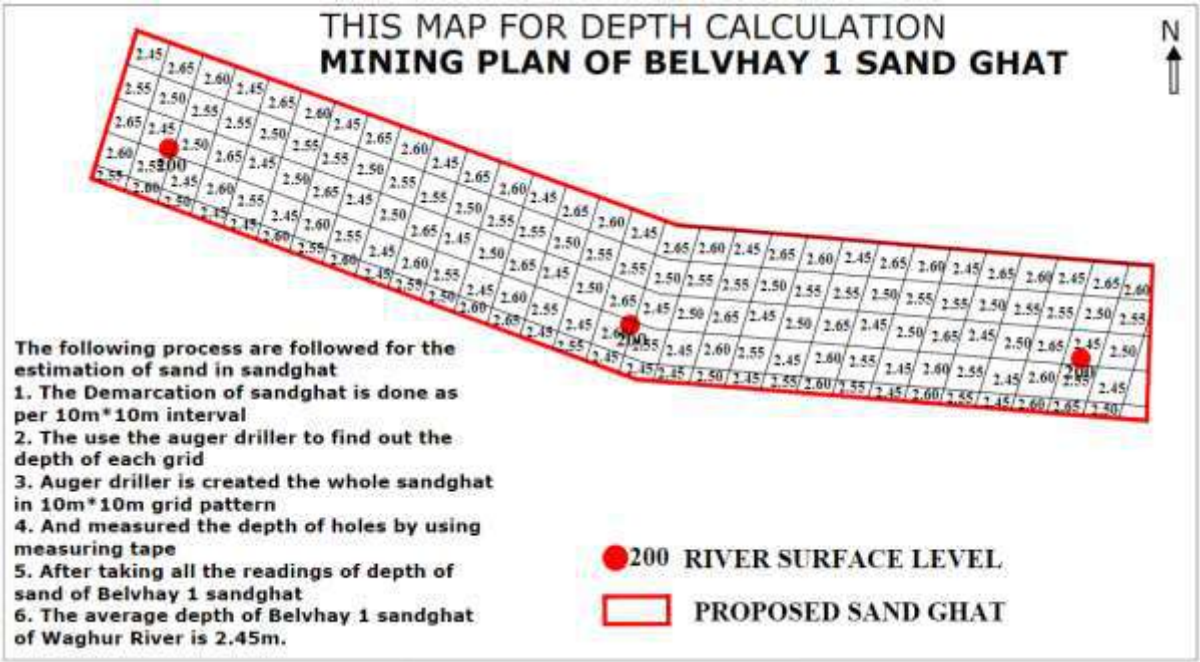
Cross section of river bed is shown below:



4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	2658 Sq.m /annum
No. of plants to be planted	1329 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties

Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Belvay (Part 1) Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

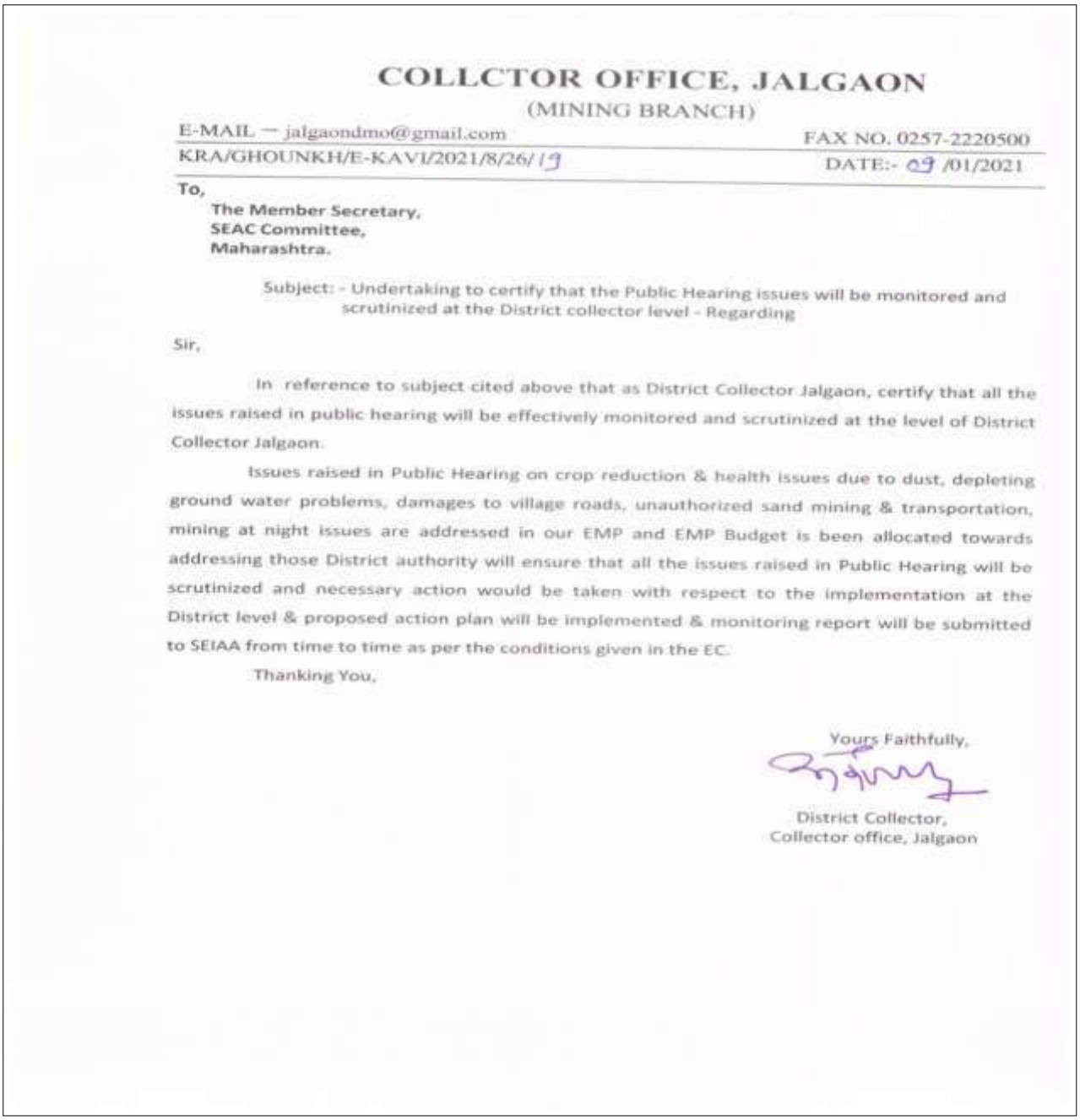
In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/13 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

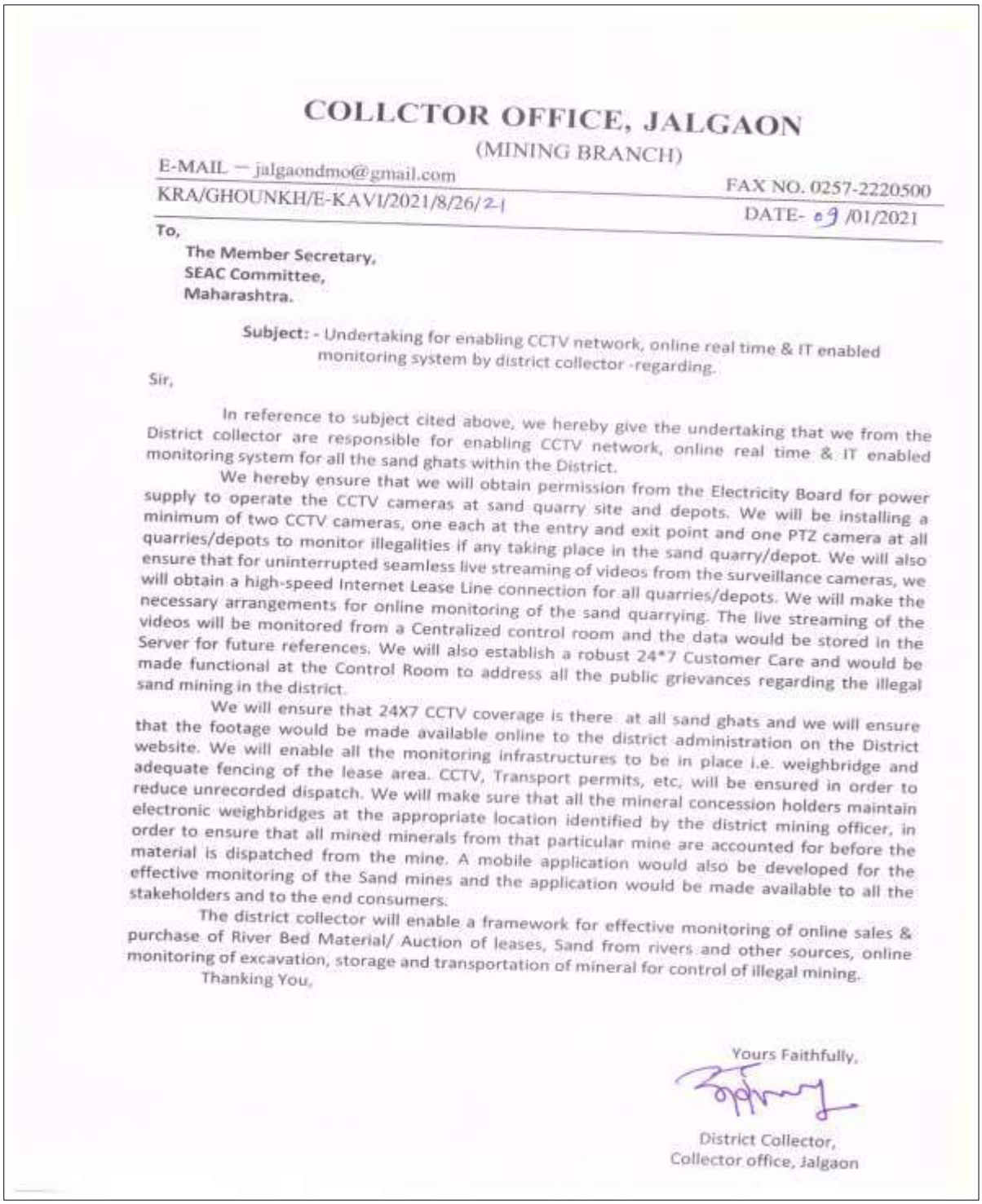
In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.3604 Ha (1.0203 Ha. Mineable & 0.3401 Ha. Non-Mineable 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 1622 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Waghur river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 2m from 173 to 175 MSL. The slope of Sand Spot area towards NE side. The highest MSL is 175 & lowest 173 MSL. The flow of Waghur River from north direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.45 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 4592 Cu. M or 1622 brass till i.e. 1 year (2020-2021 from date mining plan approval.The size of pit at the end will be 1.3604 HA (Mineable Area-1.0203 HA & Non-Minaeable Area 0.3401HA).

4. Introduction of the project/ background information

The Belvay(Part1) Sand Spot has been kept for Auction which is situated at Village Belvay, Taluka Bhusaval, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 4592 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.45 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay (Part 1) Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 170 meter in NW direction, these road is further connected to SH-190. SH-190 is situated at a distance of 4km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 7 km.

Area covered in SOI Toposheet No- 46P/9.

The GPS reading of boundary point are given below:

Boundary points of Belvay (Part 1)	Latitude	Longitude
B.P 1	20°57'52.10"N	75°41'24.27"E
B.P 2	20°57'50.70"N	75°41'23.89"E
B.P 3	20°57'48.90"N	75°41'29.02"E
B.P 4	20°57'48.49"N	75°41'34.11"E
B.P 5	20°57'49.95"N	75°41'34.23"E
B.P 6	20°57'50.33"N	75°41'29.30"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 4592 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 299m L X 34.125 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.
The Sand Spot has sufficient Reserve of Sand to work at 4592 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.45 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 22 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay (Part 1) Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 170 meter in NW direction, these road is further connected to SH-190. SH-190 is situated at a distance of 4km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 7 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.3604 Ha. will be consisting of

1. Mining Area :	1.3604 Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.3604 Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्ह्यातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्ह्यातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	प्रधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

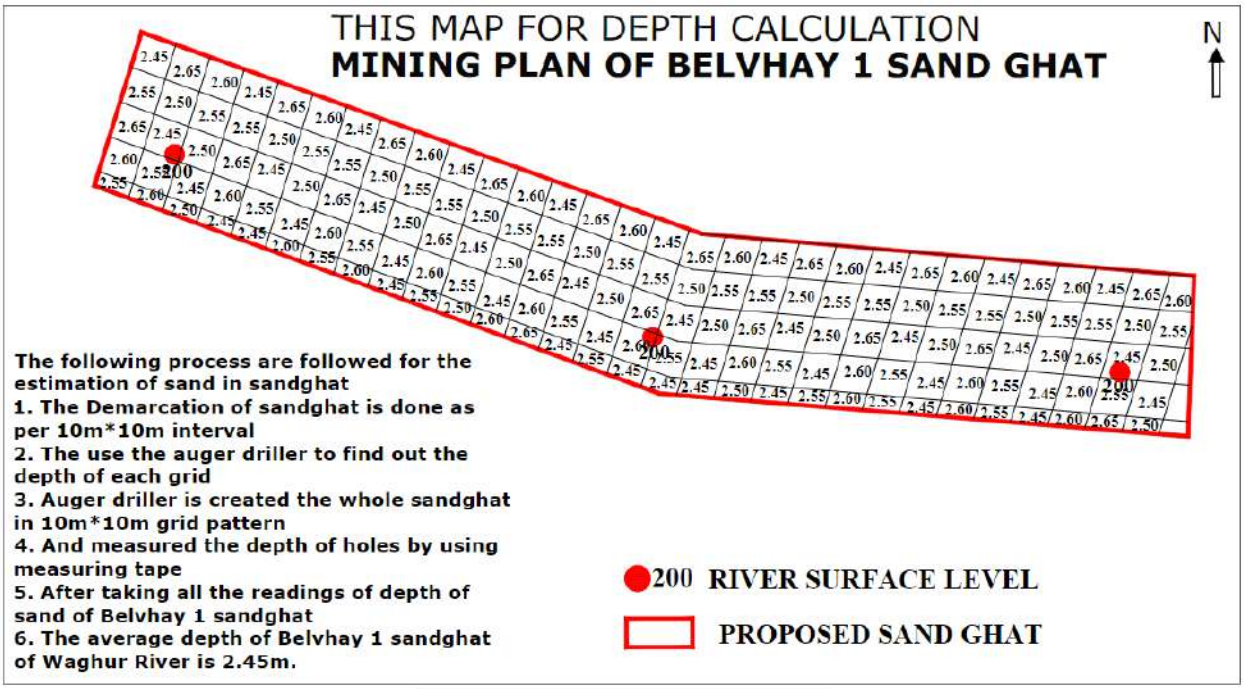
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine

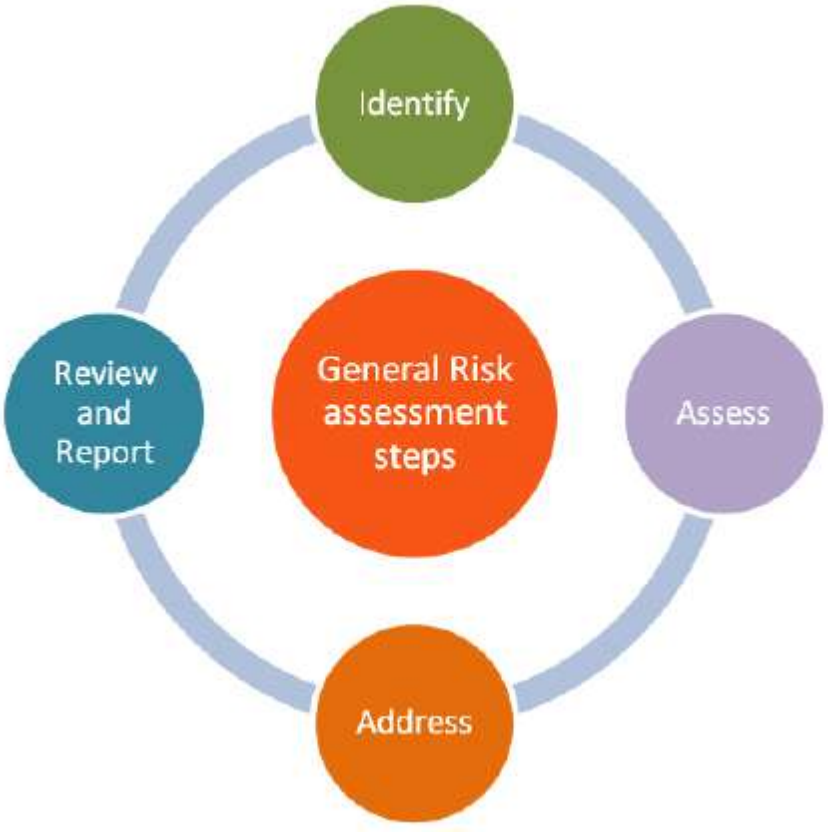
Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Belvay (Part 1) Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at BELVAY (PART 1) SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on BELVAY (PART 1) SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Belvay (Part2) Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Belvay (Part2) sand spot	Latitude	Longitude
B.P 1	20°58'24.33"N	75°41'20.79"E
B.P 2	20°58'25.31"N	75°41'19.93"E
B.P 3	20°58'31.98"N	75°41'29.07"E
B.P 4	20°58'30.98"N	75°41'29.97"E

(iii) Size of the Mining Lease (Hectare): 1.34 HA

(vi) Capacity of Mining Lease (TPA): 1065 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 43.4094 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or roa bridge over the concerned River, Rivulet, Nallal etc.	Bridge, 2.77 Km, N
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	 Bhusawal Railway Station,13Km, NE NH6, 4.91Km, NW SH190, 2.74Km, N Jamne-Bhusawal Rd, 9.19Km, SW 0.42Km, W 0.27Km, W DAM, 5.67Km, SE

	ponds In-take for drinking water pump house Intake for Irrigation canal pumps	Waghur River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Waghur River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Waghur River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH190, 2.74Km, N Jamne-Bhusawal Rd, 9.19Km, SW
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Nasirabad, 4.24KM, NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waghur River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near	No

	fissure / fracture for ground water recharge	
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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Belvay (Part 2) Sand Spot over an extent of 1.34 HA (MINEABLE AREA-1.005 HA & NON-MINEABLE AREA-0.335 HA) At Waghur River Bed Gut No.216,214 Belvay Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra.

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 11 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 150 meter in east direction, these road is further connected to SH-190. SH-190 is situated at a distance of 3.5km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 4 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Belvay Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Belvay (Part 2)</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>20°58'24.33"N</td><td>75°41'20.79"E</td></tr>
</table>
</td></tr>
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	<table><tr><td>B.P 2</td><td>20°58'25.31"N</td><td>75°41'19.93"E</td></tr><tr><td>B.P 3</td><td>20°58'31.98"N</td><td>75°41'29.07"E</td></tr><tr><td>B.P 4</td><td>20°58'30.98"N</td><td>75°41'29.97"E</td></tr></table>
Sand spot area (In Ha)	1.34
Proposed production capacity (In Brass)	1065
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	8.8 KLD – Tankers from nearby village.
Project cost INR (Lakh)	43.4094

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 1m from 195 to 196 MSL. The slope of Sand Spot area towards north side. The highest MSL is 196 & lowest 195 MSL. The flow of Waghur River towards north direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.3m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.3m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 0.3m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.34	1.34	---	1.34
2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative					

	Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.34	1.34	1.34

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Belvay (Part 2) EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	75000
		Road Degradation	Budget for Road Repairs and Maintenance from Approach Road to Main Road	66000
		Road Construction	Road Construction from Quarry to Access Road	110000
		Air Environment	Dust Suppression by Regular water spraying.	66000
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Checkup of Employees.	8400

2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	5000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	50600
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	55000
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	220000
			Green belt along bank(For Green Belt Development)	167500
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoring Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintenance of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000

14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	1747500
			Capital Cost	1303000
			Recurring Cost	444500

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph

- Watermark
- GP Based Vehicle Tracking System

9. Belvay(Part 2)-Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

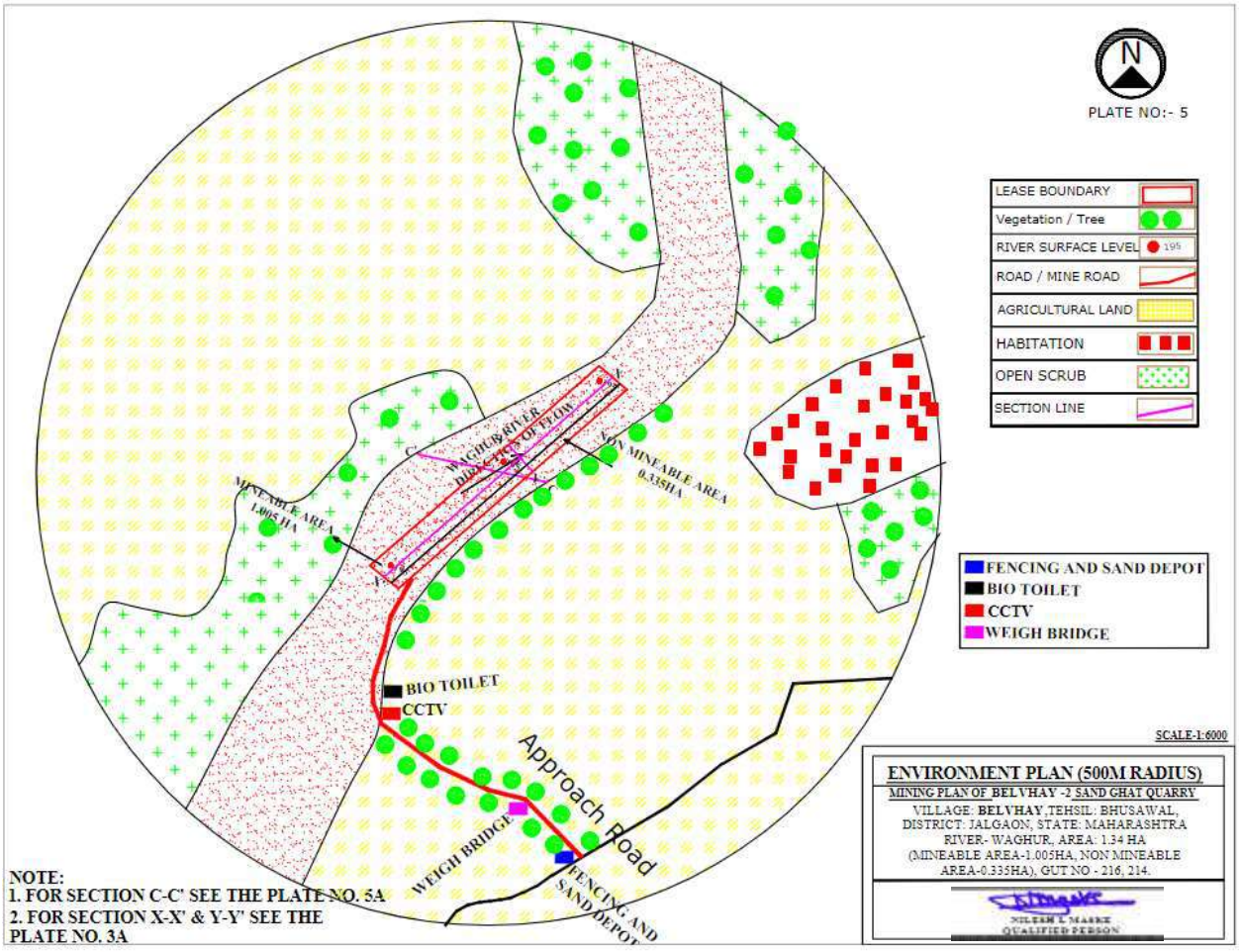
Nil

Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Belvay (Part 2)sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

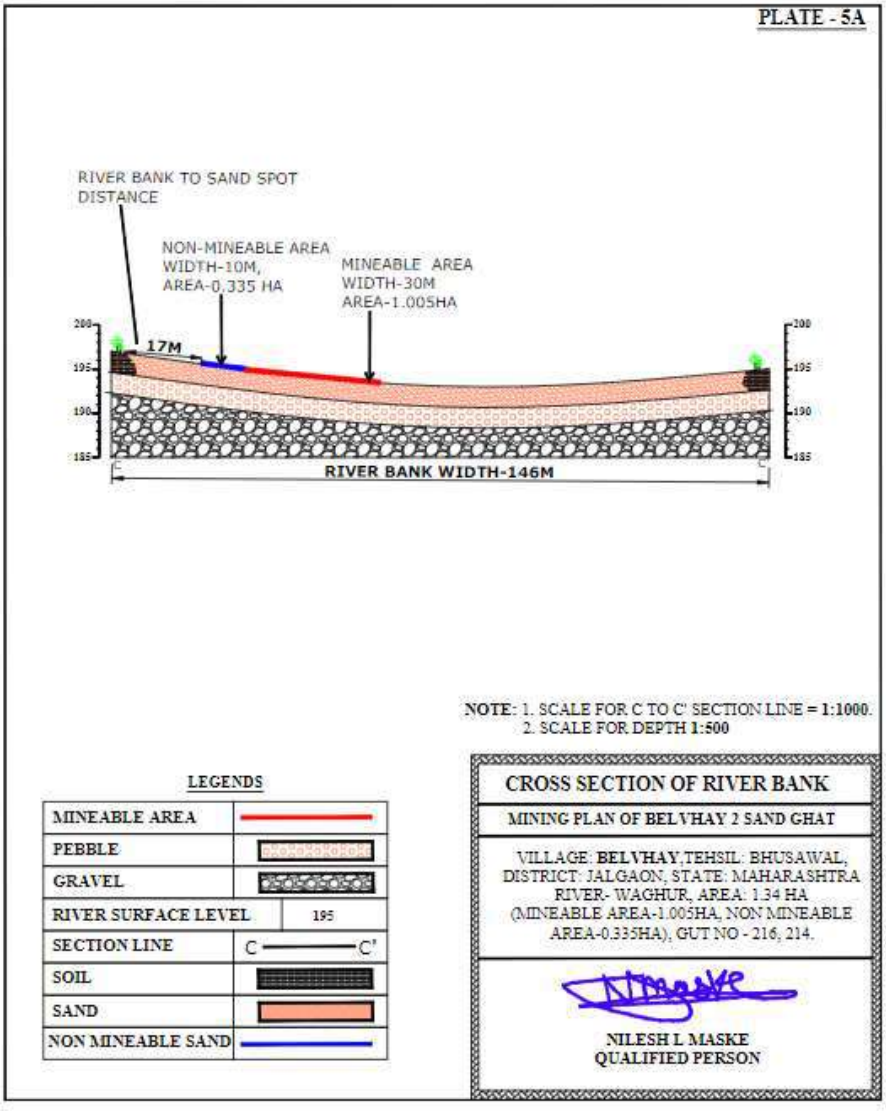


PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 150 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Bhusaval Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining ublished in January 2020 by MoEF&CC.**

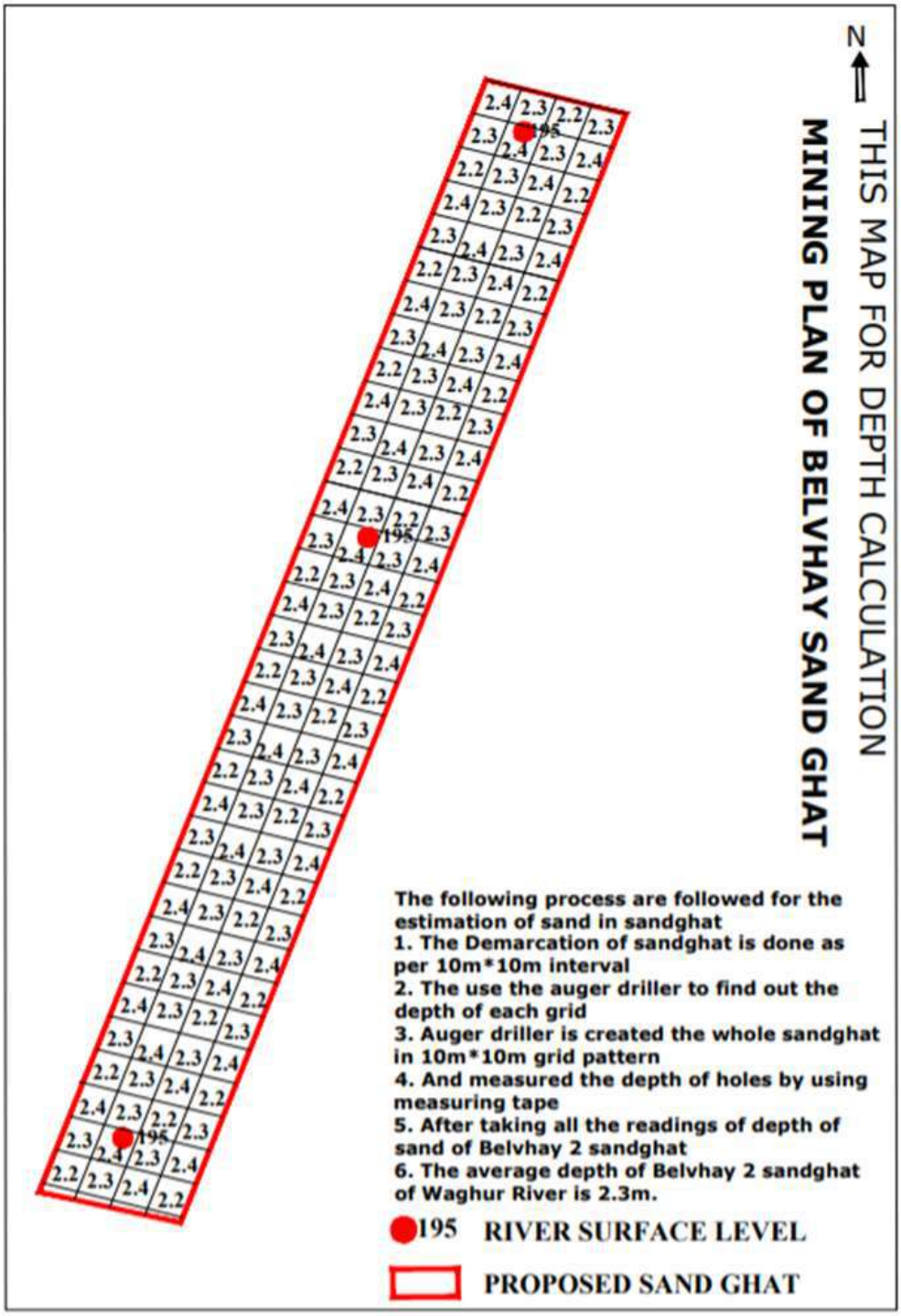
Cross section of river bed is shown below:



4. **PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any**

   District Level Task Force Committee Meeting details is enclosed.

5. **PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.**



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	1550 Sq.m /annum

No. of plants to be planted	775 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Belvay (Part 2) Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

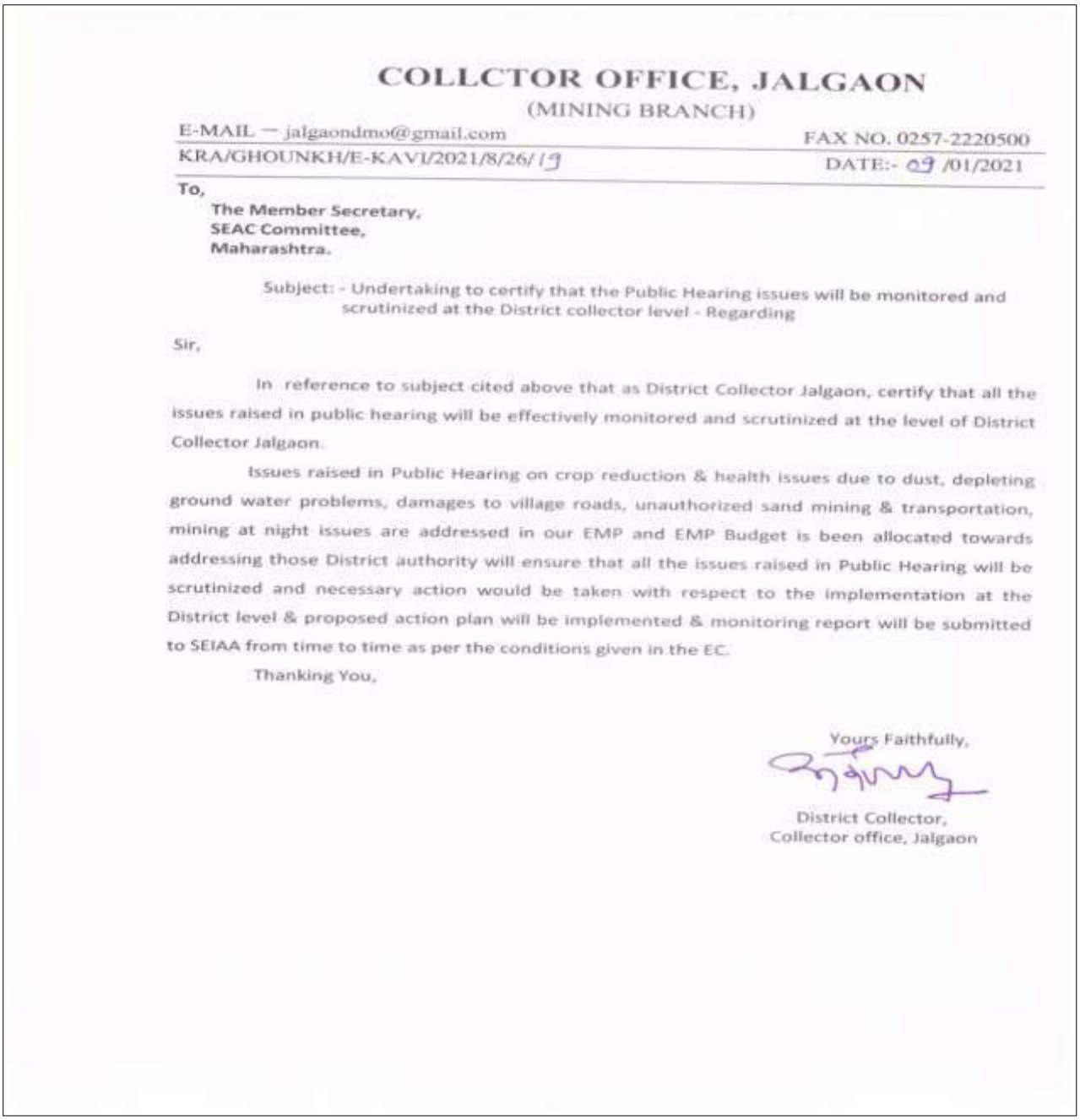
In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/13 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only.We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.34 Ha (1.005 Ha . Mineable & 0.335 Ha . Non-Mineable 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 1065 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Waghur river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 1m from 195 to 196 MSL. The slope of Sand Spot area towards north side. The highest MSL is 196 & lowest 195 MSL. The flow of Waghur River towards north direction

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.3 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 3015 Cu. M or 1065 brass i.e. 1 year (2020-2021 from date mining plan approval The size of pit at the end will be 1.34 HA (Mineable Area-1.005 HA & Non-Minaeable Area 0.335HA).

4. Introduction of the project/ background information

The Belvay(Part2) Sand Spot has been kept for Auction which is situated at Village Belvay, Taluka Bhusaval, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 3015 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval.as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.3 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 11 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 150 meter in east direction, these road is further connected to SH-190. SH-190 is situated at a distance of 3.5km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 4 km.

Area covered in SOI Toposheet No-46P/9. The GPS reading of boundary point are given below:

Boundary points of Belvay (Part 2)	Latitude	Longitude
B.P 1	20°58'24.33"N	75°41'20.79"E
B.P 2	20°58'25.31"N	75°41'19.93"E
B.P 3	20°58'31.98"N	75°41'29.07"E
B.P 4	20°58'30.98"N	75°41'29.97"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 3015 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 335m L X 30 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 3015 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval.as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.3 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 8.8 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Belvay is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Belvay Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 11 KM from Bhusawal. 434 KM from State capital Mumbai.
The sand spot area is connected to approached road at a distance of 150 meter in east direction, these road is further connected to SH-190. SH-190 is situated at a distance of 3.5km. in north of the sand ghat spot. Bhadli Railway Station is present at a distance of 4 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.34 Ha . will be consisting of

1. Mining Area :	1.34 Ha .
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.34 Ha .

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village

people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडादवारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	शबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगाव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगाव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपुर	185	925	25	125	0	0	0	0	0	0	1050
		एकुण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

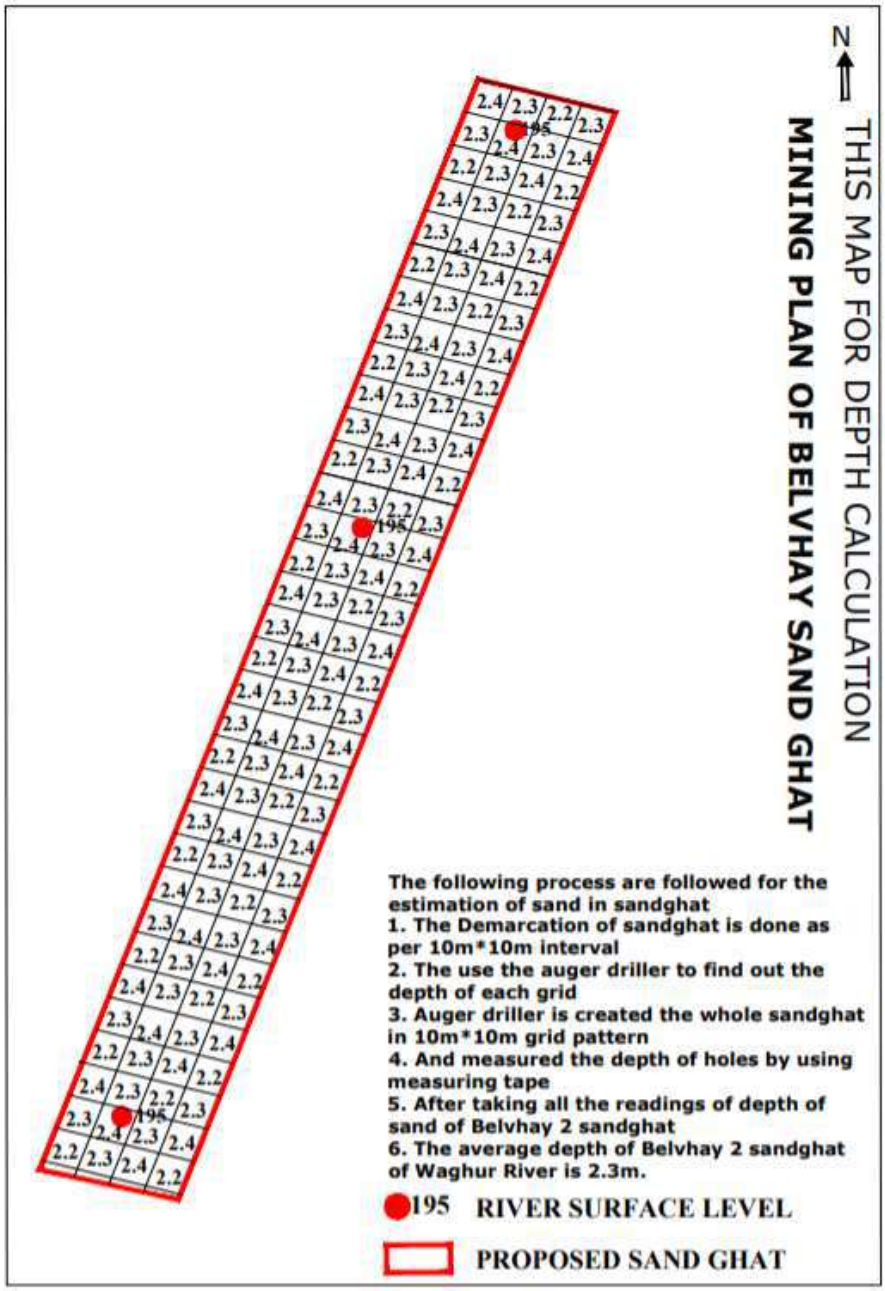
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

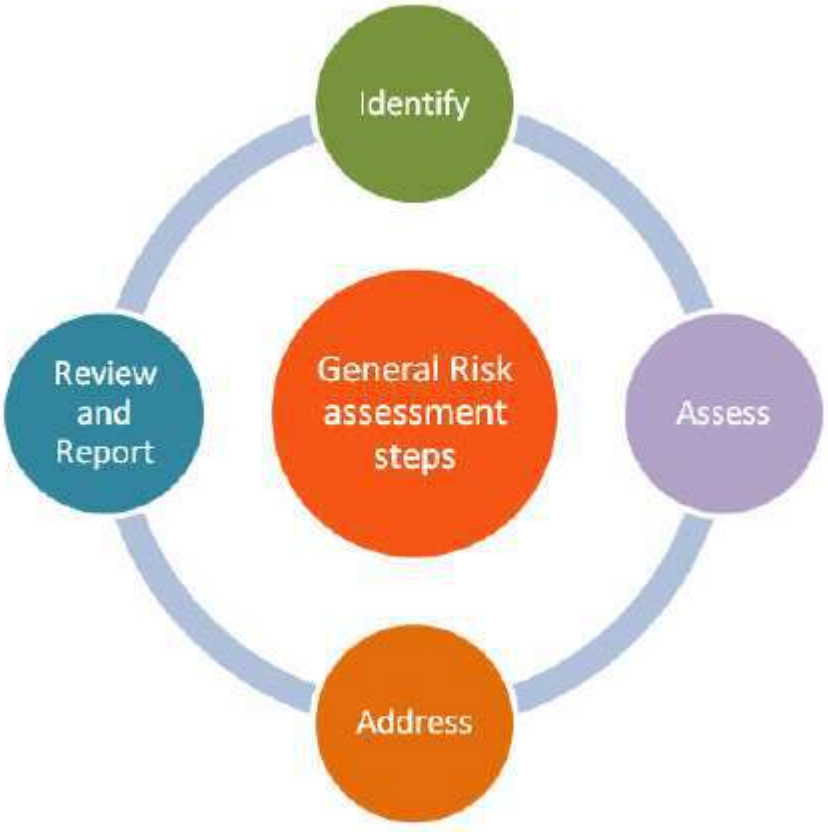
All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Belvay (Part 2) Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at BELVAY (PART 2) SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on BELVAY (PART 2) SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Bhokari Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Bhokari sand spot	Latitude	Longitude
BP 1	21°11'44.04"N	76° 06'4.15"E
BP 2	21°11'43.37"N	76° 06'7.99"E
BP 3	21°11'34.96"N	76° 06'5.82"E
BP 4	21°11'35.63"N	76° 06'2.04"E

(iii) Size of the Mining Lease (Hectare): 2.98 HA

(vi) Capacity of Mining Lease (TPA): 7902 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 322.04476 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. 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, 2.98Km,SW
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	 Raver,6.95Km, NW NH6, 18.8Km, S SH4,8.46Km,NW 2.88Km,SE Khirwad Therola Road, 0.83Km, NE 0.41Km, SE Nil Tapi River Bed

		Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH4,8.46Km,NW 2.88Km,SE
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Anturli, 3.71Km, E
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
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.	No

	If yes, details of the same and their status to be given.	
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Bhokari is a small Village/hamlet in Muktainagar Taluka in Jalgaon District of Maharashtra State, India. It comes under Bhokari Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 60 KM towards SW from District headquarters Jalgaon. The Sand Ghat is 18 KM from Muktainagar and 410 KM from State capital Mumbai.

The sand spot area is connected to approach road (Bhokar road) at a distance of 723 m in North direction. Jalgaon Railway Station is present at a distance of 58km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Bhokari Village, Tehsil- Muktainagar, Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Bhokari</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21°10'9.40"N</td><td>75° 21'15.31"E</td></tr>
</table>
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Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

	B.P 2 21°10'8.17"N 75° 21'16.54"E B.P 3 21°10'3.57"N 75° 21'11.24"E B.P 4 21°10'4.75"N 75° 21'10.10"E
Sand spot area (In Ha)	2.98
Proposed production capacity (In Brass)	7902
Manpower Requirement (considering 3 month period)	20 labors + 1 mate + 1 Supervisor = 22man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	**14.46 KLD – Tankers from nearby village.**
Project cost INR (Lakh)	322.04476

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh.

The slope of Sand Spot area is towards western side ranging from Contour 225 to 222 from MSL i.e 3M in average. The highest altitude MSL is 225 & lowest 222 MSL. The flow direction of Tapi River is towards SW.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 1m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.6m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 1m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies depending upon seasonal variations. The depth to water levels in the district ranges from 3.20 to 62.50 m BGL in pre-monsoon season and the depth to water levels in post-monsoon ranges from 0.80 to 27.1 m BGL. As the mining activities presently proposed are maximum upto 1m that too within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extraction [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	2.98	2.98	---	2.98
2	Area under dump	NIL	---	---	---	

3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			2.98	2.98		2.98

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Bhokari EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	279175
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	108450
		Road Construction	Road Construction from Quarry to Access Road	180750
		Air Environment	Dust Supression by Regular water spraying.	108450
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	26400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	30000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	83145
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	90375
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	361500
			Green belt along bank(For Green Belt Development)	133500
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000

13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	2325745
			Capital Cost	1531795
			Recurring Cost	793950

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background

- Invisible Ink Mark
- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Bhokari -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be

monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

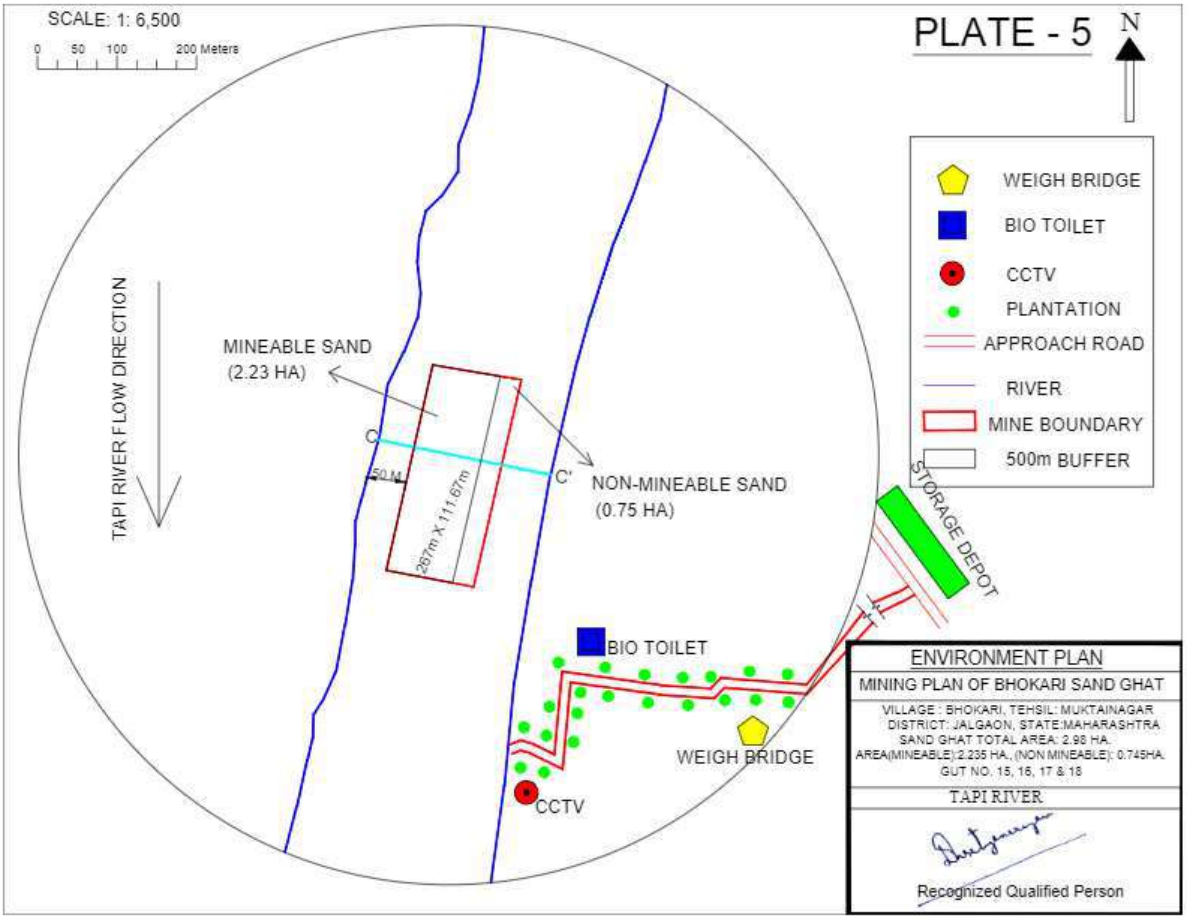
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Bhokari sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.



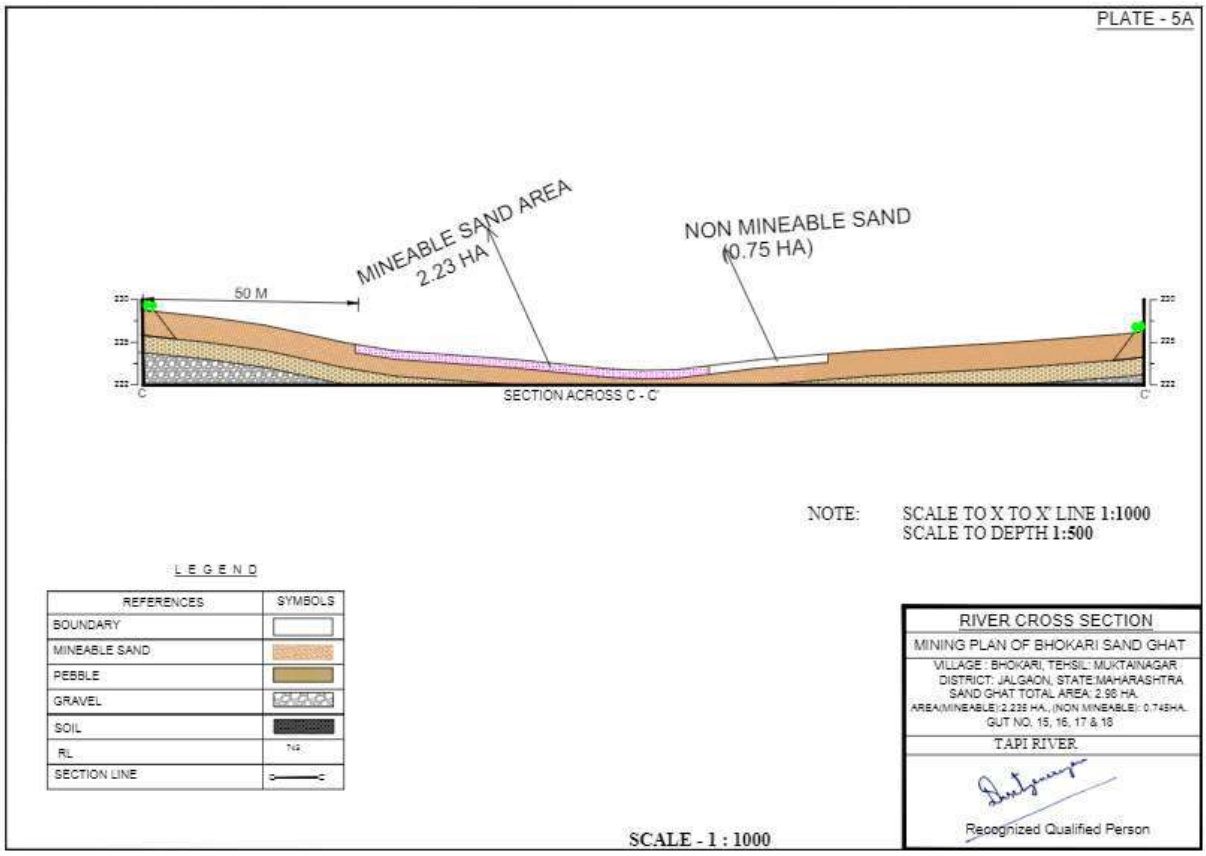
P to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 723m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Muktainagar Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.

Cross section of river bed is shown below:

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

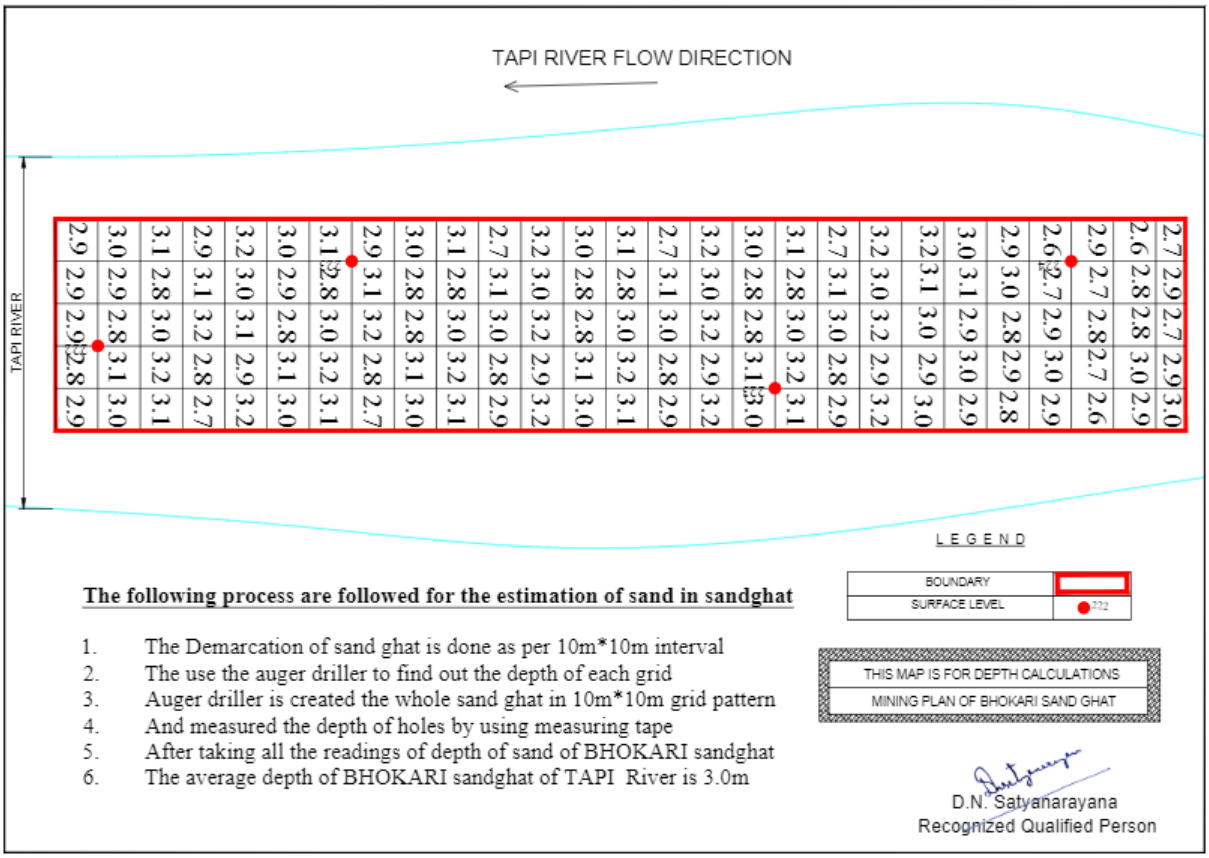


4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



The following process are followed for the estimation of sand in sandghat

1. The Demarcation of sand ghat is done as per 10m*10m interval
2. The use the auger driller to find out the depth of each grid
3. Auger driller is created the whole sand ghat in 10m*10m grid pattern
4. And measured the depth of holes by using measuring tape
5. After taking all the readings of depth of sand of BHOKARI sandghat
6. The average depth of BHOKARI sandghat of TAPI River is 3.0m

6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	1980 Sq.m /annum
No. of plants to be planted	990
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	150000
6	Community infrastructure development	200000
	Total	540000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Environmental Management Plan

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Bhokari Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

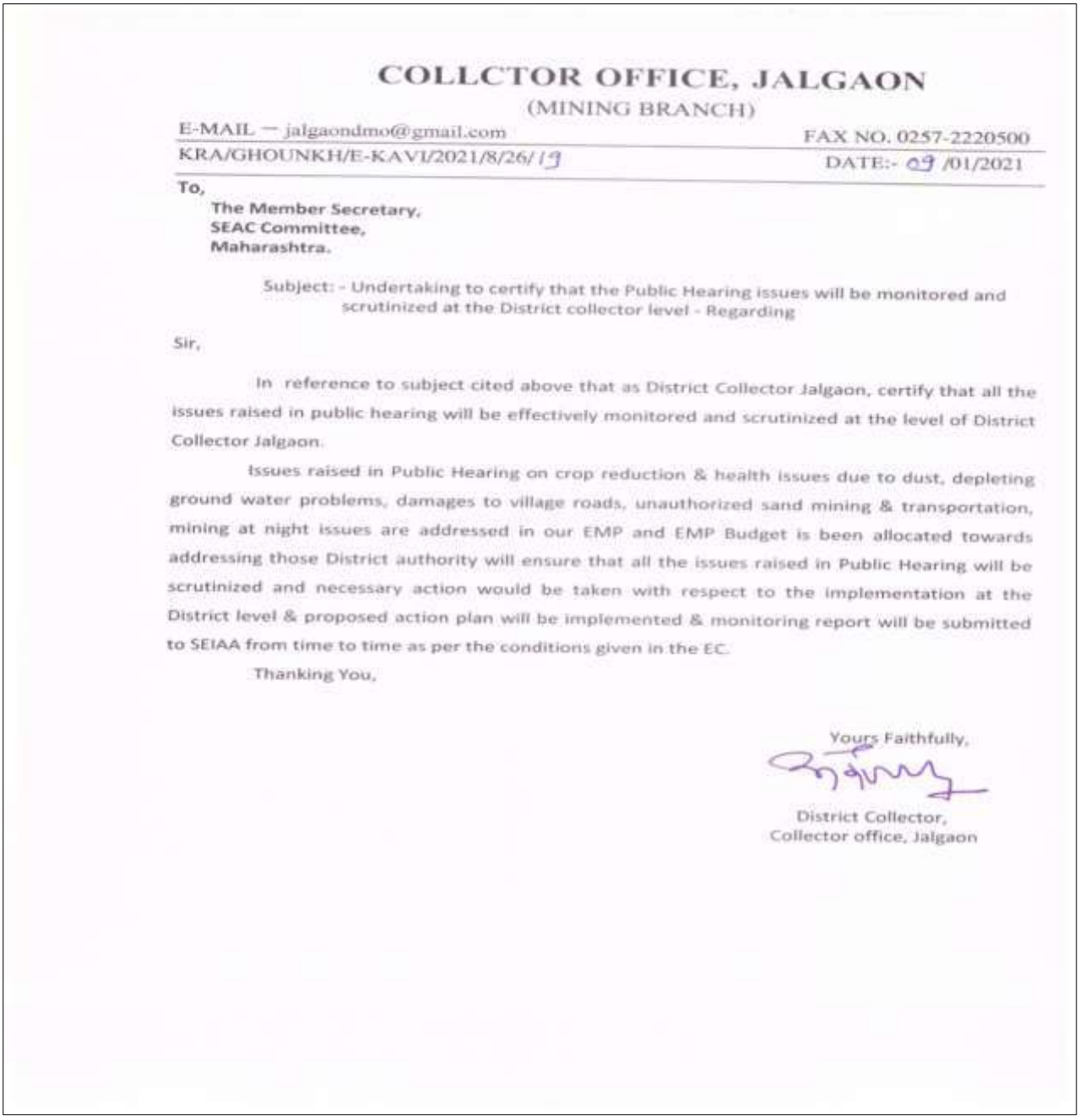
We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.



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E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.

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KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

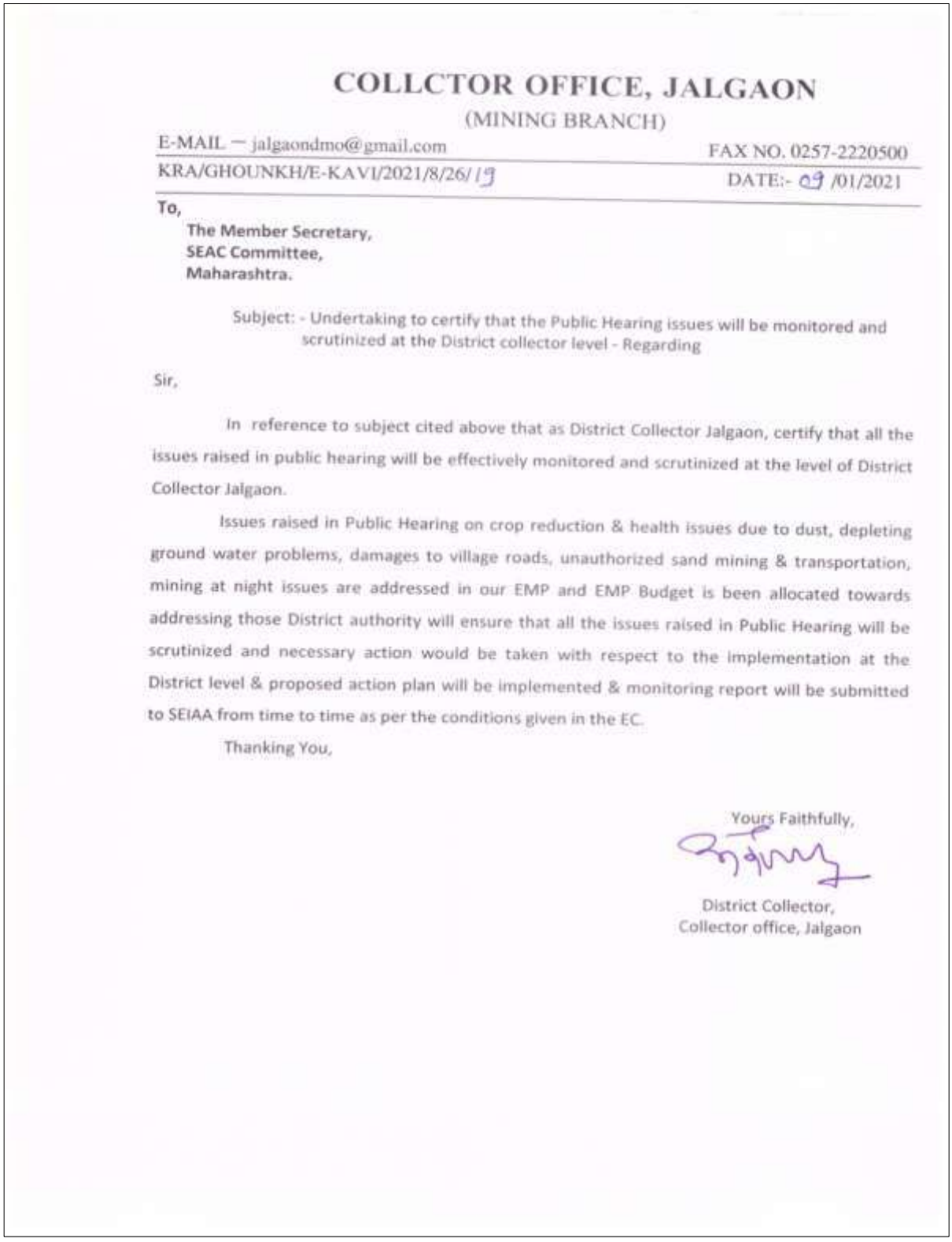
All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only.We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.



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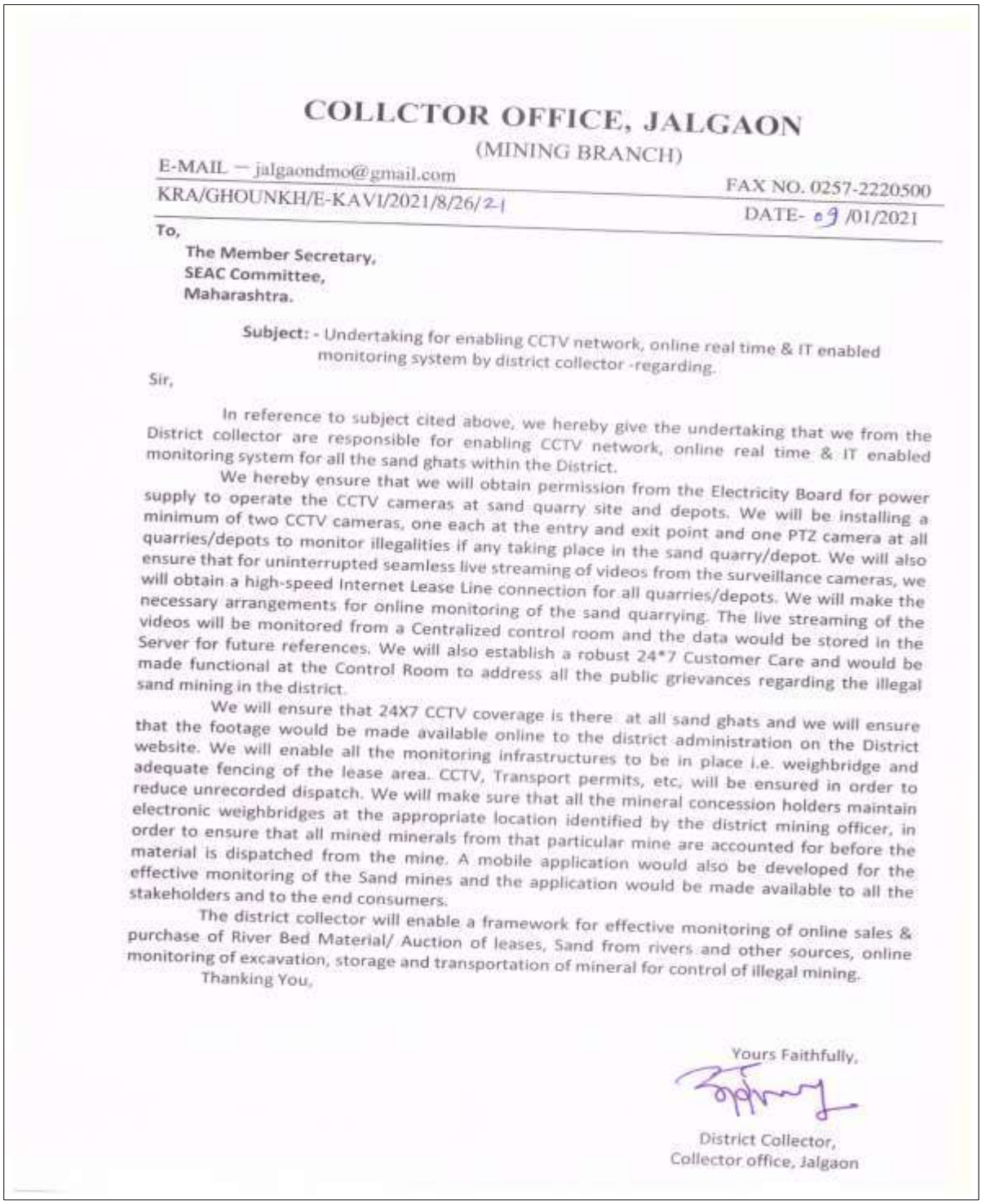
Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Bhokari Sand Spot over an extent of 2.98 HA (MINEABLE AREA- 2.235HA & NON-MINEABLE AREA-0.745 HA) At Tapi River Bed Gut No.15, 16, 17 & 18 Bhokari Village, Tehsil-Muktainagar, Jalgaon District, Maharashtra.



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(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 2.98 Ha (2.235 Ha. Mineable & 0.745Ha. Non-Mineable 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 7902 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh.

The slope of Sand Spot area is towards western side ranging from Contour 225 to 222 from MSL i.e 3M in average. The highest altitude MSL is 225 & lowest 222 MSL. The flow direction of Tapi River is towards SW.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.6 -meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenishes after every monsoon season in the year therefore conceptual period of mining will continue in the river bed.

Mining - The mining will be continued with present method of open cast mining by cutting slice of 1 m of Sand along topo-relief, by advancing from SW to NE direction as per allotted area by auction. The production can be at the rate of 22361.9175 Cu. M or 7902 brass i.e. 1 year from the date of mining plan approval, the size of pit at the end will be 2.235 HA (Mineable Area-2.235 HA & Non-Mineable Area 0.745HA).

4. Introduction of the project/ background information

The Bhokari Sand Spot has been kept for Auction which is situated at Village Bhokari, Taluka Muktainagar, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 22362 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval.
The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from SW to NE direction as per allotted Sand Spot area and handling of material with the help of laborer's in to the tractor having capacity of 1 Brass for transport of Sand to sand depot from there to the various dealer sites located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Bhokari is a small Village/hamlet in Muktainagar Taluka in Jalgaon District of Maharashtra State, India. It comes under Bhokari Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 60 KM towards SW from District headquarters Jalgaon. The Sand Ghat is 18 KM from Muktainagar and 410 KM from State capital Mumbai.

The sand spot area is connected to approach road (Bhokar road) at a distance of 723 m in North direction. Jalgaon Railway Station is present at a distance of 58km.

Area covered in SOI Toposheet No- 55C/4. The GPS reading of boundary point are given below:

Boundary points of Bhokari	Latitude	Longitude
B.P 1	21°11'44.04"N	76° 06'4.15"E
B.P 2	21°11'43.37"N	76° 06'7.99"E
B.P 3	21°11'34.96"N	76° 06'5.82"E

B.P 4	21°11'35.63"N	76° 06'2.04"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 22362 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 267m L X 83.7525m W at end of Sand Spot mining period. There will be no dumping material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 22362 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval.

The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from SW to NE direction as per allotted Sand Spot area and handling of material with the help of laborer's in to the tractor having capacity of 1 Brass for transport of Sand to sand depot from there to the various dealer sites located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 14.46 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Bhokari is a small Village/hamlet in Muktainagar Taluka in Jalgaon District of Maharashtra State, India. It comes under Bhokari Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 60 KM towards SW from District headquarters Jalgaon. The Sand Ghat is 18 KM from Muktainagar and 410 KM from State capital Mumbai.

The sand spot area is connected to approach road (Bhokar road) at a distance of 723 m in North direction. Jalgaon Railway Station is present at a distance of 58km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 2.98 Ha. will be consisting of

1. Mining Area :	2.98 Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	2.98 Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.6 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्ह्यातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्ह्यातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

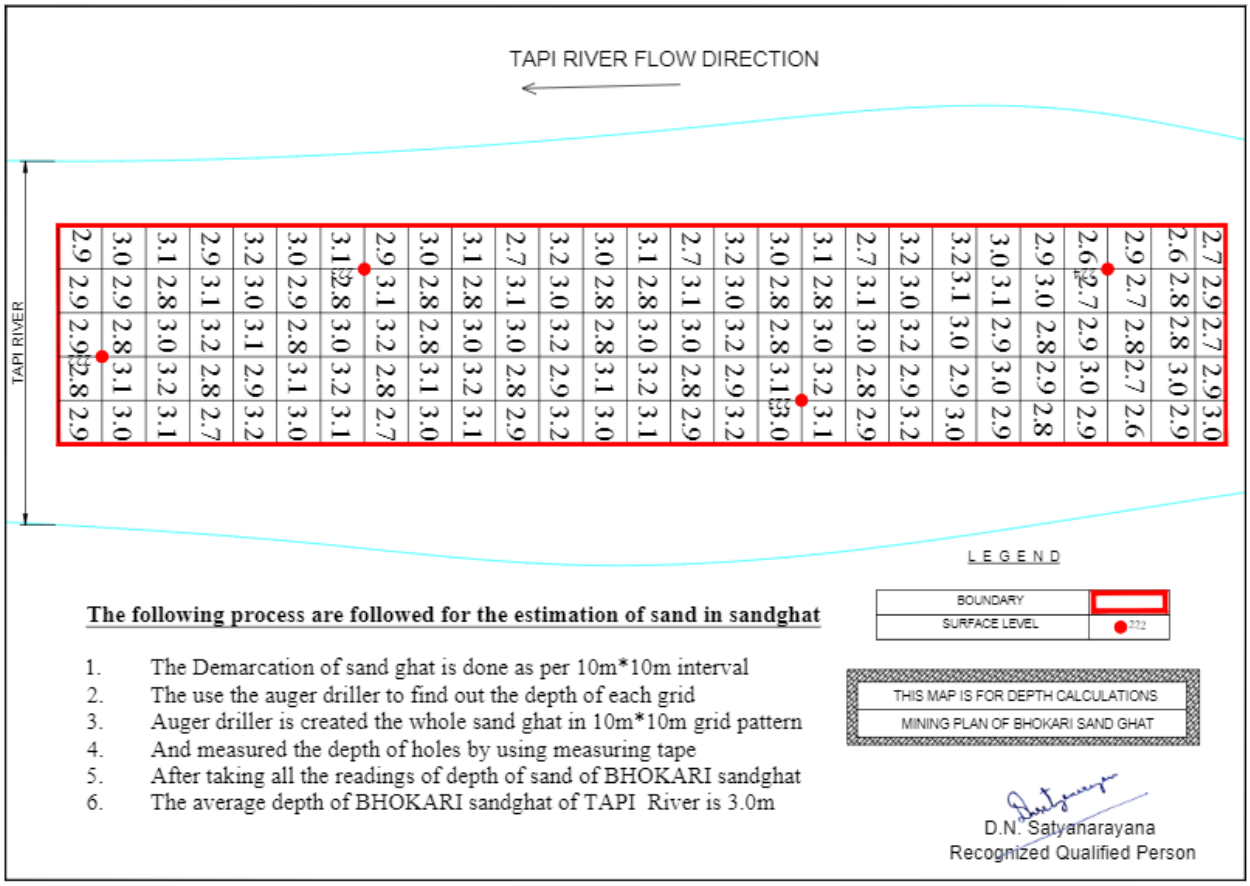
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



The following process are followed for the estimation of sand in sandghat

1. The Demarcation of sand ghat is done as per 10m*10m interval
2. The use the auger driller to find out the depth of each grid
3. Auger driller is created the whole sand ghat in 10m*10m grid pattern
4. And measured the depth of holes by using measuring tape
5. After taking all the readings of depth of sand of BHOKARI sandghat
6. The average depth of BHOKARI sandghat of TAPI River is 3.0m

- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearance

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety. The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan. The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any

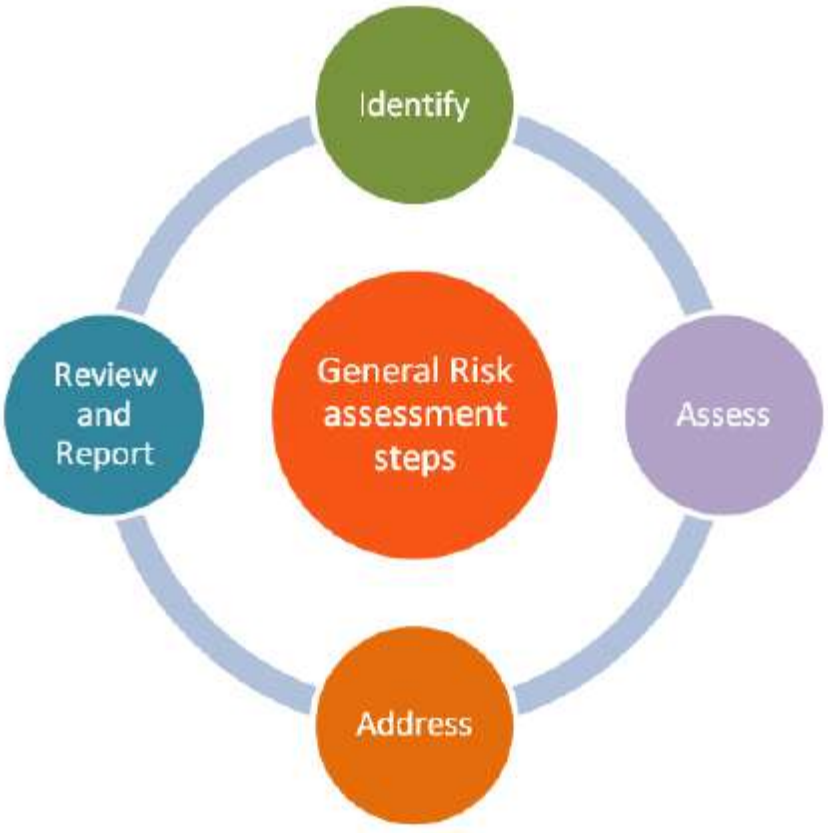
other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Bhokari Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at BHOKARI SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on BHOKARI SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Hingogeseem Part 1 Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Hingogeseem Part 1 sand spot	Latitude	Longitude
B.P 1	21°10'24.97"N	75°7'46.69"E
B.P 2	21°10'27.73"N	75°7'46.41"E
B.P 3	21°10'28.14"N	75°8'4.00"E
B.P 4	21°10'25.30"N	75°8'4.13"E

(iii) Size of the Mining Lease (Hectare): 4.37 HA

(vi) Capacity of Mining Lease (TPA): 6184 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 252.06 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah etc.	SH-1,1.56Km,E
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road Electric transmission line pole or tower	 Amalner railway station,15.82 km,SW NH3, 34.10 km, E SH-1,1.56Km,E 1.28Km, S. Hingogesse-Dodhawad,2.20Km,SW

	Canal or check dam or reservoirs or lake or ponds In-take for drinking water pump house Intake for Irrigation canal pumps	0.88 km, SW Tapi River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH-1,1.56Km,E
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Gangapuri, 2.80KmSE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Nil
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.

15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

ENVIRONMENTAL MANAGEMENT PLAN

1 INTRODUCTION

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni - 10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2 Project Description

Hingoneseem Part 1 is a small Village/hamlet in Amalner Taluk, Taluka in Jalgaon District of Maharashtra State, India. It comes under Hingoneseem Part 1 Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 45 KM towards west from District headquarters Jalgaon. 15 KM from Amalner Taluka Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 780 meter in south direction, these road is further connected to SH-1. SH-1 is situated at a distance of 1 km. in south east of the sand ghat spot. Nearest Railway Station is Amalner Taluk, which present at a distance of 15 km.

Table 1: Salient Features of the Project

Items	**Details**
Location	Village- Hingoneseem part -1, Tahsil-Amalner, District-Jalgaon, Maharashtra.

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

<table>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><td>Boundary points of Hingoneseem Part 1 sand spot</td><td>Latitude</td><td>Longitude</td></tr>
<tr><td>B.P 1</td><td>21°10'24.97"N</td><td>75° 7'46.69"E</td></tr>
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</table>
</td></tr>
<tr><td>Sand spot area (In Ha)</td><td>4.37</td></tr>
<tr><td>Proposed production capacity
(In Brass)</td><td>6184</td></tr>
<tr><td>53Manpower Requirement (considering 8 month period)</td><td>50 labors + 2 mate + 1 Supervisor = 53 man/day</td></tr>
<tr><td>Infrastructure Requirement (As per Govt Resolution 3rd January 2018)</td><td>1. Room / Hut for Official records
2. Electricity / Battery for Running CCTV on 24X 7 daily.
3. One Computer / Android base Mobile for the online generation of Invoice number.</td></tr>
<tr><td>Water requirement & source</td><td>16 KLD-Tankers from nearby villages.</td></tr>
<tr><td>Project cost INR (Lakh)</td><td>252.06</td></tr>
</table>

3 Baseline Environmental Status

i) Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 6m from 144 to 150 MSL. The slope of Sand Spot area towards western side. The highest MSL is 150 & lowest 144 MSL. The flow of Tapi River towards western direction.

ii. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water

iii. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

iv. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

v. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.5m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies depending upon seasonal variations. The depth to water levels in the district ranges from 3.20 to 62.50 m BGL in pre-monsoon season and the depth to water levels in post-monsoon ranges from 0.80 to 27.1 m BGL. As the mining activities presently proposed are maximum upto 0.5m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extraction [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

vi. Climate

The climate of the district is characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season, i.e., June to September. The mean minimum temperature is 10.8°C and means maximum temperature is 42.2°C. Jalgaon District receives an average rainfall of about 690 mm.

vii. Biological Environment

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

The project is only of extraction of minor minerals viz. sand from the river quarry.
Flora: THe area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.
Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.
2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.
3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

viii. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment village people.
B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
C. Local workforce will be given first preference for employment.
D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

5. Project Benefits

The proposed expansion project will lead to the following benefits:

- Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
- This project will contribute additional revenue to the state Exchequer in the form of revenue.
- The project will result in the employment opportunities to the unskilled/skilled local people.
- Thereby, the quality of life of the employed people will increase.

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

1. Sand Closure Plan

Sl. No	Head	Area put on use at start of plan [in Ha]	Additional Requirement during Plan period [in Ha]	Total [in Ha]	Area considered as	Net consider for calculation
1	Area under mining / pit	-	4.37	4.37	---	4.37
2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			**4.37**	**4.37**		**4.37**

- Mining will be avoided during monsoon and floods, this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

2. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters

The following plans are proposed under the Environmental Management Plan:

A total capital cost of INR 17.52100 Lakh and recurring cost provision of about INR 7.42500 Lakhs has been kept in the project cost towards the environmental protection, control and mitigation measures

and implementation of the EMP, this cost is born by bidder / lease holder. The budgetary cost estimate for the EMP is given in Table.

S. No	Impact Source	Impact	Control measure	Hingogeseem Part 1
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	175000
		Road Degradation	Budget for Road Repairs and Maintenance from Approach Road to Main Road	120000
		Road Construction	Road Construction from Quarry to Access Road	200000
		Air Environment	Dust Suppression by Regular water spraying.	120000
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Checkup of Employees.	63600
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	50000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in Labour costs)	92000
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in Labour costs)	100000
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	400000
			Green belt along bank(For Green Belt	250000

			Development)	
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoring Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring	Noise Environment	Regular Maintenance of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	2494600
			Capital Cost	1752100
			Recurring Cost	742500

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	200000
6	Community infrastructure development	200000
	Total	590000

3. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark

Hingogeseem Part 1 sand spot over an extent of 4.37 HA (MINEABLE AREA-3.5 HA & NON-MINEABLE AREA-0.87 HA) At Tapi River Bed Gut No.6 & 7 Hingogeseem Part 1 Village, Tehsil-Amalner, Jalgaon District, Maharashtra.

- Void Pantograph
- Watermark
- GPS BASED VEHICLE TRACKING SYSTEM

4. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearance's for this Mine.

5. Information about any general or specific order passed by competent Hon'ble court.

Nil

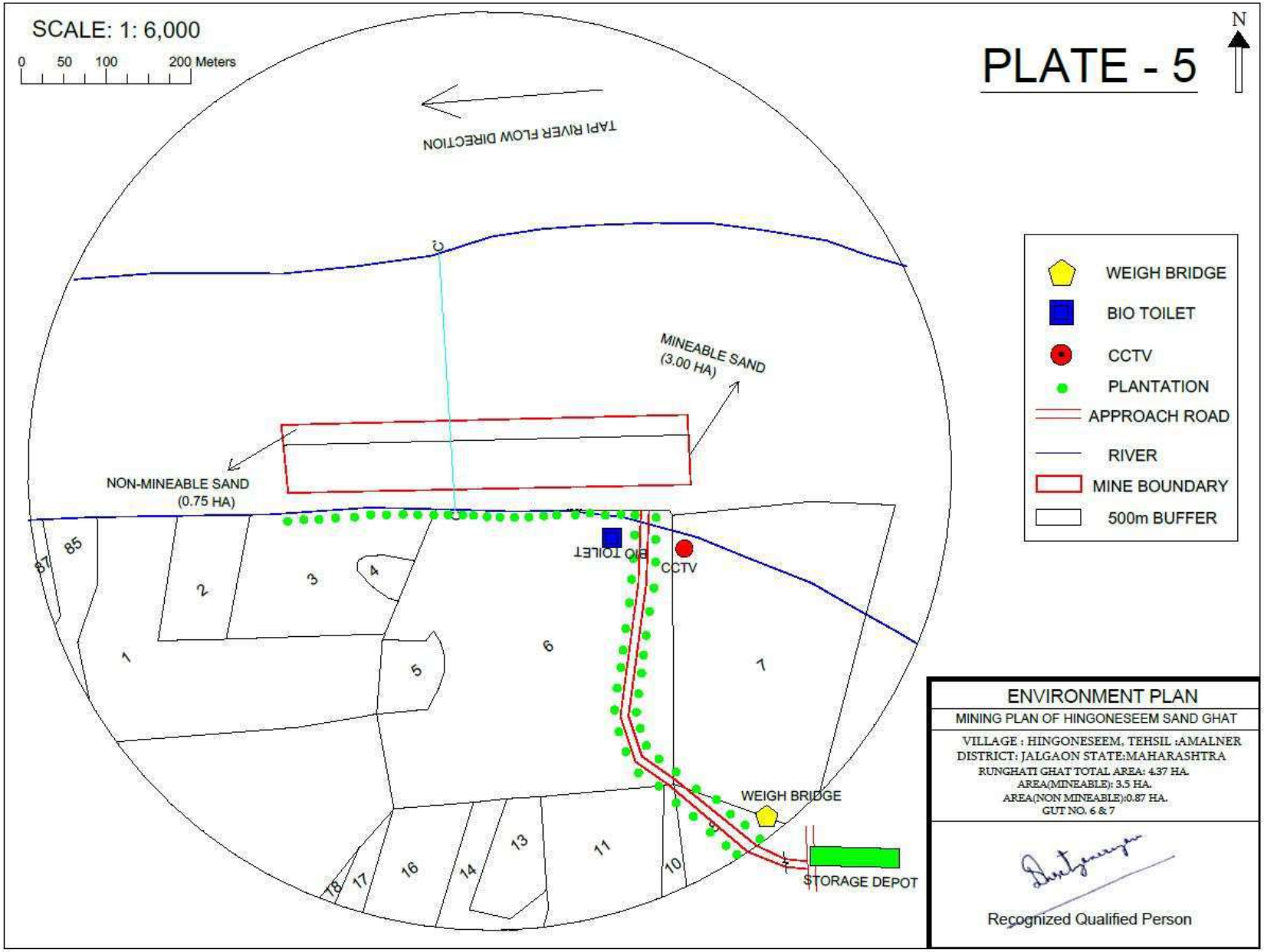
Conditions Reply:

1. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas.

Proposed Hingoneseem(Part-1) sand ghat fall in cluster. DMO-Jalgaon and Concerned tahsildar also submitted the cluster certificate.

2. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

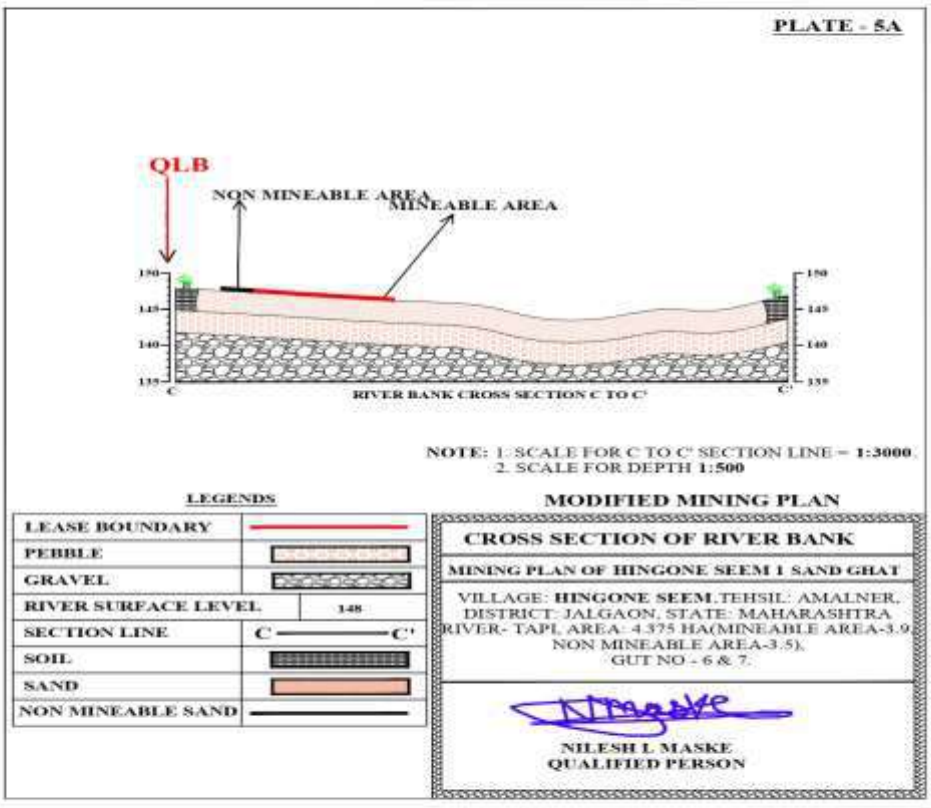

SCALE: 1: 6,000
0 50 100 200 Meters
N
PLATE - 5
TAPI RIVER FLOW DIRECTION
MINEABLE SAND
(3.00 HA)
NON-MINEABLE SAND
(0.75 HA)
BIO TOILET
CCTV
WEIGH BRIDGE
STORAGE DEPOT
1
2
3
4
5
6
7
85
87
78
17
16
14
13
11
10
WEIGH BRIDGE
BIO TOILET
CCTV
PLANTATION
APPROACH ROAD
RIVER
MINE BOUNDARY
500m BUFFER
ENVIRONMENT PLAN
MINING PLAN OF HINGONESEEM SAND GHAT
VILLAGE : HINGONESEEM, TEHSIL :AMALNER
DISTRICT: JALGAON STATE:MAHARASHTRA
RUNGHATI GHAT TOTAL AREA: 4.37 HA.
AREA(MINEABLE): 3.5 HA.
AREA(NON MINEABLE):0.87 HA.
GUT NO. 6 & 7
Recognized Qualified Person

3. **PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.**

The proposed approach road length is 800 and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Amalner Taluk, Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

4. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

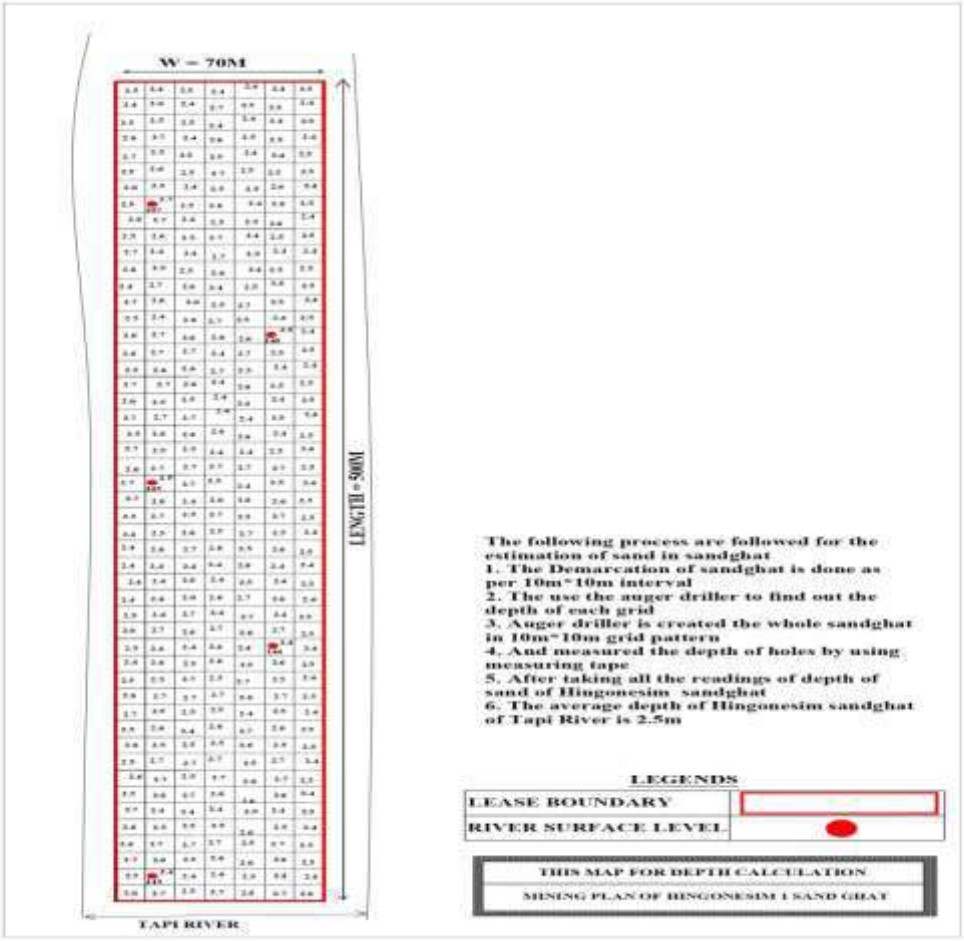
Cross section of river bed is shown below:



5. **PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any**

   District Level Task Force Committee Meeting details is enclosed.

6. **PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.**



Methodology for Sand Mining:

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),
Q= average annual runoff (m3),
A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are 1.08 tonnes/year/ by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is 4.612 tonnes/year/ by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station are 2.32 tonnes/year/by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	2600 Sq.m /annum
No. of plants to be planted	1300 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties

Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

7. Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Hingoneseem Part 1 Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 4.37 Ha (3.50 ha. Mineable & 0.87 ha. Non-Mineable) 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 6184 brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 6m from 144 to 150 MSL. The slope of Sand Spot area towards western side. The highest MSL is 150 & lowest 144 MSL. The flow of Tapi River towards western direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

The Sand Spot has sufficient Reserve of Sand to work at 17500 Cu.m for a specified period. The period of mine lease will be one year i.e. 2019-20 or up to exhaustion of Quantity of sand 6184 Brass proposed during the auction of sand whichever is earlier as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area

4. Introduction of the project/ background information

The Hingoneseem Part 1 Sand Spot has been kept for Auction which is situated at Village Hingoneseem Part 1, Taluka Amalner, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 17500 Cu.m for a specified period. The period of mine lease will be one year i.e. 2019-20 or up to exhaustion of Quantity of sand 6184 Brass proposed during the auction of sand whichever is earlier as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Hingoneseem Part 1 is a small Village/hamlet in Amalner Taluka in Jalgaon District of Maharashtra State, India. It comes under Hingoneseem Part 1 Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 45 KM towards west from District headquarters Jalgaon. 15 KM from Amalner. Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 780 meter in south direction, these road is further connected to SH-1. SH-1 is situated at a distance of 1 km. in south east of the sand ghat spot. Nearest Railway Station is Amalner which present at a distance of 15 km.

Area covered in SOI Toposheet No- 46P/9. The GPS reading of boundary point are given below:

Boundary points of Hingoneseem Part 1	Latitude	Longitude
B.P 1	21°10’24.97"N	75°7’46.69"E
B.P 2	21°10’27.73"N	75°7’46.41"E
B.P 3	21°10’28.14"N	75°8’4.00"E
B.P 4	21°10’25.30"N	75°8’4.13"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 17500 cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 500m L X 70 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable..

The Sand Spot has sufficient Reserve of Sand to work at 17500 Cu.m for a specified period. The period of mine lease will be one year i.e. 2019-20 or up to exhaustion of Quantity of sand 6184 Brass proposed during the auction of sand whichever is earlier as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 15.6 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 325-350 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Hingoneseem Part 1 is a small Village/hamlet in Amalner Taluka in Jalgaon District of Maharashtra State, India. It comes under Hingoneseem Part 1 Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 45 KM towards west from District headquarters Jalgaon. 15 KM from Amalner. Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 780 meter in south direction, these road is further connected to SH-1. SH-1 is situated at a distance of 1 km. in south east of the sand ghat spot. Nearest Railway Station is Amalner which present at a distance of 15 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 4.37 ha. will be consisting of

1. Mining Area	:	4.37 ha.
2. Construction of Temporary Roads	:	0.00 ha.
3. Total	:	4.37 ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्ह्यातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगाव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

Area of deposition and erosion was calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.

DGPS and other survey tools have been used to define topography, contours and offsets of lease area.

Contour & elevation benchmarks are provided with the baseline data for assessing pre and post-study period scenario.

Physical benchmarks are fixed at intervals (1 in 30 m) & Reduced Levels (RL) are validated from a nearby standard RL.

These RL are engraved on a steel plate (Bench Plate) & are fixed & placed at locations which are free from any damages & are available in pre and post-study period.

Bench plates are available for use during the mining period as reference for all mining activity.

Baseline data on elevation status for a grid of 10 m x 10 m is taken to ensure the accuracy in the assessment.

It was made sure that two consecutive cross-sections in longitudinal and lateral direction is not be more than 10-meter distance apart.

Changes have been observed in the elevation in per and post scenario at each node and were depicted in graphical forms with an appropriate scale for estimating the area of deposition & erosion.

Elevation level was placed in reference to the nearest bench-plates established for the purpose.

The levels (MSL & RL) of corner point of each grid were identified and safety barriers (Non-Mining) are demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

A clear identification was highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) was subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.

The database was structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.

Net area was derived after summation of area of deposition minus area of erosion for each cross-section.

Volume was estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.

One sample per 900 square meters (30 m x 30 m) was preferred for sample density for assessment of bulk density for estimation of deposition rate.

Care was taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.

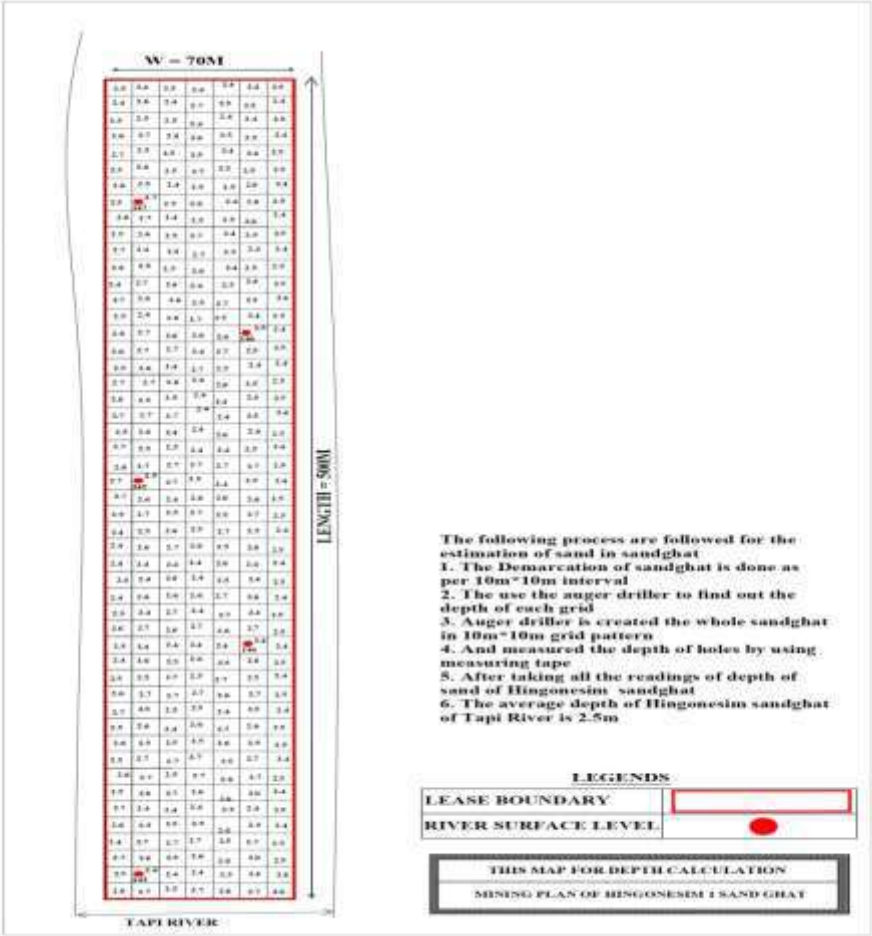
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety. The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan. The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

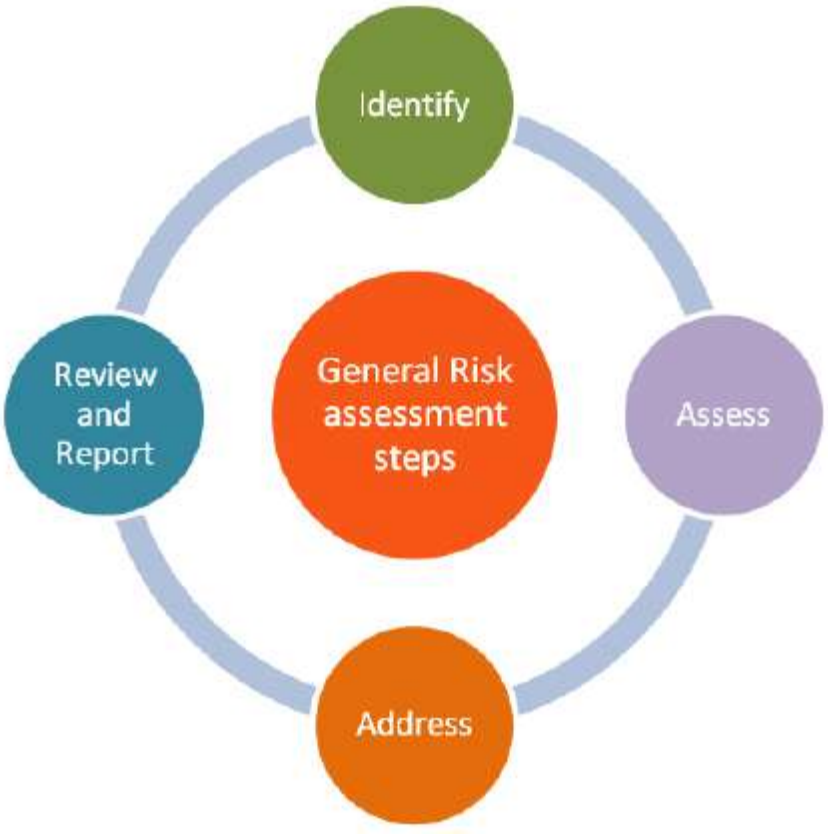
All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Hingogeseem Part 1 Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at Hingogeseem Part 1 SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on Hingogeseem Part 1 SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipments. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Jogalkheda Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Jogalkheda sand spot	Latitude	Longitude
B.P 1	21° 3'47.46"N	75°42'34.55"E
B.P 2	21° 3'47.32"N	75°42'33.20"E
B.P 3	21° 3'52.10"N	75°42'32.72"E
B.P 4	21° 3'55.67"N	75°42'31.56"E
B.P 5	21° 3'57.67"N	75°42'30.40"E
B.P 6	21° 3'58.23"N	75°42'31.68"E
B.P 7	21° 3'56.17"N	75°42'32.89"E
B.P 8	21° 3'52.34"N	75°42'34.02"E

(iii) Size of the Mining Lease (Hectare): 1.3455 HA

(vi) Capacity of Mining Lease (TPA): 1069 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 42.71648 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah et	Bridge, 1.45Km, W
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road	 Bhusawal Railway Station, 9.61Km, SE NH6, 4.19Km, SE SH187,188, 7.87Km, SE Raver Rd,7.70Km E 0.64Km, NE

	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	0.65Km, NE Waghur River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Waghur River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Waghur River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH187,188, 7.87Km, SE Raver Rd,7.70Km E
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Jogalkheda, 0.65 Km,NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Waghur River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
16	Whether the proposal involves approval or clearance under the following Regulations	No

	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.	
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Jogalkheda sand spot over an extent of 1.3455 HA (MINEABLE AREA-1.0091 HA & NON-MINEABLE AREA-0.3364 HA) At Waghur River Bed Gut No.139 Jogalkheda Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Jogalkheda is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Jogalkheda Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in NE direction, these road is further connected to NH-6. NH-6 is situated at a distance of 4 km. in south of the sand ghat spot. Bhusaval Railway Station is present at a distance of 8.5km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Jogalkheda Village, Tehsil-Bhusaval, Jalgaon District, Maharashtra</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Jogalkheda</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21° 3'47.46"N</td><td>75°42'34.55"E</td></tr>
</table>
</td></tr>
</table>

	<table><tr><td>B.P 2</td><td>21° 3'47.32"N</td><td>75°42'33.20"E</td></tr><tr><td>B.P 3</td><td>21° 3'52.10"N</td><td>75°42'32.72"E</td></tr><tr><td>B.P 4</td><td>21° 3'55.67"N</td><td>75°42'31.56"E</td></tr><tr><td>B.P 5</td><td>21° 3'57.67"N</td><td>75°42'30.40"E</td></tr><tr><td>B.P 6</td><td>21° 3'58.23"N</td><td>75°42'31.68"E</td></tr><tr><td>B.P 7</td><td>21° 3'56.17"N</td><td>75°42'32.89"E</td></tr><tr><td>B.P 8</td><td>21° 3'52.34"N</td><td>75°42'34.02"E</td></tr></table>
Sand spot area (In Ha)	1.3455
Proposed production capacity (In Brass)	1069
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	12.64 KLD – Tankers from nearby village.
Project cost INR (Lakh)	42.71648

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 2m from 173 to 175 MSL. The slope of Sand Spot area towards NE side. The highest MSL is 175 & lowest 173 MSL. The flow of Waghur River from north direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 1.0m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**

1	Area under mining / pit	-	1.3455	1.3455	---	1.3455
2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.3455	1.3455	1.3455

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Jogalkheda EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	73125
		Road Degradation	Budget for Road Repairs and Maintenance from Approach Road to Main Road	94800
		Road Construction	Road Construction from Quarry to Access Road	158000
		Air Environment	Dust Suppression by Regular water spraying.	94800

			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Checkup of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	5000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	72680
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	79000
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	316000
			Green belt along bank(For Green Belt Development)	167500
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoring Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintenance of Vehicles	75000

13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	1993305
			Capital Cost	1469080
			Recurring Cost	524225

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark

- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Jogalkheda -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary

measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

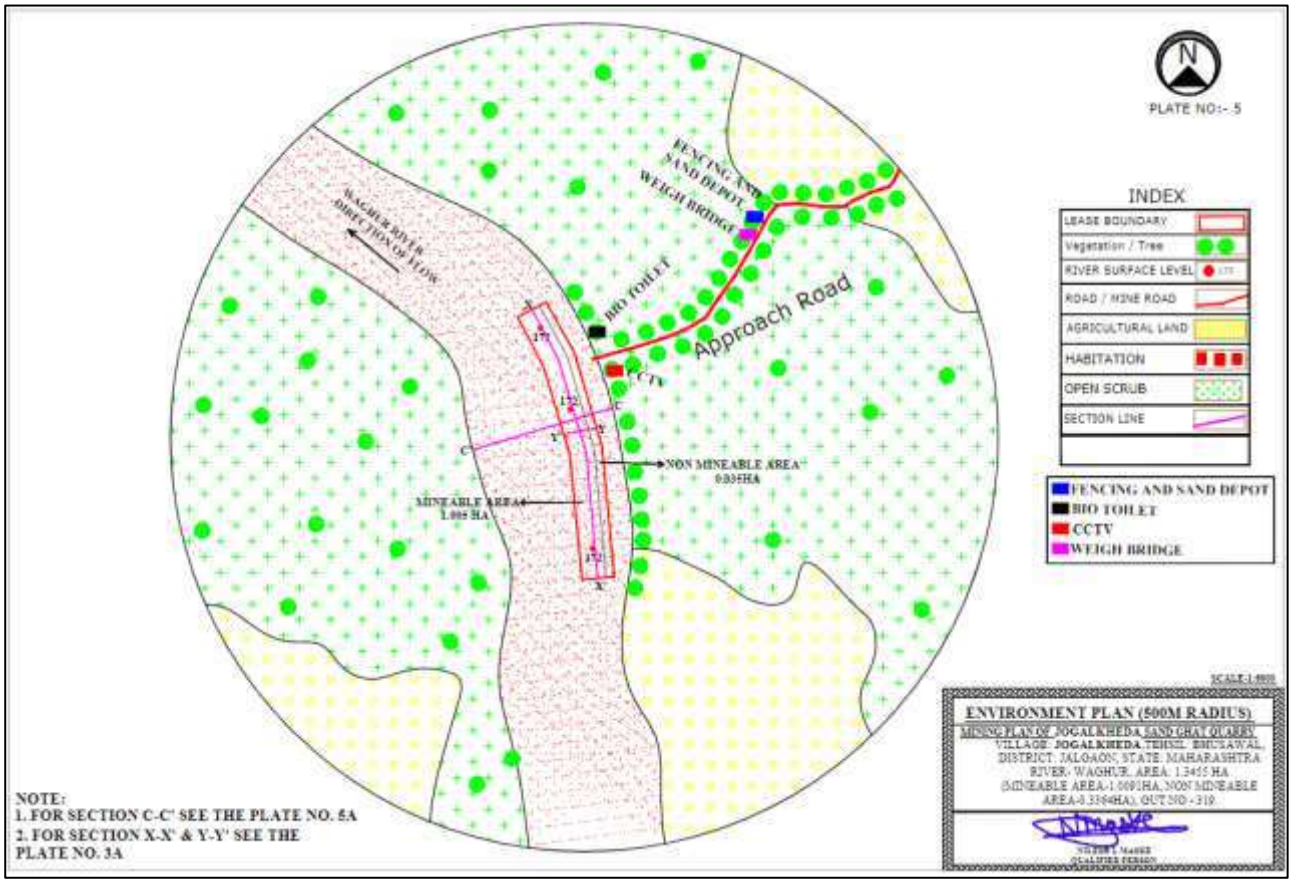
Nil

Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Jogalkheda sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

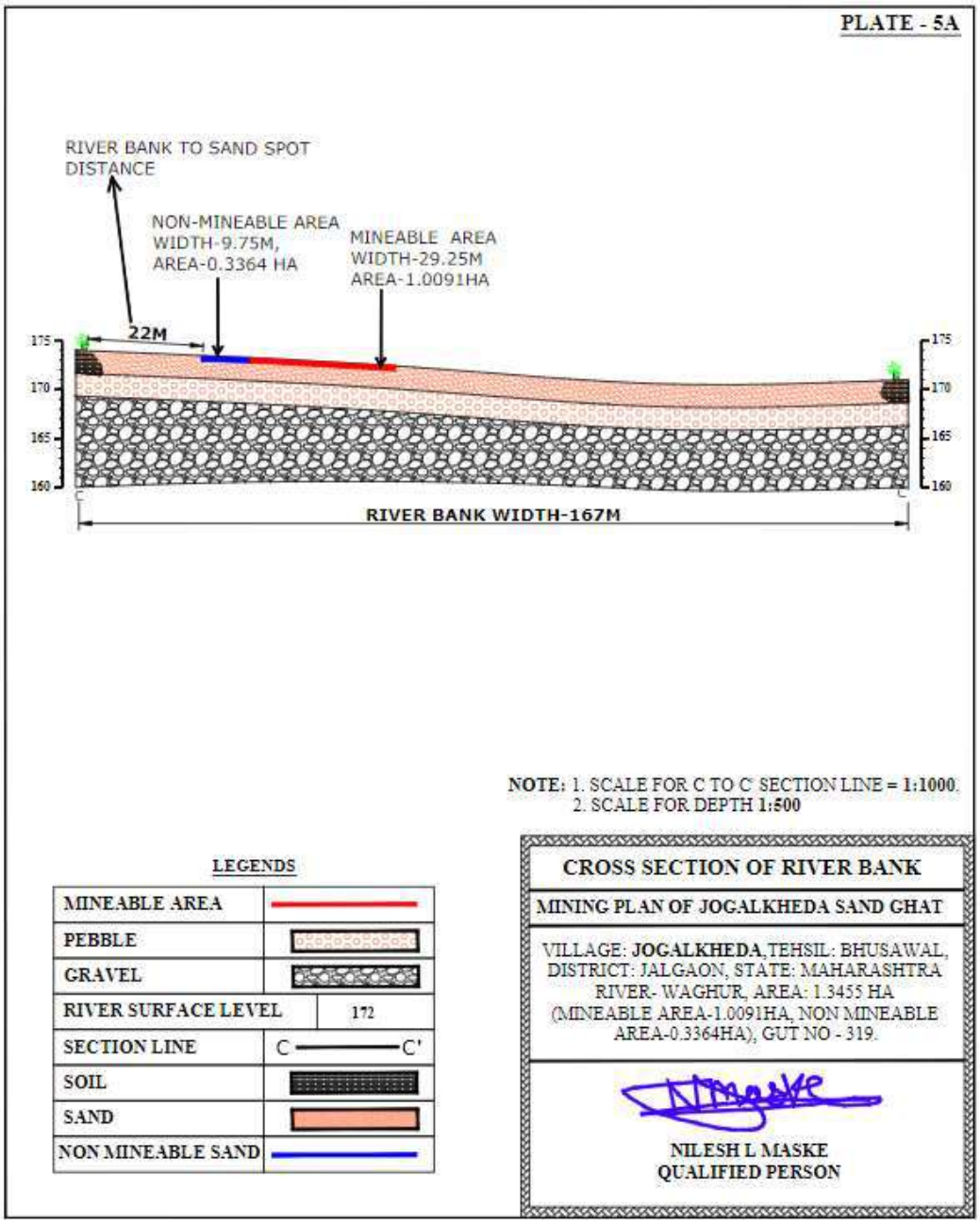


PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 800 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Bhusaval Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

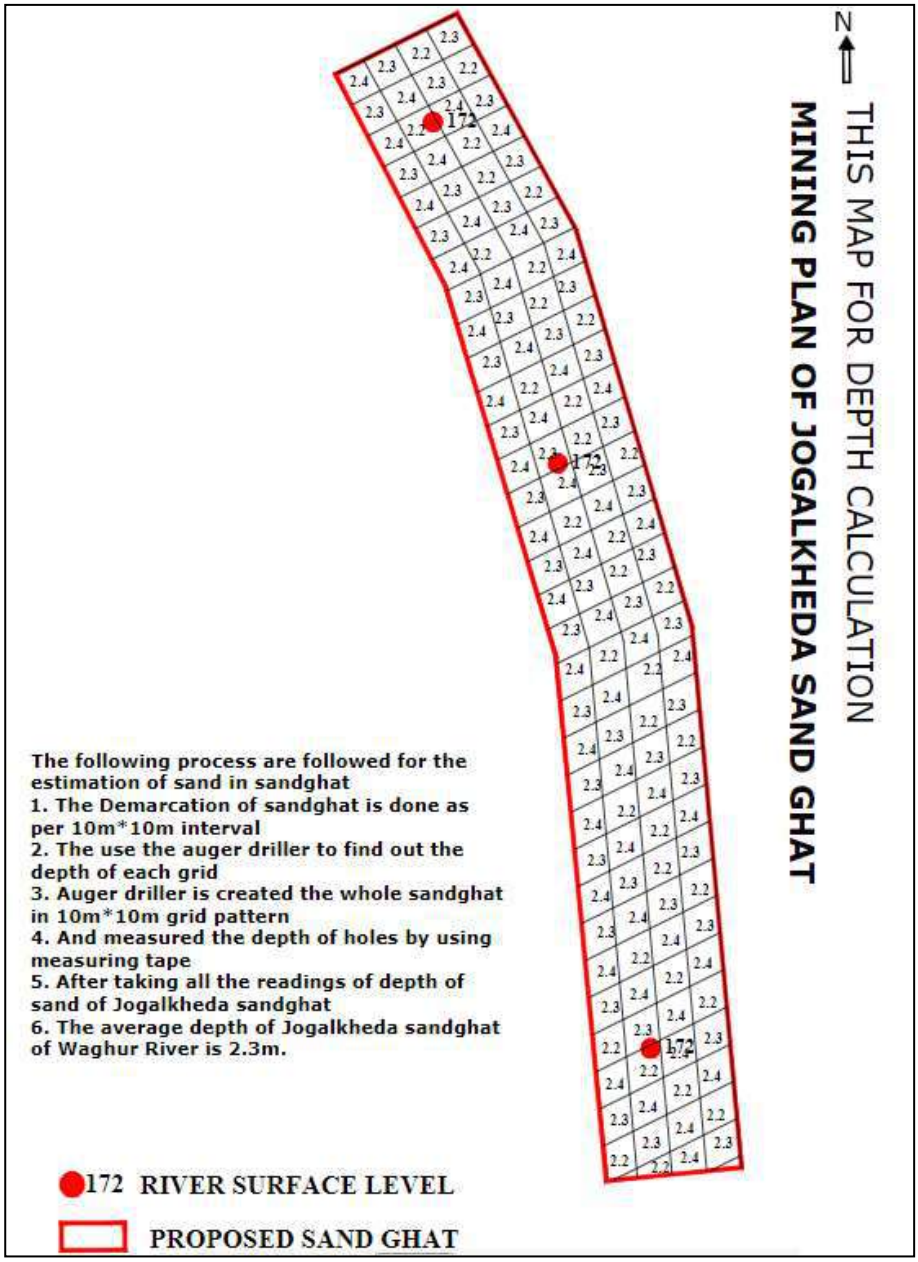
Cross section of river bed is shown below:



4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	1934 Sq.m /annum
No. of plants to be planted	967 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the

environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Jogalkheda Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

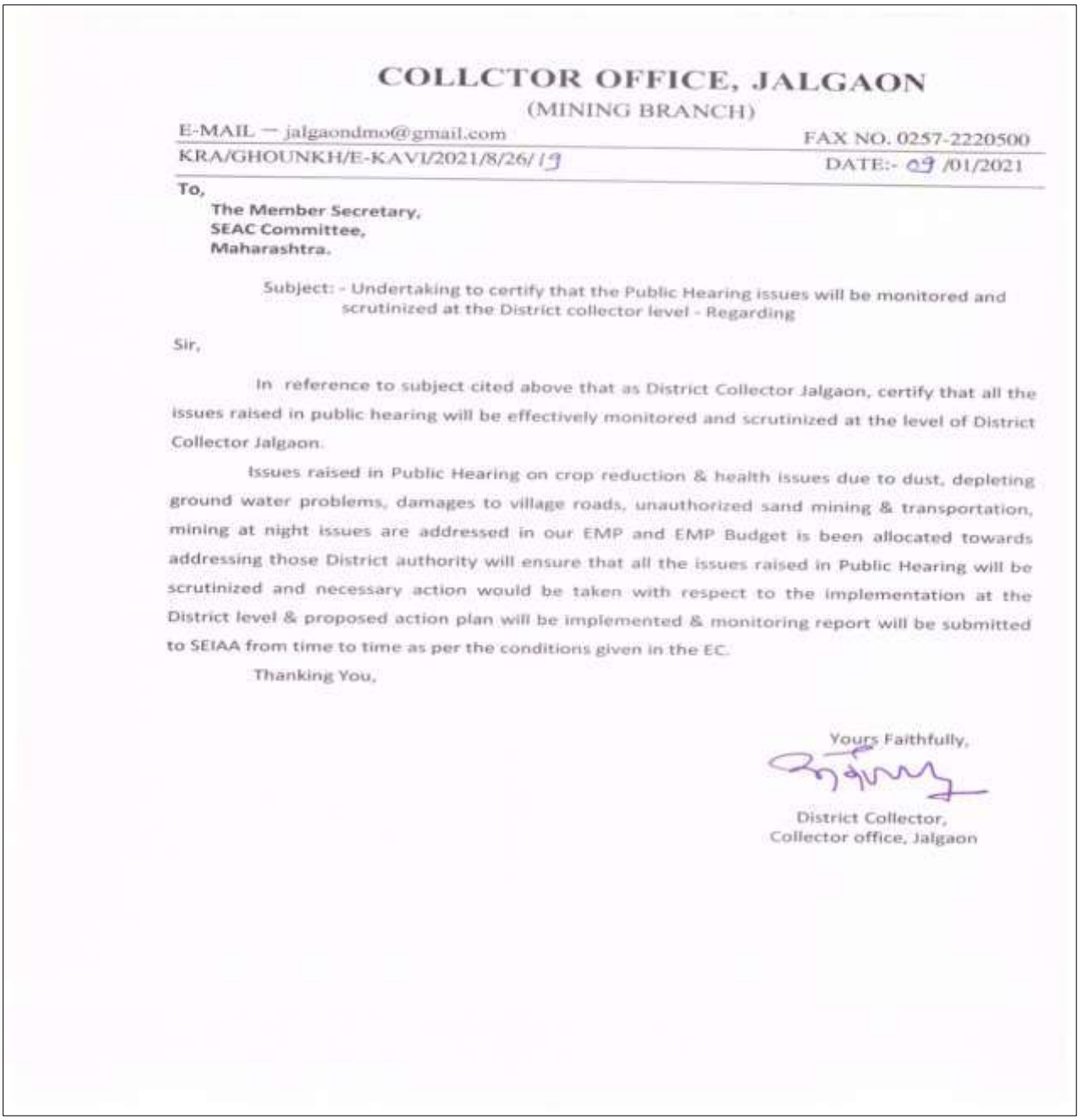
In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/13 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only.We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.3455 Ha (1.0091 Ha . Mineable & 0.33364 Ha . Non-Mineable 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 1069 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Waghur river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Waghur River. The Waghur river flows from its source near Ajanta through the Khandesh region. The slope is of 2m from 173 to 175 MSL. The slope of Sand Spot area towards NE side. The highest MSL is 175 & lowest 173 MSL. The flow of Waghur River from north direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.3 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 3027 Cu. M or 1069 brass i.e. 1 year (2020-2021 from date mining plan approval. The size of pit at the end will be 1.3455 HA (Mineable Area-1.0091 HA & Non-Minaeable Area 0.3364HA).

4. Introduction of the project/ background information

The Jogalkheda Sand Spot has been kept for Auction which is situated at Village Jogalkheda, Taluka Bhusaval, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 3027 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.3 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Jogalkheda is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Jogalkheda Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in NE direction, these road is further connected to NH-6. NH-6 is situated at a distance of 4 km. in south of the sand ghat spot. Bhusaval Railway Station is present at a distance of 8.5km.

Boundary points of Jogalkheda	Latitude	Longitude
B.P 1	21° 3'47.46"N	75°42'34.55"E
B.P 2	21° 3'47.32"N	75°42'33.20"E
B.P 3	21° 3'52.10"N	75°42'32.72"E
B.P 4	21° 3'55.67"N	75°42'31.56"E
B.P 5	21° 3'57.67"N	75°42'30.40"E
B.P 6	21° 3'58.23"N	75°42'31.68"E
B.P 7	21° 3'56.17"N	75°42'32.89"E
B.P 8	21° 3'52.34"N	75°42'34.02"E

Area covered in SOI Toposheet No-46P/9. The GPS reading of boundary point are given below:

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 3027 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 345m L X 29.25 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 3027 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.3 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 12.64 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Jogalkheda is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Jogalkheda Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in NE direction, these road is further connected to NH-6. NH-6 is situated at a distance of 4 km. in south of the sand ghat spot. Bhusaval Railway Station is present at a distance of 8.5km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.3455 Ha . will be consisting of

1. Mining Area :	1.3455 Ha .
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.3455 Ha .

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडादवारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

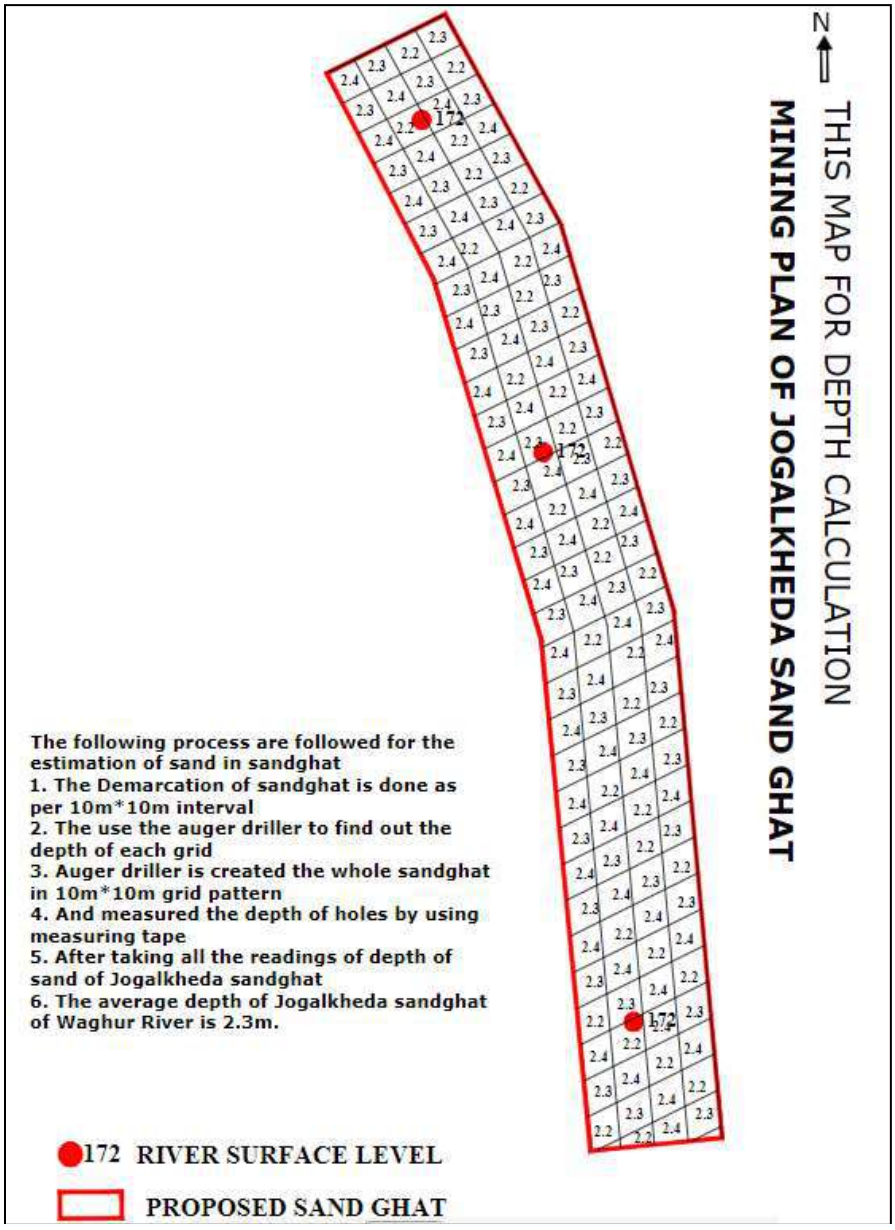
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar,

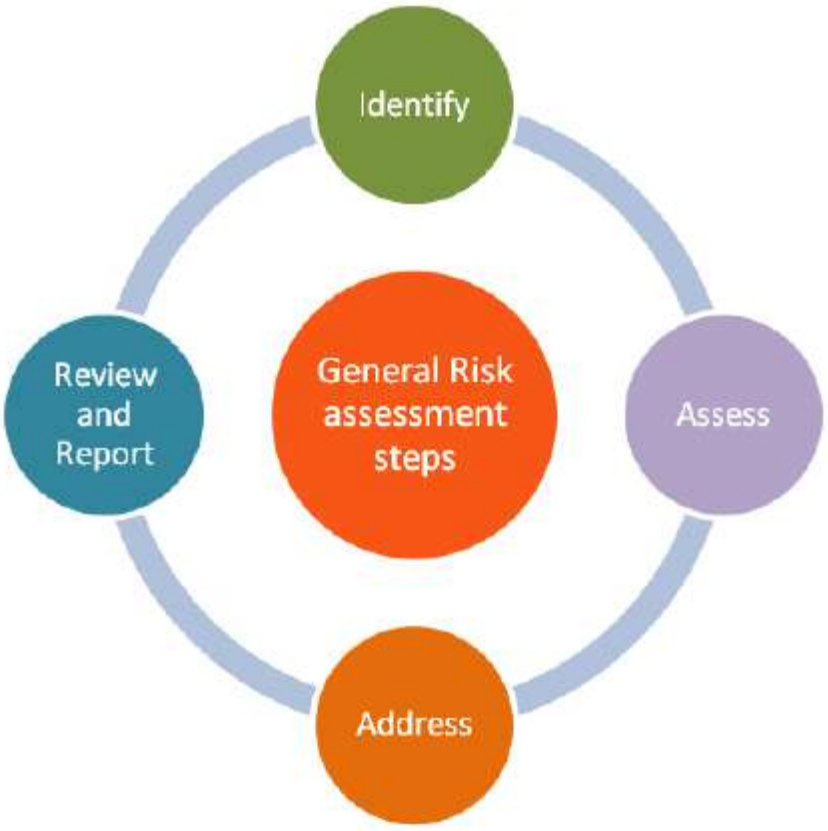
Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Jogalkheda Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at JOGALKHEDA SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on JOGALKHEDA SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Kolambe Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Kolambe sand spot	Latitude	Longitude
BP 1	21°10'9.40"N	75°21'15.31"E
BP 2	21°10'8.17"N	75°21'16.54"E
BP 3	21°10'3.57"N	75°21'11.24"E
BP 4	21°10'4.75"N	75°21'10.10"E

(iii) Size of the Mining Lease (Hectare): 1.03 HA

(vi) Capacity of Mining Lease (TPA): 1529 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 62.32204 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. 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, 2.69Km,East
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	 Chawalkheda Rail.Station,15.9Km, South NH52, 36.2Km, West SH186, 28.76Km,East 8.9Km,W 1.05Km, SW 0.46Km, SW Nil Tapi River Bed

	In-take for drinking water pump house Intake for Irrigation canal pumps	Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH186, 28.76Km,East 8.9Km,W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Kolambe, 0.85Km, NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
16	Whether the proposal involves approval or	No

	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.	
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Kolambe is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Kolambe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 28 KM towards SE from District headquarters Jalgaon. 10 KM from Chopda. 344 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 528km in SW direction. Jalgaon Railway Station is present at a distance of 26 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Kolambe Village, Tehsil-Chopda Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Kolambe</th><th>Latitude</th><th>Longitude</th></tr>
</table>
</td></tr>
</table>

Environmental Management Plan

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

	<table><tr><td>B.P 1</td><td>21°10'9.40"N</td><td>75° 21'15.31"E</td></tr><tr><td>B.P 2</td><td>21°10'8.17"N</td><td>75° 21'16.54"E</td></tr><tr><td>B.P 3</td><td>21°10'3.57"N</td><td>75° 21'11.24"E</td></tr><tr><td>B.P 4</td><td>21°10'4.75"N</td><td>75° 21'10.10"E</td></tr></table>
Sand spot area (In Ha)	1.03
Proposed production capacity (In Brass)	1529
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	**10.56 KLD – Tankers from nearby village.**
Project cost INR (Lakh)	62.32204

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 2m from 148 to 146 MSL. The slope of Sand Spot area towards SW side. The highest MSL is 148 & lowest 146 MSL. The flow of Tapi River towards SW direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 1m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.6m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 1m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.03	1.03	---	1.03
2	Area under dump	NIL	---	---	---	

3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			1.03	1.03		1.03

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Kolambe EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	125000
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	79200
		Road Construction	Road Construction from Quarry to Access Road	132000
		Air Environment	Dust Supression by Regular water spraying.	79200
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	30000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	60720
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	66000
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	264000
			Green belt along bank(For Green Belt Development)	103000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000

13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	1871520
			Capital Cost	1314620
			Recurring Cost	556900

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background

- Invisible Ink Mark
- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Kolambe -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be

monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

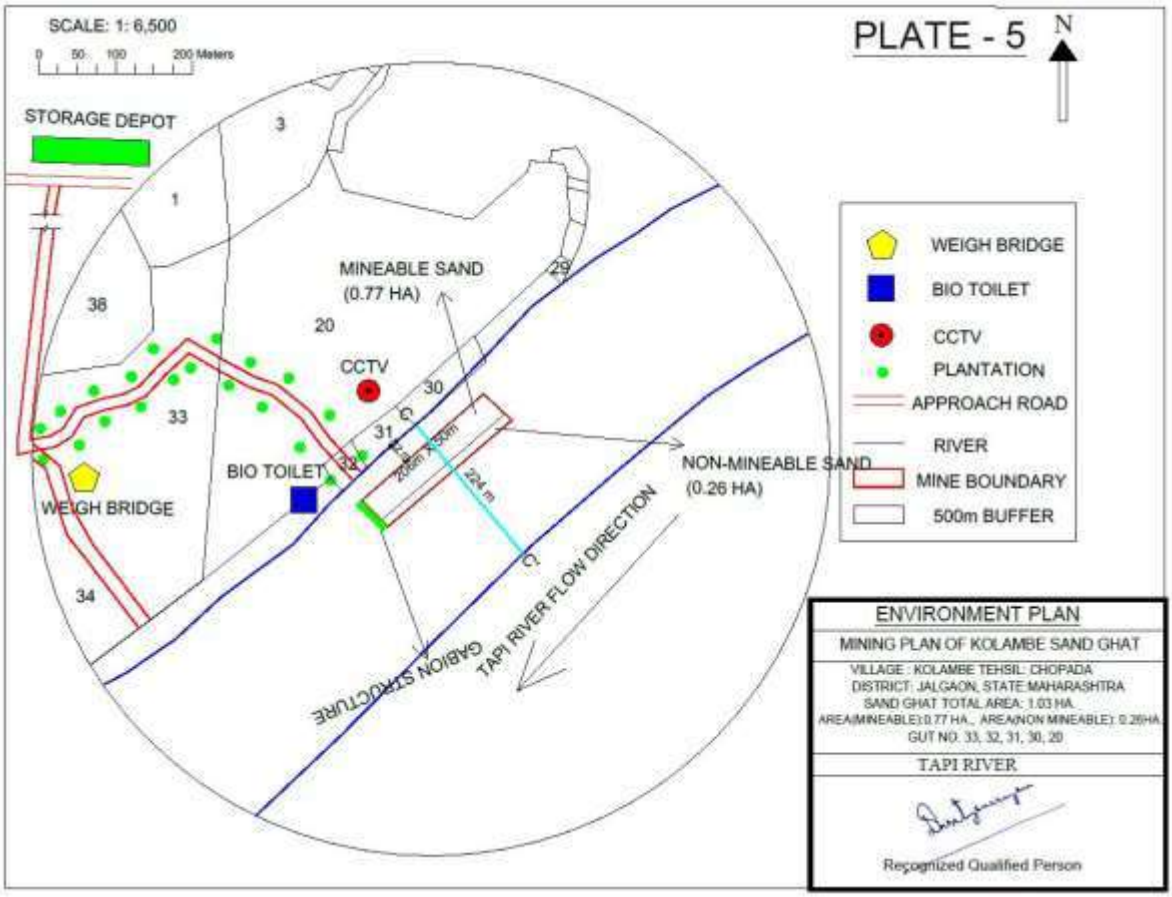
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Kolambe sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.



P to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 528 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Chopda Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.

Cross section of river bed is shown below:

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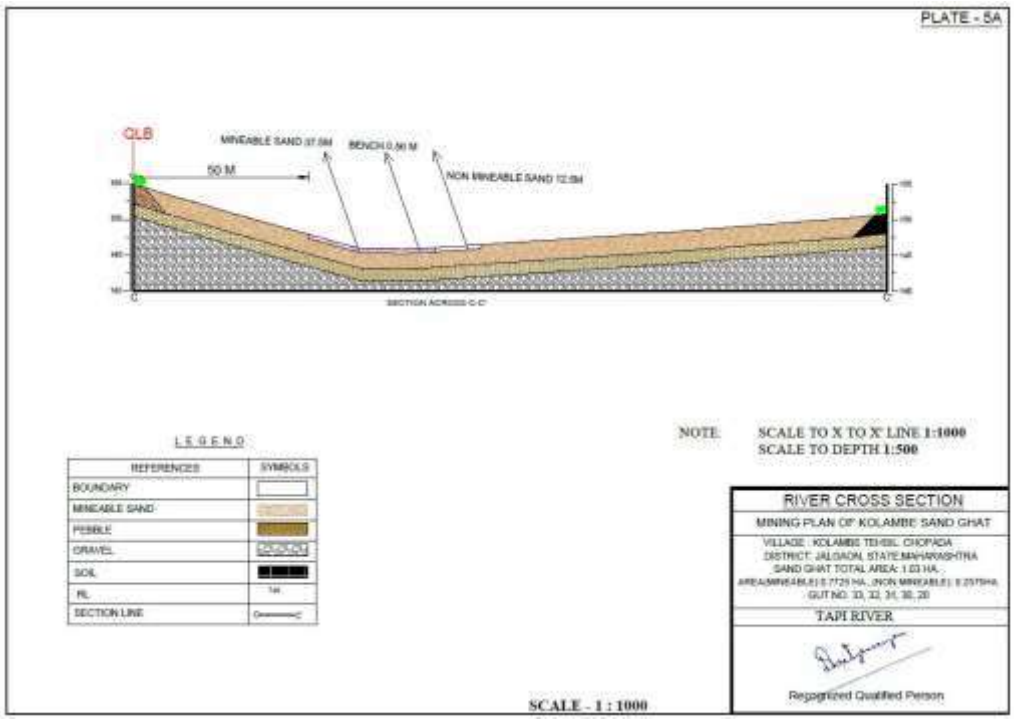
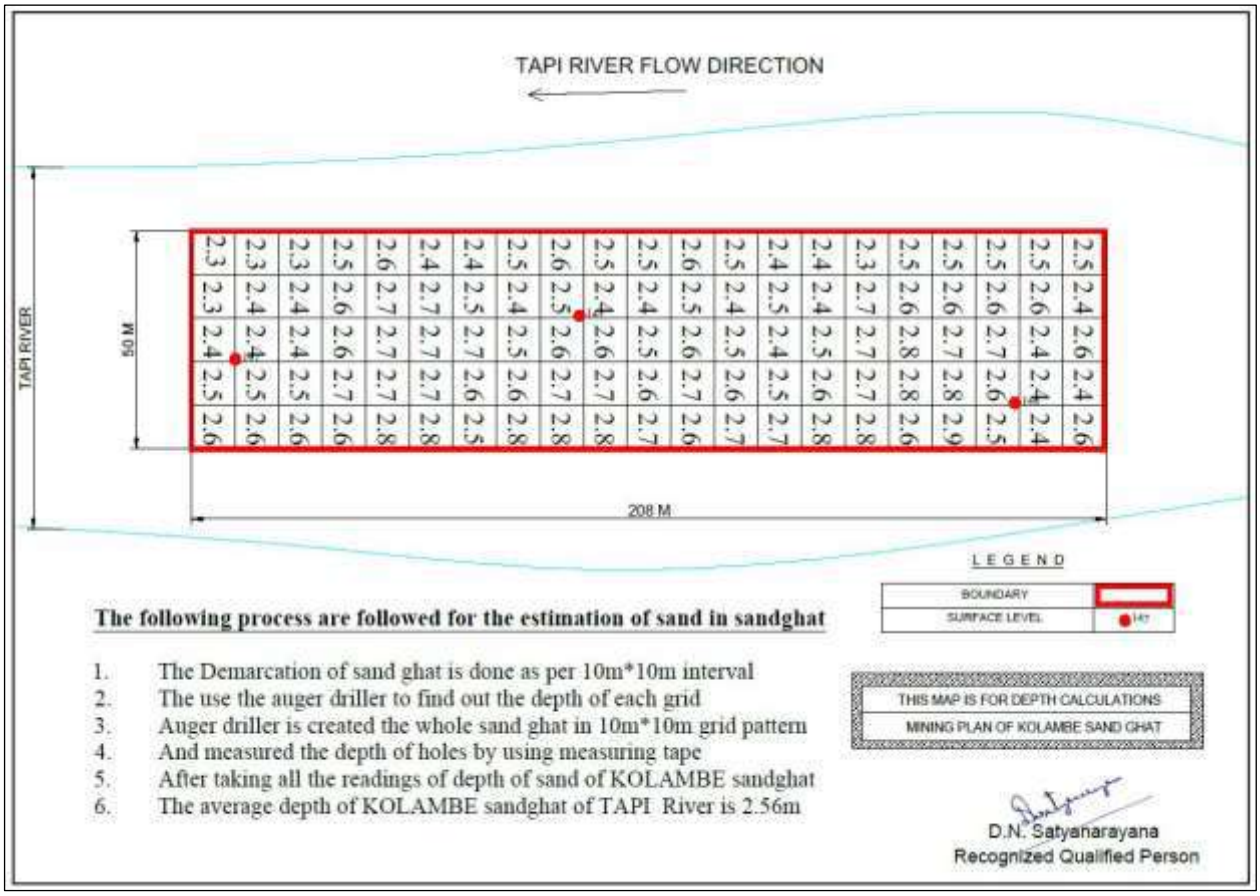


4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



The following process are followed for the estimation of sand in sandghat

1. The Demarcation of sand ghat is done as per 10m*10m interval
2. The use the auger driller to find out the depth of each grid
3. Auger driller is created the whole sand ghat in 10m*10m grid pattern
4. And measured the depth of holes by using measuring tape
5. After taking all the readings of depth of sand of KOLAMBE sandghat
6. The average depth of KOLAMBE sandghat of TAPI River is 2.56m

6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	1468 Sq.m /annum
No. of plants to be planted	734
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products

Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Environmental Management Plan

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Kolambe Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

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COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

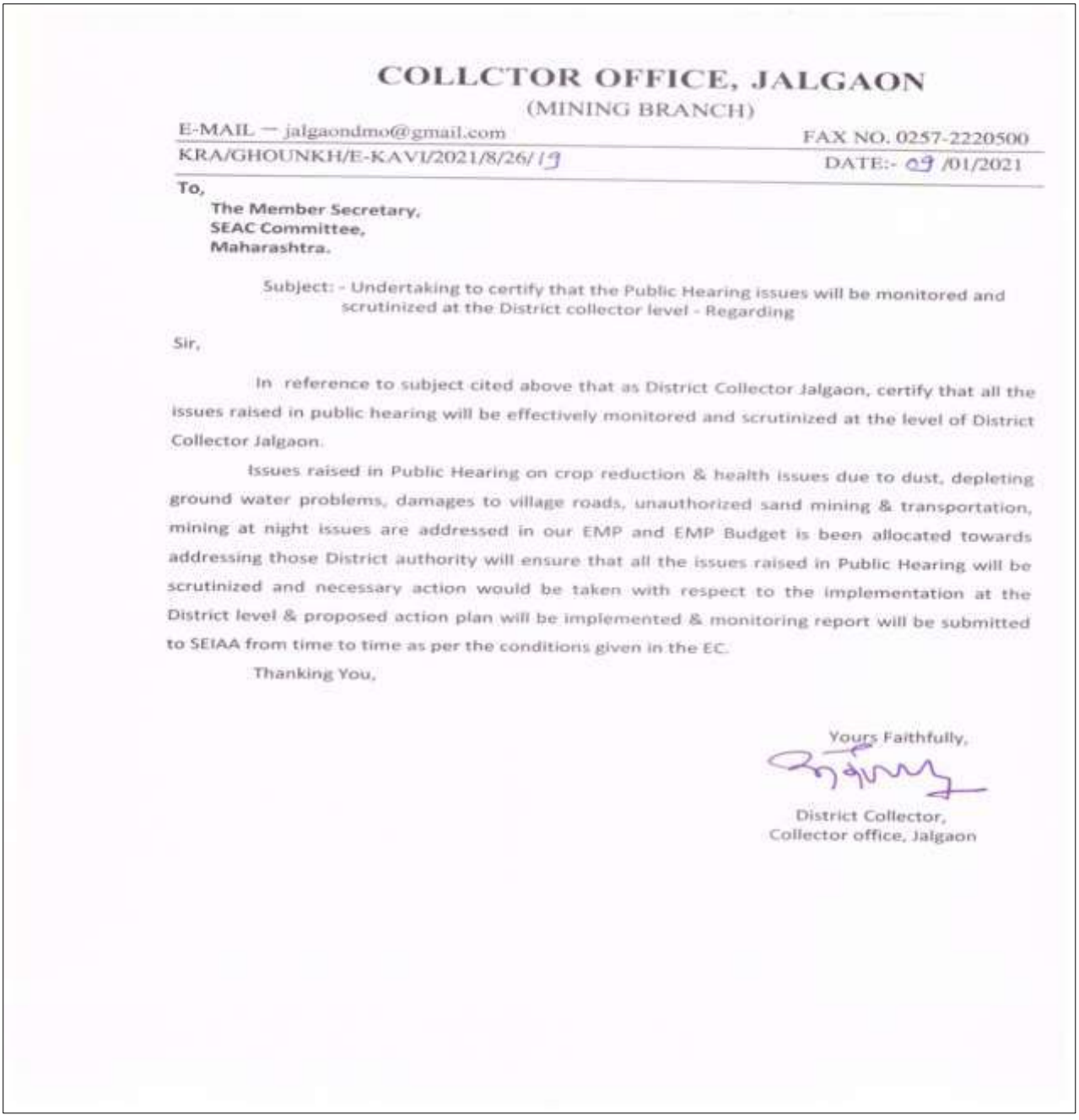
We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

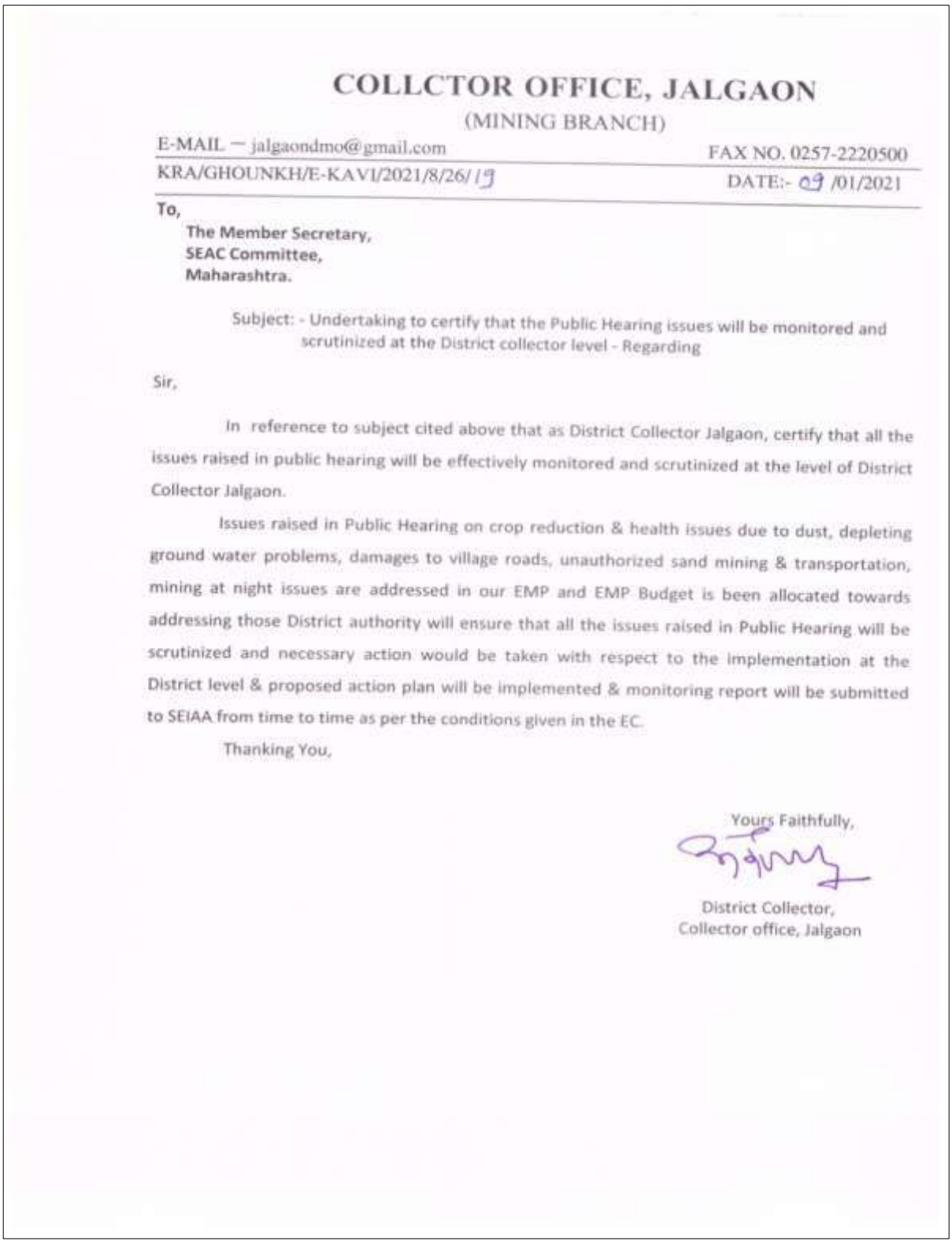
All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

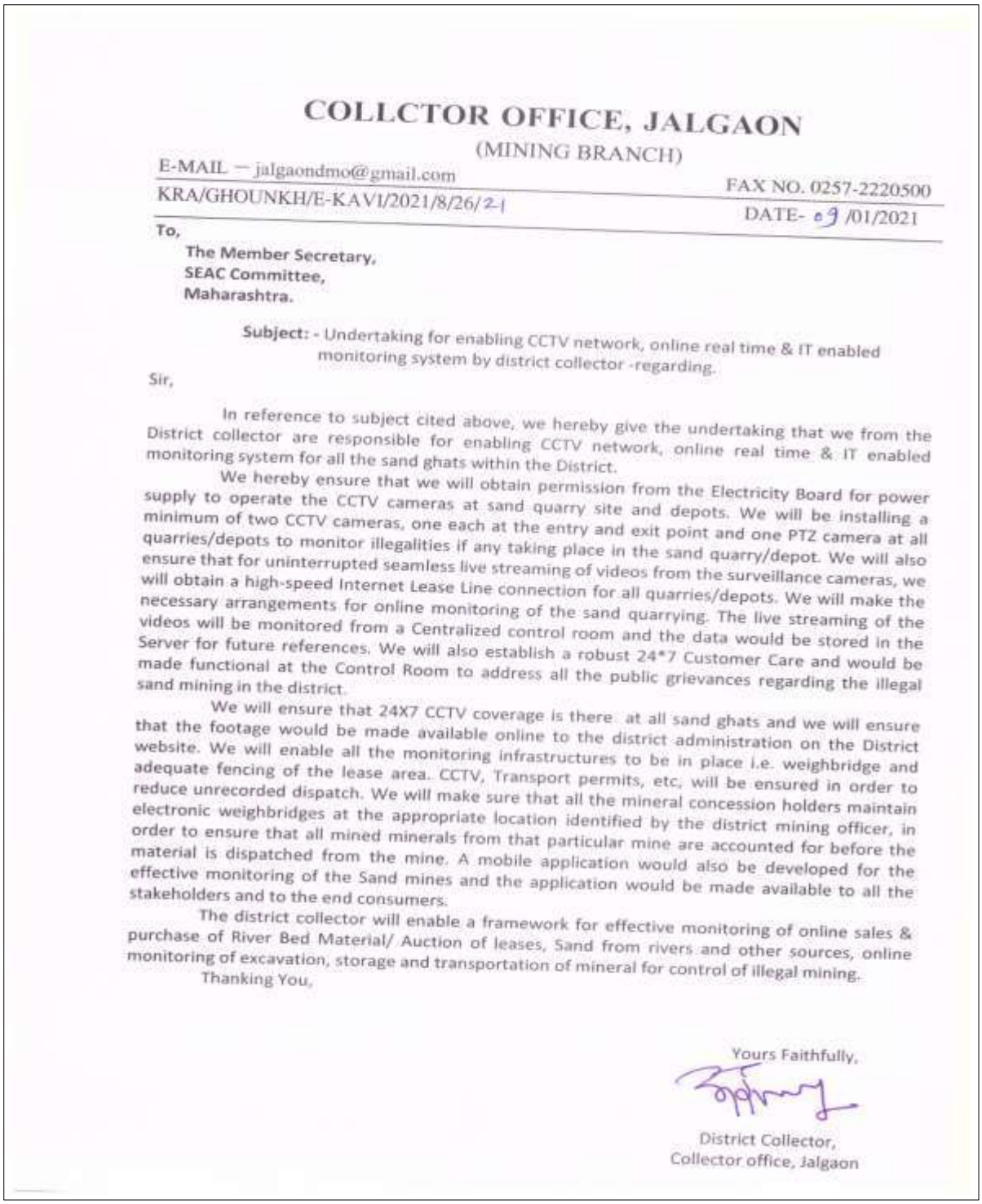
Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Kolambe Sand Spot over an extent of 1.03 HA (MINEABLE AREA-0.7725 HA & NON-MINEABLE AREA-0.2575 HA) At Tapi River Bed Gut No.20, 30, 31, 32 & 33 Kolambe Village, Tehsil-Chopda, Jalgaon District, Maharashtra.



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.03 Ha (0.7725 Ha. Mineable & 0.2575 Ha. Non-Mineable 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 1529 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh.

The slope is of 2m from 148 to 146 MSL. The slope of Sand Spot area towards SW side. The highest MSL is 148 & lowest 146 MSL. The flow of Tapi River towards SW direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.6 -meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.56 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 4326 Cu. M or 1529 brass i.e. 1 year from date mining plan approval. The size of pit at the end will be 1.03 HA (Mineable Area-0.7725 HA & Non-Minaeable Area 0.2575HA)Ha.

4. Introduction of the project/ background information

The Bhokari Sand Spot has been kept for Auction which is situated at Village Bhokari, Taluka Muktainagar, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 4326 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.56 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Kolambe is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Kolambe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 28 KM towards SE from District headquarters Jalgaon. 10 KM from Chopda. 344 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 528km in SW direction. Jalgaon Railway Station is present at a distance of 26 km.

Area covered in SOI Toposheet No- 46O/8. The GPS reading of boundary point are given below:

Boundary points of KOLAMBE	Latitude	Longitude
B.P 1	21°10'9.40"N	75° 21'15.31"E

B.P 2	21°10'8.17"N	75° 21'16.54"E
B.P 3	21°10'3.57"N	75° 21'11.24"E
B.P 4	21°10'4.75"N	75° 21'10.10"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 4326 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 206 m L X 37.5 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 4326 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of

sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 10.56 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Kolambe is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Kolambe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 28 KM towards SE from District headquarters Jalgaon. 10 KM from Chopda. 344 KM from State capital Mumbai.
The sand spot area is connected to approached road at a distance of 528km in SW direction. Jalgaon Railway Station is present at a distance of 26 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.03 Ha. will be consisting of

1. Mining Area :	1.03 Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.03 Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.6 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

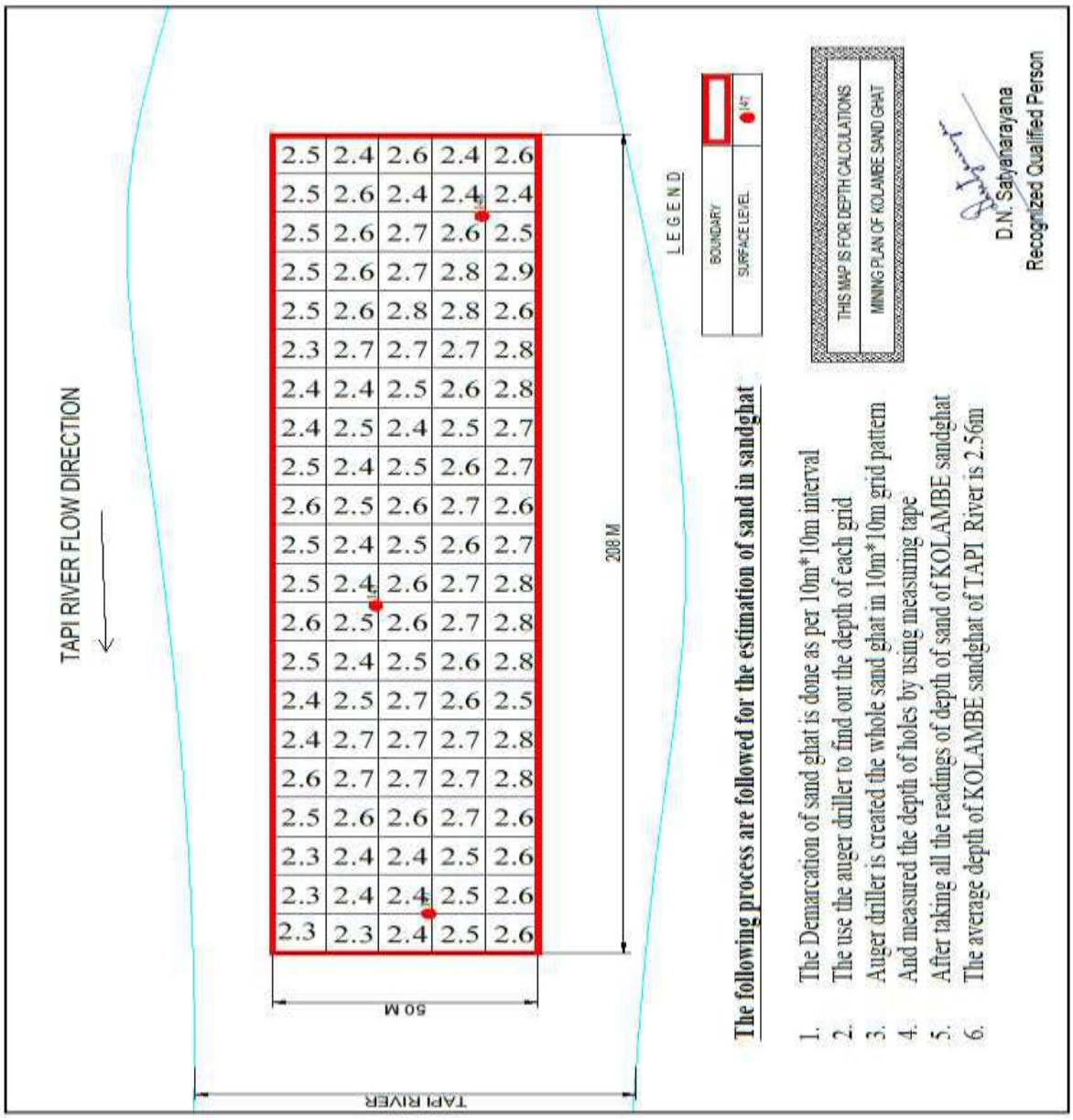
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearance

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine

Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any

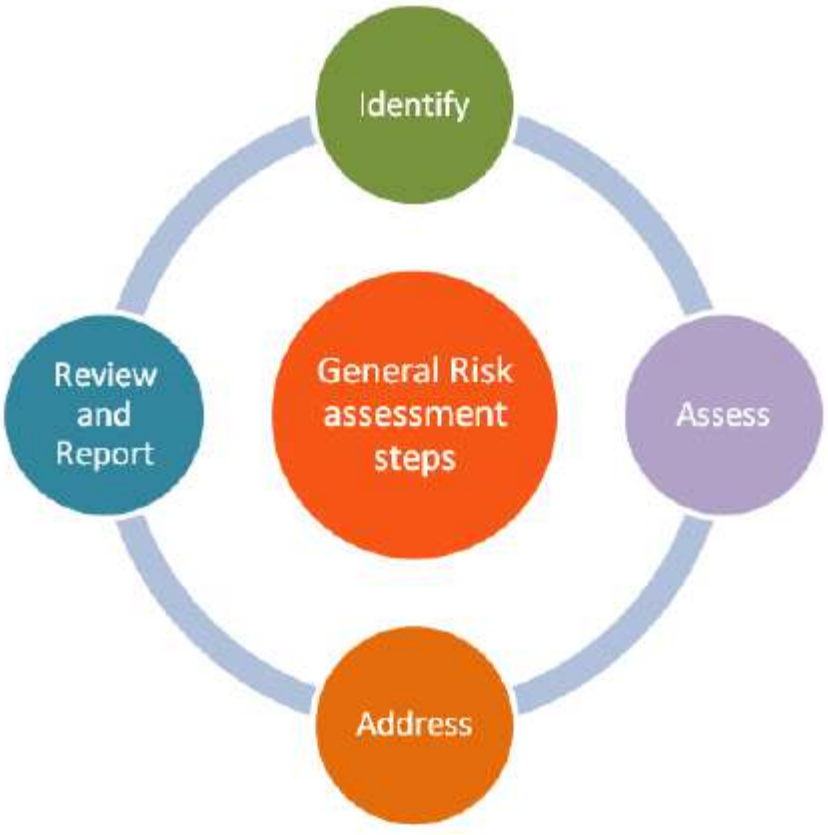
other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Kolambe Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at KOLAMBE SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on KOLAMBE SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Pardhade Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Pardhade sand spot	Latitude	Longitude
BP 1	20°44'35.00"N	75°22'53.00"E
BP 2	20°44'36.00"N	75°22'50.00"E
BP 3	20°44'39.00"N	75°22'51.00"E
BP 4	20°44'39.00"N	75°22'54.00"E

(iii) Size of the Mining Lease (Hectare): 1.06 HA

(vi) Capacity of Mining Lease (TPA): 1823 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 74.30548 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. 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, 0.95Km,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	 Pardhade Rail.Station,1.6Km, SW NH6, 25.2Km, North SH19, 9.3 Km, SE 8.9Km,W 1.08Km, SW 0.72Km, SW Nil Girna River Bed

	In-take for drinking water pump house Intake for Irrigation canal pumps	Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Girna River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Girna River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH19, 9.3 Km, SE 8.9Km,W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Pardhade, 1.05Km, NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Girna River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
16	Whether the proposal involves approval or	No

	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.	
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Pardhade is a small Village/hamlet in Pachora Taluka in Jalgaon District of Maharashtra State, India. It comes under Pardhade Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 53 KM towards NE from District headquarters Jalgaon. 2.5 KM from Pachora. 305 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 233km in SW direction. Jalgaon Railway Station is present at a distance of 16 km

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Pardhade</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>20°44'35.00"N</td><td>75°22'53.00"E</td></tr>
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Environmental Management Plan

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

	B.P 3 20°44'39.00"N 75°22'51.00"E B.P 4 20°44'39.00"N 75°22'54.00"E
Sand spot area (In Ha)	1.06
Proposed production capacity (In Brass)	1823
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	**2.06 KLD – Tankers from nearby village.**
Project cost INR (Lakh)	74.30548

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Girna River Which is tributary of Tapi River. The Tapi river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 3m from 227 to 230 MSL. The slope of Sand Spot area towards SW side. The highest MSL is 230 & lowest 227 MSL. The flow of GIRNA River towards SW direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 1m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 1m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 1m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.06	1.06	---	1.06
2	Area under dump	NIL	---	---	---	

3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			1.06	1.06		1.06

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Pardhade EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	245000
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	15450
		Road Construction	Road Construction from Quarry to Access Road	25750
		Air Environment	Dust Supression by Regular water spraying.	15450
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	30000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	11845
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	12875
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	51500
			Green belt along bank(For Green Belt Development)	54000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000

13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	1394270
			Capital Cost	897995
			Recurring Cost	496275

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background

- Invisible Ink Mark
- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Pardhade -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be

monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

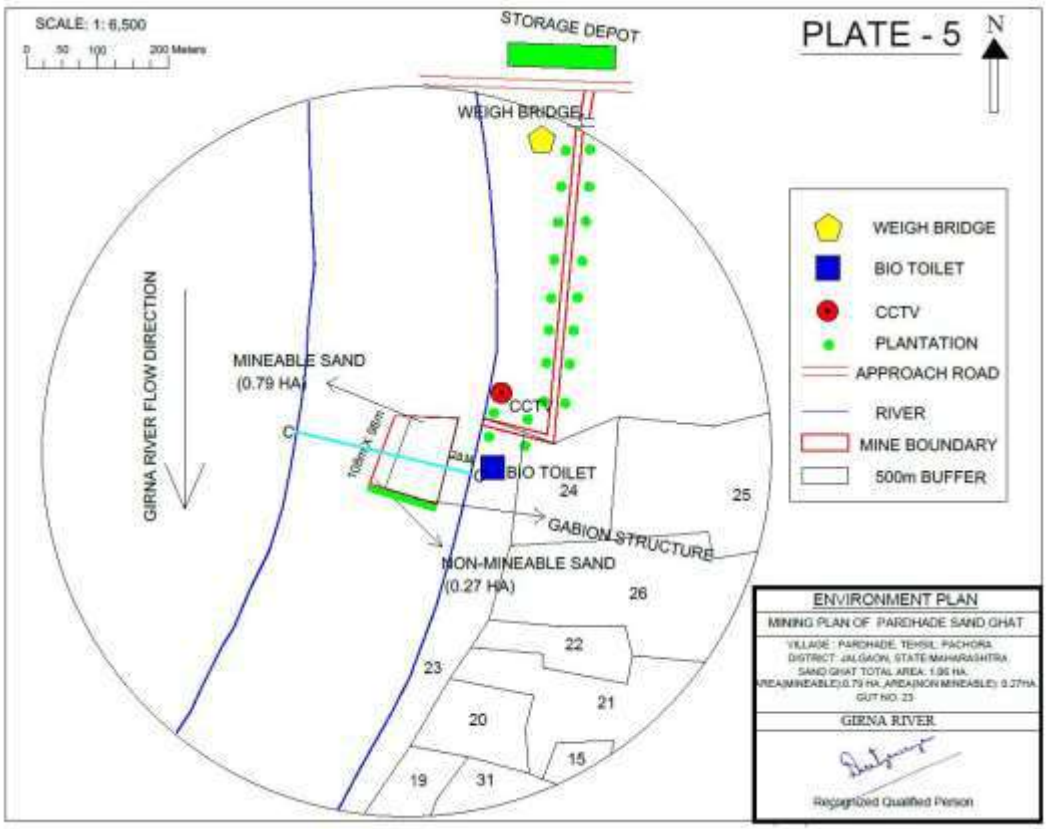
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Pardhade sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.



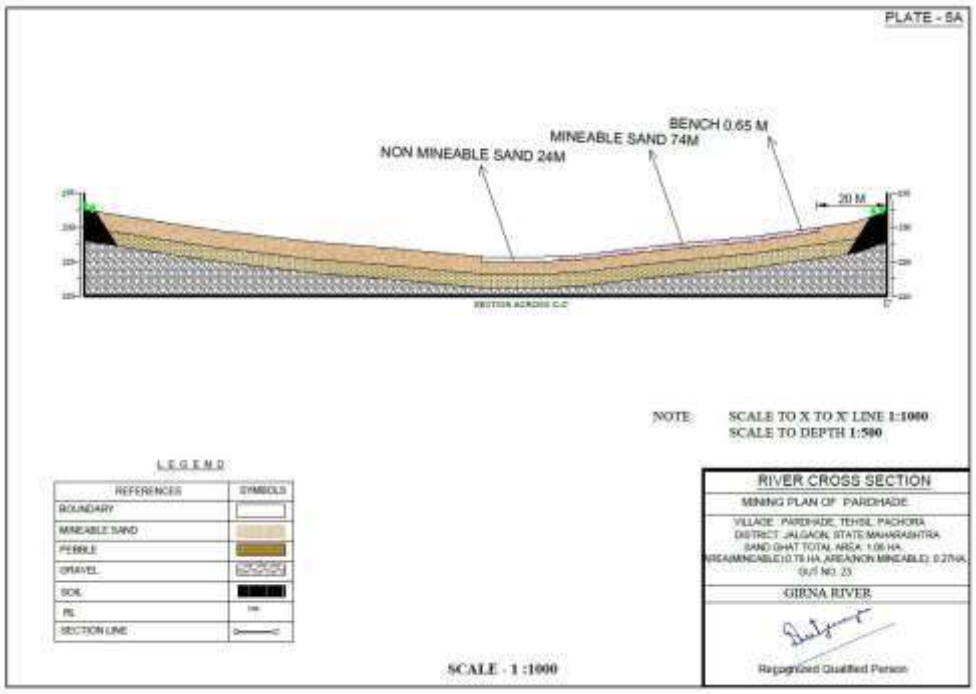
P to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 103 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Pachora Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.

Cross section of river bed is shown below:

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

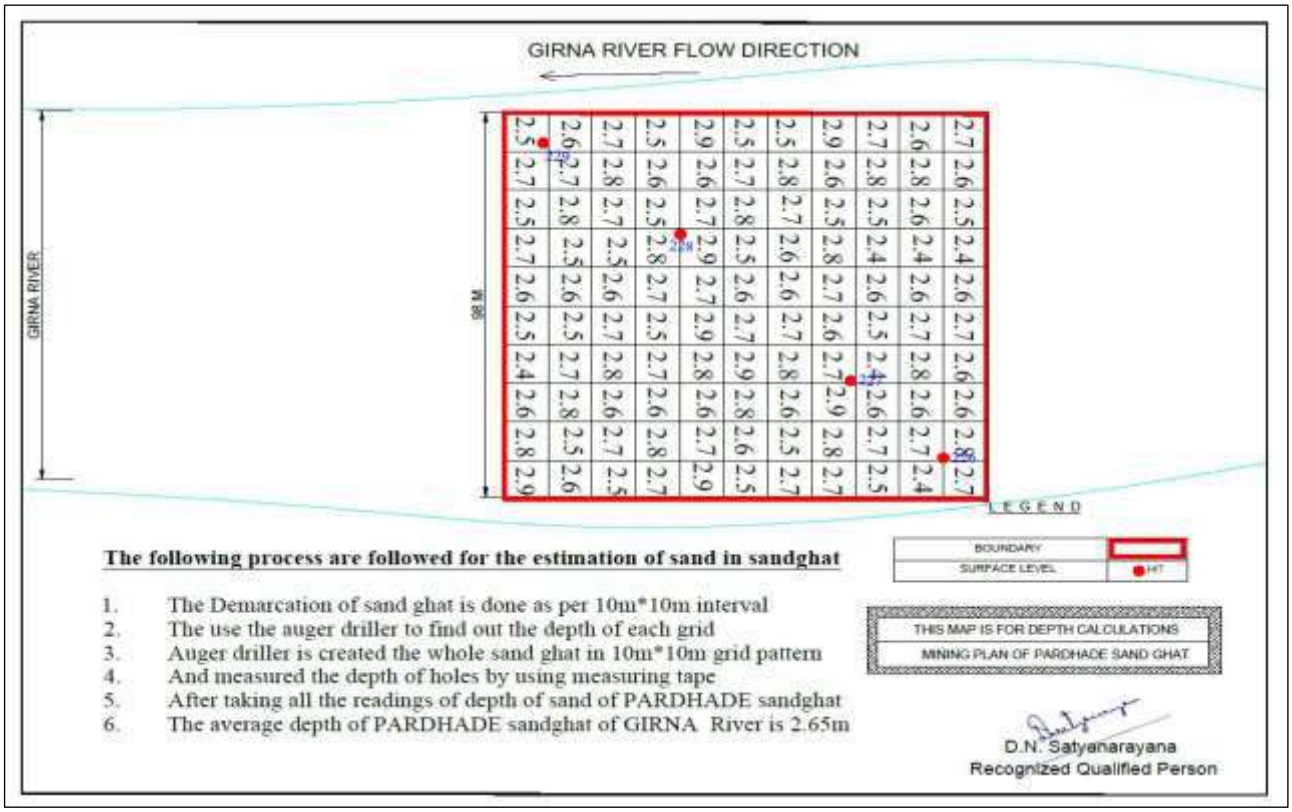


4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



The following process are followed for the estimation of sand in sandghat

1. The Demarcation of sand ghat is done as per 10m*10m interval
2. The use the auger driller to find out the depth of each grid
3. Auger driller is created the whole sand ghat in 10m*10m grid pattern
4. And measured the depth of holes by using measuring tape
5. After taking all the readings of depth of sand of PARDHADE sandghat
6. The average depth of PARDHADE sandghat of GIRNA River is 2.65m

6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	422 Sq.m /annum
No. of plants to be planted	211
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Pardhade Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

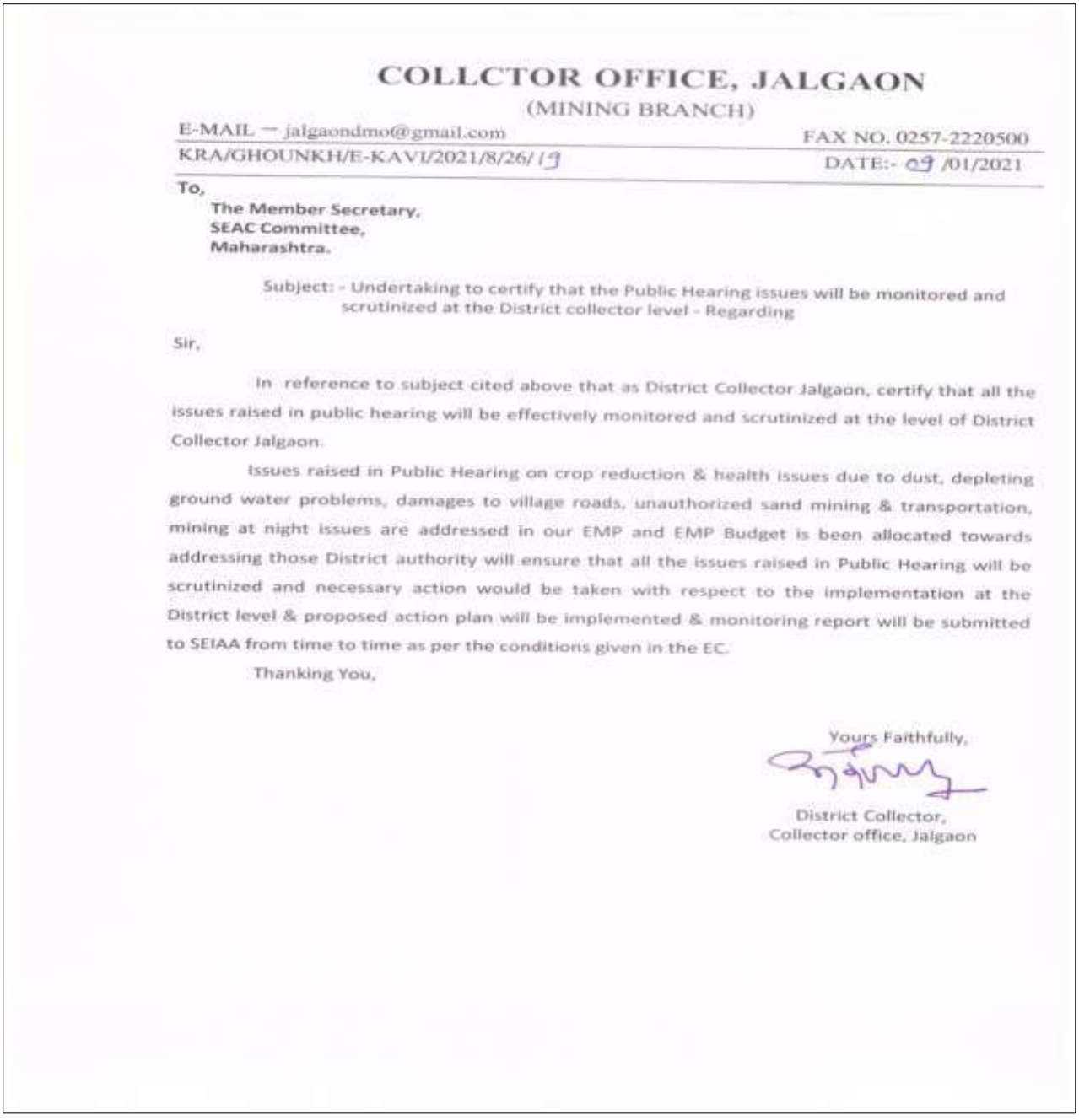
We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.



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(MINING BRANCH)

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KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.

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KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

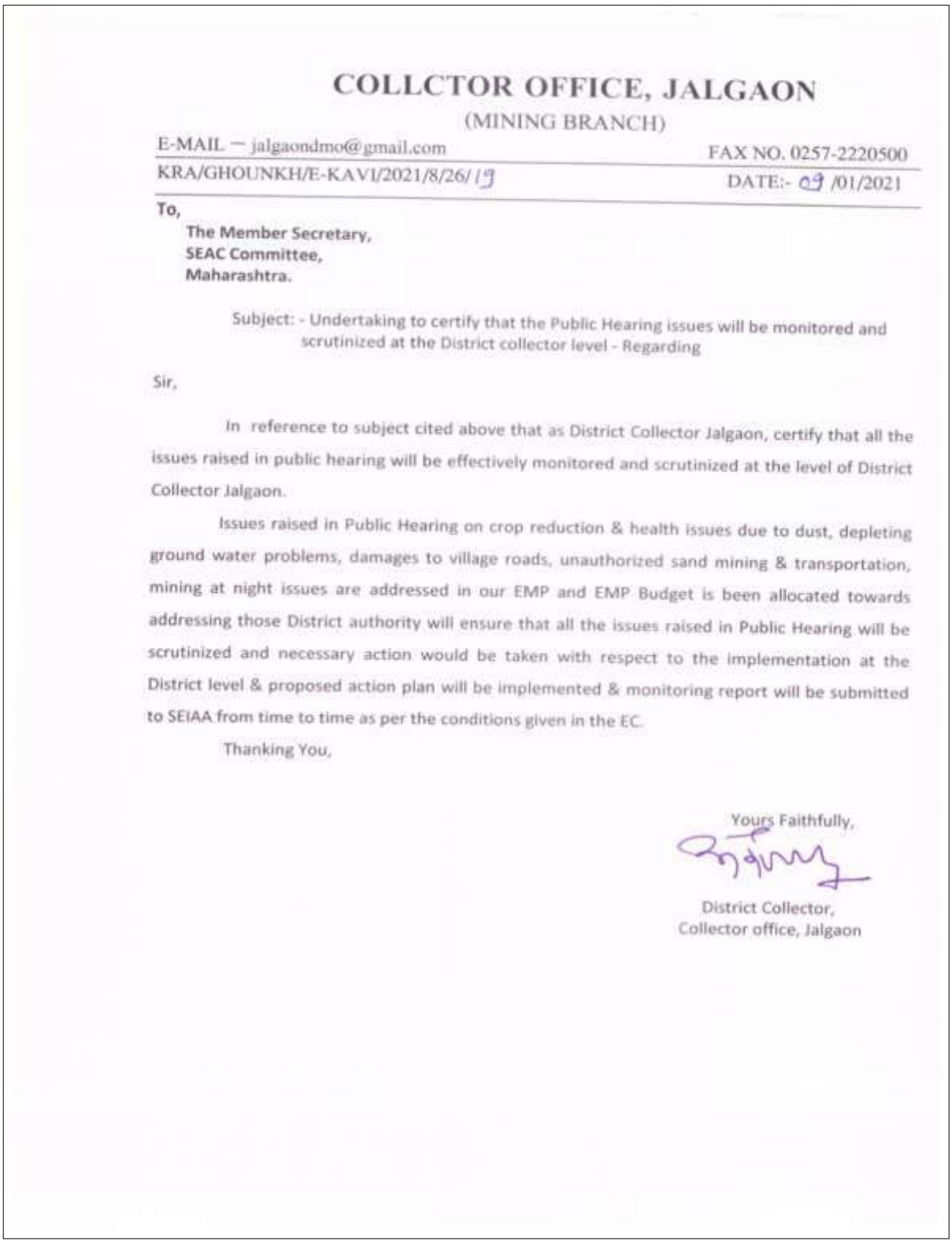
All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.



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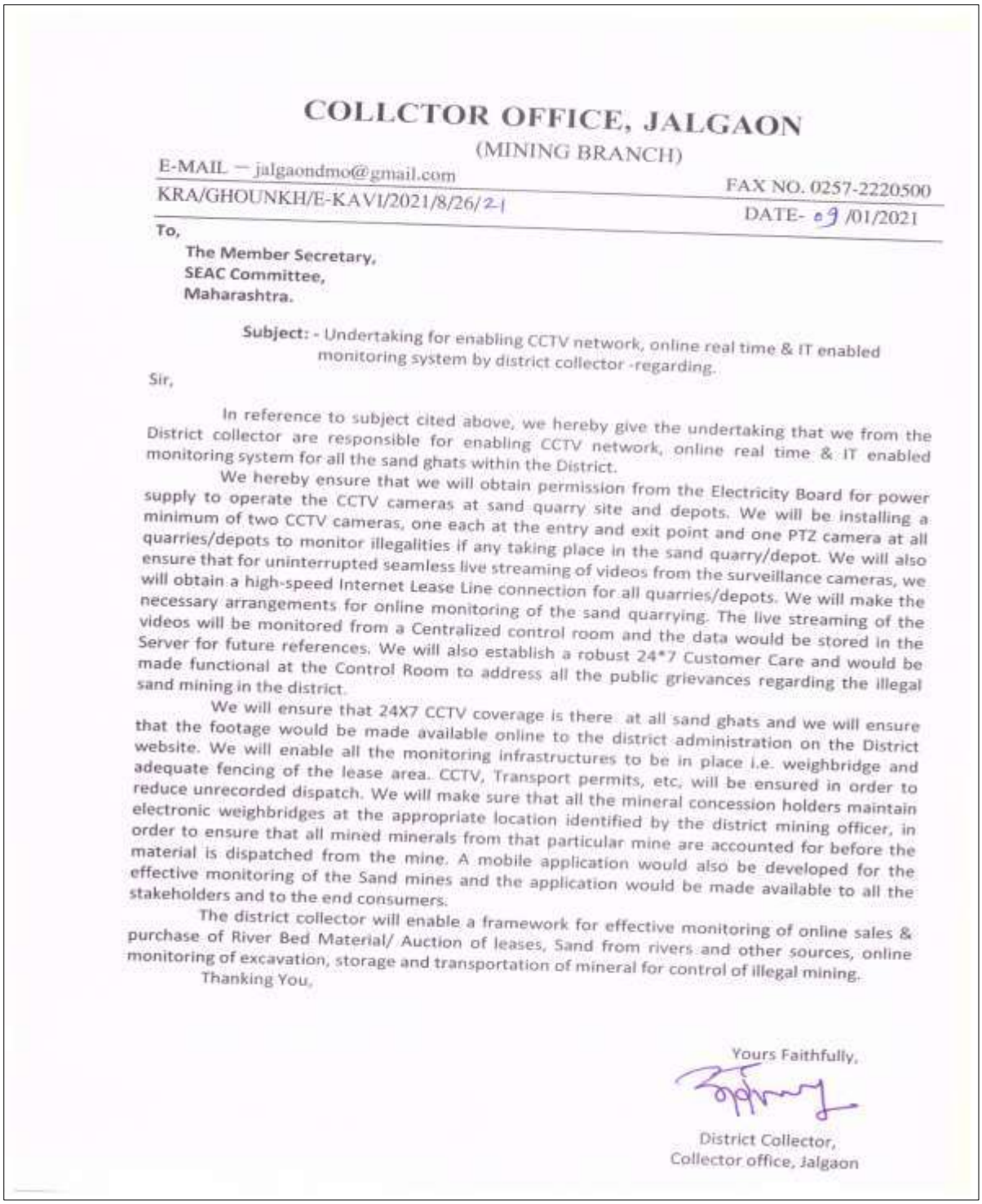
Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Pardhade Sand Spot over an extent of 1.06 HA (MINEABLE AREA-0.79HA & NON-MINEABLE AREA-0.27HA) At Girna River Bed Gut No.23 Pardhade Village, Tehsil-Pachora, Jalgaon District, Maharashtra.



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.06Ha (0.795 Ha. Mineable & 0.265 Ha. Non-Mineable 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 1823 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Girna river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Girna River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the GIRNA river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 3m from 227 to 230 MSL. The slope of Sand Spot area towards SW side. The highest MSL is 230 & lowest 227 MSL. The flow of GIRNA River towards SW direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.2-2.7-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.65 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 5159.7 Cu. M or 1823 brass i.e. 1 year from date mining plan approval. The size of pit at the end will be 1.06HA (Mineable Area-0.795 HA & Non-Mineable Area 0.265Ha).

4. Introduction of the project/ background information

The Pardhade Sand Spot has been kept for Auction which is situated at Village Pardhade, Taluka Pachora, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 5159.7 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.65 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

PARDHADE is a small Village/hamlet in PACHORA Taluka in Jalgaon District of Maharashtra State, India. It comes under PARDHADE Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 40KM from District headquarters Jalgaon. 10 KM from PACHORA. 336 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 103m in East direction, these road is further connected to Jalgaon city. Jalgaon Railway Station is present at a distance of 42 km.

Area covered in SOI Toposheet No- 46P/6. The GPS reading of boundary point are given below:

Boundary points of PARDHADE	Latitude	Longitude
B.P 1	20°44'35.00"N	75°22'53.00"E
B.P 2	20°44'36.00"N	75°22'50.00"E
B.P 3	20°44'39.00"N	75°22'51.00"E
B.P 4	20°44'39.00"N	75°22'54.00"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 5159.7 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 108 m L X 73.5m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 5159.7 Cu.m for a specified period mentioned i.e. 1 year from the date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.65 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 2.06 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

PARDHADE is a small Village/hamlet in PACHORA Taluka in Jalgaon District of Maharashtra State, India. It comes under PARDHADE Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 40KM from District headquarters Jalgaon. 10 KM from PACHORA. 336 KM from State capital Mumbai.
The sand spot area is connected to approached road (Bhokar road) at a distance of 103m in East direction, these road is further connected to Jalgaon city. Jalgaon Railway Station is present at a distance of 42 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.06Ha. will be consisting of

1. Mining Area :	1.06Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.06Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.9 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

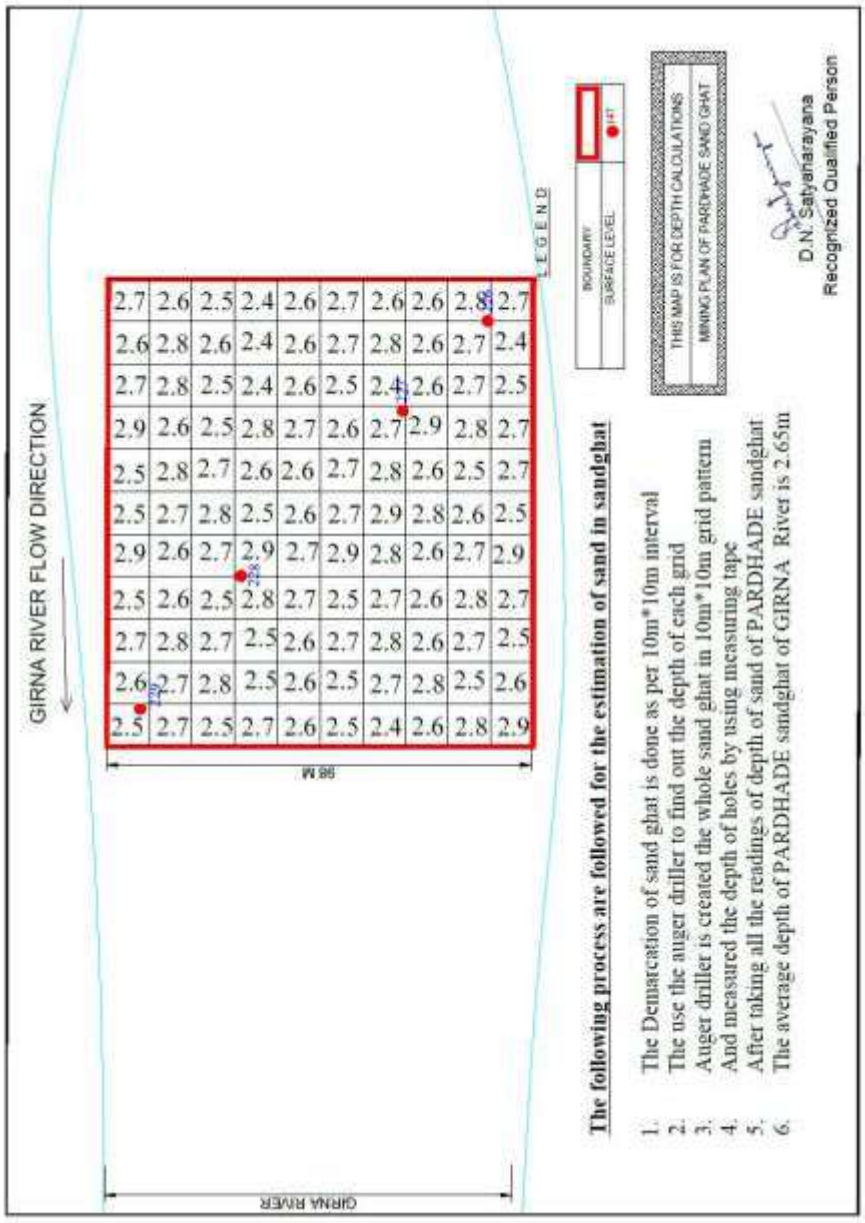
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearance

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar,

Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any

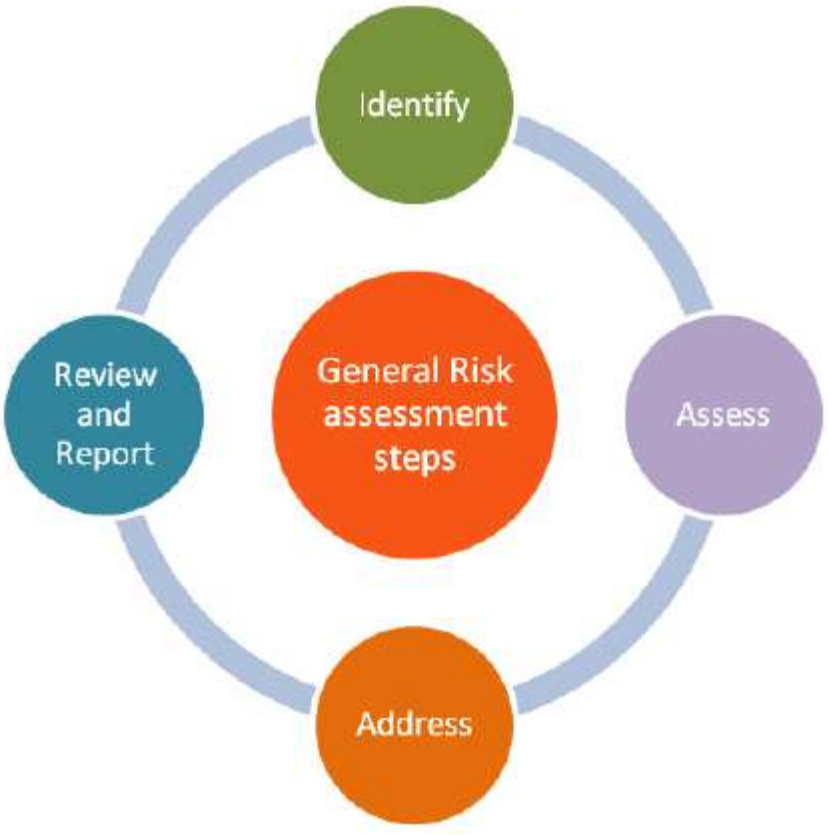
other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Pardhade Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at PARDHADE SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on PARDHADE SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Pimpri Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Pimpri sand spot	Latitude	Longitude
B.P 1	21°10'6.92"N	75°27'9.73"E
B.P 2	21°10'7.44"N	75°27'11.04"E
B.P 3	21°10'2.48"N	75°27'13.15"E
B.P 4	21° 9'57.94"N	75°27'16.23"E
B.P 5	21° 9'57.34"N	75°27'14.99"E
B.P 6	21°10'1.93"N	75°27'11.83"E

(iii) Size of the Mining Lease (Hectare): 1.353 HA

(vi) Capacity of Mining Lease (TPA): 1972 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project:80.37872 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or roa bridge over the concerned River, Rivulet, Nallal etc.	Bridge, 9.25Km, SE
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road	 Jalgaon Junction,20km, SE NH6, 22.2Km, SE SH186, 9.25Km, SE Bhokar RD, 1.17Km, S 0.60Km, SW

	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	0.52Km, SW Nil Tapi River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH186, 9.25Km, SE Bhokar RD, 1.17Km, S
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Kinod, 3.1Km, W
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.

	conditions)	
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Pimpri Sand Spot over an extent of 1.353 HA (MINEABLE AREA-1.01475 HA & NON-MINEABLE AREA-0.3383 HA) At Tapi River Bed Gut No.45, 46, 51 & 52 Pimpri Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Pimpri is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Pimpri Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 15 KM towards west from District headquarters Jalgaon. 16 KM from Chopda. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 1km in south direction, these road is further connected to Jalgaon city. Jalgaon city is situated at a distance of 15km. Jalgaon Railway Station is present at a distance of 16 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Pimpri Village, Tehsil-Chopda, Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Pimpri</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21°10'6.92"N</td><td>75°27'9.73"E</td></tr>
</table>
</td></tr>
</table>

	<table><tr><td>B.P 2</td><td>21°10'7.44"N</td><td>75°27'11.04"E</td></tr><tr><td>B.P 3</td><td>21°10'2.48"N</td><td>75°27'13.15"E</td></tr><tr><td>B.P 4</td><td>21° 9'57.94"N</td><td>75°27'16.23"E</td></tr><tr><td>B.P 5</td><td>21° 9'57.34"N</td><td>75°27'14.99"E</td></tr><tr><td>B.P 6</td><td>21°10'1.93"N</td><td>75°27'11.83"E</td></tr></table>
Sand spot area (In Ha)	1.353
Proposed production capacity (In Brass)	1972
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	35.74 KLD – Tankers from nearby village.
Project cost INR (Lakh)	80.37872

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 5m from 148 to 153 MSL. The slope of Sand Spot area towards western side. The highest MSL is 153 & lowest 148 MSL. The flow of Tapi River towards western direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.55m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**

1	Area under mining / pit	-	1.353	1.353	---	1.353
2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.353	1.353	1.353

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Pimpri EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	76875
		Road Degradation	Budget for Road Repairs and Maintenance from Approach Road to Main Road	268050
		Road Construction	Road Construction from Quarry to Access Road	446750
		Air Environment	Dust Suppression by Regular water spraying.	268050

			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Check-up of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	5000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	205505
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	223375
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	893500
			Green belt along bank(For Green Belt Development)	165000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoring Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintenance of Vehicles	75000

13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	3484505
			Capital Cost	2465655
			Recurring Cost	1018850

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark

- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Pimpri -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary

measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

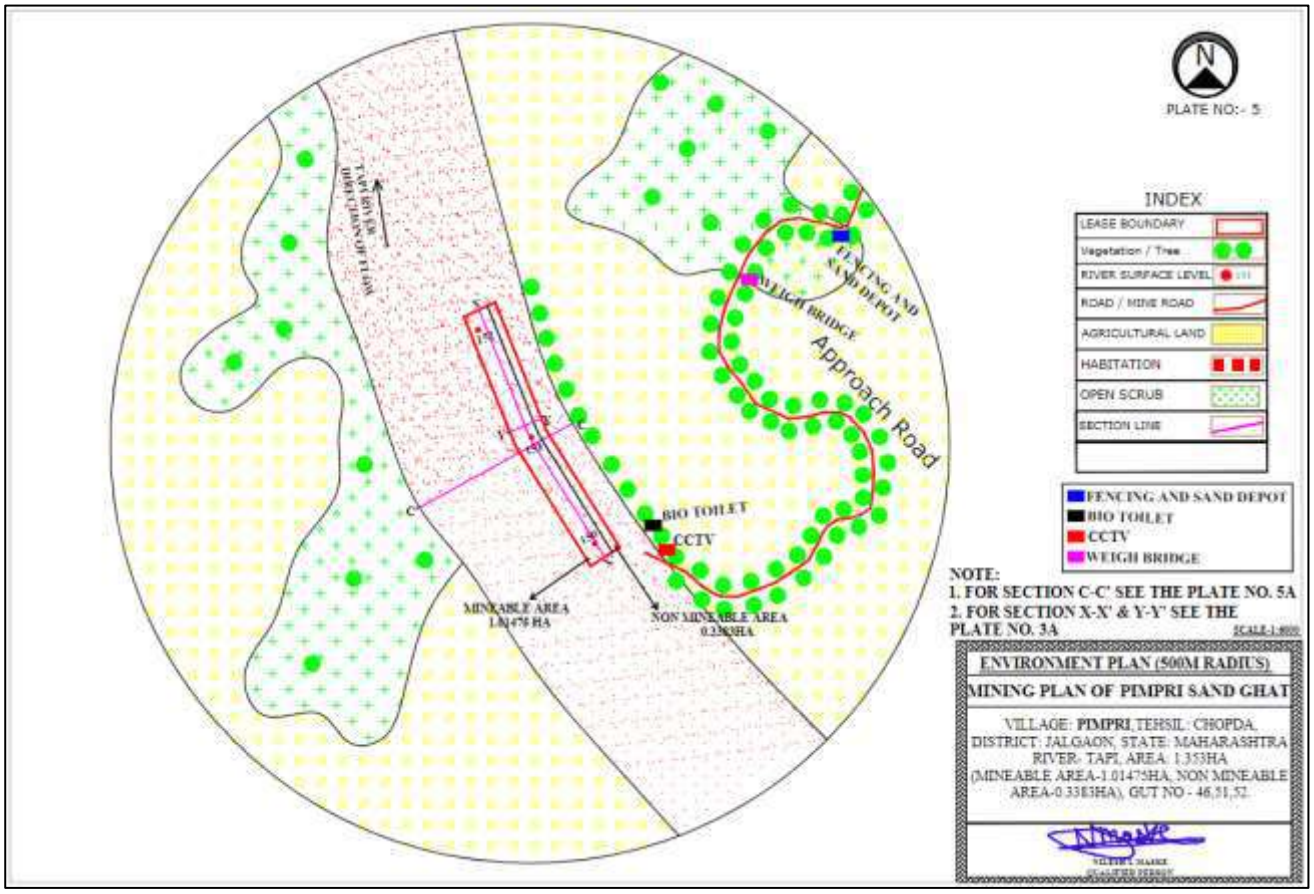
Nil

Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Pimpri sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

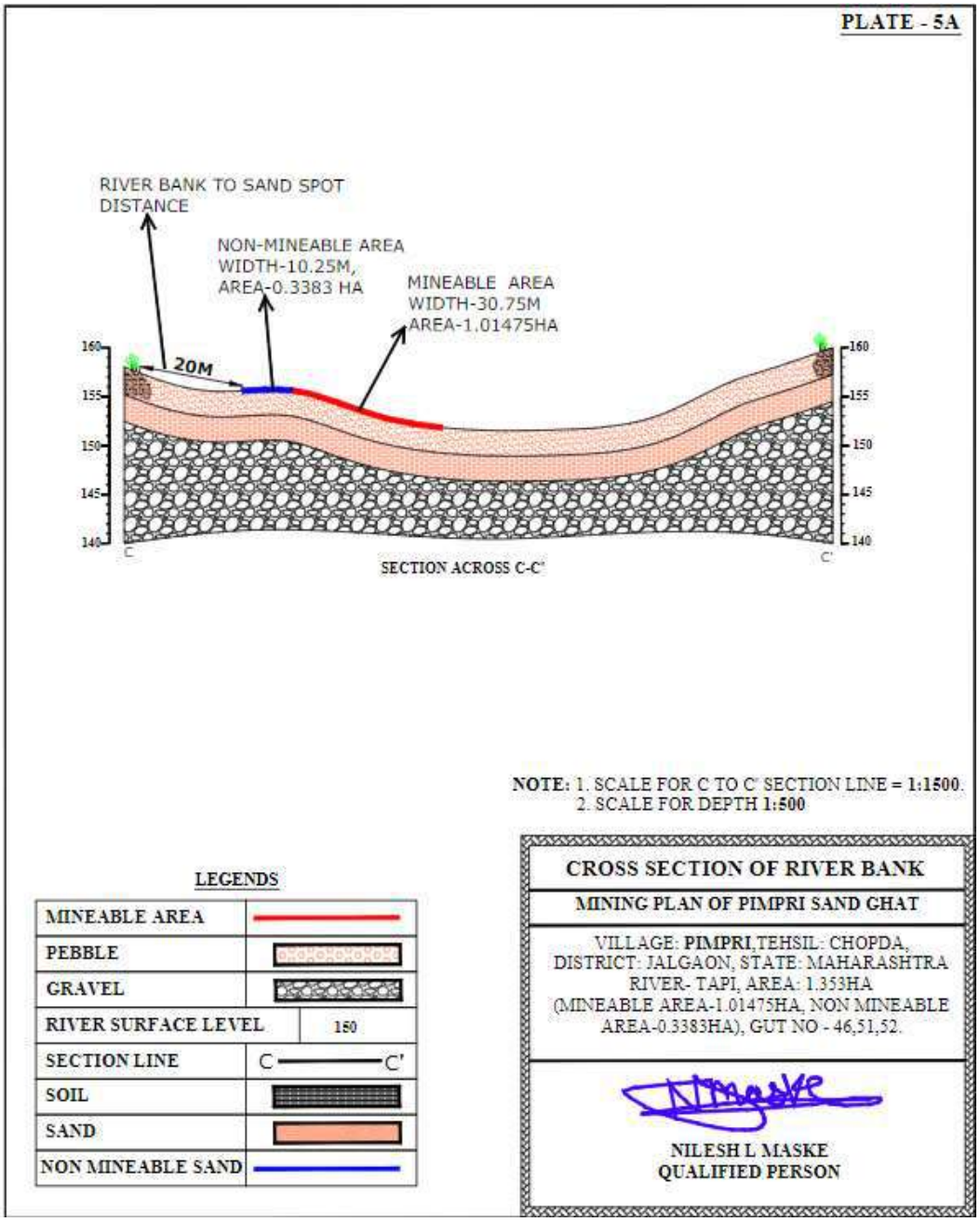


PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 1000 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Chopda Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

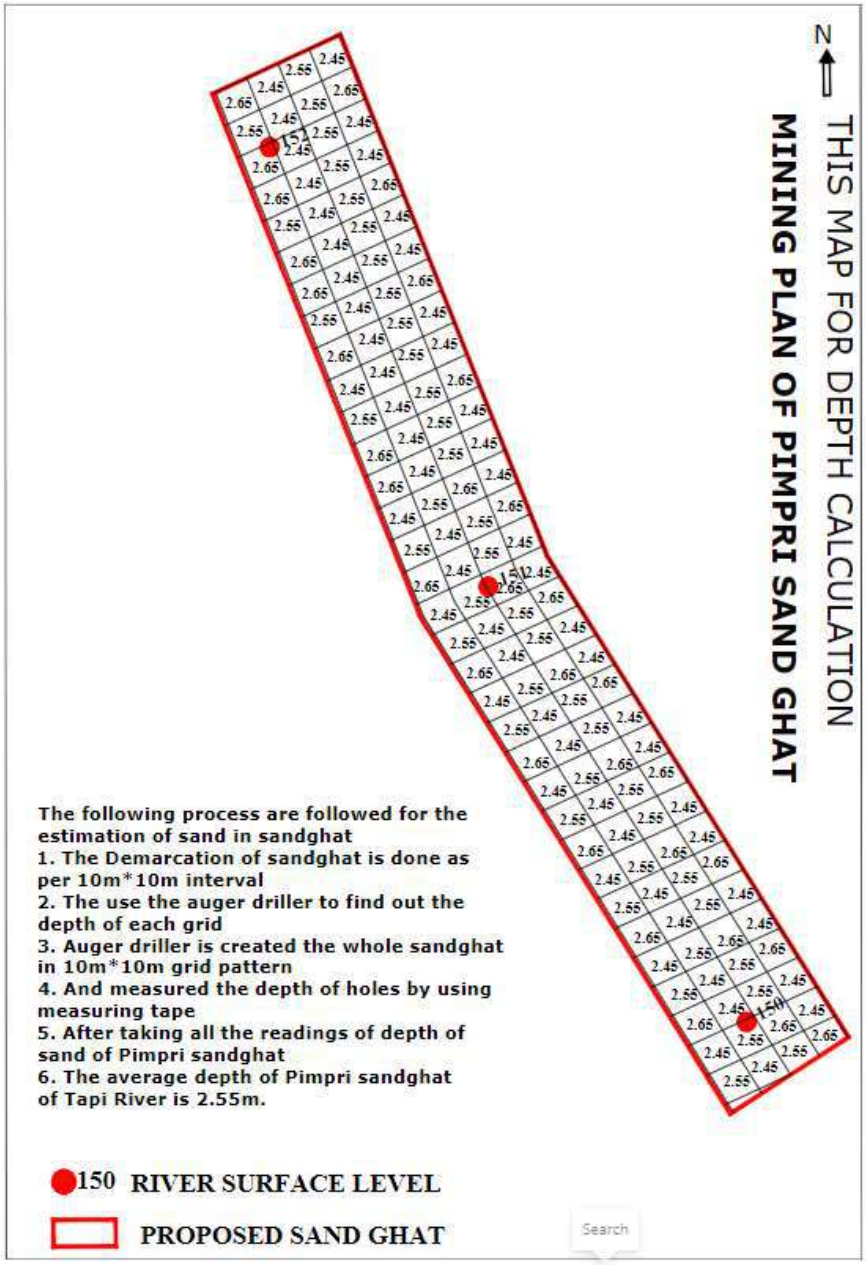
Cross section of river bed is shown below:



4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	4234 Sq.m /annum
No. of plants to be planted	2117 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

OBJ

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the

environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Pimpri Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

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Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.353 Ha (1.01475 Ha . Mineable & 0.3383 Ha . Non-Mineable 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 1972 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh.

The slope is of 5m from 148 to 153 MSL. The slope of Sand Spot area towards western side. The highest MSL is 153 & lowest 148 MSL. The flow of Tapi River towards western direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.

Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.55 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 5581 Cu. M or 1972 brass i.e. 1 year (2020-2021 from date mining plan approval The size of pit at the end will be 1.353 HA (Mineable Area-1.01475 HA & Non-Minaeable Area 0.3383HA).

4. Introduction of the project/ background information

The Pimpri Sand Spot has been kept for Auction which is situated at Village Pimpri, Taluka Chopda, and District Jalgaon and hence prior to go for Auction a Mining Plan and

Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 5581 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval
as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.55 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Pimpri is a small Village/hamlet in Bhusawal Taluka in Jalgaon District of Maharashtra State, India. It comes under Pimpri Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 20 KM towards East from District headquarters Jalgaon. 10 KM from Bhusawal. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in NE direction, these road is further connected to NH-6. NH-6 is situated at a distance of 4 km. in south of the sand ghat spot. Chopda Railway Station is present at a distance of 8.5km.

Area covered in SOI Toposheet No- 46P/9. The GPS reading of boundary point are given below:

Boundary points of Pimpri	Latitude	Longitude
B.P 1	21°10'6.92"N	75°27'9.73"E
B.P 2	21°10'7.44"N	75°27'11.04"E
B.P 3	21°10'2.48"N	75°27'13.15"E
B.P 4	21° 9'57.94"N	75°27'16.23"E
B.P 5	21° 9'57.34"N	75°27'14.99"E
B.P 6	21°10'1.93"N	75°27'11.83"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 5581 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 330m L X 30.75m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 5581 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval

as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.55 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 35.74 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Pimpri is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Pimpri Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 15 KM towards west from District headquarters Jalgaon. 16 KM from Chopda. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 1km in south direction, these road is further connected to Jalgaon city. Jalgaon city is situated at a distance of 15km. Jalgaon Railway Station is present at a distance of 16 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.353 Ha . will be consisting of

1. Mining Area :	1.353 Ha .
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.353 Ha .

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडादवारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

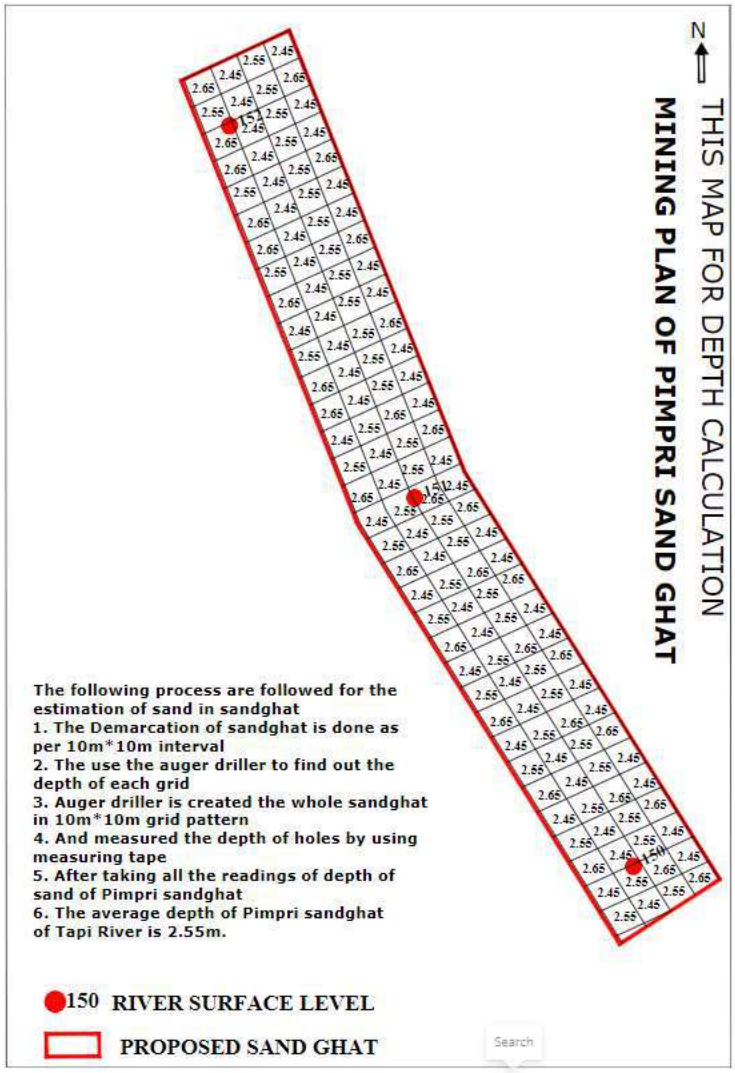
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner,

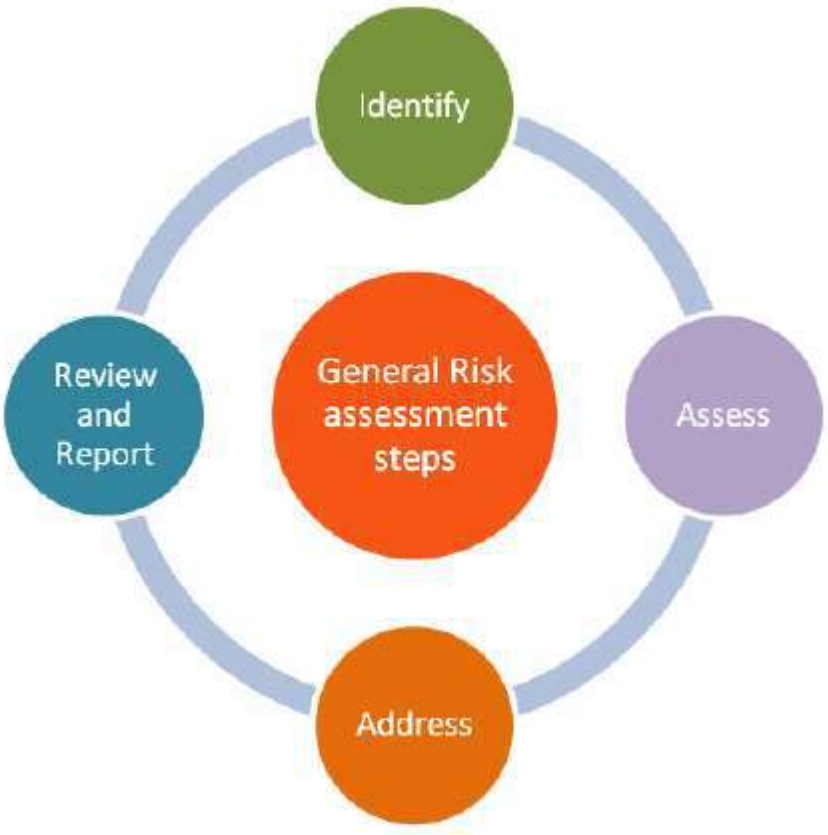
Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Pimpri Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at PIMPRI SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on PIMPRI SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Runghati 2 Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Runghati 2 sand spot	Latitude	Longitude
B.P 1	21° 9'46.71"N	75°12'8.23"E
B.P 2	21° 9'48.62"N	75°12'9.80"E
B.P 3	21° 9'38.61"N	75°12'23.35"E
B.P 4	21° 9'36.59"N	75°12'21.86"E

(iii) Size of the Mining Lease (Hectare): 3 ha

(vi) Capacity of Mining Lease (TPA): 5300 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 216.03 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah et	SH-14,3.18 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	 Amadner Railway Station 18 Km,SW NH-6, 28 Km, S SH-14, 4.10 Km SE Runghati-Mathagavhan,Road,1.02 Km, SW Nil 1.20 Km, W Tapi River Nil

	In-take for drinking water pump house Intake for Irrigation canal pumps	Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH-185,11.47 Km,W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Patondi, 5.34 Km,S
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools,hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone II(Least active), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:-	No

	(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.	
17	Forest land involved (hectares)	Nil
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.	Nil

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

ENVIRONMENTAL MANAGEMENT PLAN

1 INTRODUCTION

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2 Project Description

Runghati-2 is a small Village/hamlet in Amalner Taluka in Jalgaon District of Maharashtra State, India. It comes under Runghati 2 Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 40 KM towards west from District headquarters Jalgaon. 18 KM from Amalner. Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in south direction, these road is further connected to SH-14. SH-14 is situated at a distance of 4.10 km. in SE of the sand ghat spot. Amalner Railway Station is present at a distance of 18 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Village-Runghati-2, Taluk-Amalner, District-Jalgaon, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Runghati-2 sand spot</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21° 9'46.71"N</td><td>75°12'8.23"E</td></tr>
<tr><td>B.P 2</td><td>21° 9'48.62"N</td><td>75°12'9.80"E</td></tr>
</table>
</td></tr>
</table>

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

	B.P 3 — 21° 9'38.61"N — 75°12'23.35"E B.P 4 — 21° 9'36.59"N — 75°12'21.86"E
Sand spot area (In Ha)	3.75
Proposed production capacity (In Brass)	5300
Manpower Requirement (considering 8 month period)	50 labors+ 1 mate + 1 Supervisor = 52 man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	16 KLD-Tankers from nearby villages.
Project cost INR (Lakh)	216.03 Lakhs

3 Baseline Environmental Status

i) Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 3m from 160 to 163 MSL. The slope of Sand Spot area towards southern side. The highest MSL is 163 & lowest 160 MSL. The flow of Tapi River towards western direction.

ii. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

iii. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

iv. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank

erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

v. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.5m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies depending upon seasonal variations. The depth to water levels in the district ranges from 3.20 to 62.50 m BGL in pre-monsoon season and the depth to water levels in post-monsoon ranges from 0.80 to 27.1 m BGL. As the mining activities presently proposed are maximum upto 0.5m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extraction [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

vi. Climate

The climate of the district is characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season, i.e., June to September. The mean minimum temperature is 10.8°C and means maximum temperature is 42.2°C. Jalgaon District receives an average rainfall of about 690 mm.

vii. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.
Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.
Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.
2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

viii. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment village people.
B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
C. Local workforce will be given first preference for employment.
D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

PP to submit revised impact assessment report along with proposed mitigation measures.

Preparation of Environmental Management Plan is required for formulation, implementation, and monitoring of environmental protection measures during and after commissioning of projects. The plan should indicate the details as to how various measures have been proposed to be taken including cost components as may be required.

1. **Land Environment**

The type of mining and the characteristics of the particular mineral deposit both affect the degree to which mining disturbs the landscape. Sand Mining and allied activities will be done in the fluvial plain formed by river meandering. Mining of sand may cause a few environmental degradations.

1. Anticipated Impacts:

- Damage of riverbank due to access ramps to riverbed, may cause soil erosion.
- Destruction of river bank hinterland and ecological due to extraction of sand by probability of damage to the flood control bunds (built along the river side) due to heavy movements of vehicles over the bund to approach the mine are and further during transportation for sand from the mine area.
- Disposal of packing material, carried by the workers, would not be allowed. This packing material would include used sachet/ gutka /pan masala pouches.
- Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations, borehole users due to dust, noise and it also causes traffic hazards.
- Surface degradation due to road network.

2. Mitigation Measures:

- Safety distance of 3 meter or 1/10th of the width of the river whichever is more will be left from both the bank of the river (as per “Sustainable sand mining guidelines”).

- ❖ No foreign material like polythene bag, jute bag and useless articles should be allowed to remain/spill in river bed and catchment area, or no pits/pockets will be allowed to be filled with such material.
- ❖ Minimum number of access roads to river bed for which cutting of river banks will be avoided and ramps are to be maintained.
- ❖ Care will be taken to ensure that ponding is not formed in the river bed.
- ❖ Mining will not exceed beyond the allowed extraction capacity.
- ❖ Green belt will be developed along the haul road and the bank of rivers of mine premises and near the sand mining site. While selecting the plant species, preference will be given for planting native species of the area.

2. Water Environment

a. Anticipated Impacts:

- ❖ As the project activity is carried out in the dry part of river bed, none of the project activities will affect the water environment or riverbank habitats. 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. Monitoring of water quality will be checked yearly.

b. Mitigation Measures:

- ❖ Mining is avoided during the monsoon season and at the time of floods. This will help in replenishment of sand in the riverbed.
- ❖ Mining below subterranean water level will be avoided as safeguard against environmental contamination and over exploitation of resources.
- ❖ River stream will not be diverted to form in active channels.
- ❖ Utmost care will be taken to minimize or control leakage vehicles to be used for sand transportation.
- ❖ The washing of tractor trolleys in the river will be avoided.
- ❖ The contractor will follow all guidelines and rules for proper and scientific method of mining during the period of extracting the sand.

3. Air Environment:

a. Anticipated Impacts:

Due to Haul Road/ Access Road:

- ❖ Plying of tractor trolleys from public road to river sand collection points needs access roads.
- ❖ Majority of such access roads are the same existing roads/tracks being used by pedestrians/cart owners. Movement of heavy vehicles sometimes causes problems to cattle, agriculture land, and human habitations due to dust, noise, and movement of public.
- ❖ These environmental problems are felt more as the area is rural in nature.

Due to Mining process:

- ❖ Air pollution is likely to be caused at various stages of sand mining operations such as excavation, loading & transportation of material.

- Most of the dust will be generated from loading& transportation. This dust becomes air borne and gets carried away to surrounding areas.
- The impact on air is mainly localized in nature as the dust particles are not carried to longer distances and the effect is felt within the core zone of the project involving active Sand mining operations.

b. Mitigation Measures:

Mitigation of Impacts on Access Roads:

- Movement of the vehicles on the road will be increased; however, unmetalled road in the mining area will be sprinkled with water at regular intervals.
- In addition to prevent spillage by tractor trolleys over loading should be controlled along with speed limit (1Brass /tractor trolley).
- Maintenance of haul road will be done on regular basis.

c. For Fugitive Dust Emission:

- To avoid fugitive dust emissions at the time of excavation, regular sprinkling of water will be done on regular basis.
- Sand is transported to the sites by road through tractor trolleys. The sand carrying vehicles shall be covered by tarpaulin sheets.
- The Green Belt development will be prepared along the haul roads, which will act as a pollution sink.
- To minimize the vehicular pollution from the sand transporting vehicles, the following conditions will insist to permit the vehicles of the transporters.
- The vehicles should be (Bharat-IV stage) compliant and should have pollution control certificate (PUC) issued by appropriate authorities.
- Regular maintenance of transport vehicles and monitoring of vehicular emission levels at periodical intervals.

4. Noise:

a. Anticipated Impacts:

Noise environment in this project will be affected only by the equipment at the site and vehicular transportation. Since slight increase in noise levels can be expected.

b. Mitigation Measures:

- Minimum use of Horns at the village area.
- Timely maintenance of vehicles and their silencers to minimize vibration and Sound.
- Phasing out of old and worn out tractor trolleys.
- Provision of green belts along the road networks.
- Care will be taken to produce minimum sound during sand loading.
- Use of Backhoe and ear plugs may be provided to protect the labors working at the site.

5. Socio-Economic Environment

This project operation will provide livelihood to the poorest section of the society.

Anticipated Impacts and Evaluation:

- 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.
- There is no R & R involvement in this project.
- There is no land acquisition in this project.
- The results of the field survey conducted to understand the knowledge and perception of the people living around the project area gives a clear idea about the need for the project.
- A major portion of the houses in the study area are semi- pucca type structures.
- The water source to these areas is from the municipal connection and private bore wells and wells. The awareness level regarding the proposed mining activity is very high. The proposed mining activity is expected to provide stimulus to socio-economic activities in the region and thereby accelerate further development processes.

a. Social and Demographic Profile:

The workers are from local villages. These people have been provided all welfare from a lessee like medical benefits, insurance, fees for children's education etc. They have some land and cattle for their daily earnings. Additional income earned from the Sand Mining work will improve their living standard. The group of quarries in and around will help to have infrastructure facilities like roads, schools, shops etc. This will improve their social life.

b. Occupational Health and Safety:

This is Riverbed Sand Mine. So, the mining activities are comparatively less because the production is not on large scale. Workers do not come across any extreme condition like excessive heat, moisture etc. Workers working around it may come across this dusty environment. But the impact on health will be within limit.

c. Human Settlement:

There are no houses in and around lease area. Blasting is only activity, which may affect the settlement, but settlement is at distance of more than 1.0 Km from the Sand Mining. All the due precautions will be taken during mining. Transport of finished products is through the villages. There will be psychological impact of the traffic on the local people. However, the intensity of traffic is less.

d. Health and Hygiene:

a. In general, the health of villagers is moderately good. In the rainy season, the atmospheric condition is unhygienic due to lack of proper drainage and sanitation in the village habitation. Villagers are working in agricultural fields and work as laborers.

e. Education:

a. Mostly education is up to middle standard. Economic condition is in general moderate. So, after this project the standard of education will be increase.

f. Socio Economic Benefits Arising Out of Mining:

a. Generation of employment in the rural area.
b. Improvement in the living standards of the rural people.
c. Creating of infrastructural facilities like roads, electricity, shops, school etc.

d. Helping to improve literacy in the area Exploiting natural mineral so generation of revenue
e. Helping to sustain construction activity
f. Improving the greenery of the area, this is otherwise poor.

g. Liquid Effluent:
Not applicable because small mine and impacts are negligible.

h. Solid Waste:
Not applicable because small mine and impacts are negligible.

6. Biological Environment

Anticipated Impacts:

- Aquatic environment Proposed mining of the dry bed of the river, so no possibility of disturbance of aquatic life.
- Flora and Fauna The mining activity will have insignificant effect on the existing flora and fauna. The project area is surrounded with agricultural land. It was found that the sand mining activity will not have any significant impact on the biological environment of the region.

Mitigation Measures:

- Improvement in riverbank stability.
- Large woody debris in the riparian zone will be left undisturbed or replaced when moved and not be burnt.
- Vegetative debris will not be stored within the mine lease area.
- Operation and storage of heavy vehicles within riparian habitat will be restricted.
- Covering of loaded vehicles to reduce dust emission, which may harm surrounding agricultural crops and other plant species conservation of biological diversity of plants, birds, and animals.
- Greenbelt Development and Bio-Diversity Preservation Plantation activities will be carried out at the bank of the river and along the haul roads. This activity will help for maintaining ecology and environment of the area.

5. Project Benefits

The proposed expansion project will lead to the following benefits:

● Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.

● This project will contribute additional revenue to the state Exchequer in the form of revenue.

● The project will result in the employment opportunities to the unskilled/skilled local people.

Thereby, the quality of life of the employed people will increase.

1. Sand Closure Plan

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

Sl. No	Head	Area put on use at start of plan [in Ha]	Additional Requirement during Plan period [in Ha]	Total [in Ha]	Area considered as	Net consider for calculation
1	Area under mining / pit	-	3.75	3.75	---	3.75
2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			**3.75**	**3.75**		**3.75**

- Mining will be avoided during monsoon and floods, this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

2. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters

The following plans are proposed under the Environmental Management Plan:

A total capital cost of INR 15.01700 Lakh and recurring cost provision of about INR 7.17500 Lakhs has been kept in the project cost towards the environmental protection, control and mitigation measures and implementation of the EMP, this cost is born by bidder / lease holder. The budgetary cost estimate for the EMP is given in Table.

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

S. No	Impact Source	Impact	Control measure	Runghati 2 EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	150000
		Road Degradation	Budget for Road Repairs and Maintenance from Approach Road to Main Road	120000
		Road Construction	Road Construction from Quarry to Access Road	200000
		Air Environment	Dust Suppression by Regular water spraying.	120000
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Checkup of Employees.	62400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	50000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in Labour costs)	92000
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in Labour costs)	100000
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	400000
			Green belt along bank(For Green Belt Development)	250000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoring Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring	Noise Environment	Regular Maintenance of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	2468400
			Capital Cost	1750900
			Recurring Cost	717500

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	200000
6	Community infrastructure development	200000
	Total	590000

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

3. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- GPS Based Vehicle Tracking System

4. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearance's for this Mine.

5. Information about any general or specific order passed by competent Hon'ble court.

Nil

Conditions Reply:

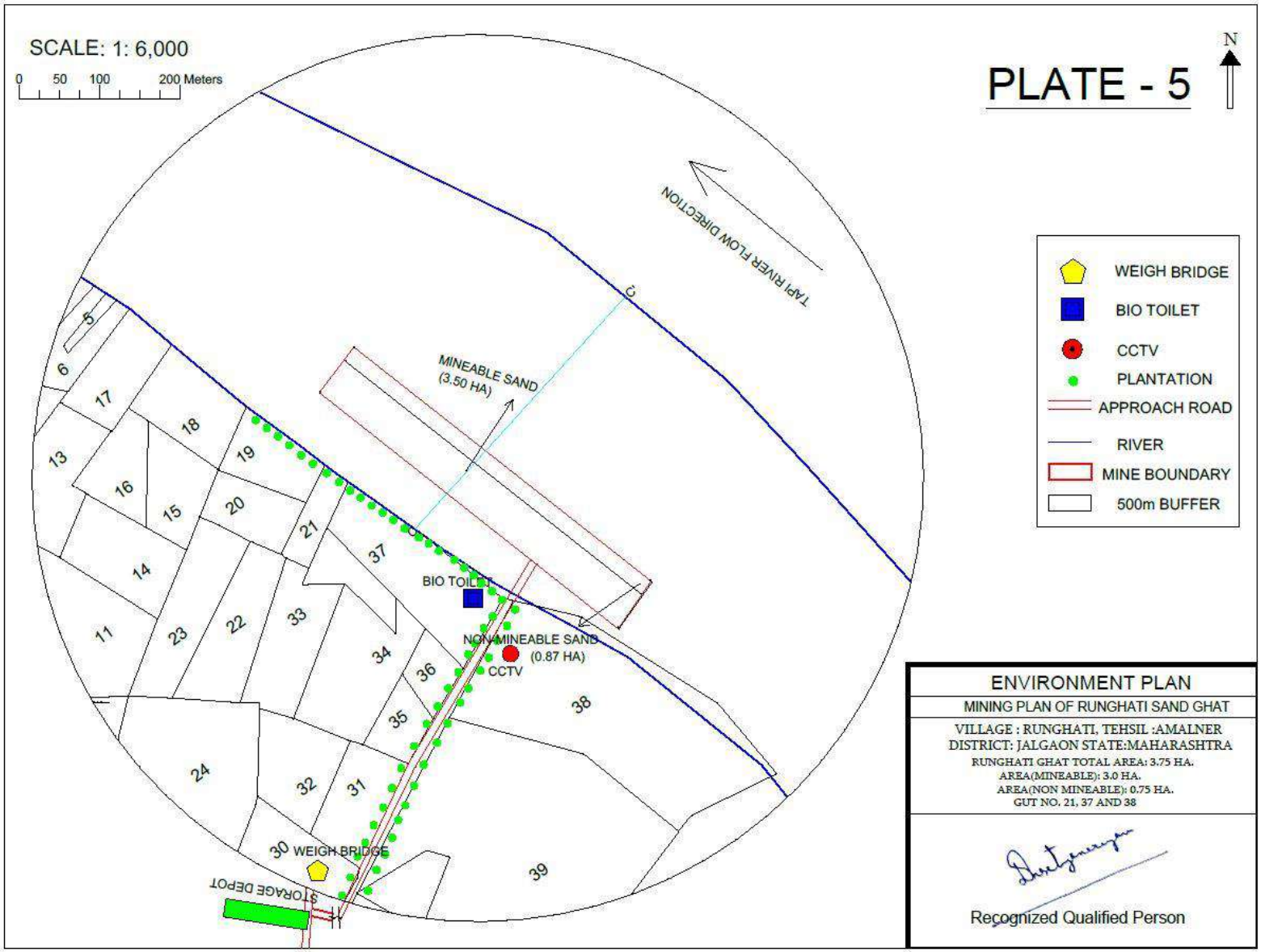
1. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas.

Proposed Runghati 2 sand ghat fall in cluster. DMO-Jalgaon and Concerned Tahsildar also submitted the cluster certificate.

Runghati 2 sand spot over an extent of 3.75 ha. (3.0 ha. Mineable & 0.75 ha. Non-Mineable) at Tapi River Bed Gut. No. 21, 37 & 38 (Part), Runghati-2 Village, Amalner Taluk, Jalgaon district, Maharashtra.

1. **PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.**

   Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

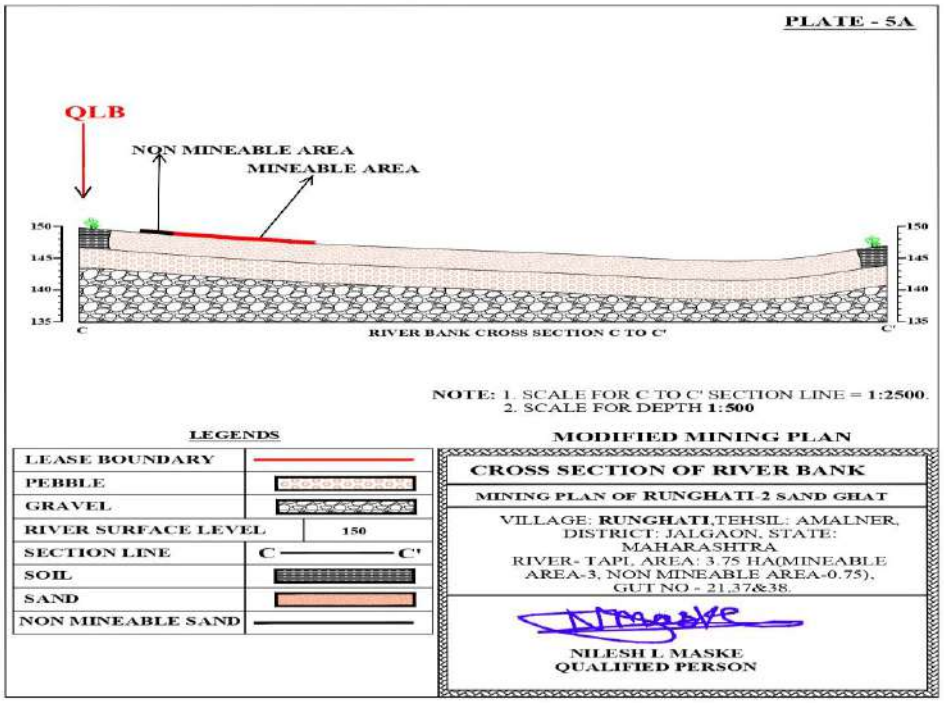

SCALE: 1: 6,000
0 50 100 200 Meters
N
PLATE - 5
TAPI RIVER FLOW DIRECTION
MINEABLE SAND
(3.50 HA)
BIO TOILET
NON-MINEABLE SAND
(0.87 HA)
CCTV
WEIGH BRIDGE
STORAGE DEPOT
5
6
17
18
19
13
16
15
20
21
37
14
11
23
22
33
34
36
35
38
24
32
31
30
39
WEIGH BRIDGE
BIO TOILET
CCTV
PLANTATION
APPROACH ROAD
RIVER
MINE BOUNDARY
500m BUFFER
ENVIRONMENT PLAN
MINING PLAN OF RUNGHATI SAND GHAT
VILLAGE : RUNGHATI, TEHSIL :AMALNER
DISTRICT: JALGAON STATE:MAHARASHTRA
RUNGHATI GHAT TOTAL AREA: 3.75 HA.
AREA(MINEABLE): 3.0 HA.
AREA(NON MINEABLE): 0.75 HA.
GUT NO. 21, 37 AND 38
Recognized Qualified Person

2. **PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.**

The proposed approach road length is 800 and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Amalner Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

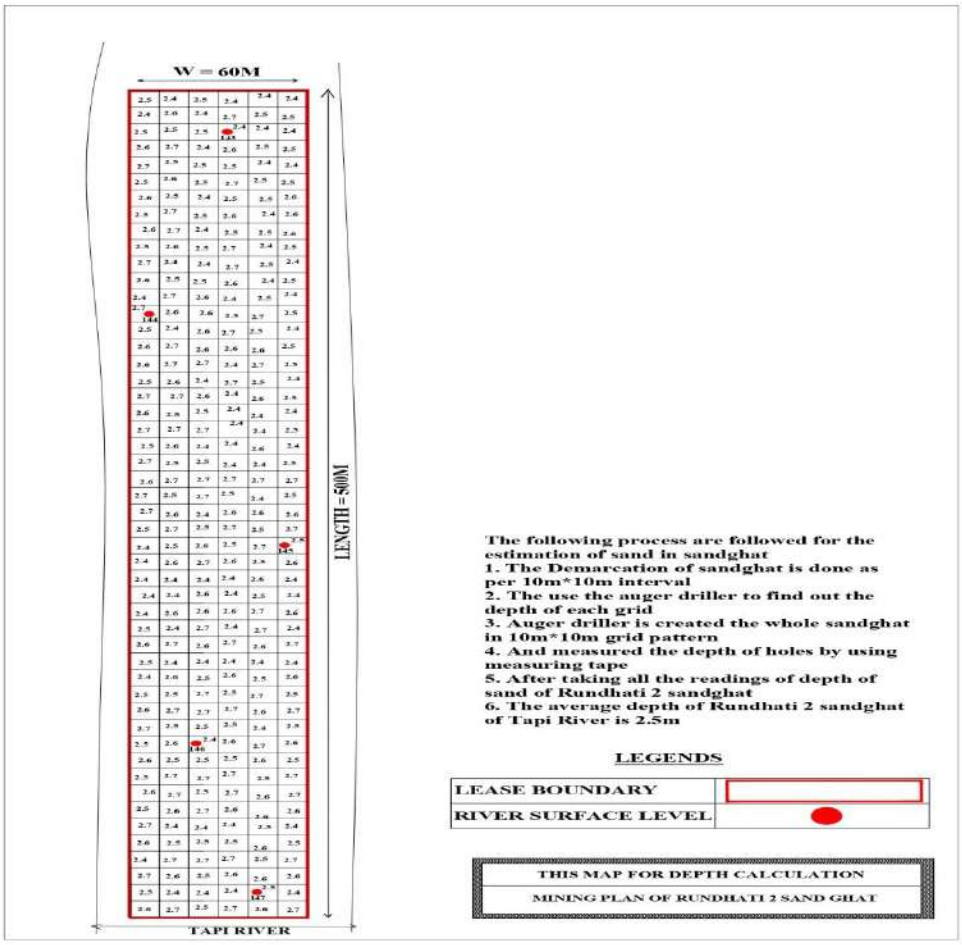
Cross section of river bed is shown below:



4. **PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any**

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),
Q= average annual runoff (m3),
A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:
As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

6. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	2600 Sq.m /annum
No. of plants to be planted	1300 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

7. Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Runghati-2 Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 3.75 Ha (3.0 ha. Mineable & 0.75 ha. Non-Mineable) 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 5300 brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 3m from 160 to 163 MSL. The slope of Sand Spot area towards southern side. The highest MSL is 163 & lowest 160 MSL. The flow of Tapi River towards western direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

The Sand Spot has sufficient Reserve of Sand to work at 15000 Cu.m for a specified period. The period of mine lease will be one year i.e. 2019-20 or up to exhaustion of Quantity of sand 5300 Brass proposed during the auction of sand whichever is earlier as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

4. Introduction of the project/ background information

The Runghati 2 Sand Spot has been kept for Auction which is situated at Village Runghati 2 , Taluka Amalner, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 15000 Cu.m for a specified period. The period of mine lease will be one year i.e. 2019-20 or up to exhaustion of Quantity of sand 5300 Brass proposed during the auction of sand whichever is earlier as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Runghati 2 is a small Village/hamlet in Amalner Taluka in Jalgaon District of Maharashtra State, India. It comes under Runghati 2 Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 40 KM towards west from District headquarters Jalgaon. 18 KM from Amalner. Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in south direction, these road is further connected to SH-14. SH-14 is situated at a distance of 4.10 km. in SE of the sand ghat spot. Amalner Railway Station is present at a distance of 18 km.

Area covered in SOI Toposheet No- 46P/9. The GPS reading of boundary point are given below:

Boundary points of Runghati 2	Latitude	Longitude
B.P 1	21° 9'46.71"N	75°12'8.23"E
B.P 2	21° 9'48.62"N	75°12'9.80"E
B.P 3	21° 9'38.61"N	75°12'23.35"E
B.P 4	21° 9'36.59"N	75°12'21.86"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 15000 cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 500m L X 60 m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 15000 Cu.m for a specified period mentioned i.e. 1 year (2020-21 from the date mining plan approvals per agreement from there the sand spot will due for another mining plan.The mining will continue with opencast method of Mining by cutting 0.5 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 16 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 300-325 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Runghati 2 is a small Village/hamlet in Amalner Taluka in Jalgaon District of Maharashtra State, India. It comes under Runghati 2 Panchayath. It belongs to Khandesh and Northern Maharashtra

region. It is located 40 KM towards west from District headquarters Jalgaon. 18 KM from Amalner. Approximately 500 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 800 meter in south direction, these road is further connected to SH-14. SH-14 is situated at a distance of 4.10 km. in SE of the sand ghat spot. Amalner Railway Station is present at a distance of 18 km.

i) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 3.75 ha. will be consisting of

1. Mining Area : 3.75 ha.
2. Construction of Temporary Roads: 0.00 ha.
3. Total : 3.75 ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The mining operations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D.Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगांव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,पाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,पाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकुण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

Area of deposition and erosion was calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.

DGPS and other survey tools have been used to define topography, contours and offsets of lease area.

Contour & elevation benchmarks are provided with the baseline data for assessing pre and post-study period scenario.

Physical benchmarks are fixed at intervals (1 in 30 m) & Reduced Levels (RL) are validated from a nearby standard RL.

These RL are engraved on a steel plate (Bench Plate) & are fixed & placed at locations which are free from any damages & are available in pre and post-study period.

Bench plates are available for use during the mining period as reference for all mining activity.

Baseline data on elevation status for a grid of 10 m x 10 m is taken to ensure the accuracy in the assessment.

It was made sure that two consecutive cross-sections in longitudinal and lateral direction is not be more than 10-meter distance apart.

Changes have been observed in the elevation in per and post scenario at each node and were depicted in graphical forms with an appropriate scale for estimating the area of deposition & erosion.

Elevation level was placed in reference to the nearest bench-plates established for the purpose.

The levels (MSL & RL) of corner point of each grid were identified and safety barriers (Non-Mining) are demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

A clear identification was highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) was subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.

The database was structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.

Net area was derived after summation of area of deposition minus area of erosion for each cross-section.

Volume was estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.

One sample per 900 square meters (30 m x 30 m) was preferred for sample density for assessment of bulk density for estimation of deposition rate.

Care was taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams
DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where
S=sediment yield of stream (t/yr/km2),
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- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
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(Source: State Irrigation Department)

Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in

  public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

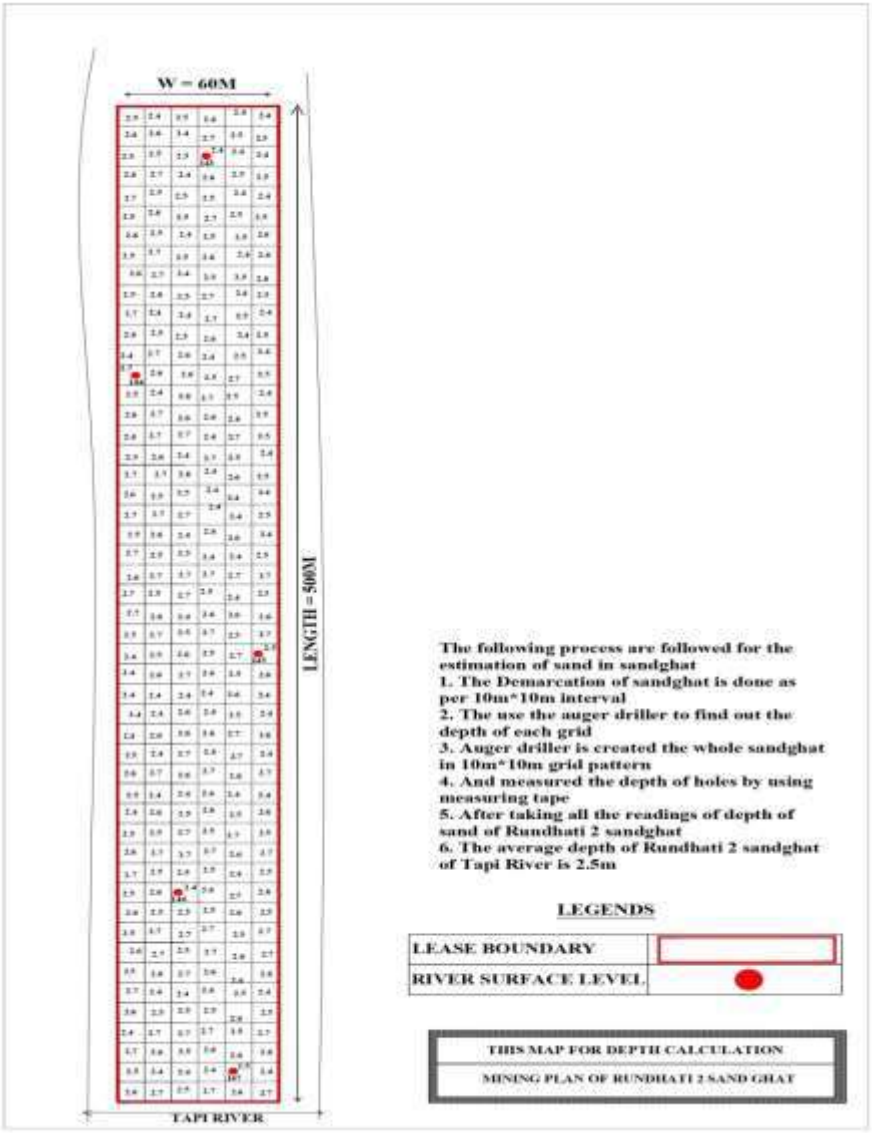
It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark

- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



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5. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. R&R Plan

R&R is not involved.

7. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

8. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

9. Costing

Costing parameters will be decided by the District Authorities.

10. Compliance to Environment Clearence

Whether there are any serious violation of safety rules and regulation which may jeopardize human health and safety. If so, give details of violations and state the steps proposed to be taken with the time scheduled to rectify the violations:

No, there are not any serious violation of safety rules and regulation, which may jeopardize human health and safety. The applicant has given a commitment in this effect and undertaking also given to follow and implement, as specified in the mining plan. The applicant is undertake to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Mineral (Development & Regulation) Act, 1957 and the Bombay Minor Mineral rules, the Mineral Conservation and Development Rules, 1988 as amended, the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule 2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, Sustainable Sand Mining Management Guidelines 2019,Sand Mining Policy 2020

11. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat,

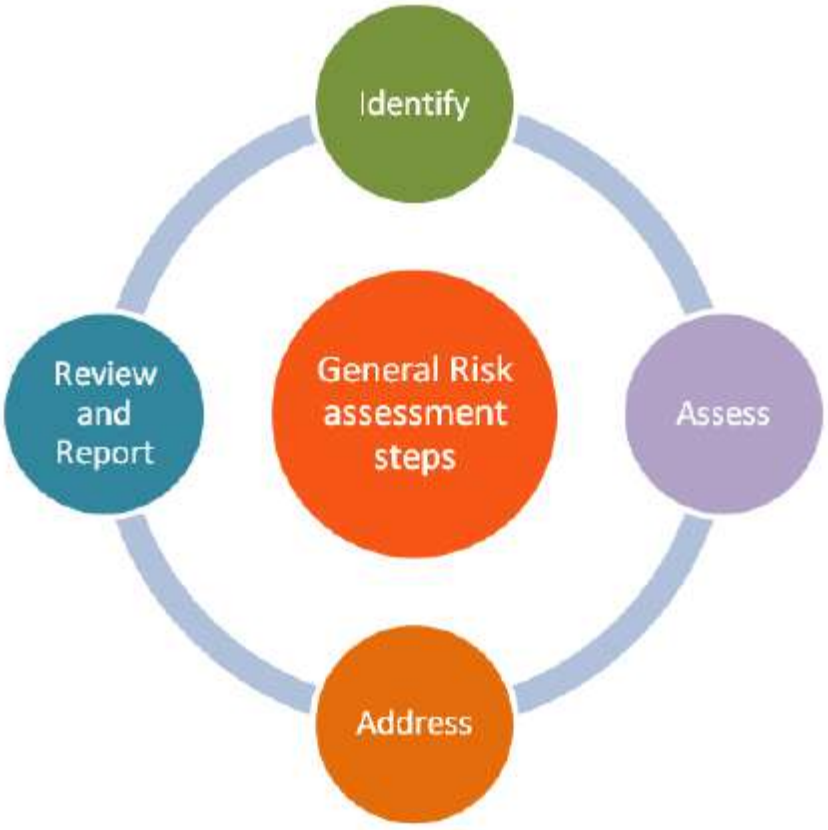
Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Runghati 2 Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at RUNGHATI 2 SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on RUNGHATI 2 SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipments. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Sutkar Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Sutkar sand spot	Latitude	Longitude
B.P 1	21°10'35.36"N	75°24'42.10"E
B.P 2	21°10'33.99"N	75°24'42.38"E
B.P 3	21°10'35.42"N	75°24'52.98"E
B.P 4	21°10'36.83"N	75°24'52.87"E

(iii) Size of the Mining Lease (Hectare): 1.386 HA

(vi) Capacity of Mining Lease (TPA): 2093 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 85.31068 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or road bridge over the concerned River, Rivulet, Nallah et	Bridge, 3.61Km, 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	 Dharangaon, 22.8Km,SW NH6, 17.8Km, S SH4, 5.91Km,NE Bhokar RD, 0.53 Km, S 0.82Km, SW 0.82Km, SW Nil Tapi River Bed

	Intake for Irrigation canal pumps	Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH4, 5.91Km,NE Bhokar RD, 0.53 Km, S
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Khedi Bhokar, 3.17Km, NW
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
16	Whether the proposal involves approval or clearance under the following Regulations or Acts, namely:-	No

	(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.	
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Sutkar Sand Spot over an extent of 1.386 HA (MINEABLE AREA-1.0395 HA & NON-MINEABLE AREA-0.3465 HA) At Tapi River Bed Gut No.23, 24, 25, 28 & 29 Sutkar Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Sutkar is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Sutkar Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 25 KM towards west from District headquarters Jalgaon. 13 KM from Chopda. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 1.70km in east direction, these road is further connected to SH-4. SH-4 is situated in north direction at a distance of 6km. Jalgaon Railway Station is present at a distance of 20 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Sutkar Village, Tehsil-Chopda, Jalgaon District, Maharashtra</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Sutkar</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21°10'35.36"N</td><td>75°24'42.10"E</td></tr>
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Sand spot area (In Ha)	1.386
Proposed production capacity (In Brass)	2093
Manpower Requirement (considering 3 month period)	5 labors + 1 mate + 1 Supervisor = 7man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	15.44 KLD – Tankers from nearby village.
Project cost INR (Lakh)	85.31068

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 1m from 152 to 153 MSL. The slope of Sand Spot area towards western side. The highest MSL is 153 & lowest 152 MSL. The flow of Tapi River towards western direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.57m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.57m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.57m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.386	1.386	---	1.386
2	Area under dump	NIL	---	---	---	

3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.386	1.386	1.386

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Sutkar
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	82500
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	115800
		Road Construction	Road Construction from Quarry to Access Road	193000
		Air Environment	Dust Supression by Regular water spraying.	115800
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	8400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	5000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	88780
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	96500
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	386000
			Green belt along bank(For Green Belt Development)	772
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000

14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	2016552
			Capital Cost	1423452
			Recurring Cost	593100

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph

- Watermark
- GP Based Vehicle Tracking System

9. Sutkar -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

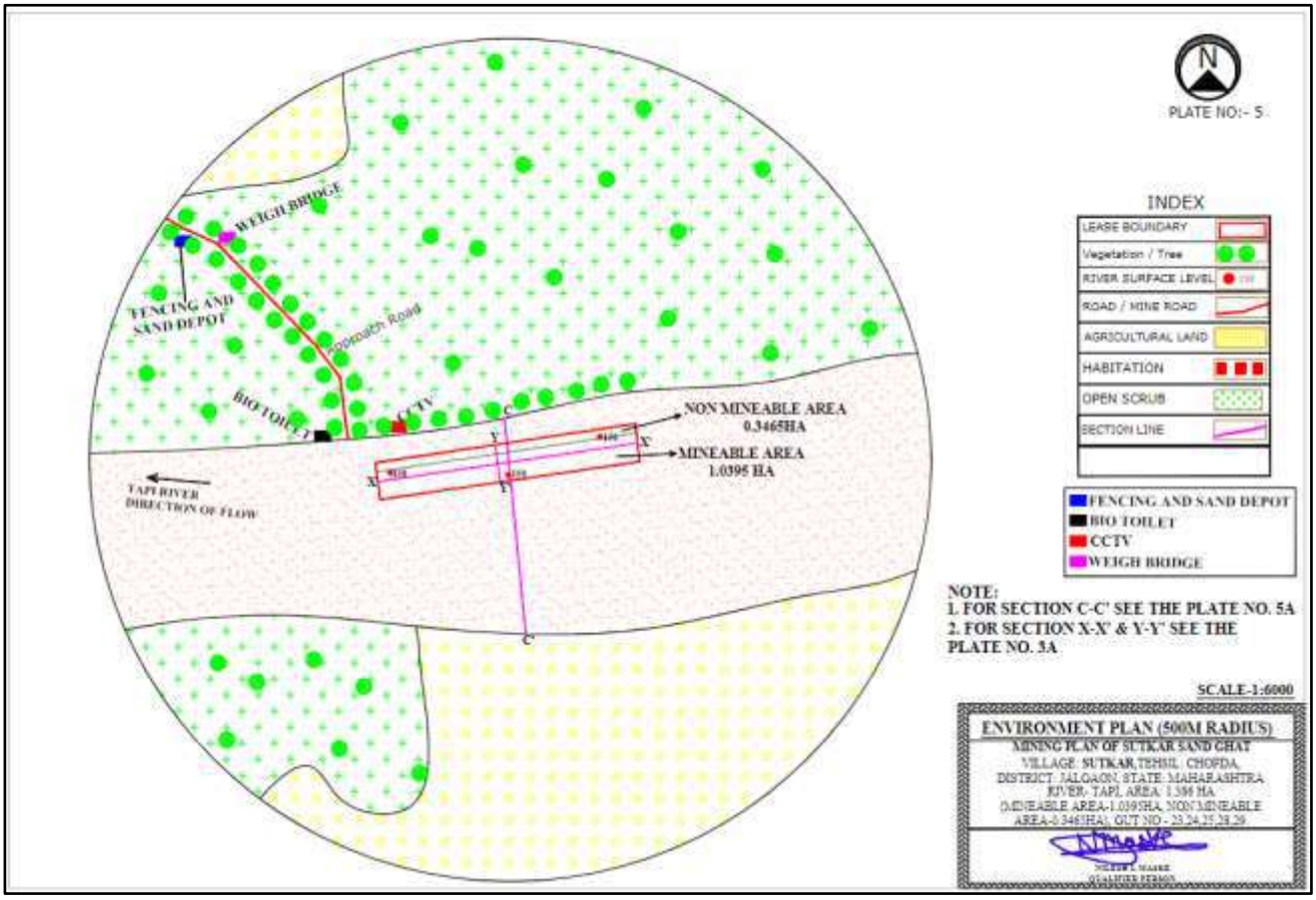
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Sutkar sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Sutkar Sand Spot over an extent of 1.386 HA (MINEABLE AREA-1.0395 HA & NON-MINEABLE AREA-0.3465 HA) At Tapi River Bed Gut No.23, 24, 25, 28 & 29 Sutkar Village, Tehsil-Chopda, Jalgaon District, Maharashtra.

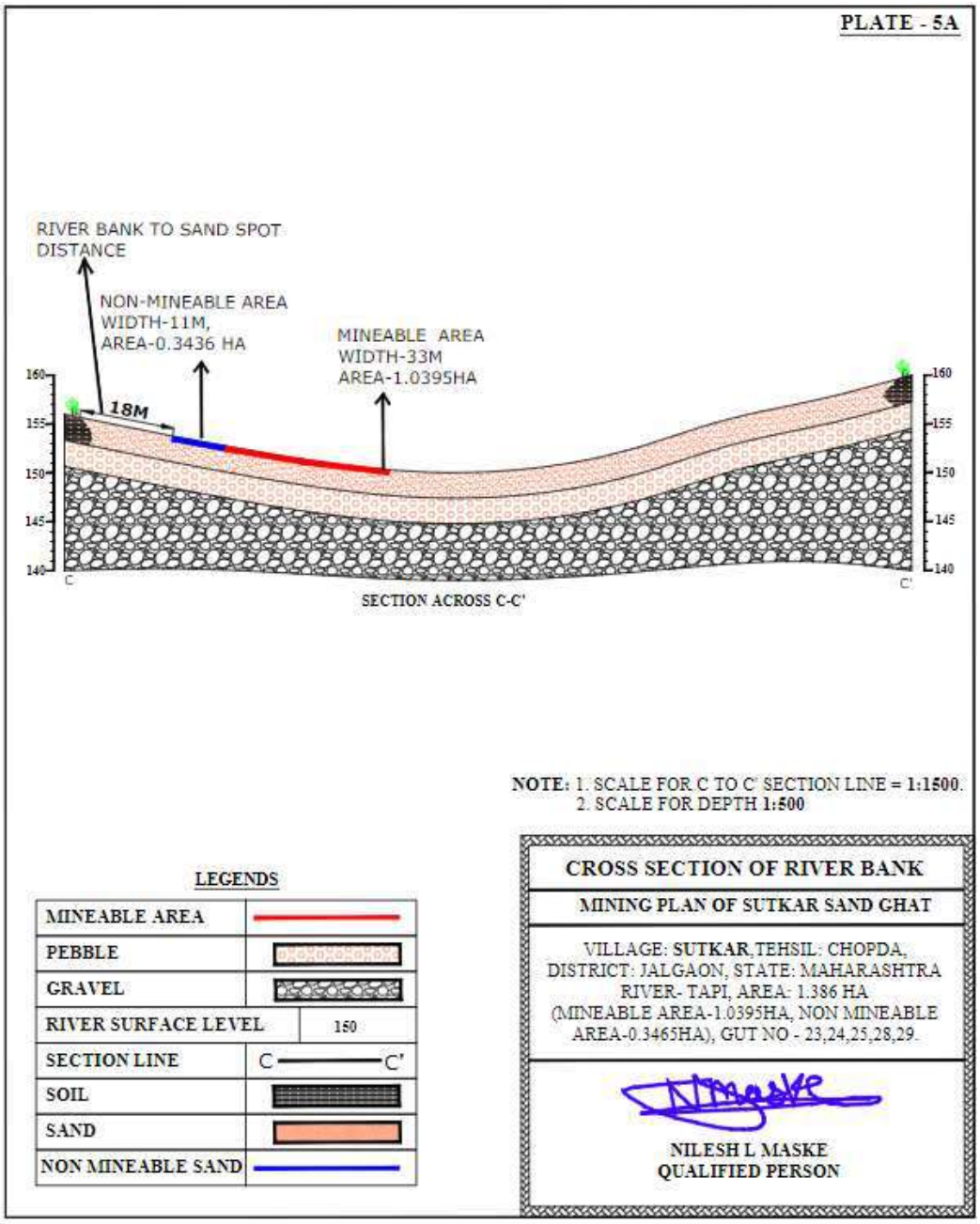


PP to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 1700 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Chopda Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. **PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.**

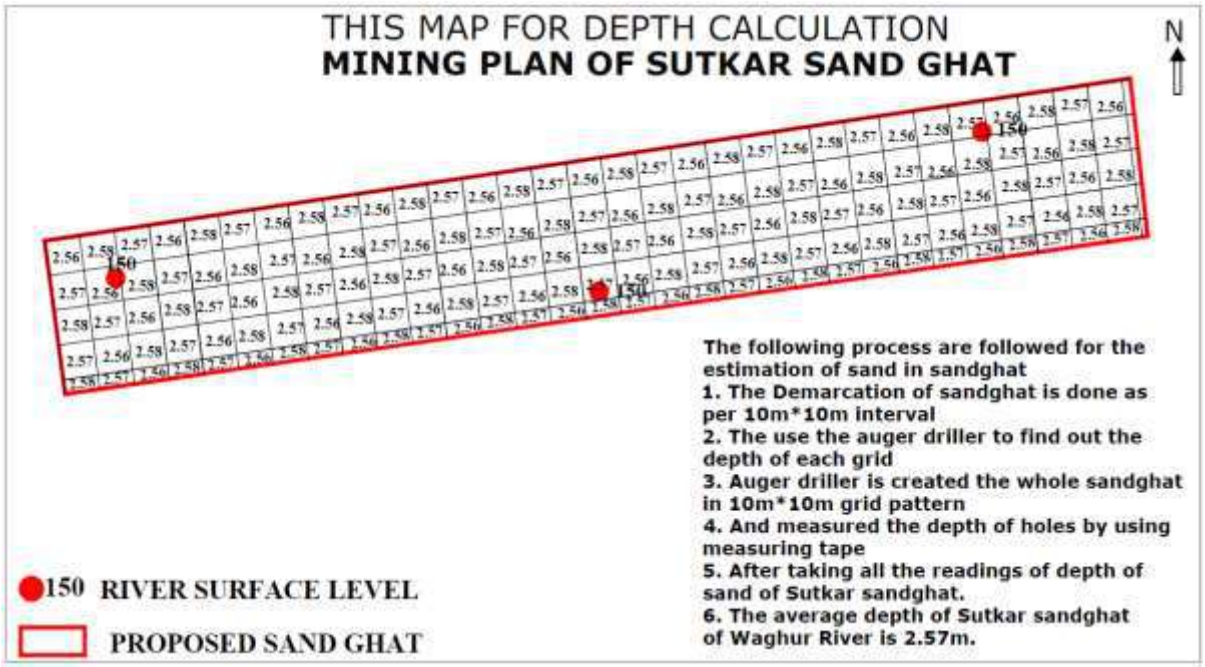
Cross section of river bed is shown below:



4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	2174 Sq.m /annum
No. of plants to be planted	1087 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties

Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Sutkar Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

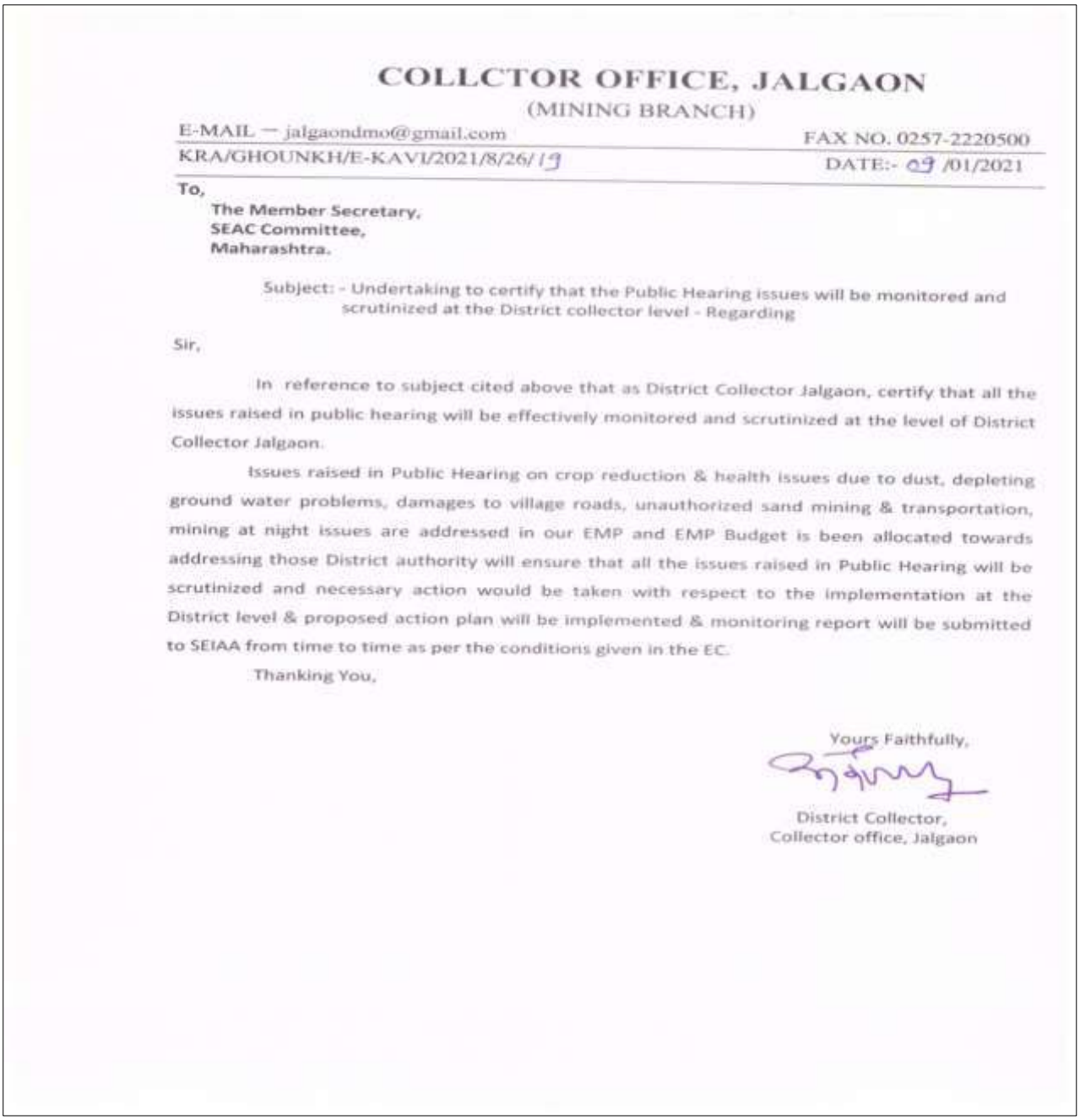
In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/13 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.386 Ha (1.0395 Ha. Mineable & 0.3465 Ha. Non-Mineable 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 2093 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 1m from 152 to 153 MSL. The slope of Sand Spot area towards western side. The highest MSL is 153 & lowest 152 MSL. The flow of Tapi River towards western direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.57 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 5925 Cu. M or 2093 brass i.e. 1 year (2020-2021 from date mining plan approval.. The size of pit at the end will be 1.386 HA (Mineable Area-1.0395 HA & Non-Minaeable Area 0.3465HA).

4. Introduction of the project/ background information

The Sutkar Sand Spot has been kept for Auction which is situated at Village Sutkar, Taluka Chopda, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 5925 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval.as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.57 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Sutkar is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Sutkar Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 25 KM towards west from District headquarters Jalgaon. 13 KM from Chopda. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 1.70km in east direction, these road is further connected to SH-4. SH-4 is situated in north direction at a distance of 6km. Jalgaon Railway Station is present at a distance of 20 km. Area covered in SOI Toposheet No-46P/9.

The GPS reading of boundary point are given below:

Boundary points of Sutkar	Latitude	Longitude
B.P 1	21°10'35.36"N	75°24'42.10"E
B.P 2	21°10'33.99"N	75°24'42.38"E
B.P 3	21°10'35.42"N	75°24'52.98"E
B.P 4	21°10'36.83"N	75°24'52.87"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 5925 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 315m L X 33m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable

The Sand Spot has sufficient Reserve of Sand to work at 5925 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval.as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.57 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 15.44 KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Sutkar is a small Village/hamlet in Chopda Taluka in Jalgaon District of Maharashtra State, India. It comes under Sutkar Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 25 KM towards west from District headquarters Jalgaon. 13 KM from Chopda. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 1.70km in east direction, these road is further connected to SH-4. SH-4 is situated in north direction at a distance of 6km. Jalgaon Railway Station is present at a distance of 20 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.386 Ha. will be consisting of

1. Mining Area :	1.386 Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.386 Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

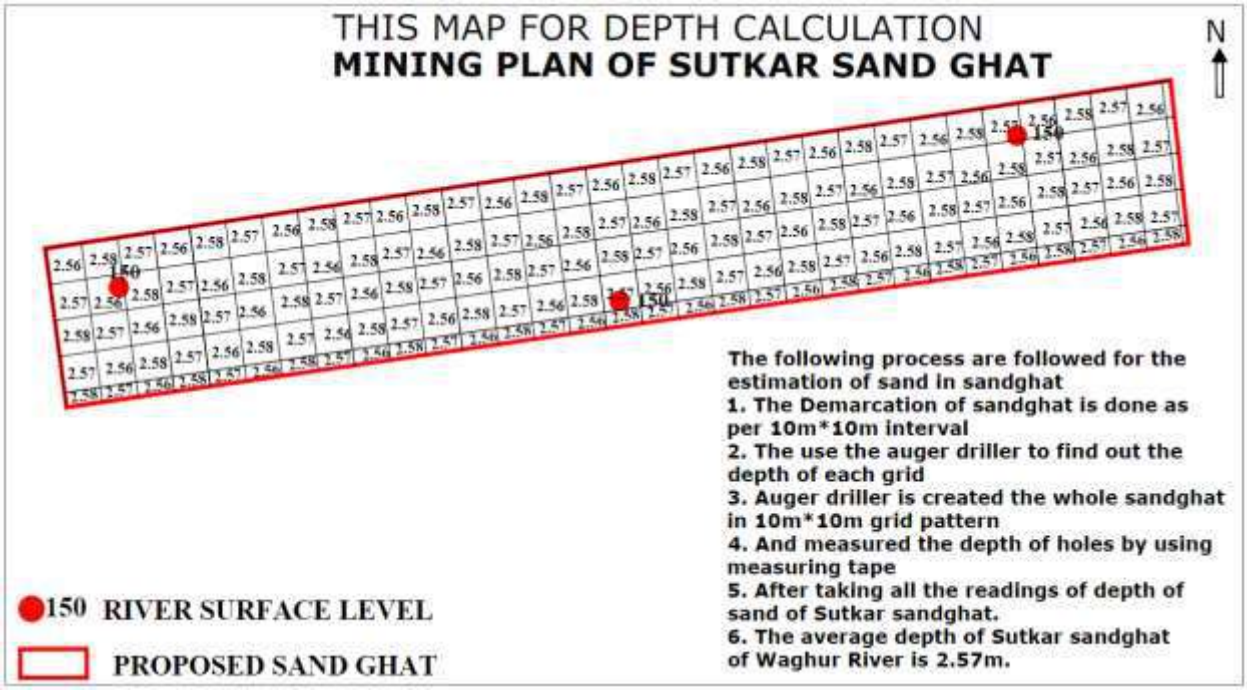
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine

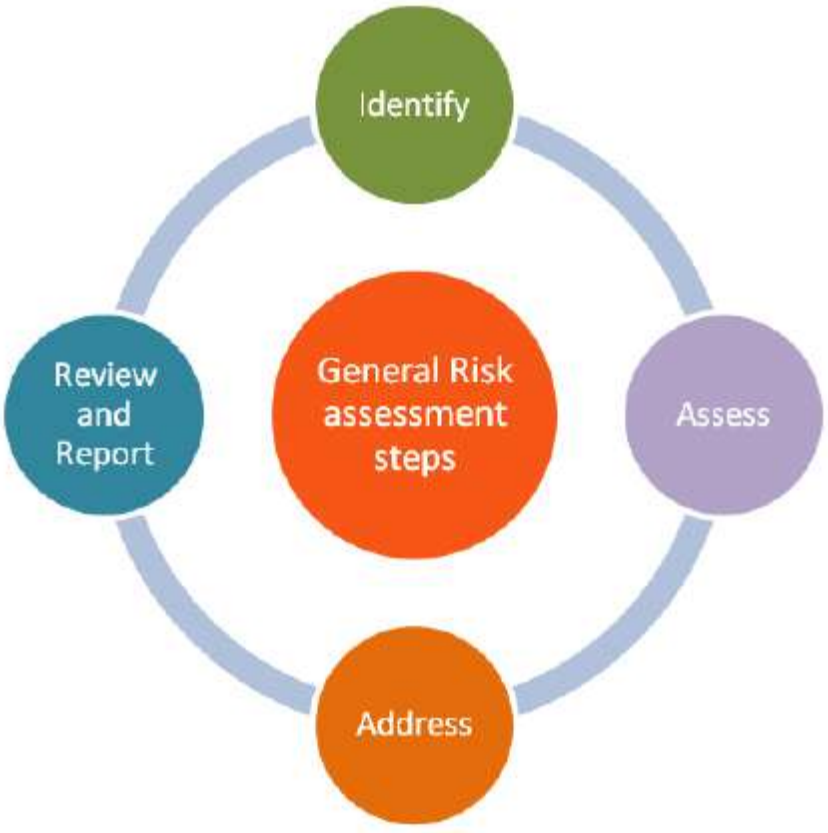
Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Sutkar Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at SUTKAR SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on SUTKAR SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Thorgavhan Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Thorgavhan sand spot	Latitude	Longitude
B.P 1	21° 7'13.72"N	75°34'52.54"E
B.P 2	21° 7'13.04"N	75°34'52.39"E
B.P 3	21° 7'11.10"N	75°35'3.11"E
B.P 4	21° 7'10.72"N	75°35'13.48"E
B.P 5	21° 7'11.42"N	75°35'13.49"E
B.P 6	21° 7'11.80"N	75°35'3.28"E

(iii) Size of the Mining Lease (Hectare): 1.342 HA

(vi) Capacity of Mining Lease (TPA): 3557 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 147.10284 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. No.	Areas	Distance in Kilometer/Details
1	Distance of project site from nearest rail or roa bridge over the concerned River, Rivulet, Nallal etc.	Bridge, 5.1km, NW
2	Distance from infrastructural facilities Railway line National Highway State Highway Major District Road Any Other Road	 Jalgaon Junction,11.7Km, NE NH6, 12.8Km, S SH186,3.64Km,W 64Km,W 1.1Km, SW

	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	0.66Km, SW Nil Tapi River Bed Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Tapi River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Tapi River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH186,3.64Km,W 64Km,W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Thorgavhan, 0.96Km, NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Tapi River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.

	conditions)	
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No
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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Thorgavhan Sand Spot over an extent of 1.342 HA (MINEABLE AREA-1.0065 HA & NON-MINEABLE AREA-0.3355 HA) At Tapi River Bed Gut No.1 & 2 Thorgavhan Village, Tehsil-Yaval, Jalgaon District, Maharashtra.

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1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Thorgavhan is a small Village/hamlet in Yaval Taluka in Jalgaon District of Maharashtra State, India. It comes under Thorgavhan Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 15 KM towards west from District headquarters Jalgaon. 16 KM from Yaval. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 1km in south direction, these road is further connected to Jalgaon city. Jalgaon city is situated at a distance of 15km. Jalgaon Railway Station is present at a distance of 16 km.

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Thorgavhan Village, Tehsil-Yaval, Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Thorgavhan</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21° 7'13.72"N</td><td>75°34'52.54"E</td></tr>
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Sand spot area (In Ha)	1.342
Proposed production capacity (In Brass)	3557
Manpower Requirement (considering 3 month period)	10 labors + 1 mate + 1 Supervisor = 12man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	26.44 KLD – Tankers from nearby village.
Project cost INR (Lakh)	147.10284

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 1m from 516 to 517MSL. The slope of Sand Spot area towards western side. The highest MSL is 517 & lowest 516 MSL. The flow of Tapi River towards western direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 0.5m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 0.5m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 0.5m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1.0m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.342	1.342	---	1.342

2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL			1.342	1.342	1.342	1.342

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Thorgavhan EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	41250
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	198300
		Road Construction	Road Construction from Quarry to Access Road	330500
		Air Environment	Dust Supression by Regular water spraying.	198300
			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000

			Health Checkup of Employees.	14400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	10000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	152030
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	165250
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	661000
			Green belt along bank(For Green Belt Development)	305000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000
12	Noise Monitoring		Regular Maintainence of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000

14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	3000030
			Capital Cost	2209430
			Recurring Cost	790600

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph

- Watermark
- GP Based Vehicle Tracking System

9. Thorgavhan -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.
10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.

11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

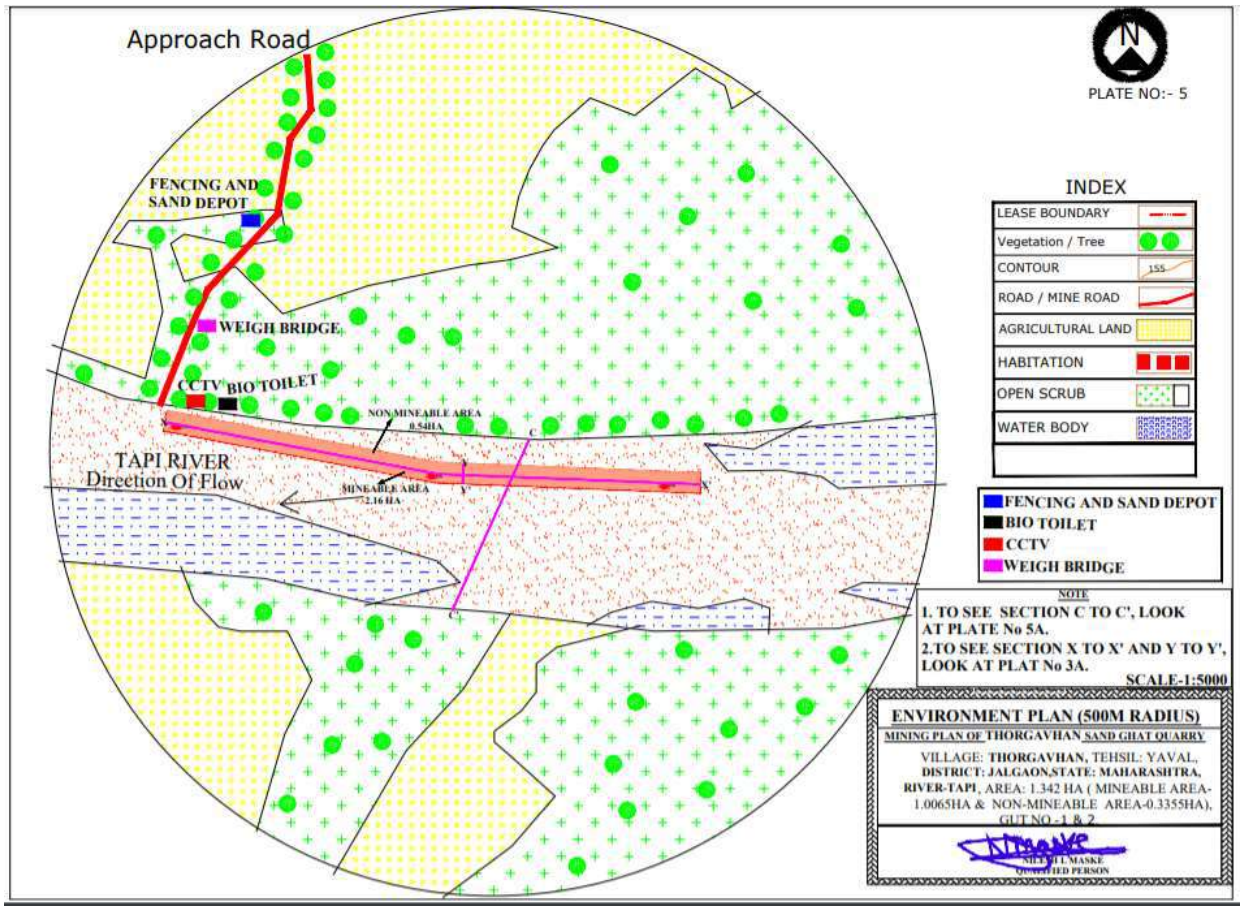
Nil

Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Thorgavhan sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

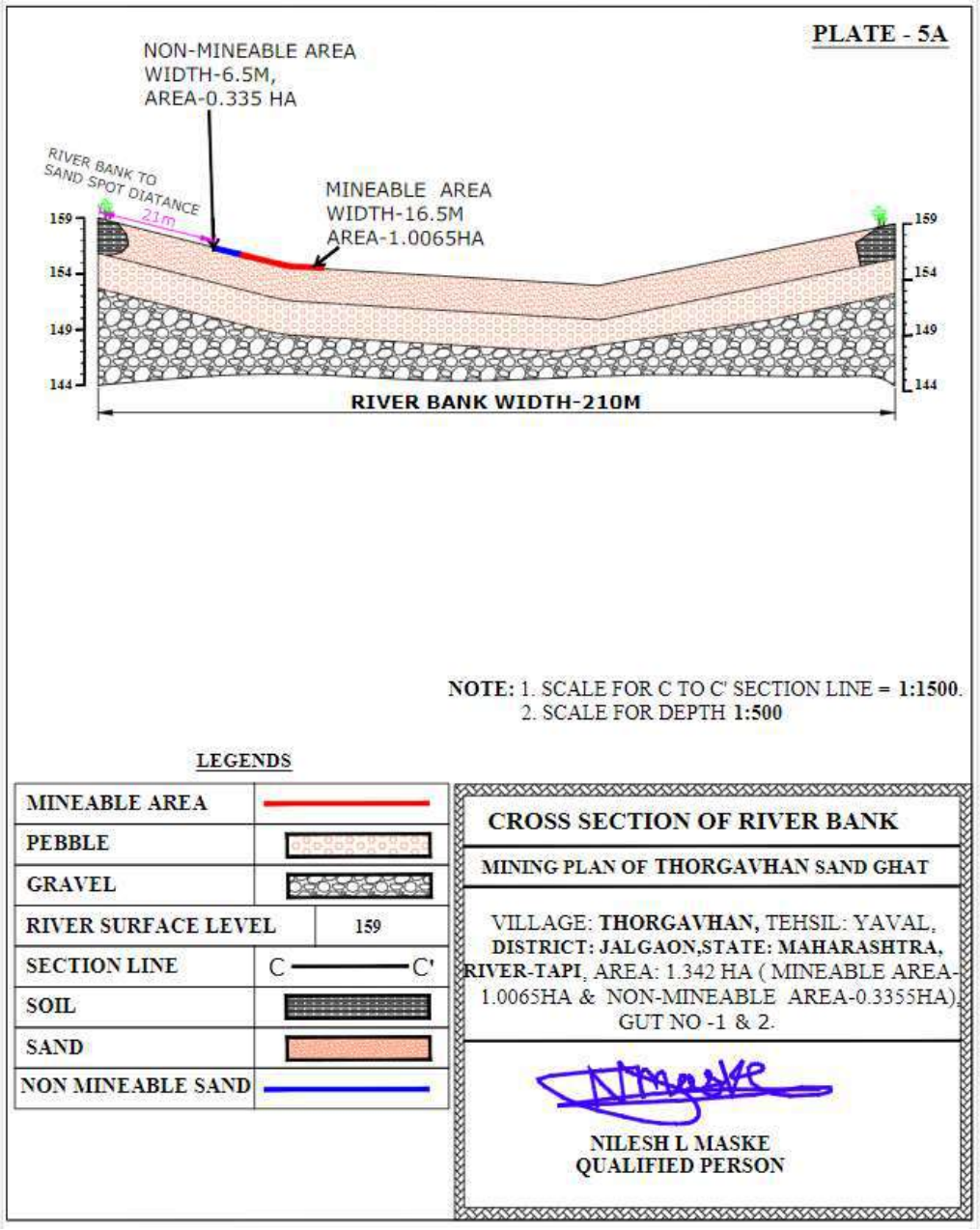


P to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 1322 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Yaval Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.

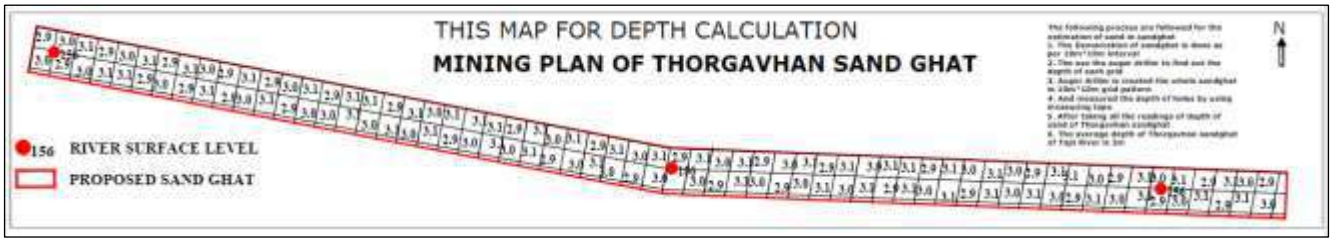
Cross section of river bed is shown below:



4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	3864 Sq.m /annum
No. of plants to be planted	1932 Per Hectare
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer
Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000

3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Thorgavhan Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/22 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

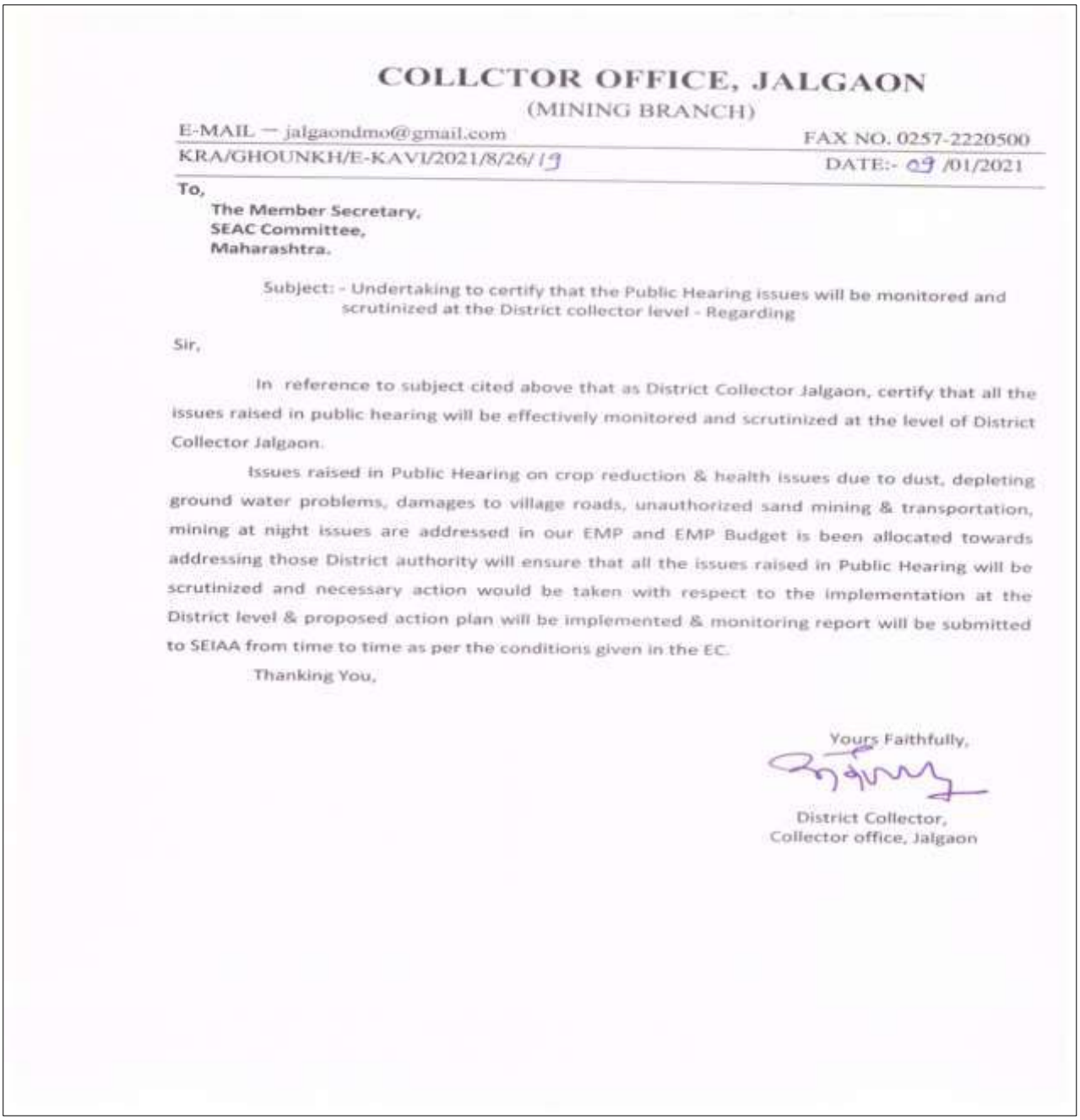
In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/13 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

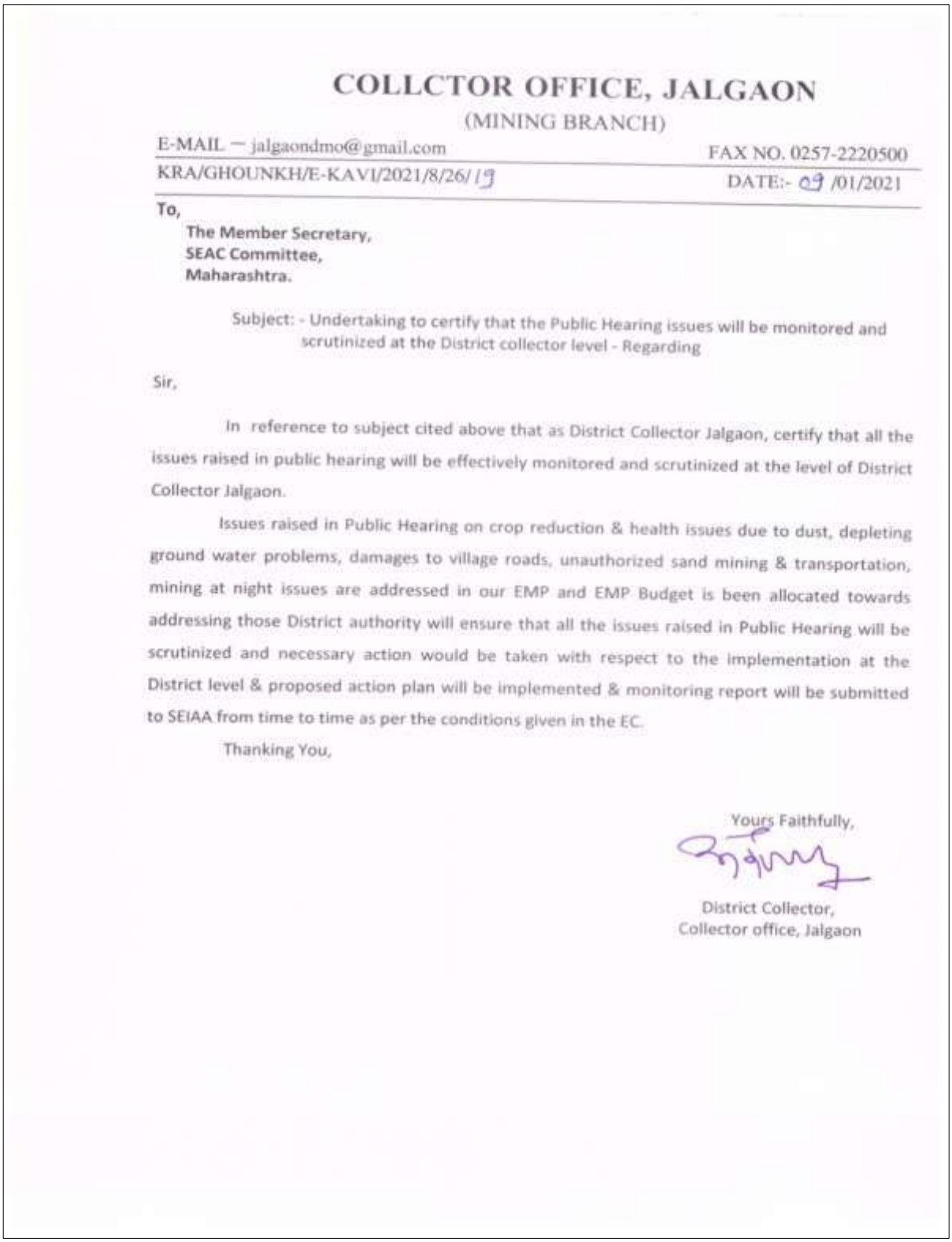
In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon



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(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

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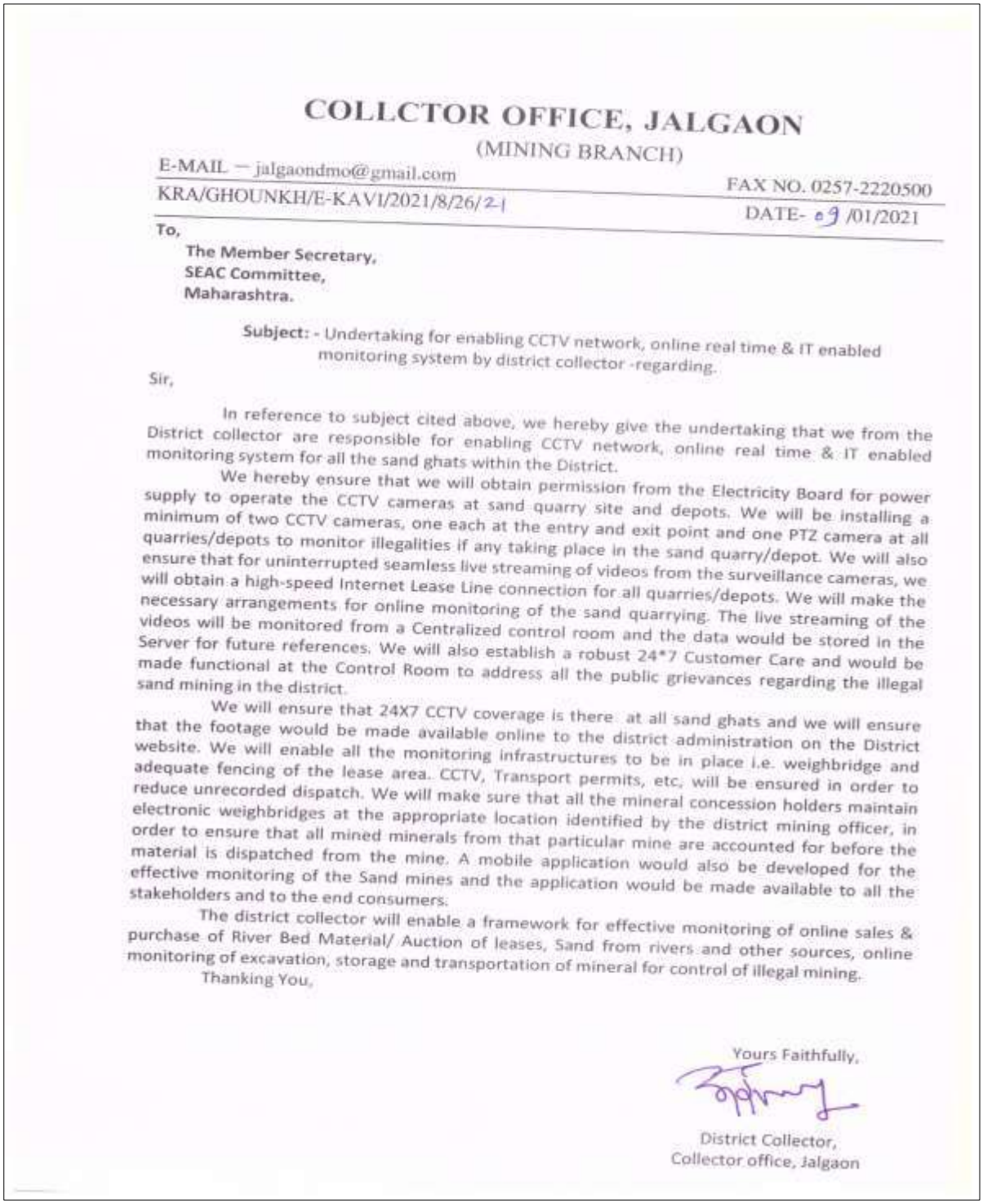
Yours Faithfully,

District Collector,
Collector office, Jalgaon



COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.342 Ha (1.0065 Ha. Mineable & 0.3355 Ha. Non-Mineable 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 3557 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of Tapi River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 1m from 516 to 517MSL. The slope of Sand Spot area towards western side. The highest MSL is 517 & lowest 516 MSL. The flow of Tapi River towards western direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.0-2.5-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.
Mining - The mining will be continue with present method of open cast mining by cutting slice of 1 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 10065 Cu. M or 3557 brass i.e. 1 year (2020-2021 from date mining plan approval. The size of pit at the end will be 1.342 HA (Mineable Area-1.0065 HA & Non-Minaeable Area 0.3355HA)Ha.

4. Introduction of the project/ background information

The Thorgavhan Sand Spot has been kept for Auction which is situated at Village Thorgavhan, Taluka Yaval, and District Jalgaon and hence prior to go for Auction a Mining

Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 10065 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Thorgavhan is a small Village/hamlet in Yaval Taluka in Jalgaon District of Maharashtra State, India. It comes under Thorgavhan Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 15 KM towards west from District headquarters Jalgaon. 16 KM from Yaval. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 1km in south direction, these road is further connected to Jalgaon city. Jalgaon city is situated at a distance of 15km. Jalgaon Railway Station is present at a distance of 16 km.

Area covered in SOI Toposheet No- 46O/12.The GPS reading of boundary point are given below:

Boundary points of Thorgavhan	Latitude	Longitude
B.P 1	21° 7'13.72"N	75°34'52.54"E
B.P 2	21° 7'13.04"N	75°34'52.39"E
B.P 3	21° 7'11.10"N	75°35'3.11"E
B.P 4	21° 7'10.72"N	75°35'13.48"E
B.P 5	21° 7'11.42"N	75°35'13.49"E

B.P 6	21° 7'11.80"N	75°35'3.28"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 10065 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 610m L X 16.5m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 10065 Cu.m for a specified period mentioned i.e. 1 year (2020-2021 from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 26.44 KLD. The required water for dust suppression can

be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Thorgavhan is a small Village/hamlet in Yaval Taluka in Jalgaon District of Maharashtra State, India. It comes under Thorgavhan Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 15 KM towards west from District headquarters Jalgaon. 16 KM from Yaval. 434 KM from State capital Mumbai.

The sand spot area is connected to approached road (Bhokar road) at a distance of 1km in south direction, these road is further connected to Jalgaon city. Jalgaon city is situated at a distance of 15km. Jalgaon Railway Station is present at a distance of 16 km

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.342 Ha. will be consisting of

1. Mining Area :	1.342 Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.342 Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.5 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्ह्यातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्ह्यातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपूर	185	925	25	125	0	0	0	0	0	0	1050
		एकूण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

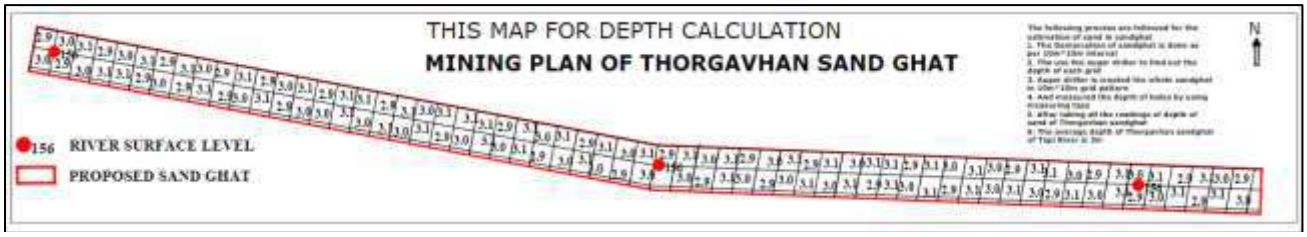
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearence

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court, NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any

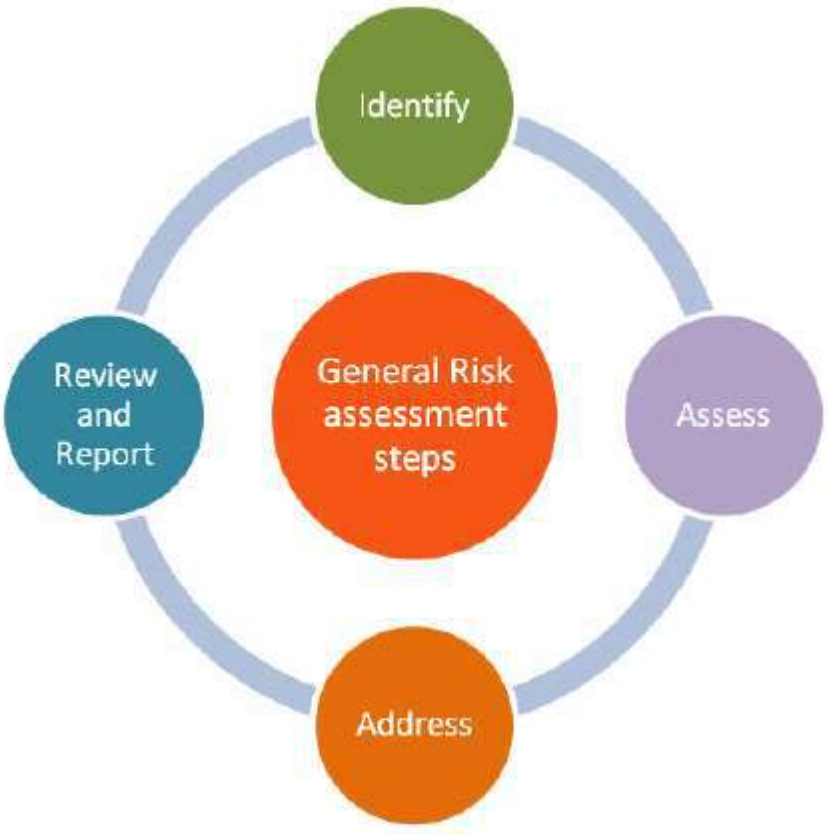
other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Thorgavhan Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at THORGAVHAN SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on THORGAVHAN SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done

APPENDIX VIII
(See paragraph 6)
FORM 1 M
APPLICATION FOR MINING OF MINOR MINERALS UNDER CATEGORY 'B2' FOR LESS THAN AND EQUAL TO FIVE HECTARE

(I) Basic Information

(i) Name of the Mining Lease site: Wadadhe Sand Spot

(ii) Location / site (GPS Co-ordinates):

Boundary points of Wadadhe sand spot	Latitude	Longitude
BP 1	20°39'31.01"N	75°12'26.04"E
BP 2	20°39'32.41"N	75°12'26.97"E
BP 3	20°39'27.16"N	75°12'35.64"E
BP 4	20°39'25.83"N	75°12'34.84"E

(iii) Size of the Mining Lease (Hectare): 1.50 HA

(vi) Capacity of Mining Lease (TPA): 3578 Brass

(v) Period of Mining Lease: 1 year

(vi) Expected cost of the Project: 145.83928 Lakhs

(vii) Contact Information: District Mining Officer Jalgaon, Maharashtra

(II) Environmental Sensitivity

S. 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, 2.55Km,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	 Nagardeola Rail.Station,6.14Km, South NH6, 26.12Km, NW SH15, 1.6 Km, SE 1.6Km,W 1.18Km, SW 0.75Km, SW Nil Girna River Bed

	In-take for drinking water pump house Intake for Irrigation canal pumps	Nil Nil
3	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil
4	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Water bodies: this is the case of river sand mining in Girna River bed
5	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil
6	Inland, coastal, marine or underground waters	Girna River Bed
7	State, National boundaries	Nil
8	Routes or facilities used by the public for access to recreation or other tourist, Pilgrim areas	SH15, 1.6 Km, SE 1.6Km,W
9	Defence installations	Nil
10	Densely populated or built-up area, distance from nearest human habitation	Bhadgaon, 2.31Km, NE
11	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	There were some schools, hospitals temples, within in the boundary not in the core zone
12	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Girna River Bed (this is the case of river sand mining)
13	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
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)	The mine lease area falls in Seismic Zone III (Moderate), according to the Indian Standard Seismic Zoning Map.
15	Is proposed mining site located over or near fissure / fracture for ground water recharge	No

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.	No
17	Forest land involved (hectares)	Nil
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.	Nil

Environmental Management Plan

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

1. Introduction

Ministry of Environment and Forest (MoEF) Notification 2006 and Sustainable Sand Mining Management Guidelines 2016 and as per provision in Mines and Minerals (Development and Regulation) Act 1957 Schedule 60 section 15, Govt Of Maharashtra makes a Minor Mineral Extraction Rules 2013 to extract all the minor mineral in scientific way so that there is no adverse impact on Environment and Climate. To extract the every minor mineral from any land (either Government or Private) there is provision of mining plan which is approved by competent authority; For long term leased minor mineral (5 – 10 years period) and Sand excavation from river bed, Senior Deputy Director of Directorate of Geology and Mining is a Competent authority, for short term Temporary permits which is valid for one year, Committee headed by Hon. Collector is Final authority to Approved the District Mining Plan.

As per Minor Mineral Extraction Rules 2013 Rules 70, Disposal of sand from River bed, Nallah and creeks by way of public auction, in this regards Govt resolution Gaukhni -10/0615/case No. 289/kha dated 3rd January 2018 is applicable in entire state. As per Sustainable sand mining management guidelines 2016, Standard Environment condition for sand mining and sustainable mining practices, district level survey report should be prepared and area suitable for mining and area prohibited for mining be identified.

2. Project Description

Wadadhe is a small Village/hamlet in Bhadgaon Taluka in Jalgaon District of Maharashtra State, India. It comes under Wadadhe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 53 KM towards NE from District headquarters Jalgaon. 2.5 KM from Bhadgaon. 305 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 233km in SW direction. Jalgaon Railway Station is present at a distance of 16 km

Table 1: Salient Features of the Project

<table>
<tr><th>Items</th><th>Details</th></tr>
<tr><td>Location</td><td>Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.</td></tr>
<tr><td>Latitude and Longitude</td><td>
<table>
<tr><th>Boundary points of Wadadhe</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>B.P 1</td><td>21°10'6.92"N</td><td>75°27'9.73"E</td></tr>
<tr><td>B.P 2</td><td>21°10'7.44"N</td><td>75°27'11.04"E</td></tr>
</table>
</td></tr>
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Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

	<table><tr><td>B.P 3</td><td>21°10'2.48"N</td><td>75°27'13.15"E</td></tr><tr><td>B.P 4</td><td>21° 9'57.94"N</td><td>75°27'16.23"E</td></tr><tr><td>B.P 5</td><td>21° 9'57.34"N</td><td>75°27'14.99"E</td></tr><tr><td>B.P 6</td><td>21°10'1.93"N</td><td>75°27'11.83"E</td></tr></table>
Sand spot area (In Ha)	1.50
Proposed production capacity (In Brass)	3578
Manpower Requirement (considering 3 month period)	10 labs + 1 mate + 1 Supervisor = 12 man/day
Infrastructure Requirement (As per Govt Resolution 3rd January 2018)	1. Room / Hut for Official records 2. Electricity / Battery for Running CCTV on 24X 7 daily. 3. One Computer / Android base Mobile for the online generation of Invoice number.
Water requirement & source	**4.66 KLD – Tankers from nearby village.**
Project cost INR (Lakh)	145.83928

3. Baseline Environmental Studies

a. Topography

The Sand Spot area as per survey is River bed of Girna River Which is tributary of Tapi River. The Tapi river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Tapi river flows include Maharashtra, Gujarat and Madhya Pradesh. The slope is of 5m from 148 to 153 MSL. The slope of Sand Spot area towards western side. The highest MSL is 153 & lowest 148 MSL. The flow of GIRNA River towards western direction.

b. Hydrology

The will be no change in water table during mining operation, as the depth of mining shall be restricted to 1 m water level, which is less likely to affect surface level or ground water table. There is no proposal of any stream modification/diversion due to this mining activity hence there will be no any impact on flow of water.

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

c. Soil Environment

The area is not having any top soil or fertile soil. The depth of mining shall be restricted to 1 m. There is no major impact on soil of the study area is envisaged due to mining activities.

d. Land Use Land Cover

The project area does not consist of any forest land. It does not consist of any human habitations. Any change in scope of mining as per approved mining plan can lead to bank erosion /cutting and thereby river channel shifting degradation of land, causing loss of properties and degradation of surrounding landscape.

e. Water Environment

There will not be any waste water discharges to water bodies from the mining operations. As observed in the River, the thickness of sand to be excavated will be 1m only so there will not be any intersection with ground water table. It is observed from the dug well in the adjacent plain area and in the nearby villages that the ground water table varies between 4m to 20m from the surface level depending upon seasonal variations. During dry season the water table falls to 8 m from the surface whereas during rainy season the water table remains at 4m from the surface. As the mining activities presently proposed are maximum upto 1 m that to within the river course and the total mining operation will be achieved through manual means, there will be no effect on ground water table. All the stipulations of MoEF for sand mining and guidelines as per the Maharashtra Minor Mineral Extration [Development and Regulation] Rules, 2013 of Section 15 of MMDR Act 1957 [67 of 1957] will be followed. Hence, impact on water regime due to the proposed sand mining is not anticipated.

1. Precautionary measures will be initiated for closing the operation and shifting the men and transport vehicles prior to onset of monsoon.
2. No oils or lubricants will be discharged in the sand to avoid water pollution.

f. Climate

Climate: In Jalgaon, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round. Over the course of the year, the temperature typically varies from 58°F to 108°F and is rarely below 52°F or above 112°F.

Rainfall: The annual rainfall is 785 mm. On average, Jalgaon receives between 77 cm and 80 cm of rainfall per year. In the easternmost part of the district—i.e., in Yawal—the average annual rainfall is 77 cm; in Bhusawal, Pachora, and the city of Jalgaon, it is 79 cm; and in Jamner, it is 80 cm.

g. Biological Environment

The project is only of extraction of minor minerals viz. sand from the river quarry.

Flora: The area is completely barren and devoid of any vegetation in the river. Only few thorny bushes are seen on the banks of the River.

Fauna: As there is no forest cover, no wild life can be seen in this area.

1. There will be no significant impact of the river quarry mining project on the biological diversity found in the 5km. radius of the site.

2. The mining lease area is in non-forest land i.e. sandy river quarry where presence of fauna is not at all seen. As such, there will be no adverse impact of the manual mining activity on fauna around the mining lease area.

3. No adverse impacts will be envisaged on the existing aquatic fauna, on downstream side (away from site) as the mining confined to above water level only and at all touching/disturbing water table.

h. Socio-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

1. The mining operations will provide direct & indirect employment village people.
2. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements
3. Local work force will be given first preference for employment.
4. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area)

4. Project Benefits

a. The proposed expansion project will lead to the following benefits:
b. Sand is available for Building and Construction work and by regular removal of sand there is no possibility of flood.
c. This project will contribute additional revenue to the state Exchequer in the form of revenue.
d. The project will result in the employment opportunities to the unskilled/skilled local people. Thereby, the quality of life of the employed people will increase.

5. Sand Ghat Closure Plan

Sl. No	**Head**	**Area put on use at start of plan [in Ha]**	**Additional Requirement during Plan period [in Ha]**	**Total [in Ha]**	**Area considered as**	**Net consider for calculation**
1	Area under mining / pit	-	1.50	1.50	---	1.50

2	Area under dump	NIL	---	---	---	
3	Infrastructure Work shop Administrative Building etc					
4	Roads					
5	Mineral reject					
6	Green Belt Plantation /Soil dump					
7	Tailing Dam /pond					
8	Effluent Treatment Plant					
9	Mineral storage					
10	Township area					
11	Other to specify					
GRAND TOTAL				1.50	1.50	1.50

- Mining will be avoided during monsoon and floods; this will allow the sand deposit to replenish
- Gabion structure will be constructed for the sand to replenish during monsoon season

7. Environmental Management Plan indicating sufficient budgetary provisions for mitigation of identified impacts on all Environmental Parameters .

S. No	Impact Source	Impact	Control measure	Wadadhe EMP Budget
1	Transport Road	On Air Quality	Compaction, gradation and drainage on both sides.	125000
		Road Degradation	Budget for Road Repairs and Maintainence from Approach Road to Main Road	34950
		Road Construction	Road Construction from Quarry to Access Road	58250
		Air Environment	Dust Supression by Regular water spraying.	34950

			Air quality will be monitoring at impacted village.(For One Day Monitoring)	50000
			Health Checkup of Employees.	14400
2	Truck/ Tractor Movement	Air Quality	Sand carrying trucks will be effectively covered by tarpaulin to avoid escape of fines to the atmosphere. (2 Tarpaulin)	30000
			Regular monitoring of the exhaust fumes.	2500
			Barriers & Traffic Management Expenses. (Excluding Man Power Salary which is included in labour costs)	26795
3	Ramp and Sand Reach	Mining Operations	Regular ramp Inspection and Ramp maintenance.(Excluding Man Power Salary which is included in labour costs)	29125
			Provision of dusk masks.	15000
4	Bank Management	Bank Erosion/Flood Plain management	Green Belt along Road	116500
			Green belt along bank(For Green Belt Development)	150000
5	Final Mine Closer Plan implementation	Replenishment of Sand	Provisions of Gabion bunds for protection of bank erosion & replenishment facility.	22500
6	Mobile toilet, sewage handling & treatment		Mobile toilet, sewage handling & treatment	100000
7	CCTV Monitoring		CCTV Camera	60000
			CCTV Monitoriong Framework	60000
8	Safety		Signage Boards	6000
			Fencing	18000
			Watching	25000
9	Drinking Water			60000
10	Sanitation			60000
11	Ground Water Monitoring	Water Environment	Ground Water Level monitoring of wells within 1 Km of Quarry Site	50000
			Piezometer installation at quarry location.	45000

12	Noise Monitoring		Regular Maintainence of Vehicles	75000
13	Physical Survey		Provision for physical survey & associated works if different funds aren't available.	200000
14	Development of Market Model		Provision for development of market model & associated works if different funds aren't available.	25000
15	Environmental Audit		Provision for third party environmental audit if different funds aren't available.	50000
			Total EMP Budget	1543970
			Capital Cost	1112445
			Recurring Cost	431525

8. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)

- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- GP Based Vehicle Tracking System

9. Wadadhe -Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020.

District Collector ensures that they meet all the compliances of the sustainable sand mining guidelines of 2020 by

1. Appointing an Environmental auditor and a three non-official committee to associate with the Environmental auditor in auditing the reports and in sending it to the District authority and making sure that the same will be accommodated in the DSR.
2. Mobile app - The officers involved in monitoring will be provided with mobile application and/or bar code scanners using which the TP can be checked anywhere on road. As soon as the bar or QR code on TP gets scanned through using the mobile application and/or scanner or vehicle number is entered into the application or sent by SMS to a predefined number, all details of TP such as plot details, vehicle details, validity time, etc. should be fetched from the server. This means if anything is re-written on TP and attempt is made to reuse the same, it can be traced immediately. Various reports can be generated using the system showing daily lifting reports and user performance report. This way the vehicles carrying sand can be tracked from source to destination.
3. Online portal – IT Enabled real time monitoring system would be built to monitor the CCTV Cameras 24*7 and the footages would be made available on the public domain for the Public to enhance transparency in the sand mining and to avoid illegal mining. Budget for CCTV Monitoring in allocated in EMP.
4. Customer care/ telephone call – Would be provided to the citizens to report illegal mining in the district from time to time.
5. The District Collector will get all necessary Permissions from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots.
6. The District Collector will be providing a Minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera will be installed at all quarries/depots to monitor illegality if any taking place in the sand quarry/depot.
7. The District Collector will ensure uninterrupted seamless live streaming of videos from the surveillance cameras by ensuring a high-speed Internet Lease Line connection at all quarries/depots.
8. The district collector will get live streaming of the videos monitored at a Centralised control room and the data stored in the Server for future references. A robust Customer Care may also be functional 24 x 7 at the Control Room, to redress the grievance of the public.
9. District collector will ensure that all the Earlier Environmental Clearance conditions would be implemented on time as per the Sustainable sand Mining Guidelines 2020.

10. Ground Water Level Monitoring - Collector will ensure that the Piezometer's would be installed in the Quarry site and all the wells with in one km radius of the Quarry would be monitored regularly. Fluctuations in the ground water would be recorded and necessary measures would be taken from time to time to avoid water depletion. And a separate Budget for Ground water monitoring in included in the EMP.
11. Collector would ensure that senior officials would be doing regular audits with the local police officers that are involved with mining mafia. District collector along with the DSP will ensure that all the FIR's that are in place would be investigated from time to time and necessary action would be taken.
12. All Transportation routes – One from Quarry to sand depo and another from sand depo to the Main road and to end consumer would be tracked and monitored by ensuring only authenticated GPS Vehicle tracking vehicles being allowed to transport the mineral.
13. For road degradation – Budget is allocated in EMP and district collector ensures that the roads are maintenance is properly done by the bidder or through local funds available with collector.
14. Collector will make sure that the Bidder develops Greenbelt plantation along the river bank and on either sides of the approach road and even at the sand depos to prevent air pollution. And all bidders would be enforced only to transport mineral by covering the mineral with tarpaulin covers.
15. Collector will ensure that the bidder develops necessary infrastructure like CCTV Monitoring, CCTV Monitoring, Noise monitoring and Plantations across river bank and approach road in that lease area where the bidder takes lease of the land for storage of the sand.

10. Compliance of earlier Environmental Clearance

There are no earlier Environmental Clearances for this Mine.

11. Information about any general or specific order passed by competent Hon'ble court.

Nil

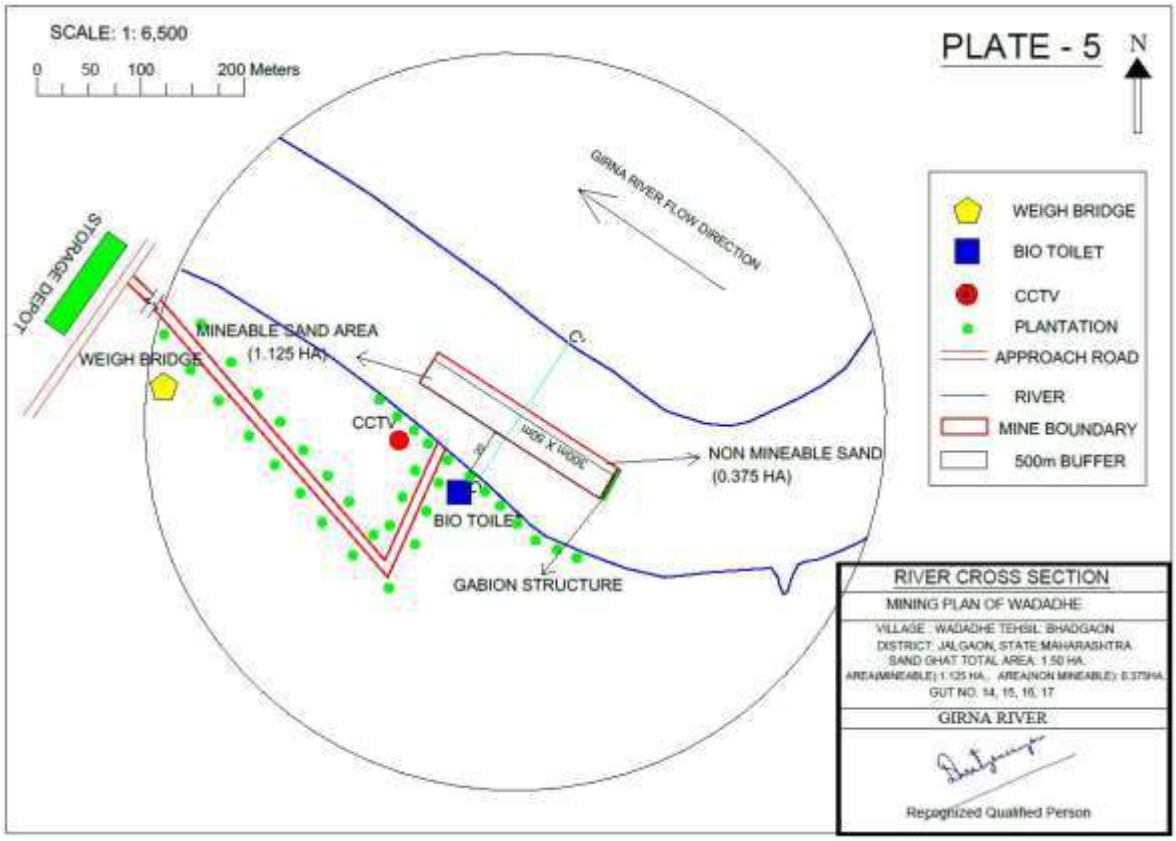
Conditions Reply:

12. DMO Jalgaon to submit cluster certificate with reference to the EIA Notification 2006 amended from time to time with specific remarks on the cluster formation in the periphery of the proposed sand ghat along with area map showing distances between adjoining sand mine areas. Proposed Wadadhe sand ghat does not fall in cluster.

13. PP to submit layout of proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc.

Proposed sand ghat showing mine area, non-mine area, location of bio toilets, location of CCTV cameras, fencing, weigh bridge, approach road etc. layout is given below:

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.



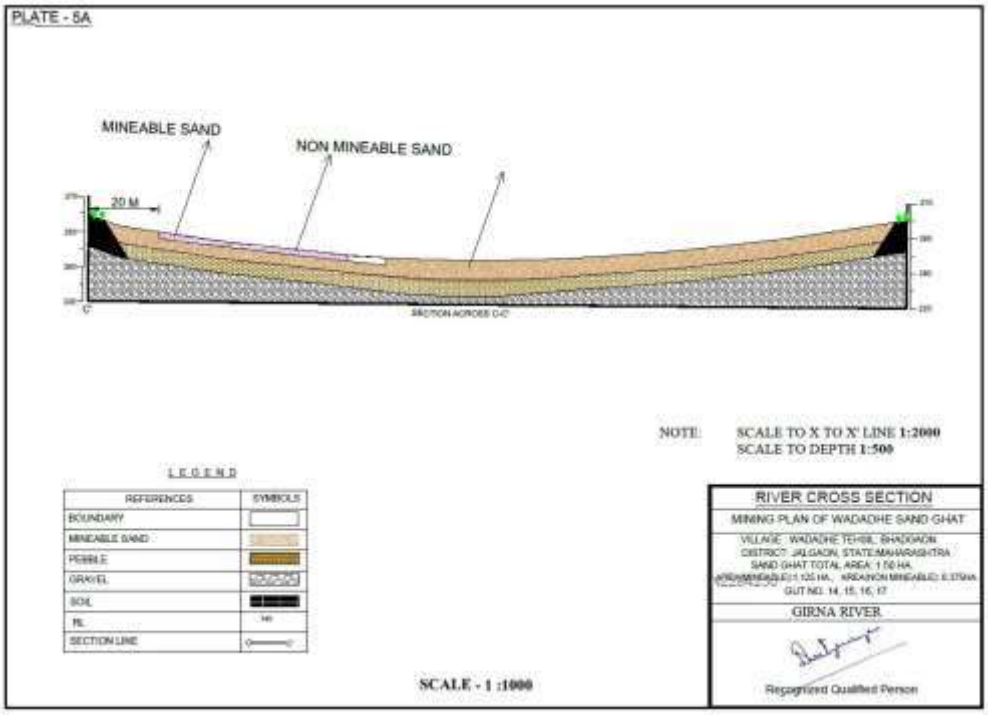
P to submit details of proposed approach road for transport of mined sand from sand ghat to the storage area and consent of storage area from the concerned land owners is an after auction activity to use their land as approach road.

The proposed approach road length is 233 m and it belongs to Gram Panchayat, the mined out sand from sand ghat will be stored adjacent to approach near the river bank. Consent of road submitted by Bhadgaon Tahsildar is enclosed for use of land as approach road. The successful bidder will be deciding the storage area and get concern from land owner.

3. PP to submit cross section of river bed showing distance of proposed sand mine area from the river bank and other details as prescribed in the Enforcement & Monitoring Guidelines for sand mining published in January 2020 by MoEF&CC.

Cross section of river bed is shown below:

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

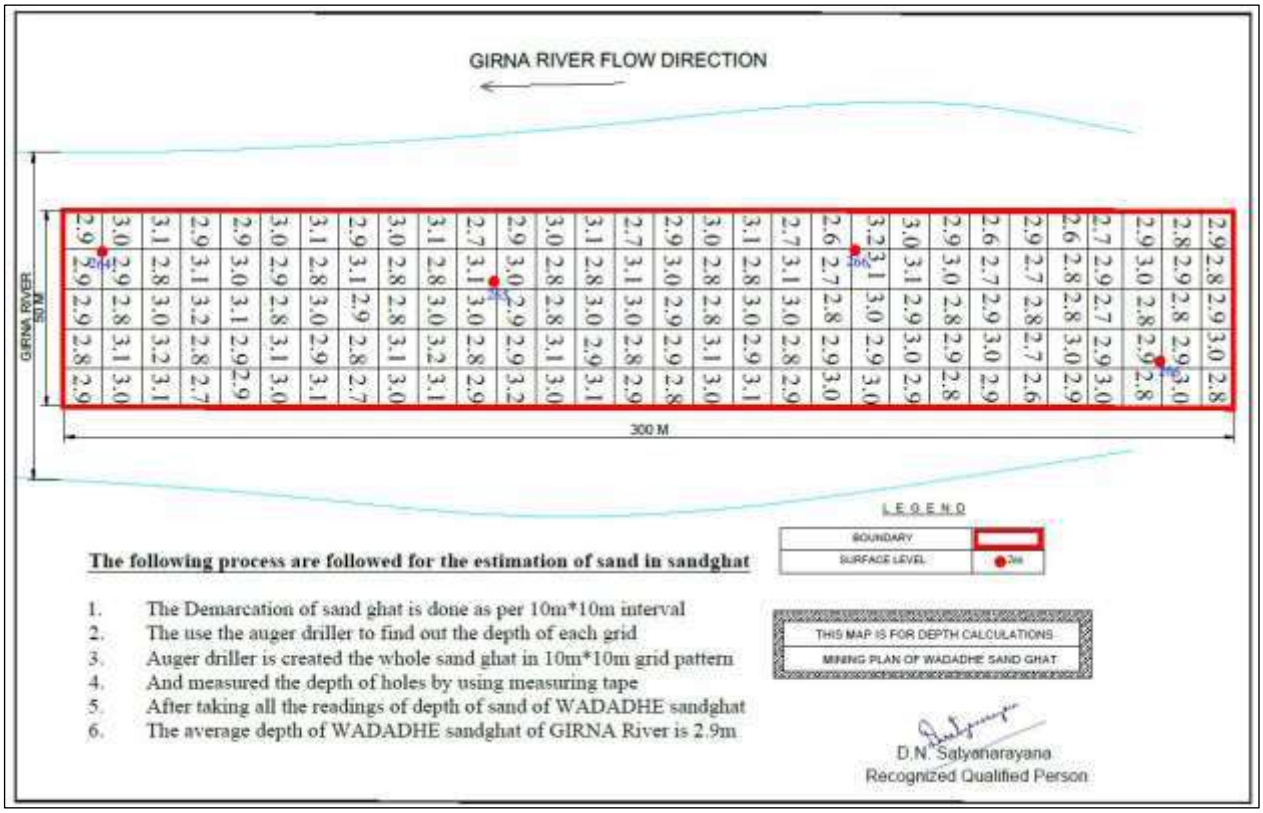


4. PP to submit details of District Level Task Force committee meetings and status of compliance of its recommendations if any

District Level Task Force Committee Meeting details is enclosed.

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

5. PP to submit revised replenishment study of sand in the proposed ghat along with details of methodology, technology used to identify the existing reserve and replenishment of the same.



The following process are followed for the estimation of sand in sandghat

1. The Demarcation of sand ghat is done as per 10m*10m interval
2. The use the auger driller to find out the depth of each grid
3. Auger driller is created the whole sand ghat in 10m*10m grid pattern
4. And measured the depth of holes by using measuring tape
5. After taking all the readings of depth of sand of WADADHE sandghat
6. The average depth of WADADHE sandghat of GIRNA River is 2.9m

6.

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**
   S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F
2. **For Runoff More Than 2 Inches**
   S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Girna river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

- The sediment yield of Waghur river at waghur dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

Conclusion:

As per above data sedimentation yield for Tapi, Girana and Waghur Rivers. The replenishment rate is sedimentation yield so much more than permitted sand mining quantity. Hence, the sand mining is safe of environmentally friendly.

7. PP to submit details of proposed plantation plan along with its location and requisite permission to be obtained from the Competent Authority.

Plantation details are presented below:

Location of greenbelt	Both sides of approach road, On the river banks of both sides of the sand spot & nearby open areas Haul Road outside riverbed
Afforestation area/ annum	1066 Sq.m /annum
No. of plants to be planted	533
Spacing of plants	2 m grid interval
Species selected	Native species

Tree species recommended for Plantation:

Botanical name	**Local name**	**Importance**
Azadirachta indica	Neem	Neem oil & neem products
Tectona grandis	Teek	Antibacterial,Antifungal, Antiulcer

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

Ficus religiosaa	Peepal	Medicinal Use, Fruits & figs
Bambusa vulgaris	Bamboo	Anthelmintic Anti inflammatory,Astringent Properties
Madhuca longifolia	Mahua	Acts as a Stimulant & cough relief,

BUDGET FOR CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

SNo.	Budget Allocated	Budget (In INR)
1	Installation of water tankers in nearby village	60000
2	Providing books and uniforms to nearby village school	20000
3	Awareness to local farmers to increase yield of crop and fodder	80000
4	Plantation in community areas	30000
5	Repair of village roads	80000
6	Community infrastructure development	200000
	Total	470000

Summary and Conclusion

The environmental status of the project site and study area of 10 km radius is delineated with respect to air, noise, water, land, biological and socio-economic environment The different project activities in the construction and operation phases are identified. To identify the impacts, the interaction between the project activities and different components of the environment are classified phase wise. A summary of the identified impacts are given in the following paragraphs.

During the operational phase, transportation of sand could cause a temporary disturbance to local environment which will be prevented with the proposed mitigation measures proposed in Point no. 4.

Proposed project will not have any major significant negative impacts. The minor impacts arising out during Excavation and Transportation phases can be mitigated with the help of the proposed Environmental Management Plan.

In general, Sand excavation from Wadadhe Sand Spot will be useful to the developmental work in the district and also generate employment opportunities.

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/12 DATE- 07 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for Ground water monitoring at regular intervals by district collector-regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that district collector are responsible for enabling ground water monitoring at regular intervals for all the sand ghats within the District.

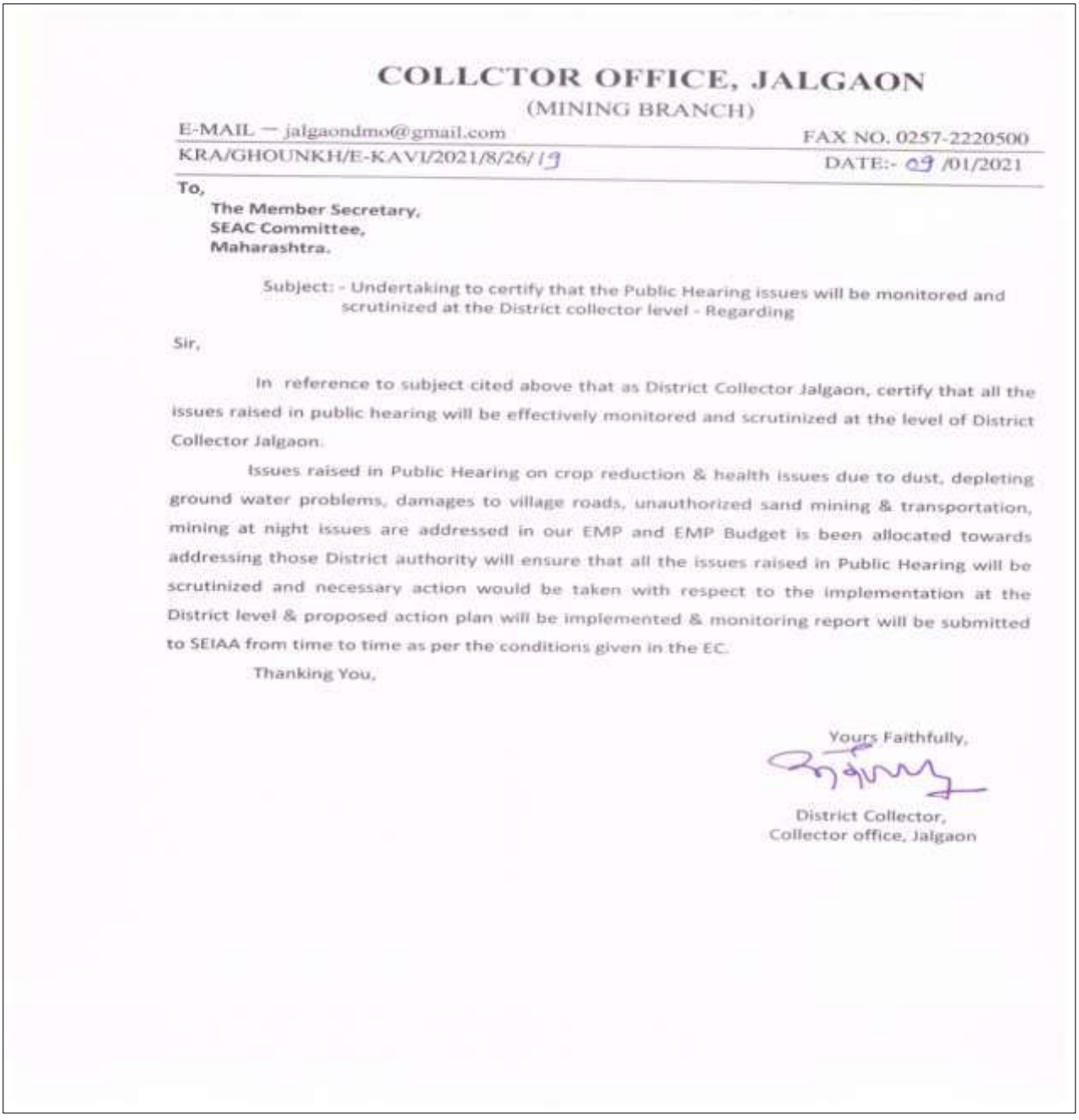
We here by ensure that we will to monitor the groundwater level during sand quarrying operations. Also we will form a network of existing wells around the sand quarrying area and piezometers would be installed at all sand ghats sites in the district monitoring of groundwater quality and fluctuations in the vicinity (one kilometre radius from the sand quarrying site) shall be carried out once in two months.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.



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(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/19 DATE:- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify that the Public Hearing issues will be monitored and scrutinized at the District collector level - Regarding

Sir,

In reference to subject cited above that as District Collector Jalgaon, certify that all the issues raised in public hearing will be effectively monitored and scrutinized at the level of District Collector Jalgaon.

Issues raised in Public Hearing on crop reduction & health issues due to dust, depleting ground water problems, damages to village roads, unauthorized sand mining & transportation, mining at night issues are addressed in our EMP and EMP Budget is been allocated towards addressing those District authority will ensure that all the issues raised in Public Hearing will be scrutinized and necessary action would be taken with respect to the implementation at the District level & proposed action plan will be implemented & monitoring report will be submitted to SEIAA from time to time as per the conditions given in the EC.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

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E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAV1/2021/8/26/20 DATE :- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking to certify compliance assurance will be scrutinized by District collector - regarding

Sir,

In reference to subject cited above, the District Collector will immediately appoint a NABET Accredited Environmental Consultant for performing Environmental audit across all the proposed sand ghats within the district. The District collector will also nominate and appoint a three-member committee that includes an ex-serviceman, a former teacher and former civil servant to co-ordinate in performing the Environmental Audit from time to time in all the proposed sand ghats.

All the reports generated in the Environmental Audit by the Environmental audit Committee would be made available in the Public Domain for the public from time to time. All the Compliance issues will be scrutinized at the District Collector level only. We will ensure that we abide by all the Enforcement and Monitoring Guidelines. The District collector will make sure that the method of the audit shall reflect adequately the monitor-able parameters and outputs and reflects the compliance status with respect to the conditions that are imposed by the regulatory authorities including conditions of Environmental clearance.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

Wadadhe Sand Spot over an extent of 1.50 HA (MINEABLE AREA-1.125HA & NON-MINEABLE AREA-0.375HA) At Girna River Bed Gut No. 14/1/A Wadadhe Village, Tehsil-Bhadgaon, Jalgaon District, Maharashtra.

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Yours Faithfully,

District Collector,
Collector office, Jalgaon

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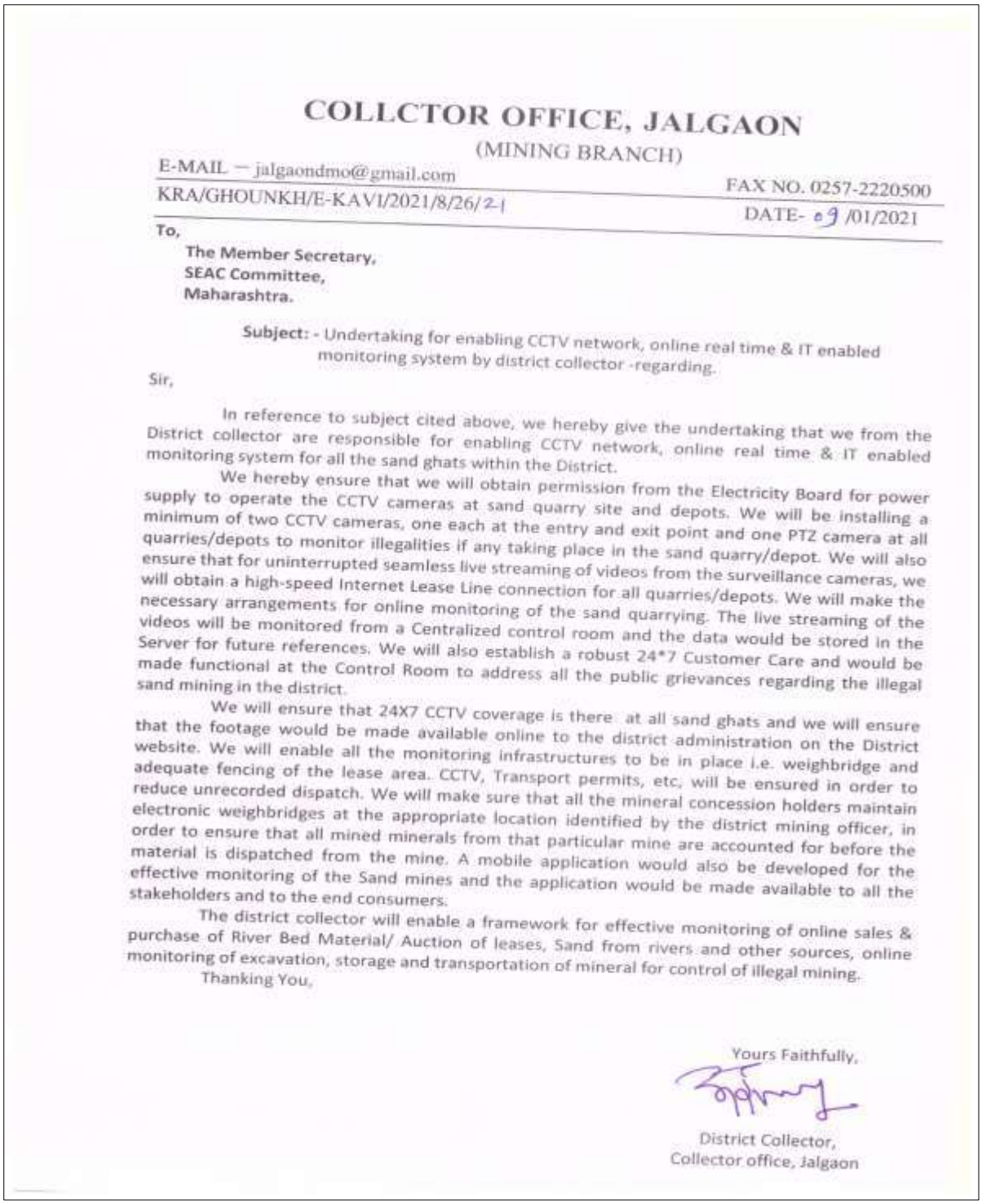


COLLCTOR OFFICE, JALGAON

(MINING BRANCH)

E-MAIL – jalgaondmo@gmail.com FAX NO. 0257-2220500

KRA/GHOUNKH/E-KAVI/2021/8/26/21 DATE- 09 /01/2021

To,

The Member Secretary,
SEAC Committee,
Maharashtra.

Subject: - Undertaking for enabling CCTV network, online real time & IT enabled monitoring system by district collector -regarding.

Sir,

In reference to subject cited above, we hereby give the undertaking that we from the District collector are responsible for enabling CCTV network, online real time & IT enabled monitoring system for all the sand ghats within the District.

We hereby ensure that we will obtain permission from the Electricity Board for power supply to operate the CCTV cameras at sand quarry site and depots. We will be installing a minimum of two CCTV cameras, one each at the entry and exit point and one PTZ camera at all quarries/depots to monitor illegalities if any taking place in the sand quarry/depot. We will also ensure that for uninterrupted seamless live streaming of videos from the surveillance cameras, we will obtain a high-speed Internet Lease Line connection for all quarries/depots. We will make the necessary arrangements for online monitoring of the sand quarrying. The live streaming of the videos will be monitored from a Centralized control room and the data would be stored in the Server for future references. We will also establish a robust 24*7 Customer Care and would be made functional at the Control Room to address all the public grievances regarding the illegal sand mining in the district.

We will ensure that 24X7 CCTV coverage is there at all sand ghats and we will ensure that the footage would be made available online to the district administration on the District website. We will enable all the monitoring infrastructures to be in place i.e. weighbridge and adequate fencing of the lease area. CCTV, Transport permits, etc, will be ensured in order to reduce unrecorded dispatch. We will make sure that all the mineral concession holders maintain electronic weighbridges at the appropriate location identified by the district mining officer, in order to ensure that all mined minerals from that particular mine are accounted for before the material is dispatched from the mine. A mobile application would also be developed for the effective monitoring of the Sand mines and the application would be made available to all the stakeholders and to the end consumers.

The district collector will enable a framework for effective monitoring of online sales & purchase of River Bed Material/ Auction of leases, Sand from rivers and other sources, online monitoring of excavation, storage and transportation of mineral for control of illegal mining.

Thanking You,

Yours Faithfully,

District Collector,
Collector office, Jalgaon

PRE-FEASIBILITY REPORT

- District Collector Jalgaon vides his right to auction Sand as a minor mineral intends to auction the Sand in Jalgaon district.
- District Collector Jalgaon appointed M/s Integrated Precision Systems & Services Pvt. Ltd., for preparation of Mining Plan and grant of environmental clearance.
- Applicant proposed to auction the said Sand Spot over an area of 1.5Ha (1.125 Ha. Mineable & 0.375 Ha. Non-Mineable 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 3578 Brass sand is proposed to auction from proposed sand spot.
- Proposed site is located at the Tapi river bank.

1. Physiography

The Sand Spot area as per survey is River bed of GIRNA River. The river originates from Multai in Betul district of Madhya Pradesh in the Satpura range at an elevation of 752 meter above the sea level. The states through which the Girna river flows include Maharashtra, Gujarat and Madhya Pradesh.

The slope of Sand spot area is towards NW side altitude ranging from contour 263 to 268 from MSL i.e. 5m in average. The highest altitude from MSL is 268 and lowest 263. The flow of Girna River is towards NW direction.

2. Local Geology

The local geology is Sand of various size up to depth of 2.5-3.2-meter depth.

3. Details of Exploration

There is sufficient reserve of Sand available & 70% of sand replenish after every year monsoon season therefore conceptual period of mining will be till existence of river bed.

Mining - The mining will be continue with present method of open cast mining by cutting slice of 0.9 m of Sand along topography, by advancing from NE to SW direction as per allotted area by auction. The production can be at the rate of 10125 Cu. M or 3578 brass i.e. 1 year from date mining plan approval. The size of pit at the end will be 1.5HA (Mineable Area-1.125 HA & Non-Minaeable Area 0.375HA)Ha.

4. Introduction of the project/ background information

The Wadadhe Sand Spot has been kept for Auction which is situated at Village Wadadhe, Taluka Bhadgaon, and District Jalgaon and hence prior to go for Auction a Mining Plan and Environmental Clearance are required and hence Mining Plan is being prepared.

i) Brief description of project

The Sand Spot has sufficient Reserve of Sand to work at 10125 Cu.m for a specified period mentioned i.e. 1 year from date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 1 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

ii) Need for the project

The Sand or Sand Spot under reference is aimed at exploring Sand as ROM in various sizes i.e. fine to Coarse grain which is Transported to consumer site in outside Sand Spot area, for the infrastructure development i.e. Construction activity to produce Concrete for putting in the floor, roof- slabs, Column, Pillars, Bridges & Dam construction.

5. Project Description

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

i) Location

Wadadhe is a small Village/hamlet in Bhadgaon Taluka in Jalgaon District of Maharashtra State, India. It comes under Wadadhe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 53 KM towards NE from District headquarters Jalgaon. 2.5 KM from Bhadgaon. 305 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 233km in SW direction. Jalgaon Railway Station is present at a distance of 16 km.

Area covered in SOI Toposheet No- 46P/9. The GPS reading of boundary point are given below:

Boundary points of WADADHE	Latitude	Longitude
B.P 1	20°39'31.01"N	75°12'26.04"E
B.P 2	20°39'32.41"N	75°12'26.97"E
B.P 3	20°39'27.16"N	75°12'35.64"E
B.P 4	20°39'25.83"N	75°12'34.84"E

ii) Alternate Sites

No alternate site is proposed.

iii) Magnitude of Operation

Proposed period for mining of sand will be decided by the office of district collectorate. 10125 Cu.m. will be excavated during the period.

iv) Project description-mining details

The Agency will start the work after getting Allocation Letter from competent Authority by Opencast manual mining method. The size of pit as mentioned is 300 m L X 37.5m W at end of Sand Spot period. There will be no dumps of material inside Sand Spot area as all mined out were saleable.

The Sand Spot has sufficient Reserve of Sand to work at 10125 Cu.m for a specified period mentioned i.e. 1 year from the date mining plan approval. as per agreement from there the Sand Spot will due for another Mining plan. The mining will continue with opencast method of Mining by cutting 0.9 m slice of Sand by advancing from NE to SW direction as per allotted Sand Spot area and handling of material with the help of labors in to the tractor having capacity 1 Brass for transport of Sand to the various dealer site located outside Sand Spot area.

v) Raw material, marketing & transport of ore

The proposed sand spot will be auctioned and successful bidder will be responsible for carrying

out mining operations as per environmental terms and conditions, approved mining method as per approved mining plan and other terms and conditions. The loading of Sand generated to the tractor/tipper/dumpers will be done by loaders & material transported to the Dealer site.

vi) Resource optimization, recycle, reuse

Production of sand will be decided by the factors like replenishable nature of sand, ecological sensitivity and various features existing in buffer zone. The decision regarding auctioning of sand will be on yearly basis and the above factors will be studied before decision is taken.

vii) Water & energy requirement

The major water requirement in the lease area is for dust suppression and for drinking use. The total water requirement is estimated as 4.66KLD. The required water for dust suppression can be arranged through tankers from nearby village and drinking water will be provided in earthen pots for labours. The vehicles used for transportation will use diesel of about 125-150 litres /day.

viii) Quantity of waste & scheme for management

There will not be any waste generation within the lease area.

ix) Schematic Representations

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

6. Site Analysis

i) Connectivity

Wadadhe is a small Village/hamlet in Bhadgaon Taluka in Jalgaon District of Maharashtra State, India. It comes under Wadadhe Panchayath. It belongs to Khandesh and Northern Maharashtra region. It is located 53 KM towards NE from District headquarters Jalgaon. 2.5 KM from Bhadgaon. 305 KM from State capital Mumbai.

The sand spot area is connected to approached road at a distance of 233km in SW direction. Jalgaon Railway Station is present at a distance of 16 km.

ii) Land Use, form & Ownership

The ultimate land use pattern for the lease area of 1.5Ha. will be consisting of

1. Mining Area :	1.5Ha.
2. Construction of Temporary Roads:	0.00 ha.
3. Total :	1.5Ha.

At present ownership of this sand spot area is in the hand of Govt. of Maharashtra, after approval of mining plan and EC quarry area will be transfer to bidder after auction.

iii) Geology

The proposed sand spot area is the case of a river bed which contains mixture of sand, pebbles and gravels of various sizes.

Existing land use pattern

Existing Sand spot is a river bed having 2.0-2.9 m of sand.

7. Social-Economic Environment

Critically analyzing the existing environmental status of the socio-economic profile and visualizing the scenario with the project, the impacts of the project would be varied and may generate positive impacts of the mining of sand quarry in the region that are stated below:

A. The *mining o*perations will provide direct & indirect employment to the village people.

B. The villages and their inhabitants & domestic animals will not be disturbed due to mining as quarry is far from their settlements.

C. Local workforce will be given first preference for employment.

D. Mining activities will benefit the local people due to provision of more infrastructural facilities (developments of approach routes within the village area).

8. Planning brief

The proposed project is opencast manual sand mining activity.

Supply demand ratio:

Information required on demand and supply of district (2020-21)			
Sr.No.	**Name of District**	**Total sand Demand of District in Brass**	**Total Sand Available in district in Brass**
1	Jalgaon	191380	99568

Tahsil Office Sand Information (2020-21)			
Sr.No.	**Name of Tahsil**	**Toatal Sand Demand if Tahsil in Brass**	**Total Sand Available in Tahsil in Brass**
1	Jalgaon	24075	20088
2	Jamner	9430	No Sand Ghats
3	Erandol	12478	8407
4	Dharangaon	12875	16562
5	Parola	12394	No Sand Ghats
6	Amalner	15520	35864
7	Chopda	14147	1943
8	Yawal	15462	No Sand Ghats
9	Raver	13375	16704
10	Muktainagar	13476	No Sand Ghats
11	Bhusawal	11105	No Sand Ghats
12	Bodwad	6956	No Sand Ghats
13	Pachora	11590	No Sand Ghats
14	Bhadgaon	7673	No Sand Ghats
15	Chalisgaon	10824	No Sand Ghats
	Total	**191380**	**99568**

On going Government Civil/infrastructural works in the district (2020-21)			
Sr. Nr.	**Name of Govt. Yojana**	**Details of Work**	**Approx.Qty of Sand required in Brass**
1	कार्यकारी अभियंता उपसा सिंचन बांधकाम विभाग,जळगांव	भागपुर उपसा सिंचन योजना	3975
2	कार्यकारी अभियंता तापी खोरे सर्वेक्षण वअन्वेषण विभाग जळगांव	जलसंपदा विभाग	2278
3	भारतीय राष्ट्रीय राजमार्ग प्राधिकरण, जळगांव	नॅशनल हायवे क्र. 6 चे चौपदरीकरण	15000
4	घरकुल	शासकीय घरकुलांच्या बांधकामासाठी	66855
	Total		**88108**

- सदर वाळूच्या Demand and supply ratio नुसार तफावत दिसत असली तरी आपण एक हेक्टरपेक्षा कमी क्षेत्र असलेले वाळूगट वगळलेले आहे. सदर वाळूगट सर्वेक्षणाचे काम हाती घेण्यात आलेले आहेत त्यामधुन अंदाजे 14906 ब्रास पेक्षा जास्त वाळूसाठा उपलब्ध होणार आहे.

- जळगांव जिल्हयातील काही स्टोणक्रशर धारकांनी दगडाद्वारे वाळू तयार करण्याचे मशिनी बसवलेल्या आहेत. त्याद्वारे कृत्रीम वाळूची निर्मीती करुन बांधकामासाठी उपलब्ध करुन देत आहे.

- जळगांव जिल्हयातील CREDAI संघटनेला विचारले असता त्यांनी आमच्यातील काही बांधकाम व्यवसायीक बांधकामासाठी FLY Ash द्वारे निर्माण केलेल्या विटांचा वापर करतात सदर विटा रसायनीक पदार्थ वापरुन जोडल्या जातात व आतील प्लास्टरसाठी gypsum चा वापर केला जातो.

Sand demands for Gharkul

अ.क्र.	तालुका	कार्यालयाचे नाव	पंधानमंत्री आवास योजना	रेती मागणी (ब्रास)	रमाई आवास योजना	रेती मागणी (ब्रास)	सबरी आवास योजना	रेती मागणी (ब्रास)	पारधी आवास योजना	रेती मागणी (ब्रास)	इंदीरा आवास योजना	रेती मागणी (ब्रास)	एकुण ब्रास
1	AMALNER	पंचायत समिती अमळनेर	532	2660	165	825	147	735	0	0	0	0	4220
		नगर परिषद, अमळनेर	236	1180	124	620	0	0	0	0	0	0	1800
2	BHADGAON	पंचायत समिती, भडगांव	365	1825	95	475	15	75	0	0	0	0	2375
		नगर परिषद,भडगाव	154	770	54	270	0	0	0	0	0	0	1040
2	BHUSAWAL	पंचायत समिती,भुसावळ	95	475	98	490	12	60	0	0	0	0	1025
		नगर परिषद, भुसावळ	205	1025	89	445	0	0	0	0	0	0	1470
		नगर पंचायत, वरणगांव	74	370	48	240	0	0	0	0	0	0	610
4	BODWAD	पंचायत समिती, बोदवड	33	165	135	675	8	40	0	0	0	0	880
		नगर पंचायत,बोदवड	125	625	0	0	0	0	0	0	0	0	625
5	CHALISGAON	पंचायत समिती,चाळीसगांव	563	2815	154	770	38	190	0	0	0	0	3775
		नगर परिषद,चाळीसगांव	241	1205	89	445	0	0	0	0	0	0	1650
6	CHOPDA	पंचायत समिती,चोपडा	1024	5120	48	240	54	270	0	0	0	0	5630
		नगर परिषद चोपडा	195	975	96	480	0	0	0	0	0	0	1455
7	DHARANGAON	पंचायत समिती, धरणगांव	654	3270	65	325	19	95	0	0	0	0	3690
		नगर परिषद,धरणगांव	84	420	42	210	0	0	0	0	0	0	630
8	ERANDOL	पंचायत समिती,एरंडोल	584	2920	63	315	17	85	0	0	0	0	3320
		नगर परिषद,एरंडोल	75	375	45	225	0	0	0	0	0	0	600
9	JALGAON	पंचायत समिती, जळगांव	462	2310	125	625	69	345	0	0	0	0	3280
		महानगर पालीका जळगांव	364	1820	0	0	0	0	0	0	0	0	1820
10	JAMNER	पंचायत समिती,जामनेर	356	1780	248	1240	83	415	0	0	0	0	3435
		नगर परिषद,जामनेर	152	760	102	510	0	0	0	0	0	0	1270
11	MUKTAINAGAR	पंचायत समिती,मक्ताईनगर	241	1205	50	250	17	85	0	0	0	0	1540
		नगर परिषद,मुक्ताईनगर	78	390	0	0	0	0	0	0	0	0	390
12	PACHORA	पंचायत समिती,पाचोरा	541	2705	56	280	62	310	0	0	0	0	3295
		नगर परिषद,पाचोरा	286	1430	71	355	0	0	0	0	0	0	1785
13	PAROLA	पंचायत समिती,पारोळा	465	2325	85	425	65	325	0	0	0	0	3075
		नगर परिषद,पारोळा	88	440	63	315	0	0	0	0	0	0	755
14	RAVER	पंचायत समिती,रावेर	698	3490	74	370	55	275	0	0	0	0	4135
		नगर परिषद,रावेर	99	495	59	295	0	0	0	0	0	0	790
		नगर परिषद,सावदा	132	660	42	210	0	0	0	0	0	0	870
15	YAWAL	पंचायत समिती,यावल	546	2730	78	390	96	480	0	0	0	0	3600
		नगर परिषद,यावल	152	760	42	210	0	0	0	0	0	0	970
		नगर परिषद, फैजपुर	185	925	25	125	0	0	0	0	0	0	1050
		एकुण	10084	50420	2530	12650	757	3785	0	0	0	0	66855

Replenishment:

- Area of deposition and erosion will be calculated for each cross-section after giving due regard to stability & safety of active channel banks & other features of importance.
- DGPS and other survey tools will be used to define topography, contours and offsets of lease area.
- Contour & elevation benchmarks will provide baseline data for assessing pre and post-study period scenario.
- Physical benchmarks will be fixed at appropriate intervals (preferable 1 in 30 m) & Reduced Level (RL) shall be validated from a nearby standard RL.
- These RL will be engraved on a steel plate (Bench Plate) & will be fixed & placed at locations which are free from any damages & are available in pre and post-study period.
- Bench plates will be available for use during the mining period as reference for all mining activity.
- Baseline data on elevation status for a grid of 10 m x 10 m is preferred to have accuracy in the assessment.
- It is expected that two consecutive cross-sections in longitudinal and lateral direction will not be more than 10-meter distance apart.
- Changes observed in the elevation in per and post scenario at each node will be depicted in graphical forms with an appropriate scale to estimate the area of deposition & erosion.
- Elevation level will be in reference to nearest bench-plates established for the purpose.
- The levels (MSL & RL) of corner point of each grid will be identifiable and safety barriers (Non-Mining) demarcated as restricted in consensus with Mineral Concession Rules of respective State, and the provision mentioned in this Sustainable Sand Mining Management Guidelines.

- A clear identification is required to be highlighted between grids under mineable and grids under the non-mineable area. These baseline data (pre and post) be subjected to stimulation with the help of data mine software to derive at the replenishment area and corresponding volume and estimated weight.
- The database will be structured in a tabulated form clearly depicting the nomenclature of the section lines, latitude and longitude of the starting point, chain-age and respective levels of all the points taken on that section line.
- Net area shall be derived after summation of area of deposition minus area of erosion for each cross-section.
- Volume will be estimated by multiplying distance between two cross-sections with average of net area of these two consecutive cross-sections.
- One sample per 900 square meters (30 m x 30 m) will be preferred sample density for assessment of bulk density for estimation of deposition rate.
- Care will be taken that the sample for assessment of bulk density is taken from the deposition zone & not from erosion.

Sediment Yield Calculations for River Streams

DANDY-BOLTON EQUATION

1. **For Runoff Less Than 2 Inches**

S=*1280*(Q)*0.46*(1.46-0.26log(A)) *F

1. **For Runoff More Than 2 Inches**

S=*1958*(Q)*(e-0.055*Q) *(1.43-0.26log (A))

Where

S=sediment yield of stream (t/yr/km2),

Q= average annual runoff (m3),

A= net drainage area in sq. mile

- The sediment yield of Tapi river at Hatnur dam station are $1.08*10^{23}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Girana dam station is $4.612*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation.
- The sediment yield of Tapi river at Tapi dam station $2.32*10^{20}$ tonnes/year/km2 by Dandy-Bolton Equation

(Source: State Irrigation Department)

5. Sand Ghat Site specific enforcement & monitoring plan as per guidelines stipulated in the Enforcement and Monitoring Guidelines for sand mining issued by MoEF&CC in January 2020

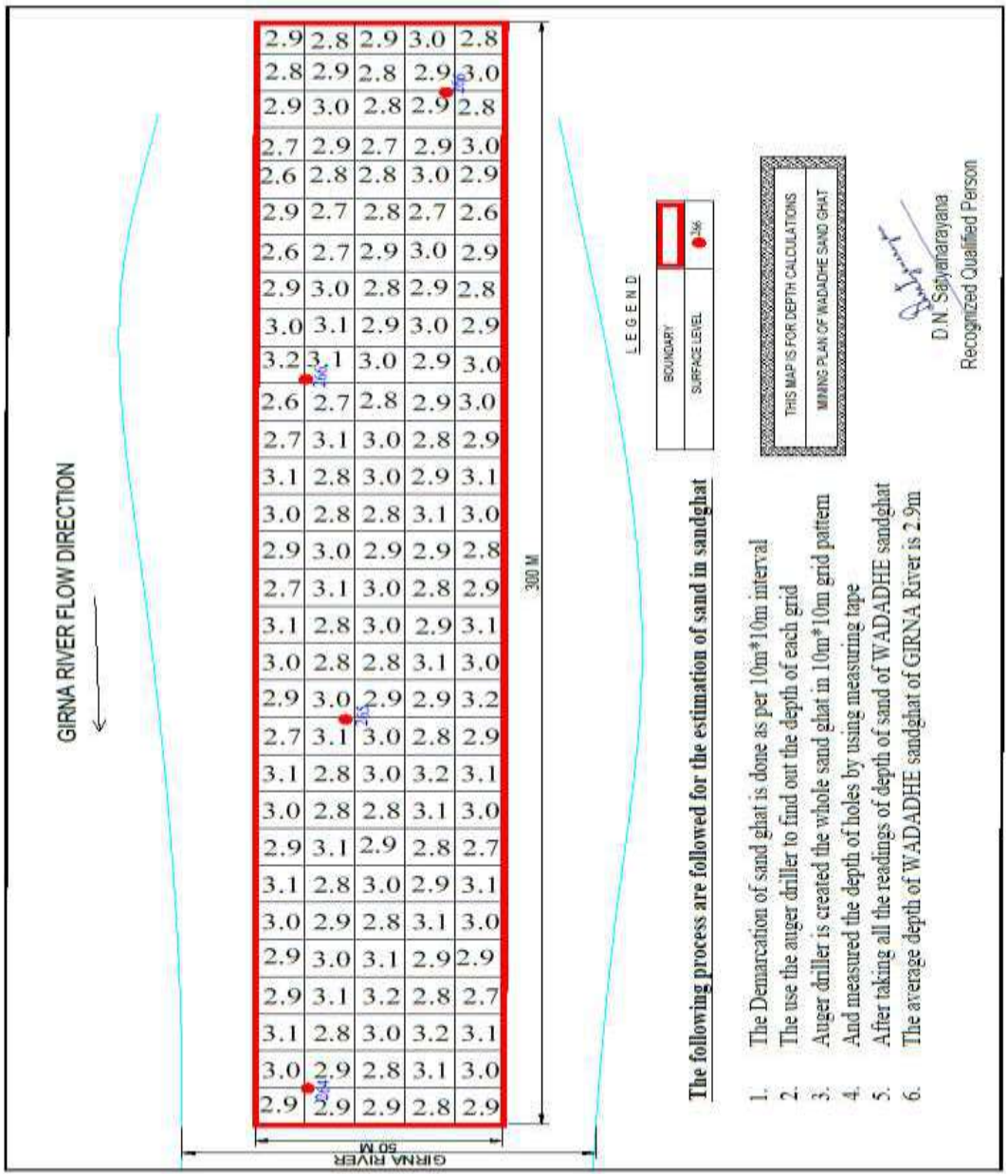
- District administration shall provide detailed information on its website about the sand mines in its district for public information with an objective to extend all information in public domain so that the citizens are aware of the mining activities and can also report to the district administration on any deviation observed.
- Appropriate feedback and its redressal mechanism shall also be made operational.
- Details shall include, but not limited to, lease area, geo-coordinates of lease area and mineable area, transport routes, permitted capacity, regulatory conditions for operation including mining, environmental and social commitments etc.
- Independent committee of the expert constituted by DLTF will assess the environmental or ecological damage caused due to illegal mining and recommend recovery of environmental compensation from the miner's concern.
- The recommendation may also include action under the provision of E(P) Act, 1986.

It will be ensured that following security features are included in the Transport Permission/Permits (TP) so that duplicate/fraudulent/forged TPs for transport, not accounted for in the IT-based system, is not possible:

- Printed on Indian Bank Association (IBA) Approved
- Magnetic Ink Character Recognition Code (MICR) paper
- Unique Barcode
- Unique Quick Response Code (QR)
- Fugitive Ink Background
- Invisible Ink Mark
- Void Pantograph
- Watermark
- CCTV at mine lease site
- GPS Based Vehicle Tracking System

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided outside Sand Spot area.

Sand Quantity Evaluation:



2.9	2.8	2.9	3.0	2.8
2.8	2.9	2.8	2.9	3.0
2.9	3.0	2.8	2.9	2.8
2.7	2.9	2.7	2.9	3.0
2.6	2.8	2.8	3.0	2.9
2.9	2.7	2.8	2.7	2.6
2.6	2.7	2.9	3.0	2.9
2.9	3.0	2.8	2.9	2.8
3.0	3.1	2.9	3.0	2.9
3.2	3.1	3.0	2.9	3.0
2.6	2.7	2.8	2.9	3.0
2.7	3.1	3.0	2.8	2.9
3.1	2.8	3.0	2.9	3.1
3.0	2.8	2.8	3.1	3.0
2.9	3.0	2.9	2.9	2.8
2.7	3.1	3.0	2.8	2.9
3.1	2.8	3.0	2.9	3.1
3.0	2.8	2.8	3.1	3.0
2.9	3.0	2.9	2.9	3.2
2.7	3.1	3.0	2.8	2.9
3.1	2.8	3.0	3.2	3.1
3.0	2.8	2.8	3.1	3.0
2.9	3.1	2.9	2.8	2.7
3.1	2.8	3.0	2.9	3.1
3.0	2.9	2.8	3.1	3.0
2.9	3.0	3.1	2.9	2.9
2.9	3.1	3.2	2.8	2.7
3.1	2.8	3.0	3.2	3.1
3.0	2.9	2.8	3.1	3.0
2.9	2.9	2.9	2.8	2.9

- 10 x10 m grid pattern data sampling is considered for calculation of sand depth in sand spot
- Demarcation of sand spot is done as per 10 x10 m grid interval
- Auger driller is used to find out the depth at each grid
- Auger drilling is done in the whole sand spot with 10 x10 m grid interval
- Depth of each hole is measured by using measuring tape
- After taking all readings of depth, average depth of sand is calculated

The site services as per statute, like Mine office, store room, workshop, first aid Room & water point will be provided in outside Sand Spot area.

6. Proposed Infrastructure

The site services as per statute, like Mine office, storeroom, workshop, first aid Room & water point will be provided in outside Sand Spot area.

7. R&R Plan

R&R is not involved.

8. Project schedule

Period of mining for the proposed sand spot will be decided by the Office of District Collectorate.

9. Analysis of Proposal

Description of the project included in items 1-10 above indicates the following:

1. It is proposed for opencast manual river sand mining.
2. Opencast mining without hampering the present environmental quality of the area.
3. Income to local people is uncertain & initiation of mining will ensure regular income to local people.

10. Costing

Costing parameters will be decided by the District Authorities.

11. Compliance to Environment Clearance

There are no earlier Environmental Clearances for this Mine.

12. Any Other Information:

Stringent stipulations have been laid out while issuing EC. This includes regular monitoring of environmental parameters and carrying out various mitigates measures to protect the environment.

These things will be religiously followed and its report will be periodically 9) Virgin lease area for Sand Mine & Other Uses 3.11 0.000 10) Road - - 11) Railway - - 12) Tailing Pond - - 13) Effluent Treatment Plant - - 14) Mineral separation plant - - 15) Township Area - - 16) Others to specify - - 17) Ownership Government River Government River Total 3.11 3.11 submitted to the concerned authority.

All Notices, Letters received from Government and all communication with Government (Court,

NGT, DGMS, Directorate of Geology and Mining, District Mining Officer, Collector, Tehsildar, Grampanchayat, Talathi, Pollution Control Board, Forest department, Environment department, Irrigation department, Public Works Departments, Controller of Explosive, Labor Commissioner, Sale tax etc.) regarding Mine Lease and Mining will be strictly followed by Mine Owner. Mine Owner must follow all provisions of the Maharashtra Minor Minerals Extraction (Development and Regulation) Rule-2013, MoEF & CC Notification S.O. 141 (E) dated 15th January 2016, and MoEF & CC Sustainable Sand Mining Management Guidelines 2016, the Environment (Protection) Act 1986 and Rules made there under, the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Hazardous Wastes (Management and Handling) Rules 1989, the Wildlife (Protection) Act 1972, the Forest Conservation Act-1980, the Forest Conservation Rule-2003, the Mineral Conservation and Development Rule-1988, the Mineral Concession Rules-1960, the Mines and Minerals (Development and Regulation) Act-1957, the Mines Act, the Mines Rule, the Mines Regulations, the public Liability Insurance Act 1991 and its amendments, Orders and Bye Laws made there under and any laws or guidelines that may be applicable to mine / area from time to time whether made by Central or State Government or any

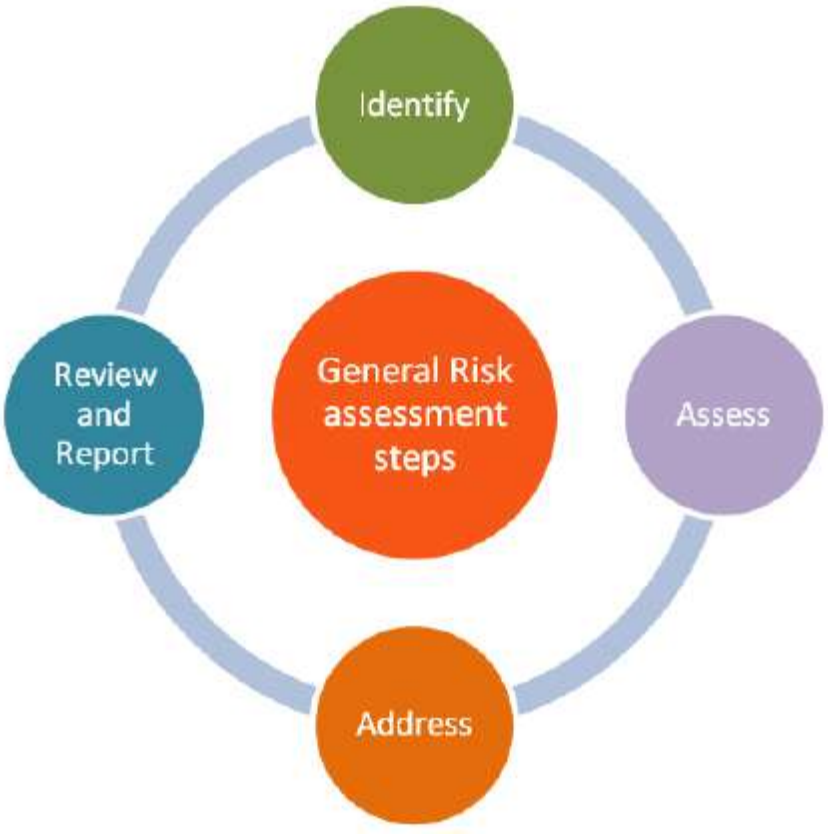
other authority. Wherever specific permissions are required, the applicant will approach the Directorate General of Mines Safety, Indian Bureau of Mines and Directorate of Geology and Mining. Mine Owner should obtain relevant clearances as per Environment Protection Act-1986 and EIA notification dated 21.01.1994 and 04.09.2006.

Risk Assessment for Wadadhe Sand Spot

1. Introduction

A main principle of risk assessment is that it should take place before any changes are made. Risks should be assessed and control measures are put into action before new work is introduced or systems are changed. The process should influence budgets and allocation of resources, rather than being an afterthought when the decisions have already been made.

The risk management process is continuous, with well-defined steps that support better decision making by contributing greater insight into risks and their impacts. Risks from all sources are identified and once they pass the materiality threshold, a formal process begins in which causal factors and consequences are identified and the correlation with other risks and the current risk mitigating strategy is reviewed. One of the challenges is to ensure that mitigating strategies are geared to deliver reliable and timely risk information to support better decision-making.



The mining operations at WADADHE SAND SPOT are subjected to the risks and hazards normally encountered in open-cast mining operations. These risks include operational risks relating to

materials handling, accidents, removing material from quarry area. Mining processes also rely on key inputs, for example fuel. Appropriate insurance can provide protection from some, but not all, the costs that may arise from unforeseen events. If any of these risks should materialize, such an event could result in serious harm to employees and contractors, delays in production, increased production costs and possible increase in liabilities.

Disruption to the supply of key inputs, or changes in their pricing, may have a material and adverse impact on WADADHE SAND SPOT asset values, costs, earnings and cash flows. Failure to meet production target results in increased unit costs. The impact is more pronounced at operations with a high level of fixed costs. Mitigation strategies include efforts to secure strategic supplies at competitive prices, energy reduction, and application of group water management guidelines, adoption of lean production principles and practices and business improvement initiatives to reduce unit costs.

There are certain aspects which should be taken care of, in a quarrying plan with accordance of risk management.

Components	Risk Involved
Land Slides	The continues mining of river sand may affect, on the long run, the stability of banks of the river which in turn may lead to land slides
Fire	Only trucks and tractors will make use of diesel for transportation. Diesel is not so highly inflammable but accidental fires can take place.
Road Accidents	Vehicles are used for transporting the material from quarry area to the buyer's location. Due to some improper maintenance of the vehicle a road accident can occur leading to fatal results.

To minimize the risk, certain measures can be taken like implying safety rules, facilities of basic first aid near the site and having training for the workers about personal safety.

Disaster Management Plan is envisaged with a goal to prevent hazards and accidents at work places by careful design, operation, and maintenance of equipment. All safety precautions and provisions of Metalliferous Mines Regulation-1961 will be strictly followed. Suitable control measures will be adopted to take care of hazards/disasters that may occur during mining operation.

- Fire fighting, first aid provisions & safety appliances will be made available to the staff and their use regularly checked
- Regular maintenance of all haulage roads & mining machinery as per manufacturer's guidelines will be done